

REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

Part VII Commercial Air Services

<u>Subpart O</u> General <u>Subpart 1</u> Foreign Air Operations <u>Subpart 2</u> Aerial Work <u>Subpart 3</u> Air Taxi Operations <u>Subpart 4</u> Commuter Operations <u>Subpart 5</u> Airline Operations <u>Subpart 6</u> Aircraft Maintenance Requirements for Air Operators

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier







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Approved by Director General of Civil Aviation, Lebanon

Inspector Full Name: _____ Richard Beresford Fauquier

Inspector Signature:

Date: 01/12/00



REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION



Lebanese Aviation Regulations

Part VII

Commercial Air Services

Revision No. 1 (Effective 1 Dec 2000)

Revision Instructions

Remove:	Insert:
Part VII / Subpart 0 Subpart 1 Subpart 2 Subpart 3 Subpart 4 Subpart 5 Subpart 6	Part VII / Subpart 0 Subpart 1 Subpart 2 Subpart 3 Subpart 4 Subpart 5 Subpart 6

Summary of Revisions:

This is Revision No. 1 to the original.



DGCA OPS Form 100-4

NOTE

All revisions to the Lebanese Aviation Regulations will be indicated by a side bar to the left of the revised text and a revision number at the bottom of the page.

RECORD OF REVISIONS

Date of Revision	Revision #	Date Entered	Entered By
01/07/00	Original	01/07/00	RBF
01/12/00	1	01/12/00	RBF



REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>Part VII</u> Commercial Air Services

<u>Subpart O</u> General

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier







LEBANESE AVIATION REGULATIONS (LARs)

Part VII – Commercial Air Services

Subpart 0 - General

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Subpart 0 - General

Division I - General

700.01 Interpretation

In this Part,

"areas of operation" - means areas in which operations are conducted between points in Lebanon, between points in Lebanon and points abroad, and between points abroad;

"employed on a full-time basis" - means working for an air operator on a continuous basis for at least the number of hours required to carry out the duties of the position for the safe operation of the commercial air service;

"extended charter" - means the charter of a Lebanese commercial aircraft to a Lebanese or foreign air operator for a period of 21 days or more in order to supplement the fleet of the charterer;

"farmer" - means a person whose primary source of income is derived from the tillage of the soil, the raising of livestock or poultry, dairy farming, the growing of grain, fruit, vegetables or tobacco, or any other operation of a similar nature;

"flight crew member on reserve" - means a flight crew member who has been designated by an air operator to be available to report for flight duty on notice of more than one hour;

"net take-off flight path" - means the one-engine-inoperative flight path that starts at a height of 35 feet at the end of the take-off distance required and extends to a height of at least 1,500 feet AGL, reduced at each point by a gradient of climb equal to 0.8 per cent for two-engined airplanes, 0.9 per cent for three-engined airplanes and 1.0 per cent for four-engined airplanes;

"operations between points abroad" - means air service operations that are conducted wholly outside Lebanon for any length of time;

"sub-base" - means a location at which an air operator positions aircraft and personnel and from which operational control is exercised in accordance with the air operator's operational control system;

"types of operation" - means VFR, VFR at night and IFR operations;

"types of service" - means a domestic service, a scheduled international service, a non-scheduled international service and a sightseeing operation.

700.02 Requirements for Air Operator Certificate

No person shall operate an air transport service unless the person holds and complies with the provisions of an air operator certificate that authorizes the person to operate that service.
 Subject to subsections (3) and (4), no person shall, unless the person holds and complies with the provisions of an air operator certificate that authorizes the person to do so, operate an airplane or helicopter to conduct aerial work involving

- (a) the carriage on board of persons other than flight crew members;
- (b) the carriage of helicopter Class B, C or D external loads;



- (c) the towing of objects; or
- (d) the dispersal of products.

(3) A person who does not hold an air operator certificate may conduct aerial work involving the dispersal of products if

- (a) the person is a farmer;
- (b) the person owns the aircraft that is used to disperse the products;
- (c) the products are dispersed for agricultural purposes; and

(d) the dispersal of the products takes place within 25 miles of the center of the person's farm.(4) A person who does not hold an air operator certificate may conduct aerial work involving the carriage of persons other than flight crew members on board a single-engined aircraft if:

- (a) the person holds a flight training unit operator certificate issued pursuant to Part IV; and
- (b) the flight is conducted for the purpose of sightseeing operations or is a familiarization flight.

700.03 Reserved

700.04 Eligibility for Air Operator Certificate

(1) A Lebanese is eligible to hold an air operator certificate.

(2) A person who is a citizen, permanent resident or corporation of a foreign state is eligible to hold an air operator certificate that authorizes the person to operate an air transport service in Lebanon if the person:

- (a) holds a similar document of entitlement issued by the foreign state; and
- (b) meets the requirements of Subpart 1.

700.05 Aircraft Requirements

(1) No Lebanese air operator shall operate an aircraft in a commercial air service unless:

- (a) in the case of an aircraft registered in Lebanon under Part II of the LARs, a type certificate acceptable to the Minister, and a Lebanese flight authority have been issued for the aircraft under Part V; and
- (b) in the case of an aircraft registered in another contracting state, the Minister has authorized its operation under Part II and, the aircraft has been approved for operation under Part V.

(2) No air operator that is a citizen, permanent resident or corporation of a foreign state shall operate an aircraft in a commercial air service in Lebanon unless:

- (a) the aircraft is registered in Lebanon under Part II or in the foreign state; and
- (b) the aircraft has been approved for operation under Part V.

700.06 Extended Charter

No air operator shall operate an aircraft on an extended charter unless the air operator

- (a) is authorized to do so in its air operator certificate; and
- (b) complies with the Commercial Air Services Standards.

700.07 Management Agreement

No air operator shall manage another air operator's operation unless the air operator that manages the operation

- (a) is authorized to do so in its air operator certificate; and
- (b) complies with the Commercial Air Services Standards.

700.08 Operations Between Points Abroad

No air operator shall operate an air service between points abroad unless the air operator

- (a) is authorized to do so in its air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

700.09 Indirect Air Operator Security

No air operator, air freight forwarder, or cooperative shippers' association shall engage indirectly in air transportation of property unless they comply with the requirements of Appendix VIII to this Part.

700.10 to 700.13 Reserved





Division II - Flight Time and Flight Duty Time Limitations and Rest Periods

700.14 Monitoring System

(1) Every air operator shall establish a system that monitors the flight time, flight duty time and rest periods of each of its flight crew members and shall include in its company operations manual the details of that system.

(2) Where a person becomes aware that an assignment by an air operator to act as a flight crew member on a flight would result in the maximum flight time referred to in Section 700.15 or the maximum flight duty time referred to in Section 700.16 being exceeded, the person shall so notify the air operator.

700.15 Flight Time Limitations

(1) Subject to Subsection (2), no air operator shall assign a flight crew member for flight time, and no flight crew member shall accept such an assignment, if the flight crew member's total flight time in all flights conducted by the flight crew member will, as a result, exceed:

- (a) 1,200 hours in any 365 consecutive days;
- (b) 300 hours in any 90 consecutive days;
- (c) 120 hours in any 30 consecutive days or, in the case of a flight crew member on call, 100 hours in any 30 consecutive days;
- (d) where the flight is conducted under Subpart 4 or 5 using an aircraft other than a helicopter, 40 hours in any 7 consecutive days;
- (e) where the flight is conducted under Subpart 2 or 3, or is conducted using a helicopter, 60 hours in any 7 consecutive days; or
- (f) where the flight crew member conducts single-pilot IFR flights, 8 hours in any 24 consecutive hours.

(2) An air operator may assign a flight crew member for flight time, and a flight crew member may accept such an assignment, where the flight crew member's flight time will, as a result, exceed the flight time referred to in Subsection (1) if:

- (a) the increase in flight time is authorized in the air operator's air operator certificate (OpSpecs); and
- (b) the air operator and the flight crew member comply with the Commercial Air Services Standards.

(3) Subject to Section 700.17, a flight crew member who reaches a flight time limitation established by this Section is deemed to be fatigued and shall not continue on flight duty or be reassigned to flight duty until such time as the flight crew member has had the rest period required by Section 700.16 or 700.19.

700.16 Flight Duty Time Limitations and Rest Periods

(1) Subject to Subsections (5) and (7), no air operator shall assign a flight crew member for flight duty time, and no flight crew member shall accept such an assignment, if the flight crew member's flight duty time will, as a result, exceed 14 consecutive hours in any 24 consecutive hours. Where the flight is conducted under Subpart 4 or 5 using an aircraft other than a helicopter, flight duty time shall include 15 minutes for post-flight duties.

(2) Where the flight is conducted under Subpart 4 or 5 using an aircraft other than a helicopter pursuant to the Commercial Air Services Standards, a flight crew member shall receive at least 24 consecutive hours free from flight duty following 3 consecutive flight duty time assignments that

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exceed 12 consecutive hours unless the flight crew member has received at least 24 consecutive hours free from flight duty between each flight duty time assignment.

(3) Following a flight duty time assignment, an air operator shall provide a flight crew member with the minimum rest period and any additional rest period required by this Part.

(4) A flight crew member shall use a rest period provided pursuant to Subsection (3) and Section 700.19 to obtain the necessary rest and shall be adequately rested prior to reporting for flight duty.(5) Where flight duty time includes a rest period, flight duty time may be extended beyond the maximum flight duty time referred to in subsection (1) by one-half the length of the rest period referred to in Subsection (b), to a maximum of 3 hours, if:

- (a) the air operator provides the flight crew member with advance notice of the extension of flight duty time;
- (b) the air operator provides the flight crew member with a rest period of at least 4 consecutive hours in suitable accommodation; and
- (c) the flight crew member's rest is not interrupted by the air operator during the rest period.

(6) The minimum rest period following flight duty time referred to in Subsection (5) and prior to the next flight duty time shall be increased by an amount at least equal to the extension to the flight duty time.

(7) An air operator may assign a flight crew member for flight duty time, and a flight crew member may accept such an assignment, where the flight crew member's flight duty time will, as a result, exceed the flight duty time referred to in subsection (1) if

- (a) the increase in flight duty time is authorized in the air operator certificate; and
- (b) the air operator and the flight crew member comply with the Commercial Air Services Standards.

700.17 Unforeseen Operational Circumstances

Flight duty time may be extended beyond the maximum flight duty time referred to in Subsection 700.16(1) where:

- (a) the flight is extended as a result of unforeseen operational circumstances;
- (b) the pilot-in-command, after consultation with the other flight crew members, considers it safe to do so;
- (c) the air operator and the pilot-in-command comply with the Commercial Air Services Standards; and
- (d) the air operator notifies the DGCA within 2 days of the deviation.

700.18 Delayed Reporting Time

Where a flight crew member is notified of a delay in reporting time before leaving a rest facility and the delay is in excess of 3 hours, the flight crew member's flight duty time is considered to have started 3 hours after the original reporting time.

700.19 Requirements for Time Free from Duty

(1) Subject to Subsection (2), an air operator shall provide each flight crew member with the following time free from duty:

- (a) where the operation is conducted under Subpart 4 or 5 using an aircraft other than a helicopter, one period of at least 36 consecutive hours within each 7 consecutive days or one period of at least 3 consecutive calendar days within each 17 consecutive days;
- (b) where the operation is conducted under Subpart 2 or 3 or is conducted using a helicopter, one period of at least 24 consecutive hours 13 times within each 90 consecutive days and 3 times within each 30 consecutive days; and

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(c) where the flight crew member is a flight crew member on call, one period of at least 36 consecutive hours within each 7 consecutive days or one period of at least 3 consecutive calendar days within each 17 consecutive days.

(2) An air operator may provide a flight crew member with time free from duty other than as required by Subsections (1)(a) and (b) if:

- (a) the time free from duty is authorized in the air operator certificate; and
- (b) the air operator and the flight crew member comply with the Commercial Air Services Standards.

(3) An air operator shall notify a flight crew member on call of the commencement and duration of the flight crew member's time free from duty.

700.20 Flight Crew Positioning

Where a flight crew member is required by an air operator to travel for the purpose of positioning after the completion of flight duty time, the air operator shall provide the flight crew member with an additional rest period at least equal to one-half the time spent traveling that is in excess of the flight crew member's maximum flight duty time.

700.21 Flight Crew Members on Reserve

(1) An air operator shall provide flight crew members on reserve, within each 24-hour period, with a rest period that is scheduled in advance, is not interrupted by the air operator and meets the requirements of the Commercial Air Services Standards.

(2) Every air operator shall outline in its company operations manual a method for ensuring compliance with this Section and the Commercial Air Services Standards.

700.22 Long-range Flights

(1) A flight or series of flights that terminates more than 4 one-hour time zones from the point of departure shall be limited to 3 sectors and shall be followed by a rest period that is at least equal to the length of the preceding flight duty time.

(2) Where a flight referred to in Subsection (1) is a transoceanic flight, the maximum number of sectors that may be completed after the transoceanic sector is one, excluding one unscheduled technical stop.

700.23 Controlled Rest on the Flight Deck

An air operator may institute a program of controlled rest on the flight deck if

- (a) the program is authorized in its air operator operations specifications (OpSpecs); and
- (b) the air operator and the flight crew members comply with the Commercial Air Services Standards.





REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>Part VII</u> Commercial Air Services

> <u>Standards</u> s700.01 to s700.23

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier






LEBANESE AVIATION REGULATIONS (LARs)

Commercial Air Services Standards

Subpart 0 - General

Standards s700.01 to s700.23

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Republic of Lebanon Ministry of Transport Directorate General of Civil Aviation



COMMERCIAL AIR SERVICES STANDARDS

Subpart 0 – General s700.01 to 700.23

INTRODUCTION

These General Standards outline the standards that must be met to comply with Part VII of the Lebanese Aviation Regulations (LARs).

For ease of cross reference, the divisions and numbers of the standards are assigned to correspond to the regulations, therefore Standards Section s700.13 would reflect a standard required by Section 700.13 of the LARs.

The Standard is incorporated by reference in the Lebanese Aviation Regulations respecting General.

Standards are printed in "normal print" and use the operative verb "shall" and Information Notes and Recommended Practices are printed in "italicized print" and use the operative verb "should". Information Notes are indicated by the prefix "Information Note:" and Recommended Practices are indicated by the prefix "Recommended Practice:"



Republic of Lebanon Ministry of Transport Directorate General of Civil Aviation



DIVISION I - GENERAL

s700.01 Definitions

The words and expressions used in these Standards have the same meaning as in General Provisions, Section 100.01 of the Lebanese Aviation Regulations and in Division I - General, of the Commercial Air Services, Part VII of the Lebanese Aviation Regulations with the following additions:

"flight relief facility - seat" - means a comfortable, fully reclining seat, separated and screened from the passengers and flight deck, equipped with a call device, sleep restraint, portable oxygen, and not subject to distraction from noise generated in the cabin.

"flight relief facility bunk" - means a bunk that meets the international accepted standard and is approved by the Minister.

"heli-logging" - means the removal and carriage of logs and shake blocks by helicopter external load means.

"scheduled air service" - means a publicly available air transport service that provides transportation for passengers between points and serves those points in accordance with a published schedule at a charge per seat

s700.02 to s700.05 Reserved

s700.06 Extended Charter

An air operator shall:

- (a) retain operational control of the aircraft;
- (b) provide the crew members;
- (c) be responsible for the maintenance of the aircraft and its equipment in accordance with the approved Maintenance Control Manual;
- (d) have insurance coverage for the aircraft, passengers, baggage and cargo;
- (e) the Lebanese air operator shall ensure that the requirements of Part VII of the Lebanese Aviation Regulations relating to flight operations and continuing airworthiness are complied with during the period of the agreement; and
- (f) where a foreign Civil Aviation Authority is involved (i.e. extended charter to a foreign air operator) the foreign air operator shall acquire prior to the commencement of operations the following:
 - (i) a letter stating that the foreign Civil Aviation Authority is aware of and has no objection to the proposed operation; and
 - (ii) authorization to allow Directorate General of Civil Aviation, Lebanon Air Carrier Operations and Airworthiness Inspectors to visit the operations from time to time to conduct necessary inspections of personnel, aircraft maintenance facilities and/or documents as necessary.



s700.07 Management Agreement

The standards for an air operator to manage another air operator are:

- (a) the managing air operator has an air operator certificate in his own right for the commercial air service and aircraft or similar types of aircraft for which the air operator to be managed holds a valid air operator certificate;
- (b) the managing air operator's supervisory personnel are qualified in accordance with the applicable Subpart of this Part to act in supervisory positions for both the managing air operator and the air operator to be managed; and
- (c) the managing air operator shall show that the Operational Control System required by this Standard is adequate for the proposed operations.

s700.08 Operations Between Points Abroad

The Lebanese air operator shall:

- (a) ensure that the requirements of Part VII of the Lebanese Aviation Regulations relating to flight operations and continuing airworthiness are complied with while operating abroad;
- (b) ensure maintenance arrangements are approved by the Director General of Civil Aviation (DGCA) in accordance with Part VII of the LARs; and
- (c) where a foreign Civil Aviation Authority is involved, acquire prior to the commencement of operations abroad the following:
 - (i) a letter stating that the foreign Civil Aviation Authority is aware of and has no objection to the proposed operation; and
 - (ii) authorization to allow the DGCA Air Carrier Operations and Airworthiness Inspectors to visit the operations from time to time to conduct necessary inspections of personnel, aircraft maintenance facilities and/or documents as necessary.

s700.09 to s700.13 Reserved



DIVISION II - STANDARDS FOR FLIGHT TIME AND FLIGHT DUTY TIME LIMITATIONS AND REST PERIODS

s705.14 Reserved

s700.15 Flight Time Limitations

The standards for increasing the flight time limitations for flight crew members are:

(1) Where the flight is conducted under Subpart 2 or 3 of Part VII of the Lebanese Aviation Regulations or a helicopter not conducting a scheduled passenger service or heli-logging, for any 6 non-overlapping periods of 30 consecutive days within a 365 consecutive day period, the maximum flight time in any aircraft shall not exceed:

- (a) where the flight crew member conducts single-pilot IFR operations, 8 hours in any 24 consecutive hours;
- (b) 60 hours in any 7 consecutive days;
- (c) 150 hours in any 30 consecutive days;
- (d) 210 hours in any 42 consecutive days;
- (e) 450 hours in any 90 consecutive days;
- (f) 900 hours in any 180 consecutive days;
- (g) the accumulated 30-consecutive day, 42-consecutive day and 90 consecutive day flight times may be reset to zero if the flight crew member is provided with at least 5 consecutive days free from all duty; and
- (h) 1200 hours in any 365 consecutive days.
- (2) For heli-logging operations, the maximum flight time in all flying shall not exceed:
 - (a) 120 hours in any 30 consecutive days for single-pilot helicopters;
 - (b) 150 hours in any 30 consecutive days for helicopters operated by two pilots; and
 - (c) 1,200 hours in any 365 consecutive days.

s700.16 Flight Duty Time Limitations and Rest Periods

The standards for increasing the flight duty time limits for flight crew members are:

(1) Where the flight is conducted under Subpart 2 or 3 of Part VII of the Lebanese Aviation Regulations, or with a helicopter not conducting a scheduled passenger service, or heli-logging, for the 6 non-overlapping periods of 30 consecutive days referred to in Subsection s700.15(1), the maximum flight duty time may be extended to 15 consecutive hours if:

- (a) the minimum rest period is increased by 1 hour; or
- (b) the maximum flight time does not exceed 8 hours in any 24 consecutive hours.

(2) Where the flight is conducted under Subpart 4 or 5 of Part VII of the Lebanese Aviation Regulations using an aircraft other than a helicopter, and the flight crew is augmented by the addition of at least one fully qualified flight crew member, flight duty time may be extended to 15 consecutive hours if:

- (a) the additional flight crew member occupies a flight deck observer seat during take-offs and landings unless the observer seat is required by an air carrier inspector, in which case, a passenger seat must be available for the flight crew member; and
- (b) the subsequent minimum rest period is increased by at least 2 hours.

(3) Where a flight crew is augmented by the addition of at least one flight crew member, the division of duty and rest is balanced between the flight crew members and a flight relief facility is provided, flight duty time may be extended if:

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- (a) where a flight relief facility seat is provided, the flight duty time may be extended to 17 consecutive hours, in which case the maximum flight deck duty time for any flight crew member shall be 12 hours;
- (b) where a flight relief facility bunk is provided, the flight duty time may be extended to 20 consecutive hours, in which case the maximum flight deck duty time for any flight crew member shall be 14 hours;
- (c) the subsequent minimum rest period shall be at least equal to the length of the preceding flight duty time; and
- (d) a maximum of 3 sectors may be completed.

(4) Where a flight crew is augmented by the addition of at least one flight crew member in accordance with Subsection (2) or

(3), the total flight time accumulated during the flight shall be logged by all flight crew members for the purposes of calculating the maximum flight times in Section 700.15 of the Lebanese Aviation Regulations.

(5) Where the flight is conducted under Subpart 2 of the Lebanese Aviation Regulations in aerial application operations, the maximum flight duty time may be extended for a split flight duty assignment provided that:

- (a) the total flight duty time shall not exceed 14 hours in 24 consecutive hours;
- (b) rest periods that allow a total of at least 9 hours opportunity to sleep in 24 consecutive hours shall be taken in suitable accommodation;
- (c) one of these rest periods shall allow at least 5 consecutive hours opportunity to sleep between 20:00 and 06:00 local time; and
- (d) the flight crew member shall receive at least 5 periods of 24 consecutive hours free from duty within each 30 consecutive days.

s700.17 Unforeseen Operational Circumstances

The standards for compliance with this section are:

(1) Flight duty time and flight time limitations may be extended by up to 3 consecutive hours provided that:

- (a) where flight duty time is extended, the subsequent minimum rest period shall be increased by an amount at least equal to the extension to the flight duty time;
- (b) the pilot-in-command shall notify the air operator, in accordance with procedures outlined in the company operations manual, of the length of and the reason for the extension;
- (c) the air operator shall retain the notifications until the completion of the next Directorate General of Civil Aviation audit; and
- (d) the air operator shall notify the Minister as soon as practicable.

(2) Flights shall be planned to be completed within the maximum flight time and maximum flight duty time taking into account the time necessary for pre-flight and post-flight duties, the flight or series of flights, forecast weather, turn-around times and the nature of the operation.

s700.18 Reserved

s700.19 Requirements for Time Free from Duty

The standard for providing a number of rest periods other than as required by Subsection 700.19(1) of the Lebanese Aviation Regulations is:

Republic of Lebanon	Lebanese Aviation Regulations
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(1) Where the flight is conducted under Subpart 2 or 3 of Part VII of the Lebanese Aviation Regulations, or with a helicopter not conducting a scheduled passenger service, or heli-logging, the 24

consecutive hours 3 times within each 30 consecutive days may be replaced by:

- (a) following at least 5 consecutive periods of 24 consecutive hours free from duty, a flight crew member may be assigned duty for up to 42 consecutive days; and
- (b) the flight crew member shall receive at least 5 consecutive periods of 24 consecutive hours free from duty following any assignment that exceeds 30 consecutive days.

s700.20 Reserved

s700.21 Flight Crew Members on Reserve

The standards for compliance with this section are:

(1) An air operator shall provide each flight crew member with an opportunity to obtain at least 8 consecutive hours sleep in any 24 consecutive hours while on reserve by one of the following methods:

- (a) the air operator shall provide the flight crew member with 24 hours notice of the time of commencement and duration of the rest period. The designated rest period cannot shift more than 3 hours earlier or later than the preceding rest period, nor more than a total of 8 hours in any 7 consecutive days;
- (b) the flight crew member shall be given a minimum of 10 hours notice of the assignment and shall not be assigned any duty for these 10 hours; or
- (c) the air operator shall not assign the flight crew member to flight duty time and shall not interrupt the flight crew member's rest period between 22:00 and 06:00 local time.

(2) Where an air operator is unable to provide a flight crew member with a rest period required by Subsection (1) and the flight crew member is notified to report for flight duty or the reporting time occurs between 22:00 and 06:00 local time:

- (a) the maximum flight duty time shall be 10 consecutive hours; and
- (b) the subsequent minimum rest period shall be increased by at least one-half the length of the preceding flight duty time.

s700.22 Reserved

s700.23 Controlled Rest on the Flight Deck

The standards for compliance with this section require that the air operator's program is outlined in the company operations manual and contains the following elements:

(1) Training

Every flight crew member who participates in the controlled rest on the flight deck program shall have received training in the program as well as training in the general principles of fatigue and fatigue countermeasures.

(2) Pre-flight Activities

- (a) The pilot-in-command shall determine if operational considerations allow or preclude the use of controlled rest on the flight deck based on guidelines developed by the air operator;
- (b) the flight crew members' rest periods will be planned at a pre-flight briefing to enable them to anticipate and maximize the sleep opportunity and to manage their alertness. If required, this briefing can occur in flight; and
- (c) the briefing shall include:
 - (i) the choice of rest sequence;



Republic of Lebanon Ministry of Transport Directorate General of Civil Aviation

- (ii) planned and unplanned wake-up criteria;
- (iii) transfer of control procedures; and
- (iv) co-ordination with the flight attendants.

(3) Pre-rest Period

Pre-rest period activities should take approximately 5 minutes and shall include:

- (a) the transfer of duties;
- (b) an operational briefing;
- (c) completion of physiological needs;
- (d) co-ordination with the flight attendants; and
- (e) time for the flight crew member preparing to rest to become comfortable in the flight deck seat.
- (4) Rest Period
 - (a) only one flight crew member at a time shall rest and the other flight crew member(s) shall remain alert. An alertness monitor may be considered as a back-up system;
 - (b) the resting flight crew member's duties shall be completed by the non-resting flight crew member(s);
 - (c) all flight crew members shall remain on the flight deck throughout the rest period;
 - (d) each rest period shall be limited to a maximum of 45 minutes to avoid sleep inertia when the flight crew member is awakened;
 - (e) rest periods shall occur only during the cruise phase of the flight and shall be completed at least 30 minutes before planned top of descent, workload permitting; and
 - (f) if required, more than one sleep opportunity may be taken by the flight crew members.
- (5) Post-rest Period
 - (a) unless required due to an abnormal or emergency situation, at least 15 minutes without any flight duties should be provided to the awakened flight crew member to allow sufficient time to become fully awake before resuming normal duties; and
 - (b) an operational briefing shall be given to the awakened flight crew member.



REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>Part VII</u> Commercial Air Services

<u>Subpart 1</u> Foreign Air Operations

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier







LEBANESE AVIATION REGULATIONS (LARs)

Part VII – Commercial Air Services

Subpart 1 – Foreign Air Operations

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Subpart 1 - Foreign Air Operations

Division I - General

701.01 Application

This Subpart applies in respect of the operation in Lebanon of a foreign state aircraft or an aircraft operated by a foreign operator in an air transport service.

701.02 Requirement for Lebanese Foreign Air Operator Certificate

(1) Subject to Subsections (2) and (3), no person shall operate an aircraft in Lebanon unless the person complies with the conditions in a Lebanese Foreign Air Operator Certificate issued to that person by the Minister pursuant to Section 701.07.

(2) A person is not required to hold a Lebanese Foreign Air Operator Certificate in order to conduct an overflight of Lebanon or to perform a technical landing in Lebanon unless the person operates the aircraft under Section 701.19, 701.20 or 701.21.

(3) A person is not required to hold a Lebanese Foreign Air Operator Certificate in order to operate a foreign state aircraft in Lebanon.

701.03 Requirements for Flight Authorization

(1) No person, other than the holder of a Lebanese Foreign Air Operator Certificate, shall conduct an overflight of Lebanon or perform a technical landing in Lebanon unless the person is authorized to do so in a flight authorization issued by the Minister pursuant to Section 701.10.

(2) No person shall operate a foreign state aircraft in Lebanon unless the person is authorized to do so in a flight authorization issued by the Minister pursuant to Section 701.10.

701.04 to 701.06 Reserved





Division II - Certification and Authorization

701.07 Issuance or Amendment of Lebanese Foreign Air Operator Certificate

Subject to Article 70 of the Lebanese Civil Aviation Safety Act, the Minister shall, on receipt of an application submitted in the form and manner required by the Commercial Air Services Standards, issue or amend a Lebanese Foreign Air Operator Certificate.

701.08 Contents of Lebanese Foreign Air Operator Certificate

A Lebanese Foreign Air Operator Certificate shall contain:

- (a) the legal name, trade name and address of the foreign air operator;
- (b) the number of the Foreign Air Operator Certificate;
- (c) the effective date of certification;
- (d) the date of issue of the certificate;
- (e) the general conditions identified in Section 701.09;
- (f) where the foreign air operator complies with the Commercial Air Services Standards, operations specifications with respect to:
 - (i) specific conditions with respect to:
 - A. the areas of operation authorized;
 - B. the types of service authorized;
 - C. the types of aircraft authorized, the conditions of operation and, if applicable, their registration; and
 - (ii) instrument approach procedures,
 - (iii) special weather minima authorizations,
 - (iv) navigation system authorizations,
 - (v) authorizations concerning flight crew member complement,
 - (vi) special helicopter procedures, and
 - (vii) any other condition pertaining to the operation that the Minister deems necessary for aviation safety.

701.09 General Conditions of Lebanese Foreign Air Operator Certificate

A Lebanese Foreign Air Operator Certificate shall contain the following general conditions:

- (a) the foreign air operator shall have a valid air operator certificate or equivalent document issued by the state of the foreign air operator;
- (b) the foreign air operator shall make no change in its air transport service in Lebanon, except in the case of an emergency, without notifying the Minister;
- (c) the foreign air operator shall notify the Minister within 10 working days after any change in its legal name or trade name;
- (d) the foreign air operator shall conduct flight operations in accordance with the ICAO Standards;
- (e) the foreign air operator shall maintain its aircraft in accordance with the ICAO Standards;
- (f) the foreign air operator shall comply with the applicable provisions of these Regulations; and
- (g) the foreign air operator shall conduct a safe operation.

701.10 Issuance of Flight Authorization

Subject to Article 70 of the Lebanese Civil Aviation Safety Act, the Minister shall, on receipt of an application submitted in the form and manner required by the Commercial Air Services Standards, issue a flight authorization

- (a) to conduct an overflight of Lebanon or to perform a technical landing in Lebanon; or
- (b) to operate a foreign state aircraft in Lebanon.

701.11 Contents of Flight Authorization

A flight authorization shall contain

- (a) the name of the holder of the flight authorization or of the person responsible for the flight;
- (b) the type of aircraft, the registration mark and, if applicable, the serial number;
- (c) the routing;
- (d) the date and time of arrival at, and departure from, the airports concerned;
- (e) the places of embarkation or disembarkation of passengers or freight;
- (f) an authorization for the transportation of dangerous goods or agricultural products, if applicable;
- (g) in the case of a foreign state aircraft, an authorization to conduct flight operations referred to in Sections 701.19, 701.20 or 701.21;
- (h) a requirement to conduct all operations in accordance with the applicable provisions of these Regulations; and
- (i) any condition pertaining to the operation that the Minister deems necessary for aviation safety.

701.12 to 701.15 Reserved



Division III - Flight Operations

701.16 Extended Range Twin-engined Operations (ETOPS)

(1) Subject to Subsection (2), no foreign air operator shall commence a flight in Lebanon in a twinengined airplane certified for more than 20 passenger seats that is intended to be operated on a route containing a point that is farther from an adequate aerodrome than the distance that can be flown in 60 minutes at the one-engine-inoperative cruise speed.

(2) A foreign air operator may commence a flight referred to in Subsection (1) where:

- (a) the airplane is turbine-powered;
- (b) the foreign air operator holds a valid authorization or equivalent document issued by the state of the foreign air operator for extended range;
- (c) twin-engined operations; and
- (d) the foreign air operator is authorized to do so in its Lebanese Operations Specifications (OpSpecs).

701.17 Reserved

701.18 Routes in Uncontrolled Airspace

No foreign air operator commencing a flight in Lebanon shall, in uncontrolled airspace, conduct an IFR flight or a night VFR flight on a route other than an air route unless the foreign air operator:

- (a) is authorized to do so in its Lebanese Operations Specifications (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

701.19 Reserved

701.20 Take-off Minima

For the purposes of Section 602.126 of the LARs, a person may conduct a take-off in an aircraft where weather conditions are below the take-off minima specified in the Lebanese Aeronautical Information Publication (AIP):

- (a) in the case of a foreign air operator, the foreign air operator is authorized to do so in its Lebanese Operations Specifications (OpSpecs) and complies with the Commercial Air Services Standards; or
- (b) in the case of a person who operates a foreign state aircraft, the person is authorized to do so in a flight authorization and complies with the Commercial Air Services Standards.

701.21 Landing Minima

For the purposes of Subsection 602.128(4) of the LARs, a person may conduct a CAT II or CAT III precision approach in an IFR aircraft if:

- (a) in the case of a foreign air operator, the foreign air operator is authorized to do so in its Lebanese Operations Specifications (OpSpecs) and holds a valid authorization or equivalent document issued by the state of the foreign air operator to conduct a CAT II or CAT III precision approach in Lebanon; or
- (b) in the case of a person who operates a foreign state aircraft, the person is authorized to do so in a flight authorization and complies with the Commercial Air Services Standards.

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701.22 Transport of Passengers in Single-engined Aircraft

(1) Subject to Subsection (2), no foreign air operator commencing a flight in Lebanon shall operate a single-engined aircraft with passengers on board in IFR flight or in night VFR flight.

(2) A foreign air operator may operate a single-engined aircraft with passengers on board in IFR flight or in night VFR flight if the foreign air operator

- (a) is authorized to do so by the state of the foreign air operator;
- (b) is authorized to do so in its Lebanese Operations Specifications (OpSpecs); and
- (c) complies with the Commercial Air Services Standards.

701.23 Admission to Flight Deck

(1) Where a Directorate General of Civil Aviation, Lebanon air carrier inspector presents an official identity card to the pilot-in-command of an aircraft operated by a foreign air operator in Lebanon, the pilot-in-command shall give the inspector free and uninterrupted access to the flight deck of the aircraft.

(2) A foreign air operator and the pilot-in-command shall make available for the use of the air carrier inspector the observer seat most suitable to perform the inspector's duties, as determined by the inspector.

701.24 Seats for Cabin Safety Inspectors

A foreign air operator shall provide a cabin safety inspector who is performing an in-flight cabin inspection in Lebanon with a confirmed passenger seat in the passenger compartment.

701.25 Aircraft Icing Operations

(1) In this Section, "critical surfaces" means the wings, control surfaces, rotors, propellers, horizontal stabilizers, vertical stabilizers or any other stabilizing surface of an aircraft and, in the case of an aircraft that has rear-mounted engines, includes the upper surface of its fuselage.

(2) No person shall conduct or attempt to conduct a take-off in an aircraft that has frost, ice or snow adhering to any of its critical surfaces.

(3) Notwithstanding Subsection (2), a person may conduct a take-off in an aircraft that has frost caused by cold-soaked fuel adhering to the underside of its wings if the take-off is conducted in accordance with the aircraft manufacturer's instructions for take-off under those conditions.

(4) Where conditions are such that frost, ice or snow may reasonably be expected to adhere to an aircraft, no person shall conduct or attempt to conduct a take-off in the aircraft unless:

- (a) the aircraft has been inspected immediately prior to take-off to determine whether any frost, ice or snow is adhering to any of its critical surfaces; or
- (b) the foreign air operator or the holder of the flight authorization has
 - (i) established, in accordance with ICAO Document No. 9640 entitled Manual of Aircraft Ground De/Anti-icing Operations, an aircraft ground icing operations program that has been approved by the state of the foreign air operator or of the holder of the flight authorization, or
 - (ii) submitted to the Minister an aircraft ground icing operations program that meets the Commercial Air Services Standards.
- (5) The inspection referred to in Subsection (4)(a) shall be performed from outside the aircraft.
- (6) The inspection referred to in Subsection (4)(a) shall be performed by
 - (a) the pilot-in-command;
 - (b) a flight crew member of the aircraft who is designated by the pilot-in-command; or

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(c) a person, other than a person referred to in Subsection (a) or (b), who is designated by the foreign air operator or the holder of the flight authorization.

(7) No person shall perform the inspection referred to in Subsection (4)(a) unless the person has received annual training concerning aircraft surface contamination in accordance with the Commercial Air Services Standards.

(8) Where, before commencing a take-off, a crew member of an aircraft observes that there is frost, ice or snow adhering to the wings of the aircraft, the crew member shall immediately report that observation to the pilot-in-command, and the pilot-in-command or a flight crew member designated by the pilot-in-command shall inspect the wings of the aircraft before take-off.

701.26 to 701.36 Reserved





REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

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LEBANESE AVIATION REGULATIONS

<u>Part VII</u> Commercial Air Services

> <u>Standards</u> s701.01 to s701.36

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier







LEBANESE AVIATION REGULATIONS (LARs)

Part VII - Commercial Air Services Standards

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COMMERCIAL AIR SERVICES STANDARDS

Subpart 1 – Foreign Air Operations s701.01 to s701.36

Foreword

This Commercial Air Service Standard outlines the requirements for complying with Subpart 1 of the Lebanese Aviation Regulations (LARs).

For ease of cross reference the divisions and numbers of the standard are assigned to correspond to the regulations, therefore Standard s701.05 would reflect a standard required by Section 701.05 of the LARs.

The standards under this Subpart apply to every Lebanese air operator engaged in commercial air services under Subpart 1 of the Lebanese Aviation Regulations (LARs).



Republic of Lebanon Ministry of Transport Directorate General of Civil Aviation



Division I - General

s701.01 Application

 (1) The standards under this subpart apply in respect of any air transport service involving the use of an airplane or helicopter engaged in by a foreign operator operating an air transport service and Foreign State aircraft operated in Lebanon under the provisions of Part VII, Subpart 1 of the LARs.
(2) The words and expressions used in these Standards have the same meaning as in the General Provisions Regulations Part I of the LARs.

s701.02 to s701.06 Reserved



Republic of Lebanon Ministry of Transport Directorate General of Civil Aviation

Division II - Certification and Authorization

s701.07 Issuance or Amendment of Lebanese Foreign Air Operator Certificate

(1) The following constitutes an application for or an amendment of a Lebanese Foreign Air Operator certificate:

- (a) a copy of a valid Air Operator Certificate (AOC) or equivalent document (certificate of competency) issued by the State of the operator;
- (b) a copy of the approval page indicating those portions of the air operator's operations manual that have been approved by the State of the operator;
- (c) a copy of the air operator's authority to operate an air transport service to and from Lebanon;
- (d) a copy of a valid Certificate of Airworthiness for each aircraft intended to be operated in Lebanon;
- (e) a copy of the schedule that indicates when servicing and maintenance is required to be performed for each aircraft intended to be operated, whether or not approved by the State of Registry;
- (f) a copy of the approval of the servicing and maintenance schedule for each aircraft intended to be operated, if required by the State of Registry;
- (g) where the performance, in Lebanon, or any part of the schedule for servicing and maintenance of the aircraft, intended to be operated, is assigned to a maintenance organization, a copy of such approval issued by the State of Registry;
- (h) for those aircraft intended to be operated in Lebanon not registered by the State of the Operator, a copy of the lease agreement for each aircraft so operated;
- (i) if applicable, a copy of an aircraft ground icing operations program, approved by the State of the Operator or a copy of a program made in accordance with Subsection s701.25(1) of these Standards;
- (j) if applicable, verification from the State of the Operator that the pilot-in-command and flight crew operating into Lebanon and any individuals referred to in Subsection 701.25(6) have received annual recurrent training concerning surface contamination in accordance with Subsection s701.25(7) of these standards;
- (k) where the Foreign Air Operator desires a special flight Operations Specification in accordance with Subsections 701.08(g)(i), (ii), (iii), (iv), (v) and (vi), the operator must provide a copy of the equivalent Operations Specification(s) approved by the State of the Operator; and
- (l) any other document the Minister deems necessary in order to ensure that the intended operation will be conducted safely.

s701.08 to s701.09 Reserved

s701.10 Issuance of Flight Authorization

The following information shall be provided in an application for flight authorization to conduct an overflight of Lebanon or operate in Lebanon or perform a technical stop in Lebanon:

- (a) name of operator or person responsible for flight;
- (b) type of aircraft and registration marks;
- (c) date and time of arrival at, and departure from, the airport concerned;
- (d) place or places of embarkation or disembarkation abroad, as the case may be, of passengers or freight;
- (e) purpose of flight and number of passengers and the nature and amount of freight;
- (f) notification of dangerous goods and/or agricultural products; and
- (g) name, address, telephone and telefax number and business of Charterer, if any;

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- (h) if applicable, in the case of Foreign State aircraft, a copy of the equivalent Operations Specification(s) issued by the regulating authority, and
- (i) any other document the Minister deems necessary to ensure that the intended operation will be conducted safely.

s701.11 to s701.17 Reserved



Division III - Flight Operations

s701.18 Routes in Uncontrolled Airspace

The following standard shall be complied with by a Foreign Air Operator who conducts a flight in uncontrolled airspace:

(1) the off-airway direct route or route segment may be used provided the flight planned route and means of navigation is acceptable to the Air Traffic Control Service concerned;

(2) all routes, route segments or airspace to be used shall be listed and available to each flight crew member and the person responsible for operational control of the flight and include the information on navigation aids, tracks, altitudes and distances for each route;

(3) the aircraft is equipped, dispatched and operated in accordance with the accepted procedures outlined in the Operations Manual;

(4) the approved navigation system(s) is (are) not to be used for navigation in terminal control areas or during instrument approach, unless specifically authorized to do so by the state of the operator; and(5) the Foreign Air Operator holds a valid authority from the State of the Operator to conduct flights in uncontrolled airspace.

s701.19 No Alternate Aerodrome - IFR Flight

Airplanes

The standard for a Foreign Air Operator or Foreign State aircraft multi-engine turbine powered airplanes to conduct a flight under IFR without naming an alternate aerodrome on the flight plan is:

(1) Area of Operations

- (a) take-off aerodrome shall be:
 - (i) not more than the hours of flight time (Scheduled) from the aerodrome of intended landing;
- (b) aerodrome of intended landing authorized for no alternate IFR shall meet the requirements of Subsection (3);

(2) Weather Requirements. For at least one (1) hour before and until one (1) hour after the estimated time of arrival at the aerodrome of intended landing, there shall be, in respect to that aerodrome:

- (a) no risk of fog or other restriction to visibility, including precipitation, forecast or reported, below 3 miles;
- (b) no risk of thunderstorms isolated or otherwise forecast or reported;
- (c) a forecast ceiling of at least 1,000 feet above FAF altitude and a visibility of at least 3 miles or a ceiling of at least 1,500 feet above the MDA and a visibility of at least 6 miles; and
- (d) no risk of freezing rain, freezing drizzle, or sleet forecast or reported;
- (3) Aerodrome of Intended Landing Requirements
 - (a) the aerodrome of intended landing shall be:
 - (i) equipped with at least two (2) separate runways each of which shall be operational and suitable for a safe landing for the airplane type, taking into consideration the approved operational limitations; and

Information Note: *The reciprocal of one runway is not acceptable as the second runway.*

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- (ii) equipped with emergency or standby electrical power supply in support of the main electrical power supply used to operate all equipment and facilities that are essential to the safe landing of the airplane, whether such landing be by day or by night.
- (4) Fuel Requirements. The minimum fuel required for a no alternate IFR flight plan shall consist of:
 - (a) taxi fuel;
 - (b) fuel to destination;
 - (c) contingency fuel;
 - (d) holding reserve fuel; and
 - (e) fuel for flights in International Airspace shall be additional contingency fuel or enroute reserve fuel, whichever is the greater.

(5) Aerodrome Familiarization. Pilots shall be thoroughly familiar with all suitable diversionary aerodromes which are available (within the fuel and oil reserve carried) in respect of any flight operated on a "no alternate IFR" basis.

(6) Authority. This authority is contingent on holding a valid Civil Aviation Authority from the State of the Operator or in the case of a Foreign State aircraft, the applicable authority, for conducting a flight under IFR without naming an alternate aerodrome on the flight plan.

Helicopters

The standard for a Foreign Air Operator or Foreign State operating the type(s) of helicopters defined in Sections 703.01 and 704.01 to conduct an IFR flight when an alternate aerodrome has not been designated in the IFR flight plan or in the IFR flight itinerary

is:

- (a) the company operations manual or in the case of a Foreign State aircraft, the applicable manual, shall contain guidance on the execution of no alternate IFR flights;
- (b) flight following personnel are to be aware that the flight is operating no alternate IFR and shall have current weather readily accessible for timely communication to the flight;
- (c) pilots-in-command are to be familiar with diversionary aerodromes;
- (d) the destination shall not be more than three (3) hours flight planned time from the departure point;
- (e) terminal forecasts and weather reports shall be available for the destination which show that, for at least two hours before until two hours after the estimated time of arrival, there will be:
 - (i) no risk of fog, precipitation or other restriction to visibility below three (3) miles;
 - (ii) no risk of thunderstorms or freezing precipitation; and
 - (iii) a ceiling of at least 1000 feet and a visibility of at least three (3) miles.
- (f) contingent on holding a valid Civil Aviation authority from the State of the Operator or in the case of Foreign State aircraft, the applicable authority, to conduct a flight with helicopters under IFR without naming an alternate aerodrome in the flight plan.

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s701.20 Take-off Minima Reported RVR 1,200 feet (1/4 mile) Visibility

The standard for a Foreign Air Operator or a Foreign State operating turbine-powered airplanes to take-off in IMC below the weather minima specified in the Jeppesen Charts or in an equivalent foreign publication is:

- (a) the Company Operations Manual or in the case of a Foreign State aircraft, the applicable manual, shall contain detailed guidance on how to determine departure one engine inoperative climb gradient and obstacle clearance;
- (b) the runway is equipped with serviceable and functioning high intensity runway lights or runway center line lights or with runway center line markings that are plainly visible to the pilot throughout the take-off run;
- (c) the pilot-in-command is satisfied that the required RVR 1,200 feet (1/4 mile) visibility exists for the runway to be used before commencing take-off;
- (d) the pilot-in-command and second-in-command attitude instruments (artificial horizons) on the airplane shall incorporate pitch attitude index lines in appropriate increments above and below reference line to at least 150, and
- (e) be capable of ensuring ready depiction of total airplane attitude. The approved Failure Warning Systems which will immediately detect essential instrument and equipment failures or malfunctions shall be operative; and
- (f) contingent on holding a valid Civil Aviation Authority from the State of the Operator or in the case of a Foreign State aircraft, the applicable authority, for operation of a turbine-powered airplane in IMC below the weather minima specified in the Jeppesen Charts or an equivalent foreign publication.

<u>Airplanes</u>

Take-off Minima Reported RVR 600 feet

(1) The Company Operations Manual or in the case of a Foreign State aircraft, the applicable manual, shall contain detailed guidance on how to determine departure one engine inoperative climb gradient and obstacle clearance;

- (2) The runway has the following equipment:
 - (a) serviceable and functioning high intensity runway lights, runway center line lights and center line markings that are plainly visible to the pilot throughout the take-off run;
 - (b) at least two transmissometers, one situated at the approach end and one at the mid-point of the runway, each reading not less than RVR 600 feet; and
 - (c) if three transmissometers are available and the mid-point transmissometer is unserviceable, take-off is authorized provided the transmissometers at the approach end and the departure end of the runway, each is reading not less than RVR 600 feet;

(3) The pilot-in-command is satisfied that the required RVR 600 feet visibility exists for the runway to be used before commencing take-off;

(4) The pilot-in-command and second-in-command attitude instruments (artificial horizons) on the airplane shall incorporate pitch attitude index lines in appropriate increments above and below the zero pitch reference line to at least 150, and be capable of ensuring ready depiction of total airplane attitude. The approved Failure Warning Systems which will immediately detect essential instrument and equipment failures or malfunctions shall be operative;

(5) Contingent on holding a valid Civil Aviation Authority from the State of the Operator or in the case of a Foreign State aircraft, the appropriate authority for operation of a turbine-powered airplane in IMC below the weather minima specified in the Jeppesen Charts or an equivalent foreign publication.



Helicopters

Take-off Minima Reported RVR 600 feet

(1) The company operations manual or in the case of a Foreign State aircraft, the applicable manual, shall contain detailed guidance on how to determine departure one engine inoperative climb gradient and obstacle clearance.

(2) The take-off runway is equipped with:

- (a) serviceable and functioning high intensity runway lights, runway center line lights and center line markings that are plainly visible to the pilot throughout the take-off;
- (b) at least one transmissiometer, situated at either the approach end or mid point of the take-off runway with a reading of not less than RVR 600 feet.

(3) The pilot-in-command is satisfied that the required RVR 600 feet visibility exists for the take-off runway and visual reference to the runway can be maintained at least until V_{toss} (take-off safety speed) and V_{mini} (instrument flight minimum speed) have been attained.

(4) The pilot-in-command and second-in-command attitude (artificial horizons) instruments incorporate pitch attitude index lines in appropriate increments above and below the zero pitch reference to at least 15 degrees and incorporate operative failure warning systems which will immediately detect essential instrument malfunction or failure.

(5) Contingent on holding a valid Civil Aviation Authority from the State of the Operator or in the case of a Foreign State aircraft, the applicable authority for operation of a helicopter in IMC below the weather minima specified in the Canada Air Pilot or an equivalent foreign publication.

s701.21 Reserved

s701.22 Transport of Passengers in Single-engined Aircraft in IFR Flight or in Night VFR Flight

The standard for a Foreign Air Operator operating aircraft for the transport of passengers in a singleengined airplane under IFR, or VFR at night is:

- (1) General
 - (a) only factory built, turbine-powered airplanes are permitted;
 - (b) the turbine-engine of the airplane type must have a proven Mean Time Between Failure (MTBF) of .01/1000 or less established over 100,000 hours in service;
- (2) Airplane Equipment Requirements
 - (a) two attitude indicators which are powered separately and independently from each other;
 - (b) two independent power generating sources, either of which is capable of sustaining essential flight instruments and electrical equipment;
 - (c) an auto-ignition system, or alternatively, the company operations manual must specify that continuous ignition must be selected "ON" for take-off, landing and flight in heavy precipitation;
 - (d) a chip detector system to warn the pilot of excessive ferrous material in the engine lubrication system;
 - (e) a radar altimeter;
 - (f) a manual throttle which bypasses the governing section of the fuel control unit and permits continued unrestricted operation of the engine in the event of a fuel control unit failure.

(3) Contingent on holding a valid Civil Aviation Authority from the State of the Operator for operation of single-engined aircraft in IFR flight or in night VFR flight with passengers.

s701.23 to s701.24 Reserved


Division IV - Ground De-icing/Anti-icing

s701.25 Ground Icing Operations Standard/Annual Surface Contamination Training

(1) Ground icing operations program shall be made in accordance with the Ground Icing Operations Standards.

(2) A Foreign Air Operator shall establish and maintain a training program concerning the adverse effects of surface contamination

in accordance with Sections s705.124, and s705.153 of the Commercial Air Services Standards.

s701.26 to s701.36 Reserved





REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>*Part VII*</u> Commercial Air Services

<u>Subpart 2</u> Aerial Work

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier







LEBANESE AVIATION REGULATIONS (LARs)

Part VII – Commercial Air Services

Subpart 2 – Aerial Work

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Subpart 2 - Aerial Work

Division I - General

702.01 Application

(1) Subject to Subsection (2), this Subpart applies in respect of the operation of an airplane or helicopter in aerial work involving

- (a) the carriage on board of persons other than flight crew members;
- (b) the carriage of helicopter Class B, C or D external loads;
- (c) the towing of objects, other than a glider towing operation conducted by a flight training organization; or
- (d) the dispersal of products.

(2) This Subpart does not apply in respect of the operation of an ultra-light airplane, or in respect of the operation of an aircraft in aerial work involving sightseeing operations.

702.02 Aircraft Operation

No air operator shall operate an aircraft under this Subpart unless the air operator complies with the conditions and Operations Specifications in an Air Operator Certificate issued to that operator by the Minister pursuant to Section 702.07.

702.03 to 702.06 Reserved





Division II - Certification

702.07 Issuance or Amendment of Air Operator Certificate

(1) Subject to Article 70 of the Lebanese Civil Aviation Safety Act, the Minister shall, on receipt of an application submitted in the form and manner required by the Commercial Air Services Standards, issue or amend an air operator certificate where the applicant demonstrates to the Minister the ability to

- (a) maintain an adequate organizational structure;
- (b) maintain an operational control system;
- (c) meet training program requirements;
- (d) comply with maintenance requirements;
- (e) meet the Commercial Air Services Standards for the operation; and
- (f) conduct the operation safely.

(2) For the purposes of Subsection (1), an applicant shall have

- (a) a management organization capable of exercising operational control;
- (b) managerial personnel who meet the Commercial Air Services Standards, are employed on a full-time basis and perform the functions related to the following positions, namely,
 - (i) operations manager,
 - (ii) chief pilot, and
 - (iii) where the applicant does not hold an approved maintenance organization (AMO) certificate, maintenance manager;
- (c) the ground handling services and equipment necessary to ensure the safe handling of its flights;
- (d) aircraft that are properly equipped for and flight crew members who are qualified for the area of operation and the type of operation;
- (e) an operational control system that meets the requirements of Section 702.12;
- (f) a training program that meets the requirements of this Subpart;
- (g) legal custody and control of at least one aircraft of each category of aircraft that is to be operated;
- (h) a company operations manual that meets the requirements of Sections 702.81 and 702.82; and
- (i) a maintenance control system approved pursuant to Subpart 6.

702.08 Contents of Air Operator Certificate

An air operator certificate shall contain

- (a) the legal name, trade name and address of the air operator;
- (b) the number of the air operator certificate;
- (c) the effective date of certification;
- (d) the date of issue of the certificate;
- (e) the general conditions identified in Section 702.09;
- (f) where the air operator complies with the Commercial Air Services Standards, Operations Specifications with respect to:
 - (i) specific conditions with respect to:
 - A. the areas of operation authorized,
 - B. the types of service authorized,
 - C. the types of aircraft authorized and, if applicable, their registration, and any operational restrictions, and
 - D. the main base and, if applicable, sub-bases; and
 - (ii) aircraft performance, equipment and emergency equipment requirements,
 - (iii) instrument approach procedures,



- (iv) operations over a built-up area or in an aerial work zone,
- (v) the carriage of persons other than flight crew members and persons whose presence on board an aircraft is essential during flight,
- (vi) special weather minima authorizations,
- (vii) authorizations concerning flight crew member complement,
- (viii) navigation system authorizations,
- (ix) pilot training and pilot proficiency checks,
- (x) special helicopter procedures,
- (xi) the air operator maintenance control system approved pursuant to Subpart 6,
- (xii) leasing arrangements, and
- (xiii) any other condition pertaining to the operation that the Minister deems necessary for aviation safety.

702.09 General Conditions of Air Operator Certificate

An air operator certificate shall contain the following general conditions:

- (a) the air operator shall conduct flight operations in accordance with its company operations manual;
- (b) the air operator shall maintain an adequate organizational structure;
- (c) the air operator shall employ managerial personnel who meet the Commercial Air Services Standards;
- (d) the air operator shall conduct training in accordance with its training program approved pursuant to this Subpart;
- (e) the air operator shall maintain aircraft that are properly equipped for the area of operation and the type of operation;
- (f) the air operator shall employ crew members who are qualified for the area of operation and the type of operation;
- (g) the air operator shall maintain its aircraft in accordance with the requirements of Subpart 6;
- (h) the air operator shall maintain operational support services and equipment that meet the Commercial Air Services Standards;
- (i) the air operator shall notify the Minister within 10 working days after any change in its legal name, trade name, base of operations or managerial
- (j) personnel; and
- (k) the air operator shall conduct a safe operation.

702.10 Reserved



Division III - Flight Operations

702.11 Operating Instructions

An air operator shall ensure that all operations personnel are properly instructed about their duties and about the relationship of their duties to the operation as a whole.
 The operations personnel of an air operation shall follow the proceedures manifold in the air.

(2) The operations personnel of an air operator shall follow the procedures specified in the air operator's company operations manual in the performance of their duties.

702.12 Operational Control System

No air operator shall operate an aircraft unless the air operator has an operational control system that meets the Commercial Air Services Standards and is under the control of its operations manager.

702.13 Flight Authorization

No person shall commence a flight unless the flight has been authorized in accordance with the procedures specified in the air operator's Company Operations Manual.

702.14 Operational Flight Plan

No air operator shall permit a person to commence a flight unless an operational flight plan that meets the Commercial Air Services Standards has been prepared in accordance with the procedures specified in the air operator's Company Operations Manual.

702.15 Maintenance of Aircraft

No air operator shall permit a person to conduct a take-off in an aircraft that has not been maintained in accordance with the air operator's Maintenance Control System.

702.16 Carriage of Persons

No air operator shall allow a person, other than a flight crew member or a person whose presence on board is essential during the flight, to be carried on board an aircraft unless the air operator:

- (a) is authorized to do so in its air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

702.17 VFR Flight Minimum Flight Visibility - Uncontrolled Airspace

(1) Where an airplane is operated in day VFR flight within uncontrolled airspace at less than 1,000 feet AGL, a person may, for the purposes of Subsection 602.115(c)(i), operate the airplane when flight visibility is less than two miles if the person:

- (a) is authorized to do so in an air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

(2) Where a helicopter is operated in day VFR flight within uncontrolled airspace at less than 1,000 feet AGL, a person may, for the purposes of subparagraph 602.115(d)(i), operate the helicopter when flight visibility is less than one mile if the person:

- (a) is authorized to do so in an air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.



702.18 Night, VFR OTT and IFR Operations

(1) Subject to Subsection (2), no air operator shall operate an aircraft at night, in VFR OTT flight or in IFR flight:

- (a) while towing;
- (b) while carrying a helicopter Class B, C or D external load;
- (c) while dispersing products; or
- (d) where the aircraft is a single-engined aircraft.

(2) An air operator may operate an aircraft at night, in VFR OTT flight or in IFR flight in any of the cases referred to in Subsection (1), if the air operator:

- (a) is authorized to do so in its air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

(3) No air operator shall operate an aircraft at night with persons other than flight crew members on board unless:

- (a) the pilot-in-command has an instrument rating; or
- (b) the air operator:
 - (i) is authorized to do so in its air operator certificate (OpSpecs), and
 - (ii) complies with the Commercial Air Services Standards.

702.19 Entering or Leaving a Helicopter in Flight

For the purposes of Subsection 602.25(2)(b), the pilot-in-command of a helicopter may permit a person to enter or leave the helicopter in flight:

- (a) where:
 - (i) the helicopter is operated at a low hover,
 - (ii) the person is able to enter directly from or alight directly onto the supporting surface,
 - (iii) the air operator is authorized to do so in its air operator certificate (OpSpecs), and
 - (iv) the air operator complies with the Commercial Air Services Standards; or
- (b) where:
 - (i) the helicopter is operated to enable hoisting or rappelling, and
 - (ii) the air operator complies with Section 702.21.

702.20 Aircraft Operating Over Water

No air operator shall, except when conducting a take-off or landing, operate a land aircraft over water, beyond a point where the land aircraft could reach shore in the event of an engine failure, unless the air operator

- (a) is authorized to do so in its Air Operator Certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

702.21 Helicopter Class D External Loads

(1) Subject to Subsection (2), no air operator shall operate a helicopter to carry a helicopter Class D external load unless:

- (a) the helicopter is a multi-engined helicopter that meets the transport category engine-isolation requirements of Part V, Subpart 515 of the LARs and that is capable of hovering with one engine inoperative at the existing weight and altitude;
- (b) the air operator is authorized to do so in its Air Operator Certificate (OpSpecs); and
- (c) the air operator complies with the Commercial Air Services Standards.

(2) An air operator may operate a helicopter other than a helicopter described in Subsection (1)(a) to carry a helicopter Class D external load if the air operator:

(a) is authorized to do so in its air operator certificate (OpSpecs); and

(b) complies with the Commercial Air Services Standards.

702.22 Built-up Area and Aerial Work Zone

(1) For the purposes of Subsection 602.13(1), a person may conduct a take-off, approach or landing in an aircraft within a built-up area of a city or town at a place other than an airport or a military aerodrome, if the person:

- (a) has an authorization from the Minister or is authorized to do so in an air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

(2) For the purposes of Subsection 602.15(2)(a), a person may operate an aircraft over a built-up area at altitudes and distances less than those specified in Subsection 602.14(2)(a), if the person:

- (a) has an authorization from the Minister or is authorized to do so in an Air Operator Certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

(3) For the purposes of Subsection 602.16(2), a person may operate a helicopter that is carrying a helicopter Class B, C or D external load over a built-up area or in an aerial work zone, if the person:

- (a) has an authorization from the Minister or is authorized to do so in an Air Operator Certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

702.23 Briefing of Persons Other Than Flight Crew Members

The pilot-in-command shall ensure that persons, other than flight crew members, who are on board the aircraft are given a safety briefing that meets the Commercial Air Services Standards.

702.24 to 702.31 Reserved





Division IV - Aircraft Performance Operating Limitations

702.32 to 702.41 Reserved





Division V - Aircraft Equipment Requirements

702.42 Night and IMC Flights

(1) No person shall operate an aircraft at night unless the aircraft is equipped with at least one landing light.

- (2) No person shall operate a multi-engined aircraft in IMC unless the aircraft is equipped with:
 - (a) two generators or two alternators, each of which is driven by a separate engine or by a rotor drive train; and
 - (b) two independent sources of energy, at least one of which is not a battery, and each of which is able to drive all flight instruments requiring a source of energy and is installed so that the failure of one instrument or one source of energy will affect neither the energy supply to the remaining instruments nor the other source of energy.

702.43 Additional Equipment for Single-pilot Operations

No air operator shall operate an aircraft on a single-pilot operation in IFR flight unless the aircraft is equipped with:

- (a) an auto-pilot that is capable of operating the aircraft controls to maintain flight and maneuver the aircraft about the lateral and longitudinal axes;
- (b) a headset with a boom microphone or equivalent and a transmit button on the control column; and
- (c) a chart holder that is equipped with a light and that is placed in an easily readable position.

702.44 Shoulder Harnesses

No air operator shall operate an aircraft unless the pilot seat and any seat beside the pilot seat are equipped with a safety belt that includes a shoulder harness.

702.45 External Load Equipment

No air operator shall operate an aircraft carrying an external load unless the attachment device is authorized in a supplemental type certificate or in an airworthiness approval relating to the operational configuration of the aircraft.

702.46 to 702.53 Reserved





Division VI - Emergency Equipment

702.54 to 702.63 Reserved





Division VII - Personnel Requirements

702.64 Designation of Pilot-in-command and Second-in-command

An air operator shall designate for each flight a pilot-in-command and, where the crew includes two pilots, a pilot-in-command and a second-in-command.

702.65 Flight Crew Member Qualifications

No air operator shall permit a person to act and no person shall act as a flight crew member in an aircraft unless the person:

- (a) holds the license and ratings required by Part IV;
- (b) where the aircraft is operated in IFR flight and persons other than flight crew members are on board, has successfully completed a pilot proficiency check, the validity period of which has not expired, for that type of aircraft, in accordance with the Commercial Air Services Standards;
- (c) where the person is not a chief pilot and has not successfully completed a pilot proficiency check within the validity period, has successfully completed a competency check, the validity period of which has not expired, for that type of aircraft, in accordance with the Commercial Air Services Standards; and
- (d) has fulfilled the requirements of the air operator's ground and flight training program.

702.66 Check Authority

- (1) A pilot proficiency check shall be conducted by the Minister.
- (2) Any other check required under this Subpart may be conducted by the Minister.

702.67 Validity Period

(1) Subject to Subsection (3), the validity period of a pilot proficiency check expires on the first day of the seventh month following the base month established for the proficiency check.

(2) Subject to Subsection (4), the validity period of a competency check and the annual training referred to in Section 702.76 expires on the first day of the thirteenth month following the month in which the competency check or training was completed.

(3) Where a pilot proficiency check is renewed within the month prior or month after the established base month, the validity period is extended by six months.

(4) Where a competency check or annual training is renewed within the last 90 days of its validity period, its validity period is extended by 12 months.

(5) Where the validity period of a pilot proficiency check, a competency check or annual training has been expired for 24 months or more, the person shall requalify by meeting the training requirements specified in the Commercial Air Services Standards.

702.68 to 702.75 Reserved





Division VIII - Training

702.76 Training Program

- (1) Every air operator shall establish and maintain a ground and flight training program that is
 - (a) designed to ensure that each person who receives training acquires the competence to perform the person's assigned duties; and
 - (b) approved by the Minister in accordance with the Commercial Air Services Standards.
- (2) An air operator's ground and flight training program shall include:
 - (a) company indoctrination training;
 - (b) upgrading training;
 - (c) training in the aerial work to be conducted; and
 - (d) initial and annual training, including:
 - (i) aircraft type training,
 - (ii) aircraft servicing and ground handling training,
 - (iii) emergency procedures training,
 - (iv) aircraft surface contamination training for pilots and other operations personnel,
 - (v) training for personnel who are assigned to perform duties on board an aircraft or who are carried externally by an aircraft, and
 - (vi) any other training required to ensure a safe operation under this Subpart.
- (3) An air operator shall:
 - (a) include a detailed syllabus of its ground and flight training program in its company operations manual;
 - (b) ensure that adequate facilities and qualified personnel are provided for its ground and flight training program, in accordance with the Commercial Air Services Standards; and
 - (c) establish and maintain a safety awareness program concerning the adverse effects of aircraft surface contamination and provide the program to all flight operations personnel who are not required to receive the training described in Subsection (2)(d)(iv).

702.77 Training and Qualification Records

(1) Every air operator shall, for each person who is required to receive training under this Subpart, establish and maintain a record of:

- (a) the person's name and, where applicable, personnel license number, type and ratings;
- (b) if applicable, the person's medical category and the expiry date of that category;
- (c) the dates on which the person, while in the air operator's employ, successfully completed any training, pilot proficiency check, competency check or examination required under this Subpart or obtained any qualification required under this Subpart;
- (d) information relating to any failure of the person, while in the air operator's employ, to successfully complete any training, pilot proficiency check, competency check or examination required under this Subpart or to obtain any qualification required under this Subpart; and
- (e) the type of aircraft or flight training equipment used for any training, pilot proficiency check, competency check or qualification required under this Subpart.

(2) An air operator shall retain the records referred to in Subsections (1)(c) and (d) and a record of each pilot proficiency check for at least three years.

(3) An air operator shall retain a copy of the most recent written examination completed by each pilot for each type of aircraft for which the pilot has a qualification.

702.78 to 702.80 Reserved





Division IX - Manuals

702.81 Requirements Relating to Company Operations Manual

(1) Every air operator shall establish and maintain a company operations manual that meets the requirements of Section 702.82.

(2) An air operator shall submit its company operations manual, and any amendments to that manual, to the Minister.

(3) Where there is a change in any aspect of an air operator's operation or where the company operations manual no longer meets the Commercial Air Services Standards, the air operator shall amend its company operations manual.

(4) The Minister shall, where the Commercial Air Services Standards are met, approve those parts of a company operations manual, and any amendments to those parts, that relate to the information required by Section 702.82.

702.82 Contents of Company Operations Manual

(1) A company operations manual, which may be issued in separate parts corresponding to specific aspects of an operation, shall include the instructions and information necessary to enable the personnel concerned to perform their duties safely and shall contain the information required by the Commercial Air Services Standards.

(2) A company operations manual shall be such that:

- (a) all parts of the manual are consistent and compatible in form and content;
- (b) the manual can be readily amended;
- (c) the manual contains an amendment control page and a list of the pages that are in effect; and
- (d) the manual has the date of the last amendment to each page specified on that page.

702.83 Distribution of Company Operations Manual

(1) Subject to Subsection (2), an air operator shall provide a copy of the appropriate parts of its company operations manual, including any amendments to those parts, to each of its crew members and to its ground operations and maintenance personnel.

(2) An air operator may place a copy of the appropriate parts of its company operations manual in each aircraft that it operates, instead of providing a copy to each crew member, if the air operator has established in its company operations manual procedures for amending that manual.

(3) Every person who has been provided with a copy of the appropriate parts of a company operations manual pursuant to Subsection (1) shall keep it up to date with the amendments provided and shall ensure that the appropriate parts are accessible when the person is performing assigned duties.

702.84 Standard Operating Procedures

(1) Every air operator shall, for each of its aircraft that is required to be operated by two or more pilots, establish and maintain standard operating procedures that enable the crew members to operate the aircraft within the limitations specified in the aircraft flight manual and that meet the Commercial Air Services Standards.

(2) An air operator that has established standard operating procedures for an aircraft shall ensure that a copy of the standard operating procedures is carried on board the aircraft.

702.85 to 702.90 Reserved





REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>Part VII</u> Commercial Air Services

> <u>Standards</u> s702.01 to s702.90

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier







LEBANESE AVIATION REGULATIONS (LARs)

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COMMERCIAL AIR SERVICES STANDARDS

Subpart 2 – Aerial Work \$702.01 to \$702.90

DIVISION I - GENERAL

Foreword

This Commercial Air Service Standard outlines the requirements for complying with Subpart 2 of the Lebanese Aviation Regulations (LARs).

For ease of cross reference the divisions and numbers of the standard are assigned to correspond to the regulations, therefore Standard s702.05 would reflect a standard required by Section 702.05 of the LARs.

The standards under this Subpart apply to every Lebanese air operator engaged in commercial air services under Subpart 2 of the Lebanese Aviation Regulations (LARs).

s702.01 Application

The standards under this subpart apply to every Lebanese operator engaged in commercial air services under Subpart 2 of the Lebanese Aviation Regulations (LARs).

Definitions

The words and expressions used in these standards have the same meaning as in the General Provisions Section 101.01 of the Lebanese Aviation Regulations, with the following additions:

"attaching device" - means the structural components on the aircraft used to attach an external load to an aircraft.

"disembark" - means to unload, deplane or leave an aircraft.

"embark" - means to load, emplane or enter an aircraft.

"evacuate" - means the egress from an aircraft in an emergency situation using all available exits and assist means.

"external load" - means a load carried externally by an aircraft.

"hoist" - an approved lifting and lowering device attached to the exterior of a helicopter and used for the embarking and disembarking of cargo and persons from/to a helicopter in flight.

"operations co-ordination" - means the exercise of authority by an air operator over it's operating activities excluding operational control.

"rappelling" - an approved attaching system to a helicopter used for the quick disembarking from the cabin of a helicopter in flight.



"vertical reference operations" - means placement or pick-up of a suspended helicopter external load requiring the pilot to continuously maintain view of the suspended load vertically from the cockpit. Also referred to as long-lining.

"wide-body helicopter" - means a helicopter having an interior cabin width of 2m (6'7") or more.

s702.02 to s702.06 Reserved



DIVISION II - CERTIFICATION

s702.07 Issuance or Amendment of an Air Operator Certificate

- (1) The following constitutes an application for an Aerial Work Air Operator Certificate:
 - (a) DGCA OPS Form 100-11. Information required to determine the type of aerial work being applied for and the suitability of the base of operations, sub-bases, aircraft types to be operated, supervisory personnel and maintenance organization. The operator shall be able to demonstrate that operations are permitted at each base of operations. This will normally be done by providing written permission from the Local Airport Authority (LAA). Where the air operator can not obtain written permission and operations have not been denied in writing by the LAA, access to the aerodrome shall be demonstrated by other means such as facilities provided through a lease, contractual agreement etc. This form is to be signed by the person authorized by the air operator applicant to execute the application and shall be supported by resumes and statements of qualification for each required operations supervisory position;
 - (b) maintenance control procedures;
 - (c) Company Operations Manual;
 - (d) Minimum Equipment List(s) (as applicable); and
 - (e) nomination for Company Check Pilot (as applicable).
- (2) Qualifications and Responsibilities of Operations Personnel
 - (a) Operations Manager
 - (i) <u>Qualifications</u>
 - A. hold or have held the appropriate license and ratings for which a pilot-incommand is required to hold for one of the helicopters operated by the air operator or have acquired not less than 2 years related flight operations experience with an air operator of a commercial air service or equivalent military experience; and
 - B. have demonstrated to the air operator knowledge with respect to the content of the operations manual, Air Operator Certificate and Operations Specifications and the provisions of the regulations and standards necessary to carry out the duties and responsibilities to ensure safety.
 - (ii) <u>Responsibilities</u>. The operations manager is responsible for safe flight operations. In particular, the responsibilities of the position include:
 - A. control of operations and operational standards of all aircraft operated;
 - B. operations co-ordination functions which impact on operational control (eg. maintenance, crew scheduling, load control, equipment scheduling);
 - C. contents of the air operator's Company Operations Manual;
 - D. the supervision of, and the production and amendment of, the Company Operations Manual;
 - E. training and qualifications of flight operations personnel;
 - F. liaison with the regulatory authority on matters concerning flight operations including any variation to the Air Operator Certificate;
 - G. liaison with any external agencies which may effect air operator operations;
 - H. ensuring that the air operator's operations are conducted in accordance with current regulations, standards and the Company Operations Manual;
 - I. ensuring that crew scheduling complies with flight and duty time regulations;
 - J. ensuring that all crew members are kept informed of any changes to applicable regulations and standards;
 - K. the receipt and actioning of any aeronautical information affecting the safety of flight;
 - L. dissemination of flight operations safety information;

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- M. qualifications of flight crews;
- N. maintenance of a current operations library; and
- O. ensuring that responsibilities for operational control functions are delegated to qualified personnel.
- (b) Chief Pilot
 - (i) <u>Qualifications</u>
 - A. if the Air Operator Certificate authorizes:
 - VFR Day Only. Hold a valid Airline Transport Pilot License or Commercial Pilot License for the category of aircraft operated;
 - VFR at Night. Hold a valid Airline Transport Pilot License or Commercial Pilot License valid for night and a valid Instrument Rating for the category of aircraft operated. Where the Air Operator Certificate authorizes VFR at night only without an instrument rating, the chief pilot need not be instrument rated;
 - *IFR*. Hold a valid Airline Transport Pilot License or Commercial Pilot License and a Valid Instrument Rating for the category of aircraft operated;
 - B. if applicable, hold a type rating for one of the aircraft operated;
 - C. have at least one year experience within the preceding three years as pilot-incommand on the category of aircraft operated by the air operator;
 - D. be qualified in accordance with the air operators training program to act as pilotin-command on one of the types operated by the air operator;
 - E. have demonstrated knowledge to the air operator with respect to the content of the operations manual, provisions of the regulations and standards, and if applicable, the company check pilot manual and standard operating procedures.
 - (ii) <u>Responsibilities</u>. The chief pilot is responsible for the professional standards of flight crew and in particular:
 - A. developing standard operating procedures;
 - B. developing or implementing all required crew member approved training programs;
 - C. issuing directives and notices to the flight crews as required;
 - D. the actioning and distribution of accident, incident, and other occurrence reports;
 - E. the processing and actioning of any crew reports;
 - F. the supervision of flight crews;
 - G. assuming responsibilities delegated by the Operations Manager; and
 - H. ensuring that duties are delegated to qualified individuals.
- (c) Maintenance Organization. The person responsible for the maintenance control system shall be qualified in accordance with **Section s706.03** of the Commercial Air Services Standard.

s702.08 Contents of Air Operator Certificate

(1) Navigation System Authorizations (refers to Subsection 702.08(g)(vii) of the Lebanese Aviation Regulations).

(2) Minimum Performance Capability for Long Range Area Navigation System. To meet the requirements of this standard, a long range area navigation system shall, as a minimum:

- (a) have a standard deviation of lateral track deviations of less than 6.3 nautical miles;
- (b) have a proportion of the total flight time spent by the aircraft 30 nautical miles or more from cleared track of less than 5.3 x 10-4 ;
- (c) have a proportion of the total flight time spent by aircraft at or between 50 and 70 nautical miles from the cleared track of less than 1.3 x 10-4 ; and
- (d) if a GPS receiver(s) provides the only means of long range navigation, then the requirements of Part VI, Subpart 2, Appendix IV, Attachment 6 and FAA Document No. 8110.60, GPS as a Primary Means of Navigation in Oceanic/Remote Operations or equivalent must be met.
- (3) Authorizations
 - (a) <u>Required Navigation Performance Capability (RNPC) Airspace</u>. The standard requirements for authorization to flight plan published high level fixed RNAV routes in Required Navigation Performance Capability (RNPC) airspace, or to be accommodated by Air Traffic Control (ATC) on other routes using RNPC separation criteria, are:
 - (i) airplanes equipped with at least two independent navigation systems, one of which being a long range area navigation system; and
 - (ii) flight crew training on operation of the long range area navigation system in accordance with training pursuant to Subsection s702.76(15).
 - (b) North Atlantic Minimum Navigation Performance Specification (NAT MNPS), CMNPS and <u>RNPC Airspace</u>. The standard requirements for authorization to operate in North Atlantic Minimum Navigation Performance Specification (NAT MNPS) airspace, CMNPS airspace, to flight plan published high level fixed RNAV routes in Required Navigation Performance Capability (RNPC) airspace, and to be accommodated by Air Traffic Control (ATC) on other routes using RNPC separation criteria are:
 - (i) subject to Subsections A. and B., airplanes shall be equipped with at least two independent long range area navigation systems.
 - A. airplanes equipped with at least two independent navigation systems, one of which being a long range area navigation system, may be approved for NAT MNPS operations restricted to routes approved for airplanes with one long range RNAV system; and
 - B. airplanes equipped with at least two independent navigation systems based on short range ground transmitters may be approved for NAT MNPS operations restricted to routes approved for aircraft with no long range RNAV capability; and
 - (ii) flight crew training on operation of long range area navigation systems in accordance with training requirements set out in Subsection s702.76(15) of these Standards.
 - (c) <u>Reduced Vertical Separation Minima (RVSM) in NAT MNPS, CMNPS and RNPC Airspace</u>. The standard requirement for authorization to operate in NAT MNPS Reduced Vertical Separation Minima (RVSM) airspace, CMNPS airspace, to flight plan published high level fixed RNAV routes in Required Navigation Performance Capability (RNPC) airspace, and to be accommodated by Air Traffic Control (ATC) on other routes using RNPC separation criteria is as follows:
 - the air operator and airplane shall comply with Minimum Aircraft System Performance Specifications (MASPS) and other requirements of ICAO NAT DOC 002 and Part VI, Subpart 2, Attachment 5.
- (4) Instrument Approaches Global Positioning System (GPS)

- (a) the standard requirements for authorization to fly instrument approach procedures using only GPS navigation information are:
 - (i) an operational evaluation in accordance with Subsection s702.08(3)(b) has been completed by the Minister on each aircraft type/GPS/FMS model installation for which approach authorization is sought;
 - (ii) an air operator has an approved flight crew training and qualifications program for use of the GPS/FMS system that meets the requirements of Section s702.76; and
 - (iii) standard operating procedures have been amended to reflect GPS approach operations and approved by the Minister (where required).
- (b) the following items will be assessed in the operational evaluation prior to the approval of the operator's GPS approach standard operating procedures (where applicable) and training program. Identical installations of the same model of GPS in the same type of aircraft with the same operator do not need separate evaluations.
 - (i) <u>Database</u>. The geographical coverage area for the database shall be compatible with the type of operations conducted by the company. The air operator shall have procedures in place to ensure that the database will be updated in accordance with the appropriate data revision cycle. This shall include a contract with a database supplier and the inclusion, in the appropriate company manuals, of the person responsible for installing the updates in the aircraft. The company shall have a procedure in place for pilots to report database errors and for information on database errors to be passed on to other company pilots, the avionics manufacturer and the Minister.
 - (ii) <u>Unit Installation and Operation</u>. The handling and procedures associated with the GPS avionics shall be such that all operations required for GPS approach can be accomplished without an adverse impact on normal crew duties and responsibilities. GPS related tasks shall not consume the attention of the pilot not flying (PNF) during critical phases of flight (i.e. between the time the aircraft turns inbound on the final approach course and the time the aircraft is established in the climb configuration on a missed approach).
 - (iii) <u>Control Display Unit (CDU) and Course Deviation Indicator (CDI) / Distance Display</u>. If the GPS/FMS control unit is not adequately accessible from each pilot position, or if GPS course deviation and distance displays are not within the primary field of view at both pilot stations, air operators shall designate in the standard operating procedures the position that the pilot flying (PF) and pilot not flying (PNF) are required to occupy during GPS approach for that type of installation. Aircraft types that are certified for operation by two crew members shall have GPS course deviation and distance displays at each pilot station. An Operation Specification authorizing GPS approaches shall not be issued unless the PNF has a means acceptable, in the Minister's opinion, of monitoring the PF during an approach.
 - (iv) <u>Distance Display on the HSI</u>. Installations where GPS guidance information (course tracking, To/From and NAV flags) are switched onto the HSI for display, but the DME distance information is not switched out (i.e. DME distance rather than GPS distance is displayed continuously on the HSI even when GPS source is selected to HSI), shall require air operators, in their standard operating procedures for GPS approach to deselect other NAV/DME sources to eliminate distance displays in the pilot's primary field of vision not related to the approach procedure being flown.
 - (v) <u>Annunciation</u>. Responses to system annunciation (including Receiver Autonomous Integrity Monitoring (RAIM) warnings), the means of selecting GPS track information to the CDI/HSI and the means of coupling GPS steering information to the aircraft automatic flight control system shall be compatible with the safe operation of the aircraft type/category. Standard operating procedures shall specify the procedure whereby the control unit is programmed, approach waypoints are verified against an
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independent source, approach mode is armed, and cockpit NAV source and AFC guidance source switches are selected and verified. Any switch selection or programming errors that the Minister believes are likely to occur and that could lead to a serious incident shall, if possible, be identified and addressed in training and in the standard operating procedures. Otherwise, the installation shall not be approved for approach use.

(vi) <u>Airborne Evaluation</u>. The Minister shall observe the pre-flight and in-flight operation of the unit on at least one GPS approach and missed approach. If the PF is allowed to occupy either seat during GPS approaches, then one approach from each pilot position shall be demonstrated. An airborne evaluation in an aircraft must take place under VFR. Emphasis will be on crew co-ordination, pilot workload (PF and PNF), and switch selections.

s702.09 General Conditions of Air Operator Certificate

Operational Support Services and Equipment Standard. Operational support services and equipment will be dependent on the Aerial Work Operations being conducted, types of aircraft authorized and scope of operation. Support services and equipment shall include as applicable:

- (a) aircraft servicing facilities and ground handling equipment;
- (b) aerial work equipment to safely conduct the aerial work operation;
- (c) operational control and communications facilities;
- (d) flight operations publications including the Lebanese Civil Aviation Safety Act, Lebanese Aviation Regulations (LARs) and applicable Standards, Maintenance Control Manual, Aeronautical Information Publication and, as applicable, Aircraft Flight Manuals, Aircraft Operating Manuals, Standard Operating Procedures, Minimum Equipment Lists and appropriate maps and charts;
- (e) weather availability requirements;
- (f) ground de-icing / anti-icing program facilities; and
- (g) provisions for handling dangerous goods.

s702.10 to s702.11 Reserved



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DIVISION III - FLIGHT OPERATIONS

s702.12 Operational Control System

(1) Operational Control System Standard. Operations conducted under Part VII, Subpart 2 of the LARs require a Type D operational control system. Another organization may be contracted to exercise operational control on behalf of an air operator.

(2) General:

- (a) Application. For all operations under Aerial Work Operations.
- (b) <u>Responsibility and Authority</u>. Operational control is delegated to the pilot-in-command of a flight by the Operations Manager, who retains responsibility for the day to day conduct of flight operations.
- (c) <u>Centers</u>. Current information on the location of the air operator's aircraft shall be maintained at the main base of operations, sub-base or where appropriate, from the location from which the flight following is being conducted.
- (d) <u>Communications</u>. Each aircraft shall be equipped with serviceable and functioning communications equipment that permits the pilot-in-command to communicate with a ground radio station for the purpose of flight following with the air operator. Such a ground station may be operated by the government, the air operator or a private agency.
- (e) <u>On Duty</u>. A person qualified and knowledgeable in the air operator's flight alerting procedures shall be on duty or available when IFR or VFR at night flight operations are being conducted.

(3) Flight Following. Flight Following for a Type D system is the monitoring of a flight's progress and the notification of appropriate air operator and search and rescue authorities if the flight is overdue or missing. Flight Following procedures and the standards of qualifications for the individual performing this function shall be described in the air operator's Company Operations Manual:

- (a) each flight shall be conducted under an IFR Flight Plan, VFR Flight Plan or Flight Itinerary as appropriate.
- (b) the pilot-in-command is responsible for flight watch but shall be supported by an air operator Flight Following System that shall monitor the progress of each IFR flight or VFR at night flight from its commencement to its termination, including any intermediate stops. The person performing the flight following function, who may be the same as in Subsection 2(e) above, shall be delegated to do so by the operations manager.
- (c) the pilot-in-command shall be responsible for passing messages concerning landings and departures from point of origin, at enroute stops and from the final destination in order to satisfy the requirements of Subsection 3(b) above.

s702.13 Reserved

s702.14 Operational Flight Plan Standard

(1) Application. VFR at night flights operated within an aerial work zone for the purpose of conducting an aerial work operation and day VFR flights are not required to be operated under an operational flight plan.

(2) Minimum Content of an Operational Flight Plan, VFR at Night and IFR:

- (a) air operator name;
- (b) date;
- (c) aircraft registration;
- (d) aircraft type and model;
- (e) type of flight IFR, VFR at night;

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- (f) pilot-in-command name;
- (g) departure aerodrome;
- (h) destination aerodrome;
- (i) alternate aerodrome, if applicable;
- (j) routing to destination by successive navigational way points with associated tracks for each;
- (k) routing to alternate aerodrome;
- (l) planned cruise altitudes to destination and alternate, if applicable;
- (m) estimated time enroute and, if applicable, to alternate;
- (n) fuel burn enroute and from destination to alternate;
- (o) fuel as applicable for the type of flight plan:
 - (i) taxi;
 - (ii) destination;
 - (iii) alternate;
 - (iv) contingency; or
 - (v) holding reserve;
- (p) weights
 - (i) total fuel on board;
 - (ii) zero fuel weight;
 - (iii) planned maximum take-off weight;
- (q) number of persons on board as amended by final load figures; and
- (r) signature of pilot-in-command or means of certifying acceptance.

(3) The operational flight plan shall permit the flight crew to record the fuel state and the progress of the flight relative to the plan.

(4) The air operator shall specify, in its Company Operations Manual, how formal acceptance of the operational flight plan by the pilot-in-command shall be recorded.

s702.15 Reserved

s702.16 Carriage of Persons

(1) The standards for authorization to carry persons other than flight crew members and persons essential during flight are:

- (a) the person is a flight crew member trainee, is a person undergoing training for essential duties during flight or is an air operator employee aircraft maintenance technician;
- (b) the person is a fire fighter or fire control officer being carried within a forest fire area;
- (c) the person is being carried to an aerial work site, performs an essential function in connection with the aerial work operation and is necessary to accomplish the aerial work operation;
- (d) during helicopter external load operations, persons not essential during flight are carried only in conjunction with a Class D load which complies with Subsection 702.21(1) of the Lebanese Aviation Regulations, except for crew members undergoing training, or fire fighters carried only in conjunction with a Class B load consisting of equipment necessary to fight fires within a forest fire area;
- (e) aircraft equipment requirements comply with Subpart 5 of the Lebanese Aviation Regulations, Division II - Aircraft Equipment Requirements for aircraft seats, restraint system requirements and shoulder harness requirements, as applicable; and

(f) persons are safety briefed in accordance with Section s702.23 of the Aerial Work Standard.

(2) Parachutists and jumpmasters are considered to be essential during flight and do not require an Operations Specification.

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s702.17 VFR Flight Minimum Flight Visibility - Uncontrolled Airspace

(1) Airplanes. The standard for reduced VFR visibility limits of one mile in uncontrolled airspace for airplanes is as follows:

- (a) <u>Airplane Equipment</u>. The airplane must be equipped with the following:
 - (i) an artificial horizon;
 - (ii) a directional gyro or gyro compass; and
 - (iii) a Global Positioning System (GPS) navigation receiver.
- (b) <u>Pilot Experience</u>. Before conducting operations at reduced visibility, pilots must have achieved at least 500 hours of experience in Part VII or operations in the same category and class of airplane for which the authority is sought that, in the opinion of the Minister, are equivalent to such experience.
- (c) <u>Airspeed and Configuration for Operation in Reduced Visibility</u>. Airplanes shall be operated at a speed such that obstacles can be seen and avoided. Airplane configuration for operations in reduced visibility shall conform to the Aircraft Flight Manual recommendations.
- (d) <u>Pilot Training</u>. Pilots must receive training as follows:
 - (i) a one time attendance at an acceptable and recognized Pilot Decision Making course which shall include, but not be limited to the following topics:
 - A. Human Performance Factors including modules on fatigue, hypoxia, nourishment, medication, balance and sight phenomena and limitations;
 - B. the Decision Making Process including modules on psychological factors, levels of performance, and "error trap" phenomena (unsafe actions taken as a result of wrongful assumptions, unsafe conditions or practices);
 - C. Human Error Countermeasures highlighted by relevant case studies of past accidents; and
 - D. stress and its symptoms, including modules on recognizing and dealing with perceived pressures, family related stress and job related stress.
 - (ii) one hour initial flight training and one hour annual recurrent flight training in basic instrument flying maneuvers and flight at reduced airspeed; and
 - (iii) initial training and annual recurrent training in the use of all equipment specified in subsection (1) above, and in all procedures specified in the Company Operations Manual for low visibility operations.
- (e) <u>Company Operations Manual</u>. The Company Operations Manual shall contain the following information:
 - (i) a company established minimum safe operational IAS and configuration for reduced visibility operations for each airplane type for which this authority is sought; and
 - (ii) company low visibility operational procedures and considerations including, but not limited to:
 - A. wind;
 - B. gross weight and weather considerations;
 - C. route / terrain knowledge and/or restrictions (availability of forced landing areas, potential for white-out, etc.);
 - D. time of day restrictions (e.g. no low visibility operations at dawn or twilight); and
 - E. communications.

(2) Helicopters. The standard for reduced VFR visibility limits of one half mile in uncontrolled airspace for helicopters is as follows:

- (a) <u>Pilot Experience</u>. Before conducting operations in reduced visibility, pilots shall have achieved at least 500 hours of pilot-in-command experience in helicopters.
- (b) <u>Airspeed for Operation in Reduced Visibility</u>. Helicopters shall be operated at a reduced air speed that will provide the pilot-in-command adequate opportunity to see and avoid obstacles.
- (c) <u>Pilot Training</u>. The pilot shall have received training as follows:

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- (i) a one time attendance at an acceptable and recognized Pilot Decision Making course which shall include, but not be limited to, the following topics:
 - A. Human Performance Factors, including modules on fatigue, hypoxia, nourishment, medication, balance and sight phenomena and limitations;
 - B. the Decision Making Process including modules on psychological factors, levels of performance, and "error trap" phenomena (unsafe actions taken as a result of wrongful assumptions, unsafe conditions or practices);
 - C. Human Error Countermeasures highlighted by relevant case studies of past accidents; and
 - D. stress and its symptoms, including modules on recognizing and dealing with perceived pressures, family related stress and job related stress.
- (ii) initial and annual recurrent flight training in procedures specified in the Company Operations Manual for operations in reduced visibility.
- (d) <u>Company Operations Manual</u>. The Company Operations Manual shall contain low visibility operational procedures and pilot decision making considerations for operation in visibility conditions of less than one mile which shall include, but not be limited to:
 - (i) gross weight;
 - (ii) wind;
 - (iii) weather;
 - (iv) route / terrain;
 - (v) time of day;
 - (vi) communications; and
 - (vii) the potential for white-out.

s702.18 Night, VFR OTT and IFR Operations

- (1) Towing operations VFR at night are subject to the following standards:
 - (a) operations are conducted in compliance with Section 602.14 of the Lebanese Aviation Regulations over built-up areas unless otherwise authorized, taking account of any hazards to persons or property on the surface in event of an inadvertent release of the tow;
 - (b) the tow is jettisonable;
 - (c) the tow pick-up and drop-off aerodrome departure and approach flight paths do not require overflight of a built-up area;
 - (d) the tow is lighted so as to be visible to other air traffic at night;
 - (e) only flight crew members and persons with essential in-flight duties are carried;
 - (f) the pilot-in-command has at least 10 hours experience in towing operations within the previous 6 months;
 - (g) the tow has been flown previously under day VFR and shown to have no hazardous flight characteristics;
 - (h) the object being towed is not a glider unless otherwise specifically authorized, taking into account proximity to a lighted glider recovery aerodrome;
 - (i) flight operations are coordinated with the appropriate ATC unit; and
 - (j) operational restrictions and procedures are included in the air operator's Company Operations Manual.
- (2) Towing operations VFR OTT are subject to the following standards:
 - (a) flights are conducted in compliance with Section 602.15 of the Lebanese Aviation Regulations for VFR OTT flight;
 - (b) the tow is jettisonable;
 - (c) VFR OTT towing is conducted only on pre-planned routes or within pre-planned areas established by the air operator which ensure that no hazard is created for persons or property on the surface;

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- (d) the tow has been flown previously under day VFR and shown to have no hazardous flight characteristics;
- (e) flights are operated under conditions which will permit a descent under VMC in event of an aircraft or tow malfunction;
- (f) flight operations are coordinated with the appropriate ATC unit; and
- (g) operational restrictions and procedures are included in the air operator's Company Operations Manual.
- (3) Towing operations under IFR are not authorized.

(4) Helicopter Class B or Class C external load operations at night are subject to the following standards:

- (a) the helicopter is equipped with a landing/search light capable of being controlled by the pilot and controllable through 45 degrees either side of the forward longitudinal axis of the helicopter;
- (b) the external load work zone, load pick-up site and load drop site is sufficiently lighted to permit the pilot to clearly discern the load on the ground, ground workers, surface obstructions and the perimeter of the external load work zone;
- (c) the load attaching hook is fluorescent-painted or otherwise marked to make it discernible to ground workers in the external load work zone;
- (d) the external load work area approach routes, departure routes and transit routes between work zones are pre-planned to ensure safe obstacle clearance;
- (e) safe VMC transit altitudes and routes are established;
- (f) the air operator has coordinated the external load operation with the appropriate ATC unit; and
- (g) the air operator's Company Operations Manual content includes operational restrictions and procedures.
- (5) Helicopter Class D external load operations at night are subject to the following standards:
 - (a) the helicopter is equipped with a landing/search light capable of being controlled by the flight crew and controllable through 45 degrees either side of the forward longitudinal axis of the helicopter;
 - (b) the operation complies with the requirements of Section 702.21(1) of the Lebanese Aviation Regulations;
 - (c) the helicopter is equipped with a radio altimeter having an altitude alert function;
 - (d) the load pick-up site and load delivery site, as applicable, are illuminated such that the flight crew and essential persons on board the helicopter can clearly discern the perimeter of the site and obstructions;
 - (e) flight crew members and essential persons have been trained in accordance with Section s702.76 of the Commercial Air Services Standards;
 - (f) persons are not transported externally between points at night; and
 - (g) the air operator's Company Operations Manual content includes operational requirements.
- (6) Helicopter Class B external load VFR OTT is subject to the following standards:
 - (a) the helicopter is a multi-engine helicopter operated in day VFR OTT conditions at a combined aircraft and external cargo weight to permit either:
 - (i) continuation of the flight at the required enroute altitude with the external load attached with one engine inoperative; or
 - (ii) descent with one engine inoperative under VMC from OTT flight with the external load attached to permit safe jettisoning of the external load;
 - (b) flights are not operated over built-up or populated areas where loss of the external load would create a hazard to persons or property on the surface; and
 - (c) flights are coordinated with the appropriate ATC unit and advised that the helicopter will be carrying an external load.
- (7) Helicopter external load under IFR is subject to the following standards:

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- (a) the helicopter is certified as a Transport Category A Rotorcraft;
- (b) the helicopter and external load combination is airworthiness approved for IFR;
- (c) only flight crew members and persons essential during flight are carried;
- (d) no persons are carried externally;
- (e) flights are coordinated with the appropriate ATC unit and advised that the helicopter will be carrying an external load; and
- (f) the air operator's Company Operations Manual content includes operational restrictions and procedures.
- (8) Dispersing of products VFR at night is subject to the following standards:
 - (a) operations are conducted in VFR conditions which provide for a discernable natural horizon;
 - (b) the dispersing area has been surveyed under day conditions and obstructions marked in a manner to ensure their recognition at night;
 - (c) the pilot is familiar with the dispersing flight path and obstructions prior to conducting night operations;
 - (d) the aircraft is equipped with an approved light system capable of illuminating obstacles on the flight path at a distance where the aircraft could avoid the obstacle; and
 - (e) the air operator's Company Operations Manual content includes operational requirements.

(9) Dispersing of products in VFR OTT or in IFR flight for the purpose of aerial weather altering shall be conducted in accordance with the following standards:

- (a) the air operator coordinates the operation with the applicable ATC unit;
- (b) no hazard is created to persons or property on the surface; and
- (c) the air operator's Company Operations Manual content includes operational requirements.
- (10) Single-engine aircraft VFR OTT is subject to the following standards:
 - (a) the flight is operated under conditions allowing descent in VMC if its engine fails; and
 - (b) flights are conducted in accordance with the requirements of Section 602.116 of the Lebanese Aviation Regulations.
- (11) Single-engine (SE) aircraft operation VFR at night or in IFR is subject to the following standards:
 - (a) VFR at night SE aircraft:
 - (i) no persons other than flight crew members, persons essential during flight and parachutists, where the Air Operator Certificate authorizes parachuting, are carried unless the operation complies with Subsection (c) below; and
 - (ii) aircraft equipment requirements, pilot qualifications and restrictions are included in the Company Operations Manual.
 - (b) IFR SE Aircraft:
 - (i) no persons other than flight crew members are carried unless the operation complies with
 - (ii) Subsection (c) below;
 - (iii) flights are not conducted over Designated Mountainous Regions;
 - (iv) aircraft equipment requirements, pilot qualifications and restrictions are included in the Company Operations Manual.
 - (c) persons other than flight crew members and persons essential during flight may be carried VFR at night or in IFR where the aircraft is an airplane and the operation complies with the following standards:
 - (i) general
 - A. only factory built, turbine-powered airplanes are permitted;
 - B. the turbine engine of the airplane type must have a proven Mean Time Between Failure (MTBF) of 0.01/1000 or less established over 100,000 hours in service;
 - C. no flight may include sectors over Designated Mountainous Regions;
 - D. pilot training in accordance with Section s702.76.
 - (ii) airplane equipment requirements

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- A. two attitude indicators which are powered separately and independently from each other;
- B. two independent power generating sources, either of which is capable of sustaining essential flight instruments and electrical equipment;
- C. an auto-ignition system or, alternately, the Company Operations Manual must specify that continuous ignition must be selected "ON" for take-off, landing and flight in heavy precipitation;
- D. a chip detector system to warn the pilot of excessive ferrous material in the engine lubrication system;
- E. a radar altimeter; and
- F. a manual throttle which bypasses the governing section of the fuel control unit and permits continued unrestricted operation of the engine in the event of a fuel control unit failure.

(12) Operation of aircraft VFR at night with persons other than flight crew members on board where the pilot-in-command does not have an appropriate instrument rating is subject to the following standards:

- (a) no persons other than flight crew members and persons essential during flight are carried;
- (b) the area overflown is illuminated by lights on the surface to ensure visual surface reference and conditions provide for a discernable horizon;
- (c) flights are operated on pre-planned plotted routes and the pilot-in-command is familiar with navigation procedures; and
- (d) aircraft equipment requirements, pilot qualifications and restrictions are included in the Company Operations Manual.

s702.19 Entering or Leaving a Helicopter in Flight

Authorization to permit a person to enter or leave a helicopter in flight other than by external load attaching means is subject to the following standards:

- (a) operations are conducted under day VFR conditions while the helicopter maintains a stabilized hover;
- (b) the longitudinal and lateral center of gravity shall be calculated for embarking and disembarking operations and shall not exceed the limitations of the applicable flight manual. The operating weight shall be calculated and shall not exceed the applicable weight/attitude/temperature (WAT) hover performance charts for the helicopter type and configuration at the operating altitude;
- (c) persons to be embarked or disembarked have been instructed on related hazards and techniques;
- (d) crew members shall be trained in accordance with Section s702.76 of the Commercial Air Services Standards;
- (e) any equipment or cargo to be loaded or unloaded shall be secured to prevent shifting in flight except during loading and unloading. Cargo or equipment shall not be loaded or unloaded from a baggage compartment remote from the main cabin unless the applicable center of gravity calculation is completed and cargo handlers have been instructed on procedures; and
- (f) the air operator's Company Operations Manual content includes embarking and disembarking operational procedures, briefing procedures and crew member training requirements.

s702.20 Aircraft Operating Over Water

(1) Authorization to operate a land aircraft over water beyond a point where the land aircraft could reach shore in event of an engine failure pursuant to Section 702.20 of the Lebanese Aviation Regulations is available for helicopters only.

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(2) The standards for authorization to operate a helicopter configured as a land aircraft over water are:(a) the helicopter is equipped with an approved emergency flotation kit and operated in

- accordance with the Emergency Flotation Kit Flight Manual Supplement;
- (b) when enroute over water, the helicopter is operated at an altitude that will provide adequate time for full inflation of the flotation devices prior to water contact in event of an engine failure;
- (c) life preservers are carried for each person on board and stowed within reach of each person carried when seated with his or her seat belt fastened.
- (d) flights conducted over water more than 15 minutes at normal cruising speed from shore or from a suitable aerodrome when carrying persons other than flight crew members shall be capable of direct air-ground flight following communications; and
- (e) the air operator's Company Operations Manual content includes equipment requirements, procedures and restrictions.

(3) A helicopter may be operated over water configured as a land aircraft without the helicopter being equipped with an emergency flotation kit provided:

- (a) the helicopter is being operated for the purpose of fire suppression or fish stocking;
- (b) only persons essential during flight are carried and have been instructed in water ditching procedures and evacuation;
- (c) life preservers are carried for each person on board and stowed within reach of each person carried when seated with his or her seat belt fastened; and
- (d) the air operator's Company Operations Manual content includes procedures and restrictions.

s702.21 Helicopter Class D External Loads

(1) The standards for authorization to operate a helicopter to carry a Class D helicopter external load are:

- (a) the helicopter is equipped to permit direct radio intercommunication among crew members;
- (b) the personnel carrying device is airworthiness approved for the carriage of human external loads;
- (c) the load is jettisonable if it extends below the landing gear;
- (d) the air operator has applicable one engine inoperative performance charts for the operating weight and density altitude at which the Class D external load operation is to be conducted. Performance charts may take account of windspeed providing windspeed is 10 knots or more;
- (e) the air operator's Company Operations Manual includes operational requirements, operational procedures and air operator employee qualification and training requirements.

(2) The standards for authorization to operate a helicopter to carry a Class D helicopter external load using a single-engine helicopter or a multi-engine helicopter unable to comply with one engine inoperative requirements are:

- (a) where the load does not extend below the landing gear:
 - (i) the helicopter is equipped to permit direct electronic or visual communication among crew members;
 - (ii) the personnel carrying device is airworthiness approved for the carriage of human external loads;
 - (iii) the helicopter is turbine powered and equipped, where approved for the type, with an auto-ignition system and a detector system to warn flight crew members of excessive ferrous material in the engine(s);
 - (iv) only flight crew members and persons essential during flight are carried; and
 - (v) the air operator's Company Operations Manual includes operational requirements, operational procedures and air operator employee qualification and training requirements;
- (b) where the load extends below the landing gear:

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- (i) the helicopter is equipped to permit direct radio intercommunication among crew members;
- (ii) the personnel carrying device is airworthiness approved for the carriage of human external loads;
- (iii) the load is jettisonable;
- (iv) the helicopter is turbine powered and equipped, where approved for the type, with an auto-ignition system and a detector system to warn flight crew members of excessive ferrous material in the engine(s);
- (v) only flight crew members and persons essential during flight are carried;
- (vi) persons are transported externally between geographical points only to the nearest suitable landing site;
- (vii) the authorization is for the purpose of law enforcement operations, forest fire suppression operations, urban fire fighting operations or rescue operations;
- (viii) the air operator has a formal written agreement from the user of the service and the agreement stipulates that only suitably trained and qualified persons will be assigned; and
- (ix) the air operator's Company Operations Manual includes operational requirements, operational procedures and air operator employee qualification and training requirements.

(3) Authorization may be granted for deviation from the Standards of s702.21(1) and (2) for the Production of Commercial Motion Pictures and Television filming provided:

- (a) the aircraft is operated within approved limitations;
- (b) a coordinated plan for each complete operation is developed;
- (c) all persons involved are knowledgeable of equipment to be used and pre-flight briefed; and
- (d) only flight crew members and persons essential during flight are carried.

(4) Where helicopter Class D External Load Operations are to be conducted for the purpose of providing a rescue service the following standards shall apply.

- (a) <u>Pilot Experience</u>. Pilots-in-command for rescue service operations shall have achieved:
 - (i) at least 2,000 hours total helicopter pilot flight time;
 - (ii) at least 200 hours on the aircraft type which the pilot is to fly on initial assignment to rescue operations and at least 25 hours on types to be used thereafter;
 - (iii) at least 1,000 hours experience in the operational area if rescue services are to be conducted in Designated Mountainous Areas; and
 - (iv) have completed training for Class D load operations in accordance with Section s702.76.
- (b) <u>Rescue Service Operations Control</u>. A close working relationship is required between the air operator and the emergency response user organization to ensure coordinated proficiency and mission safety. Terms of reference shall be documented in a written agreement and will define the following:
 - (i) responsibility of pilot-in-command and rescue specialist(s);
 - (ii) required operational capabilities and scope of operation;
 - (iii) coordinated rescue mission standard operating procedures;
 - (iv) mission authorization and control process, including communication procedures; and
 - (v) coordinated air operator and emergency response user agency training program on at least an annual basis.

s702.22 Built-up Area and Aerial Work Zone

(1) For air operator authority to operate an aircraft over a built-up area at altitudes and distances less than those specified in Section 602.14 of the Lebanese Aviation Regulations, an aerial work zone plan shall be submitted to the DGCA at least five working days in advance of the operation

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and include:

- (a) certification that the governing municipality has been informed of the proposed operation;
- (b) purpose of the flights;
- (c) dates, alternate dates and proposed time of day of the operation;
- (d) location of the operation;
- (e) type of aircraft to be used;
- (f) altitudes and routes to be used depicted on a map of the area;
- (g) procedures and precautions to be taken to ensure that no hazard is created to persons or property on the surface including locations of forced landing areas in the event of an emergency; and
- (h) name of the responsible air operator person to contact.

(2) For air operator authority to operate a helicopter carrying a jettisonable external load over a builtup area or to establish an aerial work zone within a built-up area, an aerial work zone plan shall be submitted to the DGCA at least five working days in advance of the operation and include:

- (a) certification that the governing municipality has been informed of the proposed operation;
- (b) purpose of the operation;
- (c) dates, alternate dates and proposed time of day of the operation;
- (d) location of the operation;
- (e) type of helicopter to be used, description of loads to be carried and approximate number of loads;
- (f) altitudes and routes to be used, location and size of the proposed work zone depicted on a map of the area;
- (g) aerial work zone security arrangements and security arrangements for areas to be overflown to ensure that no hazard is created to persons or property;
- (h) if external load operations are to be conducted to roof tops, safety precautions to be taken in event of a forced landing onto the roof or load penetration through the roof; and
- (i) name of contact person designated by the air operator.

(3) For operating certificate authority, the air operator shall submit an application providing the above information as applicable, show a requirement for operating certificate authority and amend its Company Operations Manual to include the routes and conditions for their use.

s702.23 Briefing of Persons Other Than Flight Crew Members

(1) The standard for a safety briefing is:

- (a) the safety briefing shall consist of an oral briefing provided by a flight crew member or by audio or audiovisual means and include the following information as applicable to the aircraft, aircraft configuration, equipment and operation:
- (a) prior to boarding, procedures for embarking and disembarking when engines are running and when rotors are running;
- (b) when and how carry-on baggage and cargo is to be loaded, secured and unloaded;
- (c) fastening, unfastening and use of safety belts and safety harnesses, specifying when they must be fastened;
- (d) the proper positioning of seats for take-off and landing;
- (e) the location of normal and emergency exits, how they are marked and how they operate;
- (f) the requirement to obey flight crew instructions;
- (g) the location, access to and use of emergency equipment, including the emergency locator transmitter, fire extinguisher, life preservers, liferafts, survival equipment and first aid kit; and
- (h) aircraft evacuation procedures, water ditching procedures, procedures if the aircraft is configured with external fixtures and, where applicable to wide-body helicopters, the method of egress in event of a roll over accident by use of the under seat frame of the transverse cabin seats as a ladder for egress.

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(2) Where no additional persons have embarked for subsequent take-offs on the same day, the take-off briefing may be omitted provided a crew member has verified that all carry-on baggage and cargo is properly stowed, safety belts and harnesses are properly fastened and seats properly positioned.(3) The safety briefing need not be provided if the pilot-in-command has ensured that the person has completed a currently valid training program covering the safety briefing requirements for the aircraft.

s702.24 to s702.31 Reserved



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DIVISION IV - AIRCRAFT PERFORMANCE - OPERATING LIMITATIONS

s702.32 to s702.41 Reserved

DIVISION V - AIRCRAFT EQUIPMENT REQUIREMENTS

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DIVISION VI - EMERGENCY EQUIPMENT

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DIVISION VII - PERSONNEL REQUIREMENTS

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s702.65 Flight Crew Member Qualifications

- (1) Pilot Proficiency Check
 - (a) the pilot proficiency check shall be conducted in accordance with Schedule I for airplanes or with Schedule II for helicopters as applicable.
 - (b) a pilot proficiency check shall be conducted in a manner that enables the pilot to demonstrate the knowledge and the skill respecting:
 - (i) the aircraft, its systems and components;
 - (ii) proper control of airspeed, direction, altitude, attitude and configuration of the aircraft, in accordance with the procedures and limitations set out in the aircraft operating manual where applicable, the Aircraft Flight Manual, the air operator's Company Operations Manual, the air operator's standard operating procedures, the check list, and any other information relating to the operation of the aircraft type;
 - (iii) departure, enroute and arrival instrument procedures, if applicable; and
 - (iv) adherence to approved procedures.
 - (c) each maneuver or procedure within a phase of flight specified in the applicable pilot proficiency check schedule shall be performed in the aircraft or approved synthetic flight training device (FTD).
 - (d) a pilot-in-command check shall be completed in the seat normally occupied by the pilot-incommand and a second-in-command check shall be completed in the seat normally occupied by the second-in-command.
 - (e) a DGCA Inspector or an approved company check pilot shall determine whether a person has demonstrated the knowledge and the skill in accordance with the following factors:
 - (i) the pilot's adherence to approved procedures; and
 - (ii) the pilot's qualities of airmanship in selecting a course of action.
 - (f) during the pilot proficiency check, the person conducting the check may request any maneuver or procedure, from the applicable Schedule, required to determine the proficiency of the candidate.
 - (g) where a pilot successfully completes the full pilot proficiency check set forth, the pilot successfully completes the flight check for the initial issue or renewal of the applicable instrument rating.
 - (h) where the pilot requires an instrument rating, the PPC shall include the instrument procedures section of the Schedule, except for helicopters where the PPC is to be completed only on one of the aircraft types for which an instrument rating is required.
 - (i) the synthetic flight training device level of training and checking credits shall be approved by the DGCA in the training program approval process for each aircraft type. Training and checking procedures not approved for the synthetic flight training device shall be completed in the aircraft.

s702.66 Reserved



s702.67 Validity Period

Where a flight crew member's pilot proficiency check, competency check or annual training expires for a period of 24 months or more, that flight crew member shall successfully complete the air operator's initial aircraft flight and ground training program on the type of aircraft and successfully complete the pilot proficiency check or competency check, as applicable, for the aircraft type.

s702.68 to s702.75 Reserved



DIVISION VIII - TRAINING

s702.76 Training Program

(1) Training Standard General

- (a) manuals, if applicable, shall be provided to each trainee on the subject matter to be taught;
- (b) relevant training aids such as fire extinguishers, life preservers, rafts, aircraft components, static aircraft, etc. shall be available for the program being presented; and
- (c) comprehensive examinations shall be used to validate competence of the trainee.

Ground training programs shall provide a means of evaluating the trainee after completion of the syllabus by completion of an examination with a review and correction of any errors. Training examinations should be comprehensive, and periodically reviewed and updated.

Type training programs are to be titled as to the type to which they apply and include the number of instructional hours to be provided. They should be performance oriented and stress the operation (normal, emergency and malfunctions) of the aircraft systems and equipment. Instruction related to components and systems that flight crews cannot control, influence or operate should be minimized.

(2) Flight Crew Training on a Contract Basis. An air operator may contract crew member training to another organization provided:

- (a) the arrangement is clearly provided for in the approved training program;
- (b) the outside organization uses the manuals and publications used by the air operator; (operations manual, SOP's, Operating Manual, Aircraft Flight Manual);
- (c) the air operator ensures that the training is conducted in accordance with the approved program;
- (d) where type training is conducted, the training is provided on the type and model operated by the air operator unless otherwise provided for in the approved training program; and
- (e) the air operator maintains training records.
- (3) Qualifications of Training Personnel
 - (a) Instructor Ground Training
 - (i) has satisfied the air operator that he or she has the knowledge and skills to conduct the training;
 - (ii) if conducting aircraft type training he or she has successfully completed the ground school for the aircraft type.
 - (b) Flight Training Pilot
 - (i) hold a valid Commercial Pilot License or Airline Transport Pilot License as required to act as pilot-in-command on commercial air service operations on the aircraft type;
 - (ii) if conducting night flight training, be qualified for night flight and, unless the air operator is authorized night operations using only pilots not instrument rated, hold a valid instrument rating for the category of aircraft and class of airplane;
 - (iii) if conducting IFR flight training hold a valid instrument rating for the category of aircraft and class of airplane;
 - (iv) have knowledge of the applicable Aircraft Flight Manual, Aircraft Operating Manual, Standard Operating Procedures, Company Operations Manual;
 - (v) have knowledge of the provisions of the applicable regulations and standards;
 - (vi) if conducting training in a Synthetic Flight Training Device, holds or has held the qualifications and ratings as detailed above for a flight training pilot, has successfully completed flight training in the device to pilot-in-command standards of the air

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operator's type training program, and has received instruction on operation of the device.

(c) Instructors and flight training pilots are responsible for presenting the assigned approved training program, monitoring standards, recommending changes to training programs and operating procedures where warranted and ensuring that trainees are competent for their assigned duties on completion of training. The operations manager or chief pilot may delegate responsibility for maintaining training records to instructors and training pilots.

(4) Company Indoctrination Training. This training is required upon employment for all persons assigned to an operational control function including base managers, pilots and persons responsible for flight following. The program shall ensure that persons involved in control of flight operations are aware of their responsibilities, know company reporting relationships and are competent to fulfill their assigned duties related to flight operations. Company indoctrination training shall include as applicable:

- (a) Lebanese Aviation Regulations and applicable standards;
- (b) Air Operator Certificate and Operations Specifications;
- (c) company organization, reporting relationships and communication procedures, including duties and responsibilities of crew members and the relationship of their duties to other crew members;
- (d) flight planning and operating procedures;
- (e) fuelling procedures, including fuel contamination precautions;
- (f) critical surface contamination and safety awareness program;
- (g) safety briefings and safe movement of persons to and from aircraft;
- (h) use and status of the Company Operations Manual including maintenance release procedures and accident/incident reporting procedures;
- (i) use of Minimum Equipment List as applicable;
- (j) meteorological training appropriate to the area of operation;
- (k) navigation procedures appropriate to the area of operation;
- (1) carriage of external loads;
- (m) operational control system; and
- (n) weight and balance system.

(5) Upgrading Training. Upgrading training for a second-in-command upgrading to pilot-incommand on an aircraft type shall include:

- (a) completion of applicable qualification training related to assigned duties; and
- (b) completion of type training as pilot-in-command on the aircraft type and a pilot-in-command competency check or pilot proficiency check as applicable.
- (6) Aerial Work Training
 - (a) pilot training shall be provided where the aerial work requires particular flight maneuvers, aircraft performance considerations or knowledge of equipment to safely conduct the operation. Training shall include, as applicable:
 - (i) training related to contents and requirements of flight manual supplements or airworthiness approvals;
 - (ii) pre-flight inspection requirements of aerial work equipment;
 - (iii) procedures for handling malfunctions and emergencies related to the aerial work equipment;
 - (iv) operational preparation procedures related to reconnaissance of aerial work areas before low level flight operations;
 - (v) operational restrictions; and
 - (vi) flight training and practice in required flight maneuvers.
 - (b) Training Class B and Class C External Loads. This training is required where a pilot has not received training for the Class of external load to be carried or has not conducted the Class of external load within the previous 24 calendar months:

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- (i) restrictions related to external load operations over built-up areas;
- (ii) preparation of loads, load rigging procedures and attaching of Class B and Class C loads as applicable;
- steps to be taken before starting operations, including flight and ground crew briefings, and instructions, inspection of suspension cables and pre-flight checking of jettison system;
- (iv) precautions related to aerodynamics of Class B and Class C external loads, including oscillation and carriage of unweighted cables;
- (v) flight training in the pick-up, departure, approach and delivery of representative Class B external loads as applicable;
- (vi) flight training in maneuvering with Class C external loads as applicable; and
- (vii) instruction on the applicable external load flight manual supplement.
- (c) Training Class D External Loads. An approved initial and annual recurrent training program is required for pilots assigned to Class D External Load Operations. The training program shall include:
 - (i) instruction on the applicable flight manual supplement or airworthiness approvals, including weight and balance calculation procedures, method of loading, rigging and attaching the external load and pre-flight procedures;
 - (ii) instruction on operational requirements, including calculation of one engine inoperative performance as applicable, co-ordination communications procedures and operational restrictions;
 - (iii) steps to be taken before commencing Class D load operations, including flight and ground crew briefings and instructions and pre-flight inspection requirements; and
 - (iv) flight training with representative Class D loads including, as applicable to the load attachment configuration:
 - A. precision hovering in and out of ground effect, including vertical reference maneuvering;
 - B. pick-up, departure, approach and delivery of Class D loads;
 - C. simulated emergencies and malfunction procedures with representative Class D loads.
- (d) Training Embarking and Disembarking Persons Pursuant to Section 702.19 of the Lebanese Aviation Regulations
- (e) Ground Training.
 - (i) briefing procedures for persons to be embarked or disembarked, including procedures for loading of equipment;
 - (ii) calculation of weight and center of gravity limits including calculation of center of gravity change.
- (f) Flight Training.
 - (i) precision hovering at gross weight with center of gravity at lateral limits;
 - (ii) precision hovering while persons disembark, load equipment and embark.
- (7) Ground Technical Type Training

Initial and Annual Recurrent. This training shall ensure that each flight crew member is knowledgeable with respect to the aircraft systems and all normal, malfunction and emergency procedures. Ground technical type training programs shall include:

- (a) aircraft systems operation and limitations as contained in the Aircraft Flight Manual, aircraft operating manual and standard operating procedures;
- (b) use and operation of navigation and ancillary equipment;
- (c) equipment differences of aircraft of the same type, as applicable;
- (d) operation of normal and emergency exits and evacuation procedures;
- (e) aircraft performance and limitations;
- (f) weight and balance procedures; and

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(g) aircraft servicing and ground handling procedures.

(8) Aircraft Servicing and Ground Handling Training. Training in aircraft servicing and ground handling for pilots shall include as applicable to the aircraft type:

- (a) fuelling procedures:
 - (i) types of fuel, oil and fluids used in the aircraft;
 - (ii) correct fuelling procedures; and
 - (iii) procedures for checking fuel, oil and fluids and securing of caps;
- (b) use of tow bars and allowable nose wheel deflection;
- (c) use and installation of protective covers; and
- (d) procedures for operating in cold weather such as:
 - (i) moving aircraft from warm hangar when precipitation is present;
 - (ii) procedures for applying de-icing and anti-icing fluids including critical flight controls post application inspection;
 - (iii) seasonal use of parking brake, as applicable; and
- (iv) engine and cabin pre-heat procedures including proper use of related equipment.
- (9) Synthetic Flight Training Devices. A Synthetic Flight Training Device has two classifications:
 - (a) Full Flight Simulator (FSS);
 - (b) Flight Training Device (FTD); and

Provided the training device is approved in accordance with the Airplane and Rotorcraft Simulator Manual and the FTD Training Program is approved, an air operator is permitted to conduct training in that Flight Training Device. The training device shall represent the aircraft with sufficient fidelity, including control and system checks, take-off, climb, cruise, approach, landing and in malfunctions and emergencies, as applicable to the training sequences to be conducted. If a flight simulator has differences in performance, systems or cockpit layout or configuration from the air operator's aircraft, additional training on differences shall be provided. Flight training in the aircraft must be carried out for general handling and landing maneuvers for initial and upgrade training.

(10) Aircraft Flight Training Program

Initial and Annual Recurrent. The initial and annual flight training program shall ensure that each flight crew member is trained to competently perform the assigned duties including those relating to abnormal and emergency duties. Simulated malfunctions and failures shall only take place under operating conditions which do not jeopardize safety of flight. Flight training programs shall include, as applicable to aircraft type;

- (a) standard operating procedures for normal, abnormal and emergency operation of aircraft systems and components;
- (b) use of check lists, including interior and exterior pre-flight checks;
- (c) crew member co-ordination procedures;
- (d) normal take-offs, circuits, approaches and landings including, as applicable, ground maneuvering and hovering;
- (e) simulated engine and cabin fire procedures, including smoke control;
- (f) simulated engine and system malfunctions and failures including hydraulic and electrical systems and, for PIC on three and four engine airplanes, approach and landing with two engines simulated inoperative;
- (g) simulated failure of navigation and communication equipment;
- (h) approach to stall (clean, take-off and landing configuration) and recovery procedure simulating ground contact imminent and ground contact not a factor;
- (i) autorotations and anti-torque system malfunctions, as applicable;
- (j) rejected take-off procedures and rejected/balked landing procedures;
- (k) use of performance information and performance calculation procedures;
- (l) simulated loss of pressurization and emergency descent;
- (m) buffet onset boundary, steep turns and flight characteristics;

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- (n) briefings on icing and anti-ice operations, recovery from turbulence and windshear, and evacuation procedures;
- (o) flight maneuvers used in aerial work operations; and
- (p) flight planning and instrument flight procedures, as applicable, where the air operator is authorized for VFR at night or IFR including flight at night and under simulated IFR using each type of navigation facility used in normal operations.

(11) Transportability of Pilot Proficiency Check and Competency Check. Transportability of the validity of a Competency Check from one air operator to another air operator is permitted provided the pilot is assigned to only Aerial Work Operations unless the Competency Check was conducted under the responsibility of a Chief Pilot of an Air Taxi Operation.

Transportability of the validity of a Pilot Proficiency Check (PPC) from one air operator to another air operator is permitted. The 24 month PPC validity period is applicable to Aerial Work Operations only and the PPC shall not be valid for Air Transport Commercial Air Service Operations unless the valid period of the PPC complies with the applicable Lebanese Aviation Regulations Subpart PPC validity period.

In all cases, transportability of PPC and Competency Check validity is subject to the hiring air operator providing the following training which shall be specified in the Company Operations Manual:

- (a) company indoctrination training;
- (b) pilot ground and emergency procedures training on each type of aircraft to which the pilot is assigned sufficient to cover the hiring air operator's procedures and equipment differences;
- (c) standard operating procedures review; and
- (d) the hiring air operator records the Pilot Proficiency Check or Competency Check applicable validity expiration date in company records.

(12) Single-engine Airplanes Carrying Persons other than Flight Crew under IFR - Pilot Training Requirements. The following training is required:

- (a) initial training in an approved synthetic training device, including all emergency procedures that cannot be safely practiced in the airplane;
- (b) training in the airplane in accordance with the following training requirement:
 - (i) *Training Requirements*:
 - A. ground training times do not include self-study or examination times.
 - B. written exams are mandatory at completion of both Initial and Recurrent Ground Training.
 - C. synthetic training device and Airplane times are Pilot Flying (PF) times only.
 - (ii) Required Synthetic Training Device Exercises:
 - A. use of checklists
 - B. airplane fire on ground or while airborne
 - C. engine fire on ground and in flight
 - D. engine failure in flight
 - E. inadvertent encounter with airframe icing conditions and operation of de-icing and anti-icing equipment
 - F. hydraulic, electrical, and other system malfunctions (as applicable)
 - G. loss of pressurization and emergency descent, (as applicable)
 - H. recognition and recovery from turbulence and windshear on approach and landing
 - I. rejected take-offs and landings
 - J. missed approach and go-around
 - K. straight-in and circling approaches, with emphasis on non-precision procedures

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(13) Emergency Procedures Training. This training is required annually and shall include instruction on the location and operation of all emergency equipment. Training devices approved to simulate flight operating emergency conditions, static aircraft, ground demonstration, classroom lectures, films or other devices may be used for training provided the method used ensures that each trainee is proficient in the operation or use of all emergency equipment.

Whenever practical training is required it shall be completed on initial training and every three years thereafter:

- (a) contents and use of emergency survival equipment carried on board aircraft including survival concepts;
- (b) use of fire extinguishers including practical training;
- (c) donning and inflation of life preservers including practical training;
- (d) removal from stowage, deployment, inflation and boarding of life rafts when applicable, including practical training;
- (e) pilot incapacitation as applicable, including practical training;
- (f) evacuation procedures and use and operation of normal and emergency exits in an emergency including practical training;
- (g) emergency briefing procedures and preparation for emergency landing and ditching;
- (h) aircraft fire in the air and on the ground;
- (i) post accident vital actions related to the securing of fuel and electrical systems to minimize fire hazards.

(14) Surface Contamination Training. An approved surface contamination initial and recurrent training program is required for all operations personnel to ensure operations personnel are aware of hazards and procedures for ice, frost and snow critical surface contamination on aircraft. The training program shall include:

- (a) the responsibility of the pilot-in-command and other operations personnel;
- (b) regulations related to operations in icing conditions;
- (c) weather conducive to ice, frost and snow contamination;
- (d) inspection before flight and removal of contamination;
- (e) in-flight icing recognition; and
- (f) hazards related to critical-surface contamination by ice, frost and snow.
- (15) Area Navigation Systems (RNAV).
 - (a) <u>General Training</u>:
 - (i) to qualify for use of RNAV systems on IFR operations, an air operator shall have an approved flight crew training and qualification program for use of the system. Flight crew shall have completed the appropriate training and have completed an in-flight check or an equivalent check in a flight training device. This qualification check shall be conducted by an approved check pilot.
 - (ii) training shall be in the following areas:
 - A. pre-flight;
 - B. normal operation of the system;
 - C. procedures for manually updating system;
 - D. methods of monitoring and cross checking system;
 - E. operation in area of compass unreliability;
 - F. malfunction procedures;
 - G. terminal procedures;
 - H. waypoint symbology, plotting procedures, record keeping duties/practices; and
 - I. post flight.
 - to qualify for approval to conduct GPS approaches in IFR, an air operator shall have a flight crew training program approved by the Minister. Flight crew shall have completed the appropriate training and have completed an in-flight check, or an

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equivalent check in a synthetic training device approved by the Minister prior to conducting GPS approaches. This qualification check shall be conducted by an approved check pilot.

- (ii) where pilots are required to use more than one type of GPS for approach, the training program must address the differences between the units, unless the units have been determined by the Minister to be sufficiently similar.
- (iii) ground training shall include "hands on" training using a desk top simulator, a computer based simulation of the unit to be used, a static in-aircraft unit, or other ground training devices acceptable to the Minister.
- (b) <u>Ground Training</u> Non-Integrated Receivers (Panel Mount GPS Receivers). An air operator shall ensure that the training program candidates are trained to proficiency in each of the elements associated with the following areas:
 - (i) Knowledge with the respect to the following:
 - A. the GPS system, including:
 - > GPS system components and aircraft equipment;
 - the composition of satellite constellation;
 - > the minimum number of satellites required for 2-D and 3-D navigation;
 - the basic concept of satellite ranging;
 - ➢ factors affecting the accuracy of GPS signals; and
 - the World Geodetic Survey 84 (WGS 84) datum and the effect of using any other datum;
 - B. human factors applicable to the use of GPS and how errors may be reduced or eliminated;
 - C. company standard operating procedures for using GPS units; and
 - D. procedures for reporting GPS problems and database errors.
 - (ii) ability to perform the following operational tasks:
 - A. select appropriate operational modes;
 - B. recall categories of information contained in the database;
 - C. predict RAIM availability;
 - D. enter and verify user defined waypoints;
 - E. recall and verify database waypoints;
 - F. interpret typical GPS navigational displays including latitude/longitude, distance and bearing to waypoint, course deviation indication (CDI), desired track (DTK), track made good (TMG), actual track (TK), cross track error and any other information appropriate for the equipment used;
 - G. intercept and maintain GPS defined tracks;
 - H. determine navigation information appropriate for the conduct of the flight including ground speed (GS), estimated time of arrival (ETA) for next waypoint and destination;
 - I. recognition of waypoint passage;
 - J. use of 'direct to' function;
 - K. link enroute portion of GPS flight plan to approach;
 - L. conduct SIDs, STARs, terminal area procedures and holds;
 - M. retrieve, verify and conduct GPS stand alone approaches; and
 - N. conduct GPS missed approaches.
 - (iii) ability to conduct the following operational and serviceability checks:
 - A. database currency and area of operation;
 - B. receiver serviceability;
 - C. RAIM status;
 - D. CDI sensitivity;
 - E. position indication; and

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- F. number of satellites acquired and, if available, satellite position information.
- (iv) ability to recognize and take appropriate action for all GPS warnings and messages including, where applicable:
 - A. "loss of RAIM";
 - B. "2D navigation";
 - C. "In Dead Reckoning Mode";
 - D. "database out of date";
 - E. "GPS fail";
 - F. "barometric input fail";
 - G. "power/battery low" or "fail";
 - H. "parallel offset on"; and
 - I. "satellite fail".
- (c) Ground Training Integrated Receivers (Flight Management Systems). An air operator shall ensure that the training program candidates are trained to proficiency in each of the elements associated with the following areas.
 - (i) knowledge with the respect to the following:
 - A. the GPS system and theory of operation, including:
 - > GPS system components and aircraft equipment;
 - the composition of satellite constellation;
 - > the minimum number of satellites required for 2-D and 3-D navigation;
 - the basic concept of satellite ranging;
 - factors affecting the accuracy of GPS signals;
 - > the WGS84 datum and the effect of using any other datum; and
 - (ii) human factors applicable to the use of GPS and how errors may be reduced or eliminated (i.e. maintaining situational awareness);
 - (iii) ability to perform the following operational tasks:
 - A. predict RAIM availability;
 - B. link enroute portion of GPS flight plan to approach;
 - C. conduct GPS stand alone approaches; and
 - D. conduct GPS missed approaches;
 - (iv) ability to conduct the following operational and serviceability checks:
 - A. RAIM status;
 - B. CDI sensitivity; and
 - C. number of satellites acquired and, if available, satellite position information;
 - (v) ability to recognize and take appropriate action for all GPS warnings and messages including, where applicable:
 - A. "loss of RAIM";
 - B. "2D navigation";
 - C. "GPS fail";
 - D. "barometric input fail"; and
 - E. "satellite fail".
- (d) Flight Training
 - (i) pilots shall complete flight training in the use of GPS for approach and other associated duties for each crew position they are authorized to occupy. Flight training may be completed in an aircraft, or in a level A or higher simulator that is equipped with the same model of GPS receiver (or a model determined by the Minister to be sufficiently similar) that is installed in company aircraft.
 - (ii) flight training shall be conducted by a designated training pilot who has completed the company ground training program approved by the Minister, and demonstrated proficiency in the use of the model of GPS (or a model determined by the Minister to be sufficiently similar), or to an approved check pilot.

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(16) Minimum Equipment List Training. When a Minimum Equipment List (MEL) has been approved for use by the operator on an aircraft type, the air operator shall provide the following training to flight crew members, maintenance personnel and to persons exercising operational control as applicable.

- (a) Training for maintenance personnel shall include instruction on those sections of the Maintenance Control Manual which deal with the MEL, placarding of inoperative equipment, maintenance release procedures and any other MEL related procedures.
- (b) Training for pilots and operational control personnel shall include instruction on the purpose and use of an MEL, air operator MEL procedures, elementary maintenance procedures as applicable and responsibility of the pilot-in-command.
- (c) Recurrent training shall be conducted annually to ensure air operator personnel are aware of any changes to the MEL, CDL or DDPG procedures.

(17) Transportation of Dangerous Goods Training. Training required pursuant to the Transportation of Dangerous Goods Regulations.

(18) High Altitude Training. High Altitude Training is required for flight crew operating aircraft above 13,000 feet ASL before the first assignment on a pressurized aircraft and every three years thereafter. Training shall include:

- (a) physiological phenomena in a low pressure environment, including:
 - (i) respiration;
 - (ii) hypoxia;
 - (iii) duration of consciousness at altitude without supplemental oxygen; and
 - (iv) gas expansion and gas bubble formation.
- (b) other factors associated with rapid loss of pressurization including:
 - (i) most likely causes;
 - (ii) noise;
 - (iii) cabin temperature change;
 - (iv) cabin fogging;
 - (v) effects on objects located near point of fuselage failure; and
 - (vi) actions of crew members immediately following the event and the likely resultant altitude.

(19) Training for Personnel Assigned to Duties on Board Aircraft. Personnel assigned to crew member duties on board aircraft shall be provided training to ensure that each crew member is trained to perform assigned duties, including:

- (a) proper use of on-board equipment relating to assigned duties;
- (b) crew member communication and co-ordination procedures;
- (c) duties relating to abnormal and emergency procedures including operation and use of emergency equipment and emergency exits; and
- (d) evacuation procedures.

(20) Training for Personnel who are Carried Externally. Persons assigned to be carried externally by helicopter Class D external load means shall be trained in related procedures and use of attachment equipment. Training shall include:

- (a) flight crew and externally carried person(s) communication and coordination procedures;
- (b) procedures (pilot action) in the event of an aircraft system malfunction or emergency;
- (c) equipment inspection procedures;
- (d) proper attachment procedures;
- (e) pre-flight inspection procedures;
- (f) equipment malfunction procedures;
- (g) practice in use of equipment and procedures using static aircraft; and
- (h) operational practice in procedures and use of equipment.

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(21) Airborne Icing Training

- (a) approved initial and recurrent training programs for all flight crew shall include airborne icing training to ensure that the flight crew is fully aware of the hazards presented by airborne icing and the operating procedures to avoid and exit hazardous icing conditions.
- (b) the training program referred to in paragraph (a) shall include:
 - (i) Ground Training consisting of:
 - A. basis of certification for flight into known icing conditions;
 - B. airborne icing definitions and terminology;
 - C. aerodynamic effects of airborne icing;
 - D. airborne icing weather patterns, including both classical and non-classical mechanisms for freezing precipitation;
 - E. flight planning and in-flight icing information;
 - F. information specific to aircraft fleet concerning operation de-ice and anti-ice equipment, and operational procedures; and
 - G. company directives concerning operations in airborne icing contained in COMs, SOPs, and other company documents.
 - (ii) Flight Training Synthetic Training Device. Operators with IFR authority, who conduct training in synthetic training devices capable of simulating hazardous icing conditions, shall include scenarios involving inadvertent encounters with moderate to severe in-flight icing in their initial and recurrent simulator training syllabi.

s702.77 to s702.80 Reserved



DIVISION IX - MANUALS

s702.81 Reserved

s702.82 Contents of a Company Operations Manual

(1) Company Operations Manual for IFR and VFR at Night Operation

- (a) preamble related to use and authority of manual;
- (b) table of contents;
- (c) amending procedures, amendment record sheet, distribution list and list of effective pages;
- (d) copy of Air Operator Certificate and Operations Specifications;
- (e) chart of company management organization;
- (f) duties, responsibilities and succession of command of management and operations personnel;
- (g) description of operational control system, including:
 - (i) flight authorization and flight preparation procedures;
 - (ii) preparation of operational flight plan and other flight documents;
 - (iii) procedures to ensure the flight crew are advised, prior to flight, of any aircraft defects that have been deferred (MEL or other means);
 - (iv) flight watch, flight following and communications requirements;
 - (v) dissemination procedures for operational information and acknowledgement;
 - (vi) fuel and oil requirements;
 - (vii) weight and balance system;
 - (viii) accident/incident reporting procedures and procedures for reporting overdue aircraft;
 - (ix) use of check lists;
 - (x) maintenance discrepancy reporting and requirements on completion of flights; and
 - (xi) retention period of operational flight plans and flight documents;
- (h) sample of operational flight plan and weight and balance form;
- (i) FDR and CVR procedures as applicable;
- (j) operating weather minima and applicable requirements for IFR, VFR, VFR at night, VFR over-the-top and, if applicable, use of reduced VFR visibility limits in uncontrolled airspace;
- (k) instrument and equipment requirements;
- (1) instrument approach procedures and alternate aerodrome requirements;
- (m) procedures pertaining to enroute operation of navigation and communication equipment, including collisions;
- (n) operations in hazardous conditions such as icing, thunderstorms, white-out, windshear;
- (o) performance limitations, as applicable;
- (p) securing of cargo;
- (q) briefing procedures for persons other than flight crew;
- (r) use of Aircraft Flight Manual, Aircraft Operating Manual, Standard Operating Procedures and Minimum Equipment Lists as applicable;
- (s) aircraft ice, frost and snow critical-surface contamination procedures;
- (t) procedures for carriage of dangerous goods, as applicable;
- (u) fuelling procedures including:
 - (i) fuel contamination precautions;
 - (ii) bonding requirements;
 - (iii) fuelling with engine running;
 - (iv) fuelling with persons on board;
- (v) list of emergency and survival equipment carried on aircraft, how to use equipment and periodic inspection details;
- (w) emergency procedures for:



- (i) emergency locator transmitter;
- (ii) preparation for emergency landing/ditching; and
- (iii) emergency evacuation;
- (x) minimum flight crew required and crew member qualifications;
- (y) flight time, flight duty time limitations and rest requirements;
- (z) training programs including copy of company training and qualification record form(s);
- (aa) operational support services and equipment;
- (bb) use of oxygen; and
- (cc) procedures related to the aerial work operation including, as applicable;
 - (i) carriage of external loads;
 - (ii) low level flight precautions;
 - (iii) towing precautions, pick-up and release procedures;
 - (iv) helicopter external load procedures, including flight and ground crew signals and briefing procedures, steps to be taken before starting an external load operation, hazards of oscillating loads, low density loads and unfamiliar load configurations; and
 - (v) operational restrictions related to aerial work operations.

(2) Operations Manual Content for Day VFR Operation. Include items listed (a) through (f) of subsection (1) and the following:

- (a) flight authorization and flight preparation procedures;
- (b) retention period of flight operations documents;
- (c) flight following and communication requirements;
- (d) dissemination procedures for operational information ;
- (e) fuel and oil requirements;
- (f) weight and balance system;
- (g) accident/incident reporting procedures and procedures for reporting overdue aircraft;
- (h) use of check lists;
- (i) maintenance discrepancy reporting and requirements on completion of flights;
- (j) operating weather minima and applicable requirements for VFR, VFR over-the-top and reduced VFR visibility limits in uncontrolled airspace if applicable;
- (k) operations in hazardous conditions such as icing, thunderstorms, white-out, windshear;
- (l) performance limitations, as applicable;
- (m) securing of cargo;
- (n) briefing procedures for persons other than flight crew;
- (o) use of Aircraft Flight Manual, aircraft operating manual, standard operating procedures and MEL as applicable;
- (p) aircraft ice, frost and snow critical-surface contamination procedures;
- (q) procedures for carriage of dangerous goods;
- (r) fuelling procedures including;
 - (i) fuel contamination precautions;
 - (ii) bonding requirements;
 - (iii) fuelling with persons on board; and
 - (iv) fuelling with engine running;
- (s) list of emergency and survival equipment carried on aircraft, how to use equipment and periodic inspection requirements;
- (t) emergency procedures for:
 - (i) emergency locator transmitter.;
 - (ii) preparation for emergency landing/ditching; and
 - (iii) emergency evacuation;
- (u) minimum crew members required and crew member qualifications;
- (v) flight time, flight duty time limitations and rest requirements;
- (w) training programs, including copy of company training and qualification record form(s);

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- (x) operational support services and equipment; and
- (y) procedures related to aerial work operations including, as applicable:
 - (i) carriage of external loads;
 - (ii) low level flight precautions;
 - (iii) towing precautions, pick-up and release procedures;
 - (iv) helicopter external load procedures, including flight and ground crew signals and briefing procedures, steps to be taken before starting an external load operation, hazards of oscillating loads, low density loads and unfamiliar load configurations; and
 - (v) operational restrictions related to aerial work operations.
- (3) Abbreviated Content for Owner/Pilot Operating one Aircraft Day VFR
 - (a) table of contents;
 - (b) amendment procedures;
 - (c) list of effective pages;
 - (d) copy of Air Operator Certificate and Operations Specifications;
 - (e) weight and balance system;
 - (f) list of emergency and survival equipment carried on board aircraft;
 - (g) procedures for reporting overdue aircraft;
 - (h) procedures for reduced VFR visibility limits in uncontrolled air space if applicable; and
 - (i) accident/incident reporting procedures.

s702.83 Reserved

s702.84 Aircraft Standard Operating Procedures (SOPs)

The Standard Operating Procedures shall contain the following information for each type of two pilot aircraft operated. Where there are significant differences in equipment and procedures between the same type operated, the Standard Operating Procedures Manual shall show the registration mark of the aircraft it is applicable to.

Required information, if contained in another publication carried on board the aircraft during flight, need not be repeated in the SOP.

The SOP may form part of the Company Operations Manual. The SOP shall contain the following as applicable to the operation.

- (1) General
 - (a) table of contents;
 - (b) list of effective pages;
 - (c) amending procedure;
 - (d) preamble;
 - (e) communications;
 - (f) crew co-ordination;
 - (g) use of check lists;
 - (h) standard briefings; and
 - (i) standard calls.
- (2) Normal Procedures
 - (a) weight and balance control requirements;
 - (b) ramp procedures;
 - (c) battery / APU engine starts;
 - (d) taxi;
 - (e) take-off and climb;



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- (f) cruise;
- (g) descent;
- (h) approaches IFR, visual, VFR and circling as applicable;
- (i) landing;
- (j) missed approach and balked landing procedure;
- (k) stall recovery, as applicable;
- (l) refuelling with persons on board;
- (m) use of on-board navigation and alerting aids; and
- (n) check lists.
- (3) Abnormal and Emergency Procedures
 - (a) emergency landing / ditching with time to prepare and without time to prepare;
 - (b) pilot incapacitation two communication rule;
 - (c) bomb threat and hijacking;
 - (d) engine fire/failure/shutdown;
 - (e) propeller overspeed / rotor overspeed as applicable;
 - (f) fire, internal / external;
 - (g) smoke removal;
 - (h) rapid decompression as applicable;
 - (i) flapless approach and landing, as applicable; and
 - (j) inadvertent encounter with moderate to severe in-flight icing.

s702.85 to s702.90 Reserved



REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>Part VII</u> Commercial Air Services

<u>Subpart 3</u> Air Taxi Operations

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier



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LEBANESE AVIATION REGULATIONS (LARs)

Part VII – Commercial Air Services

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Subpart 3 - Air Taxi Operations

Division I - General

703.01 Application

This Subpart applies in respect of the operation by a Lebanese air operator, in an air transport service or in aerial work involving sightseeing operations, of any of the following aircraft:

- (a) a single-engined aircraft;
- (b) a multi-engined aircraft, other than a turbo-jet-powered airplane, that has a MCTOW of 8,618 kg (19,000 pounds) or less and a seating configuration, excluding pilot seats, of nine or less; or
- (c) any aircraft that is authorized by the Minister to be operated under this Subpart.

703.02 Aircraft Operation

No air operator shall operate an aircraft under this Subpart unless the air operator complies with the conditions and operations specifications in an air operator certificate issued to that operator by the Minister pursuant to Section 703.07.

703.03 to 703.06 Reserved





Division II - Certification

703.07 Issuance or Amendment of Air Operator Certificate

(1) Subject to Article 70 of the Lebanese Civil Aviation Safety Act, the Minister shall, on receipt of an application submitted in the form and manner required by the Commercial Air Services Standards, issue or amend an air operator certificate where the applicant demonstrates to the Minister the ability to

- (a) maintain an adequate organizational structure;
- (b) maintain an operational control system;
- (c) meet training program requirements;
- (d) comply with maintenance requirements;
- (e) meet the Commercial Air Services Standards for the operation; and
- (f) conduct the operation safely.

(2) For the purposes of subsection (1), an applicant shall have

- (a) a management organization capable of exercising operational control;
- (b) managerial personnel who have been approved by the Minister in accordance with the Commercial Air Services Standards, are employed on a full-time basis and perform the functions related to the following positions, namely,
 - (i) operations manager,
 - (ii) chief pilot, and
 - (iii) where the applicant does not hold an approved maintenance organization (AMO) certificate, maintenance manager;
- (c) operational support services and equipment that meet the Commercial Air Services Standards;
- (d) aircraft that are properly equipped for and flight crew members who are qualified for the area of operation and the type of operation;
- (e) an operational control system that meets the requirements of Section 703.16;
- (f) a training program that meets the requirements of this Subpart;
- (g) legal custody and control of at least one aircraft of each category of aircraft that is to be operated;
- (h) a company operations manual that meets the requirements of Sections 703.104 and 703.105; and
- (i) a maintenance control system approved pursuant to Subpart 6 of the Lebanese Aviation Regulations (LARs).

703.08 Contents of Air Operator Certificate

An air operator certificate shall contain:

- (a) the legal name, trade name and address of the air operator;
- (b) the number of the air operator certificate;
- (c) the effective date of certification;
- (d) the date of issue of the certificate;
- (e) the general conditions identified in Section 703.09;
- (f) where the air operator complies with the Commercial Air Services Standards, and Operations Specifications with respect to:
 - (i) the areas of operation authorized,
 - (ii) the types of service authorized,
 - (iii) the types of aircraft authorized and, if applicable, their registration, and any operational restrictions, and
 - (iv) the base of operations, scheduled points and, if applicable, sub-bases; and
 - (v) aircraft performance, equipment and emergency equipment requirements,



- (vi) instrument approach procedures,
- (vii) enroute aerodrome authorizations and limitations,
- (viii) special weather minima authorizations,
- (ix) authorizations concerning flight crew member complement,
- (x) pilot training and pilot proficiency checks,
- (xi) special helicopter procedures,
- (xii) the air operator maintenance control system approved pursuant to Subpart 6,
- (xiii) leasing arrangements, and
- (xiv) any other condition pertaining to the operation that the Minister deems necessary for aviation safety.

703.09 General Conditions of Air Operator Certificate

An air operator certificate shall contain the following general conditions:

- (a) the air operator shall conduct flight operations in accordance with its company operations manual;
- (b) the air operator shall maintain an adequate organizational structure;
- (c) the air operator shall employ managerial personnel who meet the Commercial Air Services Standards;
- (d) the air operator shall conduct training in accordance with its training program approved pursuant to this Subpart;
- (e) the air operator shall maintain aircraft that are properly equipped for the area of operation and the type of operation;
- (f) the air operator shall employ crew members who are qualified for the area of operation and the type of operation;
- (g) the air operator shall maintain its aircraft in accordance with the requirements of Subpart 6;
- (h) the air operator shall maintain operational support services and equipment that meet the Commercial Air Services Standards;
- (i) the air operator shall notify the Minister within 10 working days after any change in its legal name, trade name, base of operations or managerial personnel; and
- (j) the air operator shall conduct a safe operation.

703.10 to 703.13 Reserved



Division III - Flight Operations

703.14 Operating Instructions

(1) An air operator shall ensure that all operations personnel are properly instructed about their duties and about the relationship of their duties to the operation as a whole.

(2) The operations personnel of an air operator shall follow the procedures specified in the air operator's company operations manual in the performance of their duties.

703.15 Scheduled Air Service Requirements

(1) Subject to Subsection (2), every air operator that operates a scheduled air service for the purpose of transporting persons shall operate the service between airports or between an airport and a military aerodrome.

(2) An air operator may operate a scheduled air service for the purpose of transporting persons between an airport and an aerodrome other than a military aerodrome or between two aerodromes if the air operator is authorized to do so in its air operator certificate, Operations Specifications (OpSpecs).

703.16 Operational Control System

No air operator shall operate an aircraft unless the air operator has an operational control system that meets the Commercial Air Services Standards and is under the control of its operations manager.

703.17 Flight Authorization

No person shall commence a flight unless the flight has been authorized in accordance with the procedures specified in the air operator's company operations manual.

703.18 Operational Flight Plan

(1) No air operator shall permit a person to commence a flight unless an operational flight plan that meets the Commercial Air Services Standards has been prepared in accordance with the procedures specified in the air operator's company operations manual.

(2) The pilot-in-command of an aircraft shall ensure that a copy of the operational flight plan is left at a point of departure, in accordance with the procedures specified in the company operations manual.(3) An air operator shall retain a copy of the operational flight plan, including any amendments to that plan, for the period specified in the company operations manual.

703.19 Maintenance of Aircraft

No air operator shall permit a person to conduct a take-off in an aircraft that has not been maintained in accordance with the air operator's maintenance control system.

703.20 Fuel Requirements

No air operator shall authorize a flight and no person shall commence a flight unless the aircraft carries sufficient fuel to meet the fuel requirements of Part VI and to allow the aircraft

- (a) in the case of an airplane operated in IFR flight,
 - (i) to descend at any point along the route to the lower of:
 - A. the single-engined service ceiling, or



- B. 10,000 feet,
- (ii) to cruise at the altitude referred to in Subsection (i) to a suitable aerodrome,
- (iii) to conduct an approach and a missed approach, and
- (iv) to hold for 30 minutes at an altitude of 1,500 feet above the elevation of the aerodrome selected in accordance with Subsection (ii); and
- (b) in the case of a helicopter operated in night VFR flight, to fly to the destination aerodrome and then to fly for 30 minutes at normal cruising speed.

703.21 Admission to Pilot's Compartment

(1) Where a Directorate General of Civil Aviation (DGCA) air carrier inspector presents an official identity card to the pilot-in-command of an aircraft, the pilot-in-command shall give the inspector free and uninterrupted access to the pilot's compartment of the aircraft.

(2) An air operator and the pilot-in-command shall make available for the use of the air carrier inspector the seat most suitable to perform the inspector's duties, as determined by the inspector.

703.22 Transport of Passengers in Single-engined Aircraft

(1) Subject to Subsection (2), no air operator shall operate a single-engined aircraft with passengers on board in IFR flight or in night VFR flight.

(2) An air operator may operate a single-engined aircraft with passengers on board in IFR flight or in night VFR flight if the air operator

- (a) is authorized to do so in its air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

703.23 Aircraft Operating over Water

No air operator shall, except when conducting a take-off or landing, operate a land aircraft over water, beyond a point where the land aircraft could reach shore in the event of an engine failure, unless the air operator

- (a) is authorized to do so in its operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

703.24 Number of Passengers in Single-Engined Aircraft

No air operator shall operate a single-engined aircraft with more than nine passengers on board unless

- (a) the aircraft is a transport category helicopter;
- (b) the air operator is authorized to do so in its air operator certificate (OpSpecs); and
- (c) the air operator complies with the Commercial Air Services Standards.

703.25 Carriage of External Loads

Except where carriage of an external load has been authorized in a type certificate or supplemental type certificate, no air operator shall operate an aircraft to carry an external load with passengers on board.

703.26 Simulation of Emergency Situations

No person shall, where passengers are on board an aircraft, simulate emergency situations that could affect the flight characteristics of the aircraft.

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703.27 VFR Flight Obstacle Clearance Requirements

Except when conducting a take-off or landing, no person shall operate an aircraft in VFR flight

- (a) at night, at less than 1,000 feet above the highest obstacle located within a horizontal distance of three miles from the route to be flown; or
- (b) where the aircraft is an airplane, during the day, at less than 300 feet AGL or at a horizontal distance of less than 300 feet from any obstacle.

703.28 VFR Flight Minimum Flight Visibility - Uncontrolled Airspace

(1) Where an airplane is operated in day VFR flight within uncontrolled airspace at less than 1,000 feet AGL, a person may, for the purposes of Subsection 602.115(c)(i), operate the airplane when flight visibility is less than two miles if the person

- (a) is authorized to do so in an air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

(2) Where a helicopter is operated in day VFR flight within uncontrolled airspace at less than 1,000 feet AGL, a person may, for the purposes of Subsection 602.115(d)(i), operate the helicopter when flight visibility is less than one mile if the person

- (a) is authorized to do so in an air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

703.29 VFR Flight Weather Conditions

No person shall commence a VFR flight unless current weather reports and forecasts, if obtainable, indicate that the weather conditions along the route to be flown and at the destination aerodrome will be such that the flight can be conducted in compliance with VFR.

703.30 Take-off Minima

(1) Subject to Subsection (2), no person shall conduct a take-off in an aircraft in IMC where weather conditions are at or above the take-off minima, but below the landing minima, for the runway to be used unless

(a) the take-off is authorized in an air operator certificate (OpSpecs); and

(b) the person complies with the Commercial Air Services Standards.

(2) A person may conduct a take-off in an aircraft in IMC where weather conditions are at or above the take-off minima, but below the landing minima, for the runway to be used, if the weather conditions are at or above the landing minima for another suitable runway at that aerodrome.(3) For the purposes of Section 602.126, a person may conduct a take-off in an aircraft in IMC where weather conditions are below the take-off minima specified in the instrument approach procedure, if the person:

- (a) is authorized to do so in an air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

(4) For the purposes of this Section, the landing minima are the decision height or the minimum descent altitude and the visibility published for an approach.

703.31 Reserved

703.32 Enroute Limitations

No person shall operate a multi-engined aircraft with passengers on board in IFR flight or in night VFR flight if the weight of the aircraft is greater than the weight that will allow the aircraft to maintain, with any engine inoperative, the MOCA of the route to be flown.



703.33 VFR OTT Flight

No person shall operate an aircraft in VFR OTT flight unless the person:

- (a) is authorized to do so in an air operator certificate (OpSpecs); and
 - (b) complies with the Commercial Air Services Standards.

703.34 Routes in Uncontrolled Airspace

No person shall, in uncontrolled airspace, conduct an IFR flight or a night VFR flight on a route other than an air route unless the air operator establishes the route in accordance with the Commercial Air Services Standards.

703.35 Instrument Approach Procedures

No person shall terminate an instrument approach with a landing unless, immediately prior to landing, the pilot-in-command ascertains, by means of radio communication or visual inspection,

- (a) the condition of the intended landing surface; and
- (b) the wind direction and speed.

703.36 Minimum Altitudes and Distances

For the purposes of Sections 602.13 and 602.15, a person may conduct a take-off, approach or landing in a helicopter within a built-up area of a city or town, or operate a helicopter at altitudes and distances less than those specified in Subsection 602.14(2), if the person:

- (a) has an authorization from the Minister or is authorized to do so in an air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

703.37 Weight and Balance Control

(1) No person shall operate an aircraft unless, during every phase of the flight, the load restrictions, weight and center of gravity of the aircraft conform to the limitations specified in the aircraft flight manual.

(2) An air operator shall have a weight and balance system that meets the Commercial Air Services Standards.

(3) An air operator shall specify in its company operations manual its weight and balance system and instructions to employees regarding the preparation and accuracy of weight and balance forms.

703.38 Passenger and Cabin Safety Procedures

(1) An air operator shall establish procedures to ensure that:

- (a) passengers move to and from the aircraft and embark and disembark safely, in accordance with procedures that meet the Commercial Air Services Standards and that are specified in the air operator's company operations manual;
- (b) all passengers are seated and secured in accordance with Subsection 605.26(1); and
- (c) seats located at emergency exits are not occupied by passengers whose presence in those seats could adversely affect the safety of passengers or crew members during an emergency evacuation.

(2) No air operator shall permit an aircraft with passengers on board to be fuelled unless the fuelling is carried out in accordance with procedures that meet the Commercial Air Services Standards and that are specified in the air operator's company operations manual.

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(3) For the purposes of Section 602.08, no air operator shall permit the use of a portable electronic device on board an aircraft unless the air operator has established procedures that:

- (a) meet the Commercial Air Services Standards; and
- (b) are specified in the air operator's company operations manual.

703.39 Briefing of Passengers

(1) The pilot-in-command shall ensure that passengers are given a safety briefing in accordance with the Commercial Air Services Standards.

(2) Where the safety briefing referred to in subsection (1) is insufficient for a passenger because of that passenger's physical, sensory or comprehension limitations or because that passenger is responsible for another person on board the aircraft, the pilot-in-command shall ensure that the passenger is given, prior to take-off, an individual safety briefing that:

(a) is appropriate to the passenger's needs; and

(b) meets the Commercial Air Services Standards.

(3) An air operator shall ensure that each passenger is provided, at the passenger's seat or by means of clearly visible placards, with the safety information required by the Commercial Air Services Standards.

(4) The pilot-in-command shall ensure that, in the event of an emergency and where time and circumstances permit, all passengers are given an emergency briefing in accordance with the Commercial Air Services Standards.

(5) The pilot-in-command shall ensure that each passenger who is seated next to an emergency exit is made aware of how to operate that exit.

703.40 to 703.51 Reserved





Division IV - Aircraft Performance Operating Limitations

703.52 to 703.63 Reserved



Republic of Lebanon Ministry of Transport Directorate General of Civil Aviation



Division V - Aircraft Equipment Requirements

703.64 General Requirements

(1) No person shall operate a multi-engined aircraft with passengers on board in IMC unless the aircraft is equipped with:

- (a) a power failure warning device or vacuum indicator to show the power available for gyroscopic instruments from each power source;
- (b) an alternate source of static pressure for the altimeter and the airspeed and vertical speed indicators;
- (c) two generators, each of which is driven by a separate engine or by a rotor drive train; and
- (d) two independent sources of energy, at least one of which is an engine-driven pump or generator, and each of which is able to drive all gyroscopic instruments and is installed so that the failure of one instrument or one source of energy will affect neither the energy supply to the remaining instruments nor the other source of energy.

(2) No person shall operate an aircraft at night unless the aircraft is equipped with at least one landing light.

703.65 Airborne Thunderstorm Detection and Weather Radar Equipment

No person shall operate an aircraft with passengers on board in IMC when current weather reports or forecasts indicate that thunderstorms may reasonably be expected along the route to be flown, unless the aircraft is equipped with thunderstorm detection equipment or weather radar equipment.

703.66 Additional Equipment for Single-pilot Operations

No person shall operate an aircraft on a single-pilot operation in IMC unless the aircraft is equipped with:

- (a) an auto-pilot that is capable of operating the aircraft controls to maintain flight and maneuver the aircraft about the lateral and longitudinal axes;
- (b) a headset with a boom microphone or equivalent and a transmit button on the control column; and
- (c) a chart holder that is placed in an easily readable position and a means of illumination for the chart holder.

703.67 Protective Breathing Equipment

(1) No air operator shall operate a pressurized aircraft unless protective breathing equipment with a 15-minute supply of breathing gas at a pressure-altitude of 8,000 feet is readily available at each flight crew member position.

(2) The protective breathing equipment referred to in Subsection (1) may be used to meet the crew member oxygen requirements specified in Section 605.31.

703.68 First Aid Oxygen

No air operator shall operate an aircraft with passengers on board above FL 250 unless the aircraft is equipped with oxygen dispensing units and an undiluted supply of first aid oxygen sufficient to provide at least one passenger with oxygen for at least one hour or the entire duration of the flight at a cabin pressure-altitude above 8,000 feet, after an emergency descent following cabin depressurization, whichever period is longer.



703.69 Shoulder Harnesses

No person shall operate an aircraft unless the pilot seat and any seat beside the pilot seat are equipped with a safety belt that includes a shoulder harness.

703.70 to 703.81 Reserved



Division VI - Emergency Equipment

703.82 Equipment Standards and Inspection

No air operator shall operate an aircraft unless the emergency equipment carried on board the aircraft pursuant to Division II of Subpart 2 of Part VI meets the Commercial Air Services Standards and is inspected regularly in accordance with the inspection schedule set out in the air operator's company operations manual.

703.83 to 703.85 Reserved



Republic of Lebanon Ministry of Transport Directorate General of Civil Aviation



Division VII - Personnel Requirements

703.86 Minimum Crew

No air operator shall operate an aircraft with passengers on board in IFR flight with fewer than two pilots unless the air operator:

- (a) is authorized to do so in its air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

703.87 Designation of Pilot-in-command and Second-in-command

An air operator shall designate for each flight a pilot-in-command and, where the crew includes two pilots, a pilot-in-command and a second-in-command.

703.88 Flight Crew Member Qualifications

(1) Subject to Subsection (6), no air operator shall permit a person to act and no person shall act as a flight crew member in an aircraft unless the person:

- (a) holds the license and ratings required by Part IV;
- (b) within the previous 90 days, has completed at least three take-offs and three landings
 - (i) where a type rating for that aircraft is required, in an aircraft of that type, or in a flight simulator representing that type of aircraft that has been approved by the Minister under Subpart 6 of Part VI for take-off and landing qualifications, or
 - (ii) where a type rating for that aircraft is not required, in an aircraft of that category and class, or in a flight simulator representing that category and class of aircraft that has been approved by the Minister under Subpart 6 of Part VI for take-off and landing qualifications;
- (c) has successfully completed a pilot proficiency check or a competency check, the validity period of which has not expired, for that type of aircraft, in accordance with the Commercial Air Services Standards as follows:
 - (i) in the case of the pilot-in-command of a multi-engined aircraft or of a single-engined airplane that is operated in accordance with Subsection 703.22(2), a pilot proficiency check for that type of aircraft,
 - (ii) in the case of the pilot-in-command of a single-engined helicopter, a pilot proficiency check on one of the types of single-engined helicopters operated by the air operator,
 - (iii) in the case of the second-in-command of a multi-engined aircraft, a pilot proficiency check or a competency check for that type of aircraft, and
 - (iv) in the case of the pilot-in-command of a single-engined airplane that is not operated in accordance with subsection 703.22(2) and where the person is not a chief pilot, a competency check for that type of aircraft; and
- (d) has fulfilled the requirements of the air operator's ground and flight training program.

(2) An air operator may group similar airplanes as a single type for purposes of the pilot proficiency check referred to in Subsection (1)(c) if the air operator:

- (a) is authorized to do so in its air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

(3) No person shall act as the pilot-in-command of an aircraft with a person other than a flight crew member on board in night VFR flight unless the person acting as the pilot-in-command holds an instrument rating for that class of aircraft.

(4) No air operator shall permit a person to act and no person shall act as the pilot-in-command of an aircraft with passengers on board unless the person has acquired, prior to designation as pilot-in-

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command, the following flight time on that type and basic model of aircraft and in the pilot-incommand position:

- (a) in the case of a single-engined airplane or a helicopter, five hours; or
- (b) in the case of a multi-engined airplane, 15 hours.

(5) The flight time required by Subsection (4) may be reduced by one hour for each take-off and landing completed, up to a maximum of 50 per cent.

(6) An air operator may permit a person to act and a person may act as a flight crew member in an aircraft where the person does not meet the requirements of Subsections (1)(b) to (d), if

- (a) the aircraft is operated on a training, ferry or positioning flight; or
- (b) the air operator
 - (i) is authorized to do so in its air operator certificate (OpSpecs), and
 - (ii) complies with the Commercial Air Services Standards.

703.89 Qualifications of Operational Control Personnel

(1) No air operator shall permit a person to act and no person shall act in an operational control position unless that person has fulfilled the training requirements set out in this Subpart and has demonstrated to the air operator the knowledge and abilities required by the Commercial Air Services Standards.

(2) A person who has not acted in an operational control position within the previous three months shall, prior to acting in an operational control position, satisfy the air operator that the person still has the knowledge and abilities referred to in Subsection (1).

703.90 Check Authority

- (1) A pilot proficiency check shall be conducted by the Minister.
- (2) Any other check required under this Subpart may be conducted by the Minister.

703.91 Validity Period

(1) Subject to Subsection (3), the validity period of a pilot proficiency check, and the semiannual training referred to in Section 703.98 expires on the first day of the seventh month following the base month established for the pilot proficiency check.

(2) Subject to Subsection (4), the validity period of a pilot competency check and the annual training referred to in Section 703.98 expires on the first day of the thirteenth month following the month in which the pilot proficiency check, competency check or training was completed.

(3) Where a pilot proficiency check or semiannual training is renewed within the month prior or month after the established base month, the validity period is extended by 6 months.

(4) Where a pilot competency check or annual training is renewed within the last 90 days of its validity period, its validity period is extended by 12 months.

(5) Where the validity period of a pilot proficiency check, a competency check or annual training has been expired for 24 months or more, the person shall requalify by meeting the training requirements specified in the Commercial Air Services Standards.

703.92 to 703.97 Reserved



Division VIII - Training

703.98 Training Program

- (1) Every air operator shall establish and maintain a ground and flight training program that is:
 - (a) designed to ensure that each person who receives training acquires the competence to perform the person's assigned duties; and
 - (b) approved by the Minister in accordance with the Commercial Air Services Standards.
- (2) An air operator's ground and flight training program shall include:
 - (a) company indoctrination training;
 - (b) upgrading training;
 - (c) initial and annual training, including
 - (i) aircraft type training,
 - (ii) aircraft servicing and ground handling training,
 - (iii) emergency procedures training,
 - (iv) training for operational control personnel, and
 - (v) aircraft surface contamination training for pilots and other operations personnel; and
 - (d) any other training required to ensure a safe operation under this Subpart.
- (3) An air operator shall:
 - (a) include a detailed syllabus of its ground and flight training program in its company operations manual;
 - (b) ensure that qualified personnel are provided for its ground and flight training program, in accordance with the Commercial Air Services Standards; and
 - (c) establish and maintain a safety awareness program concerning the adverse effects of aircraft surface contamination and provide the program to all flight operations personnel who are not required to receive the training described in Subsection (2)(c)(v).

703.99 Training and Qualification Records

(1) Every air operator shall, for each person who is required to receive training under this Subpart, establish and maintain a record of:

- (a) the person's name and, where applicable, personnel license number, type and ratings;
- (b) if applicable, the person's medical category and the expiry date of that category;
- (c) the dates on which the person, while in the air operator's employ, successfully completed any training, pilot proficiency check, competency check or examination required under this Subpart or obtained any qualification required under this Subpart;
- (d) information relating to any failure of the person, while in the air operator's employ, to successfully complete any training, pilot proficiency check, competency check or examination required under this Subpart or to obtain any qualification required under this Subpart; and
- (e) the type of aircraft or flight training equipment used for any training, pilot proficiency check, competency check or qualification required under this Subpart.

(2) An air operator shall retain the records referred to in Subsections (1)(c) and (d) and a record of each pilot proficiency check for at least three years.

(3) An air operator shall retain a copy of the most recent written examination completed by each pilot for each type of aircraft for which the pilot has a qualification.

703.100 to 703.103 Reserved





Division IX - Manuals

703.104 Requirements Relating to Company Operations Manual

(1) Every air operator shall establish and maintain a company operations manual that meets the requirements of Section 703.105 of the LARs.

(2) An air operator shall submit its company operations manual, and any amendments to that manual, to the Minister.

(3) Where there is a change in any aspect of an air operator's operation or where the company operations manual no longer meets the Commercial Air Services Standards, the air operator shall amend its company operations manual.

(4) The Minister shall, where the Commercial Air Services Standards are met, approve those parts of a company operations manual, and any amendments to those parts, that relate to the information required by Section 703.105 of the LARs.

703.105 Contents of Company Operations Manual

(1) A company operations manual, which may be issued in separate parts corresponding to specific aspects of an operation, shall include the instructions and information necessary to enable the personnel concerned to perform their duties safely and shall contain the information required by the Commercial Air Services Standards.

(2) A company operations manual shall be such that

- (a) all parts of the manual are consistent and compatible in form and content;
- (b) the manual can be readily amended;
- (c) the manual contains an amendment control page and a list of the pages that are in effect; and
- (d) the manual has the date of the last amendment to each page specified on that page.

703.106 Distribution of Company Operations Manual

(1) Subject to Subsection (2), an air operator shall provide a copy of the appropriate parts of its company operations manual, including any amendments to those parts, to each of its crew members and to its ground operations and maintenance personnel.

(2) An air operator may place a copy of the appropriate parts of its company operations manual in each aircraft that it operates, instead of providing a copy to each crew member, if the air operator has established in its company operations manual procedures for amending that manual.

(3) Every person who has been provided with a copy of the appropriate parts of a company operations manual pursuant to subsection (1) shall keep it up to date with the amendments provided and shall ensure that the appropriate parts are accessible when the person is performing assigned duties.

703.107 Standard Operating Procedures

(1) Every air operator shall, for each of its aircraft that is required to be operated by two or more pilots, establish and maintain standard operating procedures that enable the crew members to operate the aircraft within the limitations specified in the aircraft flight manual and that meet the Commercial Air Services Standards.

(2) An air operator that has established standard operating procedures for an aircraft shall ensure that a copy of the standard operating procedures is carried on board the aircraft.

703.108 to 703.109 Reserved



Republic of Lebanon Ministry of Transport Directorate General of Civil Aviation



REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>*Part VII*</u> Commercial Air Services

<u>Subpart 3</u> Air Taxi Operations

<u>Standards / Airplane</u> s703.01 to s703.109

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier





LEBANESE AVIATION REGULATIONS (LARs)

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COMMERCIAL AIR SERVICES STANDARDS

Subpart 3 – Air Taxi Operations/Airplanes \$703.01 to \$703.109

Foreword

This Commercial Air Service Standard outlines the requirements for complying with Subpart 3 of the Lebanese Aviation Regulations (LARs).

For ease of cross reference the divisions and numbers of the standard are assigned to correspond to the regulations, therefore Standard s703.05 would reflect a standard required by Section 703.05 of the LARs.

The standards under this Subpart apply to every Lebanese air operator engaged in commercial air services under Subpart 3 of the Lebanese Aviation Regulations (LARs).

Definitions

The words and expressions used in these Standards have the same meaning as in the General Provisions in Section 100.01 of the Lebanese Aviation Regulations (LARs) with the following additions:

"deplane" - means disembark; an airplane is deplaned when the passengers leave the airplane in the normal manner as opposed to evacuating the airplane.

"evacuate" - the egress from an airplane in an emergency situation using all available exits and assist means such as wings etc.

"fuelling" - means the act of transferring fuel into or out of an airplane fuel tank from or to an external supply.

"operations co-ordination" - means the exercise of authority by an air operator over its operating activities, excluding operational control.

"take-off safety speed" - is the lowest speed at which the airplane complies with those handling criteria associated with the climb after take-off following an engine failure.





DIVISION I - GENERAL

s703.01 to s703.06 Reserved



Republic of Lebanon Ministry of Transport Directorate General of Civil Aviation



DIVISION II - CERTIFICATION

s703.07 Issuance or Amendment of Air Operator Certificate

(1) Application for an Air Operator Certificate. The following constitutes an application for an Air Operator Certificate:

- (a) DGCA Ops Form 100-12 Airport information required to determine the suitability of the base of operations, sub-bases and all scheduled points. The operator shall be able to demonstrate that operations are permitted at each base, sub-base or scheduled point. This will normally be done by providing written permission from the Local Airport Authority (LAA). Where the air operator can not obtain written permission and operations have not been denied in writing by the LAA, access to the aerodrome shall be demonstrated by other means; such as facilities provided through a lease, contractual agreement, etc.;
- (b) DGCA Ops Form 100-13 Aircraft information with respect to each airplane by registration;
- (c) DGCA Ops Form 100-14 Personnel information on required personnel. These shall be supported by resumes and statements of qualification for each position;
- (d) DGCA Ops Form 100-18 Maintenance Facilities;
- (e) Maintenance Control Procedures;
- (f) Company Operations Manual;
- (g) Minimum Equipment List(s), (if applicable);
- (h) nomination for Company Check Pilot, (if applicable);
- (i) DGCA Ops Form 100-11 Cabin Safety, (if applicable); and
- (j) airplane crash charts (if the type has not previously been operated in Lebanon).
- (k) Initial Statement of Compliance that:
 - (i) identifies where in the operator's manual system the LARs are complied with.
 - (ii) contains compliance statements for each section and subsection as applicable.
 - (iii) contains compliance statements for Parts V, VI, and VII.
 - (iv) contains compliance statements for any regulation or standard that the Minister deems necessary.
- (2) Qualifications and Responsibilities of Operational Personnel
 - (a) Operations Manager
 - (i) <u>Qualifications</u>
 - A. hold or have held the appropriate license and ratings which a pilot-in-command is required to hold for one of the airplanes operated; or have acquired not less than 2 years related supervisory experience with an air operator of a commercial air service whose flight operations are similar in size and scope; and
 - B. demonstrate knowledge to the Minister with respect to the content of the Company Operations Manual, the Air Operator Certificate and Operations Specifications, the provisions of the regulations and standards necessary to carry out the duties and responsibilities to ensure safety.
 - (ii) <u>Responsibilities</u>. The Operations Manager is responsible for safe flight operations. In particular the responsibilities of the position include:
 - A. control of operations and operational standards of all airplanes operated;
 - B. the identification of operations coordination functions which impact on operational control (eg. maintenance, crew scheduling, load control, equipment scheduling);
 - C. supervision, organization, function and manning of the following:
 - \triangleright flight operations;
 - \succ cabin safety;
 - crew scheduling and rostering;
 - training programs; and



- ➢ flight safety;
- D. the contents of the air operator's Company Operations Manual;
- E. the supervision of and the production and amendment of the Company Operations Manual;
- F. liaison with the regulatory authority on all matters concerning flight operations, including any variations to the air operator's Air Operator Certificate;
- G. liaison with any external agencies which may affect air operator operations;
- H. ensuring that the air operator's operations are conducted in accordance with current regulations, standards and air operator policy;
- I. ensuring that crew scheduling complies with flight and duty time regulations;
- J. ensuring that all crew members are kept informed of any changes to the regulations and standards;
- K. the receipt and actioning of any aeronautical information affecting the safety of flight;
- L. the dissemination of airplane safety information, both internal and external;
- M. qualifications of flight crew member; and
- N. maintenance of a current operations library.

(b) Chief Pilot

- (i) <u>Qualifications</u>
 - A. the chief pilot shall:
 - where VFR only is authorized by the air operator certificate, hold an Airline Transport Pilot License (Airplane) or a Commercial Pilot License (Airplane) appropriate for an airplane subject to this Subpart;
 - where Day and Night VFR is authorized by the air operator certificate, hold an Airline Transport Pilot License (Airplane) or a Commercial Pilot License (Airplane), valid for night, and an Instrument Rating appropriate for an airplane subject to this Subpart; or
 - where IFR is authorized by the air operator certificate, hold a valid Airline Transport Pilot License (Airplane) or in the case of an IFR single-engine operation, a valid Commercial Pilot License (Airplane) and a valid Instrument Rating appropriate for an airplane subject to this Subpart.
 - B. in addition to the items set out in clause A, the chief pilot shall also:
 - ➢ if applicable, hold a type rating for one of the types of airplanes operated;
 - have at least 1 year experience within the preceding 3 years as pilot-incommand of an air taxi airplane (as defined in section 703.01 of the Lebanese Aviation Regulations);
 - be qualified in accordance with the air operator's training program to act as a pilot-in-command on one of the types to be operated; and
 - demonstrate knowledge to the Minister with respect to the content of the Company Operations Manual, Training Manuals, Standard Operating Procedures (if applicable), Company Check Pilot Manual (if applicable), and the provisions of the Regulations and Standards necessary to carry out the duties and responsibilities of the position.

Information Note: A Chief Pilot qualified under Subpart 4 or 5 of the Lebanese

Information Note: In his or her absence, all responsibilities for operational duties shall be delegated to another individual qualified in accordance with the Lebanese Aviation Regulations except that the knowledge requirements detailed under Operations Manager qualifications may be demonstrated to the air operator rather than the minister.

Aviation Regulations may serve as the Chief Pilot for Subpart 3 of the Lebanese Aviation Regulations operations within the same company.

- (ii) <u>Responsibilities</u>. The Chief Pilot is responsible for the professional standards of the flight crews under his authority, and in particular:
 - A. developing standard operating procedures;
 - B. developing or implementing all required approved training programs for the air operator's flight crews;
 - C. issuing directives and notices to the flight crews as required;
 - D. the actioning and distribution of accident, incident, and other occurrence reports;
 - E. the processing and actioning of any crew reports;
 - F. the supervision of flight crew; and
 - G. assuming any responsibilities delegated by the Operations Manager.

Information Note: In his or her absence, all responsibilities for operational duties shall be delegated to another individual qualified in accordance with the Lebanese Aviation Regulations except that the knowledge requirements detailed under Chief Pilot qualifications may be demonstrated to the air operator rather than the Minister.

(c) Person Responsible for Maintenance. The person responsible for the maintenance control system shall be qualified in accordance with Section s706.03 of the Commercial Air Service Standards.

(3) Operational Support Services and Equipment. The requirement for operational support services and equipment will be dependent on the types of airplanes and the size and scope of the operation and shall include the following, as applicable:

- (a) operational control system requirements;
- (b) current flight operations publications including a copy of the Lebanese Civil Aviation Safety Act, applicable Lebanese Aviation Regulations, Company Operations Manual, Maintenance Control Manual, Maintenance Procedures Manual (if applicable), Lebanese Flight Supplement, Water Aerodrome Supplement (if applicable), Airplane Flight Manuals, Aircraft Operating Manuals (if applicable), Standard Operating Procedures (if applicable), Aeronautical Information Publication, Minimum Equipment Lists (if applicable), and appropriate maps and charts;
- (c) passenger and cargo handling requirements;
- (d) communications requirements;
- (e) provisions for handling dangerous goods;
- (f) weather availability requirements;
- (g) ground de-icing/anti-icing program requirements; and
- (h) airplane servicing facilities and ground handling equipment.

s703.08 Contents of Air Operator Certificate

Navigation System Authorizations (refers to Subsection 703.08(g)(i) of the Lebanese Aviation Regulations)

(1) Minimum Performance Capability for Long Range Area Navigation System. To meet the requirements of this standard, a long range area navigation system shall, as a minimum:

- (a) have a standard deviation of lateral track deviations of less than 6.3 nautical miles;
- (b) have a proportion of the total flight time spent by the aircraft 30 nautical miles or more from cleared track of less than 5.3 x 10-4 ;

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- (c) have a proportion of the total flight time spent by aircraft at or between 50 and 70 nautical miles from the cleared track of less than 1.3 x 10-4 ; and
- (d) in Subsections s703.08(2)(c) and (d) below, if a GPS receiver(s) provides the only means of long range navigation, then the requirements of U.S. FAA Document No. 8110.60, GPS as a Primary Means of Navigation in Oceanic/Remote Operations or equivalent must be met.
- (2) Authorizations
 - (a) <u>Required Navigation Performance Capability (RNPC) Airspace</u>. The standard requirements for authorization to flight plan published high level fixed RNAV routes in Required Navigation Performance Capability (RNPC) airspace, or to be accommodated by Air Traffic Control (ATC) on other routes using RNPC separation criteria, are:
 - (i) airplanes equipped with at least two independent navigation systems, one of which being a long range area navigation system; and
 - (ii) flight crew training on operation of the long range area navigation system in accordance with training pursuant to Subsection s703.98(21).
 - (b) North Atlantic Minimum Navigation Performance Specification (NAT MNPS), CMNPS and <u>RNPC Airspace</u>. The standard requirements for authorization to operate in North Atlantic Minimum Navigation Performance Specification (NAT MNPS) airspace, CMNPS airspace, to flight plan published high level fixed RNAV routes in Required Navigation Performance Capability (RNPC) airspace, and to be accommodated by Air Traffic Control (ATC) on other routes using RNPC separation criteria are:
 - (i) subject to clauses (A) and (B) airplanes shall be equipped with at least two independent long range area navigation systems.
 - A. airplanes equipped with at least two independent navigation systems, one of which being a long range area navigation system, may be approved for NAT MNPS operations restricted to routes approved for airplanes with one long range RNAV system; and
 - B. airplanes equipped with at least two independent navigation systems based on short range ground transmitters may be approved for NAT MNPS operations restricted to routes approved for aircraft with no long range RNAV capability; and
 - (i) flight crew training on operation of long range area navigation systems in accordance with training requirements set out in Subsection s703.98(21) of these Standards.
 - (c) <u>Reduced Vertical Separation Minima (RVSM) in NAT MNPS, CMNPS and RNPC Airspace</u>. The standard requirement for authorization to operate in NAT MNPS Reduced Vertical Separation Minima (RVSM) airspace, CMNPS airspace, to flight plan published high level fixed RNAV routes in Required Navigation Performance Capability (RNPC) airspace, and to be accommodated by Air Traffic Control (ATC) on other routes using RNPC separation criteria is as follows:
 - the air operator and airplane shall comply with Minimum Aircraft System Performance Specifications (MASPS) and other requirements of ICAO NAT DOC 002 and Lebanese Aviation Regulations (LARs) Part VI, Subpart 2.
- (3) Instrument Approaches Global Positioning System (GPS).
 - (a) the standard requirements for authorization to fly instrument approach procedures using only GPS navigation information are:
 - (i) an operational evaluation in accordance with Subsection s703.08(3)(b) has been completed by the Minister on each aircraft type/GPS/FMS model installation for which approach authorization is sought;
 - (ii) an air operator has an approved flight crew training and qualifications program for use of the GPS/FMS system that meets the requirements of Subsection s703.98(21); and
 - (iii) standard operating procedures have been amended to reflect GPS approach operations and approved by the Minister (where required).

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- (b) the following items will be assessed in the operational evaluation prior to the approval of the operator's GPS approach standard operating procedures (where applicable) and training program. Identical installations of the same model of GPS in the same type of aircraft with the same operator do not need separate evaluations.
 - (i) Database. The geographical coverage area for the database shall be compatible with the type of operations conducted by the company. The air operator shall have procedures in place to ensure that the database will be updated in accordance with the appropriate data revision cycle. This shall include a contract with a database supplier and the inclusion, in the appropriate company manuals, of the person responsible for installing the updates in the aircraft. The company shall have a procedure in place for pilots to report database errors and for information on database errors to be passed on to other company pilots, the avionics manufacturer and the Minister.
 - (ii) Unit Installation and Operation. The handling and procedures associated with the GPS avionics shall be such that all operations required for GPS approach can be accomplished without an adverse impact on normal crew duties and responsibilities. GPS related tasks shall not consume the attention of the pilot not flying (PNF) during critical phases of flight (i.e. between the time the aircraft turns inbound on the final approach course and the time the aircraft is established in the climb configuration on a missed approach).
 - (iii) Control Display Unit (CDU) and Course Deviation Indicator (CDI) / Distance Display. If the GPS/FMS control unit is not adequately accessible from each pilot position, or if GPS course deviation and distance displays are not within the primary field of view at both pilot stations, air operators shall designate in the standard operating procedures the position that the pilot flying (PF) and pilot not flying (PNF) are required to occupy during GPS approach for that type of installation. Aircraft types that are certified for operation by two crew members shall have GPS course deviation and distance displays at each pilot station. An Operations Specification authorizing GPS approaches shall not be issued unless the PNF has a means acceptable, in the Minister's opinion, of monitoring the PF during an approach.
 - (iv) Distance Display on the HIS. Installations where GPS guidance information (course tracking, To/From and NAV flags) are switched onto the HSI for display, but the DME distance information is not switched out (i.e. DME distance, rather than GPS distance, is displayed continuously on the HSI even when GPS source is selected to HSI), shall require air operators, in their standard operating procedures for GPS approach, to deselect other NAV/DME sources to eliminate distance displays in the pilot's primary field of vision not related to the approach procedure being flown.
 - (v) Annunciation. Responses to system annunciation (including Receiver Autonomous Integrity Monitoring (RAIM) warnings), the means of selecting GPS track information to the CDI/HSI and the means of coupling GPS steering information to the aircraft automatic flight control system shall be compatible with the safe operation of the aircraft type/category. Standard operating procedures shall specify the procedure whereby the control unit is programmed, approach waypoints are verified against an independent source, approach mode is armed, and cockpit NAV source and AFC guidance source switches are selected and verified. Any switch selection or programming errors that the Minister believes are likely to occur and that could lead to a serious incident shall, if possible, be identified and addressed in training and in the standard operating procedures. Otherwise, the installation shall not be approved for approach use.
 - (vi) Airborne Evaluation. The Minister shall observe the pre-flight and in-flight operation of the unit on at least one GPS approach and missed approach. If the PF is allowed to occupy either seat during GPS approaches, then one approach from each pilot position shall be demonstrated. An airborne evaluation in an aircraft must take place under



VFR. Emphasis will be on crew co-ordination, pilot workload (PF and PNF), and switch selections.

s703.9 to s703.13 Reserved


DIVISION III - FLIGHT OPERATIONS

s703.14 Reserved

s703.15 Scheduled Air Service Requirements

The standard for scheduled operations into or out of an uncertified aerodrome is as follows: the operation shall be conducted under conditions established by the Minister which require the air operator and aerodrome operator to ensure a level of safety in respect to the use of the aerodrome that is equivalent to the level of safety established by the Lebanese Aviation Regulations.

s703.16 Operational Control System

Operations conducted under Part VII, Subpart 3 of the Lebanese Aviation Regulations require a Type D operational control system. Another organization may be contracted to exercise operational control on behalf of an air operator.

Type D

- (1) General
 - (a) <u>Application</u>. For all operations under Air Taxi Operations.
 - (b) <u>Responsibility and Authority</u>. Operational control is delegated to the pilot-in-command of a flight by the Operations Manager who retains responsibility for the day-to-day conduct of flight operations.
 - (c) <u>Centers</u>. Current information on the location of the air operator's airplanes shall be maintained at the main base of operations, the sub-base or, where appropriate, from the location from which flight following is being carried out.
 - (d) <u>Communications</u>. Each airplane shall be equipped with serviceable and functioning communications equipment that permits the pilot-in-command to communicate with a ground radio station for the purpose of flight following. Such a ground station may be operated by the government, the air operator or a private agency.
 - (e) <u>On Duty</u>. A person, qualified and knowledgeable in the air operator's flight alerting procedures, shall be on duty or available when IFR or VFR at night flight operations are being conducted.

(2) Flight Following. Flight Following for a Type D system is the monitoring of a flight's progress and the notification of appropriate air operator and search-and-rescue authorities if the flight is overdue or missing. Flight Following procedures and the standards of training and qualification for the individual performing this function shall be described in the air operator's Company Operations Manual.

- (a) each flight shall be conducted under an IFR Flight Plan, VFR Flight Plan or Flight Itinerary, as appropriate.
- (b) the pilot-in-command is responsible for Flight Watch but shall be supported by an air operator Flight Following System that shall monitor the progress of each IFR flight or VFR at night flight from its commencement to its termination, including any intermediate stops. The person performing the flight following function, who may be the same as in paragraph 1(e) above, shall be delegated to do so by the Operations Manager.
- (c) the pilot-in-command shall be responsible for passing messages concerning airplane landings and departures from the point of origin, at enroute stops, and from the final destination in order to satisfy the requirements of Subsection 2(b) above.

s702.17 Reserved

s703.18 Operational Flight Plan

In accordance with the classification of its operational control system (s703.16), an air operator shall adhere to the full 30 item list below; the abbreviated 18-item list, as indicated by asterisk (*), or an informal operational flight plan. The minimum content for an operational flight plan (OFP) applies as follows:

Operational Control System Classification	Type of Operational Flight Plan
Type D: IFR, except local, and VFR at night	18 - item list abbreviated OFP
Type D: VFR and IFR local	Informal OFP and ATC flight plan, flight itinerary, or other flight following information, as applicable.

For local flights, (within 25 NM), or flights that terminate at the departure aerodrome, the operational flight plan need not be a formal document unless the air operator specifies otherwise in its Company Operations Manual.

An air operator that operates flights over routes with a cruise segment of less than 30 minutes may use an informal operational flight plan.

The Minimum Required Content of an Operational Flight Plan is:

- (a) * air operator's name;
- (b) * date;
- (c) * airplane registration;
- (d) * airplane tail number, (as applicable);
- (e) * airplane type and model, (as applicable);
- (f) * flight number, (as applicable);
- (g) type of flight; Instrument Flight Rules or Visual Flight Rules at night (not required if all the air operator's flights are the same);
- (h) * pilot-in-command's name;
- (i) * (Intentionally deleted);
- (j) * departure aerodrome;
- (k) * destination aerodrome;
- (l) * alternate aerodrome, (as applicable);
- (m) routing to destination by successive navigational way points and a method to obtain associated tracks for each;
- (n) routing to alternate aerodrome;
- (o) specification of any way points enroute to satisfy any special operations requirements;
- (p) * planned cruise altitudes to destinations and alternate, (as applicable);
- (q) planned cruise, true air speed;
- (r) planned cruise, indicated air speed;
- (s) winds at planned cruise altitude: these may be expressed in terms of direction/velocity or as a component/drift angle;
- (t) temperature at cruise altitude;
- (u) ground speed or wind component during cruise;
- (v) * estimated time enroute, (if broken down into way point time components, a total shall be specified);
- (w) time from destination to alternate, (as applicable);



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- (x) distance to destination: if broken down into way point distance components, a total shall be specified;
- (y) distance from destination to alternate;
- (z) * fuel burn enroute and from destination to alternate;
- (aa) * fuel as applicable for the type of flight plan:
 - (i) taxi;
 - (ii) destination;
 - (iii) alternate;
 - (iv) contingency; (as applicable); or
 - (v) holding reserve;
- (bb) * weights:
 - (i) total fuel on board;
 - (ii) zero fuel weight, (as applicable); and
 - (iii) planned maximum take-off weight;
- (cc) * signature of pilot-in-command or alternate means of certifying acceptance;
- (dd) * number of persons on board: crew and passengers, as amended by final load figures.

The format of the full operational flight plan shall allow the crew to record the fuel state and the progress of the flight relative to the plan. The operational flight plan may be computer generated or produced manually working from charts and tables by the flight crew. When an operational flight plan is prepared manually, an approved form displaying the requisite information and providing the necessary space to make flight following entries as the flight progresses shall be used.

The air operator shall specify, in its Company Operations Manual, how formal acceptance of the operational flight plan by the pilot-in-command shall be recorded.

s703.19 to s703.21 Reserved

s703.22 Transport of Passengers in Single-engined Airplanes

The standard for transport of passengers in a single-engined airplane under IFR or VFR at night is:

- (1) General
 - (a) only factory built, turbine-powered airplanes are permitted;
 - (b) the turbine-engine of the airplane type must have a proven Mean Time Between Failure (MTBF) of .01/1000 or less established over 100,000 hours in service;
 - (c) no flight may include sectors over Designated Mountainous Regions; and
 - (d) pilot training in accordance with Subsection s703.98(23).
- (2) Airplane Equipment Requirements
 - (a) two attitude indicators which are powered separately and independently from each other;
 - (b) two independent power generating sources, either of which is capable of sustaining essential flight instruments and electrical equipment;
 - (c) an auto-ignition system, or alternatively, the Company Operations Manual must specify that continuous ignition must be selected "ON" for take-off, landing and flight in heavy precipitation;
 - (d) a chip detector system to warn the pilot of excessive ferrous material in the engine lubrication system;
 - (e) a radar altimeter; and
 - (f) a manual throttle which bypasses the governing section of the fuel control unit and permits continued unrestricted operation of the engine in the event of a fuel control unit failure.



s703.23 Aircraft Operating Over Water

Operations Specifications for over water flight are not applicable to the operation of airplanes.

s703.24 Number of Passengers in Single-engined Airplanes

Operations Specifications for carrying more than 9 passengers in a single-engine aircraft are not applicable to airplanes.

s703.25 to s703.27 Reserved

s703.28 VFR Flight Minima - Uncontrolled Airspace

The standard for reduced VFR limits of one mile in uncontrolled airspace is as follows:

- (1) Aircraft Equipment. The airplane shall be equipped with the following equipment:
 - (a) an artificial horizon;
 - (b) a directional gyro or gyro compass; and
 - (c) a Global Positioning System (GPS) navigation receiver.

(2) Pilot Experience. Before conducting operations at reduced visibility, pilots shall have achieved at least 500 hours of experience in Part VII or equivalent operations in the same category and class of airplane for which the authority is sought.

(3) Airspeed and Configuration for Operation in Reduced Visibility. Airplanes shall be operated at a speed such that obstacles can be seen and avoided. Airplane configuration for operations in reduced visibility shall conform to the Aircraft Flight Manual recommendations.

(4) Pilot Training. Pilots shall receive training as follows:

- (a) a one time attendance at a DGCA recognized Pilot Decision Making course which shall include, but not be limited to the following topics:
 - (i) Human Performance Factors including modules on fatigue, hypoxia, nourishment, medication, balance and sight phenomena and limitations;
 - (ii) The Decision Making Process including modules on psychological factors, levels of performance, and "error trap" phenomena (unsafe actions taken as a result of wrongful assumptions, unsafe conditions or practices);
 - (iii) Human Error Countermeasures highlighted by relevant case studies of past accidents; and
 - (iv) Stress and its Symptoms, including modules on recognizing and dealing with perceived pressures, family related stress and job related stress;
- (b) one hour initial flight training and one hour annual recurrent flight training in basic instrument flying maneuvers and flight at reduced airspeed; and
- (d) initial training and annual recurrent training in the use of all equipment specified in Subsection (1) above, and in all procedures specified in the Company Operations Manual for low visibility operations.

(5) Company Operations Manual. The Company Operations Manual shall contain the following information:

- (a) a company-established minimum safe operational IAS and configuration for reduced visibility operations for each airplane type for which this authority is sought; and
- (b) company low visibility operational procedures and considerations including, but not limited to:
 - (i) wind,
 - (ii) gross weight and weather considerations,
 - (iii) route/terrain knowledge and/or restrictions (availability of forced landing areas, potential for white-out, etc.),



- (iv) time of day restrictions (e.g., no low visibility operations at dawn or twilight), and
- (v) communications.

s703.29 Reserved

s703.30 Take-off Minima

(1) Weather Below Landing Limits. The standard for conducting a take-off in IMC when weather conditions are above take-off, but below landing minima for the runway in use are:

- (a) the airplane is twin-engined or a single-engine airplane approved for operations under Section 703.22 of the Lebanese Aviation Regulations;
- (b) an alternate aerodrome is specified in the IFR flight plan; and
- (c) that aerodrome is located within the distance that can be flown in 60 minutes at the normal cruising speed.

(2) Weather Below Published Take-off Minima. The standard for take-off in a turbine-powered airplane in IMC below the weather minima specified in the Lebanese Air Pilot or in an equivalent foreign publication is:

- (a) Take-off Minima Reported Visibility RVR 1200 feet (1/4 mile) Airplanes with Certified Engine-out Take-off and Climb Performance
 - (i) the Company Operations Manual shall contain detailed guidance on how to determine departure one engine inoperative climb gradient and obstacle clearance;
 - (ii) a take-off alternate within 60 minutes flying time based on still air normal cruising speed is specified in the flight plan. The take-off alternate aerodrome weather minima shall meet the alternate requirements set out in the Lebanese Aviation Regulations;
 - (iii) the runway is equipped as detailed in the manual of Aerodrome Standards and Recommended Practices with serviceable and functioning high intensity runway lights or runway center-line lights or with runway line-line markings that are plainly visible to the pilot throughout the take-off run;
 - (iv) the pilot-in-command is satisfied that the required RVR 1200 feet [350 m] or 1/4 mile [400 m] visibility exists for the runway to be used before commencing take-off;
 - (v) the pilot-in-command and second-in-command attitude instruments (artificial horizons) on the airplane shall incorporate pitch attitude index lines in appropriate increments above and below the zero pitch reference line to at least 15°, and are capable of ensuring ready depiction of total airplane attitude. An approved failure warning system which will immediately detect essential instrument and equipment failures or malfunctions shall be installed and operative. For the purpose of reduced visibility take-offs, essential instruments are defined as attitude indicators, directional gyros and Horizontal Situation Indicators (HSI);
 - (vi) the flight crew members shall be given training in accordance with Subsection s703.98(19) as applicable;
 - (vii) the chief pilot has certified in the document certifying qualifications and proficiency that the pilot-in-command is competent to conduct an RVR 1200 feet (1/4 mile) take-off; and
 - (viii) the pilot-in-command shall have at least 100 hours of pilot-in-command experience on the airplane type.
- (b) Takeoff Minima Reported Visibility RVR 1200 feet (1/4 mile) Airplanes without Certified Engine-out Take-off and Climb Performance. The following requirements must be met:
 - (i) the Company Operations Manual shall contain detailed guidance on how to determine single-engine climb gradient and obstacle clearance;
 - (ii) a take-off alternate within 60 minutes flying time based on still air normal cruising speed is specified in the flight plan. The take-off alternate aerodrome weather minima shall meet the alternate requirements set out in the Lebanese Aviation Regulations;



- (iii) the takeoff weight of the airplane shall not exceed the weight determined from the Airplane Flight Manual that, considering the runway characteristics and ambient weather conditions, meets the following requirements:
 - A. the required Accelerate-Stop Distance shall not exceed Accelerate-Stop Distance Available (ASDA); and
 - B. the required engine-out take-off distance shall not exceed Take-off Distance Available (TODA).

Information Note: Where the manufacturer does not provide data for single-engine take-off distance, but provides data for engine-out climb in the take-off configuration, the airplane weight shall permit a positive rate of climb using the configuration and speed at liftoff.

- (iv) the runway is equipped as detailed in the Lebanese Aviation Regulations (TBD) with serviceable and functioning high intensity runway lights or runway line-line lights or with runway line-line markings that are plainly visible to the pilot throughout the takeoff run;
- (v) the pilot-in-command is satisfied that the required RVR 1200 (1/4 mile) visibility exists for the runway to be used before commencing take-off;
- (vi) the pilot-in-command and first officer attitude instruments (artificial horizons) on the airplane shall incorporate pitch attitude index lines in appropriate increments above and below the zero reference line to at least 15°, and are capable of ensuring ready depiction of total airplane attitude. An approved failure warning system which will immediately detect essential instrument and equipment failures or malfunctions shall be installed and operative. For the purpose of reduced visibility take-offs, essential instruments are defined as attitude indicators, directional gyros and HSI's;
- (vii) the flight crew members shall be given training in accordance with Subsection s703.98(20), as applicable, and must also complete annual training in a simulator for the type, certificated to Level B or higher, during which RVR 1200 take-offs are practiced;
- (viii) the Chief Pilot has certified in the document certifying qualifications and proficiency that the pilot-in-command is competent to conduct an RVR 1200 feet (1/4 mile) visibility take-off; and
- (ix) the pilot-in-command shall have at least 100 hours of pilot-in-command experience on the airplane type.

s703.31 to s703.32 Reserved

s703.33 VFR OTT (Over the Top) Flight

The following standard shall be complied with for flights operating VFR OTT:

(1) The flight shall be conducted in accordance with the requirements of Section 602.116 of the Lebanese Aviation Regulations;

(2) For multi-engined airplanes where the pilot holds a valid Instrument Rating for the group of airplane, the flight shall be operated under conditions allowing descent under VMC or continuation of the flight under IFR or VMC if its critical engine fails;

(3) For multi-engined airplanes where the pilot does not hold a valid Instrument Rating for the group of airplane, or that can not comply with (2) above, and for single-engine airplanes, the flight shall be operated under conditions allowing:

(a) for multi-engined airplanes, descent under VMC, or continuation of the flight under VMC conditions if its critical engine fails;

(b) for single-engined airplanes, descent under VMC if its engine fails.

s703.34 Routes in Uncontrolled Airspace

The standard for establishing routes in uncontrolled airspace is:

(1) A minimum obstruction clearance altitude (MOCA) shall be established for each route segment by the use of aeronautical charts and the Lebanese Flight Supplement for updating of significant obstructions as follows:

- (a) for flight under IFR, a minimum altitude of 2000 feet above the highest obstacle located within a horizontal distance of 10 miles from the center line of the route; and
- (b) for flight at night in VFR conditions, a minimum altitude of 1000 feet above the highest obstacle located within 3 miles from the center line of the route.

(2) For each route segment a minimum enroute altitude (MEA) shall be established which meets or exceeds the minimum obstruction clearance altitude and assures navigational signal coverage. For line of sight navigation aid reception distance, for ground installed aids, the minimum reception altitude may be calculated by calculating the square root of an altitude above the navigation aid and multiplying the result by 1.25 (Sq. root 3000 ft. is $54.7 \times 1.25 = 68$ miles). The MEA will be established to the nearest higher 100 foot increment.

- (3) Each route shall include:
 - (a) the FROM/TO route segment;
 - (b) track;
 - (c) MOCA;
 - (d) MEA;
 - (e) distance between fixes or waypoints; and
 - (f) navigation aids.

(4) The air operator shall maintain a record of the company routes in a form and format similar to the catalogue of approved routes. Provided the above procedures are followed, an air operator's pilot may use routes that are not yet contained in the record of company routes.

(5) Prior to initial use of other than a publicly available navigation aid, permission of the owner/operator shall be obtained and retained in company records. No VFR at night or IFR flights shall commence unless the navigation aids upon which the route is predicated are in satisfactory operating condition or the flight is conducted using an approved long range navigation system.

When company routes are predicated on other than publicly available navigation aids and arrangements have not been made with the owner/operator to advise when the navigation aid is out of service, instructions to pilots shall be included on how, and whom to contact, to confirm that the navigation aid is in service.

(6) The air operator's Company Operations Manual shall be amended to outline the above procedures and information for pilot guidance.

(7) The flight visibility shall not be less than 3 miles for flights in VFR at night.

Information Note: *Pilot training for Area Navigation Systems is contained in Subsection s703.98(21)*



s703.35 to s703.36 Reserved

s703.37 Weight and Balance Control

The weight and balance system required by Section 703.37 of the Lebanese Aviation Regulations shall specify for each flight how the air operator will establish and be responsible for the accuracy of:

(1) Airplane basic empty weight and center of gravity determined in accordance with the Airplane Flight Manual;

(2) Airplane operational empty weight and center of gravity. The airplane operational empty weight is the actual weight of the airplane before loading for dispatch consisting of the airplane basic empty weight and may include removable equipment, flight crew members and crew members (including baggage), oil, unusable fuel and emergency equipment and shall be defined by the air operator;

(3) Weight of passengers, carry-on baggage and checked baggage, determined either by actual weight, by using approved standard weights or by using approved survey weights, and the actual weight of cargo;

(4) Weight of the fuel load determined by using either the actual specific gravity or a standard specific gravity;

(5) Airplane loading including, but not limited to, compartment weight and bulk cargo limits, floor loading limits, cargo restraint and loading considering weight and center of gravity limits;(6) Airplane zero fuel weight, (as applicable);

(7) Location of the center of gravity to include the longitudinal position and where required, lateral and vertical positions;

(8) Preparation and disposition of all required documentation whether by the air operator or other qualified personnel authorized by the air operator; and

(9) The training, both initial and recurrent, of all air operator personnel and other qualified personnel authorized by the air operator with duties and responsibilities in this system. The training shall be in the appropriate parts of the Company Operations Manual.

The weight and balance computation may be incorporated in the operational flight plan or be a separate form.

s703.38 Passenger and Cabin Safety Procedures

(1) Safe Movement of Passengers to and from the Airplane. The procedures for the safe movement of passengers to and from the airplane shall include:

- (a) wherever possible, airplanes are parked in a location that avoids passenger exposure to hazardous conditions;
- (b) passengers are alerted to hazardous conditions;
- (c) guidance, and where necessary an escort, to ensure passengers are directed along a safe route to or from the airplane;
- (d) smoking restrictions are enforced;
- (e) "Walkmen" or similar entertainment system headsets that decrease awareness of other traffic or limit reception of audible direction or warning signals are not worn;
- (f) passengers are briefed on how to safely emplane and deplane when aircraft engines are running; and
- (g) passengers on float planes are alerted to hazards unique to emplaning and deplaning these aircraft.

(2) Fuelling with Passengers on Board. Airplanes may be fuelled with passengers on board, embarking or disembarking under the following conditions:

(a) the pilot supervises the fuelling and remains near the airplane main exit to immediately communicate with and assist the evacuation of passengers in an emergency;

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- (b) all exits are clear of obstruction and available for passenger evacuation;
- (c) the airplane engines are not running unless the aircraft incorporates a propeller brake and the brake is set. Procedures must be included in the Aircraft Flight Manual for the use of the prop brake while refueling;
- (d) electrical power supplies are not being connected or disconnected, and any equipment likely to produce sparks or arcs is not being used;
- (e) smoking is not permitted in the airplane or in the vicinity of the airplane;
- (f) fuelling is suspended when there are lightning discharges within 8 km of the aerodrome;
- (g) combustion heaters in the airplane or in the vicinity of the airplane are not operated;
- (h) known high energy equipment such as High Frequency (HF) radios and weather-mapping radar are not operated, unless in accordance with the airplane manufacturer's approved flight manual where the manual contains procedures for the use of this equipment during fuelling; and
- (i) photographic equipment is not used within 10 feet [3 m] of the fuelling equipment or the fill or vent points of the airplane fuel systems.

(3) Use of Portable Electronic Devices. The prohibited devices, the permitted devices without restrictions and the permitted devices with restrictions are defined as follows, and are to be used in accordance with the stated requirements as applicable:

- (a) Prohibited Devices. Any transmitting device that intentionally radiates radio frequency signals;
- (b) Permitted Devices Without Restrictions
 - (i) hearing aids,
 - (ii) heart pacemakers,
 - (iii) electronic watches, and
 - (iv) properly certificated air operator installed equipment;
- (c) Permitted Devices With Restrictions
 - (i) personal life support systems may be operated during all phases of flight, provided that the device does not cause interference with the aircraft's systems or equipment;
 - (ii) portable two-way radio communication devices may be used subject to all of the following conditions and restrictions being met:
 - A. use is prohibited at all times when the aircraft engines are running, excluding the auxiliary power unit,
 - B. when the pre-flight safety briefing begins prior to engine start, use is terminated during the delivery of the pre-flight safety briefing and demonstration, and
 - C. the company operations manual contains procedures to ensure these devices are turned off and properly stowed during the delivery of the pre-flight safety briefing and demonstration and while the aircraft engines are running;
 - (iii) other portable electronic devices may be used, except during take-off, climb, approach and landing.

(4) Passengers shall be informed of the air operator's policy pertaining to the use of portable electronic devices and those devices that are prohibited from use during the delivery of the pre-flight safety briefing and demonstration.

(5) When interference with the aircraft's systems or equipment is suspected from use of a portable electronic device, crew members shall:

- (a) confirm passenger use of portable electronic device(s),
- (b) instruct passenger(s) to terminate the use of portable electronic device(s),
- (c) prohibit the use of suspected portable electronic device(s); and
- (d) recheck the aircraft's systems and equipment.

(6) The pilot-in-command shall report incidents of portable electronic device interference and include the following information in the report:



- (a) Flight Information aircraft type, registration, date and UTC time of incident, aircraft location (VOR bearing/DIST/LAT/LONG), altitude, weather conditions, pilot name and telephone number,
- (b) Description of Interference description of effects on cockpit indicators, audio or systems, including radio frequency, identification, duration, severity and other pertinent information,
- (c) Action Taken by Pilot/Crew to Identify Cause or Source of Interference,
- (d) Identification of Portable Electronic device description of device, brand name, model, serial number, mode of operation (i.e. FM radio), device location (seat location), and regulatory approval number (FCC/other),
- (e) Identification of User name and telephone number of passenger operating the device, and
- (f) Additional Information as determined pertinent by the crew.
- (7) Reports of portable electronic device interference shall be submitted to the DGCA.

s703.39 Briefing of Passengers

(1) Standard Safety Briefing. The standard safety briefing shall consist of an oral briefing provided by a flight crew member or by audio or audiovisual means which includes the following information as applicable to the airplane, equipment, and operation:

- (a) prior to take-off:
 - (i) when, where, why and how carry-on baggage is required to be stowed;
 - (ii) the fastening, unfastening, adjusting and general use of safety belts or safety harnesses;
 - (iii) when seat backs must be secured in the upright position and tables stowed;
 - (iv) the location of emergency exits, and for passengers seated next to an exit, how that exit operates;
 - (v) the location, purpose of, and advisability of reading the safety features card;
 - (vi) the regulatory requirement to obey crew instructions regarding seat belts and no smoking or Fasten Seat Belts and No Smoking signs and the location of these signs;
 - (vii) the location of any emergency equipment the passenger may have a need for in an emergency situation such as the ELT, fire extinguisher, survival equipment (including the means to access if in a locked compartment), first aid kit and life raft;
 - (viii) the use of passenger operated portable electronic devices;
 - (ix) the location and operation of the fixed passenger oxygen system, including the location and presentation of the masks; the action to be performed by the passenger in order to obtain the mask, activate the flow of oxygen and correctly don and secure the mask. This will include a demonstration of their location, method of donning (including the use of elastic band), operation, and instruction on the priority for persons assisting others; and
 - (x) the location and use of life preservers, including how to remove from stowage/packaging and a demonstration of their location, method of donning and inflation, and when to inflate life preservers;
- (b) after take-off, if not included in the pre-take-off briefing:
 - (i) that smoking is prohibited; and
 - (ii) the advisability of using safety-belts or safety harnesses during flight;
- (c) in-flight because of turbulence:
 - (i) when the use of seat belts is required; and
 - (ii) the requirement to stow carry-on baggage;
- (d) prior to passenger disembarkment, the safest direction and most hazard-free route for passenger movement away from the airplane following disembarkment; and any dangers associated with the airplane type such as pitot tube locations, propellers, or engine intakes; and
- (e) where no additional passengers have embarked the flight for subsequent take-offs on the same day, the pre-take-off and after take-off briefing may be omitted provided a crew member has

verified that all carry-on baggage is properly stowed, safety belts or harnesses are properly fastened, and seat backs and chair tables are properly secured.

- (2) Individual Safety Briefing. The individual safety briefing shall include:
 - (a) any information contained in the standard safety briefing and the safety features card that the passenger would not be able to receive during the normal conduct of that safety briefing; and (b) additional information applicable to the needs of that person as follows:
 - (i) the most appropriate brace position for that passenger in consideration of his/her
 - condition, injury, stature, and/or seat orientation and pitch;
 - the location to place any service animal that accompanies the passenger; (ii)
 - for a mobility restricted passenger who needs assistance in moving expeditiously to an (iii) exit during an emergency:
 - a determination of what assistance the person would require to get to an exit; A.
 - B. the route to the most appropriate exit;
 - C. the most appropriate time to begin moving to that exit; and
 - D. a determination of the most appropriate manner of assisting the passenger;
 - (iv) for a visually impaired person:
 - detailed information of and facilitating a tactile familiarization with the A. equipment that he/she may be required to use;
 - advising the person where to stow his/her cane if applicable; B.
 - C. the number of rows of seats between his/her seat and his/her closest exit and alternate exit:
 - D. an explanation of the features of the exits; and
 - if requested, a tactile familiarization of the exit; E.
 - (v) for a comprehension restricted person:
 - while using the safety features card, point out the emergency exits and alternate A. exits, and any equipment that he/she may be required to use;
 - (vi) for persons with a hearing impairment:
 - while using the safety features card, point out the emergency exits and alternate A. exits to use, and any other equipment that the person may be required to use; and
 - B. communicating detailed information by pointing, face-to-face communication permitting speech reading, pen and paper, through an interpreter or through their attendant:
 - (vii) for a passenger who is responsible for another person on board, information pertinent to the needs of the other person as applicable:
 - in the case of an infant: A.
 - \geq seat belt instructions;
 - \geq method of holding infant for take-off and landing;
 - instructions pertaining to the use of a child restraint system; \geq
 - \triangleright oxygen mask donning instructions;
 - \triangleright recommended brace position; and
 - location and use of life preservers, as required; \geq
 - in the case of any other person: B.
 - oxygen mask donning instructions; \geq
 - \triangleright instructions pertaining to the use of a child restraint system; and
 - \geq evacuation responsibilities:
 - (viii) for an unaccompanied minor, instructions to pay close attention to the normal safety briefing and to follow all instructions.

Information Note: (a) A passenger that has been provided with an individual safety briefing need not be re-briefed following a change in crew if the crew member that provided the individual safety briefing has advised a member of the new crew of the contents of that briefing including any information respecting the special needs of that passenger.

(b) A passenger may decline an individual safety briefing.

(3) Passenger Preparation for an Emergency Landing. The emergency briefing provided in the event of an emergency, where time and circumstances permit, shall consist of instructions pertaining to:

- (a) safety belts or safety harnesses;
- (b) seat backs and tables;
- (c) carry-on baggage;
- (d) safety features cards;
- (e) brace position (when to assume, how long to remain); and
- (f) life preservers, (as applicable).

(4) Safety Features Card. The safety features card shall contain the following information as applicable to the airplane and equipment carried:

- (a) general safety information including:
 - (i) smoking is prohibited on board the airplane;
 - (ii) each type of safety belt or safety harness installed for passenger use, including when to use, and how to fasten, tighten and release;
 - (iii) when and where carry-on baggage must be stowed and any other related requirements and restrictions pertinent to the particular airplane; and
 - (iv) correct positioning of seat backs and tables for take-off and landing.
- (b) emergency procedures and equipment including:
 - (i) fixed passenger oxygen system showing:
 - A. mask location and presentation; the actions to be performed by the seated passenger in order to obtain the mask, activate the flow of oxygen and correctly don and secure the mask; and
 - B. priority for persons assisting others with oxygen;
 - (ii) location of first aid kits;
 - (iii) location of fire extinguishers that would be accessible to the passengers;
 - (iv) location of Emergency Locator Transmitters;
 - (v) location of survival equipment and, if the stowage compartment is locked, the means of access or location of the key;
 - (vi) passenger brace position for impact, as appropriate for each type of seat and restraint system installed for passenger use; including the brace position for an adult holding an infant;
 - (vii) the location, operation and method of using each exit on the airplane;
 - (viii) the safest direction and most hazard-free escape route for passenger movement away from the airplane following evacuation;
 - (ix) the attitude of the airplane while floating;
 - (x) location of life preservers and correct procedures for removal from stowage/packaging; donning and use of the life preservers for adult, child and infant users including when to inflate;
 - (xi) location and use of life rafts, (as applicable); and
 - (xii) location, removal and use of flotation devices;
- (c) the safety features card shall bear the name of the air operator and the airplane type and shall contain only safety information; and
- (d) the safety information provided by the card shall:
 - (i) be accurate for the airplane type and configuration in which it is carried and in respect of the equipment carried;



- (ii) be presented with clear separation between each instructional procedure. All actions required to complete a multi-action procedure are to be presented in correct sequence and the sequence of actions are to be clearly identified; and
- (iii) be depicted in a clear and distinct manner.

s703.40 to s703.51 Reserved



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DIVISION IV - AIRCRAFT PERFORMANCE OPERATING LIMITATIONS

s703.52 to s703.63 Reserved

DIVISION V - AIRCRAFT EQUIPMENT REQUIREMENTS

s703.64 to s703.81 Reserved



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DIVISION VI - EMERGENCY EQUIPMENT

s703.82 Equipment Standards and Inspection

- (1) Survival Equipment
 - (a) flights over land
 - (i) the Company Operations Manual shall show how compliance with Section 602.61 of the Lebanese Aviation Regulations is to be achieved;
 - (ii) a list of survival equipment shall be carried on board with information on how to use it;
 - (iii) a survival manual appropriate for the season and climate shall be carried on board; and
 - (iv) crew members shall be trained in accordance with Subsection s703.98(24).
 - (b) where life rafts are required to be carried, in accordance with Section 602.63 of the Lebanese Aviation Regulations, they shall be equipped with an attached survival kit containing at least the following:
 - (i) a pyrotechnic signaling device;
 - (ii) a radar reflector;
 - (iii) a life raft repair kit;
 - (iv) a bailing bucket and sponge;
 - (v) a signaling mirror;
 - (vi) a whistle;
 - (vii) a raft knife;
 - (viii) an inflation pump;
 - (ix) dye marker;
 - (x) a waterproof flashlight;
 - (xi) a two day supply of water, calculated using the overload capacity of the raft, consisting of one pint of water per day for each person or a means of desalting or distilling salt water sufficient to provide an equivalent amount;
 - (xii) a fishing kit;
 - (xiii) a book on sea survival; and
 - (xiv) a first aid kit containing antiseptic swabs, burn dressing compresses, bandages and antimotion sickness pills.

(2) First Aid Kit Contents. The contents of the first aid kit required by Section 602.60 of the Lebanese Aviation Regulations shall contain the supplies and equipment acceptable to the Minister, and, in addition, each first aid kit shall include one pair of latex gloves.

s703.83 to s703.85 Reserved



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DIVISION VII - PERSONNEL REQUIREMENTS

s703.86 Minimum Crew

Single Pilot IFR Requirements

The standard for the operation of an airplane with passengers on board in IFR flight without a secondin-command is:

(1) the pilot shall have a minimum of 1000 hours of flight time which shall include, if the type to be flown is multi-engined, 100 hours on multi-engined airplanes. In addition, the pilot shall have 50 hours of simulated or actual flight in IMC, and a total of 50 hours flight time on the airplane type;
(2) the Pilot Proficiency Check shall be in the airplane type flown or if applicable in one of the types grouped for Pilot Proficiency Check renewals and shall include the following:

- (b) knowledge of the auto-pilot operations and limitations;
- (c) performance of normal and emergency procedures without assistance;
- (d) passenger briefing with respect to emergency evacuation; and
- (e) demonstration of the use of the auto-pilot during appropriate phases of flight;

(3) flight in pressurized airplanes shall be conducted at or below FL 250; and

(4) a pilot's single pilot proficiency, if still valid, is transferable between air operators which have an Air Operator Certificate authority to conduct such operations and utilize the same type and model of airplane.

s703.87 Reserved

s703.88 Flight Crew Member Qualifications

- (1) Pilot Proficiency Check
 - (a) the pilot proficiency check in an airplane shall be conducted in accordance with Schedule I of this Subsection.
 - (b) a pilot proficiency check shall be conducted in a manner that enables the pilot to demonstrate the knowledge and the skill respecting:
 - (i) the airplane, its systems and components;
 - (ii) proper control of airspeed, direction, altitude, attitude and configuration of the airplane, in accordance with normal, abnormal and emergency procedures and limitations set out in the airplane operating manual (where applicable), the airplane flight manual, the air operator's Company Operations Manual, the air operator's standard operating procedures, the check list, and any other information relating to the operation of the airplane type;
 - (iii) departure, enroute and arrival instrument procedures (if applicable); and
 - (iv) adherence to approved procedures.
 - (c) each maneuver or procedure within a phase of flight specified in Schedule I to this Subsection shall be performed in the airplane or synthetic flight training device.
 - (d) a pilot-in-command check shall be completed in the seat normally occupied by the pilot-incommand and a second-in-command check shall be completed in the seat normally occupied by the second-in-command.
 - (e) a DGCA inspector or an approved company check pilot shall determine whether a person has demonstrated the knowledge and the skill in accordance with the following factors:
 - (i) the pilot's adherence to approved procedures; and
 - (ii) the pilot's qualities of airmanship in selecting a course of action.

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- (f) during the pilot proficiency check the person conducting the check may request any maneuver or procedure, from the Schedule, required to determine the proficiency of the candidate.
- (g) a PPC must include a demonstration of instrument flight (IF) proficiency if:
 - (i) the candidate possesses a valid Instrument Rating; and
 - (ii) the candidate conducts commercial IFR operations on the airplane in which the PPC is conducted.

Where a pilot successfully completes the full pilot proficiency check, the pilot successfully completes the requirements for the renewal of the applicable instrument rating.

- (h) where an Air Operator's Certificate authorizes single-engine operation in IFR flight the pilot proficiency check shall include all items of Schedule I to this subsection which are relevant to a single-engined airplane.
- (i) where an air operator has been authorized airplane grouping for pilot proficiency checks (renewals only), Schedule II and Schedule III to this Subsection shall be used to determine which aircraft can be grouped. The following standard shall apply:
 - (i) for a pilot to commence participating in an air operator's authorized airplane grouping, that pilot shall have passed within the preceding 12 months, in each type of airplane in which that pilot will act as a flight crew member, the pilot proficiency check set out in Schedule I to this subsection;
 - (ii) the pilot must complete initial and annual recurrent ground and flight training, including written examinations on systems and limitations, for each type of airplane in which he/she will act as a flight crew member;
 - (iii) the annual PPC shall be completed and passed on one of the airplane types from the authorized group. A different type of airplane from the group shall be used each successive year for the conduct of the PPC;
 - (iv) a failure to pass the PPC on the selected airplane type shall be considered to be a failure on all the airplane group types flown by that pilot; and
 - (v) the document certifying qualifications and proficiency shall be endorsed for each airplane type.
- Information Note: Grouping of PPC's (renewals only) is considered transportable from one air operator to another if the hiring operator has been authorized for grouping of the same aircraft types. The pilot must complete the hiring air operators recurrent ground and flight training for each type on which he/she intends to serve as a crew member. The training shall be completed to the extent required by Subsection s703.98(21) for each airplane type. Initial training and a PPC are required for any type on which the pilot is not current or has not previously served (see Section s703.91 - validity period).
 - (j) the synthetic flight training device level of training and checking credits shall be approved by the DGCA in the training program approval process for each airplane type. Training and checking procedures not approved for the synthetic flight training device shall be completed in the airplane.
- (2) Competency Check. The standard for the Competency Check is:
 - (a) for pilots flying single-engine airplanes operated in Day VFR (passengers and cargo), IFR (cargo only) or night VFR (cargo only), the chief pilot, or a pilot delegated by the Chief Pilot, shall be responsible for the training and shall certify the competency of each pilot on the most complex single-engined airplane to be flown;

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Information Note: *Pilots flying single-engine IFR with passenger or night VFR with passenger require a PPC.*

- (b) for pilots flying as second-in-command on multi-engined airplanes operating under IFR or VFR is as follows:
 - (i) where the airplane is type certified for two-pilot operation, the second-in-command shall complete a competency check;
 - (ii) where operation of the airplane requires a type rating, and the second-in-command does not possess the required rating, he/she shall complete an initial pilot proficiency check as the qualifying flight to obtain the type rating. The Chief Pilot, or a pilot delegated by the Chief Pilot, shall then be responsible for annual recurrent training and will certify the competency of the pilot on each multi-engined airplane type to be flown. If the second-in-command already possesses the required type rating, the Chief Pilot or his delegate will be responsible for initial and recurrent training and certification of competency for each type of airplane to be flown; and
 - (iii) for all other multi-engined airplanes, the Chief Pilot, or a pilot delegated by the Chief Pilot, shall be responsible for the training and will certify the competency of the pilot on each multi-engined airplane type to be flown; and
- (c) a pilot shall be certified as competent in the performance of those Pilot Proficiency Check items contained in Schedule I to Subsection (1) above which are applicable to single-engined airplanes or multi-engined airplanes, as applicable, operating on wheels, floats or skis, as appropriate for the operation to be conducted.

(3) Use of Other than an Air Operator Employee Pilot for Training and Checking. Authority may be given for other than an air operator employee pilot to occupy a flight crew seat when training, or conducting initial operating experience training or flight checks on an air operator's pilots on a new airplane type in accordance with the following:

The pilot shall:

- (a) provide a resume, proof of background on the type of airplane, and recent experience appropriate to the training to be given; and
- (b) hold the appropriate license, ratings and endorsement. Where the pilot holds a foreign pilot license the license and (as applicable) the instrument rating shall be validated by the DGCA.

The pilot may be authorized to conduct pilot checks provided the requirements of the Company Check Pilot are met, with the exception of the minimum employment time with the air operator.



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SCHEDULE I - Pilot Proficiency Check (PPC)

(1) Pre-flight Phase

- (a) Flight Planning and Equipment Examination
 - (i) flight planning shall include a practical examination on the pilot's knowledge of standard operating procedures and the Airplane Flight Manual including performance charts, loading, weight and balance and Flight Manual Supplements; and
 - (ii) the equipment examination shall show a practical knowledge of the airframe, engine, major components and systems including the normal, abnormal, alternate and emergency operating procedures and limitations relating thereto.
- (b) Airplane Inspection
 - (i) a pre-flight airplane inspection that includes:
 - A. a visual inspection of the exterior and interior of the airplane, locating each item to be inspected and explaining the purpose of the inspection;
 - B. the proper use of the pre-start, start and pre-taxi check lists; and
 - C. checks of the appropriate radio communications, navigation and electronic equipment and selection of the appropriate communications and navigation frequencies prior to flight.
- (2) Flight Phase
 - (a) Taxiing
 - (i) taxiing procedures including, where appropriate, sailing and docking procedures;
 - (ii) a taxiing check including:
 - A. the use of the taxiing check list;
 - B. taxiing in compliance with clearances and instructions issued by the appropriate air traffic control unit or by the person conducting the pilot proficiency check; and
 - C. where a second-in-command is undergoing the pilot proficiency check, outlined above to the extent practicable from the second-in-command position.
 - (b) Engine Checks. Engine checks shall be conducted as appropriate to the airplane type.
 - (c) Take-off
 - (i) one normal take-off to be performed in accordance with the Airplane Flight Manual;
 - (ii) an instrument take-off performed in the same manner as the normal take-off except that instrument flight rules are simulated at or before reaching an altitude of 200 feet above the airport elevation. Not required to be demonstrated where the Air Operator's Certificate authorizes operations under day VFR only, or the air operator assigns the pilot to day VFR flight only;
 - (iii) where practicable under existing meteorological, airport or airport traffic conditions, one crosswind take-off performed in accordance with the airplane operating manual where applicable;

Information Note: *Any or all of the above takeoffs may be combined.*

- (iv) a simulated engine failure after take-off as follows:
 - A. where performed in a visual synthetic training device, the simulated failure of the critical engine shall occur at the take-off safety speed plus 10 kts; or
 - B. where performed in an airplane in flight, at a safe altitude as close to the take-off safety speed plus 10 kts as is safe and appropriate to the airplane type under the prevailing conditions; and
- (v) a rejected take-off:
 - A. performed in a Level A synthetic flight training device prior to reaching lift-off speed; or



- B. explained by the candidate prior to the flight where the pilot proficiency check is conducted in an airplane.
- (d) Instrument Procedures. Except where an Air Operator Certificate authorizes operation under day VFR only, or an operator assigns the pilot to day VFR flight only, instrument procedures shall consist of IFR pre-flight preparation, departure and enroute procedures, terminal procedures and system malfunctions.
 - (i) an area departure and an area arrival procedure shall be performed where the pilot:
 - A. adheres to actual or simulated air traffic control clearances and instructions; and
 - B. properly uses the available navigation facilities;
 - (ii) holding procedures;
 - (iii) at least two instrument approaches performed in accordance with procedures and limitations in the DGCA Approved Aeronautical Charts or in the equivalent foreign publications, or approved company approach procedure for the approach facility used. Where practicable one of the approaches shall be a precision approach and one a nonprecision approach; and
 - (iv) a circling approach except where local conditions beyond the control of the pilot prevent a circling approach from being performed.
- (e) In Flight Maneuvers
 - (i) at least one steep turn in each direction with a bank angle of 45° and a change in heading of at least 180° but not more than 360°.
 - (ii) approaches to stalls. For the purpose of this maneuver the required approach to a stall is reached when there is a perceptible buffet or other response to the initial stall entry. When performed in an airplane the approach to stalls shall be conducted at an altitude of at least 5000 feet AGL, and if conducted above cloud at an altitude of at least 2000 feet above the cloud tops.

The following approaches to the stall are required during initial and upgrade PPC's:

- A. one in the take-off configuration, except where a zero-flap take-off configuration is normally used in that model and type of airplane;
- B. one in a clean configuration; and
- C. one in a landing configuration.

One of the approaches to stall shall be performed while in a turn with a bank angle of between 15° and 30° .

- (f) Landings and Approaches to Landings
 - (i) one normal landing which shall, where practicable, be conducted without external or internal glideslope information;
 - (ii) one landing from an instrument approach, and where prevailing conditions prevent an actual landing, an approach to a point where a landing could have been made. Not required to be demonstrated where the Air Operator's Certificate authorizes operations under day VFR only, or the air operator assigns the pilot to day VFR flights only;
 - (iii) one cross wind landing where practicable under existing meteorological, airport and airport traffic conditions;
 - (iv) one landing and maneuvering to that landing with a simulated failure of 50 percent of the available engines; and
 - (v) one landing under simulated circling approach conditions except that where prevailing conditions prevent a landing, an approach to a point where a landing could have been made.



Information Note: Any of the landings and approaches to landings specified in this section may be combined. A minimum of two landings are required.

- (g) Normal Procedures. The pilot shall demonstrate or show knowledge of as many of the normal procedures as the person conducting the check finds are necessary to determine that the pilot has the knowledge and ability to properly use installed equipment. The demonstration of these procedures may be combined with in-flight maneuvers. The following are examples of areas that may be examined:
 - (i) anti-icing and de-icing systems;
 - (ii) auto-pilot systems;
 - (iii) automatic or other approach aid systems;
 - (iv) stall warning devices, stall avoidance devices, and stability augmentation system;
 - (v) airborne radar devices; and
 - (vi) other systems, devices, or aids.
- (h) Abnormal and Emergency Procedures
 - (i) the pilot shall demonstrate the use of as many of the abnormal and emergency procedures as is necessary to confirm that the pilot has an adequate knowledge and ability to perform these procedures.
 - (ii) system malfunctions shall consist of a selection adequate to determine that the pilot has satisfactory knowledge and ability to safely handle malfunctions.
 - (iii) at least two simulated engine failures any time during the check.



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SCHEDULE II - Grouping for PPC Purposes

Airplanes Having a MCTOW over 7000 lbs

Grouping is authorized for the following airplane types and models:

Aero Commander - 600 series turbine

Beech - 90 (A, B, C, E) 99, 100, A100

Beech - 100, A100, 200, B200

Beech - 200, B200, 300, F90

Piper Cheyenne - I, II, III

Piper Cheyenne - IV

Swearingen/Fairchild - All short-body SA226, SA227

Swearingen/Fairchild - All long-body SA226, SA227.



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SCHEDULE III - Grouping for PPC Purposes

Airplanes having a MCTOW of 7000 lbs and less

PPC groupings will be determined by the DGCA..



s703.89 Qualifications of Operational Control Personnel

The standard for Operational Control Personnel is that contained in Subsection s703.98(15).

s703.90 Reserved

s703.91 Validity Period

Where a flight crew member's training has expired for a period of 24 months or more, that crew member shall successfully complete the air operator's initial training program on the type of airplane.
 Where the flight crew member's pilot proficiency check or competency check has expired for a period of 24 months or more that flight crew member shall, following completion of the air operator's initial airplane ground and flight training, successfully complete the pilot proficiency check or competency check as applicable, on the type of airplane.

s703.92 to s703.97 Reserved



DIVISION VIII - TRAINING

s703.98 Training Programs

The syllabus of each training program shall include the programmed time allotted and the subject matter to be covered.

- (1) Training Standard General
 - (a) manuals, if applicable, shall be provided during training to each trainee on the subject matter to be taught.
 - (b) relevant training aids such as fire extinguishers, life preservers, rafts, aircraft components, static aircraft, etc. shall be available relevant to the program being presented.
 - (c) comprehensive examinations shall be used to validate competence of the trainee.

(2) Flight Crew Training on a Contract Basis. An air operator may contract training to another organization provided:

- (a) the arrangement is clearly provided for in the approved training program;
- (b) the outside organization uses the manuals and publications used by the air operator (SOP's, Aircraft Flight Manual, Aircraft Operating Manual, if applicable, Company Operations Manual, etc.);
- (c) the air operator ensures that the training is conducted in accordance with the approved program;
- (d) where type training is conducted the training is provided on the type and model operated by the air operator unless otherwise provided for in the approved training program; and
- (e) the air operator maintains training records as required by Subpart 3 of the Lebanese Aviation Regulations.
- (3) Training and Qualifications of Training Personnel
 - (a) <u>Instructor Ground Training</u>
 - (ii) has satisfied the air operator that he/she has the knowledge and skills required to conduct the training; and
 - (iii) if conducting airplane type training has successfully completed the ground school for the type of airplane.
 - (b) Qualifications and Responsibilities of a Training Pilot (Flight)
 - (i) Qualifications.
 - A. if the Air Operator Certificate authorizes operations IFR:
 - hold a valid Airline Transport Pilot License and a valid Instrument Rating appropriate for the class of airplane; or
 - hold a valid Commercial Pilot License valid for night and a valid Instrument Rating appropriate for the class of airplane, and have accumulated not less than 500 flight hours which shall include not less than 250 flight hours as pilot-in-command appropriate for the class of airplanes.
 - B. if the Air Operator Certificate authorizes VFR at night:
 - hold at least a valid Commercial Pilot License valid for night, and a valid Instrument Rating appropriate for the class of airplane; or
 - B. if the Air Operator Certificate authorizes day VFR only:
 - hold at least a valid Commercial Pilot License appropriate for the class of airplane.
 - (ii) Responsibilities. The Training Pilot is responsible for monitoring the operation and identifying problems which may require the provision of extra training or changes in operational procedures. The training pilot is responsible, together with the Chief Pilot, for the establishment and promulgation of the standards and piloting techniques with which flight crew will be expected to comply during flight operations and which the

flight crew will be required to demonstrate during initial and recurrent checks. Particular responsibilities are:

- A. conducting ground, synthetic flight training device and flight training of all flight crew in accordance with the approved training program;
- B. supervision of the standards and recommending amendments to their respective airplane operating manuals and standard operating procedures;
- C. maintaining the air operator's training records;
- D. liaison with crew scheduling concerning training details; and
- E. any responsibilities assigned by the Chief Pilot.
- (c) <u>Qualifications and Responsibility of a Training Pilot (Synthetic Training Device)</u>
 - (i) Qualifications.
 - A. hold or have held at least a Commercial Pilot License or equivalent, and if the Air Operator's Certificate authorizes IFR an Instrument Rating appropriate for the class of airplane;
 - B. have completed the air operator's ground school and synthetic training device program for the type of airplane;
 - C. have successfully completed within the past 12 months a flight check to PPC standards in the synthetic training device or airplane for that type;
 - D. know the content of the Airplane Operating Manual (if applicable), Airplane Flight Manual, Operations and Training Manuals and as applicable the Company Check Pilot Manual and the air operator Standard Operating Procedures for the airplane type, and the provisions of the regulations and standards; and
 - E. have received instruction on the operation of the synthetic training device from an instructor qualified to operate the synthetic training device.
 - (ii) Responsibilities.
 - A. the Training Pilot is responsible for monitoring the operation and identifying problems which may require the provision of extra training or changes in operational procedures.
 - B. the training pilot is responsible, together with the chief pilot, for the establishment and promulgation of the standards and piloting techniques with which flight crew will be expected to comply during flight operations and which the flight crew will be required to demonstrate during initial and recurrent checks. Particular responsibilities are:
 - conducting ground and synthetic flight training of all flight crew in accordance with the approved training program;
 - supervision of the standards and recommending amendments to their respective airplane operating manuals and standard operating procedures;
 - maintaining the air operator's training records;
 - liaison with crew scheduling concerning training details; and
 - > any responsibilities assigned by the Chief Pilot.

Information Note: *The standard for the use of other than an air operator employee pilot for training and checking is in Section s703.88.*

(4) Training Program Standards. Ground training programs shall provide a means of evaluating the trainee after completion of the syllabus by completion of examination with a review and correction of any errors. Training examinations should be comprehensive and periodically reviewed and updated.

Type training programs are to be titled as to the type to which they apply and include the number of instructional hours to be provided. They should be performance oriented and stress the operation (normal, emergency and malfunctions) of the aircraft systems and equipment. Instruction related to components and systems that flight crews cannot control, influence or operate should be minimized.

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(5) Company Indoctrination Training. This training is required upon employment for all persons assigned to an operational control function including base managers, pilots and persons responsible for flight watch or flight following. The program shall ensure that persons involved in control of flight operations are aware of their responsibilities, know company reporting relationships and are competent to fulfill their assigned duties related to flight operations. Company indoctrination training shall include as applicable:

- (a) Lebanese Aviation Regulations;
- (b) Air Operator Certificate and Operations Specifications;
- (c) company organization, reporting relationships and communication procedures including duties and responsibilities of the flight crew members and the relationship of their duties to other crew members;
- (d) flight planning and operating procedures;
- (e) fuelling procedures including procedures for fuelling with passengers on board and fuel contamination precautions;
- (f) critical surface contamination and safety awareness program;
- (g) passenger safety briefings and safe movement of passengers to/from the airplane;
- (h) use and status of Company Operations Manual including maintenance release procedures and accident/incident reporting procedures;
- (i) use of minimum equipment lists (if applicable);
- (j) windshear, airplane icing, and other meteorological training appropriate to the area of operations;
- (k) navigation procedures and other specialized operations applicable to the operator;
- (l) accident/incident reporting;
- (m) passenger on board medical emergency;
- (n) handling of disabled passengers;
- (o) carriage of external loads, (if applicable);
- (p) operational control system; and
- (q) weight and balance system procedures.

(6) Technical Ground Training - Initial and Recurrent. This training shall ensure that each flight crew member is knowledgeable with respect to airplane systems and all normal, abnormal and emergency procedures. The following subjects shall be included:

- (a) airplane systems operation and limitations as contained in the airplane flight manual and airplane operating manual and standard operating procedures;
- (b) operation of all equipment that is installed in all airplanes of the same type operated by the air operator;
- (c) differences in equipment that is installed in all airplanes of the same type in the air operators fleet;
- (d) applicable standard operating procedures for pilot flying and pilot not flying duties for normal, abnormal and emergency procedures for the airplane;
- (e) airplane performance and limitations; and
- (f) weight and balance procedures;

Technical ground training shall be conducted annually.

(7) Synthetic Flight Training Device

- (a) a Synthetic Flight Training Device has two classifications:
 - (i) full flight simulator (FFS); and
 - (ii) flight training device (FTD)

(8) Level A Training Program (if applicable). An air operator with an approved Level A training program using a Level A or better FFS, approved in accordance with the Airplane and Rotorcraft Simulator Manual, is permitted to conduct most initial, upgrade and recurrent training in that

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simulator. Additionally, flight training in an airplane must be carried out for general handling and landing maneuvers for initial and upgrade training.

- (a) the following training in standard operating procedures for normal, abnormal and emergency operation of the airplane systems and components shall be carried out in the FFS:
 - (i) use of airplane checklists;
 - (ii) flight and cabin crew co-operation, command and co-ordination;
 - (iii) airplane and cargo fire on the ground and while airborne;
 - (iv) engine fire and failure;
 - (v) effects of engine icing and anti-ice operation;
 - (vi) take-off, landing and flight with the critical engine inoperative including driftdown and engine inoperative performance capabilities;
 - (vii) on 3- and 4-engine airplanes inflight procedures including approach and landing with 2 engines inoperative (applies to PIC only);
 - (viii) loss of pressurization and emergency descent (if applicable);
 - (ix) flight control failures and abnormalities;
 - (x) hydraulic, electrical and other system failures;
 - (xi) failure of navigation and communication equipment;
 - (xii) pilot incapacitation recognition and response during various phases of flight;
 - (xiii) approach to the stall and recovery procedure with ground contact imminent and ground contact not a factor (clean, take-off and landing configuration);
 - (xiv) buffet boundary onset, steep turns (45° of bank), and other flight characteristics such as unusual attitudes (as applicable for initial and upgrade only);
 - (xv) airplane performance for climb, cruise, holding, descent and landing;
 - (xvi) normal, noise abatement and performance limited take-offs;
 - (xvii) take-off and landing data calculations;
 - (xviii) rejected take-off procedures and rejected landings;
 - (xix) passenger and crew evacuation;
 - (xx) FMS, GPWS, TCAS and other specialized airplane equipment (where available); and
 - (xxi) inadvertent encounters with moderate or severe in flight icing conditions.
- (b) where the air operator seeks authorization for flight in IMC the following training in flight planning and instrument flight procedures shall be included:
 - (i) departure, enroute, holding and arrival; and
 - (ii) all types of instrument approaches and missed approaches in minimum visibility conditions using all levels of automation available (as applicable).
- (c) in addition to the training in an approved Level A FFS Training Program, the following flight training on the airplane type shall be carried out:
 - (i) interior and exterior airplane preflight checks;
 - (ii) ground handling for P-I-C;
 - (iii) normal take-off, visual circuit (where possible) and landing;
 - (iv) a simulated engine inoperative approach and landing;
 - (v) simulated engine failure procedures during take-off and missed approach (at a safe altitude and airspeed);
 - (vi) no electronic glide slope approach and landing; and
 - (vii) circling (if applicable) and other approaches where the simulator lacks the capability.
- (d) if a Level A flight simulator has differences in performance, systems, or cockpit layout and configuration from the air operator's airplane, additional training on these differences shall be provided.

(9) Level B Training Program (if applicable). An air operator with an approved Level B training program using a Level B or better FFS, approved in accordance with the Airplane and Rotorcraft Simulator Manual, is permitted to conduct most initial, upgrade and recurrent training in that simulator. Additionally, flight training in an airplane must be carried out for general handling and landing maneuvers for initial and upgrade training.

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- (a) the following training in standard operating procedures for normal, abnormal and emergency operation of the airplane systems and components shall be carried out in the FFS:
 - (i) use of airplane checklists;
 - (ii) flight and cabin crew co-operation, command and co-ordination;
 - (iii) airplane and cargo fire on the ground and while airborne;
 - (iv) engine fire and failure;
 - (v) effects of engine icing and anti-ice operation;
 - (vi) take-off, landing and flight with critical engine inoperative including driftdown and engine inoperative performance capabilities;
 - (vii) on 3- and 4-engine airplanes inflight procedures including approach and landing with 2 engines inoperative (applies to P-I-C only);
 - (viii) loss of pressurization and emergency descent (if applicable);
 - (ix) flight control failures and abnormalities;
 - (x) hydraulic, electrical and other system failures;
 - (xi) failure of navigation and communication equipment;
 - (xii) pilot incapacitation recognition and response during various phases of flight;
 - (xiii) recovery from turbulence and windshear on take-off and approach;
 - (xiv) approach to the stall and recovery procedure with ground contact imminent and ground contact not a factor (in clean, take-off and landing configuration);
 - (xv) buffet onset boundary, steep turns (45° bank), and other flight characteristics such as unusual attitudes (as applicable for initial and upgrade only);
 - (xvi) airplane performance for climb, cruise, descent and landing;
 - (xvii) normal, noise abatement and performance limited take-offs;
 - (xviii) take-off and landing data calculations;
 - (xix) rejected take-off procedures and rejected landings;
 - (xx) passenger and crew evacuation;
 - (xxi) FMS, GPWS, TCAS and other specialized airplane equipment (as applicable); and
 - (xxii) inadvertent encounters with moderate or severe in flight icing conditions.
- (b) where the air operator seeks authorization for flight in IMC, the following training in flight planning and instrument flight procedures shall be included:
 - (i) departure, enroute, holding and arrival; and
 - (ii) all types of instrument approaches and missed approaches in minimum visibility conditions using all levels of automation available (as applicable).
- (c) in addition to the training in an approved Level B Simulator Training Program, the following flight training on the airplane type shall be carried out:
 - (i) interior and exterior aircraft preflight checks;
 - (ii) ground handling for the P-I-C;
 - (iii) normal take-off, visual circuit (where possible) and landing;
 - (iv) a simulated engine inoperative approach and landing;
 - (v) simulated engine failure procedures during take-off and missed approach (at a safe altitude and airspeed);
 - (vi) no electronic glide slope approach and landing; and
 - (vii) circling (if applicable) and other approaches where the simulator lacks the capability.
- (d) if a Level B flight simulator has differences in performance, systems, or cockpit layout and configuration from the air operator's airplane, additional training on these differences shall be provided.

(10) Airplane Flight Training Program. Any simulated failures of airplane systems shall only take place under operating conditions which do not jeopardize safety of flight.

- (a) Standard Operating Procedures for normal, abnormal and emergency operation of the airplane systems and components including:
 - (i) use of airplane checklists including interior and exterior pre-flight checks;
 - (ii) maneuvering of the airplane on the ground;

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- (iii) aspects of flight and cabin crew co-operation, command and co-ordination;
- (iv) normal take-off, visual circuit, approach and landing;
- (v) simulated airplane and cargo fire on the ground and while airborne;
- (vi) simulated engine fire and failure;
- (vii) briefings on effects of airframe and engine icing and anti-ice operation;
- (viii) take-off, landing and flight with the critical engine simulated inoperative, including driftdown and engine inoperative performance capabilities;
- (ix) on 3- and 4-engine airplanes inflight procedures including approach and landing with 2 engines simulated inoperative (applies to P-I-C only);
- (x) simulated loss of pressurization and emergency descent;
- (xi) no electronic glide slope approach and landing;
- (xii) simulated hydraulic, electrical and other system failures;
- (xiii) simulated flight control failures and abnormalities;
- (xiv) simulated failure of navigation and communication equipment;
- (xv) simulated pilot incapacitation recognition and response;
- (xvi) briefing on recovery from turbulence and windshear on take-off and approach;
- (xvii) approach to the stall and recovery procedure simulating ground contact imminent and ground contact not a factor (clean, take-off and landing configuration);
- (xviii) buffet onset boundary, steep turns (45° of bank) and other flight characteristics (as applicable for initial and upgrade only);
- (xix) airplane performance for climb, cruise, holding, descent and landing;
- (xx) normal and performance limited take-offs;
- (xxi) crosswind take-off and landing, and briefing on contaminated runway take-off and landing;
- (xxii) take-off and landing data calculations;
- (xxiii) simulated rejected take-off procedures (at or below 60 kts) and rejected landings;
- (xxiv) briefing on crew and passenger evacuation procedures; and
- (xxv) other specialized airplane equipment (where applicable).
- (b) flight planning and instrument flight procedures where the air operator is authorized for VFR flight at night or flight in IMC:
 - (i) departure, enroute, holding and arrival; and
 - (ii) all types of instrument approaches and missed approaches in simulated minimum visibility conditions, including circling approaches (where applicable) using all levels of automation available (as applicable).

(11) Emergency Procedures Training for Pilots. This training is required on an annual basis and shall include instruction in the location and operation of all emergency equipment. Training devices approved to simulate flight operating emergency conditions, static airplanes, ground demonstrations, classroom lectures, films or other devices may be used for training provided the method used ensures that each flight crew member is adequately trained in the operation or use of all emergency equipment. Where practical training is required it shall be completed on initial training and every three years thereafter.

- (a) airplane fire in the air and on the ground;
- (b) use of fire extinguishers including practical training;
- (c) operation and use of emergency exits including practical training;
- (d) passenger preparation for an emergency landing or ditching (as applicable) including practical training;
- (e) emergency evacuation procedures including practical training;
- (f) donning and inflation of life preservers (when equipped) including practical training;
- (g) removal from stowage, deployment, inflation and boarding of life rafts/slide rafts (when equipped) including practical training;
- (h) pilot incapacitation including practical training;
- (i) hijacking, bomb threat and other security procedures;


- (j) passenger on board medical emergency; and
- (k) special emergency procedures when the airplane is used on MEDEVAC operations including patient evacuation in emergency situations.

(12) Regaining Qualifications Training. For operators using a Level B, C, D FFS approved in accordance with the Airplane and Rotorcraft Simulator Manual, or the airplane, the following must be completed for all pilots who have not maintained their recency qualifications in accordance with Subsection 703.88(1)(b) of the Lebanese Aviation Regulations for

a period between 90 and 180 days.

- (a) a briefing on changes that have occurred to the airplane or its operation since the last flight; and
- (b) three take-offs and landings (which may be carried out as part of a PPC where one has come due).
- (13) Regaining Qualifications after PPC Expiry
 - (a) where the PPC has expired for less than 6 months the following must be completed to regain type qualification:
 - (i) all the requirements specified by subsection (12) above; and
 - (ii) any recurrent training, including a PPC, which may have come due during the absence from flying duties.
 - (b) where the PPC has expired from between 6 and 24 months the following must be completed to regain type qualification:
 - (i) all the requirements of paragraph (13)(a) above; and
 - (ii) a technical ground training course consisting of an airplane system review and FTD training (where applicable).
 - (c) where the PPC has expired for a period greater than 24 months a complete initial airplane type training course shall be carried out.

(14) Right Seat Conversion Training. For a left seat-qualified pilot to operate an airplane from the right seat, the following shall apply:

- (a) be qualified and current on the airplane type for left seat duties;
- (b) receive sufficient technical ground training on right seat duties; and
- (c) annually, receive sufficient flight or FFS training to enable a Company Check Pilot, air operator airplane type Chief Pilot or airplane type Training Pilot to certify the competency of the pilot to carry out pilot duties from the right seat.
- (15) Upgrade Training and Checking
 - (a) upgrade training and checking for pilots who are qualified as a second-in-command on that airplane type shall include the following:
 - (i) successfully complete training as a pilot-in-command in all areas of airplane handling and operation as outlined in the air operator's approved initial course;
 - (ii) command and decision making;
 - (iii) successfully complete specialized operations qualification training (e.g. lower take-off limits etc.); and
 - (iv) successfully complete on that type of airplane the initial pilot proficiency check outlined in Schedule I or Schedule II, conducted by a DGCA inspector or an approved Company Check Pilot.
 - (b) Upgrade training and checking for pilots whose PPC as second-in-command on that airplane type has expired within the previous 24 months shall consist of completion of regaining qualifications requirements specified in Subsections s703.98(12)(a) and (b) as well as the requirements of Subsection s703.98(15)(a).
 - (c) Pilots who have not held a valid PPC on that airplane type as second-in-command for a period greater than 24 months shall be given a complete initial airplane type training course as well as the requirements of Subsection (a) above.

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(16) Flight Follower Training. An approved initial and annual recurrent training program is required for company personnel responsible for flight following of company airplanes. The training program shall consist of:

- (a) duties and responsibilities;
- (b) communication procedures;
- (c) applicable regulations and standards;
- (d) flight preparation procedures as applicable to assigned duties;
- (e) procedures in the event of an emergency or overdue aircraft;
- (f) accident and incident reporting procedures; and
- (g) requirements of approved Company Operations Manual as applicable to the duties and responsibilities.

(17) Airplane Surface Contamination Training. An approved surface contamination initial and recurrent training program is required for all operations personnel to ensure they are aware of the hazards and procedures for ice, frost and snow critical contamination on aircraft. The training program shall include:

- (a) responsibility of pilot-in-command and other operations personnel;
- (b) regulations related to operations in icing condition;
- (c) weather conducive to ice, frost and snow contamination;
- (d) inspection before flight and removal of contamination;
- (e) in-flight icing recognition; and
- (f) hazards related to critical surface contamination of ice, frost and snow.

(18) Minimum Equipment List Training (MEL). When an MEL has been approved for use on an airplane type the air operator shall provide the following training to crew members, maintenance personnel and to any persons exercising operational control as applicable:

- (a) training for maintenance personnel shall include instruction on those sections of the MCM which deal with the MEL, placarding of inoperative equipment, maintenance release of an airplane, dispatching, and any other MEL related procedures;
- (b) training for pilots and operational control personnel shall include instruction on purpose and use of an MEL, air operator MEL procedures, elementary maintenance procedures as applicable and responsibility of the pilot-in-command; and
- (c) recurrent training shall be conducted annually to ensure air operator personnel are aware of any changes to the MEL or MEL procedures.

(19) Transportation of Dangerous Goods. All training required by the Transportation of Dangerous Goods Regulations.

(20) Take-off Minima Reported Visibility RVR 1200 feet (1/4 mile). Training is required for the pilot-in-command only, except, if the air operator authorizes in the Company Operations Manual, the second-in-command to conduct take-offs in lower than standard weather minima, the second-in-command shall undergo the same training as the pilot-in-command.

(a) Ground Training

- (i) take-off alternate requirements;
- (ii) pilot-in-command minimum experience;
- (iii) pilot-in-command responsibility for visibility and obstacle clearance requirements;
- (iv) minimum airplane and runway equipment requirements; and
- (v) procedures to ensure compliance with performance limitations.
- (b) Synthetic Training Device Training RVR 1200-Aircraft without Certified Take-off Performance
- (c) during initial and annual recurrent training:
 - (i) a minimum of one take-off at RVR 1200 feet with failure of the critical engine shortly after lift-off; and

(ii) a minimum of one rejected take-off at RVR 1200 feet at a speed approaching rotation.

(21) Area Navigation Systems (RNAV)

(a) General Training

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- (i) to qualify for use of RNAV systems on IFR operations, an air operator shall have an approved flight crew training and qualifications program for use of the system. Flight crew shall have completed the appropriate training and have completed an in-flight check or an equivalent check in an approved synthetic training device. This qualification check shall be conducted by an approved check pilot.
- (ii) training shall be in the following areas:
 - A. pre-flight;
 - B. normal operation of the system;
 - C. procedures for manually updating system;
 - D. methods of monitoring and cross checking system;(E) operation in area of compass unreliability;
 - E. malfunction procedures;
 - F. terminal procedures;
 - G. waypoint symbology, plotting procedures, record keeping duties/practices; and
 - H. post flight.
- (iii) to qualify for approval to conduct GPS approaches in IFR, an air operator shall have a flight crew training program approved by the Minister. Flight crew shall have completed the appropriate ground and flight training and have completed an in-flight check, or an equivalent check in a synthetic training device approved by the Minister prior to conducting GPS approaches. This qualification check shall be conducted by an approved check pilot.
- (iv) where pilots are required to use more than one type of GPS for approach, an air operator shall ensure the training program addresses the differences between the units, unless the units have been determined by the Minister to be sufficiently similar.
- (v) an air operator shall ensure the ground training includes "hands on" training using a desk top simulator, a computer based simulation of the unit to be used, a static inaircraft unit, or other ground training devices acceptable to the Minister.
- (b) Ground Training Non-Integrated Receivers (Panel Mount GPS Receivers). An air operator shall ensure that the training program candidates are trained to proficiency in each of the elements associated with the following areas:
 - (i) knowledge with the respect to the following:
 - A. the GPS system, including:
 - > GPS system components and aircraft equipment;
 - the composition of satellite constellation;
 - > the minimum number of satellites required for 2-D and 3-D navigation;
 - the basic concept of satellite ranging;
 - factors affecting the accuracy of GPS signals;
 - the World Geodetic Survey 84 (WGS 84) datum and the effect of using any other datum;
 - B. human factors applicable to the use of GPS and how errors may be reduced or eliminated;
 - C. company standard operating procedures for using GPS units; and
 - D. procedures for reporting GPS problems and database errors.
 - (ii) ability to perform the following operational tasks:
 - A. select appropriate operational modes;
 - B. recall categories of information contained in the database;
 - C. predict RAIM availability;
 - D. enter and verify user defined waypoints;
 - E. recall and verify database waypoints;
 - F. interpret typical GPS navigational displays including latitude/longitude, distance and bearing to waypoint, course deviation indication (CDI), desired track (DTK),



track made good (TMG), actual track (TK), cross track error and any other information appropriate for the equipment used;

- G. intercept and maintain GPS defined tracks;
- H. determine navigation information appropriate for the conduct of the flight including ground speed (GS), estimated time of arrival (ETA) for next waypoint and destination;
- I. recognition of waypoint passage;
- J. use of 'direct to' function;
- K. link enroute portion of GPS flight plan to approach;
- L. conduct SIDs, STARs, terminal area procedures and holds;
- M. retrieve, verify and conduct GPS stand alone approaches; and
- N. conduct GPS missed approaches.
- (iii) ability to conduct the following operational and serviceability checks:
 - A. database currency and area of operation;
 - B. receiver serviceability;
 - C. RAIM status;
 - D. CDI sensitivity;
 - E. position indication; and
 - F. number of satellites acquired and, if available, satellite position information.
- (iv) ability to recognize and take appropriate action for all GPS warnings and messages including, where applicable:
 - A. "loss of RAIM"
 - B. "2D navigation"
 - C. "In Dead Reckoning Mode"
 - D. "database out of date"
 - E. "GPS fail"

A.

- F. "barometric input fail"
- G. "power/battery low" or "fail"
- H. "parallel offset on"; and
- I. "satellite fail".
- (c) Ground Training Integrated Receivers (Flight Management Systems). An air operator shall ensure that the training program candidates are trained to proficiency in each of the elements associated with the following areas:
 - (i) knowledge with the respect to the following:
 - the GPS system and theory of operation, including:
 - ➢ GPS system components and aircraft equipment;
 - ➤ the composition of satellite constellation;
 - > the minimum number of satellites required for 2-D and 3-D navigation;
 - the basic concept of satellite ranging;
 - ➢ factors affecting the accuracy of GPS signals; and
 - > the WGS84 datum and the effect of using any other datum; and
 - B. human factors applicable to the use of GPS and how errors may be reduced or eliminated (i.e. maintaining situational awareness); and
 - (ii) ability to perform the following operational tasks:
 - A. predict RAIM availability;
 - B. link enroute portion of GPS flight plan to approach;
 - C. conduct GPS stand alone approaches; and
 - D. conduct GPS missed approaches.
 - (iii) ability to conduct the following operational and serviceability checks:
 - A. RAIM status;
 - B. CDI sensitivity; and
 - C. number of satellites acquired and, if available, satellite position I information.



- (iv) ability to recognize and take appropriate action for all GPS warnings and messages including, where applicable:
 - A. "loss of RAIM";
 - B. "2D navigation";
 - C. "GPS fail";
 - D. "barometric input fail"; and
 - E. "satellite fail".
- (d) Flight Training
 - (i) pilots shall complete flight training in the use of GPS for approach and other associated duties for each crew position they are authorized to occupy. Flight training may be completed in an aircraft, or in a level A or higher simulator that is equipped with the same model of GPS receiver (or a model determined by the Minister to be sufficiently similar) that is installed in the company aircraft.
 - (ii) flight training shall be conducted by a designated training pilot who has completed the company ground training program approved by the Minister, and demonstrated proficiency in the use of the model of GPS (or a model determined by the Minister to be sufficiently similar), or to an approved check pilot.

(22) Transportability of Pilot Proficiency Check or Competency Check. Transportability of Pilot Proficiency Checks or Competency Checks from one air operator to another is permitted subject to the hiring air operator providing the following training which shall be specified in the approved operations/training manual:

- (a) company indoctrination;
- (b) pilot ground and emergency procedures training on each type of airplane the pilot is assigned, sufficient to cover the air operator procedures and equipment differences;
- (c) standard operating procedures review; and
- (d) the hiring air operator records the PPC/PCC validity and expiration date in company records.

(23) High Altitude Training. High Altitude training is required for all flight crew members operating airplanes above 13,000 feet ASL before the first assignment on a pressurized airplane and every three years thereafter:

- (a) physiological phenomena in a low pressure environment, including:
 - (i) respiration;
 - (ii) hypoxia;
 - (iii) duration of consciousness at altitude without supplemental oxygen; and
 - (iv) gas expansion and gas bubble formation.
- (b) other factors associated with rapid loss of pressurization including:
 - (i) most likely causes;
 - (ii) noise;
 - (iii) cabin temperature change;
 - (iv) cabin fogging;
 - (v) effects on objects located near the point of fuselage failure; and
 - (vi) actions of crew members immediately following the event and the likely resultant attitude.

(24) Single-engine Airplanes Carrying Passengers VFR at Night or Under IFR. The following training is required:

- (a) initial training in an approved synthetic training device, including all emergency procedures that cannot be safely practiced in the airplane;
- (b) training in the airplane in accordance with the following training requirements:



Training Requirements

INITIAL				RECURRENT	
Ground	Airplane	Simulator	Ground	Airplane	Simulator
20.0	2.0	6.0	7.5	1.0	N/R

- (c) required synthetic training device exercises
 - (i) use of checklists
 - (ii) airplane fire on ground or while airborne
 - (iii) engine fire on ground and in flight
 - (iv) engine failure in flight
 - (v) inadvertent encounter with airframe icing conditions and operation of de-icing and antiicing equipment
 - (vi) hydraulic, electrical, and other system malfunctions (as applicable)
 - (vii) loss of pressurization and emergency descent, (if applicable)
 - (viii) recognition and recovery from turbulence and windshear on approach and landing
 - (ix) rejected take-offs and landings
 - (x) missed approach and go-around
 - (xi) straight-in and circling approaches, with emphasis on non-precision procedures.
- (25) Survival Equipment Training. Training for all crew members shall include the following:
 - (a) survival concepts;
 - (b) contents of survival equipment kit; and
 - (c) how to use the survival equipment carried on board as appropriate for the operation.
- (26) Airplane Servicing and Ground Handling Training for Pilots
 - (a) fuelling procedures:
 - (i) types of fuel, oil and fluids used in the airplane;
 - (ii) correct fuelling procedures; and
 - (iii) procedures for checking fuel, oil and fluids and proper securing of caps.
 - (b) use of tow bars and maximum nose wheel deflection when towing;
 - (c) seasonal use of the parking brake;
 - (d) installation of protective covers on the airplane; and
 - (e) procedures for operating in cold weather such as:
 - (i) moving the airplane out of a warm hangar when precipitation is present;
 - (ii) procedures for applying de-icing and anti-icing fluids for the airplane type including critical flight controls post application inspections; and
 - (iii) engine and cabin pre-heating procedures, including proper use of related equipment
- (27) Training Program Minimum Flight Training Times (Airplanes)
 - (a) in Tables I and II,
 - (i) the term "flight training time" means "flight time";
 - (ii) the terms "Level A", "Level B" and "Level C" refer to the approved training program, not to the certification level of the simulator used.
 - (b) pilots will receive some PNF time in the simulator in addition to the PF times given in these tables:



Table I

Minimum Initial Training	Ground Training		Flight training Simulator & Acft (PF – Pilot Flying)				Aircraft Only	
	Basic	Pressurized	Turbine	Lvl A ¹	Lvl B	Lvl C	A/C ²	
Single-engine	5.5	.5	.5					3.0
S-E (Turbine) IFR/Cargo	16.0							3.0
S-E (Turbine) IFR/Pax	20.0			6.0			2.0	
Multi-engine 6* or less	7.5	4.0	4.0					3.0
Multi-engine 7* to 9*	12.0	4.0	4.0	7.5	7.5	10.0	1.5	4.0
Multi-engine 10* to 19* ++	16.0	4.0	4.0	8.0	8.0	10.0	2.0	5.0
Multi-engine Piston 20+*	18.0	4.0						6.0
Multi-engine Turbine 20+*	45.0			10.0	10.0	12.0	2.0	8.0

* Denotes the number of passenger seats for which the airplane was certificated.

++ Included since operators may choose to operate under Part VII, Subpart 3 configured for nine or fewer seats (eg. Twin Otter).

¹ Training on aircraft required.

² The aircraft training required for Level A training programs.

Table 2

Minimum Recurrent Flight Training (Annual)	Ground Training			Flight training Simulator & Acft (PF – Pilot Flying)				Aircraft Only
	Basic	Pressurized	Turbine	Lvl A ¹	Lvl B	Lvl C	A/C ²	
Single-engine	2.5	.5	.5					1.0
S-E (Turbine) IFR/Cargo	7.5							1.0
S-E (Turbine) IFR/Pax	7.5							1.0
Multi-engine 6* or less	3.5	2.0	4.0					1.5
Multi-engine 7* to 9*	5.0	2.0	4.0	4.0	4.0	4.0	1.0	1.5
Multi-engine 10* to 19* ++	7.0	2.0	4.0	4.0	4.0	4.0	1.0	2.0
Multi-engine Piston 20+*	7.5	2.0						3.0
Multi-engine Turbine 20+*	15+			4.0	4.0	4.0	1.0	3.0

* Denotes the number of passenger seats for which the airplane was certificated.

⁺⁺ Included since operators may choose to operate under Part VII, Subpart 3 configured for nine or fewer seats (eg. Twin Otter).
 ¹ An Operation Specification may be issued to give relief from the requirement to conduct training on the aircraft when a visual

simulator is used for recurrent training.

Amount of training required on the aircraft if the operator does not have the Operations Specifications to which Note¹ above refers.

(28) Airborne Icing Training. Approved initial and recurrent training programs for all flight crew shall include airborne icing training to ensure a full awareness of the hazards caused by airborne icing conditions and the operating procedures necessary to avoid and exit hazardous icing conditions. The training program shall include:

- (a) the basis for airplane certification for flight into known icing conditions;
- (b) airborne icing definitions and terminology;
- (c) aerodynamic effects of airborne icing;
- (d) airborne icing weather patterns, including both classical and non-classical mechanisms for freezing precipitation;
- (e) flight planning and in flight icing information;
- (f) information specific to aircraft fleet concerning operation de- and anti-ice equipment, and operational procedures; and



(g) company directives concerning operations in airborne icing contained in COMs, SOPs, and other company documents.

s703.99 to s703.103 Reserved



DIVISION IX - MANUALS

s703.104 Reserved

s703.105 Contents of Company Operations Manual

The Company Operations Manual shall contain at least the following, as applicable to the operation:

(1) For air operators utilizing multi-engined airplanes or single-engined airplanes operating under IFR or VFR at night

- (a) preamble relating to use and authority of manual;
- (b) a table of contents;
- (c) amending procedures, amendment record sheet, distribution list and list of effective pages;
- (d) a copy of the Air Operator's Certificate and operations specifications;
- (e) a chart of the management organization;
- (f) the duties, responsibilities and succession of command of management and operations personnel;
- (g) description of operational control system including:
 - (i) flight authorization and flight preparation procedures;
 - (ii) preparation of operational flight plan and other flight documents;
 - (iii) procedures to ensure the flight crew are advised, prior to dispatch, of any airplane defects that have been deferred, (by Minimum Equipment List or any other means);
 - (iv) flight watch, flight following and communication requirements;
 - (v) dissemination procedures for operational information and acknowledgement;
 - (vi) fuel and oil requirements;
 - (vii) weight and balance system;
 - (viii) accident/incident reporting procedures and procedures for reporting overdue aircraft;
 - (ix) use of checklists;
 - (x) maintenance discrepancy reporting and requirements of completion of flight, and
 (xi) retention period of operational flight plans;
- (h) sample of operational flight plan, weight and balance form and retention period;
- (i) FDR and CVR procedures, (if applicable);
- (j) operating weather minima and applicable requirements for IFR, VFR, VFR at night, VFR over-the-top including alternate aerodrome requirements;
- (k) instrument and equipment requirements;
- (l) instrument approach procedures (including company approaches), and alternate aerodrome requirements;
- (m) procedures for establishing company routes in uncontrolled airspace;
- (n) procedures pertaining to enroute operation of navigation and communication equipment (including collision avoidance procedures);
- (o) operations in hazardous conditions such as icing, thunderstorms, white out, windshear;
- (p) airplane performance limitations;
- (q) securing of cargo;
- (r) passenger briefing procedures;
- (s) use of aircraft flight manual, aircraft operating manual, standard operating procedures and minimum equipment lists (as applicable);
- (t) airplane ice, frost and snow critical surface contamination procedures;
- (u) procedures for carriage of dangerous goods;
- (v) fuelling procedures including:
 - (i) fuel contamination precautions;
 - (ii) bonding requirements;



- (iii) fuelling with engine running (not permitted with passengers on board, see Section 602.09 of the Lebanese Aviation Regulations); and
- (iv) fuelling with passengers on board;
- (w) list of emergency survival equipment carried on the airplane and how to use equipment;
- (x) emergency procedures for:
 - (i) emergency locator transmitter;
 - (ii) passenger preparation for emergency landing/ditching;
 - (iii) emergency evacuation;
 - (iv) ground emergency coordination procedures; and
 - (v) unlawful interference;
- (y) minimum flight crew members required and flight crew member qualifications;
- (z) flight duty time limitations and rest requirements;
- (aa) training programs including copy of company training and qualification record form(s);
- (bb) use of oxygen;
- (cc) carriage of external loads;
- (dd) operational support services and equipment;
- (ee) passenger and cabin safety procedures for emplaning and deplaning passengers when engines are running; and
- (ff) Float operators shall include procedures unique to their environment;
- (gg) inspection details and frequency of inspection of emergency equipment carried on board the airplanes;
- (hh) policy regarding GPWS and TCAS, (if applicable);
- (ii) policy on occupation of observer seat, (if applicable);
- (jj) requirement for preparing runway analysis charts;
- (kk) procedures for reduced VFR limits in uncontrolled airspace (if applicable);
- (ll) copies of all forms utilized including sufficient instruction on form completion; and (mm) other information related to safety.
- (2) For an air operator utilizing single-engined airplanes under day VFR
 - (a) preamble relating to use and authority of manual;
 - (b) a table of contents;
 - (c) amending procedures, amendment record sheet, distribution list and list of effective pages;
 - (d) a copy of the Air Operator's Certificate and operations specifications;
 - (e) a chart of the management organization;
 - (f) the duties, responsibilities and succession of command of management and operations personnel;
 - (g) description of operational control system including:
 - (i) flight authorization and flight preparation procedures;
 - (ii) operational flight plans and retention period;
 - (iii) flight watch and communication requirements;
 - (iv) flight following requirements;
 - (v) dissemination procedures for operational information and acknowledgement;
 - (vi) fuel and oil requirements;
 - (vii) weight and balance system;
 - (viii) preparation and retention of operational flight plan and other flight documents;
 - (ix) accident/incident reporting procedures and procedures for reporting overdue aircraft;
 - (x) use of checklists; and
 - (xi) maintenance discrepancy reporting and requirements of completion of flight;
 - (h) operating weather minima and applicable requirements for VFR and VFR over-the-top;
 - (i) operations in hazardous conditions such as icing, thunderstorms, white out, windshear;
 - (j) airplane performance limitations;
 - (k) securing of cargo;
 - (l) passenger briefing procedures;

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- (m) use of aircraft flight manual, aircraft operating manual, standard operating procedures and minimum equipment lists (as applicable);
- (n) airplane ice, frost and snow critical surface contamination procedures;
- (o) procedures for carriage of dangerous goods;
- (p) fuelling procedures including:
 - (i) fuel contamination precautions;
 - (ii) bonding requirements;
 - (iii) fuelling with engine running (not permitted with passengers on board, see Section 602.09 of the Lebanese Aviation Regulations); and
 - (iv) fuelling with passengers on board;
- (q) list of emergency survival equipment carried on the airplane, how to use equipment and periodic inspection requirements;
- (r) emergency procedures for:
 - (i) emergency locator transmitter;
 - (ii) passenger preparation for emergency landing/ditching;
 - (iii) emergency evacuation;
 - (iv) ground emergency coordination procedures; and
 - (v) unlawful interference;
- (s) minimum flight crew members required and flight crew member qualifications;
- (t) flight duty time limitations and rest requirements;
- (u) training programs including copy of company training and qualification record form(s);
- (v) carriage of external loads;
- (w) operational support services and equipment;
- (x) passenger and cabin safety procedures for emplaning and deplaning passengers when engines are running; and
- (y) float operators shall include procedures unique to their environment;
- (z) procedures for reduced VFR limits in uncontrolled airspace; (if applicable); and
- (aa) other information related to safety.
- (3) For an owner/pilot operating airplanes day VFR and not employing other pilots
 - (a) table of contents;
 - (b) amendment procedures;
 - (c) list of effective pages;
 - (d) copy of air operator certificate and operations specifications;
 - (e) weight and balance system;
 - (f) list of emergency survival equipment carried on board the airplane;
 - (g) training program including copy of company training and qualification record form;
 - (h) procedures for reporting overdue airplanes;
 - (i) procedures for reduced VFR limits in uncontrolled airspace (if applicable);
 - (j) accident incident reporting;
 - (k) procedures for carriage of dangerous goods;
 - (l) passenger and cabin safety procedures for emplaning and deplaning passengers when engines are running; and
 - (m) float operators shall include passenger and cabin safety procedures unique to that operation.

s703.106 Reserved

s703.107 Aircraft Standard Operating Procedures (SOPs)

The Aircraft Standard Operating Procedures shall contain the following information for each type of two pilot airplane operated. Where there are significant differences in equipment and procedures between airplanes of the same type operated the Standard Operating Procedures Manuals shall show the registration mark of the airplane it is applicable to.



Required information, if contained in another publication carried on board the airplane during flight, need not be repeated in the SOP.

The SOP may form part of the Company Operations Manual.

The SOP shall contain the following as applicable to the operation:

- (1) General
 - (a) table of contents;
 - (b) list of effective pages;
 - (c) amending procedure;
 - (d) preamble;
 - (e) communications;
 - (f) crew coordination;
 - (g) use of check lists;
 - (h) standard briefings; and
 - (i) standard calls.
- (2) Normal Procedures
 - (a) weight and balance control requirements;
 - (b) ramp/gate procedures;
 - (c) battery/APU engine starts;
 - (d) taxi;
 - (e) take-off and climb;
 - (f) cruise;
 - (g) descent;
 - (h) approaches IFR, visual, VFR, and circling;
 - (i) landing;
 - (j) missed approach and balked landing procedures;
 - (k) stall recovery;
 - (l) refueling with passengers on board;
 - (m) use of on board navigation and alerting aids; and
 - (n) check lists.
- (3) Abnormal and Emergency Procedures
 - (a) emergency landing/ditching with time to prepare and without time to prepare;
 - (b) pilot incapacitation two communication rule, (2 pilot crew);
 - (c) bomb threat and hijacking;
 - (d) engine fire/failure/shutdown;
 - (e) propeller over speed, (as applicable);
 - (f) fire, internal/external;
 - (g) smoke removal;
 - (h) rapid decompression, (as applicable);
 - (i) flapless approach and landing, (as applicable);
 - (j) rejected take-off;
 - (k) inadvertent encounter with moderate to severe in flight icing; and
 - (l) other abnormal and emergency procedures that are specific to the type of airplane.
- (4) Diagrams
 - (a) normal take-off;
 - (b) engine out take-off;
 - (c) precision approach, all engines operating;
 - (d) precision approach, engine out;
 - (e) non-precision approach, all engines operating;



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- (f) non-precision approach, engine out;
- (g) go-around, all engines operating;
- (h) go-around, engine out;
- (i) VFR circuits;
- (j) partial flaps/slats approach; and
- (k) flapless approach.

s703.108 to s703.109 Reserved



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REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>*Part VII*</u> Commercial Air Services

<u>Subpart 3</u> Air Taxi Operations

<u>Standards / Helicopter</u> s703.01 to s703.109

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier



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LEBANESE AVIATION REGULATIONS (LARs)

Part VII – Commercial Air Services

Subpart 3 – Air Taxi Operations

Standards / Helicopter s703.01 to s703.109

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COMMERCIAL AIR SERVICES STANDARDS

Subpart 3 – Air Taxi Operations/Helicopters s703.01 to s703.109

Foreword

This Commercial Air Service Standard outlines the requirements for complying with Subpart 3 of the Lebanese Aviation Regulations (LARs).

For ease of cross reference the divisions and numbers of the standard are assigned to correspond to the regulations, therefore Standard s703.05 would reflect a standard required by Section 703.05 of the LARs.

The standards under this Subpart apply to every Lebanese air operator engaged in commercial air services under Subpart 3 of the Lebanese Aviation Regulations (LARs).



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DIVISION I - GENERAL

s703.01 Application

(1) The standards under this Subpart apply to every Lebanese air operator engaged in commercial air services under Subpart 3 of the Lebanese Aviation Regulations.(2) The words and expressions used in these Standards have the same meaning as in the General

Provisions, Part I of the Lebanese Aviation Regulations, with the following additions:

Definitions

"deplane" - means disembark. A helicopter is deplaned when passengers leave the helicopter (or disembark) in the normal manner.

"evacuate" - means the egress from a helicopter in an emergency situation using all available exits and assist means.

"fuelling" - means the act of transferring fuel into or out of a helicopter's fuel tanks from or to an external supply.

"NDB/ARA" - means Non-directional Beacon/Airborne Radar Approach.

"operations co-ordination" - means the exercise of authority by an air operator over its operating activities, excluding operational control.

"take-off safety speed" - means a referenced airspeed obtained after lift-off at which the required oneengine inoperative climb performance can be achieved.

"wide-body helicopter" - means a helicopter having an interior cabin width of 2 meters (6 feet, 7 inches) or more.

s703.02 to s703.06 Reserved



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DIVISION II - CERTIFICATION

s703.07 Issuance or Amendment of Air Operator Certificate

- (1) The following constitutes an application for an Air Operator Certificate:
 - (a) DGCA Ops Form 100-12 Airport information required to determine the suitability of the base of operations and sub-bases. The applicant shall be able to demonstrate that operations are permitted at each base which will normally be done by providing written permission from the Local Airport Authority. Access to the aerodrome may also be demonstrated by other means such as facilities provided at a certified heliport through a lease or contractual agreement or by ownership of a certified heliport;
 - (b) DGCA Ops Form 100-13 Aircraft information with respect to each helicopter by registration;
 - (c) DGCA Ops Form 100-14 Personnel information on required personnel. These shall be supported by resumes and statements of qualification for each required position;
 - (d) DGCA Ops Form 100-15 Maintenance Facilities;
 - (e) Maintenance Control Procedures;
 - (f) Company Operations Manual;
 - (g) Minimum Equipment List(s) (if applicable);
 - (h) nomination for Company Check Pilot (if applicable); and
 - (i) DGCA Ops Form 100-18 Cabin Safety (as applicable).
 - (j) Initial Statement of Compliance that:
 - (i) identifies where in the operator's manual system the LARs are complied with.
 - (ii) contains compliance statements for each section and subsection as applicable.
 - (iii) contains compliance statements for Parts V, VI, and VII.
 - (iv) contains compliance statements for any regulation or standard that the Minister deems necessary.
- (2) Qualifications and Responsibilities of Operations Personnel:
 - (a) Operations Manager
 - (i) *Qualifications*
 - A. except where the air operator certificate authorizes single-engine, day-only operations, has acquired not less than 2 years' related experience with an air operator of a Commercial Air Service whose flight operations are similar in size and scope; and
 - B. demonstrates knowledge to the Minister with respect to the content of the operations manual, the Air Operator Certificate and operations specifications, the provisions of the regulations and the standards necessary to carry out the duties and responsibilities to ensure safety.
 - (ii) *Responsibilities*. The operations manager is responsible for safe flight operations. In particular, the responsibilities of the position include.
 - A. control of operations and operational standards of all helicopters operated;
 - B. the identification of operations coordination functions which impact on operational control (eg. maintenance, crew scheduling, load control, equipment scheduling);
 - C. supervision, organization, manning and efficiency of the following:
 - ➤ cabin safety;
 - crew scheduling and rostering;
 - training program; and
 - \succ flight safety;
 - D. the contents of the air operator's Company Operations Manual;
 - E. the supervision of and the production and amendment of the Company Operations Manual;



- F. liaison with the regulatory authority on all matters concerning flight operations including any variation to the Air Operator Certificate;
- G. liaison with any external agencies which may effect air operator operations;
- H. ensuring that the air operator's operations are conducted in accordance with current regulations, standards and air operator policy;
- I. ensuring that crew scheduling complies with flight and duty time regulations,
- J. ensuring that all crew members are kept informed of any changes to the regulations and standards;
- K. the receipt and actioning of any aeronautical information affecting the safety of flight;
- L. the dissemination of helicopter safety information, both internal and external;
- M. qualifications of flight crew; and
- N. maintenance of current operations library.

Information Note: In the operations manager's absence, all responsibilities for operational duties shall be delegated to another individual qualified in accordance with the Lebanese Aviation Regulations, except that the knowledge requirements may be demonstrated to the air operator rather than the Minister.

(b) Chief Pilot

- (i) *Qualifications*
 - A. if the air operator certificate authorizes:
 - day VFR only holds a Commercial Pilot License (Helicopter);
 - day and night VFR holds a Commercial Pilot License (helicopter) and a valid helicopter instrument rating; or
 - IFR holds an Airline Transport Pilot License (Helicopter) and a valid helicopter instrument rating; or a valid Commercial Pilot License (Helicopter) and a valid helicopter instrument rating;
 - B. have at least 1 year of experience within the preceding 3 years as a helicopter pilot-in-command;
 - C. be qualified in accordance with the air operator's training program to act as pilotin-command on one of the types to be operated; and
 - D. demonstrate knowledge to the Minister with respect to the content of the Company Operations and Training Manuals and, if applicable, the Company Check Pilot Manual, the provisions of the regulations and standards and flight operating procedures necessary to carry out the duties and responsibilities to ensure safety;

Information Note: A chief pilot qualified under Subpart 4 of the Lebanese Aviation Regulations may serve as the chief pilot for Subpart 3 of the Lebanese Aviation Regulations operations within the same company.

- (ii) *Responsibilities*. The chief pilot is responsible for the professional standards of the flight crews and, in particular:
- (iii) developing standard operating procedures;
- (iv) implementing all required approved training programs for the air operator flight crews;
- (v) issuing directives and notices to the flight crews as required;
- (vi) the actioning and distribution of accident, incident, and other occurrence reports;
- (vii) the processing and actioning of any crew reports;
- (viii) the supervision of flight crew;



- (ix) assuming any responsibilities delegated by the Operations Manager; and
- (x) in his or her absence, all responsibilities for duties shall be delegated to a person with equivalent qualifications except that the knowledge requirements may be demonstrated to the air operator rather than to the Minister.
- (c) <u>Person Responsible for Maintenance</u>. The person responsible for the maintenance control system shall be qualified in accordance with Section s706.03 of the Commercial Air Service Standards.
- (d) <u>Operational Support Services and Equipment</u>. The requirement for operational support services and equipment will be dependent on type of helicopters, the size and scope of the operations and shall include the following, as applicable:
 - (i) operational control system requirements;
 - (ii) flight operations publications including a copy of the Lebanese Civil Aviation Safety Act, applicable Lebanese Aviation Regulations, Company Operations Manual, Maintenance Control Manual, Maintenance Procedures Manual (if applicable), Lebanese Flight Supplement, Water Aerodrome Supplement (if applicable), Airplane Flight Manuals, Aircraft Operating Manuals (if applicable), Standard Operating Procedures (if applicable), Aeronautical Information Publication, Minimum Equipment Lists (if applicable) and appropriate maps and charts;
 - (iii) passenger and cargo handling requirements;
 - (iv) weather availability requirements;
 - (v) communications requirements;
 - (vi) procedures for handling dangerous goods;
 - (vii) ground de-icing/anti-icing program requirements; and
 - (viii) helicopter servicing facilities and ground handling equipment.

s703.08 Contents of Air Operator Certificate

The following are the standards for operations specifications which may be issued pursuant to this section:

- (1) Special Helicopter Procedures
 - (a) the standard for authorization to use the NDB/ARA Offshore Instrument Approach Procedure is:
 - (i) the helicopter is certificated as a Transport Category A helicopter and operated by a pilot-in-command and a second-in-command two pilot flight crew;
 - (ii) the helicopter shall be equipped with:
 - A. weather radar incorporating a beacon receiver mode and one ADF;
 - B. two independent VHF air ground communication systems;
 - C. two radio altimeter indicators with altitude alert function; and
 - D. rain protection for each windshield and a heat source for each airspeed system pitot tube;
 - (iii) the aerodrome shall be equipped with:
 - A. ground/air communications equipment capable of providing essential approach and landing information;
 - B. facilities to provide essential information related to altimeter setting, observed weather, wind speed and direction, aerodrome condition and, if applicable, pitch and roll of the deck; and
 - C. at least one non-directional beacon (NDB);
 - (iv) flight crew member qualifications;
 - A. before pilots may conduct approaches to a minimum descent altitude to 150 feet they shall have demonstrated, within the proceeding 12 months, to a DGCA



Inspector or a Company Check Pilot their proficiency conducting NDB/ARA approaches to 150 feet MDA. The check may be conducted in an approved synthetic flight training device provided the air operator is approved to use the FTD for pilot training. NDB/ARA certification shall be annotated on the Pilot Check Report; and

- B. pilots-in-command having less than 100 hours pilot-in-command experience on the helicopter type or not currently holding NDB/ARA certification are restricted to NDB/ARA 250 feet MDA;
- (v) approach beyond the Final Approach Fix when visibility is reported at less than 1/4 statute mile is prohibited.
- (b) Category I ILS 100 feet DH. The standards for authorization to use ILS approach minima to 100 feet DH and reported RVR of not less than 1,200 feet on a Category I Instrument Landing System (ILS) are:
 - (i) the helicopter is certificated as Transport Category A rotorcraft, and operated by a pilot-in-command and second-in-command, two-pilot flight crew;
 - (ii) the approach is a Category I ILS procedure as published in the Jepessen Charts or equivalent, including medium or high intensity approach lighting and a transmissometer at either the approach and/or mid point of the runway;
 - (iii) (iii) both the pilot-in-command (PIC) and the second-in-command (SIC) have at least 100 hours on type of rotorcraft flown;
 - (iv) (iv) the air operator has developed an acceptable program and has received authorization to conduct training and checks in an approved synthetic flight training device (FTD);
 - (v) the PIC and the SIC shall be checked within the previous 12 months in an approved FTD by an approved check pilot or a DGCA Inspector and shall be certified as competent to use these minima;
 - (vi) the helicopter shall be established in a stabilized approach and shall be flown at an indicated airspeed not exceeding 80 knots from the final approach fix (FAF) inbound;
 - (vii) the helicopter shall be equipped with the following serviceable and functioning systems:
 - A. a flight director or single automatic approach coupler augmenting the stabilization system;
 - B. two radio altimeter indicators having an altitude alert function which do not interfere with the normal operation and display of the radio altimeter system;
 - C. ice and rain protection for each windshield and a heat source for each airspeed system pitot tube installed;
 - D. two independent VHF air-ground communications systems; and
 - E. dual ILS localizer and glide slope receivers and associated avionics failure warning systems;
 - (viii) the air operator shall provide training to flight crew members in accordance with the Section s703.98;
 - (ix) for the purposes of crew certification, a successful approach is defined as one in which, at the DH:
 - A. the helicopter is in trim for continuation of a normal approach and landing;
 - B. the indicated airspeed, heading and threshold height are satisfactory for a normal transition to an in-ground effect hover or run-on landing without an abnormally large flare such as would cause a gain in altitude and/or a loss of required visual reference;
 - C. the aircraft is positioned and tracking to remain within the lateral confines of the runway extended;
 - D. deviation from the glide path does not exceed one dot, as displayed on the ILS indicator; and



- E. no unusual roughness or excessive attitude changes have occurred after leaving the final approach fix (FAF);
- (x) for the purposes of crew certification:
 - A. the proficiency check (initial and recurrent) will be conducted by an approved company check pilot or by a DGCA Inspector. The company check pilot must receive lower limits training and be monitored initially in the FTD by a DGCA Inspector, prior to conducting lower limits checks on company personnel;
 - B. the crew will consist of a pilot-in-command and a second-in-command and the company check pilot or the DGCA Inspector will not form part of the crew;
 - C. the proficiency check (initial and recurrent) for each flight crew member shall include at least one RVR 1200 feet/DH 100 feet approach to a missed approach during which a practical emergency (e.g. engine fire) is introduced to assess crew coordination, plus a subsequent RVR 1200 feet/DH 100 feet ILS approach to a landing; and
 - D. the lower limits certification shall be annotated on the Pilot Check Report and a copy shall be retained by the air operator in the respective pilot file.

s703.09 to s703.13 Reserved



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DIVISION III - FLIGHT OPERATIONS

s704.14 to s703.15 Reserved

s703.16 Operational Control System

Operations conducted under Subpart 3 of the Lebanese Aviation Regulations require a Type D operational control system. Another organization may be contracted to exercise operational control on behalf of an air operator.

Type D

- (1) General
 - (a) Application. For all operations under Air Taxi Operations.
 - (b) Responsibility and Authority. Operational control is delegated to the pilot-in-command of a flight by the Operations Manager who retains responsibility for the day-to-day conduct of flight operations.
 - (c) Centers. Current information on the location of the air operator's aircraft shall be maintained at the main base of operations, the sub-base or, where appropriate, from the location from which flight following is being carried out.
 - (d) Communications. Each helicopter shall be equipped with serviceable and functioning communications equipment that permits the pilot-in-command to communicate with a ground radio station for the purpose of flight following. Such a ground station may be operated by the government, the air operator or a private agency.
 - (e) On Duty. A person, qualified and knowledgeable in the air operator's flight alerting procedures, shall be on duty or available when IFR or VFR at night flight operations are being conducted.

(2) Flight Following. Flight Following for a Type D system is the monitoring of a flight's progress and the notification of appropriate air operator and search-and-rescue authorities if the flight is overdue or missing.

Flight Following procedures and the standards of training and qualification for the individual performing this function shall be described in the air operator's Company Operations Manual.

- (a) each flight shall be conducted under an IFR Flight Plan, VFR Flight Plan or Flight Itinerary, as appropriate.
- (b) the pilot-in-command is responsible for Flight Watch but shall be supported by an air operator Flight Following System that shall monitor the progress of each IFR flight or VFR at night flight from its commencement to its termination, including any intermediate stops. The person performing the flight following function, who may be the same as in Subsection (1)(e) above, shall be delegated to do so by the Operations Manager.
- (c) the pilot-in-command shall be responsible for passing messages concerning aircraft landings and departures from the point of origin, at enroute stops, and from the final destination in order to satisfy the requirements of Subsection (2)(b) above.

s703.17 Reserved

s703.18 Operational Flight Plan

For day VFR operations, the flight plan or flight itinerary may constitute the operational flight plan. A company flight itinerary for day VFR may be in the form of a notice board, wall map or similar flight information system at the base of operations. A written copy of the operational flight plan need



not be carried or retained by the air operator for day VFR flights which originate and terminate on the same day at the same aerodrome.

(1) Minimum content of an Operational Flight Plan for VFR Night and IFR

- (a) air operator name;
- (c) date;
- (d) aircraft registration, type and model;
- (e) type of flight IFR, VFR night;
- (f) pilot-in-command name;
- (g) departure aerodrome;
- (h) destination aerodrome;
- (i) alternate aerodrome, if applicable;
- (j) routing to destination by successive navigational way points with associated tracks for each or proposed area of operation;
- (k) routing to alternate aerodrome (IFR only, if applicable);
- (1) planned cruise altitudes;
- (m) planned cruise true air speed;
- (n) estimated time enroute and, if applicable, to alternate;
- (o) winds and temperature at cruise altitude (IFR only);
- (p) cruise ground speed;
- (q) fuel on board and fuel required;
- (r) number of persons on board;
- (s) weights
 - (i) zero fuel weight,
 - (ii) fuel cargo and passenger weight, and
 - (iii) take-off weight;
- (t) fuel burn enroute; and
- (u) signature of pilot-in-command certifying the operational flight plan.
- (2) Aircraft assigned to dedicated air ambulance operations may develop and use a modified operational flight plan provided an acceptable comparable system is shown.

(3) The operational flight plan shall permit the flight crew to record the fuel state and the progress of the flight relative to the plan.

(4) The air operator shall specify in its Company Operations Manual how the operational flight plan shall be recorded.

s703.19 to s703.21 Reserved

723.22 Transport of Passengers in Single-engine Aircraft

Operations Specifications for transporting passengers at night and under IFR are not applicable to single-engine helicopters.

s703.23 Aircraft Operating Over Water

The standard for authorization to operate a land aircraft over water pursuant to Section 703.21 of the Lebanese Aviation Regulations is:

- (a) the helicopter shall be equipped with an approved emergency flotation kit and operated in accordance with the Emergency Flotation Kit Flight Manual Supplement;
- (b) when enroute over water, the helicopter shall be operated at an altitude that will provide adequate time for full inflation of the flotation devices prior to water contact;
- (c) life preservers shall be carried and stowed so that they are within reach of each person carried when seated with his or her seat belt fastened;

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- (d) the air operator's Company Operations Manual shall include passenger briefing ditching procedures and a requirement for the pilot to file a flight plan or flight itinerary; and
- (e) flights conducted over water more than 15 minutes at normal cruising speed from shore or from a suitable aerodrome shall be capable of direct flight following radio communications.

s703.24 Number of Passengers in Single-Engine Aircraft

The standard for operating a single-engine helicopter where more than nine (9) passengers are carried is:

The pilot shall have successfully completed the required single-engine Pilot Proficiency Check on one of the single-engine helicopter types operated by the air operator which is to be operated carrying more than nine (9) passengers.

s703.25 to s703.27 Reserved

s703.28 VFR Flight Minimum Visibility - Uncontrolled Airspace

The standard for reduced VFR visibility limits of one half mile in uncontrolled airspace for helicopters is as follows:

- (a) pilot experience. Before conducting operations in reduced visibility, pilots shall have achieved at least 500 hours of pilot-in-command experience in helicopters;
- (b) airspeed for operation in reduced visibility. Helicopters shall be operated at a reduced air speed that will provide the pilot-in-command adequate opportunity to see and avoid obstacles;
- (c) pilot training. The pilot shall have received training as follows:
 - (i) a one time attendance at a recognized Pilot Decision Making course which shall include, but not be limited to the following topics;
 - A. Human Performance Factors, including modules on fatigue, hypoxia, nourishment, medication, balance and sight phenomena and limitations;
 - B. The Decision Making Process, including modules on psychological factors, levels of performance, and "error trap" phenomena (unsafe actions taken as a result of wrongful assumptions, unsafe conditions or practices);
 - C. Human Error Countermeasures, highlighted by relevant case studies of past accidents; and
 - D. Stress and its Symptoms, including modules on recognizing and dealing with perceived pressures, family related stress and job related stress;
 - (ii) initial and annual recurrent flight training in procedures specified in the Company Operations Manual for operations in reduced visibility; and
- (d) Company Operations Manual. The Company Operations Manual shall contain:
 - (i) low visibility operational procedures; and
 - (ii) pilot decision-making considerations for operation in visibility conditions of less than one mile, including but not limited to:
 - A. gross weight,
 - B. wind,
 - C. weather,
 - D. route / terrain,
 - E. time of day,
 - F. communications, and
 - G. the potential for white-out.

s703.29 Reserved



s703.30 Take-Off Minima

(1) Weather Below Landing Limits. The standard for authorization to conduct a take-off in IMC when weather conditions are above take-off, but below landing minima for the runway in use are:

- (a) the helicopter is multi-engine;
- (b) an alternate aerodrome is specified in the IFR flight plan; and
- (c) that aerodrome is located within the distance which can be flown in 60 minutes at the normal cruising speed.
- (2) Weather Below Published Take-off Minima. Take-off Minima Reported RVR 600 feet
 - (a) the Company Operations Manual shall contain detailed guidance on how to determine departure one engine inoperative climb gradient and obstacle clearance.
 - (b) the take-off runway is equipped with:
 - (i) serviceable and functioning high intensity runway lights, runway center line lights and center line markings that are plainly visible to the pilot throughout the take-off; and
 - (ii) at least one transmissometer, situated at either the approach end or mid point of the take-off runway with a reading of not less than RVR 600 feet.
 - (a) the pilot-in-command is satisfied that the required RVR 600 feet visibility exists for the takeoff runway and visual reference to the runway can be maintained at least until Vtoss (take-off safety speed) and Vmini (instrument flight minimum speed) have been attained.
 - (b) the pilot-in-command and second-in-command attitude (artificial horizon) instruments incorporate pitch attitude index lines in appropriate increments above and below the zero pitch reference to at least 15 degrees and incorporate operative failure warning systems which will immediately detect essential instrument malfunction or failure.
 - (c) the pilot-in-command, and the second-in-command if authorized by the air operator for RVR 600 feet take-off, shall have been checked conducting RVR 600 feet take-offs and rejected take-offs by an approved company check pilot or a DGCA Inspector within the preceding 12 months in a synthetic flight training device capable of visually depicting RVR 600 feet. The RVR 600 feet take-off certification shall be annotated on the Pilot Check Report form.

s703.31 to s703.32 Reserved

s703.33 VFR OTT Flight

The standard for VFR over-the-top flight for helicopters carrying passengers is:

(1) the flight shall be conducted in accordance with the requirements of Part VI, Subpart 2 (Visual Flight Rules) of the Lebanese Aviation Regulations;

(2) for IFR certified multi-engine helicopters where the pilot holds a valid helicopter instrument rating the flight shall be operated under conditions allowing:

(a) descent under VMC or continuation of the flight under IFR or VFR if an engine fails;

(3) for multi-engine helicopters not certified for IFR or where the pilot does not hold a valid helicopter instrument rating and for single-engine helicopters, the flight shall be operated under conditions allowing:

- (a) for multi-engine helicopters, descent under VMC, or continuation of the flight under VMC conditions if an engine fails; and
- (b) for single-engine helicopters, descent under VMC.

s703.34 Routes in Uncontrolled Airspace

The standard for establishing company routes in uncontrolled airspace is:

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(1) A minimum obstruction clearance altitude (MOCA) shall be established for each route segment by the use of aeronautical charts and the Lebanese Flight Supplement for updating of significant obstructions as follows:

- (a) for flight under IFR or in IMC, a minimum altitude of 2,000 feet above the highest obstacle located within a horizontal distance of 10 miles from the center line of the route; or
- (b) for flight at night in VFR conditions a minimum altitude of 1,000 feet above the highest obstacle located within 3 miles from the center line of the route.

(2) For each route segment a minimum enroute altitude (MEA) shall be established which meets or exceeds the minimum obstruction clearance altitude and assures navigational signal coverage. For line of sight navigation aid reception distance for ground installed aids, the minimum reception altitude may be calculated by calculating the square root of an altitude above the navigation aid and multiplying the result by 1.25 (Sq. root 3000 ft. is $54.7 \times 1.25 = 68$ miles). The MEA will be established to the nearest higher 100 foot increment.

(3) each route shall include:

- (a) the route segment;
- (b) track;
- (c) MOCA;
- (d) MEA;
- (e) distance between fixes or waypoints; and
- (f) navigation aids;

(4) The air operator shall maintain a record of their company routes in a form and format similar to the Catalogue of Approved Routes.

Provided the above procedures are followed, an air operator's pilot may use routes that are not yet contained in the record of company routes;

(5) Prior to initial use of other than publicly available navigation aids, permission of the owner/operator shall be obtained and retained in company records. No VFR at night or IFR flights shall commence unless the navigation aids upon which the route is predicated are in satisfactory operating condition.

When company routes are predicated on other than publicly available navigation aids and arrangements have not been made with the owner/operator to advise when the navigation aid is out of service, instructions to pilots shall be included on how, and whom to contact, to confirm the status of the navigation aid.

(6) The air operator's Company Operations Manual shall be amended to outline the above procedures and information for pilot guidance.

(7) the flight visibility shall not be less than 3 miles for flights in VFR at night.

s703.35 Reserved

s703.36 Minimum Altitudes and Distances

(1) For air operator authority to operate a helicopter over a built-up area at altitudes and distances less than those specified in Part VI, Section 602.14 of the Lebanese Aviation Regulations or to conduct a landing or take-off within the built-up area of a city or town, a plan shall be submitted to the DGCA at least five working days in advance of the operation, and include:

- (a) certification that the governing municipality has been informed of the proposed operation;
- (b) purpose of the flights;
- (c) dates, alternate dates and proposed time of day of the operation;
- (d) location of the operation;

- (e) type of aircraft to be used;
- (f) altitudes and routes to be used, depicted on a map of the area;
- (g) procedures and precautions to be taken to ensure no hazard is created to persons or property on the surface, including locations of forced landing areas in the event of an emergency; and
- (h) name of the contact person designated by the air operator.

(2) For operating certificate authority the air operator shall submit an application providing the above information as applicable, show a requirement for operating certificate authority and amend its Company Operations Manual to include the routes and conditions for its use.

s703.37 Weight and Balance System

An air operator shall publish in its operations manual a system to ensure that during any phase of flight operations the loading, weight and center of gravity of the aircraft complies with the limitations specified in the approved flight manual.

The weight and balance system shall:

(1) establish an operational empty weight and center of gravity for each aircraft and configuration;

(2) establish passenger and cargo weight determination procedures. Weight of passengers and cargo may be determined by using approved standard weights or approved survey weights for passengers and actual weight of cargo;

(3) establish weights for calculation of fuel weight which may be determined using actual specific gravity or a standard specific gravity;

(4) provide weight and center of gravity forms for calculation of maximum take-off and landing weights and calculation of longitudinal and lateral CG position;

(5) establish preparation and disposition requirements of weight and balance forms;

(6) establish loading procedures, including floor loading limits and cargo restraint requirements; and

(7) provide for initial and annual system training to air operator personnel responsible for the weight and balance system.

s703.38 Passenger and Cabin Safety Procedures

(1) Safe Movement of Passengers to and from the Helicopter. The procedures for the safe movement of passengers to and from the helicopter shall include:

- (a) wherever possible, helicopters are parked in a location that avoids passenger exposure to hazardous conditions;
- (b) passengers are alerted to hazardous conditions;
- (c) guidance and, where necessary, an escort is provided to ensure passengers are directed along a safe route to or from the helicopter;
- (d) smoking restrictions are enforced; and
- (e) "Walkman" or similar entertainment system headsets that decrease awareness of other traffic or limit reception of audible direction or warning signals are not worn.

(2) Fuelling with Passengers on Board. Helicopters may be fuelled with passengers on board, embarking or disembarking, under the following conditions:

- (a) the pilot supervises the fuelling and remains near the helicopter main exit to immediately communicate with and assist in the evacuation of passengers in an emergency;
- (b) all exits are clear of obstruction and available for passenger evacuation;
- (c) the helicopter engines are not running;
- (d) electrical power supplies are not being connected or disconnected, and any equipment likely to produce sparks or arcs is not being used;
- (e) smoking is not permitted in the helicopter or in the vicinity of the helicopter;

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- (f) fuelling is suspended when there are lightning discharges within 8 kilometers of the helicopter;
- (g) combustion heaters in the helicopter or in the vicinity of the helicopter are not operated;
- (h) known high energy equipment such as High Frequency (HF) radios and weather-mapping radar are not operated, unless in accordance with the approved flight manual where the manual contains procedures for the use of this equipment during fuelling; and
- (i) photographic equipment is not used within 10 feet (3 meters) of the fuelling equipment or the fill or vent points of the helicopter fuel systems.

s703.39 Briefing of Passengers

(1) Standard Safety Briefing. The standard safety briefing shall consist of an oral briefing provided by a flight crew member or by audio or audiovisual means which includes the following information, as applicable to the helicopter, equipment, and operation:

- (a) prior to take-off (or prior to embarking when rotors are turning):
 - (i) when, where, why and how carry-on baggage is required to be stowed;
 - (ii) the fastening, unfastening, tightening and general use of safety belts or safety harnesses;
 - (iii) the location of normal and emergency exits and how the exits operate;
 - (iv) the location, purpose of, and advisability of reading the safety features cards;
 - (v) the requirement to obey crew instructions;
 - (vi) the location of any emergency equipment the passenger may have a need for in an emergency situation such as the ELT, fire extinguisher, survival equipment (including the means to access if in a locked compartment), first aid kit and life raft;
 - (vii) the location and use of life preservers, including how to remove them from stowage/packaging and a demonstration of their location, method of donning and inflation, and when to inflate life preservers;
 - (viii) instructions for immersion suits;
 - (ix) location, operation and deployment of life rafts;
 - (x) where applicable to wide body helicopters, the method of egress in event of a roll-over accident by use of the under seat frame of the transverse cabin seats as a ladder for egress; and
 - (xi) any special instructions related to emergency evacuation if the helicopter is configured with external fixtures. (e.g. ski racks); and
- (b) after take-off, if not included in the pre-take-off briefing:
- (i) the advisability of using safety belts or safety harnesses during flight;
- (c) in-flight because of turbulence:
 - (i) when the use of seat belts is required; and
 - (ii) the requirement to stow carry-on baggage;
- (d) prior to disembarking of passengers, the safest direction and most hazard-free route for passenger movement away from the helicopter, and any dangers associated with the helicopter, such as pitot tube locations, tail rotor and main rotor. Where no additional passengers have boarded the flight for subsequent take-offs on the same day, the pre take-off and after take-off briefing may be omitted provided a crew member has verified that all carryon baggage is properly stowed, safety belts or harnesses are properly fastened, and seat backs and chair tables are properly secured.
- (2) Individual Safety Briefing. The individual safety briefing shall include:
 - (a) any information contained in the standard safety briefing and the safety features card that the passenger would not be able to receive during the normal conduct of that safety briefing; and
 - (b) additional information applicable to the needs of that person as follows:

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- (i) the most appropriate brace position for that passenger in consideration of his or her condition, injury, stature, and/or seat orientation and pitch;
- (ii) the location to place any service animal that accompanies the passenger;
- (iii) for a mobility restricted passenger who needs assistance in moving expeditiously to an exit during an emergency:
 - A. a determination of what assistance the person would require to get to an exit;
 - B. the route to the most appropriate exit;
 - C. the most appropriate time to begin moving to that exit; and
 - D. a determination of the most appropriate manner of assisting the passenger;
- (iv) for a visually impaired person:
 - A. detailed information of and facilitating a tactile familiarization with the equipment that he or she may be required to use;
 - B. advising the person where to stow his or her cane if applicable;
 - C. the number of rows of seats between his or her seat and his or her closest exit and alternate exit;
 - D. an explanation of the features of the exits; and
 - E. if requested, facilitating a tactile familiarization with the exit;
- (v) for a comprehension restricted person:
 - A. while using the safety features card, pointing out the exits to use, and any equipment that he or she may be required to use;
- (vi) for persons with a hearing impairment;
 - A. while using the safety features card, pointing out the emergency exits and other equipment that the person may be required to use; and
 - B. communicating detailed information by pointing, face-to-face communication permitting speech reading, pen and paper, through an interpreter or through their attendant;
- (vii) a passenger who is responsible for another person on board, information pertinent to the needs of the other person as applicable:
 - A. in the case of an infant:
 - seat belt instructions;
 - > method of holding the infant for take-off and landing;
 - > instructions pertaining to the use of a child restraint system; and
 - recommended brace position;
 - B. in the case of any other person:
 - > instructions pertaining to the use of a child restraint system; and
 - evacuation responsibilities; and
- (viii) for an unaccompanied minor, instructions to pay close attention to the normal safety briefing and to follow all instructions.
- Information Note: A passenger that has been provided with an individual safety briefing need not be re-briefed following a change in crew if the crew member that provided the individual safety briefing has advised a member of the new crew of the contents of that briefing, including any information respecting the special needs of that passenger.

A passenger may decline an individual safety briefing.

(3) Passenger Preparation for an Emergency Landing. The emergency briefing provided in the event of an emergency where time and circumstances permit shall consist of instructions pertaining to:

- (a) safety belts or safety harnesses;
- (b) seat backs and tables;
- (c) carry-on baggage;
- (d) safety features cards;
- (e) brace position (when to assume, how long to remain); and
- (f) life preservers if applicable.

(4) Safety Features Card or Placards. The safety feature card or placards shall contain the following information as applicable to the helicopter and equipment carried:

- (a) general safety information, including:
 - (i) smoking prohibition;
 - (ii) each type of safety belt or safety harness installed for passenger use, including when to use and how to fasten, tighten and release; and
 - (iii) where baggage must be stowed;

(b) emergency procedures and equipment, including:

- (i) location of first aid kits;
- (ii) location of fire extinguishers that would be accessible to the passengers;
- (iii) location of Emergency Locator Transmitters;
- (iv) location of survival equipment and, if the stowage compartment is locked, the means of access or location of the key;
- (v) passenger brace position for impact, as appropriate for each type of seat and restraint system installed for passenger use, including the brace position for an adult holding an infant;
- (vi) method of the egress in event of a roll over accident;
- (vii) the location, operation and method of using each exit on the helicopter;
- (viii) the safest direction and most hazard-free escape route for passenger movement away from the helicopter following evacuation;
- (ix) location and use of life rafts; and
- (x) location, and use of life preservers;
- (c) the safety card shall bear the name of the air operator and the helicopter type and shall contain only safety information;
- (d) the safety information provided by the card shall:
 - (i) be accurate for the helicopter type and configuration in which it is carried and in respect of the equipment carried;
 - (ii) be presented with clear separation between each instructional procedure. All actions required to complete a multi-action procedure are to be presented in correct sequence and the sequence of actions clearly identified; and
 - (iii) be depicted in a clear and distinct manner.

s703.40 to s703.51 Reserved





DIVISION IV - AIRCRAFT PERFORMANCE OPERATING LIMITATIONS

s703.52 to s703.63 Reserved

DIVISION V - AIRCRAFT EQUIPMENT REQUIREMENTS

s703.64 to s703.81 Reserved





DIVISION VI - EMERGENCY EQUIPMENT

s703.82 Equipment Standards and Inspection

- (1) Survival Equipment
 - (a) flights over land
 - (i) the Company Operations Manual shall show how compliance with Part VI, Section 602.61 of the Lebanese Aviation Regulations is to be achieved;
 - (ii) list equipment on board and information on how to use it;
 - (iii) a survival manual appropriate for the season and climate shall be carried on board, and
 - (iv) crew members shall be trained in accordance with Subsection s703.98(24);
 - (b) where life rafts are required to be carried in accordance with Section 602.63 of the Lebanese Aviation Regulations they shall be equipped with an attached survival kit containing at least the following:
 - (i) a pyrotechnic signalling device;
 - (ii) a radar reflector;
 - (iii) a life-raft repair kit;
 - (iv) a bailing bucket and sponge;
 - (v) a signalling mirror;
 - (vi) a whistle;
 - (vii) a raft knife;
 - (viii) an inflation pump;
 - (ix) dye marker;
 - (x) a waterproof flashlight;
 - (xi) a two day supply of water, calculated using the overload capacity of the raft, consisting of one pint of water per day for each person or a means of desalting or distilling salt water sufficient to provide an equivalent amount;
 - (xii) a fishing kit;
 - (xiii) a book on sea survival; and
 - (xiv) a first aid kit containing antiseptic swabs, burn dressing compresses, bandages and antimotion sickness pills.

(2) First Aid Kit Content. The contents of the first aid kit required by Section 602.60 of the Lebanese Aviation Regulations shall contain the supplies and equipment for a Type A kit, in addition, each first aid kit shall contain one pair of latex gloves.

s703.83 to s703.85 Reserved





DIVISION VII - PERSONNEL REQUIREMENTS

s703.86 Minimum Crew

The standard for the operation of a helicopter in IFR flight with passengers on board without a second-in-command is:

(1) the helicopter is multi-engine and certified in the flight manual for single-pilot IFR operation;
(2) the pilot shall have at least 1,000 hours helicopter flight time, which shall include 100 hours pilot-in-command on multi-engine helicopters. In addition, the pilot shall have 50 hours of simulated or actual flight in IMC, and a total of 50 hours flight time on the helicopter type;

(3) the pilot proficiency check shall be conducted in the helicopter type or in an approved synthetic flight training device for the type and include:

- (a) knowledge of the auto-pilot operations and limitations;
- (b) performance of normal and emergency procedures without assistance; and
- (c) demonstration of the use of the auto-pilot during appropriate phases of flight; and

(4) a pilot's single-pilot proficiency check, if still valid, is transferable between air operators which have an Air Operator Certificate authority to conduct such operations and utilizing the same type of helicopter.

s703.87 Reserved

s703.88 Flight Crew Member Qualification

- (1) Pilot Proficiency Check
 - (a) the Pilot Proficiency Check in a helicopter shall be conducted in accordance with the Pilot Proficiency Check Helicopter Schedule of this subsection.
 - (b) a pilot proficiency check shall be conducted in a manner that enables the pilot to demonstrate the knowledge and skill respecting:
 - (i) the helicopter, its systems and components;
 - (ii) proper control of airspeed, direction, altitude, attitude and configuration of the helicopter, in accordance with the procedures and limitations set out in the helicopter operating manual where applicable, the Helicopter Flight Manual, the air operator's Company Operations Manual, the air operator's Standard Operating Procedures, the check list, and any other information relating to the operation of the helicopter type; and
 - (iii) departure, enroute and arrival procedures and other applicable procedures.
 - (c) each maneuver or procedure within a phase of flight specified in the Pilot Proficiency Check shall be performed in the helicopter or approved synthetic flight training device.
 - (d) a pilot-in-command check shall be completed in the seat normally occupied by the pilot-incommand and a second-in-command check shall be completed in the seat normally occupied by the second-in-command.
 - (e) a DGCA inspector or an approved check pilot shall determine whether a person has demonstrated the knowledge and the skill in accordance with the following factors:
 - (i) the pilot's adherence to approved procedures; and
 - (ii) the pilot's qualities of airmanship in selecting a course of action.
 - (f) during the pilot proficiency check, the person conducting the check may request any maneuver or procedure, from the Schedule to this subsection, required to determine the proficiency of the candidate.
 - (g) where the pilot is required to hold an instrument rating, the PPC shall include the instrument procedures portion of the Schedule to this subsection. This shall constitute the issue or

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renewal of the instrument rating. Where more than one type which requires an instrument rating is flown, the PPC on only one of these types need include instrument procedures.

(h) a synthetic flight training device (FTD) checking and training credits shall be approved by the DGCA in the training program approval process for each helicopter type. Training and checking procedures not approved for the synthetic flight training device shall be completed in the helicopter.

(2) Competency Check. The standard for the Competency Check for pilots flying as second-incommand on multi-engine helicopters operating under IFR or VFR conditions is:

- (a) the chief pilot, or a pilot delegated by the chief pilot shall certify the competency of the pilot to perform the duties of second-in-command on each multi-engine helicopter type flown; and
- (b) the pilot shall be certified as competent in the performance of the Pilot Proficiency Check items applicable to multi-engine helicopters.

(3) Use of Other Than a Pilot Employed By an Air Operator for Training and Checking. The standard for authorization to permit a person not qualified in accordance with Subsections 703.88(1)(b), (c), and (d) to act as a flight crew member is:

- (a) the person is not an employee of the air operator and is assigned for the purpose of conducting flight training for the air operator's first flight crews on a new helicopter type;
- (b) the air operator provides a resume, proof of background on helicopter type and recent experience appropriate to the assignment on behalf of the pilot; and
- (c) the pilot is the holder of an appropriate license and rating. Where the pilot holds a foreign pilot license the license and, as applicable, the instrument rating shall be validated by the Minister.

The pilot may be authorized to conduct pilot checks provided the requirements of the Company Check Pilot Manual are met with the exception of employment time with the air operator.

A foreign licensed pilot may be granted authority only when a Lebanese licensed pilot is not available.

Pilot Proficiency Check - Helicopter

s703.89 Qualifications of Operational Control Personnel

A person assigned to an operational control position shall comply with the training standards of Section **s703.98**.

s703.90 Reserved

s703.91 Validity Period

(1) Where a flight crew member's training on type has expired for a period of 24 months or more, that crew member shall successfully complete the air operator's initial ground and flight training on type before re-assignment as pilot on the type.

(2) Where a flight crew member's Pilot Proficiency Check has expired for a period of 24 months or more, that flight crew member shall, following completion of the air operator's initial helicopter type ground and flight training, successfully complete the initial pilot proficiency check on the type of helicopter.

s703.92 to s703.97 Reserved



DIVISION VIII - TRAINING PROGRAMS

s703.98 Training Program

The syllabus of each training program shall include the programmed time allotted and the subject matter to be covered.

(1) General Training Standard

- (a) Manuals, if applicable, shall be provided during training to each trainee on the subject matter to be taught.
- (b) Relevant training aids such as fire extinguishers, life preservers, rafts, aircraft components, static aircraft, etc. shall be available for the program being presented.
- (c) Comprehensive examinations shall be used to validate competence of the trainee.

(2) Flight Crew Training on a Contract Basis. An air operator may contract crew member training to another organization provided:

- (a) the arrangement is clearly provided for in the approved training program;
- (b) the outside organization uses the manuals and publications used by the air operator (SOPs, Rotorcraft Flight Manual, Aircraft Operating Manual, if applicable, Company Operations Manual, etc.);
- (c) the air operator ensures that the training is conducted in accordance with the approved program;
- (d) where type training is conducted, the training is provided on the type and model operated by the air operator unless otherwise provided for in the approved training program; and
- (e) the air operator maintains training records as required by Part VII, Subpart 3 of the Lebanese Aviation Regulations.
- (3) Training and Qualifications of Training Personnel
 - (a) Instructor Ground Training
 - (i) has satisfied the air operator that he or she has the knowledge and skills required to conduct the training; and
 - (ii) if conducting helicopter type training, has successfully completed the ground school for the type of helicopter.
 - (b) Qualifications and Responsibilities of a Training Pilot (Flight)
 - (i) Qualifications
 - hold the license and ratings appropriate for the type of helicopter and type of operation; and
 - know the contents of the Rotorcraft Flight Manual, Aircraft Operating Manual (if applicable), Company Check Pilot Manual, Company Operations and Training Manuals and the operator's Standard Operating Procedures for the helicopter type, and the provisions of the regulations and standards.
 - (ii) Responsibilities. The Training Pilot is responsible for monitoring the operation and identifying problems which may require the provision of extra training or changes in operational procedures. The training pilot is responsible, together with the Chief Pilot, for the establishment and promulgation of the standards and piloting techniques with which flight crew will be expected to comply during flight operations and which the flight crew will be required to demonstrate during initial and recurrent checks. Particular responsibilities are:
 - conducting ground, synthetic flight training device and flight training of all flight crew in accordance with the approved training program;
 - supervision of the standards and recommending amendments to their respective airplane operating manuals and standard operating procedures;
 - maintaining the air operator's training records;



- ➢ liaison with crew scheduling concerning training details; and
- > any responsibilities assigned by the Chief Pilot.
- (c) Qualifications and Responsibility of a Training Pilot (Synthetic Training Device)
 - (i) Qualifications
 - A. hold or have the license and ratings appropriate for the type of helicopter and type of operation;
 - B. have completed the air operator's ground school and synthetic training device program for the type of helicopter;
 - C. have successfully completed within the past 12 months a Pilot Proficiency Check in the synthetic training device or helicopter for that type;
 - D. know the contents of the Aircraft Operating Manual (if applicable), Rotorcraft Flight Manual, Operations and Training Manuals and as applicable the Company Check Pilot Manual and the air operator's Standard Operating Procedures for the helicopter type, and the provisions of the regulations and standards; and
 - E. have received instruction on the operation of the synthetic training device from an instructor qualified to operate the synthetic training device.
 - (ii) Responsibilities. The Training Pilot is responsible for monitoring the operation and identifying problems which may require the provision of extra training or changes in operational procedures. The training pilot is responsible, together with the Chief Pilot, for the establishment and promulgation of the standards and piloting techniques with which flight crew will be expected to comply during flight operations and which the flight crew will be required to demonstrate during initial and recurrent checks. Particular responsibilities are:
 - A. conducting ground and synthetic flight training of all flight crew in accordance with the approved training program;
 - B. supervision of the standards and recommending amendments to their respective helicopter operating manuals and Standard Operating Procedures;
 - C. maintaining the air operator's training records;
 - D. liaison with crew scheduling concerning training details; and
 - E. any responsibilities assigned by the Chief Pilot.

(4) Training Program Standards. Ground training programs shall provide a means of evaluating the trainee after completion of the syllabus by completion of an examination with a review and correction of any errors. Training examinations should be comprehensive, and periodically reviewed and updated.

Type training programs are to be titled as to the type to which they apply and include the number of instructional hours to be provided. They should be performance oriented and stress the operation (normal, emergency and malfunctions) of the helicopter systems and equipment. Instruction related to components and systems that flight crews cannot control, influence or operate should be minimized.

(5) Company Indoctrination Training. This training is required upon employment for all persons assigned to an operational control function, including base managers, pilots and persons responsible for flight following. The program shall ensure that persons involved in control of flight operations are aware of their responsibilities, know company reporting relationships and are competent to fulfill their assigned duties related to flight operations. Company indoctrination training shall include, as applicable:

- (a) the Lebanese Aviation Regulations and applicable Standards;
- (b) Air Operator Certificate and Operations Specifications;
- (c) company organization, reporting relationships and communication procedures, including duties and responsibilities of flight crew members and the relationship of those duties to other crew members;
- (d) flight planning and operating procedures;

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- (e) fuelling procedures including procedures for fuelling with passengers on board and fuel contamination precautions;
- (f) critical-surface contamination and safety awareness program;
- (g) passenger safety briefings and safe movement of passengers to/from the helicopter;
- (h) use and status of the Company Operations Manual including maintenance release procedures and accident/incident reporting procedures;
- (i) use of minimum equipment lists (if applicable);
- (j) aircraft icing and other meteorological training appropriate to the area of operations;
- (k) navigation procedures and other specialized operations applicable to the operator;
- (1) accident/incident reporting;
- (m) passenger on board medical emergency;
- (n) handling of disabled passengers;
- (o) carriage of external loads;
- (p) operational control system;
- (q) weight and balance system procedures;
- (r) standard operating procedures (if applicable); and
- (s) pre-flight crew member briefing.

(6) Technical Ground Training - Initial and Recurrent. This training shall ensure that each flight crew member is knowledgeable with respect to helicopter systems and all normal, abnormal and emergency procedures. The following subjects shall be included:

- (a) helicopter systems operation and limitations as contained in the Helicopter Flight Manual and Aircraft Operating Manual, and Standard Operating Procedures;
- (b) operation of all equipment that is installed in all helicopters of the same type operated by the air operator;
- (c) differences in equipment that is installed in all helicopters of the same type in the air operator's fleet;
- (d) applicable Standard Operating Procedures for pilot flying and pilot not flying duties for normal, abnormal and emergency procedures for the helicopter;
- (e) helicopter performance and limitations; and
- (f) weight and balance procedures.

Technical ground training shall be conducted annually.

(7) Synthetic Flight Training Device

- (a) a Synthetic Flight Training Device has two classifications:
 - (i) full flight simulator (FFS); and
 - (ii) flight Training Device (FTD).

(8) Level A Training Program (if applicable). An air operator with an approved Level A training program using a Level A or better FFS, approved in accordance with the Airplane and Rotorcraft Simulator Manual, is permitted to conduct most initial, upgrade and recurrent training in that simulator. Additionally, flight training in a helicopter must be carried out for general handling and landing maneuvers for initial and upgrade training.

- (a) the following training in Standard Operating Procedures for normal, abnormal and emergency operation of the helicopter systems and components shall be carried out in the FFS:
 - (i) use of checklists;
 - (ii) flight crew co-operation, command and co-ordination;
 - (iii) helicopter and cargo fire on the ground and while airborne;
 - (iv) engine fire and failure;
 - (v) effects of engine icing and anti-ice operation;
 - (vi) take-off, landing and flight with the critical engine inoperative and engine inoperative performance capabilities;
 - (vii) flight control failures and abnormalities;



- (viii) hydraulic, electrical and other system failures;
- (ix) failure of navigation and communication equipment;
- (x) pilot incapacitation recognition and response during various phases of flight;
- (xi) steep turns (45 degrees of bank), and other flight characteristics such as unusual attitudes (as applicable for initial and upgrade only);
- (xii) helicopter performance for climb, cruise, holding, descent and landing;
- (xiii) normal and performance limited take-offs;
- (xiv) take-off and landing data calculations;
- (xv) rejected take-off procedures;
- (xvi) passenger and crew evacuation; and
- (xvii) specialized equipment (where available).
- (b) where the air operator seeks authorization for flight in IMC, the following training in flight planning and instrument flight procedures shall be included:
 - (i) departure, enroute, holding and arrival; and
 - (ii) all types of instrument approaches and missed approaches in minimum visibility conditions using all levels of automation available (as applicable).
- (c) in addition to the training in an approved Level A FFS Training Program, the following flight training on the helicopter type shall be carried out:
 - (i) interior and exterior preflight checks;
 - (ii) ground handling;
 - (iii) hover, normal take-off, visual circuit (where possible) and landing;
 - (iv) a simulated engine inoperative approach and landing; and
 - (v) simulated engine failure procedures during take-off and missed approach (at a safe altitude and airspeed).
- (d) if a Level A flight simulator has differences in performance, systems, or cockpit layout and configuration from the air operator's helicopter, additional training on these differences shall be provided.

(9) Level B Training Program (if applicable). An air operator with an approved Level B training program using an Level B or better FFS, approved in accordance with the Airplane and Rotorcraft Simulator Manual, is permitted to conduct most initial, upgrade and recurrent training in that simulator. Additionally, flight training in a helicopter must be carried out for general handling and landing maneuvers for initial and upgrade training.

- (a) the following training in Standard Operating Procedures for normal, abnormal and emergency operation of the helicopter systems and components shall be carried out in the FFS:
 - (i) use of checklists;
 - (ii) flight crew co-operation, command and co-ordination;
 - (iii) helicopter and cargo fire on the ground and while airborne;
 - (iv) engine fire and failure;
 - (v) effects of engine icing and anti-ice operation;
 - (vi) take-off, landing and flight with the critical engine inoperative and engine inoperative performance capabilities;
 - (vii) flight control failures and abnormalities;
 - (viii) hydraulic, electrical and other system failures;
 - (ix) failure of navigation and communication equipment;
 - (x) pilot incapacitation recognition and response during various phases of flight;
 - (xi) steep turns (45 degrees of bank), and other flight characteristics such as unusual attitudes (as applicable for initial and upgrade only);
 - (xii) helicopter performance for climb, cruise, descent and landing;
 - (xiii) normal and performance limited take-offs;
 - (xiv) take-off and landing data calculations;
 - (xv) rejected take-off procedures;
 - (xvi) passenger and crew evacuation; and

(xvii) specialized equipment (as applicable).

- (b) where the air operator seeks authorization for flight in IMC, the following training in flight planning and instrument flight procedures shall be included:
 - (i) departure, enroute, holding and arrival; and
 - (ii) all types of instrument approaches and missed approaches in minimum visibility conditions using all levels of automation available (as applicable).
- (c) in addition to the training in an approved Level B Simulator Training Program, the following flight training on the helicopter type shall be carried out:
 - (i) interior and exterior aircraft preflight checks;
 - (ii) ground handling for the P-I-C;
 - (iii) hover, normal take-off, visual circuit (where possible) and landing;
 - (iv) a simulated engine inoperative approach and landing; and
 - (v) simulated engine failure procedures during take-off and missed approach, (at a safe altitude and airspeed).
- (d) if a Level B flight simulator has differences in performance, systems, or cockpit layout and configuration from the air operator's helicopter, additional training on these differences shall be provided.

(10) Helicopter Only Flight Training Program. Any simulated failures of helicopter systems shall only take place under operating conditions which do not jeopardize safety of flight.

- (a) Standard Operating Procedures for normal, abnormal and emergency operation of the helicopter systems and components, including:
 - (i) use of checklists, including interior and exterior pre-flight checks;
 - (ii) maneuvering of the helicopter on the ground (if applicable);
 - (iii) aspects of crew co-operation;
 - (iv) hover, normal take-off, visual circuit, approach and landing;
 - (v) simulated helicopter and cargo fire on the ground and while airborne;
 - (vi) simulated engine fire and failure;
 - (vii) briefings on the effects of airframe and engine icing and anti-ice operation;
 - (viii) take-off, landing and flight with the critical engine simulated inoperative, and engine inoperative performance capabilities;
 - (ix) simulated hydraulic, electrical and other system failures;
 - (x) simulated flight control failures and degraded states of operation, while in flight and during take-off and landing (as applicable);
 - (xi) simulated failure of navigation and communication equipment;
 - (xii) simulated pilot incapacitation recognition and response;
 - (xiii) steep turns (45 degrees of bank) and other flight characteristics (as applicable for initial and upgrade only);
 - (xiv) helicopter performance;
 - (xv) rejected take-off procedures;
 - (xvi) briefing on crew and passenger evacuation procedures; and
 - (xvii) specialized equipment (where applicable).
- (b) flight planning and instrument flight procedures, where the air operator is authorized for VFR flight at night or flight in IMC:
 - (i) departure, enroute, holding and arrival; and
 - (ii) all types of instrument approaches and missed approaches in simulated minimum visibility conditions using all levels of automation available, (as applicable).

(11) Emergency Procedures Training for Pilots. This training is required on an annual basis and shall include instruction in the location and operation of all emergency equipment. Training devices approved to simulate flight operating emergency conditions, static helicopters, ground demonstrations, classroom lectures, films or other devices may be used for training provided the method used ensures that each flight crew member is adequately trained in the operation or use of all

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emergency equipment. Where practical training is required, it shall be completed on initial training and every three years thereafter.

- (a) fire in the air and on the ground;
- (b) use of fire extinguishers, including practical training;
- (c) operation and use of emergency exits, including practical training;
- (d) passenger preparation for an emergency landing or ditching, (as applicable) including practical training;
- (e) emergency evacuation procedures, including practical training;
- (f) donning and inflation of life preservers (when equipped), including practical training;
- (g) removal from stowage, deployment, inflation and boarding of life rafts/slide rafts (when equipped), including practical training;
- (h) pilot incapacitation, including practical training;
- (i) hijacking, bomb threats and other security procedures;
- (j) passenger on board medical emergency; and
- (k) special emergency procedures where the helicopter is used on MEDEVAC operations, including patient evacuation in emergency situations.

(12) Regaining Qualifications Training. For operators using a Level B, C, or D FFS, approved in accordance with the Airplane and Rotorcraft Simulator Manual, or the helicopter, the following must be completed for all pilots who have not maintained their recency qualifications in accordance with Subsection 703.88(1)(b) of the Lebanese Aviation Regulations for a period between 90 and 180 days.

- (a) a briefing on changes that have occurred to the helicopter or its operation since the last flight; and
- (b) three take-offs and landings (which may be carried out as part of a PPC where one has come due).

(13) Flight Follower Training. Persons assigned the duties of the flight follower shall receive training in at least the following:

- (a) company indoctrination;
- (b) duties and responsibilities;
- (c) communication procedures;
- (d) applicable regulations and standards;
- (e) flight preparation procedures as applicable to assigned duties;
- (f) procedures in the event of an emergency or overdue aircraft;
- (g) accident and incident reporting procedures; and
- (h) requirements of the approved Company Operations Manual as applicable to the duties and responsibilities.

(14) Helicopter Surface Contamination Training. An approved surface contamination initial and recurrent training program is required for all operations personnel to ensure they are aware of hazards and procedures for ice, frost and snow critical contamination on helicopters. The training program shall include:

- (a) responsibility of the pilot-in-command and other operations personnel;
- (b) regulations related to operations in icing conditions;
- (c) weather conducive to ice, frost and snow contamination;
- (d) inspection before flight and removal of contamination;
- (e) in-flight icing recognition; and
- (f) hazards related to critical-surface contamination by ice, frost and snow.

(15) Minimum Equipment List (MEL) Training. When an MEL has been approved for use on a helicopter type, the air operator shall provide the following training to crew members and maintenance personnel, and to dispatchers as applicable:

(a) maintenance personnel training shall include instruction on those sections of the MCM which deal with the MEL, placarding of inoperative equipment, maintenance release of a helicopter, dispatching, and any other MEL related procedures;

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- (b) pilot and operations control personnel training shall include instruction on the purpose and use of an MEL, air operator MEL procedures, elementary maintenance procedures as applicable and the responsibility of the pilot-in-command; and
- (c) recurrent training shall be conducted when required to ensure air operator personnel are aware of any changes to the MEL or MEL procedures.

(16) Transportation of Dangerous Goods. All training required by the Transportation of Dangerous Goods Regulations.

(17) Lower than Standard Take-off Weather Minima (RVR 600 feet). Authority to conduct 600 RVR take-offs shall be subject to approval of a training program using an approved synthetic training device for the type of helicopter to be used and capable of depicting RVR 600' take-off conditions. Training is required for the pilot-in-command only unless the air operator authorizes the second-in-command to conduct 600 feet RVR take-offs in which case the second-in-command shall complete the same training. The training program shall include:

- (a) take-off alternate requirements;
- (b) one engine inoperative performance requirements;
- (c) responsibility for obstacle clearance and visibility requirements;
- (d) take-off runway requirements;
- (e) helicopter equipment requirements;
- (f) pilot qualification requirements; and
- (g) training in the synthetic training device shall include normal take-offs under RVR 600 feet conditions and rejected take-offs under RVR 600 feet conditions, including engine failures and system malfunctions.

(18) Lower than Standard Decision Height. Category 1 Instrument Landing system Approach Minima.

Reported Visibility RVR 1200 feet - Decision Height 100 feet. Authority to conduct approaches to 100 feet DH with 1200 RVR is subject to approval of a training program using an approved synthetic training device for the helicopter type to be used. The training device shall be capable of depicting IMC to 100 feet DH.

The training program shall include:

- (a) capabilities and limitations of the ILS and visual aids;
- (b) operational characteristics and limitations of the airborne system to be used such as the flight director, automatic approach coupler and systems and devices peculiar to the applicant's installation, such as missed approach guidance and failure warning systems;
- (c) individual crew duties, including approach briefing, two-pilot challenge and response communication rule, pilot incapacitation procedures and pilot-monitored approach procedure with emphasis on the need to continually monitor flight instruments until the attitude and descent path have been visually assessed; and
- (d) training in the synthetic training device shall include the effects of wind shear and turbulence, recognition and reaction to malfunctions encountered prior to and after reaching the missed approach point, ILS approaches to landings from 100/1200 feet RVR conditions and missed approaches during which practical malfunctions and emergencies are introduced.

(19) Area Navigation Systems (RNAV). To qualify for the use of RNAV systems on IFR operations, an air operator shall have an approved flight crew training and qualifications program for use of the system. Flight crew shall have completed the appropriate training and have completed an in-flight check or an equivalent check in an approved synthetic training device. This qualification check shall be conducted by a DGCA inspector or an authorized air operator check pilot.

Training shall be in the following areas:

- (a) pre-flight;
- (b) normal operation of the system;



- (c) procedures for manually updating the system
- (d) methods of monitoring and cross checking the system;
- (e) action in the event of discrepancy between systems and method of determining which is the most accurate or reliable system;
- (f) the procedure for regaining track after deliberate or accidental deviation from the cleared track;
- (g) Standard Instrument Departure (SID), Standard Terminal Arrival Route (STAR), and terminal procedures, (if applicable);
- (h) operation in areas of compass unreliability;
- (i) malfunction procedures, including re-synchronization (if applicable);
- (j) terminal procedures;
- (k) waypoint symbology, plotting procedures and record keeping duties/practices; and
- (l) post-flight.

(20) Transportability of Pilot Proficiency Check. Transportability of Pilot Proficiency Checks from one air operator to another is permitted subject to the hiring air operator providing the following training, which shall be specified in the approved operations/training manual:

- (a) company indoctrination;
- (b) pilot ground and emergency procedures training on each type of helicopter the pilot is assigned, sufficient to cover the air operator procedures and equipment differences;
- (c) standard operating procedures review; and
- (d) the hiring air operator records the PPC validity and expiration date in company records.
- (21) Survival Equipment Training. Training for all crew members shall include the following:
 - (a) survival concepts;
 - (b) contents of the survival equipment kit; and
 - (c) how to use the survival equipment carried on board as appropriate for the operation.
- (22) Aircraft Servicing and Ground Handling Training for Pilots.
 - (a) fuelling procedures:
 - (i) types of fuel, oil and fluids used in the helicopter;
 - (ii) correct fuelling procedures; and
 - (iii) procedures for checking fuel, oil and fluids and the proper securing of caps.
 - (b) use of tow bars;
 - (c) installation of protective covers on the helicopter; and
 - (d) procedures for operating in cold weather, such as:
 - (i) moving the helicopter out of a warm hangar when precipitation is present;
 - (ii) procedures for applying de-icing and anti-icing fluids for the helicopter type including critical flight controls post application inspections; and
 - (iii) engine and cabin pre-heating procedures, including proper use of related equipment.

(23) Persons Assigned on Board Duties. Where an air operator has assigned on-board duties to a non-flight crew member, that person shall be given adequate initial and annual training to perform the procedures relevant to the duties with which the person is to be involved including, as applicable:

- (a) the authority of the pilot-in-command;
- (b) means of communication;
- (c) a general description of the helicopter in which the person is to serve and the proper use of cabin installed systems controls;
- (d) procedures for the handling of normal, abnormal, and emergency situations including:
 - (i) safe movement in the vicinity of the helicopter and safe movement to and from the helicopter;
 - (ii) briefing of passengers;
 - (iii) handling of passengers;
 - (iv) securing of the cabin;
 - (v) location, operation and use of emergency, life-saving and survival equipment carried, including practical training;



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- (vi) fire fighting, including practical training;
- (vii) location, operation and use of emergency exits, including practical training;
- (viii) passenger preparation for an emergency landing or ditching, including practical training; and
- (ix) evacuation, including practical training; and
- (e) knowledge of the relationship of the procedures with respect to those of the other crew members.

s703.99 to s703.103 Reserved





DIVISION IX - MANUALS

s703.104 Reserved

s703.105 Contents of a Company Operations Manual

(1) For air operators conducting IFR and VFR at night operations, the manual shall contain as applicable to the operations:

- (a) a preamble related to the use and authority of the manual;
- (b) a table of contents;
- (c) the amendment procedure;
- (d) a list of effective pages;
- (e) a copy of the Air Operator Certificate and operations specifications;
- (f) a chart of the company management organization;
- (g) duties, responsibilities and succession of command of management and operations personnel;
- (h) a description of the operational control system including:
 - (i) flight authorization and flight preparation procedures;
 - (ii) flight watch and communications requirements;
 - (iii) flight following requirements;
 - (iv) dissemination procedures for operational information and acknowledgement;
 - (v) fuel requirements;
 - (vi) weight and balance system;
 - (vii) preparation and retention of flight documents;
 - (viii) accident/incident reporting procedures and procedures for reporting overdue helicopters;
 - (ix) use of check lists; and
 - (x) maintenance discrepancy reporting and requirements on completion of flights;
- (i) a sample of the operational flight plan, weight and balance form and retention period;
- (j) CVR procedures;
- (k) operating weather minima and applicable requirements for IFR, VFR, VFR at night and VFR over-the-top, including alternate aerodrome requirements;
- (l) instrument and equipment requirements;
- (m) instrument approach procedures;
- (n) procedures for establishing company routes in uncontrolled airspace;
- (o) procedures for the use of area navigation (RNAV);
- (p) operations in hazardous conditions such as icing, thunderstorms and white-out;
- (q) operations in high density altitude conditions, related to take-off and landing weight limitations;
- (r) the securing of cargo;
- (s) passenger briefing procedures;
- (t) the use of the Rotorcraft Flight Manual, and Standard Operating Procedures, as applicable;
- (u) helicopter ice, frost and snow critical-surface contamination procedures;
- (v) procedures for the carriage of dangerous goods;
- (w) fuelling procedures, including:
 - (i) fuel contamination precautions;
 - (ii) bonding requirements;
 - (iii) fuelling with engine running; and
 - (iv) fuelling with passengers on board;
- (x) a list of the emergency survival equipment carried on helicopters, how to use the equipment and periodic equipment inspection requirements;
- (y) emergency procedures for:



- (i) the emergency locator transmitter;
- (ii) passenger preparation for emergency landing/ditching; and
- (iii) emergency evacuation;
- (z) crew member qualifications;
- (aa) flight/duty time limitations and rest requirements; and
- (bb) training programs, including a copy of the company training and qualification record form(s).
- (2) For air operators conducting day VFR operations only, the manual shall contain items (a) through
- (h) from Subsection (1) and;
 - (a) operating weather minima and requirements for VFR and VFR over-the-top;
 - (b) operations in hazardous conditions such as icing, thunderstorms and white-out;
 - (c) operations in high density altitude conditions as applicable;
 - (d) the securing of cargo;
 - (e) the use of the Rotorcraft Flight Manual, Aircraft Operating Manual and Standard Operating Procedures as applicable;
 - (f) helicopter ice, frost and snow critical-surface contamination procedures;
 - (g) procedures for the carriage of dangerous goods;
 - (h) fuelling procedures, including;
 - (i) fuel contamination precautions;
 - (ii) bonding requirements;
 - (iii) fuelling with passengers on board; and
 - (iv) fuelling with engine running;
 - (i) a list of the emergency survival equipment carried on helicopters, how to use the equipment, and periodic equipment inspection requirements;
 - (j) emergency procedures for:
 - (i) the E.L.T.
 - (ii) passenger preparation for emergency landing/ditching; and
 - (iii) emergency evacuation;
 - (k) crew member qualifications;
 - (l) flight and duty time limitations and rest requirements; and
 - (m) training programs, including a copy of the company training and qualification record form(s).
- (3) For an owner/pilot operating one aircraft and not employing other pilots, the manual shall contain:
 - (a) a table of contents;
 - (b) the amendment procedure;
 - (c) a list of effective pages;
 - (d) a copy of the air operator certificate and operations specifications;
 - (e) the weight and balance system;
 - (f) a list of the emergency survival equipment carried on helicopters;
 - (g) the training program, including a copy of the company training and qualification record form;
 - (h) the procedure for reporting overdue helicopters;
 - (i) procedures for reduced VFR limits in uncontrolled airspace (if applicable);
 - (j) accident/incident reporting; and
 - (k) procedures for the carriage of dangerous goods.

s703.06 Reserved

s703.107 Standard Operating Procedures

The Standard Operating Procedures shall contain the following information for each type of two-pilot helicopter operated. Where there are significant differences in equipment and procedures between helicopters of the same type operated, the Standard Operating Procedures shall show the registration mark of the helicopter it is applicable to.



Required information, if contained in another publication carried on board the helicopter during flight, need not be repeated in the SOP.

The SOP may form part of the Company Operations Manual.

The SOP shall contain the following as applicable to the operation:

- (1) General
 - (a) a table of contents;
 - (b) a list of effective pages;
 - (c) the amending procedure;
 - (d) a preamble;
 - (e) communications;
 - (f) crew coordination;
 - (g) the use of check lists;
 - (h) standard briefings; and
 - (i) standard calls.
- (2) Normal Procedures
 - (a) weight and balance control requirements;
 - (b) ramp;
 - (c) battery/AMU engine starts;
 - (d) taxi;
 - (e) take-off and climb;
 - (f) cruise;
 - (g) descent;
 - (h) approaches: IFR, visual, VFR, and circling;
 - (i) landing;
 - (j) missed approach and balked landing procedures;
 - (k) refueling with passengers on board;
 - (1) use of on-board navigation and alerting aids; and
 - (m) check lists.
- (3) Abnormal and Emergency Procedures
 - (a) emergency landings/ditching with time to prepare and without time to prepare;
 - (b) pilot incapacitation and two communication rule, (two-pilot crew);
 - (c) bomb threats and hijacking;
 - (d) engine fire/failure/shutdown;
 - (e) fire: internal/external;
 - (f) smoke removal;
 - (g) rejected take-off; and
 - (h) other abnormal and emergency procedures that are specific to the type of helicopter.

s703.108 to s703.109 Reserved





REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>Part VII</u> Commercial Air Services

<u>Subpart 4</u> Commuter Operations

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier







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Subpart 4 - Commuter Operations

Division I - General

704.01 Application

This Subpart applies in respect of the operation by a Lebanese air operator, in an air transport service or in aerial work involving sightseeing operations, of any of the following aircraft:

- (a) a multi-engined aircraft that has a MCTOW of 8,618 kg (19,000 pounds) or less and a seating configuration, excluding pilot seats, of 10 to 19 inclusive;
- (b) a turbo-jet-powered airplane that has a maximum zero fuel weight of 22,680 kg (50,000 pounds) or less and for which a type certificate has been issued authorizing the transport of not more than 19 passengers; or
- (c) any aircraft that is authorized by the Minister to be operated under this Subpart.

704.02 Aircraft Operation

No air operator shall operate an aircraft under this Subpart unless the air operator complies with the conditions and operations specifications in an air operator certificate issued to that operator by the Minister pursuant to Section 704.07.

704.03 to 704.06 Reserved





Division II - Certification

704.07 Issuance or Amendment of Air Operator Certificate

(1) Subject to Article 70 of the Lebanese Civil Aviation Safety Act, the Minister shall, on receipt of an application submitted in the form and manner required by the Commercial Air Services Standards, issue or amend an air operator certificate where the applicant demonstrates to the Minister the ability to:

- (a) maintain an adequate organizational structure;
- (b) maintain an operational control system;
- (c) meet training program requirements;
- (d) comply with maintenance requirements;
- (e) meet the Commercial Air Services Standards for the operation; and
- (f) conduct the operation safely.
- (2) For the purposes of Subsection (1), an applicant shall have:
 - (a) a management organization capable of exercising operational control;
 - (b) managerial personnel who have been approved by the Minister in accordance with the Commercial Air Services Standards, are employed on a full-time basis and perform the functions related to the following positions, namely,
 - (i) operations manager,
 - (ii) chief pilot, and
 - (iii) where the applicant does not hold an approved maintenance organization (AMO) certificate, maintenance manager;
 - (c) operational support services and equipment that meet the Commercial Air Services Standards;
 - (d) after January 1, 1997, where a master minimum equipment list has been established for a type of aircraft, a minimum equipment list for each aircraft of that type, approved by the Minister in accordance with the procedures specified in the Lebanese Aviation Regulations (LARs), Part VI, Subpart 5, Standards, Appendix J;
 - (e) aircraft that are properly equipped for and flight crew members who are qualified for the area of operation and the type of operation;
 - (f) an operational control system that meets the requirements of Section 704.15;
 - (g) a training program that meets the requirements of this Subpart;
 - (h) legal custody and control of at least one aircraft of each category of aircraft that is to be operated;
 - (i) a company operations manual that meets the requirements of Sections 704.120 and 704.121; and
 - (j) a maintenance control system approved pursuant to Subpart 6.

704.08 Contents of Air Operator Certificate

An air operator certificate shall contain:

- (a) the legal name, trade name and address of the air operator;
- (b) the number of the air operator certificate;
- (c) the effective date of certification;
- (d) the date of issue of the certificate;
- (e) the general conditions identified in Section 704.09;
- (f) where the air operator complies with the Commercial Air Services Standards, and Operations Specifications with respect to:
 - (i) the areas of operation authorized,
 - (ii) the types of service authorized,



- (iii) the types of aircraft authorized and, if applicable, their registration, and any operational restrictions, and
- (iv) the base of operations, scheduled points and, if applicable, sub-bases; and
- (v) aircraft performance, equipment and emergency equipment requirements,
- (vi) instrument approach procedures,
- (vii) enroute aerodrome authorizations and limitations,
- (viii) special weather minima authorizations,
- (ix) authorizations concerning flight crew member qualifications and flight crew member complement,
- (x) navigation system authorizations,
- (xi) pilot training and pilot proficiency checks,
- (xii) special helicopter procedures,
- (xiii) the air operator maintenance control system approved pursuant to Subpart 6,
- (xiv) leasing arrangements, and
- (xv) any other condition pertaining to the operation that the Minister deems necessary for aviation safety.

704.09 General Conditions of Air Operator Certificate

An air operator certificate shall contain the following general conditions:

- (a) the air operator shall conduct flight operations in accordance with its company operations manual;
- (b) the air operator shall maintain an adequate organizational structure;
- (c) the air operator shall employ managerial personnel who meet the Commercial Air Services Standards;
- (d) the air operator shall conduct training in accordance with its training program approved pursuant to this Subpart;
- (e) the air operator shall maintain aircraft that are properly equipped for the area of operation and the type of operation;
- (f) the air operator shall employ crew members who are qualified for the area of operation and the type of operation;
- (g) the air operator shall maintain its aircraft in accordance with the requirements of Subpart 6;
- (h) the air operator shall maintain operational support services and equipment that meet the Commercial Air Services Standards;
- (i) the air operator shall notify the Minister within 10 working days after any change in its legal name, trade name, base of operations or managerial personnel; and
- (j) the air operator shall conduct a safe operation.

704.10 to 704.11 Reserved


Division III - Flight Operations

704.12 Operating Instructions

(1) An air operator shall ensure that all operations personnel are properly instructed about their duties and about the relationship of their duties to the operation as a whole.

(2) The operations personnel of an air operator shall follow the procedures specified in the air operator's company operations manual in the performance of their duties.

704.13 General Operational Information

Every air operator shall establish a system for the timely dissemination of general operational information that includes a means for each crew member to acknowledge receipt of such information.

704.14 Scheduled Air Service Requirements

(1) Subject to Subsection (2), every air operator that operates a scheduled air service for the purpose of transporting persons shall operate the service between airports or between an airport and a military aerodrome.

(2) An air operator may operate a scheduled air service for the purpose of transporting persons between an airport and an aerodrome other than a military aerodrome or between two aerodromes if the air operator is authorized to do so in its air operator certificate.

704.15 Operational Control System

No air operator shall operate an aircraft unless the air operator has an operational control system that meets the Commercial Air Services Standards and is under the control of its operations manager.

704.16 Flight Authorization

No person shall commence a flight unless the flight has been authorized in accordance with the procedures specified in the air operator's company operations manual.

704.17 Operational Flight Plan

(1) No air operator shall permit a person to commence a flight unless an operational flight plan that meets the Commercial Air Services Standards has been prepared in accordance with the procedures specified in the air operator's company operations manual.

(2) The pilot-in-command of an aircraft shall ensure that one copy of the operational flight plan is left at a point of departure, in accordance with the procedures specified in the company operations manual, and that another copy is carried on board the aircraft until the aircraft reaches the final destination of the flight.

(3) An air operator shall retain a copy of the operational flight plan, including any amendments to that plan, for the period specified in the company operations manual.

704.18 Maintenance of Aircraft

No air operator shall permit a person to conduct a take-off in an aircraft that has not been maintained in accordance with the air operator's maintenance control system.



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704.19 Checklist

(1) Every air operator shall establish the checklist referred to in Subsection 602.60(1)(a) for each aircraft type that it operates and shall make the appropriate parts of the checklist readily available to the crew members.

(2) Every crew member shall follow the checklist referred to in Subsection (1) in the performance of the crew member's assigned duties.

704.20 Fuel Requirements

No air operator shall authorize a flight and no person shall commence a flight unless the aircraft carries sufficient fuel to meet the fuel requirements of Part VI and to allow the aircraft:

- (a) in the case of an airplane operated in IFR flight,
 - (i) to descend at any point along the route to the lower of:
 - A. the single-engined service ceiling, or
 - B. 10,000 feet,
 - (ii) to cruise at the altitude referred to in subparagraph (i) to a suitable aerodrome;
 - (iii) to conduct an approach and a missed approach; and
 - (iv) to hold for 30 minutes at an altitude of 1,500 feet above the elevation of the aerodrome selected in accordance with subsection (ii); and
- (b) in the case of a helicopter operated in night VFR flight, to fly to the destination aerodrome and then to fly for 30 minutes at normal cruising speed.

704.21 Admission to Flight Deck

(1) Where a Directorate General of Civil Aviation (DGCA) air carrier inspector presents an official identity card to the pilot-in-command of an aircraft, the pilot-in-command shall give the inspector free and uninterrupted access to the flight deck of the aircraft.

(2) An air operator and the pilot-in-command shall make available for the use of the air carrier inspector the seat most suitable to perform the inspector's duties, as determined by the inspector.

704.22 Simulation of Emergency Situations

No person shall, where passengers are on board an aircraft, simulate emergency situations that could affect the flight characteristics of the aircraft.

704.23 VFR Flight Obstacle Clearance Requirements

Except when conducting a take-off or landing, no person shall operate an aircraft in VFR flight:

- (a) at night, at less than 1,000 feet above the highest obstacle located within a horizontal distance of three miles from the route to be flown; or
- (b) where the aircraft is an airplane, during the day, at less than 500 feet AGL or at a horizontal distance of less than 500 feet from any obstacle.

704.24 VFR Flight Minimum Flight Visibility - Uncontrolled Airspace

Where a helicopter is operated in day VFR flight within uncontrolled airspace at less than 1,000 feet AGL, a person may, for the purposes of Subsection 602.115(d)(i), operate the helicopter when flight visibility is less than one mile if the person

- (a) is authorized to do so in an air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.



704.25 VFR Flight Weather Conditions

No person shall commence a VFR flight unless current weather reports and forecasts, if obtainable, indicate that the weather conditions along the route to be flown and at the destination aerodrome will be such that the flight can be conducted in compliance with VFR.

704.26 Take-off Minima

(1) Subject to Subsection (2), no person shall conduct a take-off in an aircraft in IMC where weather conditions are at or above the take-off minima, but below the landing minima, for the runway to be used unless:

- (a) the take-off is authorized in an air operator certificate (OpSpecs); and
- (b) the person complies with the Commercial Air Services Standards.

(2) A person may conduct a take-off in an aircraft in IMC where weather conditions are at or above the take-off minima, but below the landing minima, for the runway to be used, if the weather conditions are at or above the landing minima for another suitable runway at that aerodrome, taking into account the aircraft performance operating limitations specified in Division IV.

(3) For the purposes of Section 602.126, a person may conduct a take-off in an aircraft in IMC where weather conditions are below the take-off minima specified in the instrument approach procedure, if the person:

- (a) is authorized to do so in an air operator certificate; and
- (b) complies with the Commercial Air Services Standards.

(4) For the purposes of this Section, the landing minima are the decision height or the minimum descent altitude and the visibility published for an approach.

704.27 Reserved

704.28 VFR OTT Flight

No person shall operate an aircraft in VFR OTT flight unless:

- (a) the aircraft is a helicopter;
- (b) the person is authorized to do so in an air operator certificate (OpSpecs); and
- (c) the person complies with the Commercial Air Services Standards.

704.29 Routes in Uncontrolled Airspace

No person shall, in uncontrolled airspace, conduct an IFR flight or a night VFR flight on a route other than an air route unless the air operator establishes the route in accordance with the Commercial Air Services Standards.

704.30 Instrument Approach Procedures

- (1) No person shall conduct a CAT II or CAT III instrument approach unless:
 - (a) the air operator is authorized to do so in its air operator certificate (OpSpecs); and
 - (b) the approach is conducted in accordance with the Commercial Air Services Standards.

(2) No person shall terminate an instrument approach with a landing unless, immediately prior to landing, the pilot-in-command ascertains, by means of radio communication or visual inspection,

- (a) the condition of the intended landing surface; and
- (b) the wind direction and speed.

704.31 Minimum Altitudes and Distances

For the purposes of Sections 602.13 and 602.15, a person may conduct a take-off, approach or landing in a helicopter within a built-up area of a city or town, or operate a helicopter at altitudes and distances less than those specified in Subsection 602.14(2), if the person:

- (a) has an authorization from the Minister or is authorized to do so in an air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

704.32 Weight and Balance Control

(1) No person shall operate an aircraft unless, during every phase of the flight, the load restrictions, weight and center of gravity of the aircraft conform to the limitations specified in the aircraft flight manual.

(2) An air operator shall have a weight and balance system that meets the Commercial Air Services Standards.

(3) An air operator shall specify in its company operations manual its weight and balance system and instructions to employees regarding the preparation and accuracy of weight and balance forms.

704.33 Apron and Cabin Safety Procedures

(1) An air operator shall establish procedures to ensure that:

- (a) passengers move on the apron and embark and disembark safely, in accordance with procedures that meet the Commercial Air Services Standards and that are specified in the air operator's company operations manual;
- (b) all passengers are seated and secured;
- (c) subject to Subsection (2), the back of each seat is in the upright position and all chair tables are stowed during movement on the surface, take-off and landing and at such other times as the pilot-in-command considers necessary for the safety of the persons on board the aircraft;
- (d) seats located at emergency exits are not occupied by passengers whose presence in those seats could adversely affect the safety of passengers or crew members during an emergency evacuation; and
- (e) the flight crew can exercise supervisory control over passengers by visual and aural means.

(2) An air operator may, for the transportation of any passenger who has been certified by a physician as unable to sit upright, allow the back of the seat occupied by such a passenger to remain in the reclining position during movement on the surface, take-off and landing if:

- (a) the passenger is seated in a location that will not restrict the evacuation of other passengers from the aircraft;
- (b) the passenger is not seated in a row that is next to or immediately in front of an emergency exit; and
- (c) the seat immediately behind the passenger's seat is vacant.

(3) No air operator shall assign a person to perform duties on board an aircraft unless that person has received the training referred to in Subsection 704.115(2)(d).

(4) No air operator shall permit an aircraft with passengers on board to be fuelled unless the fuelling is carried out in accordance with procedures that meet the Commercial Air Services Standards and that are specified in the air operator's company operations manual.

(5) For the purposes of Section 602.08, no air operator shall permit the use of a portable electronic device on board an aircraft unless the air operator has established procedures that:

- (a) meet the Commercial Air Services Standards; and
- (b) are specified in the air operator's company operations manual.



704.34 Briefing of Passengers

(1) The pilot-in-command shall ensure that passengers are given a safety briefing in accordance with the Commercial Air Services Standards.

(2) Where the safety briefing referred to in Subsection (1) is insufficient for a passenger because of that passenger's physical, sensory or comprehension limitations or because that passenger is responsible for another person on board the aircraft, the pilot-in-command shall ensure that the passenger is given an individual safety briefing that

- (a) is appropriate to the passenger's needs; and
- (b) meets the Commercial Air Services Standards.

(3) The pilot-in-command shall ensure that, in the event of an emergency and where time and circumstances permit, all passengers are given an emergency briefing in accordance with the Commercial Air Services Standards.

(4) The pilot-in-command shall ensure that each passenger who is seated next to an emergency exit is made aware of how to operate that exit.

704.35 Safety Features Card

An air operator shall provide each passenger, at the passenger's seat, with a safety features card containing, in pictographic form, the information required by the Commercial Air Services Standards, and any wording shall be in English and Arabic.

704.36 to 704.43 Reserved



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Division IV - Aircraft Performance Operating Limitations

704.44 Exceptions

A person may operate an aircraft without complying with the requirements of this Division if the person

- (a) is authorized to do so in an air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

704.45 General Requirements

Any determination made for the purposes of Sections 704.46 to 704.50 shall be based on approved performance data set out in the aircraft flight manual.

704.46 Take-off Weight Limitations

(1) No person shall conduct a take-off in an aircraft if the weight of the aircraft:

- (a) exceeds the maximum take-off weight specified in the aircraft flight manual for the pressurealtitude and the ambient temperature at the aerodrome where the take-off is to be made; or
- (b) after allowing for planned fuel consumption during the flight to the destination aerodrome or alternate aerodrome, exceeds the landing weight specified in the aircraft flight manual for the pressure-altitude and the ambient temperature at the destination aerodrome or alternate aerodrome.

(2) In the determination of the maximum take-off weight referred to in Subsection (1) for a small airplane,

- (a) subject to Subsection (5), the required accelerate-stop distance shall not exceed the acceleratestop distance available (ASDA); and
- (b) the all-engines-operating take-off distance shall not exceed the take-off distance available (TODA).

(3) Subject to Subsection (5), in the determination of the maximum take-off weight referred to in subsection (1) for a large airplane,

- (a) the required accelerate-stop distance shall not exceed the accelerate-stop distance available (ASDA);
- (b) the required take-off run shall not exceed the take-off run available (TORA); and
- (c) the required take-off distance shall not exceed the take-off distance available (TODA).
- (4) For the purposes of Subsections (2) and (3), the following factors shall be taken into account:
 - (a) the pressure-altitude at the aerodrome;
 - (b) the ambient temperature;
 - (c) the runway slope in the direction of take-off; and
 - (d) not more than 50 per cent of the reported headwind component or not less than 150 per cent of the reported tailwind component.
- (5) A person may conduct a take-off without meeting the requirements of Section (3) or Subsection (2)(a) if the person:
 - (a) is authorized to do so in an air operator certificate (OpSpecs); and
 - (b) complies with the Commercial Air Services Standards.

704.47 Net Take-off Flight Path

(1) No person shall conduct a take-off in a large airplane if the weight of the airplane is greater than the weight specified in the aircraft flight manual as allowing a net take-off flight path that clears all

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obstacles by at least 35 feet [10.67 m] vertically or at least 200 feet [60 m] horizontally within the aerodrome boundaries, and by at least 300 feet [75 m] horizontally outside those boundaries, unless:

- (a) the take-off is authorized in an air operator certificate (OpSpecs); and
- (b) the person complies with the Commercial Air Services Standards.

(2) In the determination of the maximum weight, minimum distances and flight path referred to in Subsection (1),

- (a) corrections shall be made for
 - (i) the runway to be used,
 - (ii) the runway slope in the direction of take-off,
 - (iii) the pressure-altitude at the aerodrome,
 - (iv) the ambient temperature, and
 - (v) the wind component at the time of take-off, where not more than 50 per cent of the reported headwind component or not less than 150 per cent of the reported tailwind component is considered; and
- (b) calculations shall be based on the pilot
 - (i) not banking the airplane before reaching an altitude of 50 feet,
 - (ii) subject to Subsection (3), using 15 degrees or less of bank at or below 400 feet, and
 - (iii) using no more than 25 degrees of bank thereafter, aircraft speed and configuration permitting.

(3) A bank angle greater than the 15 degrees referred to in Subsection (2)(b)(ii) may be used if it is authorized in an air operator certificate (OpSpecs).

704.48 Enroute Limitations with One Engine Inoperative

No person shall operate a multi-engined aircraft with passengers on board if the weight of the aircraft is greater than the weight that will allow the aircraft to maintain, with any engine inoperative, the following altitudes:

- (a) when operating in IMC or in IFR flight on airways or air routes, the MOCA of the route to be flown;
- (b) when operating in IMC or in night VFR flight on routes established by an air operator, the MOCA of the route to be flown; and
- (c) when operating in VFR flight, at least 500 feet [150 m] above the surface.

704.49 Dispatch Limitations: Landing at Destination and Alternate Aerodromes

(1) Subject to Subsection (3), no person shall dispatch or conduct a take-off in a turbo-jet-powered airplane or in a large airplane unless:

- (a) the weight of the airplane on landing at the destination aerodrome will allow a full-stop landing
 - (i) in the case of a turbo-jet-powered airplane, within 60 per cent of the landing distance available (LDA), or
 - (ii) (ii) in the case of a propeller-driven airplane, within 70 per cent of the landing distance available (LDA); and
- (b) the weight of the airplane on landing at the alternate aerodrome will allow a full-stop landing
 - (i) in the case of a turbo-jet-powered airplane, within 60 per cent of the landing distance available (LDA), or
 - (ii) in the case of a propeller-driven airplane, within 70 per cent of the landing distance available (LDA).

(2) In determining whether an airplane can be dispatched or a take-off can be conducted in accordance with Subsection (1), the following shall be taken into account:

(a) the pressure-altitude at the destination aerodrome and at the alternate aerodrome;

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- (b) not more than 50 per cent of the reported headwind component or not less than 150 per cent of the reported tailwind component; and
- (c) that the airplane must be landed on a suitable runway, considering the wind speed and direction, the ground handling characteristics of the airplane, and other conditions such as landing aids and terrain.

(3) Where conditions at the destination aerodrome at the time of take-off do not permit compliance with Subsection (2)(c), an airplane may be dispatched and a take-off conducted if the alternate aerodrome designated in the operational flight plan permits, at the time of take-off, compliance with Subsection (1)(b) and (2).

704.50 Dispatch Limitations: Wet Runway - Turbo-jet-powered Airplanes

(1) Subject to Subsection (2), when weather reports or forecasts indicate that the runway may be wet at the estimated time of arrival, no person shall dispatch or conduct a take-off in a turbo-jet-powered airplane unless the landing distance available (LDA) at the destination airport is at least 115 per cent of the landing distance required pursuant to Subsection 704.49(1)(a).

(2) The landing distance available on a wet runway may be shorter than that required by subsection (1), but not shorter than that required by Section 704.49, if the aircraft flight manual includes specific information about landing distances on wet runways.

704.51 to 704.61 Reserved



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Division V - Aircraft Equipment Requirements

704.62 General Requirements

(1) No person shall operate an aircraft in IMC unless the aircraft is equipped with:

- (a) at least two generators, each of which, subject to Subsection (2), is driven by a separate engine, and at least half of which have a sufficient rating to supply the electrical loads of all instruments and equipment necessary for the safe emergency operation of the aircraft; and
- (b) two independent sources of energy and a means of selecting either source, at least one source of energy being an engine-driven pump or generator, and each source of energy being able to drive all gyroscopic instruments and being installed so that the failure of one instrument or one source of energy will affect neither the energy supply to the remaining instruments nor the other source of energy.

(2) In the case of a multi-engined helicopter, the generators required by Subsection (1)(a) may be driven by the main rotor drive train.

(3) No person shall operate an aircraft at night unless the aircraft is equipped with at least one landing light.

704.63 Operation of Aircraft in Icing Conditions

(1) No person shall conduct a take-off or continue a flight in an aircraft when icing conditions are reported to exist or are forecast to be encountered along the route to be flown unless the aircraft is equipped to be operated in those conditions and the aircraft type certificate authorizes flight in those conditions.

(2) No person shall operate an airplane in icing conditions at night unless the airplane is equipped with a means to illuminate or otherwise detect the formation of ice.

704.64 Airborne Thunderstorm Detection and Weather Radar Equipment

No person shall operate an aircraft with passengers on board in IMC when current weather reports or forecasts indicate that thunderstorms may reasonably be expected along the route to be flown, unless the aircraft is equipped with thunderstorm detection equipment or weather radar equipment.

704.65 Additional Equipment for Single-pilot Operations

No person shall operate an aircraft on a single-pilot operation in IMC unless the aircraft is equipped with:

- (a) an auto-pilot that is capable of operating the aircraft controls to maintain flight and maneuver the aircraft about the lateral and longitudinal axes;
- (b) a headset with a boom microphone or equivalent and a transmit button on the control column; and
- (c) a chart holder that is equipped with a light and that is placed in an easily readable position.

704.66 Protective Breathing Equipment

(1) No air operator shall operate a pressurized aircraft unless protective breathing equipment with a 15-minute supply of breathing gas at a pressure-altitude of 8,000 feet is readily available at each flight crew member position.

(2) The protective breathing equipment referred to in Subsection (1) may be used to meet the crew member oxygen requirements specified in Section 605.31.



704.67 First Aid Oxygen

No air operator shall operate an aircraft with passengers on board above FL 250 unless the aircraft is equipped with oxygen dispensing units and an undiluted supply of first aid oxygen sufficient to provide at least one passenger with oxygen for at least one hour or the entire duration of the flight at a cabin pressure-altitude above 8,000 feet, after an emergency descent following cabin depressurization, whichever period is longer.

704.68 Shoulder Harnesses

No person shall operate an aircraft unless the pilot seat and any seat beside the pilot seat are equipped with a safety belt that includes a shoulder harness.

704.69 to 704.82 Reserved



Division VI - Emergency Equipment

704.83 Hand-held Fire Extinguisher

No air operator shall operate an aircraft with passengers on board unless at least one hand-held fire extinguisher is readily accessible for immediate use and is located in the passenger compartment.

704.84 Equipment Standards and Inspection

No air operator shall operate an aircraft unless the emergency equipment carried on board the aircraft pursuant to Division II of Subpart 2 of Part VI or this Division meets the Commercial Air Services Standards and is inspected regularly in accordance with the inspection schedule set out in the air operator's company operations manual.

704.85 to 704.105 Reserved



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Division VII - Personnel Requirements

704.106 Minimum Crew

No air operator shall operate an aircraft with fewer than two pilots, where the aircraft:

- (a) is an airplane carrying 10 or more passengers; or
- (b) is carrying passengers and is being operated in IFR flight.

704.107 Designation of Pilot-in-command and Second-in-command

An air operator shall designate for each flight a pilot-in-command and, where the crew includes two pilots, a pilot-in-command and a second-in-command.

704.108 Flight Crew Member Qualifications

(1) Subject to Subsection (6), no air operator shall permit a person to act and no person shall act as a flight crew member in an aircraft unless the person:

- (a) holds the license and ratings required by Part IV;
- (b) within the previous 90 days, has completed at least three take-offs and three landings
 - (i) where a type rating for that aircraft is required, in an aircraft of that type, or in a flight simulator representing that type of aircraft that has been approved by the Minister under Subpart 6 of Part VI for take-off and landing qualifications, or
 - (ii) where a type rating for that aircraft is not required, in an aircraft of that category and class, or in a flight simulator representing that category and class of aircraft that has been approved by the Minister under Subpart 6 of Part VI for take-off and landing qualifications;
- (c) has successfully completed a pilot proficiency check, the validity period of which has not expired, for that type of aircraft, in accordance with the Commercial Air Services Standards; and
- (d) has fulfilled the requirements of the air operator's ground training program and, except where undergoing line indoctrination training, the air operator's flight training program.

(2) An air operator may group similar aircraft as a single type for the purposes of the pilot proficiency check referred to in Subsection (1)(c) if the air operator:

- (a) is authorized to do so in its air operator certificate; and
- (b) complies with the Commercial Air Services Standards.

(3) No person shall act as the pilot-in-command of an aircraft with passengers on board in IFR flight unless the person has acquired at least 1,200 hours of flight time as a pilot.

(4) No person shall act as the pilot-in-command of an aircraft in VFR flight unless the person has acquired at least 500 hours of flight time as a pilot.

(5) No person shall act as the pilot-in-command of an aircraft with a person other than a flight crew member on board in night VFR flight unless the person acting as the pilot-in-command holds an instrument rating for that class of aircraft.

(6) An air operator may permit a person to act and a person may act as a flight crew member in an aircraft where the person does not meet the requirements of Subsections (1)(b) to (d), if:

- (a) the aircraft is operated on a training, ferry or positioning flight; or
- (b) the air operator
 - (i) is authorized to do so in its air operator certificate (OpSpecs), and
 - (ii) complies with the Commercial Air Services Standards.



704.109 Qualifications of Operational Control Personnel

(1) No air operator shall permit a person to act and no person shall act in an operational control position unless that person has fulfilled the training requirements set out in this Subpart and has demonstrated to the air operator the knowledge and abilities required by the Commercial Air Services Standards.

(2) A person who has not acted in an operational control position within the previous three months shall, prior to acting in an operational control position, demonstrate to the air operator that the person still has the knowledge and abilities referred to in Subsection (1).

704.110 Check Authority

(1) A pilot proficiency check shall be conducted by the Minister.

(2) Any other check required under this Subpart may be conducted by the Minister.

704.111 Validity Period

(1) Subject to Subsection (2), the validity period of a pilot proficiency check and of the semiannual training referred to in Section 704.115 expires on the first day of the seventh month following the base month established for the proficiency check.

(2) Where a pilot proficiency check or semiannual training is renewed in the month prior or month after the established base month, the validity period is extended by 6 months.

(3) Where the validity period of a pilot proficiency check or semiannual training has been expired for 24 months or more, the person shall requalify by meeting the training requirements specified in the Commercial Air Services Standards.

704.112 to 704.114 Reserved



Division VIII - Training

704.115 Training Program

- (1) Every air operator shall establish and maintain a ground and flight training program that is:
 - (a) designed to ensure that each person who receives training acquires the competence to perform the person's assigned duties; and
 - (b) approved by the Minister in accordance with the Commercial Air Services Standards.
- (2) An air operator's ground and flight training program shall include
 - (a) for flight crew members:
 - (i) company indoctrination training,
 - (ii) line indoctrination training,
 - (iii) high-altitude training, where applicable,
 - (iv) upgrading training, where applicable, and
 - (v) initial and annual training, including
 - A. aircraft type training,
 - B. aircraft servicing and ground handling training,
 - C. emergency procedures training, and
 - D. aircraft surface contamination training;
 - (b) initial and annual training for operational control personnel;
 - (c) initial and annual aircraft surface contamination training for those operations personnel designated in the Commercial Air Services Standards;
 - (d) initial and annual training for personnel who are assigned to perform duties on board an aircraft; and
 - (e) any other training required to ensure a safe operation under this Subpart.
- (3) An air operator shall:
 - (a) include a detailed syllabus of its ground and flight training program in its company operations manual;
 - (b) ensure that adequate facilities and qualified personnel are provided for its ground and flight training program, in accordance with the Commercial Air Services Standards; and
 - (c) establish and maintain a safety awareness program concerning the adverse effects of aircraft surface contamination and provide the program to all flight operations personnel who are not required to receive the training described in Subsection (2)(c).

704.116 Conditional Approval of Training Program

 (1) The Minister may give conditional approval to a training program where an air operator submits to the Minister a copy of a syllabus of its training program that provides enough information for a preliminary evaluation of the training program in light of the Commercial Air Services Standards.
(2) An air operator may conduct training under a training program that has received conditional approval until the Minister has evaluated the effectiveness of the training program and has informed the air operator of any deficiencies that must be corrected.

(3) The Minister shall give final approval to a conditionally approved training program when the air operator demonstrates that the training conducted under that program is adequate to permit the persons who receive it to safely perform their assigned duties.



704.117 Training and Qualification Records

(1) Every air operator shall, for each person who is required to receive training under this Subpart, establish and maintain a record of:

- (a) the person's name and, where applicable, personnel license number, type and ratings;
- (b) if applicable, the person's medical category and the expiry date of that category;
- (c) the dates on which the person, while in the air operator's employ, successfully completed any training, pilot proficiency check or examination required under this Subpart or obtained any qualification required under this Subpart;
- (d) information relating to any failure of the person, while in the air operator's employ, to successfully complete any training, pilot proficiency check or examination required under this Subpart or to obtain any qualification required under this Subpart; and
- (e) the type of aircraft or flight training equipment used for any training, pilot proficiency check or qualification required under this Subpart.

(2) An air operator shall retain the records referred to in Subsections (1)(c) and (d) and a record of each pilot proficiency check for at least three years.

(3) An air operator shall retain a copy of the most recent written examination completed by each pilot for each type of aircraft for which the pilot has a qualification.

704.118 and 704.119 Reserved



Division IX - Manuals

704.120 Requirements Relating to Company Operations Manual

(1) Every air operator shall establish and maintain a company operations manual that meets the requirements of Section 704.121.

(2) An air operator shall submit its company operations manual, and any amendments to that manual, to the Minister.

(3) Where there is a change in any aspect of an air operator's operation or where the company operations manual no longer meets the Commercial Air Services Standards, the air operator shall amend its company operations manual.

(4) The Minister shall, where the Commercial Air Services Standards are met, approve those parts of a company operations manual, and any amendments to those parts, that relate to the information required by Section 704.121.

704.121 Contents of Company Operations Manual

(1) A company operations manual, which may be issued in separate parts corresponding to specific aspects of an operation, shall include the instructions and information necessary to enable the personnel concerned to perform their duties safely and shall contain the information required by the Commercial Air Services Standards.

(2) A company operations manual shall be such that:

- (a) all parts of the manual are consistent and compatible in form and content;
- (b) the manual can be readily amended;
- (c) the manual contains an amendment control page and a list of the pages that are in effect; and
- (d) the manual has the date of the last amendment to each page specified on that page.

704.122 Distribution of Company Operations Manual

(1) Subject to Subsection (2), an air operator shall provide a copy of the appropriate parts of its company operations manual, including any amendments to those parts, to each of its crew members and to its ground operations and maintenance personnel.

(2) An air operator may place a copy of the appropriate parts of its company operations manual in each aircraft that it operates, instead of providing a copy to each crew member, if all amendments to the manual are included in the system for the dissemination of general operational information referred to in Section 704.13.

(3) Every person who has been provided with a copy of the appropriate parts of a company operations manual pursuant to Subsection (1) shall keep it up to date with the amendments provided and shall ensure that the appropriate parts are accessible when the person is performing assigned duties.

704.123 Aircraft Operating Manual

(1) An air operator may establish and maintain an aircraft operating manual for the use and guidance of crew members in the operation of its aircraft.

- (2) An aircraft operating manual shall contain:
 - (a) the aircraft operating procedures; and
 - (b) where the aircraft flight manual is not carried on board the aircraft, the aircraft performance data and limitations specified in the aircraft flight manual, which shall be clearly identified as aircraft flight manual requirements.

(3) An air operator that has established an aircraft operating manual shall ensure that a copy of the manual is carried on board each aircraft to which it relates.



704.124 Standard Operating Procedures

(1) Every air operator shall, for each of its aircraft that is required to be operated by two or more pilots, establish and maintain standard operating procedures that enable the crew members to operate the aircraft within the limitations specified in the aircraft flight manual and that meet the Commercial Air Services Standards.

(2) An air operator that has established standard operating procedures for an aircraft shall ensure that a copy of the standard operating procedures is carried on board the aircraft.

(3) Where an air operator has established an aircraft operating manual, the standard operating procedures for the aircraft shall form part of that manual.

704.125 to 704.127 Reserved



COMMERCIAL AIR SERVICES STANDARDS

Subpart 4 – Commuter Operations/Airplanes \$704.01 to \$704.127

Foreword

This Commercial Air Service Standard outlines the requirements for complying with Subpart 4 of the Lebanese Aviation Regulations (LARs).

For ease of cross reference the divisions and numbers of the standard are assigned to correspond to the regulations, therefore Standard s704.05 would reflect a standard required by Section 704.05 of the LARs.

The standards under this Subpart apply to every Lebanese air operator engaged in commercial air services under Subpart 4 of the Lebanese Aviation Regulations (LARs).



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DIVISION I - GENERAL

The standards under this Subpart apply to every Lebanese air operator engaged in commercial air services under Part VII, Subpart 4 of the Lebanese Aviation Regulations (LARs).

Definitions

The words and expressions used in these Standards have the same meaning as in the General Provisions Part I of the Lebanese Aviation Regulations with the following additions:

"deplane" - means disembark; an airplane is deplaned when the passengers leave the airplane in the normal manner, as opposed to evacuating the airplane.

"designated evacuation exits during fuelling" - means exits that are available for immediate use should an evacuation be required.

"evacuate" - means the egress from an airplane in an emergency situation using all available emergency exits and assist means such as ropes, wings, emergency evacuation slides, etc.

"fuelling" - means the act of transferring fuel into or out of an airplane fuel tank from or to an external supply.

"operations co-ordination" - means the exercise of authority by an air operator over its operating activities, excluding operational control.

"on demand" - means an air transport service where the date, time and place(s) of departure and arrival are negotiated directly between a client and the air operator.

"take-off safety speed" - is the lowest speed at which the airplane complies with those handling criteria associated with the climb after take-off following an engine failure.

s704.01 to s704.06 Reserved



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DIVISION II - CERTIFICATION

s704.07 Issuance or Amendment of Air Operator Certificate

(1) Application for an Air Operator Certificate

The following constitutes an application for an Air Operator Certificate:

- (a) DGCA Ops Form 100-12 Airport information required to determine the suitability of the base of operations, any sub-bases and all scheduled points. The operator shall be able to demonstrate that operations are permitted at each base, sub-base or scheduled point. This will normally be done by providing written permission from the Local Airport Authority (LAA). Where the air operator cannot obtain written permission and operations have not been denied in writing by the LAA, access to the aerodrome shall be demonstrated by other means; such as facilities provided through a lease, contractual agreement, etc.;
- (b) DGCA Ops Form 100-13 Aircraft information with respect to each airplane by registration;
- (c) DGCA Ops Form 100-14 Personnel information on required personnel. These shall be supported by resumes and statements of qualification for each position;
- (d) DGCA Ops Form 100-15 Maintenance Facilities;
- (e) Maintenance Control Procedures;
- (f) Company Operations Manual;
- (g) Standard Operating Procedures;
- (h) Minimum Equipment List(s) (if applicable);
- (i) nomination for Company Check Pilot (if applicable);
- (j) DGCA Ops Form 100-18 Cabin Safety (if applicable); and
- (k) airplane crash charts (if the type has not previously been operated in Lebanon).
- (l) Initial Statement of Compliance that:
 - (i) identifies where in the operator's manual system the LARs are complied with.
 - (ii) contains compliance statements for each section and subsection as applicable.
 - (iii) contains compliance statements for Parts V, VI, and VII.
 - (iv) contains compliance statements for any regulation or standard that the Minister deems necessary.
- (2) Qualifications and Responsibilities of Operational Personnel
 - (a) Operations Manager
 - (i) Qualifications.
 - A. hold or have held the appropriate license and ratings for which a pilot-incommand is required to hold for one of the airplanes operated; or have acquired not less than 3 years related supervisory experience with an operator of a Commercial Air Service whose flight operations are similar in size and scope; and
 - B. demonstrate knowledge to the Minister with respect to the content of the operations manual, the air operator's certificate and operations specifications, the provision of the regulations and the standards necessary to carry out the duties and responsibilities to ensure safety.
 - (ii) *Responsibilities*. The Operations Manager is responsible for safe flight operations. In particular, the responsibilities of the position include:
 - A. control of operations and operational standards of all airplanes operated;
 - B. the identification of operations coordination functions which impact on operational control (eg. maintenance, crew scheduling, load control, equipment scheduling);
 - C. supervision, organization, function and manning of the following:
 - flight operations;



- ➤ cabin safety;
- crew scheduling and rostering;
- training programs; and
- \succ flight safety;
- D. the contents of the air operator's Company Operations Manual;
- E. the supervision of and the production and amendment of the Company Operations Manual;
- F. liaison with the regulatory authority on all matters concerning flight operations, including any variations to the Air Operator Certificate;
- G. liaison with any external agencies which may affect air operator operations;
- H. ensuring that the air operator's operations are conducted in accordance with current regulations, standards and air operator policy;
- I. ensuring that crew scheduling complies with flight and duty time regulations, and that all crew members are kept informed of any changes to the regulations and standards;
- J. the receipt and actioning of any aeronautical information affecting the safety of flight;
- K. the dissemination of airplane safety information, both internal and external;
- L. qualifications of flight crew; and
- M. maintenance of a current operations library.

Information Note: In his or her absence all responsibilities for operational duties shall be delegated to another individual qualified in accordance with the Lebanese Aviation Regulations except that the knowledge requirements detailed under Operations Manager qualifications may be demonstrated to the air operator rather than the Minister.

(b) <u>Chief Pilots</u>

(i)

- *Qualifications*. If the Air Operator Certificate authorizes:
 - A. VFR only hold a valid Airline Transport Pilot License-Airplane or a valid Commercial Pilot License –Airplane appropriate for an airplane subject to this Subpart;
 - B. Day and Night VFR hold an Airline Transport Pilot License-Airplane or Commercial Pilot License Airplane, valid for night, and a valid Instrument Rating appropriate for an airplane subject to this Subpart; or
 - C. IFR hold a valid Airline Transport Pilot License Airplane and a valid Instrument Rating for an airplane subject to this subpart.
 - D. if applicable, hold a type rating for at least one of the types of airplanes operated;
 - E. have at least 3 years experience as pilot-in-command of a commuter airplane (as defined in Section 704.01 of the Lebanese Aviation Regulations);
 - F. be qualified in accordance with the air operator's training program to act as a pilot-in-command on one of the types to be operated; and
 - G. demonstrate knowledge to the Minister with respect to the content of the Company Operations Manual, Training Manuals, Standard Operating Procedures (if applicable), Company Check Pilot Manual (if applicable), and the provisions of the Regulations and Standards necessary to carry out the duties and responsibilities of the position.

Information Note:

A Chief Pilot qualified under Part VII, Subpart 7 of the Lebanese Aviation Regulations may serve as the Chief Pilot for Part VII, Subpart 4 of the Lebanese Aviation Regulations operations within the same company.



- (ii) *Responsibilities*. The Chief Pilots are responsible for the professional standards of the flight crews under their authority, and in particular:
 - A. developing standard operating procedures;
 - B. developing or implementing all required approved training programs for the air operator flight crews;
 - C. issuing directives and notices to the flight crews as required;
 - D. the operational suitability and requirements of all aerodromes and routes served by the air operator;
 - E. the actioning and distribution of accident, incident, and other occurrence reports;
 - F. the processing and actioning of any flight crew reports;
 - G. the supervision of flight crews; and
 - H. assuming any responsibilities delegated by the Operations Manager.

Information Note: In his or her absence, all responsibilities for duties shall be delegated to another individual qualified in accordance with the Lebanese Aviation Regulations except that the knowledge requirements detailed under chief pilot qualifications may be demonstrated to the air operator rather than the Minister.

(c) <u>Person Responsible for Maintenance</u>. The person responsible for the maintenance control system shall be qualified in accordance with Section s706.03 of the Commercial Air Services Standards.

(3) Operational Support Services and Equipment. The requirement for operational support services and equipment will be dependent on types of airplanes and the size and scope of the operation and shall include the following, as applicable:

- (a) operational control system requirements;
- (b) current flight operations publications including a copy of the Lebanese Civil Aviation Safety Act, applicable Lebanese Aviation Regulations, Company Operations Manual, Maintenance Control Manual/Maintenance Procedures Manual (as applicable), Canada Flight Supplement, Water Aerodrome Supplement, Airplane Flight Manuals, Aircraft Operating Manuals (if applicable), Standard Operating Procedures, Aeronautical Information Publication, Minimum Equipment Lists and appropriate maps and charts;
- (c) passenger and cargo handling requirements;
- (d) communications requirements;
- (e) provisions for handling dangerous goods (if applicable);
- (f) weather availability requirements;
- (g) ground de-icing/ anti-icing program requirements; and
- (h) airplane servicing facilities and ground handling equipment.

s704.08 Contents of Air Operator Certificate

(1) Minimum Performance Capability for Long Range Area Navigation System

To meet the requirements of this standard, a long range area navigation system shall, as a minimum:

- (a) have a standard deviation of lateral track deviations of less than 6.3 nautical miles;
- (b) have a proportion of the total flight time spent by the aircraft 30 nautical miles or more from cleared track of less than 5.3 x 10⁻⁴;
- (c) have a proportion of the total flight time spent by aircraft at or between 50 and 70 nautical miles from the cleared track of less than 1.3×10^{-4} ; and
- (d) in Subsections s704.08(2)(c) and (d) below, if a GPS receiver(s) provides the only means of long range navigation, then the requirements of LARs Appendix IV, Attachment 6, and FAA

Document No. 8110.60, GPS as a Primary Means of Navigation in Oceanic/Remote Operations, or equivalent must be met.

- (2) Authorizations
 - (a) Required Navigation Performance Capability (RNPC) Airspace. The standard requirements for authorization to flight plan published high level fixed RNAV routes in Required Navigation Performance Capability (RNPC) airspace, or to be accommodated by Air Traffic Control (ATC) on other routes using RNPC separation criteria, are:
 - (i) airplanes equipped with at least two independent navigation systems, one of which being a long range area navigation system; and
 - (ii) flight crew training on operation of the long range area navigation system in accordance with training pursuant to Subsection s704.115(22).
 - (b) North Atlantic Minimum Navigation Performance Specification (NAT MNPS), CMNPS and RNPC Airspace. The standard requirements for authorization to operate in North Atlantic Minimum Navigation Performance Specification (NAT MNPS) airspace, CMNPS airspace, to flight plan published high level fixed RNAV routes in Required Navigation Performance Capability (RNPC) airspace, and to be accommodated by Air Traffic Control (ATC) on other routes using RNPC separation criteria are:
 - (i) subject to A. and B. below, airplanes shall be equipped with at least two independent long range area navigation systems.
 - A. airplanes equipped with at least two independent navigation systems, one of which being a long range area navigation system, may be approved for NAT MNPS operations restricted to routes approved for airplanes with one long range RNAV system; and
 - B. airplanes equipped with at least two independent navigation systems based on short range ground transmitters may be approved for NAT MNPS operations restricted to routes approved for aircraft with no long range RNAV capability; and
 - (ii) flight crew training on operation of long range area navigation systems in accordance with training requirements set out in Subsection s704.115(22) of these Standards
 - (c) Reduced Vertical Separation Minima (RVSM) in NAT MNPS, CMNPS and RNPC Airspace. The standard requirement for authorization to operate in NAT MNPS Reduced Vertical Separation Minima (RVSM) airspace, CMNPS airspace, to flight plan published high level fixed RNAV routes in Required Navigation Performance Capability (RNPC) airspace, and to be accommodated by Air Traffic Control (ATC) on other routes using RNPC separation criteria is as follows:
 - (i) the air operator and airplane shall comply with Minimum Aircraft System Performance Specifications (MASPS) and other requirements of ICAO NAT DOC 002 and LARs Part VI, Subpart 2, Subsection 602.163(4).
- (3) Instrument Approaches Global Positioning System (GPS)
 - (a) the standard requirements for authorization to fly instrument approach procedures using only GPS navigation information are:
 - (i) an operational evaluation in accordance with subsection 724.08(3)(b) has been completed by the Minister on each aircraft type/GPS/FMS model installation for which approach authorization is sought;
 - (ii) an air operator has an approved flight crew training and qualifications program for use of the GPS/FMS system that meets the requirements of Subsection s704.115(22); and
 - (iii) standard operating procedures have been amended to reflect GPS approach operations and approved by the Minister (where required).
 - (b) the following items will be assessed in the operational evaluation prior to the approval of the operator's GPS approach standard operating procedures (where applicable) and training program. Identical installations of the same model of GPS in the same type of aircraft with the same operator do not need separate evaluations.

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- (i) Database. The geographical coverage area for the database shall be compatible with the type of operations conducted by the company. The air operator shall have procedures in place to ensure that the database will be updated in accordance with the appropriate data revision cycle. This shall include a contract with a database supplier and the inclusion, in the appropriate company manuals, of the person responsible for installing the updates in the aircraft. The company shall have a procedure in place for pilots to report database errors and for information on database errors to be passed on to other company pilots, the avionics manufacturer and the Minister.
- (ii) Unit Installation and Operation. The handling and procedures associated with the GPS avionics shall be such that all operations required for GPS approach can be accomplished without an adverse impact on normal crew duties and responsibilities. GPS related tasks shall not consume the attention of the pilot not flying (PNF) during critical phases of flight (i.e. between the time the aircraft turns inbound on the final approach course and the time the aircraft is established in the climb configuration on a missed approach).
- (iii) Control Display Unit (CDU) and Course Deviation Indicator (CDI) / Distance Display. If the GPS/FMS control unit is not adequately accessible from each pilot position, or if GPS course deviation and distance displays are not within the primary field of view at both pilot stations, air operators shall designate in the standard operating procedures the position that the pilot flying (PF) and pilot not flying (PNF) are required to occupy during GPS approach for that type of installation. Aircraft types that are certified for operation by two crew members shall have GPS course deviation and distance displays at each pilot station. An Operation Specification authorizing GPS approaches shall not be issued unless the PNF has a means acceptable, in the Minister's opinion, of monitoring the PF during an approach.
- (iv) Distance Display on the HIS. Installations where GPS guidance information (course tracking, To/From and NAV flags) are switched onto the HSI for display, but the DME distance information is not switched out (i.e. DME distance rather than GPS distance is displayed continuously on the HSI even when GPS source is selected to HSI), shall require air operators, in their standard operating procedures for GPS approach, to deselect other NAV/DME sources to eliminate distance displays in the pilot's primary field of vision not related to the approach procedure being flown.
- (v) Annunciation. Responses to system annunciation (including Receiver Autonomous Integrity Monitoring (RAIM) warnings), the means of selecting GPS track information to the CDI/HSI and the means of coupling GPS steering information to the aircraft automatic flight control system shall be compatible with the safe operation of the aircraft type/category. Standard operating procedures shall specify the procedure whereby the control unit is programmed, approach waypoints are verified against an independent source, approach mode is armed, and cockpit NAV source and AFC guidance source switches are selected and verified. Any switch selection or programming errors that the Minister believes are likely to occur and that could lead to a serious incident shall, if possible, be identified and addressed in training and in the standard operating procedures. Otherwise, the installation shall not be approved for approach use.
- (vi) Airborne Evaluation. The Minister shall observe the pre-flight and in-flight operation of the unit on at least one GPS approach and missed approach. If the PF is allowed to occupy either seat during GPS approaches, then one approach from each pilot position shall be demonstrated. An airborne evaluation in an aircraft must take place under VFR. Emphasis will be on crew co-ordination, pilot workload (PF and PNF), and switch selections.

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DIVISION III - FLIGHT OPERATIONS

s704.12 to s704.13 Reserved

s704.14 Scheduled Air Service Requirements

The standard for scheduled operations into or out of an uncertified aerodrome is as follows:

The operation shall be conducted under conditions established by the Minister which require the air operator and aerodrome operator to ensure a level of safety in respect to the use of the aerodrome that is equivalent to the level of safety established by the Lebanese Aviation Regulations.

s704.15 Operational Control Systems

Operations conducted under Part VII, Subpart 4 of the Lebanese Aviation Regulations require a Type C or D operational control system. Another organization may be contracted to exercise operational control on behalf of an air operator.

Information Note: A Type A or Type B system is only required for No Alternate IFR.

Type A

- (1) General
 - (a) Application. As required for No Alternate IFR operations, where an operator chooses to operate at a higher level than Type B, below.
 - (b) Responsibility and Authority. Prior to acceptance by the pilot-in-command of the Operational Flight Plan (OFP), operational control, as delegated by the Operations Manager in the approved Company Operations Manual, is exercised jointly by the flight dispatcher and the pilot-in-command of a flight.

After the pilot-in-command accepts the Operational Flight Plan, the flight dispatcher and the pilot-in-command share responsibility for Flight Watch. The flight dispatcher shall provide pertinent and related flight information to the pilot-in-command, including any changes to the Operational Flight Plan proposed by the dispatcher or the air operator.

Once a flight has commenced, the final decision on any changes to the Operational Flight Plan shall be taken by the pilot-in-command based on considerations of safety.

Limited pilot self-dispatch of flights may be permitted at those enroute stops where a lack of communications facilities prevents the co-authority dispatch of a flight. In such cases, the air operator shall develop, and submit to the DGCA for approval, those additional procedures that are intended to compensate for the lack of flight dispatcher participation in the flight's next operational flight plan.

- (c) Centers. The Flight Dispatch Center shall be established so as to ensure operational control throughout the air operator's entire route structure or area of operations.
- (d) Communications
 - (i) <u>In-flight Communications</u>. Timely and direct communication between the responsible flight dispatcher, if applicable, and the pilot-in-command of a flight shall be maintained during flight time over all or almost all the route structure. A communications capability similar to that required for a Type B Operational Control system may be



authorized for mid-route sectors of flights and certain destinations, such as those specified in Subsection (1)(b) above, where direct communication is not practical.

- (ii) <u>On-ground Communications</u>. A direct communications capability between the pilot-incommand and the flight dispatcher shall be provided at any station regularly served by the air operator. The equipment used shall be accessible to the pilot-in-command and may include the following:
 - A. VHF/HF Radio voice;
 - B. telephone;
 - C. data link; and
 - D. teletype. This requirement may be waived by the DGCA at those stations where a lack of facilities prevents communication between the pilot-in-command and flight dispatch.

Timely communication means the ability to establish communications domestically within 30 minutes of first trying and internationally within one hour when the flight is in cruise.

Direct communication means the ability of the flight dispatcher and the pilot-incommand to communicate using the air operator's facilities, an electronic data link facility, or operated by a third party according to an agreement.

(e) Flight Dispatchers On Duty. The number of flight dispatchers on duty at any time a dispatch function is required shall be sufficient to provide Flight Dispatch and Flight Watch services.

(2) Flight Dispatch Center

- (a) each center shall have a means of providing to the flight dispatcher without delay:
 - (i) NOTAMs and NOTAM summaries;
 - (ii) all weather reports for airports used as destination or alternate airports or for emergencies;
 - (iii) forecasts, area and terminal, for the area of responsibility and such wider area as are needed for proper weather trend analysis; and
 - (iv) weather radar summaries, where available as part of the normal weather reporting system.

The air operator service shall establish a system to inform flight dispatchers at each center of significant changes in flight conditions and in conditions at stations significant to the company's flights.

- (b) each center shall be provided with:
 - (i) airplane operating manuals and Minimum Equipment Lists, as appropriate;
 - (ii) Company Operations Manual;
 - (iii) airport runway data; and
 - (iv) such additional information as may be needed to enable the formulation of an operational flight plan or to exercise Flight Watch services.
- (c) each center shall be provided with communications equipment that ensures:
 - (i) timely and direct communications between the responsible flight dispatcher, if applicable, and the pilot-in-command during flight time over all or almost all the route structure. A communications capability similar to that of a Type B Operational Control System may be authorized for mid-route sectors of flights where direct communications are not possible;
 - (ii) direct radio voice, telephone, data link, or teletype contact with the pilot-in-command at each airport regularly served by the air operator within the area of responsibility;

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- (iii) a means to provide a hard copy of an operational Flight Plan, or an amendment to same, to the pilot-in-command; and
- (iv) direct ATS contact.
- (3) Flight Dispatcher (Operations Officer)
 - (a) the air operator shall ensure that each flight dispatcher is trained and qualified in accordance with the requirements of its approved training program. (Dispatcher training programs are contained in Part VII, Subpart 5, Commercial Air Services Standards).
 - (b) before commencing duty, a flight dispatcher shall receive a briefing on, or shall study, all pertinent weather charts, weather reports, NOTAMs, operational restrictions in force, flights in the air, flights for which Operational Flight Plans (Dispatch Releases) have been issued, but that have not yet commenced and for which he or she shall be responsible, and the forecast flight schedule.
 - (c) the responsible flight dispatcher may supervise personnel, including assistants, as part of an approved on-the-job training program, provided this supervision does not interfere with the performance of his or her duties.
 - (d) the flight dispatcher shall maintain a record of information generated or exchanged in relation to any flight for which that flight dispatcher has responsibility.

(4) Dispatch Release. The Dispatch Release of a flight occurs when the flight dispatcher approved the Operational Flight Plan, after which it is submitted to the pilot-in-command for acceptance. When there is disagreement between the flight dispatcher and the pilot-in-command over the dispatch of a flight, the disagreement resolution policy, where one has been specified by the air operator, or the most conservative course of action shall be followed. The dispatch release may be in the form of an Operational Flight Plan signed by the flight dispatcher or it may consist of a separate document signed in accordance with approved air operator operating procedures.

A means shall be provided and procedures developed to ensure that at each location where flights originate, the pilot-in-command:

- (a) receives meteorological information related to the flight;
- (b) obtains a hard copy of the Operational Flight Plan; and
- (c) except where communication is not practical, can contact the responsible flight dispatcher prior to take-off, if necessary.
- (5) Flight Watch
 - (a) a flight dispatcher shall maintain current information on the progress of flights for which he or she is responsible.
 - (b) a Flight Watch, which shall continue until completion of the flight, shall be maintained on all factors and conditions that might affect the Operational Flight Plan. The pilot-in-command shall be kept fully advised of all these factors and conditions.
 - (c) in-flight reports shall be directed to the flight dispatcher performing Flight Watch:
 - (i) after each take-off and landing;
 - (ii) at least once an hour on any flight longer than one hour conducted in uncontrolled airspace;
 - (iii) at intervals not greater than two hours on international operations where communications are possible;
 - (iv) when the fuel remaining at any time on the flight falls below the minimum specified on the Operational Flight Plan; and
 - (v) where the pilot-in-command determines a change is necessary to the Operational Flight Plan enroute.

Type B

(1) General

(a) Application. As required for No Alternate IFR operations.

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(b) Responsibility and Authority

- (i) the requirements are the same as for Type A, Subsection 1(b); or
- (ii) when departure is from an airport not routinely served by the air operator and communications do not permit the co-authority dispatch of a flight, the Operational Flight Plan (dispatch release) shall be established before the arrival of the flight. The pilot-in-command shall advise the flight dispatcher of any modifications made to the Operational Flight Plan when communications allow.
- (c) Centers. The Flight Dispatch Center shall be established so as to provide assistance to the pilots-in-command over any area for which a Type B system is approved.
- (d) Communications
 - (i) In-flight Communications. Direct or indirect communication between the flight dispatcher and the pilot-in-command shall be maintained during flight time with as short a delay as practical considerations permit. Wherever possible, communications shall be provided by other than Air Traffic Services. The use of ATS communications systems is permitted. A private agency under contract to the air operator shall be approved to provide the required communications services.
 - (ii) <u>On-ground Communications</u>. The requirements are the same as for Type A, Subsection 1(d)(ii).
- (e) Flight Dispatchers On Duty. The requirements are the same as for Type A, Subsection 1(e).
- (2) Flight Dispatch Center
 - (a) the requirements are the same as for Type A, Subsection 2(a).
 - (b) the requirements are the same as for Type A, Subsection 2(b).
 - (c) each center shall be provided with communications equipment that ensures:
 - direct contact with the pilot-in-command during flight when operating in the vicinity of airports regularly served by the air operator. At those stations where a lack of facilities prevent direct communications between the pilot-in-command and flight dispatch, reliable indirect contact through a ground station and radio relay from that station by the air operator personnel to the pilot-in-command shall be permitted;
 - (ii) direct communication with the flight line at each airport regularly served by the operator; and
 - (iii) direct ATS contact.

(3) Flight Dispatcher (Operations Officer). The requirements are the same as for Type A, Section 3.

(4) Dispatch Release. The requirements are the same as for Type A, Section 4, except where differences are approved.

(5) Flight Watch. The requirements are the same as for Type A, Section 5, with the exception of Subsection 5(c)(iii), which is to be observed as far as practical, taking into consideration the nature of the particular operations.

Type C

(1) General

- (a) <u>Application</u>. A Type C classification shall apply to air operators operating under Instrument Flight Rules (IFR) and Visual Flight Rules (VFR) at night in Commuter Operations using:
 - (i) airplanes with a seating configuration, excluding pilots, of 10 to 19; or
 - (ii) turbo-jet airplanes with a seating configuration, excluding pilots, of 19 or less.
- (b) <u>Responsibility and Authority</u>. Operational control is delegated to the pilot-in-command of a flight by the Operations Manager, who retains responsibility for the day-to-day conduct of flight operations.
- (c) <u>Centers</u>. Current information on the location of the air operator's airplanes shall be maintained at the main base of operations or, where appropriate, at its sub-base of operations;
- (d) <u>Communications</u>. Each airplane shall be equipped with serviceable and functioning communications equipment that permits the pilot-in-command to communicate with a ground

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radio station for the purpose of flight following. Such a ground station may be operated by the government, the air operator or a private agency;

(e) <u>Personnel On Duty</u>. Refer to Section 3 below.

(2) Dispatch Release. Flights operated under this system are self-dispatched and released by the pilotin-command. Where an air operator chooses to use a Dispatch Release, as required under a Type B system, the flight dispatcher preparing that release shall be qualified in accordance with Type A operational control system.

(3) Flight Watch and Flight Following. Flight Following for a Type C system is the monitoring of a flight's progress, the provision of such operational information as may be required by that flight, and the notification of appropriate air operator and search-and-rescue authorities if the flight is overdue or missing.

Flight Following procedures and the standards of training and qualification for the individual performing this function shall be described in the air operator's Company Operations Manual.

- (a) if an air operator chooses to use either a Type Å or B system, Flight Watch shall be required and exercised in accordance with the requirements of that system.
- (b) if an air operator chooses to use pilot self-dispatch, the pilot-in-command is solely responsible for Flight Watch but shall be supported by an air operator provided Flight Following System containing the following elements:
 - (i) a flight follower qualified and knowledgeable in the air operator's flight alerting procedures, on duty and able to respond to requests by the pilot-in-command for information related to the flight. Such information shall include meteorological information without analysis or interpretation;
 - (ii) the progress of each flight from its commencement to its termination, including any intermediate stops, shall be monitored, which may be done by the same person as in Subsection 3(b)(i) above; and
 - (iii) the pilot-in-command shall be responsible for passing messages concerning airplane landings and departures from point of origin, enroute stops, and final destination to the person described in Subsection 3(b)(i) above.

Type D

(1) General

- (a) <u>Application</u>. A Type D classification shall apply to all commuter operations under day VFR, except for turbo-jet airplanes.
- (b) <u>Responsibility and Authority</u>. Operational control is delegated to the pilot-in-command of a flight by the Operations Manager, who retains responsibility for the day-to-day conduct of flight operations.
- (c) <u>Centers</u>. Current information on the location of the air operator's airplanes shall be maintained at the main base of operations, its sub-base of operations or where appropriate from the location from which the flight following is being carried out.
- (d) <u>Communications</u>. Each airplane shall be equipped with serviceable and functioning communications equipment that permits the pilot-in-command to communicate with a ground radio station for the purpose of exchanging messages with the air operator. Such a ground station may be operated by the government, the air operator or a private agency.
- (e) <u>Personnel On Duty</u>. A person, qualified and knowledgeable in the air operator's flight alerting procedures, shall be on duty or available when operations are being conducted.

(2) Flight Following. Flight Following for a Type D system is the monitoring of a flight's progress and the notification of appropriate air operator and search-and-rescue authorities if the flight is overdue or missing.

Flight Following procedures and the standards of training and qualification for the individual performing this function shall be described in the air operator's Company Operations Manual:

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- (a) each flight shall be conducted under a VFR Flight Plan, or Flight Itinerary, as appropriate;
- (b) the pilot-in-command is responsible for Flight Watch but shall be supported by an air operator Flight Following System that shall monitor the progress of each flight from its commencement to its termination, including any intermediate stops. The person performing the flight following functions, who may be the same person as in Subsection 1(e) above, shall be delegated to do so by the Operations Manager; and
- (c) the pilot-in-command shall be responsible for passing messages concerning airplane landings and departures from the point of origin, at enroute stops, and from the final destination in order to satisfy the requirements of Subsection 2(b) above.

s704.16 Reserved

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s704.17 Operational Flight Plan

In accordance with the classification of its operational control system (s704.15), an air operator shall adhere to the full 30 item list below; the abbreviated 18-item list, as indicated by asterisk; or an informal operational flight plan. The minimum content for an operational flight plan (OFP) applies as follows:

Operational Control System Classification	Type of Operational Flight Plan
Type C and Type D: IFR, except local, and VFR at night	18 – item list abbreviated OFP
Type C and Type D: VFR and IFR local	Informal OFP and ATC flight plan, flight itinerary, or other flight following information, as applicable.

For local flights (within 25 nm) or flights that terminate at the departure aerodrome, the operational flight plan need not be a formal document unless the air operator specifies otherwise in its Company Operations Manual.

An air operator that operates flights over routes with little or no cruise segment (less than 30 minutes) may use the abbreviated operational flight plan.

The Minimum Required Content of an Operational Flight Plan is:

- (a) * air Operator's name;
- (b) * date;
- (c) * airplane registration;
- (d) * airplane tail number (as applicable);
- (e) * airplane type and model (as applicable);
- (f) * flight number (as applicable);
- (g) type of flight; Instrument Flight Rules or Visual Flight Rules at night unless all the air operator's flights are the same;
- (h) * pilot-in-command's name;
- (i) * flight dispatcher's name (if applicable);
- (j) * departure aerodrome;
- (k) * destination aerodrome;
- (1) * alternate aerodrome, as applicable, including enroute alternates where required;
- (m) routing to destination by successive navigational way points and a method to obtain associated tasks for each;
- (n) routing to alternate aerodrome;


- (o) specification of any way points enroute to satisfy any special operations requirements;
- (p) * planned cruise altitudes to destination and alternate (as applicable);
- (q) planned cruise, True Air Speed;
- (r) planned cruise, Indicated Air Speed, or mach number (as applicable);
- (s) winds at planned cruise altitude: these may be expressed in terms of direction/velocity or as a component/drift angle;
- (t) temperature at cruise altitude;
- (u) ground speed or wind component during cruise;
- (v) * estimated time enroute: if broken down into way point time components, a total shall be specified;
- (w) time from destination to alternate (as applicable);
- (x) distance to destination: if broken down into way point distance components, a total shall be specified;
- (y) distance from destination to alternate;
- (z) * fuel burn enroute and from destination to alternate;
- (aa) * fuel as applicable for the type of flight plan:
 - (i) taxi;
 - (ii) destination;
 - (iii) alternate;
 - (iv) contingency (as applicable);
 - (v) holding reserve;
- (bb) * weights:
 - (i) total fuel on board;
 - (ii) zero fuel weight (if applicable); and
 - (iii) planned maximum take-off weight;
- (cc) * signature of pilot-in-command and as applicable the Flight Dispatcher, or alternate means of certifying acceptance;
- (dd) * number of persons on board: crew and passengers, as amended by final load figures.

The format of the full operational flight plan shall allow the crew to record the fuel state and the progress of the flight relative to the plan. The operational flight plan may be computer generated or produced manually working from charts and tables, by either the flight dispatcher or the flight crew. When an operational flight plan is prepared manually, an approved form displaying the requisite information and providing the necessary space to make flight following entries as the flight progresses shall be used.

The air operator shall specify, in its Company Operations Manual, how formal acceptance of the operational flight plan by the Pilot-in-Command and, if applicable, the flight dispatcher shall be recorded.

s704.18 to s704.25 Reserved

s704.26 Take-Off Minima

(1) Weather Below Landing Limits. The standards for conducting a take-off in IMC when weather conditions are above take-off, but below landing minima for the runway in use are:

- (a) for departures where the operator has prevented more than 9 passenger seats from being occupied:
 - (i) an alternate aerodrome is specified in the IFR flight plan and that aerodrome is located:
 - A. in the case of a twin-engined aircraft, within the distance that can be flown in 60 minutes at the normal cruising speed; or



- B. in the case of an aircraft with three or more engines, within the distance that can be flown in 120 minutes at the normal cruising speed; and
- (b) for all other departures:

(i)

- an alternate aerodrome is specified in the IFR flight plan and that aerodrome is located:
 A. in the case of a twin-engined aircraft, within the distance that can be flown in 60
 - A. in the case of a twin-engined aircraft, within the distance that can be flown in 60 minutes at the one-engine-inoperative cruise speed, or
 - B. in the case of an aircraft with three or more engines, within the distance that can be flown in 120 minutes at the one-engine-inoperative cruise speed.

(2) Weather Below Published Take-off Minima. The standard for take-off in a turbine-powered airplane in IMC below the weather minima specified in the DGCA Approved Aeronautical Charts or in an equivalent foreign publication is:

- (a) Take-off Minima Reported Visibility RVR 1200 feet (1/4 mile) Airplanes with Certified Engine-out Take-off and Climb Performance
 - (i) the Company Operations Manual shall contain detailed guidance on how to determine departure one engine inoperative climb gradient and obstacle clearance;
 - (ii) a take-off alternate selected in accordance with s704.26(1) shall be specified in the flight plan;
 - (iii) the runway is equipped as detailed in ICAO Standards and Recommended Practices with serviceable and functioning high intensity runway lights or runway line-line lights or with runway line-line markings that are plainly visible to the pilot throughout the take-off run;
 - (iv) the pilot-in-command is satisfied that the required RVR 1200 feet (1/4 mile) visibility exists for the runway to be used before commencing take-off;
 - (v) the pilot-in-command and second-in-command attitude instruments (artificial horizons) on the airplane shall incorporate pitch attitude index lines in appropriate increments above and below the zero pitch reference line to at least 15°, and are capable of ensuring ready depiction of total airplane attitude. An approved failure warning system which will immediately detect essential instrument and equipment failures or malfunctions shall be installed and operative. For the purpose of reduced visibility take-offs, essential instruments are defined as attitude indicators, directional gyros and HSI's;
 - (vi) the flight crew members shall be given training in accordance with s704.115(21) as applicable;
 - (vii) the chief pilot has certified in the document certifying qualifications and proficiency that the pilot-in-command is competent to conduct an RVR 1200 feet (1/4 mile) take-off; and
 - (viii) the pilot-in-command shall have at least 100 hours of pilot-in-command experience on the airplane type. A pilot-in-command converting onto an airplane type similar to that on which he had been maintaining pilot-in-command qualifications at these limits for at least 90 days prior to conversion may be authorized these limits by the air operator on completion of required line indoctrination. Similar airplanes shall be considered as turbo-propeller to turbo-propeller or turbo-jet to turbo-jet.
- (b) Take-off Minima Reported Visibility RVR 1200 feet (1/4 mile) Airplanes without Certified Engine-out Take-off and Climb Performance:
 - (i) the Company Operations Manual shall contain detailed guidance on how to determine single-engine climb gradient and obstacle clearance;
 - (ii) a take-off alternate selected in accordance with s704.26(1) shall be specified in the flight plan; and
 - (iii) the takeoff weight of the airplane shall not exceed the weight determined from the Airplane Flight Manual that, considering the runway characteristics and ambient weather conditions, meets the following requirements:
 - A. airplanes carrying nine or fewer passengers:



- the required Accelerate-Stop Distance shall not exceed Accelerate-Stop Distance Available (ASDA); and
- the required engine-out take-off distance shall not exceed Take-off Distance Available (TODA); and

Information Note: Where the aircraft manufacturer does not provide data for singleengine take-off distance, but provides data for engine-out climb in the take-off configuration, the airplane weight shall permit a positive rate of climb using the configuration and speed at liftoff.

- B. airplanes carrying 10 or more passengers:
 - the required Accelerate-Stop Distance shall not exceed Accelerate-Stop Distance Available (ASDA);
 - the required engine-out take-off distance shall not exceed Take-Off Distance Available (TODA); and
 - the Net Take-off Flight Path to 1500 feet AGL shall clear all obstacles by at least 35 feet vertically or at least 200 feet horizontally within the aerodrome boundaries and 300 feet horizontally outside those boundaries;
- (iv) the runway is equipped as detailed in the manual of Aerodrome Standards and Recommended Practices with serviceable and functioning high intensity runway lights or runway center line lights or with runway line-line markings that are plainly visible to the pilot throughout the take-off run;
- (v) the pilot-in-command is satisfied that the required RVR 1200 (1/4 mile) visibility exists for the runway to be used before commencing take-off;
- (vi) the pilot-in-command and first officer attitude instruments (artificial horizons) on the airplane shall incorporate pitch attitude index lines in appropriate increments above and below the zero reference line to at least 15°, and are capable of ensuring ready depiction of total airplane attitude. An approved failure warning system which will immediately detect essential instrument and equipment failures or malfunctions shall be installed and operative. For the purpose of reduced visibility take-offs, essential instruments are defined as attitude indicators, directional gyros and HSI's;
- (vii) the flight crew members shall be given training in accordance with Subsection s704.115(21) as applicable. Pilots must also complete annual training in a simulator for the type, certificated to Level B or higher, during which RVR 1200 take-offs are practiced;
- (viii) the chief pilot has certified in the document certifying qualifications and proficiency that the pilot-in-command is competent to conduct an RVR 1200 feet (1/4 mile) visibility take-off; and
- (ix) the pilot-in-command shall have at least 100 hours of pilot-in-command experience on the airplane type. A pilot-in-command converting onto an airplane type similar to that on which he had been maintaining pilot-in-command qualifications at these limits for at least 90 days prior to conversion may be authorized these limits by the air operator on completion of required line indoctrination. Similar airplanes shall be considered as turbo-propeller to turbo-propeller or turbo-jet to turbo-jet.
- (c) Take-off Minima Reported RVR 600 feet
 - (i) the Company Operations Manual shall contain detailed guidance on how to determine departure one engine inoperative climb gradient and obstacle clearance;
 - (ii) the runway has the following equipment in accordance with the manual for Aerodrome Standards and Recommended Practices:
 - A. serviceable and functioning high intensity runway lights, runway line-line lights and line-line markings that are plainly visible to the pilot throughout the take-off run;



- B. at least two transmissometers, one situated at the approach end and one at the mid-point of the runway, each reading not less than RVR 600 feet; and
- C. if three transmissometers are available and the mid-point transmissometer is unserviceable, take-off is authorized provided the transmissometers at the approach end and the departure end of the runway, each is reading not less than RVR 600 feet;
- (iii) the pilot-in-command is satisfied that the required RVR 600 feet visibility exists for the runway to be used before commencing take-off;
- (iv) the pilot-in-command and second-in-command attitude instruments (artificial horizons) on the airplane shall incorporate pitch attitude index lines in appropriate increments above and below the zero pitch reference line to at least 15°, and be capable of ensuring ready depiction of total airplane attitude. An approved failure warning system which will immediately detect essential instrument and equipment failures or malfunctions shall be installed and operative. For the purpose of reduced visibility take-offs, essential instruments are defined as attitude indicators, directional gyros and HSI's;
- (v) the flight crew members shall be given training in accordance with Subsection s704.115(21) as applicable;
- (vi) the pilot-in-command, and the second-in-command if authorized by the air operator for lower than normal take-off minima, shall be checked within the preceding 12 months in an approved synthetic flight training device by an approved company check pilot or a DGCA Inspector and shall be certified on the document certifying qualifications and proficiency as competent to conduct an RVR 600 feet take-off; and
- (vii) the pilot-in-command shall have at least 100 hours of pilot-in-command experience on the airplane type. A pilot-in-command converting onto an airplane type similar to that on which he had been maintaining pilot-in-command qualifications at these limits for at least 90 days prior to conversion may be authorized these limits by the air operator on completion of required line indoctrination. Similar airplanes shall be considered as turbo-propeller to turbo-propeller or turbo-jet to turbo-jet.

s704.27 to s704.28 Reserved

s704.29 Routes in Uncontrolled Airspace

For an air operator to establish routes in uncontrolled airspace the following standards shall be met:

(1) A minimum obstruction clearance altitude (MOCA) shall be established for each route segment by the use of Approved Aeronautical Charts for updating of significant obstructions as follows:

- (a) for flight under IFR a minimum altitude of 2000 feet above the highest obstacle located within a horizontal distance of 10 miles from the center line of route;
- (b) for flight at night in VFR conditions a minimum altitude of 1000 feet above the highest obstacle located within 3 miles from the center line of the route.

(2) For each route segment a minimum enroute altitude (MEA) shall be established which meets or exceeds the minimum obstruction clearance altitude and assures navigational signal coverage. For line of sight navigation aid reception distance, for ground installed aids the minimum reception altitude may be calculated by calculating the square root of an altitude above the navigation aid and multiplying the result by 1.25 (Sq. root 3000 ft. is $54.7 \times 1.25 = 68$ miles). The MEA will be established to the nearest higher 100 foot increment.

(3) Each route shall include:

- (a) the FROM/TO route segment;
- (b) track;
- (c) MOCA;
- (d) MEA;



- (e) distance between fixes or waypoints; and
- (f) navigation aids.

(4) the air operator shall maintain a record of their company routes in a form and format similar to the catalogue of approved routes.

Provided the above procedures are followed, an air operator's pilot may use routes that are not yet contained in the record of company routes.

(5) Prior to initial use of other than a publicly available navigation aid, permission of the owner/operator shall be obtained and retained in company records. No VFR at night or IFR flights shall commence unless the navigation aids upon which the route is predicated are in satisfactory operating condition, or the flight is conducted using an approved long range navigation system.

When company routes are predicated on other than a publicly available navigation aid and arrangements have not been made with the owner/operator to advise when the navigation aid is out of service, instructions to pilots shall be included on how, and whom to contact, to confirm that the navigation aid is in service.

(6) The air operator's Company Operations Manual shall be amended to outline the above procedures and information for pilot guidance.

(7) The flight visibility shall not be less than 3 miles for flights in VFR at night.

Information Note: *Pilot training for area navigation systems is contained in Section s704.115 of the Commercial Air Services Standards.*

s704.30 to s704.31 Reserved

s704.32 Weight and Balance Control

The weight and balance system required by Section 704.32 of the Lebanese Aviation Regulations shall specify for each flight how the air operator will establish and be responsible for the accuracy of:

(1) airplane basic empty weight and center of gravity determined in accordance with the Airplane Flight Manual;

(2) airplane operational empty weight and center of gravity. The airplane operational empty weight is the actual weight of the airplane before loading for dispatch consisting of the airplane basic empty weight and may include removable equipment, flight crew members (including baggage), crew members (including baggage and supplies), water, toilet fluids and chemicals, oil, unusable fuel and emergency equipment and shall be defined by the air operator;

(3) weight of passengers, carry-on baggage and checked baggage, determined either by actual weight, by using approved standard weights or by using approved survey weights, and the actual weight of cargo;

(4) weight of the fuel load determined by using either the actual specific gravity or a standard specific gravity;

(5) airplane loading including, but not limited to, compartment weight and bulk cargo limits, floor loading limits, cargo restraint and unit load device/pallet loading considering weight and center of gravity limits;

(6) airplane zero fuel weight (if applicable);

(7) location of the center of gravity to include the longitudinal position and where required, lateral and vertical positions;

(8) preparation and disposition of all required documentation whether by the air operator or other qualified personnel authorized by the air operator; and



(9) the training, both initial and recurrent, of all air operator personnel and other qualified personnel authorized by the air operator with duties and responsibilities in this system. The training shall be in the appropriate parts of the Company Operations Manual.

The weight and balance computation may be incorporated in the operational flight plan or be a separate form.

s704.33 Passenger and Cabin Safety Procedures

(1) Safe Movement of Passengers to and From the Airplane

The procedures for the safe movement of passengers to and from the airplane shall include:

- (a) wherever possible, airplanes are parked in a location that avoids passenger exposure to hazardous conditions;
- (b) announcements to embarking/debarking passengers as warranted to alert them to hazardous conditions or dangers that may be encountered during embarkment/disembarkment and/or enroute to or from the airside exit/entrance points, and advising them to follow any directions provided outside the airplane;
- (c) adequate guidance, and where necessary an escort, provided to passengers so as to ensure that their movements while airside are properly controlled. The responsibility for this shall be clearly defined and the controls shall ensure:
 - (i) passengers are directed along the correct and safe route between the airplane and the airside entrance/exit point, and prompt attention is given to stragglers where necessary;
 - (ii) an escort is assigned to control passenger movements when the route to or from the airplane is congested by other aircraft or vehicles or when required by the Air Carrier Security Measures; and
 - (iii) passengers are not exposed to hazards from aircraft operations, fuelling equipment, exposure to jet blasts, engines, rotors or propellers, or to the hazards posed by lighting conditions, obstacles positioned along the route or unsafe surface or stairway conditions;
- (d) smoking restrictions are enforced;
- (e) "Walkman" or similar entertainment system headsets that decrease awareness of other traffic or limit reception of audible direction or warning signals, are not worn;
- (f) clearly assigning the responsibility for the opening/closing and the locking/unlocking of terminal building doors, to enable enplaning/deplaning passengers to access the apron or terminal. Where this responsibility is assigned to persons other than the air operator's personnel or those contracted by the air operator, the crew members are so advised;
- (g) where conditions so warrant, the embarking/disembarking activity is postponed until a safe walking zone is prepared;
- (h) unsatisfactory or hazardous conditions are reported to the responsible authority;
- (i) passengers are briefed on how to safely emplane or deplane whenever the aircraft engines are running; and
- (j) passengers on float planes are alerted to hazards unique to emplaning and deplaning this type of aircraft.

The procedures shall not preclude the safe embarkment and disembarkment of all passengers.

The procedures shall be incorporated in training programs and training will be provided to crew members, ground handling and passenger agent staff (including contract personnel) involved with the transfer of passengers between the terminal building and the airplane.

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The training will be adequate to ensure that personnel are fully aware of their responsibilities, are able to perform their assigned duties for the safety of airside passengers and know to whom the air operator personnel report in the application of their responsibilities. Where there is an overlap in the duties/responsibilities assigned to personnel, the training will ensure that the trainees know the relationship of their duties/responsibilities to those of the other personnel involved.

(2) Fuelling with Passengers on Board. Airplanes may be fuelled with passengers on board, embarking or disembarking under the following conditions:

- (a) in order to ensure that crew members receive prompt notification of a situation threatening safety such as major fuel spill or a fire, two way communication is maintained between the ground crew supervising the fuelling and the qualified personnel on board the airplane so that the airplane can be disembarked or evacuated as necessary;
- (b) a means of communication among the qualified personnel on board the airplane, ground/maintenance crews and fuelling agencies is determined and established and the procedures are provided to the appropriate personnel;
- (c) the airplane engines are not running unless the aircraft incorporates a propeller brake and the brake is set. The Aircraft Flight Manual must refer to the propeller brake/engine as an auxiliary power unit (APU);
- (d) during the fuelling process:
 - (i) airplane ground power generators or other electrical ground power supplies are not being connected or disconnected;
 - (ii) combustion heaters installed on the airplane (e.g. wing and tail surface heaters, integral cabin heaters) are not operated;
 - (iii) other combustion heaters used in the vicinity of the airplane are manufactured to a standard acceptable to the Minister and approved in accordance with the Fire Authority of Lebanon for use in hazardous atmosphere;
 - (iv) known high energy equipment such as High Frequency (HF) radios are not operated, unless in accordance with the airplane manufacturer's approved flight manual where the manual contains procedures for the use of this equipment during fuelling;
 - (v) weather-mapping radar equipment in the airplane is not operated unless in accordance with the manufacturer's approved airplane flight manual where the manual contains procedures for use during fuelling;
 - (vi) airplane batteries are not being removed or installed;
 - (vii) external battery chargers are not being connected, operated or disconnected;
 - (viii) borne-borne auxiliary power units which have an efflux discharging into the zone are not started after filler caps are removed or fuelling connections are made;
 - (ix) if an auxiliary power unit (APU) is stopped for any reason during fuelling it shall not be restarted until the flow of fuel has ceased and there is no risk of igniting fuel vapors, however, the APU may be operated in accordance with the manufacturer's approved airplane flight manual if the manual contains procedures for starting the APU during fuelling;
 - (x) electric tools or similar tools likely to produce sparks or arcs are not being used; and
 - (xi) photographic equipment is not used within 10 ft. (3m) of the fuelling equipment or the fill or vent points of the airplane fuel systems;
- (e) fuelling is immediately suspended when there are lightning discharges within 8 km of the aerodrome;
- (f) the airplane is fuelled in accordance with manufacturer's procedures for that type of airplane;
- (g) the airplane emergency lighting system is armed or on, (if applicable);
- (h) "No Smoking" signs on board the airplane are illuminated, as applicable;
- (i) procedures are established to ensure that passengers do not smoke, operate portable electronic devices or otherwise produce sources of ignition;

- (j) a minimum of two exits are designated evacuation exits during fuelling; one of which must be the entry doors through which the passengers embarked;
- (k) the designated evacuation exits during fuelling are identified by airplane type and published in the Company Operations Manual, and are clear and available for immediate use by passengers and crew members should an evacuation be required;
- the air operator has procedures in place to ensure that there is a ready escape route from each designated evacuation exit during fuelling;
- (m) a means of evacuation, such as a deployed integral stair, a loading stair or stand, is in place at the airplane door used for the embarking and disembarking of passengers and is free of obstruction and available for immediate use by the airplane occupants if necessary;
- (n) a qualified person trained in the operation and use of emergency exits and in emergency evacuation procedures who is ready to initiate and direct an evacuation is at or near the door at which there is a deployed integral stair, a passenger loading stair or stand; and
- (o) Where desirable for climatic reasons, and provided a crew member is on board, an airplane embarking door that is inward opening or can be fully opened to the exterior without repositioning of loading stairs or stand may be closed, and latched if necessary to keep it closed, but may not be locked.

(3) Use of Portable Electronic Devices. The prohibited devices, the permitted devices without restrictions and the permitted devices with restrictions are defined as follows, and are to be used in accordance with the stated requirements as applicable:

- (a) Prohibited Devices. Any transmitting device that intentionally radiates radio frequency signals;
- (b) Permitted Devices Without Restrictions
 - (i) hearing aids;
 - (ii) heart pacemakers;
 - (iii) electronic watches; and
 - (iv) properly certificated air operator installed equipment;
- (c) Permitted Devices With Restrictions
 - (i) personal life support systems may be operated during all phases of flight, provided that the device does not cause interference with the aircraft's systems or equipment;
 - (ii) portable two-way radio communication devices may be used subject to all of the following conditions and restrictions being met:
 - A. use is prohibited at all times when the aircraft engines are running, excluding the auxiliary power unit,
 - B. when the pre-flight safety briefing begins prior to engine start, use is terminated during the delivery of the pre-flight safety briefing and demonstration, and
 - C. the Company Operations Manual contains procedures to ensure these devices are turned off and properly stowed during the delivery of the pre-flight safety briefing and demonstration and while the aircraft engines are running;
 - (iii) other portable electronic devices may be used, except during take-off, climb, approach and landing.

(4) Passengers shall be informed of the air operator's policy pertaining to the use of portable electronic devices and those devices that are prohibited from use during the delivery of the pre-flight safety briefing and demonstration.

(5) When interference with the aircraft's systems or equipment is suspected from use of a portable electronic device, crew members shall:

- (a) confirm passenger use of portable electronic device(s);
- (b) instruct passenger(s) to terminate the use of portable electronic device(s);
- (c) prohibit the use of suspected portable electronic device(s); and
- (d) recheck the aircraft's systems and equipment.

(6) The pilot-in-command shall report incidents of portable electronic device interference and include the following information in the report:



- (a) <u>Flight Information</u>. Aircraft type, registration, date and UTC time of incident, aircraft location (VOR bearing/DIST/LAT/LONG), altitude, weather conditions, pilot name and telephone number;
- (b) <u>Description of Interference</u>. Description of effects on cockpit indicators, audio or systems, including radio frequency, identification, duration, severity and other pertinent information;
- (c) Action Taken by Pilot/Crew to Identify Cause or Source of Interference;
- (d) <u>Identification of Portable Electronic Device</u>. Description of device, brand name, model, serial number, mode of operation (i.e. FM radio), device location (seat location), and regulatory approval number (FCC/other);
- (e) Identification of User. Name and telephone number of passenger operating the device; and
- (f) <u>Additional Information</u>. As determined pertinent by the crew; and
- (7) Reports of portable electronic device interference shall be submitted to the DGCA.

s704.34 Briefing of Passengers

(1) Standard Safety Briefing. The standard safety briefing shall consist of an oral briefing provided by a crew member or by audio or audio-visual means which includes the following information as applicable to the airplane, equipment, and operation:

- (a) prior to take-off:
 - (i) when, where, why and how carry-on baggage is required to be stowed;
 - (ii) the fastening, unfastening, adjusting and general use of safety belts or safety harnesses;
 - (iii) when seat backs must be secured in the upright position and chair tables must be stowed;
 - (iv) the location of emergency exits and for passengers seated next to an exit, how that exit operates;
 - (v) the location, purpose of, and advisability of reading the safety features card;
 - (vi) the regulatory requirement to obey crew instructions regarding safety belts and no smoking or Fasten Seat Belt and No Smoking signs and the location of these signs;
 - (vii) the location of any emergency equipment the passenger may have a need for in an emergency situation such as the ELT, fire extinguisher, survival equipment (including the means to access if in a locked compartment), first aid kit and life raft;
 - (viii) the use of passenger operated portable electronic devices;
 - (ix) the location, and operation of the fixed passenger oxygen system, including the location and presentation of the masks; the actions to be performed by the passenger in order to obtain the mask, activate the flow of oxygen and correctly don and secure the mask. This will include a demonstration of their location, method of donning including the use of elastic band, operation, and instruction on the priority for persons assisting others; and
 - (x) the location, and use of life preservers, including how to remove from stowage/packaging and a demonstration of their location, method of donning and inflation, and when to inflate life preservers;
- (b) after take-off, if not included in the pre take-off briefing:
 - (i) that smoking is prohibited;
 - (ii) the advisability of using safety-belts or safety harnesses during flight; and
 - (iii) the requirement to obey crew instructions or fasten seat belt and no smoking signs and the location of these signs;
- (c) in-flight because of turbulence:
 - (i) when the use of seat belts is required, and
 - (ii) the requirement to stow carry-on baggage; and
- (d) prior to passenger disembarkment, the safest direction and most hazard-free route for passenger movement away from the airplane following disembarkment, and any dangers associated with the airplane type such as pitot tube locations, propellers, or engine intakes.

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The safety message of the briefing may not be diluted by the inclusion of any service information or advertising that would affect the integrity of the safety briefing.

Where no additional passengers have embarked the flight for subsequent take-offs on the same day, the pre-take-off and after take-off briefings may be omitted provided a crew member has verified that all carry-on baggage is properly stowed, safety belts or harnesses are properly fastened, and seat backs and chair tables are properly secured.

- (2) Individual Safety Briefing. The individual safety briefing shall include:
 - (a) any information contained in the standard safety briefing and the safety features card that the passenger would not be able to receive during the normal conduct of that safety briefing; and
 - (b) additional information applicable to the needs of that person as follows:
 - (i) the most appropriate brace position for that passenger in consideration of his/her condition, injury, stature, and/or seat orientation and pitch;
 - (ii) the location to place any service animal that accompanies the passenger;
 - (iii) for a mobility restricted passenger who needs assistance in moving expeditiously to an exit during an emergency:
 - A. a determination of what assistance the person would require to get to an exit;
 - B. the route to the most appropriate exit;
 - C. the most appropriate time to begin moving to that exit; and
 - D. a determination of the most appropriate manner of assisting the passenger;
 - (iv) for a visually impaired person:
 - A. detailed information of and facilitating a tactile familiarization with the equipment that he/she may be required to use;
 - B. advising the person where to stow his/her cane if applicable;
 - C. the number of rows of seats between his/her seat and his/her closest exit and alternate exit;
 - D. an explanation of the features of the exits, and
 - E. if requested, a tactile familiarization of the exit;
 - (v) for a comprehension restricted person, while using the safety features card, pointing out the emergency exits and alternate exits to use, and any equipment that he/she may be required to use;
 - (vi) for persons with a hearing impairment:
 - A. while using the safety features card, pointing out the emergency exits and alternate exits to use, and any other equipment that the person may be required to use; and
 - B. communicating detail information by pointing, face-to-face communication permitting speech reading, pen and paper, through an interpreter or through their attendant;
 - (vii) for a passenger who is responsible for another person on board, information pertinent to the needs of the other person as applicable:
 - A. in the case of an infant:
 - seat belt instructions;
 - method of holding infant for take-off and landing;
 - > instructions pertaining to the use of a child restraint system;
 - oxygen mask donning instructions;
 - recommended brace position;
 - location and use of life preservers, as required; and
 - B. in the case of any other person:
 - > oxygen mask donning instructions;
 - > instructions pertaining to the use of a child restraint system; and
 - evacuation responsibilities; and



- (viii) for an unaccompanied minor, instructions to pay close attention to the normal safety briefing and to follow all instructions.
- Information Note: (a) A passenger that has been provided with an individual safety briefing need not be re-briefed following a change in crew if the crew member that provided the individual safety briefing has advised a member of the new crew of the contents of that briefing including any information respecting the special needs of that passenger.

(b) A passenger may decline an individual safety briefing.

(3) Passenger Preparation for an Emergency Landing. The emergency briefing provided in the event of an emergency where time and circumstances permit shall consist of instructions pertaining to:

- (a) safety belts or safety harnesses;
- (b) seat backs and chair tables;
- (c) carry-on baggage;
- (d) safety features cards;
- (e) brace position (when to assume, how long to remain); and
- (f) life preservers (if applicable).

s704.35 Safety Features Card

(1) The safety features card shall contain the following information as applicable to the airplane and equipment carried:

- (a) general safety information including:
 - (i) smoking is prohibited on board the airplane;
 - (ii) each type of safety belt or safety harness installed for passenger use, including when to use, how to fasten, tighten and release;
 - (iii) when and where carry-on baggage must be stowed and any other related requirements and restrictions pertinent to that particular airplane; and
 - (iv) correct positioning of seat backs and chair tables for take-off and landing;
- (b) emergency procedures and equipment including:
 - (i) fixed passenger oxygen system showing:
 - A. mask location and presentation; the actions to be performed by the seated passenger in order to obtain the mask, activate the flow of oxygen and correctly don and secure the mask; and
 - B. priority for persons assisting others with oxygen;
 - (ii) location of first aid kits;
 - (iii) location of fire extinguishers that would be accessible to the passengers;
 - (iv) location of Emergency Locator Transmitters;
 - (v) location of survival equipment, and if the stowage compartment is locked, the means of access or location of the key;
 - (vi) passenger brace position for impact, as appropriate for each type of seat and restraint system installed for passenger use; including the brace position for an adult holding an infant;
 - (vii) the location, operation and method of using each emergency exit type on the airplane, including identification of those emergency exits known to be rendered unusable in a ditching or because of airplane configuration such as a combi configuration;
 - (viii) the safest direction and most hazard-free escape route for passenger movement away from the airplane following evacuation;
 - (ix) the attitude of the airplane while floating;



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- location of life preservers and correct procedures for removal from stowage/packaging; donning and use of the life preserver for adult, child and infant users including when to inflate;
- (xi) location and use of life rafts; (as applicable);
- (xii) location, removal and use of flotation devices; and
- (xiii) the form, function, color and location of any Floor Proximity Emergency Escape Path lighting system that is installed; and
- (c) the name of the air operator and the airplane type.
- (2) The safety features card shall contain only safety information.
- (3) The safety information provided by the card shall:
 - (a) be accurate for the airplane type and configuration in which it is carried and in respect of the equipment carried;
 - (b) be presented with clear separation between each instructional procedure. All actions required to complete a multi-action procedure to be presented in correct sequence and the sequence of actions to be clearly identified; and
 - (c) be depicted in a clear and distinct manner.

s704.36 to s704.43 Reserved



DIVISION IV - AIRPLANE PERFORMANCE OPERATING LIMITATIONS

s704.44 Exceptions

The standards for operating an airplane without fully complying with Sections 704.44 through 704.61 of the Lebanese Aviation Regulations are as follows:

(1) Operations from or to Unprepared Surfaces (Propeller-driven Airplanes)

The standard for operating a propeller-driven airplane from or to unprepared surfaces, when such operations are not specifically addressed in the Airplane Flight Manual are set out in this standard.

The air operator's Company Operations Manual shall set out the program for operations involving unprepared surfaces. This program shall include:

- (a) prior to serving as the pilot-in-command during operations from unprepared strips a pilot shall have:
 - (i) at least 100 hours on type;
 - (ii) completed a course of ground and flight training covering topics such as take-off and landing surface characteristics, obstacle assessment and interpretation of pertinent airplane data;
 - (iii) completed at least 25 hours of line indoctrination involving unprepared strip operations; and
 - (iv) been certified by the Chief Pilot or his delegate as qualified for operations involving unprepared strips. A copy of this certification shall be placed on the pilot's training file;
- (b) procedures for company operational approval for unprepared strip operations; and
- (c) procedures for assessing and operating from/to unprepared surfaces and unfamiliar approach and departure routes.
- (2) Dispatch Limitations. Landing at Destination and Alternate Aerodromes (Propeller-driven Airplanes)
 - (a) Destination Aerodrome Runway Factors.

Propeller-Driven Airplanes Using Reverse Thrust

The standard for dispatching a propeller-driven airplane equipped with reverse thrust when its landing weight at destination will allow a full-stop landing within 80 percent of the Landing Distance Available (LDA) is:

- (i) approach speed for the estimated weight, flap setting and ambient conditions expected on arrival shall not exceed 100 KIAS;
- (ii) reverse thrust shall be serviceable and the runway surface conditions shall permit the use of full rated reverse thrust (i.e. no FOD risk);
- (iii) the runway surface is forecast to be bare and dry at the time of arrival;
- (iv) the flight crew shall have completed specific training on short-field landing techniques on that particular type of airplane within the 12 months preceding the flight; and
- (v) obstacle clearance shall not require an approach angle steeper than 3 degrees or threshold crossing height greater than 50 feet.

Information Note: *This is an obstacle clearance requirement and is not intended to affect the operation of the aircraft.*

(b) Alternate Aerodrome Runway Factors



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Propeller-Driven Airplanes Using Reverse Thrust

The standard for dispatching a propeller-driven airplane equipped with reverse thrust when its landing weight at the alternate will allow a full-stop landing within 80 percent of the Landing Distance Available (LDA) is:

- (i) approach speed for the estimated weight, flap setting and ambient conditions expected on arrival shall not exceed 100 KIAS;
- (ii) reverse thrust shall be serviceable and the runway surface conditions shall permit the use of full rated reverse thrust (i.e. no FOD risk);
- (iii) the runway surface is forecast to be bare and dry at the time of arrival;
- (iv) the crew shall have completed specific training on short-field landing techniques on that particular type of airplane within the 12 months preceding the flight; and
- (v) obstacle clearance shall not require an approach angle steeper than 3 degrees or threshold crossing height greater than 50 feet.

Information Note: *This is an obstacle clearance requirement only and is not intended to affect the operation of the aircraft.*

s704.45 Reserved

s704.46 Take-off Weight Limitations

(1) Relief from Accelerate-stop Distance Requirements. The standards for conducting a take-off without demonstrating that Accelerate-Stop Distance Required does not exceed Accelerate-Stop Distance Available are:

- (a) the air operator shall comply with all take-off weight limitations set out in the aircraft flight manual; and
- (b) the air operator meets one or more of the following conditions:
 - (i) prevents more than 9 passenger seats from being occupied;
 - (ii) uses an airplane with a MCTOW of 12,500 pounds or less that is propeller-driven and is being operated on demand; or
 - (iii) until December 20, 2010, uses an airplane with a MCTOW of 12,500 pounds or less that is propeller-driven.

(2) Relief from Engine-out Take-off Distance Requirements. The standard for operating a large propeller-driven airplane where the Take-off Distance Required in the event of an engine failure on take-off exceeds the Take-off Distance Available is as follows:

- (a) the air operator shall comply with all takeoff weight limitations set out in the approved flight manual for the airplane; and
- (b) the air operator shall prevent more than 9 passenger seats from being occupied.

s704.47 Net Take-off Flight Path

(1) Turbo-jet on Demand Operations. The standard for conducting a take-off during an on demand operation using a turbo-jet-powered airplane without demonstrating that the Net Take-off Flight Path provides obstacle clearance is as follows:

- (a) the air operator shall comply with all take-off weight limitations set out in the aircraft flight manual;
- (b) the airport elevation shall not exceed 4000 feet ASL;
- (c) the Take-off Run Available (TORA) shall be greater than or equal to 1.5 times the Take-off Distance Required in accordance with Section 704.46 of the Lebanese Aviation Regulations; and

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(d) ceiling and visibility shall be at or above the landing minima for the runway in use.

- (2) Propeller-Driven Large Airplanes General Conditions
 - (a) the standard for operating a large propeller-driven airplane when obstacle avoidance is not assured in the event of an engine failure during takeoff is as follows:
 - (i) the air operator shall prevent more than 9 passenger seats from being occupied; and
 - (b) the standard for determining Net Take-off Flight Path when visual obstacle avoidance is possible is as follows:
 - (i) obstacle assessment
 - A. the air operator shall obtain the best available data concerning obstacles in the proposed takeoff path. Transient obstacles (such as construction equipment or moored watercraft, etc.) shall be considered when they are estimated to lie within 300 feet of the center line of the proposed take-off path; and
 - B. where the precise height, bearing and distance of an object is not known (such as objects depicted on a topographical map), the air operator shall use a reasonable estimate for performance calculations. Calculations shall clearly indicate where estimated information is used; and
 - (ii) departure planning
 - A. the Operations Manager or his/her delegate shall establish a company engine-out departure plan using procedures set out in the Company Operations Manual, but including at least the following:
 - obstacle assessment;
 - > airplane performance, including turn radii; and
 - visual reference points to be used during the departure route; and
- Information Note: In all cases the operator shall retain the departure plan for audit purposes.
 - B. prior to commencing a take-off, the pilot-in-command shall, in consideration of the current winds, density altitude and airplane weight, satisfy himself or herself that the departure plan to be followed in the event of an engine failure on take-off avoids all obstacles in the departure path by either 35 feet vertically or 300 feet horizontally.

s704.48 to s704.61 Reserved



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DIVISION V - AIRCRAFT EQUIPMENT REQUIREMENTS

s704.62 to s704.82 Reserved



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DIVISION VI - EMERGENCY EQUIPMENT

s704.83 Reserved

s704.84 Equipment Standards and Inspection

(1) Survival Equipment - Flights Over Land. For flights over land the following standard shall be met:

- (a) the Company Operations Manual shall show how compliance with Section 602.61 of the Lebanese Aviation Regulations is to be achieved;
- (b) a list of survival equipment shall be carried on board with information on how to use it;
- (c) a survival manual, appropriate for the season and climate, shall be carried on board; and
- (d) crew members shall be trained in accordance with Section 724.115 of the Commercial Air Services Standards

(2) Survival Equipment - Flights Over Water. Where life rafts are required to be carried, in accordance with Section 602.63 of the Lebanese Aviation Regulations they shall be equipped with an attached survival kit containing at least the following:

- (a) a pyrotechnic signaling device;
- (b) a radar reflector;
- (c) a life raft repair kit;
- (d) a bailing bucket and sponge;
- (e) a signaling mirror;
- (f) a whistle;
- (g) a raft knife;
- (h) an inflation pump;
- (i) a dye marker;
- (j) a waterproof flashlight;
- (k) a two day supply of water, calculated using the overload capacity of the raft, consisting of one pint of water per day for each person or a means of
- (l) desalting or distilling salt water sufficient to provide an equivalent amount;
- (m) a fishing kit;
- (n) a book on sea survival; and
- (o) a first aid kit containing antiseptic swabs, burn dressing compresses, bandages and antimotion sickness pills.

(3) First Aid Kit. For the purposes of Section 704.84 of the Lebanese Aviation Regulations, the contents of the first aid kit required by Section 602.60 of the Lebanese Aviation Regulations are the supplies and equipment for a Type A Kit, and one pair of latex gloves.

s704.85 to s704.105 Reserved



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DIVISION VII - PERSONNEL REQUIREMENTS

s704.106 to s704.107 Reserved

s704.108 Flight Crew Member Qualifications

- (1) Pilot Proficiency Check
 - (a) the pilot proficiency check (PPC) in an airplane shall be conducted in accordance with Schedule I or Schedule II of this section.
 - (b) a pilot proficiency check shall be conducted in a manner that enables the pilot to demonstrate the knowledge and skills respecting:
 - (i) the air operator's airplane, its systems and components;
 - (ii) proper control of airspeed, direction, altitude, attitude and configuration of the airplane, in accordance with normal, abnormal and emergency procedures and limitations set out in the airplane flight manual, airplane operating manual (where applicable), the air operator's standard operating procedures, the check list, and any other information relating to the operation of the airplane type;
 - (iii) departure, enroute and arrival instrument procedures (if applicable) and other applicable procedures; and
 - (iv) adherence to approved procedures.
 - (c) for turbo-jet aircraft, initial and recurrent Pilot Proficiency Checks shall be conducted on a combination of a flight training device certified in accordance with the LARS to Level 7 or higher and a full flight simulator; or, a combination of a flight training device certified to level 7 or higher and the airplane. Where a synthetic flight training device is not available in Lebanon the required training may be conducted in the airplane.
 - (d) for pressurized turbo-prop aircraft, the DGCA encourages carriers to conduct training on the simulator, or to use a combination of training in an FTD and the airplane.
 - (e) the synthetic flight training device level of training and checking credits shall be approved by the DGCA in the training program approval process for each airplane type. Training and checking procedures not approved for the synthetic flight training device shall be completed in the airplane. The configuration of the flight training device shall closely resemble that of the airplane used by the air operator.
 - (f) a proficiency check of a pilot-in-command shall be completed in the seat normally occupied by the pilot-in-command and a check of a second-in-command shall be completed in the seat normally occupied by the second-in-command. The pilot proficiency check shall consist of a demonstration of both pilot flying (PF) duties and pilot not flying (PNF) duties.
 - (g) the PPC shall not be conducted as an isolated group of emergency procedures and drills. Rather it shall be constructed with minimum disruption in a logical continuous flow reflecting a normal flight profile. Normally the PPC is a pre-programmed activity, however, the person conducting the check may require any maneuver or procedure from the appropriate Schedule, necessary to determine the proficiency of the crew and to confirm that the crew can operate the airplane safety.
 - (h) a PPC shall include a demonstration of instrument flight (IF) proficiency if:
 - (i) the candidate possesses a valid Instrument Rating; and
 - (ii) the candidate conducts commercial IFR operations on the airplane in which the PPC is conducted.
 - (i) where a pilot successfully completes the full PPC, the pilot successfully completes the flight check requirements for the renewal of the applicable instrument rating.
- (2) Airplane Grouping for PPC Purposes. Where an air operator has been authorized airplane grouping for PPCs (renewal only) the following standard shall apply.

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- (a) for a pilot to commence participating in an air operator's authorized airplane grouping that pilot shall have passed within the preceding 12 months, in each type of airplane in which that pilot will act as a flight crew member, the PPC set out in Schedule I or Schedule II of this Section;
- (b) the pilot must complete initial and annual recurrent ground and flight training, including written examinations on systems and limitations, for each type of airplane in which he/she will serve as a crew member;
- (c) the annual PPC shall be conducted by an approved check pilot or a DGCA Inspector and passed on one of the airplane types from the authorized group. A different type of airplane from the group shall be used each successive year for the conduct of the PPC;
- (d) a failure to pass the PPC on the selected airplane type shall be considered to be a failure on all the airplane group types flown by that pilot; and
- (e) the document certifying qualifications and proficiency shall be endorsed for each airplane type.

(3) Use of other than an Air Operator Employee Pilot for Training and Checking. Authority may be given for other than an air operator employee pilot to occupy a flight crew seat when training, conducting line indoctrination training, and while the air operator first flight crews are completing the minimum flight time requirements on a new airplane type.

The pilot shall:

- (a) provide a resume, proof of background on the type of airplane, and recent experience appropriate to the training to be given; and
- (b) hold the appropriate license, ratings and endorsements. Where the pilot holds a foreign pilot license the license and (as applicable) the instrument rating shall be validated by the DGCA.

The pilot may be authorized to conduct pilot checks provided the requirements of the Company Check Pilot Manual, are met with exception of the minimum employment time with the air operator.

A foreign licensed pilot may be granted authority for training and checking only when a Lebanese licensed pilot is not available.

During revenue flights foreign licensed pilots shall not replace Lebanese flight crew members, they can only be supplemental flight crew for required training:



SCHEDULE I - Pilot Proficiency Check (PPC) - Synthetic Flight Training Device

(1) Pre-flight Phase

Flight Planning and Equipment Examination

- (a) flight planning shall include a practical examination on the crew's knowledge of air operator's approved Standard Operating Procedures and the Airplane Flight Manual including aero plane and runway performance charts, and weight and balance procedures; and
- (b) the equipment examination shall consist of a display of practical knowledge of the airframe, engine, major components and systems including the normal, abnormal and emergency operating procedures and limitations relating thereto.
- (2) Flight Phase
 - (a) Taxiing
 - (i) the use of the taxiing check list;
 - (ii) taxiing in compliance with clearances and instructions issued by the person conducting the pilot proficiency check; and
 - (iii) where a second-in-command is undergoing the pilot proficiency check, outlined above to the extent practicable from the second-in-command position.
 - (b) Engine Checks. Engine checks shall be conducted as appropriate to the aero plane type.
 - (c) Take-off
 - (i) one normal take-off to be performed in accordance with the Airplane Flight Manual;
 - (ii) an instrument take-off in the minimum visibility approved for the air operator;
 - (iii) a take-off in a minimum of a 10 kt crosswind component;

Information Note: *Any or all of the above takeoffs may be combined.*

- (iv) a take-off with failure of the critical engine. This activity may be conducted in lieu of an engine failure during a rejected landing; and
- (v) a rejected take-off from a speed not less than 90% of the calculated V1 or less as appropriate to the aero plane type.
- (d) Instrument Procedures. Instrument procedures shall consist of IFR pre-flight preparations, terminal and enroute procedures, arrival and departure procedures, system malfunctions and, where applicable, the proper programming and use of Flight Management Systems (as applicable).
 - (i) an area departure and an area arrival procedures shall be performed where the crew:
 - A. adheres to air traffic control clearances and instructions; and
 - B. properly uses the available navigation equipment and facilities;
 - (ii) a holding procedure;
 - (iii) at least two instrument approaches performed in accordance with procedures and limitations in the DGCA Approved Aeronautical Charts or in the equivalent foreign publication, or approved company approach procedure for the facility used. One of the approaches shall be a precision approach, and one a non precision approach; and
 - (iv) one approach and maneuver to land using a scene approved for circling where the air operator is authorized for approaches at the published circling minima, and is required during initial qualification check and annually thereafter.
- (e) Maneuvers
 - (i) at least one steep turn in each direction with a bank angle of 45° and a change in heading of at least 180° but not more than 360°;
 - (ii) approaches to stalls. For the purpose of this maneuver the required approach to a stall is reached when there is a perceptible buffet or other response to the initial stall entry.



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The following approaches to the stall are required during initial and upgrade PPC's:

- one in the take-off configuration, except where a zero-flap take-off configuration A. is normally used in that model and type of aero plane;
- B. one in a clean configuration; and
- C. one in a landing configuration.

One of the approaches to stall shall be performed while in a turn with a bank angle of between 15° and 30°.

- (f) Landings and Approaches to Landings
 - one normal landing; (i)
 - (ii) one landing from an approach in Instrument Meteorological Conditions (IMC) not greater than the minimum recommended for the approach;
 - one crosswind landing with a minimum of a 10 kt crosswind component; (iii)
 - (iv) one landing and maneuver to that landing with a failure of 50 percent of the available engines which shall be on one side of the aero plane for the pilot-in-command and the outboard engine only for other than the pilot-in-command. Where the aero plane type is a three engine aero plane, the loss of power shall be the center engine and one other engine for the pilot-in-command and an outboard engine for other than the pilot-incommand. For three and four engine airplanes the pilot-in-command is required to perform a two engine inoperative procedure during the initial qualification check and annually thereafter;
 - (v) one rejected landing or a missed approach. For the purposes of the rejected landing the landing shall be rejected at a height of approximately 50 feet when the aero plane is approximately over the runway threshold;
 - (vi) one Category II or Category III approach where these procedures are authorized in an Air Operator Certificate. Required during the initial qualification flight and annually thereafter; and
 - (vii) one landing without the use of an auto-land system.

Information Note: Any of the landings and approaches to landings specified in this section may be combined. A minimum of two landings are required.

- (g) Normal Procedures. The crew shall demonstrate use of as many of the air operator's approved Standard Operating Procedures, normal procedures for installed systems, devices and aids as is necessary to confirm that the crew has the knowledge and ability to properly use installed equipment, including the auto-pilot and hand flown maneuvers as appropriate.
- (h) Abnormal and Emergency Procedures
 - the crew shall demonstrate use of as many of the air operator's approved Standard (i) Operating Procedures and abnormal and emergency procedures for as many of the situations as is necessary to confirm that the crew has an adequate knowledge and ability to perform these procedures.
 - (ii) system malfunctions shall consist of a selection adequate to determine that the crew has satisfactory knowledge and ability to safely handle malfunctions.
 - (iii) at least two simulated engine failures any time during the check.
- (i) following training and checking in a Flight Training Device, training and checking may be required in the aircraft.



SCHEDULE II - Pilot Proficiency Check (PPC) - Airplane

- (1) Pre-flight Phase
 - (a) Flight Planning and Equipment Examination
 - (i) flight planning shall include a practical examination on the pilot's knowledge of standard operating procedures and the Airplane Flight Manual including performance charts, loading, weight and balance and Flight Manual Supplements; and
 - (ii) the equipment examination shall show a practical knowledge of the airframe, engine, major components and systems including the normal, abnormal, and emergency operating procedures and limitations relating thereto.
 - (b) Airplane Inspection. A pre-flight aero plane inspection that includes:
 - (i) a visual inspection of the exterior and interior of the aero plane, locating each item to be inspected and explaining the purpose of the inspection;
 - (ii) the proper use of the pre-start, start and pre-taxi check lists; and
 - (iii) checks of the appropriate radio communications, navigation and electronic equipment and selection of the appropriate communications and navigation frequencies prior to flight.
- (2) Flight Phase
 - (a) Taxiing
 - (i) taxiing procedures;
 - (ii) a taxiing check including:
 - A. the use of the taxiing check list;
 - B. taxiing in compliance with clearances and instructions issued by the appropriate air traffic control unit or by the person conducting the pilot proficiency check; and
 - C. where a second-in-command is undergoing the pilot proficiency check, the taxiing check outlined above to the extent practicable from the second-in-command position.
 - (b) Engine Checks. Engine checks shall be conducted as appropriate to the aero plane type.
 - (c) Take-off
 - (i) One normal take-off to be performed in accordance with the Airplane Flight Manual or where the aero plane is a turbo-jet, a noise abatement take-off performed in accordance with the Airplane Flight Manual (where applicable) and the Canada Air Pilot.
 - (ii) An instrument take-off performed in the same manner as the normal take-off except that instrument flight rules are simulated at or before reaching an altitude of 200 feet above the airport elevation. Not required to be demonstrated where the Air Operator's Certificate authorizes operations under day VFR only, or the air operator assigns the pilot to day VFR flight only.
 - (iii) Where practicable under existing meteorological, airport or airport traffic conditions, one crosswind take-off performed in accordance with the aero plane operating manual where applicable.

Information Note: *Any or all of the above take-offs may be combined.*

- (iv) a simulated engine failure after take-off at a safe altitude as close to V2 as is safe and appropriate to the aero plane type under the prevailing conditions, or if V speeds are not published in the Airplane Flight Manual, as close to the take-off safety speed as is safe and appropriate to the aero plane type under the prevailing conditions.
- (v) a rejected take-off explained by the candidate prior to the flight.
- (d) Instrument Procedures. Except where an Air Operator Certificate authorizes operations under day VFR only, or the air operator assigns the pilot to day VFR flights only instrument

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procedures shall consist of IFR pre-flight preparation, departure and enroute procedures, terminal procedures and system malfunctions:

- (i) an area departure and an area arrival procedure shall be performed where the pilot:
 - A. adheres to actual or simulated air traffic control clearances and instructions; and
 - B. properly uses the available navigation facilities;
- (ii) a holding procedure;
- (iii) at least two instrument approaches performed in accordance with procedures and limitations in the DGCA Approved Aeronautical Charts or the equivalent foreign publication, or approved company approach procedure for the approach facility used. Where practicable one of the approaches shall be a precision approach and one a nonprecision approach; and
- (iv) a circling approach, where the air operator is authorized for circling minima below ceiling 1000 feet and 3 miles ground visibility, except where local conditions beyond the control of the pilot prevent a circling approach from being performed;
- (e) In Flight Maneuvers
 - (i) at least one steep turn in each direction with a bank angle of 45° and a change in heading of at least 180° but not more than 360°;
 - (ii) approaches to stalls. For the purpose of this maneuver the required approach to a stall is reached when there is a perceptible buffet or other response to the initial stall entry. When performed in an aero plane the approach to stalls shall be conducted at an altitude of at least 5000 feet AGL, and if conducted above cloud at an altitude of at least 2000 feet above the cloud tops.

The following approaches to the stall are required during initial and upgrade PPC's:

- A. one in the take-off configuration, except where a zero-flap take-off configuration is normally used in that model and type of aero plane;
- B. one in a clean configuration; and
- C. one in a landing configuration.

One of the approaches to stall may be performed while in a turn with a bank angle of between 15° and 30° ;

- (f) Landings and Approaches to Landings
 - (i) one normal landing which shall, where practicable, be conducted without external or internal glideslope information;
 - (ii) one landing from an instrument approach, and where prevailing conditions prevent an actual landing, an approach to a point where a landing could have been made. Not required to be demonstrated where the Air Operator's Certificate authorizes operations under day VFR only, or the air operator assigns the pilot to day VFR flights only;
 - (iii) one cross wind landing where practicable under existing meteorological, airport and airport traffic conditions;
 - (iv) one landing and maneuvering to that landing with a simulated failure of 50 percent of the available engines which shall be on one side of the aero plane for the pilot-incommand and on outboard engine only for other than the pilot-in-command. Where the aero plane type is a three engine aero plane, the loss of power shall be an outboard engine and the center engine for the pilot-in-command and on outboard engine for other than the pilot-in-command. For three and four-engine airplanes the pilot in command is required to perform a two-engine inoperative procedure during initial qualification check and annually thereafter; or
 - (v) one landing under simulated circling approach conditions except that where prevailing conditions prevent a landing, an approach to a point where a landing could have been made.



Information Note: Any of the landings and approaches to landings specified in this section may be combined. A minimum of two landings are required.

- (g) Normal Procedures. The crew shall demonstrate use of as many of the air operator's approved Standard Operating Procedures, and normal procedures as is necessary to confirm that the crew has the knowledge and ability to properly use installed equipment, (auto-pilot and hand flown maneuvers as appropriate).
- (h) Abnormal and Emergency Procedures
 - (i) the crew shall demonstrate use of as many of the air operator's approved Standard Operating Procedures and abnormal and emergency procedures for as many of the emergency situations as is necessary to confirm that the crew has an adequate knowledge and ability to perform these procedures.
 - (ii) system malfunctions shall consist of a selection adequate to determine that the crew has satisfactory knowledge and ability to safely handle malfunctions.
 - (iii) at least two simulated engine failures any time during the check.



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Schedule III – Grouping for PPC Purposes

Airplanes having a MCTOW over 7000 lbs

Aircraft Manufacturer	Туре		
1			
Aero Commander/IAI	1121, 1123 and 1124 Jet Commander and Westwind Models		
Beechcraft	99, 100 and A100 Models		
Beechcraft	100, A100, 200 and B200 Models		
Beechcraft	200, B200, 300 and 350 Models		
British Aerospace	Jetstream 3100 and 3200 Series		
British Aerospace	HS 125 - All Viper Engine Driven		
British Aerospace	HS 125 - All Retrofit to FAN Engines		
British Aerospace	HS 125 - 700 and 800 Series		
Cessna	500, 501, 550 and 551 Models		
Cessna	550, 551 and 560 Models		
Cessna	650 All Models		
Lear	23, 24 and 25 Models		
Lear	35, 36 and 55 Models		
Lockheed Jetstar	I, II and 731 Models		
Saberliner	40, 60 and 75 Models		
Swearingen/Merlin Metro	SA226AT (Merlin IV and IVA), SA226TC (Metro and Metro)		
Swearingen/Merlin Metro	SA227AT (Merlin IVC), SA227AC (Metro III)		



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SCHEDULE IV - Grouping for PPC Purposes

Airplanes having a MCTOW of 7000 lbs and less

Requirements for grouping to be determined by the DGCA based on airplanes having sufficiently similar handling characteristics and performance.



s704.109 Qualifications of Operational Control Personnel

A person shall successfully complete the training program outlined in Subsection s704.115(14) to qualify for a position in operational control.

Where an air operator chooses to use a Dispatch Release, the flight dispatcher preparing the release shall be fully qualified in accordance with Subpart 5.

s704.110 Reserved

s704.111 Validity Period

Where a flight crew member's training has expired for a period of 24 months or more that crew member shall, successfully complete the air operator's initial training program on the type of airplane.
 Where the flight crew member's pilot proficiency check has expired for a period of 24 months or more that flight crew member shall, following completion of the air operator's initial airplane ground and flight training, successfully complete the initial pilot proficiency check on the type of airplane.

s704.112 to s704.114 Reserved



DIVISION VIII - TRAINING

s704.115 Training Program

The syllabus of each training program shall include the programmed time allotted and the subject matter to be covered.

(1) General Training Standard

- (a) manuals, if applicable, shall be provided during training to each trainee on the subject matter to be taught;
- (b) relevant training aids such as fire extinguishers, life preservers, rafts, aircraft components, static aircraft, etc. shall be available relevant to the program being presented; and
- (c) comprehensive examinations shall be used to validate competence of the trainee.

(2) Flight Crew Training on a Contract Basis. An air operator may contract crew member training to another organization provided:

- (a) the arrangement is clearly provided for in the approved training program;
- (b) the outside organization uses the manuals and publications used by the air operator (SOP's, Aircraft Flight Manual, Aircraft Operating Manual, if applicable, Company Operations Manual, etc.);
- (c) the air operator ensures that the training is conducted in accordance with the approved program;
- (d) where type training is conducted the training is provided on the type and model operated by the air operator unless otherwise provided for in the approved training program; and
- (e) the air operator maintains training records as required by Part VII, Subpart 4 of the Lebanese Aviation Regulations.

(3) Training Facilities. Training facilities shall be adequate to ensure that training objectives can be achieved. Facilities shall be:

- (a) quiet and free of distractions;
- (b) suitably lighted for the type of instructions to be given, e.g. lectures, slides and audio-visual;
- (c) furnished with sufficient desks, chairs, chalkboards and other appropriate equipment; and
- (d) equipped with training aids such as films, Vu-graphs, system components, audio-visual, airplane manuals or computer based systems.
- (4) Training and Qualifications of Training Personnel
 - (a) Instructor Ground Training
 - (i) has satisfied the air operator that he/she has the knowledge and skills required to conduct the training; and
 - (ii) if conducting airplane type training has successfully completed the ground school for the type of airplane.
 - (b) Qualifications and Responsibilities of a Training Pilot (Flight)
 - (i) Qualifications
 - A. hold a valid Airline Transport Pilot License, a valid Instrument Rating, and a type rating for the type of airplane on which training will be given;
 - B. be qualified for line flying on the type of airplane; and
 - C. know the content of the Aircraft Flight Manual, Aircraft Operating Manual (if applicable), Company Check Pilot Manual, Company Operations and Training Manuals and the operator's Standard Operating Procedures for the airplane type, and the provisions of the regulations and standards.
 - (ii) *Responsibilities.* The Training Pilot is responsible for monitoring the operation and identifying problems which may require the provision of extra training or changes in operational procedures. The training pilot is responsible, together with the Chief Pilot, for the establishment and promulgation of the standards and piloting techniques with



which flight crew will be expected to comply during flight operations and which the flight crew will be required to demonstrate during initial and recurrent checks. Particular responsibilities are:

- A. conducting ground, synthetic flight training device and flight training of all flight crew in accordance with the approved training program;
- B. supervision of the standards and recommending amendments to their respective airplane operating manuals and standard operating procedures;
- C. maintaining the air operator's training records;
- D. liaison with crew scheduling concerning training details; and
- E. any responsibilities assigned by the Chief Pilot.
- (c) Qualifications and Responsibility of a Training Pilot (Synthetic flight training device)
 - (i) *Qualifications*
 - A. hold or have held an Airline Transport Pilot License Airplane or equivalent and an Instrument Rating appropriate for the class of airplane;
 - B. have completed the air operator's ground school and synthetic flight training device program for the type of airplane;
 - C. have successfully completed within the past 12 months a pilot proficiency check in the synthetic flight training device or airplane for that type;
 - D. know the content of the Airplane Operating Manual (if applicable), Airplane Flight Manual, Operations and Training Manuals and as applicable the Company Check Pilot Manual and the air operator Standard Operating Procedures for the airplane type, and the provisions of the regulations and standards; and
 - E. have received instruction on the operation of the synthetic flight training device from an instructor qualified to operate the synthetic flight training device.
 - (iii) Responsibilities. The Training Pilot is responsible for monitoring the operation and identifying problems which may require the provision of extra training or changes in operational procedures. The training pilot is responsible, together with the Chief Pilot, for the establishment and promulgation of the standards and piloting techniques with which flight crew will be expected to comply during flight operations and which the flight crew will be required to demonstrate during initial and recurrent checks. Particular responsibilities are:
 - A. conducting ground and synthetic flight training of all flight crew in accordance with the approved training program;
 - B. supervision of the standards and recommending amendments to their respective airplane operating manuals and standard operating procedures;
 - C. maintaining the air operator's training records;
 - D. liaison with crew scheduling concerning training details; and
 - E. any responsibilities assigned by the Chief Pilot.

Information Note: (a) Requirements for the use of other than an air operator employee pilot for training and checking are in Section s704.108.

(b) The standard for air operator check airmen are those contained in Part VII, Subpart 5 of the LARs.

(5) Training Program Standards. Ground training programs shall provide a means of evaluating the trainee after completion of the syllabus by completion of examination with a review and correction of any errors. Training examinations should be comprehensive, and periodically reviewed and updated.

Type training programs are to be titled as to the type to which they apply and include the number of instructional hours to be provided. They should be performance oriented and stress the operation

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(normal, emergency and malfunctions) of the aircraft systems and equipment. Instruction related to components and systems that flight crews cannot control, influence or operate should be minimized.

(6) Company Indoctrination Training. This training is required upon employment for all persons assigned to an operational control function including base managers, pilots and persons responsible for flight watch or flight following. The program shall ensure that persons involved in control of flight operations are aware of their responsibilities, know company reporting relationships and are competent to fulfill their assigned duties related to flight operations. Company indoctrination training shall include as applicable:

- (a) Lebanese Aviation Regulations and commuter standards;
- (b) Air Operator Certificate and operating conditions (OpSpecs);
- (c) company organization, reporting relationships and communication procedures, including duties and responsibilities of flight crew members and the relationship of those duties to other crew members;
- (d) flight planning and operating procedures;
- (e) fuelling procedures including procedures for fuelling with passengers on board and fuel contamination precautions;
- (f) critical surface contamination and safety awareness program;
- (g) passenger safety briefings and safe movement of passengers to/from the airplane;
- (h) use and status of Company Operations Manual including maintenance release procedures and accident/incident reporting procedures;
- (i) use of minimum equipment lists (if applicable);
- (j) windshear, airplane icing, and other meteorological training appropriate to the area of operations;
- (k) navigation procedures and other specialized operations applicable to the operator;
- (l) accident/incident reporting;
- (m) passenger on board medical emergency;
- (n) handling of disabled passengers;
- (o) operational control system;
- (p) weight and balance system procedures;
- (q) standard operating procedures (if applicable); and
- (r) pre-flight crew-member briefing.

(7) Technical Ground Training - Initial and Recurrent. This training shall ensure that each flight crew member is knowledgeable with respect to airplane systems and all normal, abnormal and emergency procedures. The following subjects shall be included:

- (a) airplane systems operation and limitations as contained in the airplane flight manual and airplane operating manual, and standard operating procedures;
- (b) operation of all equipment that is installed in all airplanes of the same type operated by the air operator;
- (c) differences in equipment that is installed in all airplanes of the same type in the air operators fleet;
- (d) applicable standard operating procedures for pilot flying and pilot not flying duties for normal, abnormal and emergency procedures for the airplane;
- (e) airplane performance and limitations; and
- (f) weight and balance procedures.

Technical ground training shall be conducted annually.

(8) Synthetic Flight Training Device

- (a) A Synthetic Flight Training Device has two classifications:
 - (i) Full Flight Simulator (FFS); and
 - (ii) Flight Training Device (FTD).

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- (b) For turbo-jet aircraft, initial and recurrent Pilot Proficiency Checks shall be conducted on a combination of a flight training device certified to Level 7 or higher and a full flight simulator or, a combination of a flight training device certified to Level 7 or higher and the airplane. Where a synthetic flight training device is not available in Lebanon the required training may be conducted in the airplane.
- (c) for pressurized turbo-prop aircraft, Transport Canada encourages carriers to conduct training on the simulator, or to use a combination of training in an FTD and the airplane.

(9) Level A Training Program (if applicable). An air operator with an approved Level A training program using an approved Level A or better FFS is permitted to conduct most initial, upgrade and recurrent training in that simulator. Additionally, flight training in an airplane must be carried out for general handling and landing maneuvers for initial and upgrade training.

- (a) the following training in standard operating procedures for normal, abnormal and emergency operation of the airplane systems and components shall be carried out in the FFS:
 - (i) use of airplane checklists;
 - (ii) flight and cabin crew co-operation, command and co-ordination;
 - (iii) airplane and cargo fire on the ground and while airborne;
 - (iv) engine fire and failure;
 - (v) effects of engine icing and anti-ice operations;
 - (vi) take-off, landing and flight with the critical engine inoperative including driftdown and engine inoperative performance capabilities;
 - (vii) on 3- and 4-engine airplanes in-flight procedures including approach and landing with 2 engines inoperative (applies to PIC only);
 - (viii) loss of pressurization and emergency descent (if applicable);
 - (ix) flight control failures and abnormalities;
 - (x) hydraulic, electrical and other system failures;
 - (xi) failure of navigation and communication equipment;
 - (xii) pilot incapacitation recognition and response during various phases of flight;
 - (xiii) approach to the stall and recovery procedure with ground contact imminent and ground contact not a factor (clean, take-off and
 - (xiv) landing configuration);
 - (xv) buffet boundary onset, steep turns (45° of bank), and other flight characteristics such as unusual attitudes (as applicable for initial and upgrade only);
 - (xvi) airplane performance for climb, cruise, holding, descent and landing;
 - (xvii) normal, noise abatement and performance limited take-offs;
 - (xviii) take-off and landing data calculations;
 - (xix) rejected take-off procedures and rejected landings;
 - (xx) passenger and crew evacuation; and
 - (xxi) FMCS, GPWS, TCAS and other specialized airplane equipment (where available).
- (b) where the air operator seeks authorization for flight in IMC the following training in flight planning and instrument flight procedures shall be included:
 - (i) departure, enroute, holding and arrival; and
 - (ii) all types of instrument approaches and missed approaches in minimum visibility conditions using all levels of automation available (as applicable).
- (c) in addition to the training in an approved Level A FFS Training Program, the following flight training on the airplane type shall be carried out:
 - (i) interior and exterior airplane preflight checks;
 - (ii) ground handling for PIC;
 - (iii) normal take-off, visual circuit (where possible) and landing;
 - (iv) a simulated engine inoperative approach and landing;
 - (v) simulated engine failure procedures during take-off and missed approach (at safe altitude and airspeed);
 - (vi) no electronic glide slope approach and landing; and
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- (vii) circling (if applicable) and other approaches where the simulator lacks the capability.
- (d) if a Level A flight simulator has differences in performance, systems, or cockpit layout and configuration from the air operator's airplane, additional training on these differences shall be provided.

(10) Level B Training Program (if applicable). An air operator with an approved Level B training program using an approved Level B or better FFS is permitted to conduct most initial, upgrade and recurrent training in that simulator. Additionally, flight training in an airplane must be carried out for general handling and landing maneuvers for initial and upgrade training.

- (a) the following training in standard operating procedures for normal, abnormal and emergency operation of the airplane systems and components shall be carried out in the FFS:
 - (i) use of airplane checklists;
 - (ii) flight and cabin crew co-operation, command and co-ordination;
 - (iii) airplane and cargo fire on the ground and while airborne;
 - (iv) engine fire and failure;
 - (v) effects of engine icing and anti-ice operation;
 - (vi) take-off, landing and flight with critical engine inoperative including driftdown and engine inoperative performance capabilities;
 - (vii) on 3- and 4-engine airplanes in-flight procedures including approach and landing with 2 engines inoperative (applies to PIC only);
 - (viii) loss of pressurization and emergency descent (is applicable);
 - (ix) flight control failures and abnormalities;
 - (x) hydraulic, electrical and other system failures;
 - (xi) failure of navigation and communication equipment;
 - (xii) pilot incapacitation recognition and response during various phases of flight;
 - (xiii) recovery from turbulence and windshear on take-off and approach;
 - (xiv) approach to the stall and recovery procedure with ground contact imminent and ground contact not a factor (in clean, takeoff and landing configuration);
 - (xv) buffet onset boundary, steep turns (45° bank), and other flight characteristics such as unusual attitudes (as applicable for initial and upgrade only);
 - (xvi) airplane performance for climb, cruise, descent and landing;
 - (xvii) normal, noise abatement and performance limited take-offs;
 - (xviii) take-off and landing data calculations;
 - (xix) rejected take-off procedures and rejected landings;
 - (xx) passenger and crew evacuation; and
 - (xxi) FMCS, GPWS, TCAS and other specialized airplane equipment (as applicable).
- (b) where the air operator seeks authorization for flight in IMC, the following training in flight planning and instrument flight procedures shall be included:
 - (i) departure, enroute, holding and arrival; and
 - (ii) all types of instrument approaches and missed approaches in minimum visibility conditions using all levels of automation available (as applicable).
- (c) in addition to the training in an approved Level B Simulator Training Program, the following flight training on the airplane type shall be carried out:
 - (i) interior and exterior aircraft preflight checks;
 - (ii) ground handling for the PIC;
 - (iii) normal take-off, visual circuit (where possible) and landing;
 - (iv) a simulated engine inoperative approach and landing;
 - (v) simulated engine failure procedures during take-off and missed approach, (at a safe altitude and airspeed);
 - (vi) no electronic glide slope approach and landing; and
 - (vii) circling (if applicable) and other approaches where the simulator lacks the capability.

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(d) if a Level B flight simulator has differences in performance, systems, or cockpit layout and configuration from the air operator's airplane additional training on these differences shall be provided.

(11) Airplane Only Flight Training Program. Any simulated failures of airplane systems shall only take place under operating conditions which do not jeopardize safety of flight.

- (a) Standard Operating Procedures for normal, abnormal and emergency operation of the airplane systems and components including:
 - (i) use of airplane checklists including interior and exterior pre-flight checks;
 - (ii) maneuvering of the airplane on the ground;
 - (iii) aspects of flight and cabin crew co-operation, command and co-ordination;
 - (iv) normal take-off, visual circuit, approach and landing;
 - (v) simulated airplane and cargo fire on the ground and while airborne;
 - (vi) simulated engine fire and failure;
 - (vii) briefings on effects of airframe and engine icing and anti-ice operation;
 - (viii) take-off, landing and flight with the critical engine simulated inoperative, including driftdown and engine inoperative performance capabilities;
 - (ix) on 3- and 4-engine airplanes in-flight procedures including approach and landing with 2 engines simulated inoperative (applies to PIC only);
 - (x) simulated loss of pressurization and emergency descent;
 - (xi) no electronic glide slope approach and landing;
 - (xii) simulated hydraulic, electrical and other system failures;
 - (xiii) simulated flight control failures and degraded states of operation, while in-flight, and during take-off and landing (as applicable);
 - (xiv) simulated failure of navigation and communication equipment;
 - (xv) simulated pilot incapacitation recognition and response;
 - (xvi) briefing on recovery from turbulence and windshear on take-off and approach;
 - (xvii) approach to the stall and recovery procedure simulating ground contact imminent and ground contact not a factor (clean, take-off and landing configuration);
 - (xviii) buffet onset boundary, steep turns (45° of bank) and other flight characteristics (as applicable for initial and upgrade only);
 - (xix) airplane performance for climb, cruise, holding, descent and landing;
 - (xx) normal and performance limited take-offs;
 - (xxi) crosswind take-off and landing, and briefing on contaminated runway take-off and landing;
 - (xxii) take-off and landing data calculations;
 - (xxiii) simulated rejected take-off procedures (at or below 60 kts) and rejected landings;
 - (xxiv) briefing on crew and passenger evacuation procedures; and
 - (xxv) other specialized airplane equipment (where applicable).
- (b) flight planning and instrument flight procedures where the air operator is authorized for VFR flight at night or flight in IMC:
 - (i) departure, enroute, holding and arrival;
 - (ii) all types of instrument approaches and missed approaches in simulated minimum visibility conditions, including circling approaches (where applicable) using all levels of automation available (as applicable);
 - (iii) subject to subparagraph (iv), during initial training, a normal take-off, visual circuit, approach and landing at night; and
 - (iv) where the operator is approved for circling approaches, a night circling approach to landing may be conducted in lieu of a visual circuit.

(12) Emergency Procedures Training for Pilots. This training is required on an annual basis and shall include instruction in the location and operation of all emergency equipment. Training devices approved to simulate flight operating emergency conditions, static airplanes, ground demonstrations, classroom lectures, films or other devices may be used for training provided the method used ensures

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that each flight crew member is adequately trained in the operation or use of all emergency equipment. Where practical training is required it shall be completed on initial training and every three years thereafter.

- (a) fire in the air and on the ground;
- (b) use of fire extinguishers including practical training;
- (c) operation and use of emergency exits including practical training;
- (d) passenger preparation for an emergency landing or ditching, (as applicable) including practical training;
- (e) emergency evacuation procedures including practical training;
- (f) donning and inflation of life preservers (when equipped) including practical training;
- (g) removal from stowage, deployment, inflation and boarding of life rafts/slide rafts (when equipped) including practical training;
- (h) pilot incapacitation including practical training;
- (i) hijacking, bomb threat and other security procedures;
- (j) passenger on board medical emergency; and
- (k) special emergency procedures when the airplane is used on MEDEVAC operations including patient evacuation in emergency situations.

(13) Regaining Qualifications Training. For operators using an approved Level B, C, D FFS or the airplane, the following must be completed for all pilots who have not maintained their recency qualifications in accordance with Subsection 704.108 (1)(b) of the Lebanese Aviation Regulations for a period between 90 days and 12 months.

- (a) a briefing on changes that have occurred to the airplane or its operation since the last flight; and
- (b) three take-offs and landings (which may be carried out as part of a PPC where one has come due).
- (14) Regaining Qualifications After PPC Expiry
 - (a) where the PPC has expired for less than 6 months the following must be completed to regain type qualification:
 - (i) all the requirements specified by subsection (13) above; and
 - (ii) any recurrent training, including a PPC, which may have come due during the absence from flying duties.
 - (b) where the PPC has expired from between 6 and 24 months the following must be completed to regain type qualification:
 - (i) all the requirements of Subsection (14)(a) above; and
 - (ii) a technical ground training course consisting of an airplane system review and FTD training (where applicable).
 - (c) where the PPC has expired for a period greater than 24 months a complete initial airplane type training course shall be carried out.
- (15) Upgrade Training and Checking
 - (a) upgrade training and checking for pilots who are qualified as a second-in-command on that airplane type shall include the following:
 - (i) successfully complete training as a pilot-in-command in all areas of airplane handling and operation as outlined in the air operator's approved initial course;
 - (ii) command and decision making;
 - (iii) successfully complete specialized operations qualification training; (e.g. lower take-off limits etc.)
 - (iv) successfully complete on that type of airplane the initial pilot proficiency check outlined in Schedule I or Schedule II to Section s704.108, conducted by a DGCA Inspector or an approved Company Check Pilot; and
 - (v) initial line indoctrination for a pilot-in-command.
 - (b) upgrade training and checking for pilots whose PPC as second-in-command on that airplane type has expired within the previous 24 months shall consist of completion of all regaining

qualifications requirements specified in Subsections 14(a) or (b), as applicable, as well as the requirements of Subsection (15)(a) above.

(c) pilots who have not held a valid PPC on that airplane type as second-in-command for a period greater than 24 months shall be given a complete initial airplane type training course as well as the requirements of Subsection (15)(a) above.

(16) Right Seat Conversion Training. For a left seat-qualified pilot to operate an airplane from the right seat, the following shall apply:

- (a) be qualified and current on the airplane type for left seat duties;
- (b) receive sufficient technical ground training on right seat duties;
- (c) annually, receive sufficient flight or FFS training to enable a Company Check Pilot, air operator airplane type Chief Pilot or airplane type Training Pilot to certify the competency of the pilot to carry out pilot duties from the right seat.

(17) Flight Follower Training. Persons assigned the duties of a flight follower shall receive training in at least the following:

- (a) company indoctrination;
- (b) duties and responsibilities;
- (c) communication procedures;
- (d) applicable regulations and standards;
- (e) flight preparation procedures as applicable to assigned duties;
- (f) procedures in the event of an emergency or overdue aircraft;
- (g) accident and incident reporting procedures; and
- (h) requirements of approved Company Operations Manual as applicable to the duties and responsibilities.

(18) Airplane Surface Contamination Training. An approved surface contamination initial and recurrent training program is required for all operations personnel to ensure they are aware of hazards and procedures for ice, frost and snow critical contamination on aircraft. The training program shall include:

- (a) responsibility of pilot-in-command and other operations personnel;
- (b) regulations related to operations in icing conditions;
- (c) weather conducive to ice, frost and snow contamination;
- (d) inspection before flight and removal of contamination;
- (e) in-flight icing recognition; and
- (f) hazards related to critical surface contamination of ice, frost and snow.

(19) Minimum Equipment List (MEL) Training. When an MEL has been approved for use on an airplane type the air operator shall provide the following training to crew members and maintenance personnel, and to dispatchers as applicable:

- (a) maintenance personnel training shall include instruction on those sections of the MCM which deal with the MEL, placarding of inoperative equipment, maintenance release of an airplane, dispatching, and any other MEL related procedures;
- (b) pilot and operations control personnel training shall include instruction on purpose and use of an MEL, air operator MEL procedures, elementary maintenance procedures as applicable and responsibility of the pilot-in-command; and
- (c) recurrent training shall be conducted when required to ensure air operator personnel are aware of any changes to the MEL or MEL procedures.

(20) Transportation of Dangerous Goods. For the purposes of Section 704.115 of the Lebanese Aviation Regulations the training programs are those set out in the Transportation of Dangerous Goods Regulations.

(21) Lower than Standard Take-off Weather Minima. (Reported Visibility RVR 1200 feet (or 1/4 mile) and Reported RVR 600 feet)

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Training is required for the pilot-in-command only, except if the operator authorizes in the operations manual, the second-in-command to conduct take-offs in lower than standard weather minima, the second-in-command shall undergo the same training as the pilot-in-command.

- (a) Ground Training
 - (i) take-off alternate requirements;
 - (ii) pilot-in-command minimum experience;
 - (iii) pilot-in-command responsibility for visibility and obstacle clearance requirements;
 - (iv) minimum airplane and runway equipment requirements; and
 - (v) procedures to ensure compliance with performance limitations.
- (b) Synthetic Flight Training Device Training

Required for all operators using RVR 600 feet.

Required for operators using RVR 1200 feet without certified take-off performance

During Initial and Recurrent Training

- (i) a minimum of one completed take-off at RVR 600 or 1200 feet (as applicable) with a failure of the critical engine at V_1 and
- (ii) one rejected take-off at RVR 600 or 1200 feet (as applicable) immediately prior to V_1 .
- (22) Area Navigation Systems (RNAV)
 - (a) General Training
 - (i) to qualify for use of RNAV systems on IFR operations, an air operator shall have an approved flight crew training and qualifications program for use of the system. Flight crew shall have completed the appropriate training and have completed an in-flight check or an equivalent check in an approved synthetic training device. This qualification check shall be conducted by an approved check pilot.
 - (ii) training shall be in the following areas:
 - A. pre-flight;
 - B. normal operation of the system;
 - C. procedures for manually updating system;
 - D. methods of monitoring and cross checking system;
 - E. operation in area of compass unreliability;
 - F. malfunction procedures;
 - G. terminal procedures;
 - H. waypoint symbology, plotting procedures, record keeping duties/practices; and
 - I. post flight.
 - (iii) to qualify for approval to conduct GPS approaches in IFR, an air operator shall have a flight crew training program approved by the Minister. Flight crew shall have completed the appropriate training and have completed an in-flight check, or an equivalent check in a synthetic training device approved by the Minister prior to conducting GPS approaches. This qualification check shall be conducted by an approved check pilot.
 - (iv) where pilots are required to use more than one type of GPS for approach, the training program shall address the differences between the units, unless the units have been determined by the Minister to be sufficiently similar.
 - (v) ground training shall include "hands on" training using a desk top simulator, a computer based simulation of the unit to be used, a static in-aircraft unit, or other ground training devices acceptable to the Minister.
 - (b) Ground Training Non-Integrated Receivers (Panel Mount GPS Receivers). An air operator shall ensure that candidates are trained to proficiency in each of the elements associated with the following areas:



- (i) knowledge with the respect to the following:
 - A. the GPS system, including:
 - > GPS system components and aircraft equipment;
 - the composition of satellite constellation;
 - > the minimum number of satellites required for 2-D and 3-D navigation;
 - \succ the basic concept of satellite ranging;
 - ➢ factors affecting the accuracy of GPS signals;
 - the World Geodedic Survey 84 (WGS 84) datum and the effect of using any other datum;
 - B. human factors applicable to the use of GPS and how errors may be reduced or eliminated;
 - C. company standard operating procedures for using GPS units; and
 - D. procedures for reporting GPS problems and database errors.
- (ii) ability to perform the following operational tasks:
 - A. select appropriate operational modes;
 - B. recall categories of information contained in the database;
 - C. predict RAIM availability;
 - D. enter and verify user defined waypoints;
 - E. recall and verify database waypoints;
 - F. interpret typical GPS navigational displays including latitude/longitude, distance and bearing to waypoint, course deviation indication (CDI), desired track (DTK), track made good (TMG), actual track (TK), cross track error and any other information appropriate for the equipment used;
 - G. intercept and maintain GPS defined tracks;
 - H. determine navigation information appropriate for the conduct of the flight including ground speed (GS), estimated time of arrival (ETA) for next waypoint and destination;
 - I. recognition of waypoint passage;
 - J. use of 'direct to' function;
 - K. link enroute portion of GPS flight plan to approach;
 - L. conduct SIDs, STARs, terminal area procedures and holds;
 - M. retrieve, verify and conduct GPS stand alone approaches; and
 - N. conduct GPS missed approaches.
- (iii) ability to conduct the following operational and serviceability checks:
 - A. database currency and area of operation;
 - B. receiver serviceability;
 - C. RAIM status;
 - D. CDI sensitivity;
 - E. position indication; and
 - F. number of satellites acquired and, if available, satellite position information.
- (iv) ability to recognize and take appropriate action for all GPS warnings and messages including, where applicable:
 - A. "loss of RAIM"
 - B. "2D navigation"
 - C. "In Dead Reckoning Mode"
 - D. "database out of date"
 - E. "GPS fail"
 - F. "barometric input fail"
 - G. "power/battery low" or "fail"
 - H. "parallel offset on"; and
 - I. "satellite fail".

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- (c) Ground Training Integrated Receivers (Flight Management Systems). An air operator shall ensure that the training program candidates are trained to proficiency in each of the elements associated with the following areas:
 - (i) knowledge with the respect to the following:
 - A. the GPS system and theory of operation, including:
 - ➢ GPS system components and aircraft equipment;
 - the composition of satellite constellation;
 - > the minimum number of satellites required for 2-D and 3-D navigation;
 - the basic concept of satellite ranging;
 - factors affecting the accuracy of GPS signals;
 - > the WGS84 datum and the effect of using any other datum; and
 - B. human factors applicable to the use of GPS and how errors may be reduced or eliminated (i.e. maintaining situational awareness); and
 - (ii) ability to perform the following operational tasks:
 - A. predict RAIM availability;
 - B. link enroute portion of GPS flight plan to approach;
 - C. conduct GPS stand alone approaches; and
 - D. conduct GPS missed approaches.
 - (iii) ability to conduct the following operational and serviceability checks:
 - A. RAIM status;
 - B. CDI sensitivity; and
 - C. number of satellites acquired and, if available, satellite position information.
 - (iv) ability to recognize and take appropriate action for all GPS warnings and messages including, where applicable:
 - A. "loss of RAIM";
 - B. "2D navigation";
 - C. "GPS fail";
 - D. "barometric input fail"; and
 - E. "satellite fail".
- (d) Flight Training
 - (i) pilots shall complete flight training in the use of GPS for approach and other associated duties for each crew position they are authorized to occupy. Flight training may be completed in an aircraft, or in a level A or higher simulator that is equipped with the same model of GPS receiver (or a model determined by the Minister to be sufficiently similar) that is installed in company aircraft.
 - (ii) flight training shall be conducted by a designated training pilot who has completed the company ground training program approved by the Minister, and demonstrated proficiency in the use of the model of GPS (or a model determined by the Minister to be sufficiently similar), or to an approved check pilot.

(23) Transportability of Pilot Proficiency Check. Transportability of Pilot Proficiency Checks from one air operator to another is permitted subject to the hiring air operator providing the following training which shall be specified in the approved operations/training manual:

- (a) company indoctrination;
- (b) pilot ground and emergency procedures training on each type of airplane the pilot is assigned, sufficient to cover the air operator procedures and equipment differences;
- (c) standard operating procedures review;
- (d) sufficient line indoctrination to allow the pilot to become familiar with the air operator routes and operational procedures. In no case shall this be less than two sectors over typical route segments that the air operator flies; and
- (e) the hiring air operator records the PPC validity and expiration date in company records.



(24) High Altitude Training. High Altitude training is required for all flight crew members operating airplanes above 13,000 feet ASL before first assignment on a pressurized airplane and every three years thereafter.

- (a) physiological phenomena in a low pressure environment, including:
 - (i) respiration;
 - (ii) hypoxia;
 - (iii) duration of consciousness at altitude without supplemental oxygen; and
 - (iv) gas expansion and gas bubble formation.
- (b) other factors associated with rapid loss of pressurization including:
 - (i) most likely causes;
 - (ii) noise;
 - (iii) cabin temperature change;
 - (iv) cabin fogging;
 - (v) effects on objects located near the point of fuselage failure; and
 - (vi) actions of crew members immediately following the event and the likely resultant attitude.
- (25) Survival Equipment Training. Training for all crew members shall include the following:
 - (a) survival concepts;
 - (b) contents of survival equipment kit; and
 - (c) how to use the survival equipment carried on board as appropriate for the operation.
- (26) Airplane Servicing and Ground Handling Training for Pilots
 - (a) fuelling procedures:
 - (i) types of fuel, oil and fluids used in the airplane;
 - (ii) correct fuelling procedures; and
 - (iii) procedures for checking fuel, oil and fluids and proper securing of caps;
 - (b) use of tow bars and maximum nose wheel deflection when towing;
 - (c) seasonal use of the parking brake;
 - (d) installation of protective covers on the airplane; and
 - (e) procedures for operating in cold weather such as:
 - (i) moving the airplane out of a warm hangar when precipitation is present;
 - (ii) procedures for applying de-icing and anti-icing fluids for the airplane type including critical flight controls post application inspections; and
 - (iii) engine and cabin pre-heating procedures, including proper use of related equipment.

(27) Line Indoctrination Training for Pilots. Line indoctrination shall be conducted over parts of the air operator's route structure which are typical of those over which the flight crew will be expected to fly.

The following areas shall be covered during line indoctrination training and noted in records as having been completed:

- (a) command of the airplane:
 - (i) crew management and discipline,
 - (ii) responsibilities of the pilot-in-command and other flight crew members, and
 - (iii) responsibilities of the cabin crew;
- (b) airplane and equipment:
 - (i) MEL policy and procedures;
 - (ii) C of A and other airplane documentation;
 - (iii) deferred defects;
 - (iv) maintenance release;
 - (v) manuals and log books;
 - (vi) Flight Data Recorder and Cockpit Voice Recorder;
 - (vii) emergency exits number, access, lighting & marking;
 - (viii) fire extinguishers;



- (ix) fire axe; and
- (x) oxygen and first aid equipment, and survival equipment;
- (c) dispatch:
 - (i) personnel, hours of operation, operational control; and
 - (ii) company fuel policy;
- (d) airplane servicing and ramp safety:
 - (i) fuelling procedures;
 - (ii) load security;
 - (iii) ground equipment & handling;
 - (iv) air operator's airplane deicing policy and procedures; and
 - (v) airplane parking;
- (e) reporting for duty,
- (f) license requirements;
- (g) airplane library;
- (h) duty day limitations and rest facilities;
- (i) pre-flight safety and crew briefings;
- (j) ramp push back and starting engines;
- (k) after start checks;
- (l) pre-flight checks and securing cabin;
- (m) rejected take-off and brake cooling chart,
- (n) departure sequence:
 - (i) lookout; and
 - (ii) after take-off checks;
- (o) climb procedures:
- (p) cruise:
 - (i) fuel management and checks; and
 - (ii) enroute diversion;
- (q) approach procedures:
 - (i) organization and briefing of approach;
 - (ii) descent;
 - (iii) pre-landing check and cabin security;
- (r) landing and taxiing:
 - (i) contaminated runway operations; and
 - (ii) after landing checks;
- (s) shutdown;
- (t) flight and maintenance logs and records;
- (u) defect recording & clearing;
- (v) emergency procedures:
 - (i) hi-jack bomb threat procedures;
 - (ii) airplane evacuation;
 - (iii) airport emergency services; and
 - (iv) engine inoperative procedures and
- (w) special considerations such as significant terrain, noise abatement, unique SAR requirements, etc. (where applicable).

(28) Line Indoctrination - Sectors/Hours Requirements. During line indoctrination, a flight crew member shall be given the following minimum experience, while performing the duties appropriate to the crew station. Sectors/hours acquired during proving or ferry flights may be counted towards this requirement. The required number of flying hours and sectors apply to the pilot-in-command and the second-in-command.

- (a) for the purpose of Line Indoctrination an airplane would be in one of the following groups:
 - (i) reciprocating engine powered;
 - (ii) turbo-propeller powered;



- (iii) turbo-jet powered.
- (b) for the purposes of Line Indoctrination a sector is a flight composed of a take-off, departure, arrival and landing including at least a 50 NM enroute segment.
 - (i) general requirements for Line Indoctrination are as follows:
 - A. crew members who have not qualified and served in the same capacity on the same group of airplanes shall complete Initial Line Indoctrination;
 - B. crew members who have qualified and served in the same capacity on the same group of airplanes shall complete Transition Line Indoctrination;
 - C. initial and Transition Line Indoctrination shall be conducted under the supervision of a training pilot;
 - D. during Initial Line Indoctrination, the pilot-in-command and second-in-command shall perform the duties of the position, with the training pilot occupying the opposite pilot operating position; and
 - E. during Transition Line Indoctrination, the pilot-in-command and second-incommand shall perform the duties of the position;

Information Note: The training pilot may occupy the jump seat if the transitioning pilot has completed at least 2 sectors as pilot flying and has satisfactorily demonstrated to the training pilot that he or she is qualified to perform the duties of the position.

- (ii) specific requirements for Initial Line Indoctrination on reciprocating engine powered airplanes shall be as follows:
 - A. each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating maneuvers and procedures as detailed in Subsection s704.115(27) and complete 15 flying hours and 4 mandatory sectors, 2 sectors to be performed as pilot flying and 2 sectors as pilot not flying; and
 - B. after completing the 4 mandatory sectors, the remaining time may be reduced by 1 hour for each additional sector flown to a maximum 50% reduction of the original time requirement;
- (iii) specific requirements for Initial Line Indoctrination on turbo-propeller powered airplanes shall be as follows:
 - A. each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating maneuvers and procedures as detailed in Subsection s704.115(27) and complete 20 flying hours and 4 mandatory sectors, 2 sectors to be performed as pilot flying and 2 sectors as pilot not flying; and
 - B. After completing the 4 mandatory sectors, the remaining time may be reduced by 1 hour for each additional sector flown to a maximum 50% reduction of the original time requirement;
- (iv) specific requirements for Initial Line Indoctrination on turbo-jet powered airplanes shall be as follows:
 - A. each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating maneuvers and procedures as detailed in Subsection s704.115(27) and complete 25 flying hours and 4 mandatory sectors, 2 sectors to be performed as pilot flying and 2 sectors as pilot not flying; and
 - B. no reduction of the original time requirement shall be permitted;
- (v) specific requirements for Transition Line Indoctrination on reciprocating engine powered airplanes shall be as follows:
 - A. each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating maneuvers and procedures as detailed in Subsection s704.115(27) and complete 10 flying hours and 4 mandatory sectors, 2 sectors to be performed as pilot flying and 2 sectors as pilot not flying; and



- B. after completing the 4 mandatory sectors, the remaining time may be reduced by 1 hour for each additional sector flown to a maximum 50% reduction of the original time requirement;
- (vi) specific requirements for Transition Line Indoctrination on turbo-propeller powered airplanes shall be as follows:
 - A. each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating maneuvers and procedures as detailed in Subsection s704.115(27) and complete 12 flying hours and 4 mandatory sectors, 2 sectors to be performed as pilot flying and 2 sectors as pilot not flying; and
 - B. after completing the 4 mandatory sectors, the remaining time may be reduced by 1 hour for each additional sector flown to a maximum 50% reduction of the original time requirement; and
- (vii) specific requirements for Transition Line Indoctrination on turbo-jet powered airplanes shall be as follows:
 - A. each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating maneuvers and procedures as detailed in Subsection s704.115(27) and complete 25 flying hours and 4 mandatory sectors, 2 sectors to be performed as pilot flying and 2 sectors as pilot not flying; and
 - B. after completing the 4 mandatory sectors, the remaining time may be reduced by 1 hour for each additional sector flown to a maximum 50% reduction of the original time requirement;
- (29) Category II and III Operations
 - (a) Ground Training
 - (i) operational characteristics, capabilities, and limitations of the CAT II/III ground system and the airplane system;
 - (ii) resolution of the DH/AH;
 - (iii) visual cues; and
 - (iv) crew duties during normal, abnormal, and emergency situations
 - (b) Synthetic Flight Training Device Training Pilot-in-command
 - (i) two approaches, one of the approaches to be in an engine out configuration if the air operator's equipment is so certified and is approved to perform the maneuver;
 - (ii) a missed approach from the lowest minima, as applicable;
 - (iii) an automatic landing from one of the approaches or manual landing as appropriate, at the maximum crosswind authorized; and
 - (iv) for those CAT III operations predicated on the use of a fail-passive rollout control system, a manual rollout using visual reference or a combination of visual and instrument references.

(30) Persons Assigned On Board Duties. Where an air operator has assigned on board duties to a nonflight crew member, that person shall be given adequate initial and annual training to perform the procedures relevant to the duties with which the person is to be involved including, as applicable:

- (a) authority of the pilot-in-command;
- (b) means of communication;
- (c) a general description of the airplane in which the person is to serve and the proper use of cabin installed systems controls;
- (d) procedures for the handling of normal, abnormal, and emergency situations including:
 - (i) safe movement in the vicinity of the airplane and safe movement to and from the airplane;
 - (ii) briefing of passengers;
 - (iii) handling of passengers;
 - (iv) securing of cabin;
 - (v) location, operation and use of emergency, life saving and survival equipment carried, including practical training;



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- (vi) fire fighting, including practical training;
- (vii) decompression;
- (viii) location, operation and use of emergency exits, including practical training;
- (ix) passenger preparation for an emergency landing or ditching, including practical training; and
- (x) evacuation, including practical training; and
- (e) knowledge of the relationship of the procedures with respect to those of the other crew members.
- (31) Training Program Minimum Training Times Airplanes.
 - (a) in this Subsection, chart 1 provides the minimum initial training times for airplanes equipped with engines as described therein and chart 2 provides the minimum annual recurrent training for airplanes equipped with engines as described therein.
 - (b) flight training time in these charts is "flight time".
 - (c) pilots will receive some PNF time in the simulator in addition to the PF times given in the charts.
 - (d) the terms "Lvl A", "Lvl B" and "Lvl C" refer to the approved training program, not to the certification level of the simulator used.

Chart	1
-------	---

Minimum Initial Training	Ground Training		Flight training Simulator & Acft (PF – Pilot Flying)				Aircraft Only	
	Basic	Pressurized	Turbine	Lvl A ¹	Lvl B	Lvl C	A/C ²	
Multi-engine 10* to 19*	16.0	4.0	4.0	8.0	8.0	10.0	2.0	5.0
Multi-engine Piston 20+*++	18.0	2.0						6.0
M/Engine Turbine 20+*++	45.0			10.0	10.0	12.0	2.0	8.0
Citation 500 Series	35.0			10.0	10.0	12.0	2.0	8.0
Other Turbo-jet	40			12.0	12.0	14.0	2.0	8.0

* Denotes the number of passenger seats for which the airplane was certificated.

++ Included since certain airplanes certificated for 20+ passengers are regulated by Part VII, Subpart 4 (eg. Twin Otter).

¹ Training on aircraft required.

² The aircraft training required for Level A training programs.

Chart 2

Minimum Recurrent Training (annual)	Ground Training			Flight training Simulator & Acft (PF – Pilot Flying)				Aircraft Only
	Basic	Pressurized	Turbine	Lvl A ¹	Lvl B	Lvl C	A/C ²	
Multi-engine 10* to 19*	7.0	0.5	0.5	4.0	4.0	4.0	1.0	2.0
Multi-engine Piston 20+*	7.5							3.0
M/Engine Turbine 20+*	20.0			4.0	4.0	4.0	1.0	3.0
Citation 500 Series	12.0			4.0	4.0	4.0	1.0	3.0
Other Turbo-jet	15+			4.0	4.0	4.0	1.0	3.0

* Denotes the number of passenger seats for which the airplane was certificated.

⁺⁺ Included since certain airplanes certificated for 20+ passengers are regulated by Part VII, Subpart 4 (eg. Twin Otter).
 ¹ An Operations Specification may be issued to give relief from the requirement to conduct training on the aircraft when a visual simulator is used for Recurrent Training.

² Amount of training required on aircraft if the operator does not have the Operations Specification to which Note 1 above refers.

s704.116 to s704.119 Reserved



DIVISION IX - MANUALS

s704.120 Reserved

s704.121 Contents of Company Operations Manual

The Company Operations Manual shall contain at least the following, as applicable to the operation:

- (a) preamble relating to use and authority of manual;
- (b) a table of contents;
- (c) amending procedures, amendment record sheet, distribution list and list of effective pages;
- (d) a copy of the Air Operator's Certificate and operations specifications;
- (e) a chart of the management organization;
- (f) the duties, responsibilities and succession of command of management and operations personnel;
- (g) description of operational control system including:
 - (i) flight authorization and flight preparation procedures;
 - (ii) preparation of operational flight plan and other flight documents;
 - (iii) procedures to ensure the flight crew are advised, prior to dispatch, of any airplane defects that have been deferred, (by Minimum Equipment List or any other means);
 - (iv) flight watch, flight following and communication requirements;
 - (v) dissemination procedures for operational information and acknowledgement;
 - (vi) fuel and oil requirements;
 - (vii) weight and balance system;
 - (viii) accident/incident reporting procedures and procedures for reporting overdue aircraft;
 - (ix) use of checklists;
 - (x) maintenance discrepancy reporting and requirements of completion of flight; and
 (xi) retention period of operational flight plans;
- (h) sample of operational flight plan, weight and balance form and retention period;
- (i) CVR procedures;
- (j) operating weather minima and applicable requirements for IFR, VFR, VFR at night, VFR over-the-top including alternate aerodrome requirements;
- (k) instrument and equipment requirements;
- (l) instrument approach procedures (including company approaches), and alternate minima requirements;
- (m) procedures for establishing company routes in uncontrolled airspace;
- (n) procedures pertaining to enroute operation of navigation and communication equipment (including collision avoidance procedures);
- (o) operations in hazardous conditions such as icing, thunderstorms, white out, windshear;
- (p) airplane performance limitations;
- (q) carriage and securing of cargo, carry on baggage, commissary and equipment (as applicable);
- (r) passenger briefing procedures;
- (s) use of aircraft flight manual, aircraft operating manual, standard operating procedures and minimum equipment lists (as applicable);
- (t) airplane ice, frost and snow critical surface contamination procedures;
- (u) procedures of carriage of dangerous goods;
- (v) fuelling procedures including:
 - (i) fuel contamination precautions;
 - (ii) bonding requirements;
 - (iii) fuelling with engine running (not permitted with passengers on board, see Section 602.09 of the Lebanese Aviation Regulations; and
 - (v) fuelling with passengers on board;



(w) list of emergency survival equipment carried on the airplane and how to use equipment;

- (x) emergency procedures for:
 - (i) emergency locator transmitter;
 - (ii) passenger preparation for emergency landing/ditching;
 - (iii) emergency evacuation;
 - (iv) ground emergency coordination procedures; and
 - (v) unlawful interference;
- (y) minimum flight crew members required and flight crew member qualifications;
- (z) flight duty time limitations and rest requirements;
- (aa) training programs including copy of company training and qualification record form(s);
- (bb) use of oxygen;
- (cc) operational support services and equipment;
- (dd) passenger and cabin safety procedures for emplaning and deplaning passengers when engines are running;
- (ee) float operators shall include passenger and cabin safety procedures unique to their environment;
- (ff) inspection details and frequency of inspection of emergency equipment carried on board the airplanes;
- (gg) policy regarding GPWS and TCAS (if applicable);
- (hh) procedures for MNPS, CMNPS and reclear flights, including log keeping, (if applicable);
- (ii) policy on occupation of observer seat (if applicable);
- (jj) requirement for responsibility for preparing runway analysis charts;
- (kk) procedures for reduced VFR limits in uncontrolled airspace (if applicable);
- (ll) copies of all forms utilized including sufficient instruction on form completion; and (mm)other information related to safety.

s704.122 Reserved

s704.123 Airplane Operating Manual

An airplane operating manual shall consist of the following:

- (a) table of contents;
- (b) list of effective pages;
- (c) amending procedures;
- (d) preamble;
- (e) identification of the airplane by the type and registration it is applicable to; and
- (f) airplane operating procedures and limitations that are not less restrictive than those contained in the airplane flight manual and Lebanese Aviation Regulations.

s704.124 Airplane Standard Operating Procedures (SOP's)

The Standard Operating Procedures Manual shall contain the following information for each type of airplane operated. Where there are significant differences in equipment and procedures between airplanes of the same type operated the Standard Operating Procedures Manuals shall show the registration mark of the airplane, it is applicable to.

Required information, if contained in another publication carried on board the airplane during flight, need not be repeated in the SOP.

The SOP shall include the following as applicable to the operation:

(1) General



- (a) table of contents;
- (b) list of effective pages;
- (c) amending procedure;
- (d) preamble;
- (e) communications;
- (f) crew coordination;
- (g) use of check lists;
- (h) standard briefings; and
- (i) standard calls;
- (2) Normal Procedures
 - (a) weight and balance control requirements;
 - (b) ramp/gate procedures;
 - (c) battery/APU engine starts;
 - (d) taxi;
 - (e) take-off and climb;
 - (f) cruise;
 - (g) descent;
 - (h) approaches IFR, visual, VFR, and circling;
 - (i) landing;
 - (j) missed approach and balked landing procedures;
 - (k) stall recovery;
 - (l) fuelling with passengers on board;
 - (m) use of on board navigation and alerting aids; and
 - (n) check lists;
- (3) Abnormal and Emergency Procedures
 - (a) emergency landings/ditching with time to prepare and without time to prepare;
 - (b) pilot incapacitation and two-challenge rule, (2 pilot crew);
 - (c) bomb threat and hijacking;
 - (d) engine fire/failure/shutdown;
 - (e) propeller over speed (as applicable);
 - (f) fire, internal/external;
 - (g) smoke removal;
 - (h) rapid decompression (as applicable);
 - (i) flapless approach and landing (as applicable);
 - (j) rejected take-off; and
 - (k) other abnormal and emergency procedures that are specific to the type of airplane;
- (4) Diagrams
 - (a) normal take-off;
 - (b) engine out take-off;
 - (c) precision approach, all engines operating;
 - (d) precision approach, engine out;
 - (e) non-precision approach, all engines operating;
 - (f) non-precision approach, engine out;
 - (g) go-around, all engines operating;
 - (h) go-around, engine out;
 - (i) VFR circuits;
 - (j) partial flaps/slats approach; and
 - (k) flapless approach.

s704.125 to s704.127 Reserved



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REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>*Part VII*</u> Commercial Air Services

<u>Subpart 4</u> Commuter Operations

> <u>Standards / Airplane</u> s704.01 to s704.127

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier



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LEBANESE AVIATION REGULATIONS (LARs)

Part VII – Commercial Air Services

Subpart 4 – Commuter Operations

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COMMERCIAL AIR SERVICES STANDARDS

Subpart 4 – Commuter Operations/Airplanes \$704.01 to \$704.127

Foreword

This Commercial Air Service Standard outlines the requirements for complying with Subpart 4 of the Lebanese Aviation Regulations (LARs).

For ease of cross reference the divisions and numbers of the standard are assigned to correspond to the regulations, therefore Standard s704.05 would reflect a standard required by Section 704.05 of the LARs.

The standards under this Subpart apply to every Lebanese air operator engaged in commercial air services under Subpart 4 of the Lebanese Aviation Regulations (LARs).



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DIVISION I - GENERAL

The standards under this Subpart apply to every Lebanese air operator engaged in commercial air services under Part VII, Subpart 4 of the Lebanese Aviation Regulations (LARs).

Definitions

The words and expressions used in these Standards have the same meaning as in the General Provisions Part I of the Lebanese Aviation Regulations with the following additions:

"deplane" - means disembark; an airplane is deplaned when the passengers leave the airplane in the normal manner, as opposed to evacuating the airplane.

"designated evacuation exits during fuelling" - means exits that are available for immediate use should an evacuation be required.

"evacuate" - means the egress from an airplane in an emergency situation using all available emergency exits and assist means such as ropes, wings, emergency evacuation slides, etc.

"fuelling" - means the act of transferring fuel into or out of an airplane fuel tank from or to an external supply.

"operations co-ordination" - means the exercise of authority by an air operator over its operating activities, excluding operational control.

"on demand" - means an air transport service where the date, time and place(s) of departure and arrival are negotiated directly between a client and the air operator.

"take-off safety speed" - is the lowest speed at which the airplane complies with those handling criteria associated with the climb after take-off following an engine failure.

s704.01 to s704.06 Reserved



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DIVISION II - CERTIFICATION

s704.07 Issuance or Amendment of Air Operator Certificate

(1) Application for an Air Operator Certificate

The following constitutes an application for an Air Operator Certificate:

- (a) DGCA Ops Form 100-12 Airport information required to determine the suitability of the base of operations, any sub-bases and all scheduled points. The operator shall be able to demonstrate that operations are permitted at each base, sub-base or scheduled point. This will normally be done by providing written permission from the Local Airport Authority (LAA). Where the air operator cannot obtain written permission and operations have not been denied in writing by the LAA, access to the aerodrome shall be demonstrated by other means; such as facilities provided through a lease, contractual agreement, etc.;
- (b) DGCA Ops Form 100-13 Aircraft information with respect to each airplane by registration;
- (c) DGCA Ops Form 100-14 Personnel information on required personnel. These shall be supported by resumes and statements of qualification for each position;
- (d) DGCA Ops Form 100-15 Maintenance Facilities;
- (e) Maintenance Control Procedures;
- (f) Company Operations Manual;
- (g) Standard Operating Procedures;
- (h) Minimum Equipment List(s) (if applicable);
- (i) nomination for Company Check Pilot (if applicable);
- (j) DGCA Ops Form 100-18 Cabin Safety (if applicable); and
- (k) airplane crash charts (if the type has not previously been operated in Lebanon).
- (l) Initial Statement of Compliance that:
 - (i) identifies where in the operator's manual system the LARs are complied with.
 - (ii) contains compliance statements for each section and subsection as applicable.
 - (iii) contains compliance statements for Parts V, VI, and VII.
 - (iv) contains compliance statements for any regulation or standard that the Minister deems necessary.
- (2) Qualifications and Responsibilities of Operational Personnel
 - (a) Operations Manager
 - (i) Qualifications.
 - A. hold or have held the appropriate license and ratings for which a pilot-incommand is required to hold for one of the airplanes operated; or have acquired not less than 3 years related supervisory experience with an operator of a Commercial Air Service whose flight operations are similar in size and scope; and
 - B. demonstrate knowledge to the Minister with respect to the content of the operations manual, the air operator's certificate and operations specifications, the provision of the regulations and the standards necessary to carry out the duties and responsibilities to ensure safety.
 - (ii) *Responsibilities*. The Operations Manager is responsible for safe flight operations. In particular, the responsibilities of the position include:
 - A. control of operations and operational standards of all airplanes operated;
 - B. the identification of operations coordination functions which impact on operational control (eg. maintenance, crew scheduling, load control, equipment scheduling);
 - C. supervision, organization, function and manning of the following:
 - flight operations;



- ➤ cabin safety;
- crew scheduling and rostering;
- training programs; and
- \succ flight safety;
- D. the contents of the air operator's Company Operations Manual;
- E. the supervision of and the production and amendment of the Company Operations Manual;
- F. liaison with the regulatory authority on all matters concerning flight operations, including any variations to the Air Operator Certificate;
- G. liaison with any external agencies which may affect air operator operations;
- H. ensuring that the air operator's operations are conducted in accordance with current regulations, standards and air operator policy;
- I. ensuring that crew scheduling complies with flight and duty time regulations, and that all crew members are kept informed of any changes to the regulations and standards;
- J. the receipt and actioning of any aeronautical information affecting the safety of flight;
- K. the dissemination of airplane safety information, both internal and external;
- L. qualifications of flight crew; and
- M. maintenance of a current operations library.

Information Note: In his or her absence all responsibilities for operational duties shall be delegated to another individual qualified in accordance with the Lebanese Aviation Regulations except that the knowledge requirements detailed under Operations Manager qualifications may be demonstrated to the air operator rather than the Minister.

(b) Chief Pilots

(i)

- *Qualifications*. If the Air Operator Certificate authorizes:
 - A. VFR only hold a valid Airline Transport Pilot License-Airplane or a valid Commercial Pilot License –Airplane appropriate for an airplane subject to this Subpart;
 - B. Day and Night VFR hold an Airline Transport Pilot License-Airplane or Commercial Pilot License Airplane, valid for night, and a valid Instrument Rating appropriate for an airplane subject to this Subpart; or
 - C. IFR hold a valid Airline Transport Pilot License Airplane and a valid Instrument Rating for an airplane subject to this subpart.
 - D. if applicable, hold a type rating for at least one of the types of airplanes operated;
 - E. have at least 3 years experience as pilot-in-command of a commuter airplane (as defined in Section 704.01 of the Lebanese Aviation Regulations);
 - F. be qualified in accordance with the air operator's training program to act as a pilot-in-command on one of the types to be operated; and
 - G. demonstrate knowledge to the Minister with respect to the content of the Company Operations Manual, Training Manuals, Standard Operating Procedures (if applicable), Company Check Pilot Manual (if applicable), and the provisions of the Regulations and Standards necessary to carry out the duties and responsibilities of the position.

Information Note:

A Chief Pilot qualified under Part VII, Subpart 7 of the Lebanese Aviation Regulations may serve as the Chief Pilot for Part VII, Subpart 4 of the Lebanese Aviation Regulations operations within the same company.



- (ii) *Responsibilities*. The Chief Pilots are responsible for the professional standards of the flight crews under their authority, and in particular:
 - A. developing standard operating procedures;
 - B. developing or implementing all required approved training programs for the air operator flight crews;
 - C. issuing directives and notices to the flight crews as required;
 - D. the operational suitability and requirements of all aerodromes and routes served by the air operator;
 - E. the actioning and distribution of accident, incident, and other occurrence reports;
 - F. the processing and actioning of any flight crew reports;
 - G. the supervision of flight crews; and
 - H. assuming any responsibilities delegated by the Operations Manager.

Information Note: In his or her absence, all responsibilities for duties shall be delegated to another individual qualified in accordance with the Lebanese Aviation Regulations except that the knowledge requirements detailed under chief pilot qualifications may be demonstrated to the air operator rather than the Minister.

(c) <u>Person Responsible for Maintenance</u>. The person responsible for the maintenance control system shall be qualified in accordance with Section s706.03 of the Commercial Air Services Standards.

(3) Operational Support Services and Equipment. The requirement for operational support services and equipment will be dependent on types of airplanes and the size and scope of the operation and shall include the following, as applicable:

- (a) operational control system requirements;
- (b) current flight operations publications including a copy of the Lebanese Civil Aviation Safety Act, applicable Lebanese Aviation Regulations, Company Operations Manual, Maintenance Control Manual/Maintenance Procedures Manual (as applicable), Canada Flight Supplement, Water Aerodrome Supplement, Airplane Flight Manuals, Aircraft Operating Manuals (if applicable), Standard Operating Procedures, Aeronautical Information Publication, Minimum Equipment Lists and appropriate maps and charts;
- (c) passenger and cargo handling requirements;
- (d) communications requirements;
- (e) provisions for handling dangerous goods (if applicable);
- (f) weather availability requirements;
- (g) ground de-icing/ anti-icing program requirements; and
- (h) airplane servicing facilities and ground handling equipment.

s704.08 Contents of Air Operator Certificate

(1) Minimum Performance Capability for Long Range Area Navigation System

To meet the requirements of this standard, a long range area navigation system shall, as a minimum:

- (a) have a standard deviation of lateral track deviations of less than 6.3 nautical miles;
- (b) have a proportion of the total flight time spent by the aircraft 30 nautical miles or more from cleared track of less than 5.3 x 10⁻⁴;
- (c) have a proportion of the total flight time spent by aircraft at or between 50 and 70 nautical miles from the cleared track of less than 1.3×10^{-4} ; and
- (d) in Subsections s704.08(2)(c) and (d) below, if a GPS receiver(s) provides the only means of long range navigation, then the requirements of LARs Appendix IV, Attachment 6, and FAA

Document No. 8110.60, GPS as a Primary Means of Navigation in Oceanic/Remote Operations, or equivalent must be met.

- (2) Authorizations
 - (a) Required Navigation Performance Capability (RNPC) Airspace. The standard requirements for authorization to flight plan published high level fixed RNAV routes in Required Navigation Performance Capability (RNPC) airspace, or to be accommodated by Air Traffic Control (ATC) on other routes using RNPC separation criteria, are:
 - (i) airplanes equipped with at least two independent navigation systems, one of which being a long range area navigation system; and
 - (ii) flight crew training on operation of the long range area navigation system in accordance with training pursuant to Subsection s704.115(22).
 - (b) North Atlantic Minimum Navigation Performance Specification (NAT MNPS), CMNPS and RNPC Airspace. The standard requirements for authorization to operate in North Atlantic Minimum Navigation Performance Specification (NAT MNPS) airspace, CMNPS airspace, to flight plan published high level fixed RNAV routes in Required Navigation Performance Capability (RNPC) airspace, and to be accommodated by Air Traffic Control (ATC) on other routes using RNPC separation criteria are:
 - (i) subject to A. and B. below, airplanes shall be equipped with at least two independent long range area navigation systems.
 - A. airplanes equipped with at least two independent navigation systems, one of which being a long range area navigation system, may be approved for NAT MNPS operations restricted to routes approved for airplanes with one long range RNAV system; and
 - B. airplanes equipped with at least two independent navigation systems based on short range ground transmitters may be approved for NAT MNPS operations restricted to routes approved for aircraft with no long range RNAV capability; and
 - (ii) flight crew training on operation of long range area navigation systems in accordance with training requirements set out in Subsection s704.115(22) of these Standards
 - (c) Reduced Vertical Separation Minima (RVSM) in NAT MNPS, CMNPS and RNPC Airspace. The standard requirement for authorization to operate in NAT MNPS Reduced Vertical Separation Minima (RVSM) airspace, CMNPS airspace, to flight plan published high level fixed RNAV routes in Required Navigation Performance Capability (RNPC) airspace, and to be accommodated by Air Traffic Control (ATC) on other routes using RNPC separation criteria is as follows:
 - (i) the air operator and airplane shall comply with Minimum Aircraft System Performance Specifications (MASPS) and other requirements of ICAO NAT DOC 002 and LARs Part VI, Subpart 2, Subsection 602.163(4).
- (3) Instrument Approaches Global Positioning System (GPS)
 - (a) the standard requirements for authorization to fly instrument approach procedures using only GPS navigation information are:
 - (i) an operational evaluation in accordance with subsection 724.08(3)(b) has been completed by the Minister on each aircraft type/GPS/FMS model installation for which approach authorization is sought;
 - (ii) an air operator has an approved flight crew training and qualifications program for use of the GPS/FMS system that meets the requirements of Subsection s704.115(22); and
 - (iii) standard operating procedures have been amended to reflect GPS approach operations and approved by the Minister (where required).
 - (b) the following items will be assessed in the operational evaluation prior to the approval of the operator's GPS approach standard operating procedures (where applicable) and training program. Identical installations of the same model of GPS in the same type of aircraft with the same operator do not need separate evaluations.

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- (i) Database. The geographical coverage area for the database shall be compatible with the type of operations conducted by the company. The air operator shall have procedures in place to ensure that the database will be updated in accordance with the appropriate data revision cycle. This shall include a contract with a database supplier and the inclusion, in the appropriate company manuals, of the person responsible for installing the updates in the aircraft. The company shall have a procedure in place for pilots to report database errors and for information on database errors to be passed on to other company pilots, the avionics manufacturer and the Minister.
- (ii) Unit Installation and Operation. The handling and procedures associated with the GPS avionics shall be such that all operations required for GPS approach can be accomplished without an adverse impact on normal crew duties and responsibilities. GPS related tasks shall not consume the attention of the pilot not flying (PNF) during critical phases of flight (i.e. between the time the aircraft turns inbound on the final approach course and the time the aircraft is established in the climb configuration on a missed approach).
- (iii) Control Display Unit (CDU) and Course Deviation Indicator (CDI) / Distance Display. If the GPS/FMS control unit is not adequately accessible from each pilot position, or if GPS course deviation and distance displays are not within the primary field of view at both pilot stations, air operators shall designate in the standard operating procedures the position that the pilot flying (PF) and pilot not flying (PNF) are required to occupy during GPS approach for that type of installation. Aircraft types that are certified for operation by two crew members shall have GPS course deviation and distance displays at each pilot station. An Operation Specification authorizing GPS approaches shall not be issued unless the PNF has a means acceptable, in the Minister's opinion, of monitoring the PF during an approach.
- (iv) Distance Display on the HIS. Installations where GPS guidance information (course tracking, To/From and NAV flags) are switched onto the HSI for display, but the DME distance information is not switched out (i.e. DME distance rather than GPS distance is displayed continuously on the HSI even when GPS source is selected to HSI), shall require air operators, in their standard operating procedures for GPS approach, to deselect other NAV/DME sources to eliminate distance displays in the pilot's primary field of vision not related to the approach procedure being flown.
- (v) Annunciation. Responses to system annunciation (including Receiver Autonomous Integrity Monitoring (RAIM) warnings), the means of selecting GPS track information to the CDI/HSI and the means of coupling GPS steering information to the aircraft automatic flight control system shall be compatible with the safe operation of the aircraft type/category. Standard operating procedures shall specify the procedure whereby the control unit is programmed, approach waypoints are verified against an independent source, approach mode is armed, and cockpit NAV source and AFC guidance source switches are selected and verified. Any switch selection or programming errors that the Minister believes are likely to occur and that could lead to a serious incident shall, if possible, be identified and addressed in training and in the standard operating procedures. Otherwise, the installation shall not be approved for approach use.
- (vi) Airborne Evaluation. The Minister shall observe the pre-flight and in-flight operation of the unit on at least one GPS approach and missed approach. If the PF is allowed to occupy either seat during GPS approaches, then one approach from each pilot position shall be demonstrated. An airborne evaluation in an aircraft must take place under VFR. Emphasis will be on crew co-ordination, pilot workload (PF and PNF), and switch selections.

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DIVISION III - FLIGHT OPERATIONS

s704.12 to s704.13 Reserved

s704.14 Scheduled Air Service Requirements

The standard for scheduled operations into or out of an uncertified aerodrome is as follows:

The operation shall be conducted under conditions established by the Minister which require the air operator and aerodrome operator to ensure a level of safety in respect to the use of the aerodrome that is equivalent to the level of safety established by the Lebanese Aviation Regulations.

s704.15 Operational Control Systems

Operations conducted under Part VII, Subpart 4 of the Lebanese Aviation Regulations require a Type C or D operational control system. Another organization may be contracted to exercise operational control on behalf of an air operator.

Information Note: A Type A or Type B system is only required for No Alternate IFR.

Type A

- (1) General
 - (a) Application. As required for No Alternate IFR operations, where an operator chooses to operate at a higher level than Type B, below.
 - (b) Responsibility and Authority. Prior to acceptance by the pilot-in-command of the Operational Flight Plan (OFP), operational control, as delegated by the Operations Manager in the approved Company Operations Manual, is exercised jointly by the flight dispatcher and the pilot-in-command of a flight.

After the pilot-in-command accepts the Operational Flight Plan, the flight dispatcher and the pilot-in-command share responsibility for Flight Watch. The flight dispatcher shall provide pertinent and related flight information to the pilot-in-command, including any changes to the Operational Flight Plan proposed by the dispatcher or the air operator.

Once a flight has commenced, the final decision on any changes to the Operational Flight Plan shall be taken by the pilot-in-command based on considerations of safety.

Limited pilot self-dispatch of flights may be permitted at those enroute stops where a lack of communications facilities prevents the co-authority dispatch of a flight. In such cases, the air operator shall develop, and submit to the DGCA for approval, those additional procedures that are intended to compensate for the lack of flight dispatcher participation in the flight's next operational flight plan.

- (c) Centers. The Flight Dispatch Center shall be established so as to ensure operational control throughout the air operator's entire route structure or area of operations.
- (d) Communications
 - (i) <u>In-flight Communications</u>. Timely and direct communication between the responsible flight dispatcher, if applicable, and the pilot-in-command of a flight shall be maintained during flight time over all or almost all the route structure. A communications capability similar to that required for a Type B Operational Control system may be



authorized for mid-route sectors of flights and certain destinations, such as those specified in Subsection (1)(b) above, where direct communication is not practical.

- (ii) <u>On-ground Communications</u>. A direct communications capability between the pilot-incommand and the flight dispatcher shall be provided at any station regularly served by the air operator. The equipment used shall be accessible to the pilot-in-command and may include the following:
 - A. VHF/HF Radio voice;
 - B. telephone;
 - C. data link; and
 - D. teletype. This requirement may be waived by the DGCA at those stations where a lack of facilities prevents communication between the pilot-in-command and flight dispatch.

Timely communication means the ability to establish communications domestically within 30 minutes of first trying and internationally within one hour when the flight is in cruise.

Direct communication means the ability of the flight dispatcher and the pilot-incommand to communicate using the air operator's facilities, an electronic data link facility, or operated by a third party according to an agreement.

(e) Flight Dispatchers On Duty. The number of flight dispatchers on duty at any time a dispatch function is required shall be sufficient to provide Flight Dispatch and Flight Watch services.

(2) Flight Dispatch Center

- (a) each center shall have a means of providing to the flight dispatcher without delay:
 - (i) NOTAMs and NOTAM summaries;
 - (ii) all weather reports for airports used as destination or alternate airports or for emergencies;
 - (iii) forecasts, area and terminal, for the area of responsibility and such wider area as are needed for proper weather trend analysis; and
 - (iv) weather radar summaries, where available as part of the normal weather reporting system.

The air operator service shall establish a system to inform flight dispatchers at each center of significant changes in flight conditions and in conditions at stations significant to the company's flights.

- (b) each center shall be provided with:
 - (i) airplane operating manuals and Minimum Equipment Lists, as appropriate;
 - (ii) Company Operations Manual;
 - (iii) airport runway data; and
 - (iv) such additional information as may be needed to enable the formulation of an operational flight plan or to exercise Flight Watch services.
- (c) each center shall be provided with communications equipment that ensures:
 - (i) timely and direct communications between the responsible flight dispatcher, if applicable, and the pilot-in-command during flight time over all or almost all the route structure. A communications capability similar to that of a Type B Operational Control System may be authorized for mid-route sectors of flights where direct communications are not possible;
 - (ii) direct radio voice, telephone, data link, or teletype contact with the pilot-in-command at each airport regularly served by the air operator within the area of responsibility;

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- (iii) a means to provide a hard copy of an operational Flight Plan, or an amendment to same, to the pilot-in-command; and
- (iv) direct ATS contact.
- (3) Flight Dispatcher (Operations Officer)
 - (a) the air operator shall ensure that each flight dispatcher is trained and qualified in accordance with the requirements of its approved training program. (Dispatcher training programs are contained in Part VII, Subpart 5, Commercial Air Services Standards).
 - (b) before commencing duty, a flight dispatcher shall receive a briefing on, or shall study, all pertinent weather charts, weather reports, NOTAMs, operational restrictions in force, flights in the air, flights for which Operational Flight Plans (Dispatch Releases) have been issued, but that have not yet commenced and for which he or she shall be responsible, and the forecast flight schedule.
 - (c) the responsible flight dispatcher may supervise personnel, including assistants, as part of an approved on-the-job training program, provided this supervision does not interfere with the performance of his or her duties.
 - (d) the flight dispatcher shall maintain a record of information generated or exchanged in relation to any flight for which that flight dispatcher has responsibility.

(4) Dispatch Release. The Dispatch Release of a flight occurs when the flight dispatcher approved the Operational Flight Plan, after which it is submitted to the pilot-in-command for acceptance. When there is disagreement between the flight dispatcher and the pilot-in-command over the dispatch of a flight, the disagreement resolution policy, where one has been specified by the air operator, or the most conservative course of action shall be followed. The dispatch release may be in the form of an Operational Flight Plan signed by the flight dispatcher or it may consist of a separate document signed in accordance with approved air operator operating procedures.

A means shall be provided and procedures developed to ensure that at each location where flights originate, the pilot-in-command:

- (a) receives meteorological information related to the flight;
- (b) obtains a hard copy of the Operational Flight Plan; and
- (c) except where communication is not practical, can contact the responsible flight dispatcher prior to take-off, if necessary.
- (5) Flight Watch
 - (a) a flight dispatcher shall maintain current information on the progress of flights for which he or she is responsible.
 - (b) a Flight Watch, which shall continue until completion of the flight, shall be maintained on all factors and conditions that might affect the Operational Flight Plan. The pilot-in-command shall be kept fully advised of all these factors and conditions.
 - (c) in-flight reports shall be directed to the flight dispatcher performing Flight Watch:
 - (i) after each take-off and landing;
 - (ii) at least once an hour on any flight longer than one hour conducted in uncontrolled airspace;
 - (iii) at intervals not greater than two hours on international operations where communications are possible;
 - (iv) when the fuel remaining at any time on the flight falls below the minimum specified on the Operational Flight Plan; and
 - (v) where the pilot-in-command determines a change is necessary to the Operational Flight Plan enroute.

Type B

(1) General

(a) Application. As required for No Alternate IFR operations.

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(b) Responsibility and Authority

- (i) the requirements are the same as for Type A, Subsection 1(b); or
- (ii) when departure is from an airport not routinely served by the air operator and communications do not permit the co-authority dispatch of a flight, the Operational Flight Plan (dispatch release) shall be established before the arrival of the flight. The pilot-in-command shall advise the flight dispatcher of any modifications made to the Operational Flight Plan when communications allow.
- (c) Centers. The Flight Dispatch Center shall be established so as to provide assistance to the pilots-in-command over any area for which a Type B system is approved.
- (d) Communications
 - (i) In-flight Communications. Direct or indirect communication between the flight dispatcher and the pilot-in-command shall be maintained during flight time with as short a delay as practical considerations permit. Wherever possible, communications shall be provided by other than Air Traffic Services. The use of ATS communications systems is permitted. A private agency under contract to the air operator shall be approved to provide the required communications services.
 - (ii) <u>On-ground Communications</u>. The requirements are the same as for Type A, Subsection 1(d)(ii).
- (e) Flight Dispatchers On Duty. The requirements are the same as for Type A, Subsection 1(e).
- (2) Flight Dispatch Center
 - (a) the requirements are the same as for Type A, Subsection 2(a).
 - (b) the requirements are the same as for Type A, Subsection 2(b).
 - (c) each center shall be provided with communications equipment that ensures:
 - direct contact with the pilot-in-command during flight when operating in the vicinity of airports regularly served by the air operator. At those stations where a lack of facilities prevent direct communications between the pilot-in-command and flight dispatch, reliable indirect contact through a ground station and radio relay from that station by the air operator personnel to the pilot-in-command shall be permitted;
 - (ii) direct communication with the flight line at each airport regularly served by the operator; and
 - (iii) direct ATS contact.

(3) Flight Dispatcher (Operations Officer). The requirements are the same as for Type A, Section 3.

(4) Dispatch Release. The requirements are the same as for Type A, Section 4, except where differences are approved.

(5) Flight Watch. The requirements are the same as for Type A, Section 5, with the exception of Subsection 5(c)(iii), which is to be observed as far as practical, taking into consideration the nature of the particular operations.

Type C

(1) General

- (a) <u>Application</u>. A Type C classification shall apply to air operators operating under Instrument Flight Rules (IFR) and Visual Flight Rules (VFR) at night in Commuter Operations using:
 - (i) airplanes with a seating configuration, excluding pilots, of 10 to 19; or
 - (ii) turbo-jet airplanes with a seating configuration, excluding pilots, of 19 or less.
- (b) <u>Responsibility and Authority</u>. Operational control is delegated to the pilot-in-command of a flight by the Operations Manager, who retains responsibility for the day-to-day conduct of flight operations.
- (c) <u>Centers</u>. Current information on the location of the air operator's airplanes shall be maintained at the main base of operations or, where appropriate, at its sub-base of operations;
- (d) <u>Communications</u>. Each airplane shall be equipped with serviceable and functioning communications equipment that permits the pilot-in-command to communicate with a ground

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radio station for the purpose of flight following. Such a ground station may be operated by the government, the air operator or a private agency;

(e) <u>Personnel On Duty</u>. Refer to Section 3 below.

(2) Dispatch Release. Flights operated under this system are self-dispatched and released by the pilotin-command. Where an air operator chooses to use a Dispatch Release, as required under a Type B system, the flight dispatcher preparing that release shall be qualified in accordance with Type A operational control system.

(3) Flight Watch and Flight Following. Flight Following for a Type C system is the monitoring of a flight's progress, the provision of such operational information as may be required by that flight, and the notification of appropriate air operator and search-and-rescue authorities if the flight is overdue or missing.

Flight Following procedures and the standards of training and qualification for the individual performing this function shall be described in the air operator's Company Operations Manual.

- (a) if an air operator chooses to use either a Type Å or B system, Flight Watch shall be required and exercised in accordance with the requirements of that system.
- (b) if an air operator chooses to use pilot self-dispatch, the pilot-in-command is solely responsible for Flight Watch but shall be supported by an air operator provided Flight Following System containing the following elements:
 - (i) a flight follower qualified and knowledgeable in the air operator's flight alerting procedures, on duty and able to respond to requests by the pilot-in-command for information related to the flight. Such information shall include meteorological information without analysis or interpretation;
 - (ii) the progress of each flight from its commencement to its termination, including any intermediate stops, shall be monitored, which may be done by the same person as in Subsection 3(b)(i) above; and
 - (iii) the pilot-in-command shall be responsible for passing messages concerning airplane landings and departures from point of origin, enroute stops, and final destination to the person described in Subsection 3(b)(i) above.

Type D

(1) General

- (a) <u>Application</u>. A Type D classification shall apply to all commuter operations under day VFR, except for turbo-jet airplanes.
- (b) <u>Responsibility and Authority</u>. Operational control is delegated to the pilot-in-command of a flight by the Operations Manager, who retains responsibility for the day-to-day conduct of flight operations.
- (c) <u>Centers</u>. Current information on the location of the air operator's airplanes shall be maintained at the main base of operations, its sub-base of operations or where appropriate from the location from which the flight following is being carried out.
- (d) <u>Communications</u>. Each airplane shall be equipped with serviceable and functioning communications equipment that permits the pilot-in-command to communicate with a ground radio station for the purpose of exchanging messages with the air operator. Such a ground station may be operated by the government, the air operator or a private agency.
- (e) <u>Personnel On Duty</u>. A person, qualified and knowledgeable in the air operator's flight alerting procedures, shall be on duty or available when operations are being conducted.

(2) Flight Following. Flight Following for a Type D system is the monitoring of a flight's progress and the notification of appropriate air operator and search-and-rescue authorities if the flight is overdue or missing.

Flight Following procedures and the standards of training and qualification for the individual performing this function shall be described in the air operator's Company Operations Manual:

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- (a) each flight shall be conducted under a VFR Flight Plan, or Flight Itinerary, as appropriate;
- (b) the pilot-in-command is responsible for Flight Watch but shall be supported by an air operator Flight Following System that shall monitor the progress of each flight from its commencement to its termination, including any intermediate stops. The person performing the flight following functions, who may be the same person as in Subsection 1(e) above, shall be delegated to do so by the Operations Manager; and
- (c) the pilot-in-command shall be responsible for passing messages concerning airplane landings and departures from the point of origin, at enroute stops, and from the final destination in order to satisfy the requirements of Subsection 2(b) above.

s704.16 Reserved

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s704.17 Operational Flight Plan

In accordance with the classification of its operational control system (s704.15), an air operator shall adhere to the full 30 item list below; the abbreviated 18-item list, as indicated by asterisk; or an informal operational flight plan. The minimum content for an operational flight plan (OFP) applies as follows:

Operational Control System Classification	Type of Operational Flight Plan	
Type C and Type D: IFR, except local, and VFR at night	18 – item list abbreviated OFP	
Type C and Type D: VFR and IFR local	Informal OFP and ATC flight plan, flight itinerary, or other flight following information, as applicable.	

For local flights (within 25 nm) or flights that terminate at the departure aerodrome, the operational flight plan need not be a formal document unless the air operator specifies otherwise in its Company Operations Manual.

An air operator that operates flights over routes with little or no cruise segment (less than 30 minutes) may use the abbreviated operational flight plan.

The Minimum Required Content of an Operational Flight Plan is:

- (a) * air Operator's name;
- (b) * date;
- (c) * airplane registration;
- (d) * airplane tail number (as applicable);
- (e) * airplane type and model (as applicable);
- (f) * flight number (as applicable);
- (g) type of flight; Instrument Flight Rules or Visual Flight Rules at night unless all the air operator's flights are the same;
- (h) * pilot-in-command's name;
- (i) * flight dispatcher's name (if applicable);
- (j) * departure aerodrome;
- (k) * destination aerodrome;
- (1) * alternate aerodrome, as applicable, including enroute alternates where required;
- (m) routing to destination by successive navigational way points and a method to obtain associated tasks for each;
- (n) routing to alternate aerodrome;


- (o) specification of any way points enroute to satisfy any special operations requirements;
- (p) * planned cruise altitudes to destination and alternate (as applicable);
- (q) planned cruise, True Air Speed;
- (r) planned cruise, Indicated Air Speed, or mach number (as applicable);
- (s) winds at planned cruise altitude: these may be expressed in terms of direction/velocity or as a component/drift angle;
- (t) temperature at cruise altitude;
- (u) ground speed or wind component during cruise;
- (v) * estimated time enroute: if broken down into way point time components, a total shall be specified;
- (w) time from destination to alternate (as applicable);
- (x) distance to destination: if broken down into way point distance components, a total shall be specified;
- (y) distance from destination to alternate;
- (z) * fuel burn enroute and from destination to alternate;
- (aa) * fuel as applicable for the type of flight plan:
 - (i) taxi;
 - (ii) destination;
 - (iii) alternate;
 - (iv) contingency (as applicable);
 - (v) holding reserve;
- (bb) * weights:
 - (i) total fuel on board;
 - (ii) zero fuel weight (if applicable); and
 - (iii) planned maximum take-off weight;
- (cc) * signature of pilot-in-command and as applicable the Flight Dispatcher, or alternate means of certifying acceptance;
- (dd) * number of persons on board: crew and passengers, as amended by final load figures.

The format of the full operational flight plan shall allow the crew to record the fuel state and the progress of the flight relative to the plan. The operational flight plan may be computer generated or produced manually working from charts and tables, by either the flight dispatcher or the flight crew. When an operational flight plan is prepared manually, an approved form displaying the requisite information and providing the necessary space to make flight following entries as the flight progresses shall be used.

The air operator shall specify, in its Company Operations Manual, how formal acceptance of the operational flight plan by the Pilot-in-Command and, if applicable, the flight dispatcher shall be recorded.

s704.18 to s704.25 Reserved

s704.26 Take-Off Minima

(1) Weather Below Landing Limits. The standards for conducting a take-off in IMC when weather conditions are above take-off, but below landing minima for the runway in use are:

- (a) for departures where the operator has prevented more than 9 passenger seats from being occupied:
 - (i) an alternate aerodrome is specified in the IFR flight plan and that aerodrome is located:
 - A. in the case of a twin-engined aircraft, within the distance that can be flown in 60 minutes at the normal cruising speed; or



- B. in the case of an aircraft with three or more engines, within the distance that can be flown in 120 minutes at the normal cruising speed; and
- (b) for all other departures:

(i)

- an alternate aerodrome is specified in the IFR flight plan and that aerodrome is located:
 A. in the case of a twin-engined aircraft, within the distance that can be flown in 60
 - A. in the case of a twin-engined aircraft, within the distance that can be flown in 60 minutes at the one-engine-inoperative cruise speed, or
 - B. in the case of an aircraft with three or more engines, within the distance that can be flown in 120 minutes at the one-engine-inoperative cruise speed.

(2) Weather Below Published Take-off Minima. The standard for take-off in a turbine-powered airplane in IMC below the weather minima specified in the DGCA Approved Aeronautical Charts or in an equivalent foreign publication is:

- (a) Take-off Minima Reported Visibility RVR 1200 feet (1/4 mile) Airplanes with Certified Engine-out Take-off and Climb Performance
 - (i) the Company Operations Manual shall contain detailed guidance on how to determine departure one engine inoperative climb gradient and obstacle clearance;
 - (ii) a take-off alternate selected in accordance with s704.26(1) shall be specified in the flight plan;
 - (iii) the runway is equipped as detailed in ICAO Standards and Recommended Practices with serviceable and functioning high intensity runway lights or runway line-line lights or with runway line-line markings that are plainly visible to the pilot throughout the take-off run;
 - (iv) the pilot-in-command is satisfied that the required RVR 1200 feet (1/4 mile) visibility exists for the runway to be used before commencing take-off;
 - (v) the pilot-in-command and second-in-command attitude instruments (artificial horizons) on the airplane shall incorporate pitch attitude index lines in appropriate increments above and below the zero pitch reference line to at least 15°, and are capable of ensuring ready depiction of total airplane attitude. An approved failure warning system which will immediately detect essential instrument and equipment failures or malfunctions shall be installed and operative. For the purpose of reduced visibility take-offs, essential instruments are defined as attitude indicators, directional gyros and HSI's;
 - (vi) the flight crew members shall be given training in accordance with s704.115(21) as applicable;
 - (vii) the chief pilot has certified in the document certifying qualifications and proficiency that the pilot-in-command is competent to conduct an RVR 1200 feet (1/4 mile) take-off; and
 - (viii) the pilot-in-command shall have at least 100 hours of pilot-in-command experience on the airplane type. A pilot-in-command converting onto an airplane type similar to that on which he had been maintaining pilot-in-command qualifications at these limits for at least 90 days prior to conversion may be authorized these limits by the air operator on completion of required line indoctrination. Similar airplanes shall be considered as turbo-propeller to turbo-propeller or turbo-jet to turbo-jet.
- (b) Take-off Minima Reported Visibility RVR 1200 feet (1/4 mile) Airplanes without Certified Engine-out Take-off and Climb Performance:
 - (i) the Company Operations Manual shall contain detailed guidance on how to determine single-engine climb gradient and obstacle clearance;
 - (ii) a take-off alternate selected in accordance with s704.26(1) shall be specified in the flight plan; and
 - (iii) the takeoff weight of the airplane shall not exceed the weight determined from the Airplane Flight Manual that, considering the runway characteristics and ambient weather conditions, meets the following requirements:
 - A. airplanes carrying nine or fewer passengers:



- the required Accelerate-Stop Distance shall not exceed Accelerate-Stop Distance Available (ASDA); and
- the required engine-out take-off distance shall not exceed Take-off Distance Available (TODA); and

Information Note: Where the aircraft manufacturer does not provide data for singleengine take-off distance, but provides data for engine-out climb in the take-off configuration, the airplane weight shall permit a positive rate of climb using the configuration and speed at liftoff.

- B. airplanes carrying 10 or more passengers:
 - the required Accelerate-Stop Distance shall not exceed Accelerate-Stop Distance Available (ASDA);
 - the required engine-out take-off distance shall not exceed Take-Off Distance Available (TODA); and
 - the Net Take-off Flight Path to 1500 feet AGL shall clear all obstacles by at least 35 feet vertically or at least 200 feet horizontally within the aerodrome boundaries and 300 feet horizontally outside those boundaries;
- (iv) the runway is equipped as detailed in the manual of Aerodrome Standards and Recommended Practices with serviceable and functioning high intensity runway lights or runway center line lights or with runway line-line markings that are plainly visible to the pilot throughout the take-off run;
- (v) the pilot-in-command is satisfied that the required RVR 1200 (1/4 mile) visibility exists for the runway to be used before commencing take-off;
- (vi) the pilot-in-command and first officer attitude instruments (artificial horizons) on the airplane shall incorporate pitch attitude index lines in appropriate increments above and below the zero reference line to at least 15°, and are capable of ensuring ready depiction of total airplane attitude. An approved failure warning system which will immediately detect essential instrument and equipment failures or malfunctions shall be installed and operative. For the purpose of reduced visibility take-offs, essential instruments are defined as attitude indicators, directional gyros and HSI's;
- (vii) the flight crew members shall be given training in accordance with Subsection s704.115(21) as applicable. Pilots must also complete annual training in a simulator for the type, certificated to Level B or higher, during which RVR 1200 take-offs are practiced;
- (viii) the chief pilot has certified in the document certifying qualifications and proficiency that the pilot-in-command is competent to conduct an RVR 1200 feet (1/4 mile) visibility take-off; and
- (ix) the pilot-in-command shall have at least 100 hours of pilot-in-command experience on the airplane type. A pilot-in-command converting onto an airplane type similar to that on which he had been maintaining pilot-in-command qualifications at these limits for at least 90 days prior to conversion may be authorized these limits by the air operator on completion of required line indoctrination. Similar airplanes shall be considered as turbo-propeller to turbo-propeller or turbo-jet to turbo-jet.
- (c) Take-off Minima Reported RVR 600 feet
 - (i) the Company Operations Manual shall contain detailed guidance on how to determine departure one engine inoperative climb gradient and obstacle clearance;
 - (ii) the runway has the following equipment in accordance with the manual for Aerodrome Standards and Recommended Practices:
 - A. serviceable and functioning high intensity runway lights, runway line-line lights and line-line markings that are plainly visible to the pilot throughout the take-off run;



- B. at least two transmissometers, one situated at the approach end and one at the mid-point of the runway, each reading not less than RVR 600 feet; and
- C. if three transmissometers are available and the mid-point transmissometer is unserviceable, take-off is authorized provided the transmissometers at the approach end and the departure end of the runway, each is reading not less than RVR 600 feet;
- (iii) the pilot-in-command is satisfied that the required RVR 600 feet visibility exists for the runway to be used before commencing take-off;
- (iv) the pilot-in-command and second-in-command attitude instruments (artificial horizons) on the airplane shall incorporate pitch attitude index lines in appropriate increments above and below the zero pitch reference line to at least 15°, and be capable of ensuring ready depiction of total airplane attitude. An approved failure warning system which will immediately detect essential instrument and equipment failures or malfunctions shall be installed and operative. For the purpose of reduced visibility take-offs, essential instruments are defined as attitude indicators, directional gyros and HSI's;
- (v) the flight crew members shall be given training in accordance with Subsection s704.115(21) as applicable;
- (vi) the pilot-in-command, and the second-in-command if authorized by the air operator for lower than normal take-off minima, shall be checked within the preceding 12 months in an approved synthetic flight training device by an approved company check pilot or a DGCA Inspector and shall be certified on the document certifying qualifications and proficiency as competent to conduct an RVR 600 feet take-off; and
- (vii) the pilot-in-command shall have at least 100 hours of pilot-in-command experience on the airplane type. A pilot-in-command converting onto an airplane type similar to that on which he had been maintaining pilot-in-command qualifications at these limits for at least 90 days prior to conversion may be authorized these limits by the air operator on completion of required line indoctrination. Similar airplanes shall be considered as turbo-propeller to turbo-propeller or turbo-jet to turbo-jet.

s704.27 to s704.28 Reserved

s704.29 Routes in Uncontrolled Airspace

For an air operator to establish routes in uncontrolled airspace the following standards shall be met:

(1) A minimum obstruction clearance altitude (MOCA) shall be established for each route segment by the use of Approved Aeronautical Charts for updating of significant obstructions as follows:

- (a) for flight under IFR a minimum altitude of 2000 feet above the highest obstacle located within a horizontal distance of 10 miles from the center line of route;
- (b) for flight at night in VFR conditions a minimum altitude of 1000 feet above the highest obstacle located within 3 miles from the center line of the route.

(2) For each route segment a minimum enroute altitude (MEA) shall be established which meets or exceeds the minimum obstruction clearance altitude and assures navigational signal coverage. For line of sight navigation aid reception distance, for ground installed aids the minimum reception altitude may be calculated by calculating the square root of an altitude above the navigation aid and multiplying the result by 1.25 (Sq. root 3000 ft. is $54.7 \times 1.25 = 68$ miles). The MEA will be established to the nearest higher 100 foot increment.

(3) Each route shall include:

- (a) the FROM/TO route segment;
- (b) track;
- (c) MOCA;
- (d) MEA;



- (e) distance between fixes or waypoints; and
- (f) navigation aids.

(4) the air operator shall maintain a record of their company routes in a form and format similar to the catalogue of approved routes.

Provided the above procedures are followed, an air operator's pilot may use routes that are not yet contained in the record of company routes.

(5) Prior to initial use of other than a publicly available navigation aid, permission of the owner/operator shall be obtained and retained in company records. No VFR at night or IFR flights shall commence unless the navigation aids upon which the route is predicated are in satisfactory operating condition, or the flight is conducted using an approved long range navigation system.

When company routes are predicated on other than a publicly available navigation aid and arrangements have not been made with the owner/operator to advise when the navigation aid is out of service, instructions to pilots shall be included on how, and whom to contact, to confirm that the navigation aid is in service.

(6) The air operator's Company Operations Manual shall be amended to outline the above procedures and information for pilot guidance.

(7) The flight visibility shall not be less than 3 miles for flights in VFR at night.

Information Note: *Pilot training for area navigation systems is contained in Section s704.115 of the Commercial Air Services Standards.*

s704.30 to s704.31 Reserved

s704.32 Weight and Balance Control

The weight and balance system required by Section 704.32 of the Lebanese Aviation Regulations shall specify for each flight how the air operator will establish and be responsible for the accuracy of:

(1) airplane basic empty weight and center of gravity determined in accordance with the Airplane Flight Manual;

(2) airplane operational empty weight and center of gravity. The airplane operational empty weight is the actual weight of the airplane before loading for dispatch consisting of the airplane basic empty weight and may include removable equipment, flight crew members (including baggage), crew members (including baggage and supplies), water, toilet fluids and chemicals, oil, unusable fuel and emergency equipment and shall be defined by the air operator;

(3) weight of passengers, carry-on baggage and checked baggage, determined either by actual weight, by using approved standard weights or by using approved survey weights, and the actual weight of cargo;

(4) weight of the fuel load determined by using either the actual specific gravity or a standard specific gravity;

(5) airplane loading including, but not limited to, compartment weight and bulk cargo limits, floor loading limits, cargo restraint and unit load device/pallet loading considering weight and center of gravity limits;

(6) airplane zero fuel weight (if applicable);

(7) location of the center of gravity to include the longitudinal position and where required, lateral and vertical positions;

(8) preparation and disposition of all required documentation whether by the air operator or other qualified personnel authorized by the air operator; and



(9) the training, both initial and recurrent, of all air operator personnel and other qualified personnel authorized by the air operator with duties and responsibilities in this system. The training shall be in the appropriate parts of the Company Operations Manual.

The weight and balance computation may be incorporated in the operational flight plan or be a separate form.

s704.33 Passenger and Cabin Safety Procedures

(1) Safe Movement of Passengers to and From the Airplane

The procedures for the safe movement of passengers to and from the airplane shall include:

- (a) wherever possible, airplanes are parked in a location that avoids passenger exposure to hazardous conditions;
- (b) announcements to embarking/debarking passengers as warranted to alert them to hazardous conditions or dangers that may be encountered during embarkment/disembarkment and/or enroute to or from the airside exit/entrance points, and advising them to follow any directions provided outside the airplane;
- (c) adequate guidance, and where necessary an escort, provided to passengers so as to ensure that their movements while airside are properly controlled. The responsibility for this shall be clearly defined and the controls shall ensure:
 - (i) passengers are directed along the correct and safe route between the airplane and the airside entrance/exit point, and prompt attention is given to stragglers where necessary;
 - (ii) an escort is assigned to control passenger movements when the route to or from the airplane is congested by other aircraft or vehicles or when required by the Air Carrier Security Measures; and
 - (iii) passengers are not exposed to hazards from aircraft operations, fuelling equipment, exposure to jet blasts, engines, rotors or propellers, or to the hazards posed by lighting conditions, obstacles positioned along the route or unsafe surface or stairway conditions;
- (d) smoking restrictions are enforced;
- (e) "Walkman" or similar entertainment system headsets that decrease awareness of other traffic or limit reception of audible direction or warning signals, are not worn;
- (f) clearly assigning the responsibility for the opening/closing and the locking/unlocking of terminal building doors, to enable enplaning/deplaning passengers to access the apron or terminal. Where this responsibility is assigned to persons other than the air operator's personnel or those contracted by the air operator, the crew members are so advised;
- (g) where conditions so warrant, the embarking/disembarking activity is postponed until a safe walking zone is prepared;
- (h) unsatisfactory or hazardous conditions are reported to the responsible authority;
- (i) passengers are briefed on how to safely emplane or deplane whenever the aircraft engines are running; and
- (j) passengers on float planes are alerted to hazards unique to emplaning and deplaning this type of aircraft.

The procedures shall not preclude the safe embarkment and disembarkment of all passengers.

The procedures shall be incorporated in training programs and training will be provided to crew members, ground handling and passenger agent staff (including contract personnel) involved with the transfer of passengers between the terminal building and the airplane.

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The training will be adequate to ensure that personnel are fully aware of their responsibilities, are able to perform their assigned duties for the safety of airside passengers and know to whom the air operator personnel report in the application of their responsibilities. Where there is an overlap in the duties/responsibilities assigned to personnel, the training will ensure that the trainees know the relationship of their duties/responsibilities to those of the other personnel involved.

(2) Fuelling with Passengers on Board. Airplanes may be fuelled with passengers on board, embarking or disembarking under the following conditions:

- (a) in order to ensure that crew members receive prompt notification of a situation threatening safety such as major fuel spill or a fire, two way communication is maintained between the ground crew supervising the fuelling and the qualified personnel on board the airplane so that the airplane can be disembarked or evacuated as necessary;
- (b) a means of communication among the qualified personnel on board the airplane, ground/maintenance crews and fuelling agencies is determined and established and the procedures are provided to the appropriate personnel;
- (c) the airplane engines are not running unless the aircraft incorporates a propeller brake and the brake is set. The Aircraft Flight Manual must refer to the propeller brake/engine as an auxiliary power unit (APU);
- (d) during the fuelling process:
 - (i) airplane ground power generators or other electrical ground power supplies are not being connected or disconnected;
 - (ii) combustion heaters installed on the airplane (e.g. wing and tail surface heaters, integral cabin heaters) are not operated;
 - (iii) other combustion heaters used in the vicinity of the airplane are manufactured to a standard acceptable to the Minister and approved in accordance with the Fire Authority of Lebanon for use in hazardous atmosphere;
 - (iv) known high energy equipment such as High Frequency (HF) radios are not operated, unless in accordance with the airplane manufacturer's approved flight manual where the manual contains procedures for the use of this equipment during fuelling;
 - (v) weather-mapping radar equipment in the airplane is not operated unless in accordance with the manufacturer's approved airplane flight manual where the manual contains procedures for use during fuelling;
 - (vi) airplane batteries are not being removed or installed;
 - (vii) external battery chargers are not being connected, operated or disconnected;
 - (viii) borne-borne auxiliary power units which have an efflux discharging into the zone are not started after filler caps are removed or fuelling connections are made;
 - (ix) if an auxiliary power unit (APU) is stopped for any reason during fuelling it shall not be restarted until the flow of fuel has ceased and there is no risk of igniting fuel vapors, however, the APU may be operated in accordance with the manufacturer's approved airplane flight manual if the manual contains procedures for starting the APU during fuelling;
 - (x) electric tools or similar tools likely to produce sparks or arcs are not being used; and
 - (xi) photographic equipment is not used within 10 ft. (3m) of the fuelling equipment or the fill or vent points of the airplane fuel systems;
- (e) fuelling is immediately suspended when there are lightning discharges within 8 km of the aerodrome;
- (f) the airplane is fuelled in accordance with manufacturer's procedures for that type of airplane;
- (g) the airplane emergency lighting system is armed or on, (if applicable);
- (h) "No Smoking" signs on board the airplane are illuminated, as applicable;
- (i) procedures are established to ensure that passengers do not smoke, operate portable electronic devices or otherwise produce sources of ignition;

- (j) a minimum of two exits are designated evacuation exits during fuelling; one of which must be the entry doors through which the passengers embarked;
- (k) the designated evacuation exits during fuelling are identified by airplane type and published in the Company Operations Manual, and are clear and available for immediate use by passengers and crew members should an evacuation be required;
- the air operator has procedures in place to ensure that there is a ready escape route from each designated evacuation exit during fuelling;
- (m) a means of evacuation, such as a deployed integral stair, a loading stair or stand, is in place at the airplane door used for the embarking and disembarking of passengers and is free of obstruction and available for immediate use by the airplane occupants if necessary;
- (n) a qualified person trained in the operation and use of emergency exits and in emergency evacuation procedures who is ready to initiate and direct an evacuation is at or near the door at which there is a deployed integral stair, a passenger loading stair or stand; and
- (o) Where desirable for climatic reasons, and provided a crew member is on board, an airplane embarking door that is inward opening or can be fully opened to the exterior without repositioning of loading stairs or stand may be closed, and latched if necessary to keep it closed, but may not be locked.

(3) Use of Portable Electronic Devices. The prohibited devices, the permitted devices without restrictions and the permitted devices with restrictions are defined as follows, and are to be used in accordance with the stated requirements as applicable:

- (a) Prohibited Devices. Any transmitting device that intentionally radiates radio frequency signals;
- (b) Permitted Devices Without Restrictions
 - (i) hearing aids;
 - (ii) heart pacemakers;
 - (iii) electronic watches; and
 - (iv) properly certificated air operator installed equipment;
- (c) Permitted Devices With Restrictions
 - (i) personal life support systems may be operated during all phases of flight, provided that the device does not cause interference with the aircraft's systems or equipment;
 - (ii) portable two-way radio communication devices may be used subject to all of the following conditions and restrictions being met:
 - A. use is prohibited at all times when the aircraft engines are running, excluding the auxiliary power unit,
 - B. when the pre-flight safety briefing begins prior to engine start, use is terminated during the delivery of the pre-flight safety briefing and demonstration, and
 - C. the Company Operations Manual contains procedures to ensure these devices are turned off and properly stowed during the delivery of the pre-flight safety briefing and demonstration and while the aircraft engines are running;
 - (iii) other portable electronic devices may be used, except during take-off, climb, approach and landing.

(4) Passengers shall be informed of the air operator's policy pertaining to the use of portable electronic devices and those devices that are prohibited from use during the delivery of the pre-flight safety briefing and demonstration.

(5) When interference with the aircraft's systems or equipment is suspected from use of a portable electronic device, crew members shall:

- (a) confirm passenger use of portable electronic device(s);
- (b) instruct passenger(s) to terminate the use of portable electronic device(s);
- (c) prohibit the use of suspected portable electronic device(s); and
- (d) recheck the aircraft's systems and equipment.

(6) The pilot-in-command shall report incidents of portable electronic device interference and include the following information in the report:



- (a) <u>Flight Information</u>. Aircraft type, registration, date and UTC time of incident, aircraft location (VOR bearing/DIST/LAT/LONG), altitude, weather conditions, pilot name and telephone number;
- (b) <u>Description of Interference</u>. Description of effects on cockpit indicators, audio or systems, including radio frequency, identification, duration, severity and other pertinent information;
- (c) Action Taken by Pilot/Crew to Identify Cause or Source of Interference;
- (d) <u>Identification of Portable Electronic Device</u>. Description of device, brand name, model, serial number, mode of operation (i.e. FM radio), device location (seat location), and regulatory approval number (FCC/other);
- (e) Identification of User. Name and telephone number of passenger operating the device; and
- (f) <u>Additional Information</u>. As determined pertinent by the crew; and
- (7) Reports of portable electronic device interference shall be submitted to the DGCA.

s704.34 Briefing of Passengers

(1) Standard Safety Briefing. The standard safety briefing shall consist of an oral briefing provided by a crew member or by audio or audio-visual means which includes the following information as applicable to the airplane, equipment, and operation:

- (a) prior to take-off:
 - (i) when, where, why and how carry-on baggage is required to be stowed;
 - (ii) the fastening, unfastening, adjusting and general use of safety belts or safety harnesses;
 - (iii) when seat backs must be secured in the upright position and chair tables must be stowed;
 - (iv) the location of emergency exits and for passengers seated next to an exit, how that exit operates;
 - (v) the location, purpose of, and advisability of reading the safety features card;
 - (vi) the regulatory requirement to obey crew instructions regarding safety belts and no smoking or Fasten Seat Belt and No Smoking signs and the location of these signs;
 - (vii) the location of any emergency equipment the passenger may have a need for in an emergency situation such as the ELT, fire extinguisher, survival equipment (including the means to access if in a locked compartment), first aid kit and life raft;
 - (viii) the use of passenger operated portable electronic devices;
 - (ix) the location, and operation of the fixed passenger oxygen system, including the location and presentation of the masks; the actions to be performed by the passenger in order to obtain the mask, activate the flow of oxygen and correctly don and secure the mask. This will include a demonstration of their location, method of donning including the use of elastic band, operation, and instruction on the priority for persons assisting others; and
 - (x) the location, and use of life preservers, including how to remove from stowage/packaging and a demonstration of their location, method of donning and inflation, and when to inflate life preservers;
- (b) after take-off, if not included in the pre take-off briefing:
 - (i) that smoking is prohibited;
 - (ii) the advisability of using safety-belts or safety harnesses during flight; and
 - (iii) the requirement to obey crew instructions or fasten seat belt and no smoking signs and the location of these signs;
- (c) in-flight because of turbulence:
 - (i) when the use of seat belts is required, and
 - (ii) the requirement to stow carry-on baggage; and
- (d) prior to passenger disembarkment, the safest direction and most hazard-free route for passenger movement away from the airplane following disembarkment, and any dangers associated with the airplane type such as pitot tube locations, propellers, or engine intakes.

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The safety message of the briefing may not be diluted by the inclusion of any service information or advertising that would affect the integrity of the safety briefing.

Where no additional passengers have embarked the flight for subsequent take-offs on the same day, the pre-take-off and after take-off briefings may be omitted provided a crew member has verified that all carry-on baggage is properly stowed, safety belts or harnesses are properly fastened, and seat backs and chair tables are properly secured.

- (2) Individual Safety Briefing. The individual safety briefing shall include:
 - (a) any information contained in the standard safety briefing and the safety features card that the passenger would not be able to receive during the normal conduct of that safety briefing; and
 - (b) additional information applicable to the needs of that person as follows:
 - (i) the most appropriate brace position for that passenger in consideration of his/her condition, injury, stature, and/or seat orientation and pitch;
 - (ii) the location to place any service animal that accompanies the passenger;
 - (iii) for a mobility restricted passenger who needs assistance in moving expeditiously to an exit during an emergency:
 - A. a determination of what assistance the person would require to get to an exit;
 - B. the route to the most appropriate exit;
 - C. the most appropriate time to begin moving to that exit; and
 - D. a determination of the most appropriate manner of assisting the passenger;
 - (iv) for a visually impaired person:
 - A. detailed information of and facilitating a tactile familiarization with the equipment that he/she may be required to use;
 - B. advising the person where to stow his/her cane if applicable;
 - C. the number of rows of seats between his/her seat and his/her closest exit and alternate exit;
 - D. an explanation of the features of the exits, and
 - E. if requested, a tactile familiarization of the exit;
 - (v) for a comprehension restricted person, while using the safety features card, pointing out the emergency exits and alternate exits to use, and any equipment that he/she may be required to use;
 - (vi) for persons with a hearing impairment:
 - A. while using the safety features card, pointing out the emergency exits and alternate exits to use, and any other equipment that the person may be required to use; and
 - B. communicating detail information by pointing, face-to-face communication permitting speech reading, pen and paper, through an interpreter or through their attendant;
 - (vii) for a passenger who is responsible for another person on board, information pertinent to the needs of the other person as applicable:
 - A. in the case of an infant:
 - seat belt instructions;
 - method of holding infant for take-off and landing;
 - > instructions pertaining to the use of a child restraint system;
 - oxygen mask donning instructions;
 - recommended brace position;
 - location and use of life preservers, as required; and
 - B. in the case of any other person:
 - > oxygen mask donning instructions;
 - > instructions pertaining to the use of a child restraint system; and
 - evacuation responsibilities; and



- (viii) for an unaccompanied minor, instructions to pay close attention to the normal safety briefing and to follow all instructions.
- Information Note: (a) A passenger that has been provided with an individual safety briefing need not be re-briefed following a change in crew if the crew member that provided the individual safety briefing has advised a member of the new crew of the contents of that briefing including any information respecting the special needs of that passenger.

(b) A passenger may decline an individual safety briefing.

(3) Passenger Preparation for an Emergency Landing. The emergency briefing provided in the event of an emergency where time and circumstances permit shall consist of instructions pertaining to:

- (a) safety belts or safety harnesses;
- (b) seat backs and chair tables;
- (c) carry-on baggage;
- (d) safety features cards;
- (e) brace position (when to assume, how long to remain); and
- (f) life preservers (if applicable).

s704.35 Safety Features Card

(1) The safety features card shall contain the following information as applicable to the airplane and equipment carried:

- (a) general safety information including:
 - (i) smoking is prohibited on board the airplane;
 - (ii) each type of safety belt or safety harness installed for passenger use, including when to use, how to fasten, tighten and release;
 - (iii) when and where carry-on baggage must be stowed and any other related requirements and restrictions pertinent to that particular airplane; and
 - (iv) correct positioning of seat backs and chair tables for take-off and landing;
- (b) emergency procedures and equipment including:
 - (i) fixed passenger oxygen system showing:
 - A. mask location and presentation; the actions to be performed by the seated passenger in order to obtain the mask, activate the flow of oxygen and correctly don and secure the mask; and
 - B. priority for persons assisting others with oxygen;
 - (ii) location of first aid kits;
 - (iii) location of fire extinguishers that would be accessible to the passengers;
 - (iv) location of Emergency Locator Transmitters;
 - (v) location of survival equipment, and if the stowage compartment is locked, the means of access or location of the key;
 - (vi) passenger brace position for impact, as appropriate for each type of seat and restraint system installed for passenger use; including the brace position for an adult holding an infant;
 - (vii) the location, operation and method of using each emergency exit type on the airplane, including identification of those emergency exits known to be rendered unusable in a ditching or because of airplane configuration such as a combi configuration;
 - (viii) the safest direction and most hazard-free escape route for passenger movement away from the airplane following evacuation;
 - (ix) the attitude of the airplane while floating;



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- location of life preservers and correct procedures for removal from stowage/packaging; donning and use of the life preserver for adult, child and infant users including when to inflate;
- (xi) location and use of life rafts; (as applicable);
- (xii) location, removal and use of flotation devices; and
- (xiii) the form, function, color and location of any Floor Proximity Emergency Escape Path lighting system that is installed; and
- (c) the name of the air operator and the airplane type.
- (2) The safety features card shall contain only safety information.
- (3) The safety information provided by the card shall:
 - (a) be accurate for the airplane type and configuration in which it is carried and in respect of the equipment carried;
 - (b) be presented with clear separation between each instructional procedure. All actions required to complete a multi-action procedure to be presented in correct sequence and the sequence of actions to be clearly identified; and
 - (c) be depicted in a clear and distinct manner.

s704.36 to s704.43 Reserved



DIVISION IV - AIRPLANE PERFORMANCE OPERATING LIMITATIONS

s704.44 Exceptions

The standards for operating an airplane without fully complying with Sections 704.44 through 704.61 of the Lebanese Aviation Regulations are as follows:

(1) Operations from or to Unprepared Surfaces (Propeller-driven Airplanes)

The standard for operating a propeller-driven airplane from or to unprepared surfaces, when such operations are not specifically addressed in the Airplane Flight Manual are set out in this standard.

The air operator's Company Operations Manual shall set out the program for operations involving unprepared surfaces. This program shall include:

- (a) prior to serving as the pilot-in-command during operations from unprepared strips a pilot shall have:
 - (i) at least 100 hours on type;
 - (ii) completed a course of ground and flight training covering topics such as take-off and landing surface characteristics, obstacle assessment and interpretation of pertinent airplane data;
 - (iii) completed at least 25 hours of line indoctrination involving unprepared strip operations; and
 - (iv) been certified by the Chief Pilot or his delegate as qualified for operations involving unprepared strips. A copy of this certification shall be placed on the pilot's training file;
- (b) procedures for company operational approval for unprepared strip operations; and
- (c) procedures for assessing and operating from/to unprepared surfaces and unfamiliar approach and departure routes.
- (2) Dispatch Limitations. Landing at Destination and Alternate Aerodromes (Propeller-driven Airplanes)
 - (a) Destination Aerodrome Runway Factors.

Propeller-Driven Airplanes Using Reverse Thrust

The standard for dispatching a propeller-driven airplane equipped with reverse thrust when its landing weight at destination will allow a full-stop landing within 80 percent of the Landing Distance Available (LDA) is:

- (i) approach speed for the estimated weight, flap setting and ambient conditions expected on arrival shall not exceed 100 KIAS;
- (ii) reverse thrust shall be serviceable and the runway surface conditions shall permit the use of full rated reverse thrust (i.e. no FOD risk);
- (iii) the runway surface is forecast to be bare and dry at the time of arrival;
- (iv) the flight crew shall have completed specific training on short-field landing techniques on that particular type of airplane within the 12 months preceding the flight; and
- (v) obstacle clearance shall not require an approach angle steeper than 3 degrees or threshold crossing height greater than 50 feet.

Information Note: *This is an obstacle clearance requirement and is not intended to affect the operation of the aircraft.*

(b) Alternate Aerodrome Runway Factors



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Propeller-Driven Airplanes Using Reverse Thrust

The standard for dispatching a propeller-driven airplane equipped with reverse thrust when its landing weight at the alternate will allow a full-stop landing within 80 percent of the Landing Distance Available (LDA) is:

- (i) approach speed for the estimated weight, flap setting and ambient conditions expected on arrival shall not exceed 100 KIAS;
- (ii) reverse thrust shall be serviceable and the runway surface conditions shall permit the use of full rated reverse thrust (i.e. no FOD risk);
- (iii) the runway surface is forecast to be bare and dry at the time of arrival;
- (iv) the crew shall have completed specific training on short-field landing techniques on that particular type of airplane within the 12 months preceding the flight; and
- (v) obstacle clearance shall not require an approach angle steeper than 3 degrees or threshold crossing height greater than 50 feet.

Information Note: *This is an obstacle clearance requirement only and is not intended to affect the operation of the aircraft.*

s704.45 Reserved

s704.46 Take-off Weight Limitations

(1) Relief from Accelerate-stop Distance Requirements. The standards for conducting a take-off without demonstrating that Accelerate-Stop Distance Required does not exceed Accelerate-Stop Distance Available are:

- (a) the air operator shall comply with all take-off weight limitations set out in the aircraft flight manual; and
- (b) the air operator meets one or more of the following conditions:
 - (i) prevents more than 9 passenger seats from being occupied;
 - (ii) uses an airplane with a MCTOW of 12,500 pounds or less that is propeller-driven and is being operated on demand; or
 - (iii) until December 20, 2010, uses an airplane with a MCTOW of 12,500 pounds or less that is propeller-driven.

(2) Relief from Engine-out Take-off Distance Requirements. The standard for operating a large propeller-driven airplane where the Take-off Distance Required in the event of an engine failure on take-off exceeds the Take-off Distance Available is as follows:

- (a) the air operator shall comply with all takeoff weight limitations set out in the approved flight manual for the airplane; and
- (b) the air operator shall prevent more than 9 passenger seats from being occupied.

s704.47 Net Take-off Flight Path

(1) Turbo-jet on Demand Operations. The standard for conducting a take-off during an on demand operation using a turbo-jet-powered airplane without demonstrating that the Net Take-off Flight Path provides obstacle clearance is as follows:

- (a) the air operator shall comply with all take-off weight limitations set out in the aircraft flight manual;
- (b) the airport elevation shall not exceed 4000 feet ASL;
- (c) the Take-off Run Available (TORA) shall be greater than or equal to 1.5 times the Take-off Distance Required in accordance with Section 704.46 of the Lebanese Aviation Regulations; and

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(d) ceiling and visibility shall be at or above the landing minima for the runway in use.

- (2) Propeller-Driven Large Airplanes General Conditions
 - (a) the standard for operating a large propeller-driven airplane when obstacle avoidance is not assured in the event of an engine failure during takeoff is as follows:
 - (i) the air operator shall prevent more than 9 passenger seats from being occupied; and
 - (b) the standard for determining Net Take-off Flight Path when visual obstacle avoidance is possible is as follows:
 - (i) obstacle assessment
 - A. the air operator shall obtain the best available data concerning obstacles in the proposed takeoff path. Transient obstacles (such as construction equipment or moored watercraft, etc.) shall be considered when they are estimated to lie within 300 feet of the center line of the proposed take-off path; and
 - B. where the precise height, bearing and distance of an object is not known (such as objects depicted on a topographical map), the air operator shall use a reasonable estimate for performance calculations. Calculations shall clearly indicate where estimated information is used; and
 - (ii) departure planning
 - A. the Operations Manager or his/her delegate shall establish a company engine-out departure plan using procedures set out in the Company Operations Manual, but including at least the following:
 - obstacle assessment;
 - > airplane performance, including turn radii; and
 - visual reference points to be used during the departure route; and
- Information Note: In all cases the operator shall retain the departure plan for audit purposes.
 - B. prior to commencing a take-off, the pilot-in-command shall, in consideration of the current winds, density altitude and airplane weight, satisfy himself or herself that the departure plan to be followed in the event of an engine failure on take-off avoids all obstacles in the departure path by either 35 feet vertically or 300 feet horizontally.

s704.48 to s704.61 Reserved



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DIVISION V - AIRCRAFT EQUIPMENT REQUIREMENTS

s704.62 to s704.82 Reserved



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DIVISION VI - EMERGENCY EQUIPMENT

s704.83 Reserved

s704.84 Equipment Standards and Inspection

(1) Survival Equipment - Flights Over Land. For flights over land the following standard shall be met:

- (a) the Company Operations Manual shall show how compliance with Section 602.61 of the Lebanese Aviation Regulations is to be achieved;
- (b) a list of survival equipment shall be carried on board with information on how to use it;
- (c) a survival manual, appropriate for the season and climate, shall be carried on board; and
- (d) crew members shall be trained in accordance with Section 724.115 of the Commercial Air Services Standards

(2) Survival Equipment - Flights Over Water. Where life rafts are required to be carried, in accordance with Section 602.63 of the Lebanese Aviation Regulations they shall be equipped with an attached survival kit containing at least the following:

- (a) a pyrotechnic signaling device;
- (b) a radar reflector;
- (c) a life raft repair kit;
- (d) a bailing bucket and sponge;
- (e) a signaling mirror;
- (f) a whistle;
- (g) a raft knife;
- (h) an inflation pump;
- (i) a dye marker;
- (j) a waterproof flashlight;
- (k) a two day supply of water, calculated using the overload capacity of the raft, consisting of one pint of water per day for each person or a means of
- (l) desalting or distilling salt water sufficient to provide an equivalent amount;
- (m) a fishing kit;
- (n) a book on sea survival; and
- (o) a first aid kit containing antiseptic swabs, burn dressing compresses, bandages and antimotion sickness pills.

(3) First Aid Kit. For the purposes of Section 704.84 of the Lebanese Aviation Regulations, the contents of the first aid kit required by Section 602.60 of the Lebanese Aviation Regulations are the supplies and equipment for a Type A Kit, and one pair of latex gloves.

s704.85 to s704.105 Reserved



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DIVISION VII - PERSONNEL REQUIREMENTS

s704.106 to s704.107 Reserved

s704.108 Flight Crew Member Qualifications

- (1) Pilot Proficiency Check
 - (a) the pilot proficiency check (PPC) in an airplane shall be conducted in accordance with Schedule I or Schedule II of this section.
 - (b) a pilot proficiency check shall be conducted in a manner that enables the pilot to demonstrate the knowledge and skills respecting:
 - (i) the air operator's airplane, its systems and components;
 - (ii) proper control of airspeed, direction, altitude, attitude and configuration of the airplane, in accordance with normal, abnormal and emergency procedures and limitations set out in the airplane flight manual, airplane operating manual (where applicable), the air operator's standard operating procedures, the check list, and any other information relating to the operation of the airplane type;
 - (iii) departure, enroute and arrival instrument procedures (if applicable) and other applicable procedures; and
 - (iv) adherence to approved procedures.
 - (c) for turbo-jet aircraft, initial and recurrent Pilot Proficiency Checks shall be conducted on a combination of a flight training device certified in accordance with the LARS to Level 7 or higher and a full flight simulator; or, a combination of a flight training device certified to level 7 or higher and the airplane. Where a synthetic flight training device is not available in Lebanon the required training may be conducted in the airplane.
 - (d) for pressurized turbo-prop aircraft, the DGCA encourages carriers to conduct training on the simulator, or to use a combination of training in an FTD and the airplane.
 - (e) the synthetic flight training device level of training and checking credits shall be approved by the DGCA in the training program approval process for each airplane type. Training and checking procedures not approved for the synthetic flight training device shall be completed in the airplane. The configuration of the flight training device shall closely resemble that of the airplane used by the air operator.
 - (f) a proficiency check of a pilot-in-command shall be completed in the seat normally occupied by the pilot-in-command and a check of a second-in-command shall be completed in the seat normally occupied by the second-in-command. The pilot proficiency check shall consist of a demonstration of both pilot flying (PF) duties and pilot not flying (PNF) duties.
 - (g) the PPC shall not be conducted as an isolated group of emergency procedures and drills. Rather it shall be constructed with minimum disruption in a logical continuous flow reflecting a normal flight profile. Normally the PPC is a pre-programmed activity, however, the person conducting the check may require any maneuver or procedure from the appropriate Schedule, necessary to determine the proficiency of the crew and to confirm that the crew can operate the airplane safety.
 - (h) a PPC shall include a demonstration of instrument flight (IF) proficiency if:
 - (i) the candidate possesses a valid Instrument Rating; and
 - (ii) the candidate conducts commercial IFR operations on the airplane in which the PPC is conducted.
 - (i) where a pilot successfully completes the full PPC, the pilot successfully completes the flight check requirements for the renewal of the applicable instrument rating.
- (2) Airplane Grouping for PPC Purposes. Where an air operator has been authorized airplane grouping for PPCs (renewal only) the following standard shall apply.

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- (a) for a pilot to commence participating in an air operator's authorized airplane grouping that pilot shall have passed within the preceding 12 months, in each type of airplane in which that pilot will act as a flight crew member, the PPC set out in Schedule I or Schedule II of this Section;
- (b) the pilot must complete initial and annual recurrent ground and flight training, including written examinations on systems and limitations, for each type of airplane in which he/she will serve as a crew member;
- (c) the annual PPC shall be conducted by an approved check pilot or a DGCA Inspector and passed on one of the airplane types from the authorized group. A different type of airplane from the group shall be used each successive year for the conduct of the PPC;
- (d) a failure to pass the PPC on the selected airplane type shall be considered to be a failure on all the airplane group types flown by that pilot; and
- (e) the document certifying qualifications and proficiency shall be endorsed for each airplane type.

(3) Use of other than an Air Operator Employee Pilot for Training and Checking. Authority may be given for other than an air operator employee pilot to occupy a flight crew seat when training, conducting line indoctrination training, and while the air operator first flight crews are completing the minimum flight time requirements on a new airplane type.

The pilot shall:

- (a) provide a resume, proof of background on the type of airplane, and recent experience appropriate to the training to be given; and
- (b) hold the appropriate license, ratings and endorsements. Where the pilot holds a foreign pilot license the license and (as applicable) the instrument rating shall be validated by the DGCA.

The pilot may be authorized to conduct pilot checks provided the requirements of the Company Check Pilot Manual, are met with exception of the minimum employment time with the air operator.

A foreign licensed pilot may be granted authority for training and checking only when a Lebanese licensed pilot is not available.

During revenue flights foreign licensed pilots shall not replace Lebanese flight crew members, they can only be supplemental flight crew for required training:



SCHEDULE I - Pilot Proficiency Check (PPC) - Synthetic Flight Training Device

(1) Pre-flight Phase

Flight Planning and Equipment Examination

- (a) flight planning shall include a practical examination on the crew's knowledge of air operator's approved Standard Operating Procedures and the Airplane Flight Manual including aero plane and runway performance charts, and weight and balance procedures; and
- (b) the equipment examination shall consist of a display of practical knowledge of the airframe, engine, major components and systems including the normal, abnormal and emergency operating procedures and limitations relating thereto.
- (2) Flight Phase
 - (a) Taxiing
 - (i) the use of the taxiing check list;
 - (ii) taxiing in compliance with clearances and instructions issued by the person conducting the pilot proficiency check; and
 - (iii) where a second-in-command is undergoing the pilot proficiency check, outlined above to the extent practicable from the second-in-command position.
 - (b) Engine Checks. Engine checks shall be conducted as appropriate to the aero plane type.
 - (c) Take-off
 - (i) one normal take-off to be performed in accordance with the Airplane Flight Manual;
 - (ii) an instrument take-off in the minimum visibility approved for the air operator;
 - (iii) a take-off in a minimum of a 10 kt crosswind component;

Information Note: *Any or all of the above takeoffs may be combined.*

- (iv) a take-off with failure of the critical engine. This activity may be conducted in lieu of an engine failure during a rejected landing; and
- (v) a rejected take-off from a speed not less than 90% of the calculated V1 or less as appropriate to the aero plane type.
- (d) Instrument Procedures. Instrument procedures shall consist of IFR pre-flight preparations, terminal and enroute procedures, arrival and departure procedures, system malfunctions and, where applicable, the proper programming and use of Flight Management Systems (as applicable).
 - (i) an area departure and an area arrival procedures shall be performed where the crew:
 - A. adheres to air traffic control clearances and instructions; and
 - B. properly uses the available navigation equipment and facilities;
 - (ii) a holding procedure;
 - (iii) at least two instrument approaches performed in accordance with procedures and limitations in the DGCA Approved Aeronautical Charts or in the equivalent foreign publication, or approved company approach procedure for the facility used. One of the approaches shall be a precision approach, and one a non precision approach; and
 - (iv) one approach and maneuver to land using a scene approved for circling where the air operator is authorized for approaches at the published circling minima, and is required during initial qualification check and annually thereafter.
- (e) Maneuvers
 - (i) at least one steep turn in each direction with a bank angle of 45° and a change in heading of at least 180° but not more than 360°;
 - (ii) approaches to stalls. For the purpose of this maneuver the required approach to a stall is reached when there is a perceptible buffet or other response to the initial stall entry.



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The following approaches to the stall are required during initial and upgrade PPC's:

- one in the take-off configuration, except where a zero-flap take-off configuration A. is normally used in that model and type of aero plane;
- B. one in a clean configuration; and
- C. one in a landing configuration.

One of the approaches to stall shall be performed while in a turn with a bank angle of between 15° and 30°.

- (f) Landings and Approaches to Landings
 - one normal landing; (i)
 - (ii) one landing from an approach in Instrument Meteorological Conditions (IMC) not greater than the minimum recommended for the approach;
 - one crosswind landing with a minimum of a 10 kt crosswind component; (iii)
 - (iv) one landing and maneuver to that landing with a failure of 50 percent of the available engines which shall be on one side of the aero plane for the pilot-in-command and the outboard engine only for other than the pilot-in-command. Where the aero plane type is a three engine aero plane, the loss of power shall be the center engine and one other engine for the pilot-in-command and an outboard engine for other than the pilot-incommand. For three and four engine airplanes the pilot-in-command is required to perform a two engine inoperative procedure during the initial qualification check and annually thereafter;
 - (v) one rejected landing or a missed approach. For the purposes of the rejected landing the landing shall be rejected at a height of approximately 50 feet when the aero plane is approximately over the runway threshold;
 - (vi) one Category II or Category III approach where these procedures are authorized in an Air Operator Certificate. Required during the initial qualification flight and annually thereafter; and
 - (vii) one landing without the use of an auto-land system.

Information Note: Any of the landings and approaches to landings specified in this section may be combined. A minimum of two landings are required.

- (g) Normal Procedures. The crew shall demonstrate use of as many of the air operator's approved Standard Operating Procedures, normal procedures for installed systems, devices and aids as is necessary to confirm that the crew has the knowledge and ability to properly use installed equipment, including the auto-pilot and hand flown maneuvers as appropriate.
- (h) Abnormal and Emergency Procedures
 - the crew shall demonstrate use of as many of the air operator's approved Standard (i) Operating Procedures and abnormal and emergency procedures for as many of the situations as is necessary to confirm that the crew has an adequate knowledge and ability to perform these procedures.
 - (ii) system malfunctions shall consist of a selection adequate to determine that the crew has satisfactory knowledge and ability to safely handle malfunctions.
 - (iii) at least two simulated engine failures any time during the check.
- (i) following training and checking in a Flight Training Device, training and checking may be required in the aircraft.



SCHEDULE II - Pilot Proficiency Check (PPC) - Airplane

- (1) Pre-flight Phase
 - (a) Flight Planning and Equipment Examination
 - (i) flight planning shall include a practical examination on the pilot's knowledge of standard operating procedures and the Airplane Flight Manual including performance charts, loading, weight and balance and Flight Manual Supplements; and
 - (ii) the equipment examination shall show a practical knowledge of the airframe, engine, major components and systems including the normal, abnormal, and emergency operating procedures and limitations relating thereto.
 - (b) Airplane Inspection. A pre-flight aero plane inspection that includes:
 - (i) a visual inspection of the exterior and interior of the aero plane, locating each item to be inspected and explaining the purpose of the inspection;
 - (ii) the proper use of the pre-start, start and pre-taxi check lists; and
 - (iii) checks of the appropriate radio communications, navigation and electronic equipment and selection of the appropriate communications and navigation frequencies prior to flight.
- (2) Flight Phase
 - (a) Taxiing
 - (i) taxiing procedures;
 - (ii) a taxiing check including:
 - A. the use of the taxiing check list;
 - B. taxiing in compliance with clearances and instructions issued by the appropriate air traffic control unit or by the person conducting the pilot proficiency check; and
 - C. where a second-in-command is undergoing the pilot proficiency check, the taxiing check outlined above to the extent practicable from the second-in-command position.
 - (b) Engine Checks. Engine checks shall be conducted as appropriate to the aero plane type.
 - (c) Take-off
 - (i) One normal take-off to be performed in accordance with the Airplane Flight Manual or where the aero plane is a turbo-jet, a noise abatement take-off performed in accordance with the Airplane Flight Manual (where applicable) and the Canada Air Pilot.
 - (ii) An instrument take-off performed in the same manner as the normal take-off except that instrument flight rules are simulated at or before reaching an altitude of 200 feet above the airport elevation. Not required to be demonstrated where the Air Operator's Certificate authorizes operations under day VFR only, or the air operator assigns the pilot to day VFR flight only.
 - (iii) Where practicable under existing meteorological, airport or airport traffic conditions, one crosswind take-off performed in accordance with the aero plane operating manual where applicable.

Information Note: *Any or all of the above take-offs may be combined.*

- (iv) a simulated engine failure after take-off at a safe altitude as close to V2 as is safe and appropriate to the aero plane type under the prevailing conditions, or if V speeds are not published in the Airplane Flight Manual, as close to the take-off safety speed as is safe and appropriate to the aero plane type under the prevailing conditions.
- (v) a rejected take-off explained by the candidate prior to the flight.
- (d) Instrument Procedures. Except where an Air Operator Certificate authorizes operations under day VFR only, or the air operator assigns the pilot to day VFR flights only instrument

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procedures shall consist of IFR pre-flight preparation, departure and enroute procedures, terminal procedures and system malfunctions:

- (i) an area departure and an area arrival procedure shall be performed where the pilot:
 - A. adheres to actual or simulated air traffic control clearances and instructions; and
 - B. properly uses the available navigation facilities;
- (ii) a holding procedure;
- (iii) at least two instrument approaches performed in accordance with procedures and limitations in the DGCA Approved Aeronautical Charts or the equivalent foreign publication, or approved company approach procedure for the approach facility used. Where practicable one of the approaches shall be a precision approach and one a nonprecision approach; and
- (iv) a circling approach, where the air operator is authorized for circling minima below ceiling 1000 feet and 3 miles ground visibility, except where local conditions beyond the control of the pilot prevent a circling approach from being performed;
- (e) In Flight Maneuvers
 - (i) at least one steep turn in each direction with a bank angle of 45° and a change in heading of at least 180° but not more than 360°;
 - (ii) approaches to stalls. For the purpose of this maneuver the required approach to a stall is reached when there is a perceptible buffet or other response to the initial stall entry. When performed in an aero plane the approach to stalls shall be conducted at an altitude of at least 5000 feet AGL, and if conducted above cloud at an altitude of at least 2000 feet above the cloud tops.

The following approaches to the stall are required during initial and upgrade PPC's:

- A. one in the take-off configuration, except where a zero-flap take-off configuration is normally used in that model and type of aero plane;
- B. one in a clean configuration; and
- C. one in a landing configuration.

One of the approaches to stall may be performed while in a turn with a bank angle of between 15° and 30° ;

- (f) Landings and Approaches to Landings
 - (i) one normal landing which shall, where practicable, be conducted without external or internal glideslope information;
 - (ii) one landing from an instrument approach, and where prevailing conditions prevent an actual landing, an approach to a point where a landing could have been made. Not required to be demonstrated where the Air Operator's Certificate authorizes operations under day VFR only, or the air operator assigns the pilot to day VFR flights only;
 - (iii) one cross wind landing where practicable under existing meteorological, airport and airport traffic conditions;
 - (iv) one landing and maneuvering to that landing with a simulated failure of 50 percent of the available engines which shall be on one side of the aero plane for the pilot-incommand and on outboard engine only for other than the pilot-in-command. Where the aero plane type is a three engine aero plane, the loss of power shall be an outboard engine and the center engine for the pilot-in-command and on outboard engine for other than the pilot-in-command. For three and four-engine airplanes the pilot in command is required to perform a two-engine inoperative procedure during initial qualification check and annually thereafter; or
 - (v) one landing under simulated circling approach conditions except that where prevailing conditions prevent a landing, an approach to a point where a landing could have been made.



Information Note: Any of the landings and approaches to landings specified in this section may be combined. A minimum of two landings are required.

- (g) Normal Procedures. The crew shall demonstrate use of as many of the air operator's approved Standard Operating Procedures, and normal procedures as is necessary to confirm that the crew has the knowledge and ability to properly use installed equipment, (auto-pilot and hand flown maneuvers as appropriate).
- (h) Abnormal and Emergency Procedures
 - (i) the crew shall demonstrate use of as many of the air operator's approved Standard Operating Procedures and abnormal and emergency procedures for as many of the emergency situations as is necessary to confirm that the crew has an adequate knowledge and ability to perform these procedures.
 - (ii) system malfunctions shall consist of a selection adequate to determine that the crew has satisfactory knowledge and ability to safely handle malfunctions.
 - (iii) at least two simulated engine failures any time during the check.



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Schedule III – Grouping for PPC Purposes

Airplanes having a MCTOW over 7000 lbs

Aircraft Manufacturer	Туре		
1			
Aero Commander/IAI	1121, 1123 and 1124 Jet Commander and Westwind Models		
Beechcraft	99, 100 and A100 Models		
Beechcraft	100, A100, 200 and B200 Models		
Beechcraft	200, B200, 300 and 350 Models		
British Aerospace	Jetstream 3100 and 3200 Series		
British Aerospace	HS 125 - All Viper Engine Driven		
British Aerospace	HS 125 - All Retrofit to FAN Engines		
British Aerospace	HS 125 - 700 and 800 Series		
Cessna	500, 501, 550 and 551 Models		
Cessna	550, 551 and 560 Models		
Cessna	650 All Models		
Lear	23, 24 and 25 Models		
Lear	35, 36 and 55 Models		
Lockheed Jetstar	I, II and 731 Models		
Saberliner	40, 60 and 75 Models		
Swearingen/Merlin Metro	SA226AT (Merlin IV and IVA), SA226TC (Metro and Metro)		
Swearingen/Merlin Metro	SA227AT (Merlin IVC), SA227AC (Metro III)		



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SCHEDULE IV - Grouping for PPC Purposes

Airplanes having a MCTOW of 7000 lbs and less

Requirements for grouping to be determined by the DGCA based on airplanes having sufficiently similar handling characteristics and performance.



s704.109 Qualifications of Operational Control Personnel

A person shall successfully complete the training program outlined in Subsection s704.115(14) to qualify for a position in operational control.

Where an air operator chooses to use a Dispatch Release, the flight dispatcher preparing the release shall be fully qualified in accordance with Subpart 5.

s704.110 Reserved

s704.111 Validity Period

Where a flight crew member's training has expired for a period of 24 months or more that crew member shall, successfully complete the air operator's initial training program on the type of airplane.
 Where the flight crew member's pilot proficiency check has expired for a period of 24 months or more that flight crew member shall, following completion of the air operator's initial airplane ground and flight training, successfully complete the initial pilot proficiency check on the type of airplane.

s704.112 to s704.114 Reserved



DIVISION VIII - TRAINING

s704.115 Training Program

The syllabus of each training program shall include the programmed time allotted and the subject matter to be covered.

(1) General Training Standard

- (a) manuals, if applicable, shall be provided during training to each trainee on the subject matter to be taught;
- (b) relevant training aids such as fire extinguishers, life preservers, rafts, aircraft components, static aircraft, etc. shall be available relevant to the program being presented; and
- (c) comprehensive examinations shall be used to validate competence of the trainee.

(2) Flight Crew Training on a Contract Basis. An air operator may contract crew member training to another organization provided:

- (a) the arrangement is clearly provided for in the approved training program;
- (b) the outside organization uses the manuals and publications used by the air operator (SOP's, Aircraft Flight Manual, Aircraft Operating Manual, if applicable, Company Operations Manual, etc.);
- (c) the air operator ensures that the training is conducted in accordance with the approved program;
- (d) where type training is conducted the training is provided on the type and model operated by the air operator unless otherwise provided for in the approved training program; and
- (e) the air operator maintains training records as required by Part VII, Subpart 4 of the Lebanese Aviation Regulations.

(3) Training Facilities. Training facilities shall be adequate to ensure that training objectives can be achieved. Facilities shall be:

- (a) quiet and free of distractions;
- (b) suitably lighted for the type of instructions to be given, e.g. lectures, slides and audio-visual;
- (c) furnished with sufficient desks, chairs, chalkboards and other appropriate equipment; and
- (d) equipped with training aids such as films, Vu-graphs, system components, audio-visual, airplane manuals or computer based systems.
- (4) Training and Qualifications of Training Personnel
 - (a) Instructor Ground Training
 - (i) has satisfied the air operator that he/she has the knowledge and skills required to conduct the training; and
 - (ii) if conducting airplane type training has successfully completed the ground school for the type of airplane.
 - (b) Qualifications and Responsibilities of a Training Pilot (Flight)
 - (i) Qualifications
 - A. hold a valid Airline Transport Pilot License, a valid Instrument Rating, and a type rating for the type of airplane on which training will be given;
 - B. be qualified for line flying on the type of airplane; and
 - C. know the content of the Aircraft Flight Manual, Aircraft Operating Manual (if applicable), Company Check Pilot Manual, Company Operations and Training Manuals and the operator's Standard Operating Procedures for the airplane type, and the provisions of the regulations and standards.
 - (ii) *Responsibilities.* The Training Pilot is responsible for monitoring the operation and identifying problems which may require the provision of extra training or changes in operational procedures. The training pilot is responsible, together with the Chief Pilot, for the establishment and promulgation of the standards and piloting techniques with



which flight crew will be expected to comply during flight operations and which the flight crew will be required to demonstrate during initial and recurrent checks. Particular responsibilities are:

- A. conducting ground, synthetic flight training device and flight training of all flight crew in accordance with the approved training program;
- B. supervision of the standards and recommending amendments to their respective airplane operating manuals and standard operating procedures;
- C. maintaining the air operator's training records;
- D. liaison with crew scheduling concerning training details; and
- E. any responsibilities assigned by the Chief Pilot.
- (c) Qualifications and Responsibility of a Training Pilot (Synthetic flight training device)
 - (i) *Qualifications*
 - A. hold or have held an Airline Transport Pilot License Airplane or equivalent and an Instrument Rating appropriate for the class of airplane;
 - B. have completed the air operator's ground school and synthetic flight training device program for the type of airplane;
 - C. have successfully completed within the past 12 months a pilot proficiency check in the synthetic flight training device or airplane for that type;
 - D. know the content of the Airplane Operating Manual (if applicable), Airplane Flight Manual, Operations and Training Manuals and as applicable the Company Check Pilot Manual and the air operator Standard Operating Procedures for the airplane type, and the provisions of the regulations and standards; and
 - E. have received instruction on the operation of the synthetic flight training device from an instructor qualified to operate the synthetic flight training device.
 - (iii) Responsibilities. The Training Pilot is responsible for monitoring the operation and identifying problems which may require the provision of extra training or changes in operational procedures. The training pilot is responsible, together with the Chief Pilot, for the establishment and promulgation of the standards and piloting techniques with which flight crew will be expected to comply during flight operations and which the flight crew will be required to demonstrate during initial and recurrent checks. Particular responsibilities are:
 - A. conducting ground and synthetic flight training of all flight crew in accordance with the approved training program;
 - B. supervision of the standards and recommending amendments to their respective airplane operating manuals and standard operating procedures;
 - C. maintaining the air operator's training records;
 - D. liaison with crew scheduling concerning training details; and
 - E. any responsibilities assigned by the Chief Pilot.

Information Note: (a) Requirements for the use of other than an air operator employee pilot for training and checking are in Section s704.108.

(b) The standard for air operator check airmen are those contained in Part VII, Subpart 5 of the LARs.

(5) Training Program Standards. Ground training programs shall provide a means of evaluating the trainee after completion of the syllabus by completion of examination with a review and correction of any errors. Training examinations should be comprehensive, and periodically reviewed and updated.

Type training programs are to be titled as to the type to which they apply and include the number of instructional hours to be provided. They should be performance oriented and stress the operation

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(normal, emergency and malfunctions) of the aircraft systems and equipment. Instruction related to components and systems that flight crews cannot control, influence or operate should be minimized.

(6) Company Indoctrination Training. This training is required upon employment for all persons assigned to an operational control function including base managers, pilots and persons responsible for flight watch or flight following. The program shall ensure that persons involved in control of flight operations are aware of their responsibilities, know company reporting relationships and are competent to fulfill their assigned duties related to flight operations. Company indoctrination training shall include as applicable:

- (a) Lebanese Aviation Regulations and commuter standards;
- (b) Air Operator Certificate and operating conditions (OpSpecs);
- (c) company organization, reporting relationships and communication procedures, including duties and responsibilities of flight crew members and the relationship of those duties to other crew members;
- (d) flight planning and operating procedures;
- (e) fuelling procedures including procedures for fuelling with passengers on board and fuel contamination precautions;
- (f) critical surface contamination and safety awareness program;
- (g) passenger safety briefings and safe movement of passengers to/from the airplane;
- (h) use and status of Company Operations Manual including maintenance release procedures and accident/incident reporting procedures;
- (i) use of minimum equipment lists (if applicable);
- (j) windshear, airplane icing, and other meteorological training appropriate to the area of operations;
- (k) navigation procedures and other specialized operations applicable to the operator;
- (l) accident/incident reporting;
- (m) passenger on board medical emergency;
- (n) handling of disabled passengers;
- (o) operational control system;
- (p) weight and balance system procedures;
- (q) standard operating procedures (if applicable); and
- (r) pre-flight crew-member briefing.

(7) Technical Ground Training - Initial and Recurrent. This training shall ensure that each flight crew member is knowledgeable with respect to airplane systems and all normal, abnormal and emergency procedures. The following subjects shall be included:

- (a) airplane systems operation and limitations as contained in the airplane flight manual and airplane operating manual, and standard operating procedures;
- (b) operation of all equipment that is installed in all airplanes of the same type operated by the air operator;
- (c) differences in equipment that is installed in all airplanes of the same type in the air operators fleet;
- (d) applicable standard operating procedures for pilot flying and pilot not flying duties for normal, abnormal and emergency procedures for the airplane;
- (e) airplane performance and limitations; and
- (f) weight and balance procedures.

Technical ground training shall be conducted annually.

(8) Synthetic Flight Training Device

- (a) A Synthetic Flight Training Device has two classifications:
 - (i) Full Flight Simulator (FFS); and
 - (ii) Flight Training Device (FTD).

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- (b) For turbo-jet aircraft, initial and recurrent Pilot Proficiency Checks shall be conducted on a combination of a flight training device certified to Level 7 or higher and a full flight simulator or, a combination of a flight training device certified to Level 7 or higher and the airplane. Where a synthetic flight training device is not available in Lebanon the required training may be conducted in the airplane.
- (c) for pressurized turbo-prop aircraft, Transport Canada encourages carriers to conduct training on the simulator, or to use a combination of training in an FTD and the airplane.

(9) Level A Training Program (if applicable). An air operator with an approved Level A training program using an approved Level A or better FFS is permitted to conduct most initial, upgrade and recurrent training in that simulator. Additionally, flight training in an airplane must be carried out for general handling and landing maneuvers for initial and upgrade training.

- (a) the following training in standard operating procedures for normal, abnormal and emergency operation of the airplane systems and components shall be carried out in the FFS:
 - (i) use of airplane checklists;
 - (ii) flight and cabin crew co-operation, command and co-ordination;
 - (iii) airplane and cargo fire on the ground and while airborne;
 - (iv) engine fire and failure;
 - (v) effects of engine icing and anti-ice operations;
 - (vi) take-off, landing and flight with the critical engine inoperative including driftdown and engine inoperative performance capabilities;
 - (vii) on 3- and 4-engine airplanes in-flight procedures including approach and landing with 2 engines inoperative (applies to PIC only);
 - (viii) loss of pressurization and emergency descent (if applicable);
 - (ix) flight control failures and abnormalities;
 - (x) hydraulic, electrical and other system failures;
 - (xi) failure of navigation and communication equipment;
 - (xii) pilot incapacitation recognition and response during various phases of flight;
 - (xiii) approach to the stall and recovery procedure with ground contact imminent and ground contact not a factor (clean, take-off and
 - (xiv) landing configuration);
 - (xv) buffet boundary onset, steep turns (45° of bank), and other flight characteristics such as unusual attitudes (as applicable for initial and upgrade only);
 - (xvi) airplane performance for climb, cruise, holding, descent and landing;
 - (xvii) normal, noise abatement and performance limited take-offs;
 - (xviii) take-off and landing data calculations;
 - (xix) rejected take-off procedures and rejected landings;
 - (xx) passenger and crew evacuation; and
 - (xxi) FMCS, GPWS, TCAS and other specialized airplane equipment (where available).
- (b) where the air operator seeks authorization for flight in IMC the following training in flight planning and instrument flight procedures shall be included:
 - (i) departure, enroute, holding and arrival; and
 - (ii) all types of instrument approaches and missed approaches in minimum visibility conditions using all levels of automation available (as applicable).
- (c) in addition to the training in an approved Level A FFS Training Program, the following flight training on the airplane type shall be carried out:
 - (i) interior and exterior airplane preflight checks;
 - (ii) ground handling for PIC;
 - (iii) normal take-off, visual circuit (where possible) and landing;
 - (iv) a simulated engine inoperative approach and landing;
 - (v) simulated engine failure procedures during take-off and missed approach (at safe altitude and airspeed);
 - (vi) no electronic glide slope approach and landing; and
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- (vii) circling (if applicable) and other approaches where the simulator lacks the capability.
- (d) if a Level A flight simulator has differences in performance, systems, or cockpit layout and configuration from the air operator's airplane, additional training on these differences shall be provided.

(10) Level B Training Program (if applicable). An air operator with an approved Level B training program using an approved Level B or better FFS is permitted to conduct most initial, upgrade and recurrent training in that simulator. Additionally, flight training in an airplane must be carried out for general handling and landing maneuvers for initial and upgrade training.

- (a) the following training in standard operating procedures for normal, abnormal and emergency operation of the airplane systems and components shall be carried out in the FFS:
 - (i) use of airplane checklists;
 - (ii) flight and cabin crew co-operation, command and co-ordination;
 - (iii) airplane and cargo fire on the ground and while airborne;
 - (iv) engine fire and failure;
 - (v) effects of engine icing and anti-ice operation;
 - (vi) take-off, landing and flight with critical engine inoperative including driftdown and engine inoperative performance capabilities;
 - (vii) on 3- and 4-engine airplanes in-flight procedures including approach and landing with 2 engines inoperative (applies to PIC only);
 - (viii) loss of pressurization and emergency descent (is applicable);
 - (ix) flight control failures and abnormalities;
 - (x) hydraulic, electrical and other system failures;
 - (xi) failure of navigation and communication equipment;
 - (xii) pilot incapacitation recognition and response during various phases of flight;
 - (xiii) recovery from turbulence and windshear on take-off and approach;
 - (xiv) approach to the stall and recovery procedure with ground contact imminent and ground contact not a factor (in clean, takeoff and landing configuration);
 - (xv) buffet onset boundary, steep turns (45° bank), and other flight characteristics such as unusual attitudes (as applicable for initial and upgrade only);
 - (xvi) airplane performance for climb, cruise, descent and landing;
 - (xvii) normal, noise abatement and performance limited take-offs;
 - (xviii) take-off and landing data calculations;
 - (xix) rejected take-off procedures and rejected landings;
 - (xx) passenger and crew evacuation; and
 - (xxi) FMCS, GPWS, TCAS and other specialized airplane equipment (as applicable).
- (b) where the air operator seeks authorization for flight in IMC, the following training in flight planning and instrument flight procedures shall be included:
 - (i) departure, enroute, holding and arrival; and
 - (ii) all types of instrument approaches and missed approaches in minimum visibility conditions using all levels of automation available (as applicable).
- (c) in addition to the training in an approved Level B Simulator Training Program, the following flight training on the airplane type shall be carried out:
 - (i) interior and exterior aircraft preflight checks;
 - (ii) ground handling for the PIC;
 - (iii) normal take-off, visual circuit (where possible) and landing;
 - (iv) a simulated engine inoperative approach and landing;
 - (v) simulated engine failure procedures during take-off and missed approach, (at a safe altitude and airspeed);
 - (vi) no electronic glide slope approach and landing; and
 - (vii) circling (if applicable) and other approaches where the simulator lacks the capability.

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(d) if a Level B flight simulator has differences in performance, systems, or cockpit layout and configuration from the air operator's airplane additional training on these differences shall be provided.

(11) Airplane Only Flight Training Program. Any simulated failures of airplane systems shall only take place under operating conditions which do not jeopardize safety of flight.

- (a) Standard Operating Procedures for normal, abnormal and emergency operation of the airplane systems and components including:
 - (i) use of airplane checklists including interior and exterior pre-flight checks;
 - (ii) maneuvering of the airplane on the ground;
 - (iii) aspects of flight and cabin crew co-operation, command and co-ordination;
 - (iv) normal take-off, visual circuit, approach and landing;
 - (v) simulated airplane and cargo fire on the ground and while airborne;
 - (vi) simulated engine fire and failure;
 - (vii) briefings on effects of airframe and engine icing and anti-ice operation;
 - (viii) take-off, landing and flight with the critical engine simulated inoperative, including driftdown and engine inoperative performance capabilities;
 - (ix) on 3- and 4-engine airplanes in-flight procedures including approach and landing with 2 engines simulated inoperative (applies to PIC only);
 - (x) simulated loss of pressurization and emergency descent;
 - (xi) no electronic glide slope approach and landing;
 - (xii) simulated hydraulic, electrical and other system failures;
 - (xiii) simulated flight control failures and degraded states of operation, while in-flight, and during take-off and landing (as applicable);
 - (xiv) simulated failure of navigation and communication equipment;
 - (xv) simulated pilot incapacitation recognition and response;
 - (xvi) briefing on recovery from turbulence and windshear on take-off and approach;
 - (xvii) approach to the stall and recovery procedure simulating ground contact imminent and ground contact not a factor (clean, take-off and landing configuration);
 - (xviii) buffet onset boundary, steep turns (45° of bank) and other flight characteristics (as applicable for initial and upgrade only);
 - (xix) airplane performance for climb, cruise, holding, descent and landing;
 - (xx) normal and performance limited take-offs;
 - (xxi) crosswind take-off and landing, and briefing on contaminated runway take-off and landing;
 - (xxii) take-off and landing data calculations;
 - (xxiii) simulated rejected take-off procedures (at or below 60 kts) and rejected landings;
 - (xxiv) briefing on crew and passenger evacuation procedures; and
 - (xxv) other specialized airplane equipment (where applicable).
- (b) flight planning and instrument flight procedures where the air operator is authorized for VFR flight at night or flight in IMC:
 - (i) departure, enroute, holding and arrival;
 - (ii) all types of instrument approaches and missed approaches in simulated minimum visibility conditions, including circling approaches (where applicable) using all levels of automation available (as applicable);
 - (iii) subject to subparagraph (iv), during initial training, a normal take-off, visual circuit, approach and landing at night; and
 - (iv) where the operator is approved for circling approaches, a night circling approach to landing may be conducted in lieu of a visual circuit.

(12) Emergency Procedures Training for Pilots. This training is required on an annual basis and shall include instruction in the location and operation of all emergency equipment. Training devices approved to simulate flight operating emergency conditions, static airplanes, ground demonstrations, classroom lectures, films or other devices may be used for training provided the method used ensures

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that each flight crew member is adequately trained in the operation or use of all emergency equipment. Where practical training is required it shall be completed on initial training and every three years thereafter.

- (a) fire in the air and on the ground;
- (b) use of fire extinguishers including practical training;
- (c) operation and use of emergency exits including practical training;
- (d) passenger preparation for an emergency landing or ditching, (as applicable) including practical training;
- (e) emergency evacuation procedures including practical training;
- (f) donning and inflation of life preservers (when equipped) including practical training;
- (g) removal from stowage, deployment, inflation and boarding of life rafts/slide rafts (when equipped) including practical training;
- (h) pilot incapacitation including practical training;
- (i) hijacking, bomb threat and other security procedures;
- (j) passenger on board medical emergency; and
- (k) special emergency procedures when the airplane is used on MEDEVAC operations including patient evacuation in emergency situations.

(13) Regaining Qualifications Training. For operators using an approved Level B, C, D FFS or the airplane, the following must be completed for all pilots who have not maintained their recency qualifications in accordance with Subsection 704.108 (1)(b) of the Lebanese Aviation Regulations for a period between 90 days and 12 months.

- (a) a briefing on changes that have occurred to the airplane or its operation since the last flight; and
- (b) three take-offs and landings (which may be carried out as part of a PPC where one has come due).
- (14) Regaining Qualifications After PPC Expiry
 - (a) where the PPC has expired for less than 6 months the following must be completed to regain type qualification:
 - (i) all the requirements specified by subsection (13) above; and
 - (ii) any recurrent training, including a PPC, which may have come due during the absence from flying duties.
 - (b) where the PPC has expired from between 6 and 24 months the following must be completed to regain type qualification:
 - (i) all the requirements of Subsection (14)(a) above; and
 - (ii) a technical ground training course consisting of an airplane system review and FTD training (where applicable).
 - (c) where the PPC has expired for a period greater than 24 months a complete initial airplane type training course shall be carried out.
- (15) Upgrade Training and Checking
 - (a) upgrade training and checking for pilots who are qualified as a second-in-command on that airplane type shall include the following:
 - (i) successfully complete training as a pilot-in-command in all areas of airplane handling and operation as outlined in the air operator's approved initial course;
 - (ii) command and decision making;
 - (iii) successfully complete specialized operations qualification training; (e.g. lower take-off limits etc.)
 - (iv) successfully complete on that type of airplane the initial pilot proficiency check outlined in Schedule I or Schedule II to Section s704.108, conducted by a DGCA Inspector or an approved Company Check Pilot; and
 - (v) initial line indoctrination for a pilot-in-command.
 - (b) upgrade training and checking for pilots whose PPC as second-in-command on that airplane type has expired within the previous 24 months shall consist of completion of all regaining

qualifications requirements specified in Subsections 14(a) or (b), as applicable, as well as the requirements of Subsection (15)(a) above.

(c) pilots who have not held a valid PPC on that airplane type as second-in-command for a period greater than 24 months shall be given a complete initial airplane type training course as well as the requirements of Subsection (15)(a) above.

(16) Right Seat Conversion Training. For a left seat-qualified pilot to operate an airplane from the right seat, the following shall apply:

- (a) be qualified and current on the airplane type for left seat duties;
- (b) receive sufficient technical ground training on right seat duties;
- (c) annually, receive sufficient flight or FFS training to enable a Company Check Pilot, air operator airplane type Chief Pilot or airplane type Training Pilot to certify the competency of the pilot to carry out pilot duties from the right seat.

(17) Flight Follower Training. Persons assigned the duties of a flight follower shall receive training in at least the following:

- (a) company indoctrination;
- (b) duties and responsibilities;
- (c) communication procedures;
- (d) applicable regulations and standards;
- (e) flight preparation procedures as applicable to assigned duties;
- (f) procedures in the event of an emergency or overdue aircraft;
- (g) accident and incident reporting procedures; and
- (h) requirements of approved Company Operations Manual as applicable to the duties and responsibilities.

(18) Airplane Surface Contamination Training. An approved surface contamination initial and recurrent training program is required for all operations personnel to ensure they are aware of hazards and procedures for ice, frost and snow critical contamination on aircraft. The training program shall include:

- (a) responsibility of pilot-in-command and other operations personnel;
- (b) regulations related to operations in icing conditions;
- (c) weather conducive to ice, frost and snow contamination;
- (d) inspection before flight and removal of contamination;
- (e) in-flight icing recognition; and
- (f) hazards related to critical surface contamination of ice, frost and snow.

(19) Minimum Equipment List (MEL) Training. When an MEL has been approved for use on an airplane type the air operator shall provide the following training to crew members and maintenance personnel, and to dispatchers as applicable:

- (a) maintenance personnel training shall include instruction on those sections of the MCM which deal with the MEL, placarding of inoperative equipment, maintenance release of an airplane, dispatching, and any other MEL related procedures;
- (b) pilot and operations control personnel training shall include instruction on purpose and use of an MEL, air operator MEL procedures, elementary maintenance procedures as applicable and responsibility of the pilot-in-command; and
- (c) recurrent training shall be conducted when required to ensure air operator personnel are aware of any changes to the MEL or MEL procedures.

(20) Transportation of Dangerous Goods. For the purposes of Section 704.115 of the Lebanese Aviation Regulations the training programs are those set out in the Transportation of Dangerous Goods Regulations.

(21) Lower than Standard Take-off Weather Minima. (Reported Visibility RVR 1200 feet (or 1/4 mile) and Reported RVR 600 feet)

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Training is required for the pilot-in-command only, except if the operator authorizes in the operations manual, the second-in-command to conduct take-offs in lower than standard weather minima, the second-in-command shall undergo the same training as the pilot-in-command.

- (a) Ground Training
 - (i) take-off alternate requirements;
 - (ii) pilot-in-command minimum experience;
 - (iii) pilot-in-command responsibility for visibility and obstacle clearance requirements;
 - (iv) minimum airplane and runway equipment requirements; and
 - (v) procedures to ensure compliance with performance limitations.
- (b) Synthetic Flight Training Device Training

Required for all operators using RVR 600 feet.

Required for operators using RVR 1200 feet without certified take-off performance

During Initial and Recurrent Training

- (i) a minimum of one completed take-off at RVR 600 or 1200 feet (as applicable) with a failure of the critical engine at V_1 and
- (ii) one rejected take-off at RVR 600 or 1200 feet (as applicable) immediately prior to V_1 .
- (22) Area Navigation Systems (RNAV)
 - (a) General Training
 - (i) to qualify for use of RNAV systems on IFR operations, an air operator shall have an approved flight crew training and qualifications program for use of the system. Flight crew shall have completed the appropriate training and have completed an in-flight check or an equivalent check in an approved synthetic training device. This qualification check shall be conducted by an approved check pilot.
 - (ii) training shall be in the following areas:
 - A. pre-flight;
 - B. normal operation of the system;
 - C. procedures for manually updating system;
 - D. methods of monitoring and cross checking system;
 - E. operation in area of compass unreliability;
 - F. malfunction procedures;
 - G. terminal procedures;
 - H. waypoint symbology, plotting procedures, record keeping duties/practices; and
 - I. post flight.
 - (iii) to qualify for approval to conduct GPS approaches in IFR, an air operator shall have a flight crew training program approved by the Minister. Flight crew shall have completed the appropriate training and have completed an in-flight check, or an equivalent check in a synthetic training device approved by the Minister prior to conducting GPS approaches. This qualification check shall be conducted by an approved check pilot.
 - (iv) where pilots are required to use more than one type of GPS for approach, the training program shall address the differences between the units, unless the units have been determined by the Minister to be sufficiently similar.
 - (v) ground training shall include "hands on" training using a desk top simulator, a computer based simulation of the unit to be used, a static in-aircraft unit, or other ground training devices acceptable to the Minister.
 - (b) Ground Training Non-Integrated Receivers (Panel Mount GPS Receivers). An air operator shall ensure that candidates are trained to proficiency in each of the elements associated with the following areas:



- (i) knowledge with the respect to the following:
 - A. the GPS system, including:
 - > GPS system components and aircraft equipment;
 - the composition of satellite constellation;
 - > the minimum number of satellites required for 2-D and 3-D navigation;
 - \succ the basic concept of satellite ranging;
 - ➢ factors affecting the accuracy of GPS signals;
 - the World Geodedic Survey 84 (WGS 84) datum and the effect of using any other datum;
 - B. human factors applicable to the use of GPS and how errors may be reduced or eliminated;
 - C. company standard operating procedures for using GPS units; and
 - D. procedures for reporting GPS problems and database errors.
- (ii) ability to perform the following operational tasks:
 - A. select appropriate operational modes;
 - B. recall categories of information contained in the database;
 - C. predict RAIM availability;
 - D. enter and verify user defined waypoints;
 - E. recall and verify database waypoints;
 - F. interpret typical GPS navigational displays including latitude/longitude, distance and bearing to waypoint, course deviation indication (CDI), desired track (DTK), track made good (TMG), actual track (TK), cross track error and any other information appropriate for the equipment used;
 - G. intercept and maintain GPS defined tracks;
 - H. determine navigation information appropriate for the conduct of the flight including ground speed (GS), estimated time of arrival (ETA) for next waypoint and destination;
 - I. recognition of waypoint passage;
 - J. use of 'direct to' function;
 - K. link enroute portion of GPS flight plan to approach;
 - L. conduct SIDs, STARs, terminal area procedures and holds;
 - M. retrieve, verify and conduct GPS stand alone approaches; and
 - N. conduct GPS missed approaches.
- (iii) ability to conduct the following operational and serviceability checks:
 - A. database currency and area of operation;
 - B. receiver serviceability;
 - C. RAIM status;
 - D. CDI sensitivity;
 - E. position indication; and
 - F. number of satellites acquired and, if available, satellite position information.
- (iv) ability to recognize and take appropriate action for all GPS warnings and messages including, where applicable:
 - A. "loss of RAIM"
 - B. "2D navigation"
 - C. "In Dead Reckoning Mode"
 - D. "database out of date"
 - E. "GPS fail"
 - F. "barometric input fail"
 - G. "power/battery low" or "fail"
 - H. "parallel offset on"; and
 - I. "satellite fail".

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- (c) Ground Training Integrated Receivers (Flight Management Systems). An air operator shall ensure that the training program candidates are trained to proficiency in each of the elements associated with the following areas:
 - (i) knowledge with the respect to the following:
 - A. the GPS system and theory of operation, including:
 - ➢ GPS system components and aircraft equipment;
 - the composition of satellite constellation;
 - > the minimum number of satellites required for 2-D and 3-D navigation;
 - the basic concept of satellite ranging;
 - factors affecting the accuracy of GPS signals;
 - > the WGS84 datum and the effect of using any other datum; and
 - B. human factors applicable to the use of GPS and how errors may be reduced or eliminated (i.e. maintaining situational awareness); and
 - (ii) ability to perform the following operational tasks:
 - A. predict RAIM availability;
 - B. link enroute portion of GPS flight plan to approach;
 - C. conduct GPS stand alone approaches; and
 - D. conduct GPS missed approaches.
 - (iii) ability to conduct the following operational and serviceability checks:
 - A. RAIM status;
 - B. CDI sensitivity; and
 - C. number of satellites acquired and, if available, satellite position information.
 - (iv) ability to recognize and take appropriate action for all GPS warnings and messages including, where applicable:
 - A. "loss of RAIM";
 - B. "2D navigation";
 - C. "GPS fail";
 - D. "barometric input fail"; and
 - E. "satellite fail".
- (d) Flight Training
 - (i) pilots shall complete flight training in the use of GPS for approach and other associated duties for each crew position they are authorized to occupy. Flight training may be completed in an aircraft, or in a level A or higher simulator that is equipped with the same model of GPS receiver (or a model determined by the Minister to be sufficiently similar) that is installed in company aircraft.
 - (ii) flight training shall be conducted by a designated training pilot who has completed the company ground training program approved by the Minister, and demonstrated proficiency in the use of the model of GPS (or a model determined by the Minister to be sufficiently similar), or to an approved check pilot.

(23) Transportability of Pilot Proficiency Check. Transportability of Pilot Proficiency Checks from one air operator to another is permitted subject to the hiring air operator providing the following training which shall be specified in the approved operations/training manual:

- (a) company indoctrination;
- (b) pilot ground and emergency procedures training on each type of airplane the pilot is assigned, sufficient to cover the air operator procedures and equipment differences;
- (c) standard operating procedures review;
- (d) sufficient line indoctrination to allow the pilot to become familiar with the air operator routes and operational procedures. In no case shall this be less than two sectors over typical route segments that the air operator flies; and
- (e) the hiring air operator records the PPC validity and expiration date in company records.



(24) High Altitude Training. High Altitude training is required for all flight crew members operating airplanes above 13,000 feet ASL before first assignment on a pressurized airplane and every three years thereafter.

- (a) physiological phenomena in a low pressure environment, including:
 - (i) respiration;
 - (ii) hypoxia;
 - (iii) duration of consciousness at altitude without supplemental oxygen; and
 - (iv) gas expansion and gas bubble formation.
- (b) other factors associated with rapid loss of pressurization including:
 - (i) most likely causes;
 - (ii) noise;
 - (iii) cabin temperature change;
 - (iv) cabin fogging;
 - (v) effects on objects located near the point of fuselage failure; and
 - (vi) actions of crew members immediately following the event and the likely resultant attitude.
- (25) Survival Equipment Training. Training for all crew members shall include the following:
 - (a) survival concepts;
 - (b) contents of survival equipment kit; and
 - (c) how to use the survival equipment carried on board as appropriate for the operation.
- (26) Airplane Servicing and Ground Handling Training for Pilots
 - (a) fuelling procedures:
 - (i) types of fuel, oil and fluids used in the airplane;
 - (ii) correct fuelling procedures; and
 - (iii) procedures for checking fuel, oil and fluids and proper securing of caps;
 - (b) use of tow bars and maximum nose wheel deflection when towing;
 - (c) seasonal use of the parking brake;
 - (d) installation of protective covers on the airplane; and
 - (e) procedures for operating in cold weather such as:
 - (i) moving the airplane out of a warm hangar when precipitation is present;
 - (ii) procedures for applying de-icing and anti-icing fluids for the airplane type including critical flight controls post application inspections; and
 - (iii) engine and cabin pre-heating procedures, including proper use of related equipment.

(27) Line Indoctrination Training for Pilots. Line indoctrination shall be conducted over parts of the air operator's route structure which are typical of those over which the flight crew will be expected to fly.

The following areas shall be covered during line indoctrination training and noted in records as having been completed:

- (a) command of the airplane:
 - (i) crew management and discipline,
 - (ii) responsibilities of the pilot-in-command and other flight crew members, and
 - (iii) responsibilities of the cabin crew;
- (b) airplane and equipment:
 - (i) MEL policy and procedures;
 - (ii) C of A and other airplane documentation;
 - (iii) deferred defects;
 - (iv) maintenance release;
 - (v) manuals and log books;
 - (vi) Flight Data Recorder and Cockpit Voice Recorder;
 - (vii) emergency exits number, access, lighting & marking;
 - (viii) fire extinguishers;



- (ix) fire axe; and
- (x) oxygen and first aid equipment, and survival equipment;
- (c) dispatch:
 - (i) personnel, hours of operation, operational control; and
 - (ii) company fuel policy;
- (d) airplane servicing and ramp safety:
 - (i) fuelling procedures;
 - (ii) load security;
 - (iii) ground equipment & handling;
 - (iv) air operator's airplane deicing policy and procedures; and
 - (v) airplane parking;
- (e) reporting for duty,
- (f) license requirements;
- (g) airplane library;
- (h) duty day limitations and rest facilities;
- (i) pre-flight safety and crew briefings;
- (j) ramp push back and starting engines;
- (k) after start checks;
- (l) pre-flight checks and securing cabin;
- (m) rejected take-off and brake cooling chart,
- (n) departure sequence:
 - (i) lookout; and
 - (ii) after take-off checks;
- (o) climb procedures:
- (p) cruise:
 - (i) fuel management and checks; and
 - (ii) enroute diversion;
- (q) approach procedures:
 - (i) organization and briefing of approach;
 - (ii) descent;
 - (iii) pre-landing check and cabin security;
- (r) landing and taxiing:
 - (i) contaminated runway operations; and
 - (ii) after landing checks;
- (s) shutdown;
- (t) flight and maintenance logs and records;
- (u) defect recording & clearing;
- (v) emergency procedures:
 - (i) hi-jack bomb threat procedures;
 - (ii) airplane evacuation;
 - (iii) airport emergency services; and
 - (iv) engine inoperative procedures and
- (w) special considerations such as significant terrain, noise abatement, unique SAR requirements, etc. (where applicable).

(28) Line Indoctrination - Sectors/Hours Requirements. During line indoctrination, a flight crew member shall be given the following minimum experience, while performing the duties appropriate to the crew station. Sectors/hours acquired during proving or ferry flights may be counted towards this requirement. The required number of flying hours and sectors apply to the pilot-in-command and the second-in-command.

- (a) for the purpose of Line Indoctrination an airplane would be in one of the following groups:
 - (i) reciprocating engine powered;
 - (ii) turbo-propeller powered;



- (iii) turbo-jet powered.
- (b) for the purposes of Line Indoctrination a sector is a flight composed of a take-off, departure, arrival and landing including at least a 50 NM enroute segment.
 - (i) general requirements for Line Indoctrination are as follows:
 - A. crew members who have not qualified and served in the same capacity on the same group of airplanes shall complete Initial Line Indoctrination;
 - B. crew members who have qualified and served in the same capacity on the same group of airplanes shall complete Transition Line Indoctrination;
 - C. initial and Transition Line Indoctrination shall be conducted under the supervision of a training pilot;
 - D. during Initial Line Indoctrination, the pilot-in-command and second-in-command shall perform the duties of the position, with the training pilot occupying the opposite pilot operating position; and
 - E. during Transition Line Indoctrination, the pilot-in-command and second-incommand shall perform the duties of the position;

Information Note: The training pilot may occupy the jump seat if the transitioning pilot has completed at least 2 sectors as pilot flying and has satisfactorily demonstrated to the training pilot that he or she is qualified to perform the duties of the position.

- (ii) specific requirements for Initial Line Indoctrination on reciprocating engine powered airplanes shall be as follows:
 - A. each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating maneuvers and procedures as detailed in Subsection s704.115(27) and complete 15 flying hours and 4 mandatory sectors, 2 sectors to be performed as pilot flying and 2 sectors as pilot not flying; and
 - B. after completing the 4 mandatory sectors, the remaining time may be reduced by 1 hour for each additional sector flown to a maximum 50% reduction of the original time requirement;
- (iii) specific requirements for Initial Line Indoctrination on turbo-propeller powered airplanes shall be as follows:
 - A. each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating maneuvers and procedures as detailed in Subsection s704.115(27) and complete 20 flying hours and 4 mandatory sectors, 2 sectors to be performed as pilot flying and 2 sectors as pilot not flying; and
 - B. After completing the 4 mandatory sectors, the remaining time may be reduced by 1 hour for each additional sector flown to a maximum 50% reduction of the original time requirement;
- (iv) specific requirements for Initial Line Indoctrination on turbo-jet powered airplanes shall be as follows:
 - A. each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating maneuvers and procedures as detailed in Subsection s704.115(27) and complete 25 flying hours and 4 mandatory sectors, 2 sectors to be performed as pilot flying and 2 sectors as pilot not flying; and
 - B. no reduction of the original time requirement shall be permitted;
- (v) specific requirements for Transition Line Indoctrination on reciprocating engine powered airplanes shall be as follows:
 - A. each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating maneuvers and procedures as detailed in Subsection s704.115(27) and complete 10 flying hours and 4 mandatory sectors, 2 sectors to be performed as pilot flying and 2 sectors as pilot not flying; and



- B. after completing the 4 mandatory sectors, the remaining time may be reduced by 1 hour for each additional sector flown to a maximum 50% reduction of the original time requirement;
- (vi) specific requirements for Transition Line Indoctrination on turbo-propeller powered airplanes shall be as follows:
 - A. each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating maneuvers and procedures as detailed in Subsection s704.115(27) and complete 12 flying hours and 4 mandatory sectors, 2 sectors to be performed as pilot flying and 2 sectors as pilot not flying; and
 - B. after completing the 4 mandatory sectors, the remaining time may be reduced by 1 hour for each additional sector flown to a maximum 50% reduction of the original time requirement; and
- (vii) specific requirements for Transition Line Indoctrination on turbo-jet powered airplanes shall be as follows:
 - A. each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating maneuvers and procedures as detailed in Subsection s704.115(27) and complete 25 flying hours and 4 mandatory sectors, 2 sectors to be performed as pilot flying and 2 sectors as pilot not flying; and
 - B. after completing the 4 mandatory sectors, the remaining time may be reduced by 1 hour for each additional sector flown to a maximum 50% reduction of the original time requirement;
- (29) Category II and III Operations
 - (a) Ground Training
 - (i) operational characteristics, capabilities, and limitations of the CAT II/III ground system and the airplane system;
 - (ii) resolution of the DH/AH;
 - (iii) visual cues; and
 - (iv) crew duties during normal, abnormal, and emergency situations
 - (b) Synthetic Flight Training Device Training Pilot-in-command
 - (i) two approaches, one of the approaches to be in an engine out configuration if the air operator's equipment is so certified and is approved to perform the maneuver;
 - (ii) a missed approach from the lowest minima, as applicable;
 - (iii) an automatic landing from one of the approaches or manual landing as appropriate, at the maximum crosswind authorized; and
 - (iv) for those CAT III operations predicated on the use of a fail-passive rollout control system, a manual rollout using visual reference or a combination of visual and instrument references.

(30) Persons Assigned On Board Duties. Where an air operator has assigned on board duties to a nonflight crew member, that person shall be given adequate initial and annual training to perform the procedures relevant to the duties with which the person is to be involved including, as applicable:

- (a) authority of the pilot-in-command;
- (b) means of communication;
- (c) a general description of the airplane in which the person is to serve and the proper use of cabin installed systems controls;
- (d) procedures for the handling of normal, abnormal, and emergency situations including:
 - (i) safe movement in the vicinity of the airplane and safe movement to and from the airplane;
 - (ii) briefing of passengers;
 - (iii) handling of passengers;
 - (iv) securing of cabin;
 - (v) location, operation and use of emergency, life saving and survival equipment carried, including practical training;



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- (vi) fire fighting, including practical training;
- (vii) decompression;
- (viii) location, operation and use of emergency exits, including practical training;
- (ix) passenger preparation for an emergency landing or ditching, including practical training; and
- (x) evacuation, including practical training; and
- (e) knowledge of the relationship of the procedures with respect to those of the other crew members.
- (31) Training Program Minimum Training Times Airplanes.
 - (a) in this Subsection, chart 1 provides the minimum initial training times for airplanes equipped with engines as described therein and chart 2 provides the minimum annual recurrent training for airplanes equipped with engines as described therein.
 - (b) flight training time in these charts is "flight time".
 - (c) pilots will receive some PNF time in the simulator in addition to the PF times given in the charts.
 - (d) the terms "Lvl A", "Lvl B" and "Lvl C" refer to the approved training program, not to the certification level of the simulator used.

Chart	1
-------	---

Minimum Initial Training	Ground Training		Flight training Simulator & Acft (PF – Pilot Flying)				Aircraft Only	
	Basic	Pressurized	Turbine	Lvl A ¹	Lvl B	Lvl C	A/C ²	
Multi-engine 10* to 19*	16.0	4.0	4.0	8.0	8.0	10.0	2.0	5.0
Multi-engine Piston 20+*++	18.0	2.0						6.0
M/Engine Turbine 20+*++	45.0			10.0	10.0	12.0	2.0	8.0
Citation 500 Series	35.0			10.0	10.0	12.0	2.0	8.0
Other Turbo-jet	40			12.0	12.0	14.0	2.0	8.0

* Denotes the number of passenger seats for which the airplane was certificated.

++ Included since certain airplanes certificated for 20+ passengers are regulated by Part VII, Subpart 4 (eg. Twin Otter).

¹ Training on aircraft required.

² The aircraft training required for Level A training programs.

Chart 2

Minimum Recurrent Training (annual)	m Recurrent Ground Training g (annual)		Flight training Simulator & Acft (PF – Pilot Flying)				Aircraft Only	
	Basic	Pressurized	Turbine	Lvl A ¹	Lvl B	Lvl C	A/C ²	
Multi-engine 10* to 19*	7.0	0.5	0.5	4.0	4.0	4.0	1.0	2.0
Multi-engine Piston 20+*	7.5							3.0
M/Engine Turbine 20+*	20.0			4.0	4.0	4.0	1.0	3.0
Citation 500 Series	12.0			4.0	4.0	4.0	1.0	3.0
Other Turbo-jet	15+			4.0	4.0	4.0	1.0	3.0

* Denotes the number of passenger seats for which the airplane was certificated.

⁺⁺ Included since certain airplanes certificated for 20+ passengers are regulated by Part VII, Subpart 4 (eg. Twin Otter).
 ¹ An Operations Specification may be issued to give relief from the requirement to conduct training on the aircraft when a visual simulator is used for Recurrent Training.

² Amount of training required on aircraft if the operator does not have the Operations Specification to which Note 1 above refers.

s704.116 to s704.119 Reserved



DIVISION IX - MANUALS

s704.120 Reserved

s704.121 Contents of Company Operations Manual

The Company Operations Manual shall contain at least the following, as applicable to the operation:

- (a) preamble relating to use and authority of manual;
- (b) a table of contents;
- (c) amending procedures, amendment record sheet, distribution list and list of effective pages;
- (d) a copy of the Air Operator's Certificate and operations specifications;
- (e) a chart of the management organization;
- (f) the duties, responsibilities and succession of command of management and operations personnel;
- (g) description of operational control system including:
 - (i) flight authorization and flight preparation procedures;
 - (ii) preparation of operational flight plan and other flight documents;
 - (iii) procedures to ensure the flight crew are advised, prior to dispatch, of any airplane defects that have been deferred, (by Minimum Equipment List or any other means);
 - (iv) flight watch, flight following and communication requirements;
 - (v) dissemination procedures for operational information and acknowledgement;
 - (vi) fuel and oil requirements;
 - (vii) weight and balance system;
 - (viii) accident/incident reporting procedures and procedures for reporting overdue aircraft;
 - (ix) use of checklists;
 - (x) maintenance discrepancy reporting and requirements of completion of flight; and
 (xi) retention period of operational flight plans;
- (h) sample of operational flight plan, weight and balance form and retention period;
- (i) CVR procedures;
- (j) operating weather minima and applicable requirements for IFR, VFR, VFR at night, VFR over-the-top including alternate aerodrome requirements;
- (k) instrument and equipment requirements;
- (l) instrument approach procedures (including company approaches), and alternate minima requirements;
- (m) procedures for establishing company routes in uncontrolled airspace;
- (n) procedures pertaining to enroute operation of navigation and communication equipment (including collision avoidance procedures);
- (o) operations in hazardous conditions such as icing, thunderstorms, white out, windshear;
- (p) airplane performance limitations;
- (q) carriage and securing of cargo, carry on baggage, commissary and equipment (as applicable);
- (r) passenger briefing procedures;
- (s) use of aircraft flight manual, aircraft operating manual, standard operating procedures and minimum equipment lists (as applicable);
- (t) airplane ice, frost and snow critical surface contamination procedures;
- (u) procedures of carriage of dangerous goods;
- (v) fuelling procedures including:
 - (i) fuel contamination precautions;
 - (ii) bonding requirements;
 - (iii) fuelling with engine running (not permitted with passengers on board, see Section 602.09 of the Lebanese Aviation Regulations; and
 - (v) fuelling with passengers on board;



(w) list of emergency survival equipment carried on the airplane and how to use equipment;

- (x) emergency procedures for:
 - (i) emergency locator transmitter;
 - (ii) passenger preparation for emergency landing/ditching;
 - (iii) emergency evacuation;
 - (iv) ground emergency coordination procedures; and
 - (v) unlawful interference;
- (y) minimum flight crew members required and flight crew member qualifications;
- (z) flight duty time limitations and rest requirements;
- (aa) training programs including copy of company training and qualification record form(s);
- (bb) use of oxygen;
- (cc) operational support services and equipment;
- (dd) passenger and cabin safety procedures for emplaning and deplaning passengers when engines are running;
- (ee) float operators shall include passenger and cabin safety procedures unique to their environment;
- (ff) inspection details and frequency of inspection of emergency equipment carried on board the airplanes;
- (gg) policy regarding GPWS and TCAS (if applicable);
- (hh) procedures for MNPS, CMNPS and reclear flights, including log keeping, (if applicable);
- (ii) policy on occupation of observer seat (if applicable);
- (jj) requirement for responsibility for preparing runway analysis charts;
- (kk) procedures for reduced VFR limits in uncontrolled airspace (if applicable);
- (ll) copies of all forms utilized including sufficient instruction on form completion; and (mm)other information related to safety.

s704.122 Reserved

s704.123 Airplane Operating Manual

An airplane operating manual shall consist of the following:

- (a) table of contents;
- (b) list of effective pages;
- (c) amending procedures;
- (d) preamble;
- (e) identification of the airplane by the type and registration it is applicable to; and
- (f) airplane operating procedures and limitations that are not less restrictive than those contained in the airplane flight manual and Lebanese Aviation Regulations.

s704.124 Airplane Standard Operating Procedures (SOP's)

The Standard Operating Procedures Manual shall contain the following information for each type of airplane operated. Where there are significant differences in equipment and procedures between airplanes of the same type operated the Standard Operating Procedures Manuals shall show the registration mark of the airplane, it is applicable to.

Required information, if contained in another publication carried on board the airplane during flight, need not be repeated in the SOP.

The SOP shall include the following as applicable to the operation:

(1) General



- (a) table of contents;
- (b) list of effective pages;
- (c) amending procedure;
- (d) preamble;
- (e) communications;
- (f) crew coordination;
- (g) use of check lists;
- (h) standard briefings; and
- (i) standard calls;
- (2) Normal Procedures
 - (a) weight and balance control requirements;
 - (b) ramp/gate procedures;
 - (c) battery/APU engine starts;
 - (d) taxi;
 - (e) take-off and climb;
 - (f) cruise;
 - (g) descent;
 - (h) approaches IFR, visual, VFR, and circling;
 - (i) landing;
 - (j) missed approach and balked landing procedures;
 - (k) stall recovery;
 - (1) fuelling with passengers on board;
 - (m) use of on board navigation and alerting aids; and
 - (n) check lists;
- (3) Abnormal and Emergency Procedures
 - (a) emergency landings/ditching with time to prepare and without time to prepare;
 - (b) pilot incapacitation and two-challenge rule, (2 pilot crew);
 - (c) bomb threat and hijacking;
 - (d) engine fire/failure/shutdown;
 - (e) propeller over speed (as applicable);
 - (f) fire, internal/external;
 - (g) smoke removal;
 - (h) rapid decompression (as applicable);
 - (i) flapless approach and landing (as applicable);
 - (j) rejected take-off; and
 - (k) other abnormal and emergency procedures that are specific to the type of airplane;
- (4) Diagrams
 - (a) normal take-off;
 - (b) engine out take-off;
 - (c) precision approach, all engines operating;
 - (d) precision approach, engine out;
 - (e) non-precision approach, all engines operating;
 - (f) non-precision approach, engine out;
 - (g) go-around, all engines operating;
 - (h) go-around, engine out;
 - (i) VFR circuits;
 - (j) partial flaps/slats approach; and
 - (k) flapless approach.

s704.125 to s704.127 Reserved



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REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>*Part VII*</u> Commercial Air Services

<u>Subpart 4</u> Commuter Operations

<u>Standards / Helicopter</u> s704.01 to s704.127

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier



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LEBANESE AVIATION REGULATIONS (LARs)

Part VII – Commercial Air Services

Subpart 4 – Commuter Operations

Standards / Helicopter s704.01 to s704.127

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COMMERCIAL AIR SERVICES STANDARDS

Subpart 4 – Commuter Operations/Helicopter

Standards s704.01 to s704.127

Foreword

This Commercial Air Service Standard outlines the requirements for complying with Subpart 4 of the Lebanese Aviation Regulations (LARs).

For ease of cross reference the divisions and numbers of the standard are assigned to correspond to the regulations, therefore Standard s704.05 would reflect a standard required by Section 704.05 of the LARs.

The standards under this Subpart apply to every Lebanese air operator engaged in commercial air services under Subpart 4 of the Lebanese Aviation Regulations (LARs).

This Commercial Air Services Standard outlines the requirements for complying with Part VII, Subpart 4 of the Lebanese Aviation Regulations.



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DIVISION I - GENERAL

s704.01 Application

(1) The standards under this Subpart apply to every Lebanese air operator engaged in commercial air services under Subpart 704 of the Lebanese Aviation Regulations.

(2) The words and expressions used in these Standards have the same meaning as in the General Provisions in Section 100.01 of the Lebanese Aviation Regulations with the following additions:

Definitions

"deplane" means disembark. A helicopter is deplaned when the passengers leave the helicopter (or disembark) in the normal manner, as opposed to evacuating;

"evacuate" means the egress from a helicopter in an emergency situation using all available exits and assist means;

"fuelling" means the act of transferring fuel into or out of a helicopter's fuel tanks from or to an external supply;

"take-off safety speed" means a referenced airspeed obtained after lift-off at which the required oneengine inoperative climb performance can be achieved;

"wide-body helicopter" means a helicopter having an interior cabin width of 2m (6'7") or more;

s704.02 to s704.06 Reserved



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DIVISION II - CERTIFICATION

s704.07 Issuance or Amendment of Air Operator Certificate

(1) Application for an Air Operator Certificate. The following constitutes an application for an air operator certificate:

- (a) DGCA Ops Form 100-12 Airports information required to determine the suitability of the base of operations, sub-bases and all scheduled points. The applicant shall be able to demonstrate that operations are permitted at each base or scheduled point. This will normally be done by providing written permission from the Local Airport Authority. Where the air operator can not obtain a written permission and operations have not been denied in writing by the LAA, access to the aerodrome shall be demonstrated by other means such as facilities provided through a lease or contractual agreement or ownership of a heliport;
- (b) DGCA Ops Form 100-13 Aircraft information with respect to each helicopter by registration;
- (c) DGCA Ops Form 100-14 Personnel information on required personnel. These must be supported by resumes and statements of qualification for each required position;
- (d) DGCA Ops Form 100-15 Maintenance Facilities;
- (e) Maintenance Control Procedures;
- (f) Company Operations Manual;
- (g) Standard Operating Procedures (if applicable);
- (h) Minimum Equipment List(s) (if applicable);
- (i) nomination for Company Check Pilot (if applicable);
- (j) DGCA Ops Form 100-18 Cabin Safety as applicable.
- (k) Initial Statement of Compliance that:
 - (i) identifies where in the operator's manual system the LARs are complied with.
 - (ii) contains compliance statements for each section and subsection as applicable.
 - (iii) contains compliance statements for Parts V, VI, and VII.
 - (iv) contains compliance statements for any regulation or standard that the Minister deems necessary.

Qualifications and Responsibilities of Operational Personnel

(2) Operations Manager

Qualifications

- (a) hold or have held the appropriate license and ratings for which a pilot-in-command is required to hold for one of the helicopters operated; or have acquired not less than 3 years related supervisory experience with an operator of a Commercial Air Service whose flight operations are similar in size and scope; and
- (b) demonstrate knowledge to the Minister with respect to the content of the operations manual, the air operator's certificate and operations specifications, the provision of the regulations and the standards necessary to carry out the duties and responsibilities to ensure safety.

Responsibilities. The operations manager is responsible for safe flight operations. In particular, the responsibilities of the position include:

- (a) control of operations and operational standards of all helicopters operated;
- (b) the identification of operations coordination functions which impact on operational control (eg. maintenance, crew scheduling, load control, equipment scheduling);
- (c) supervision, organization, function and manning of the following;
 - (i) flight operations;



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- (ii) cabin safety;
- (iii) crew scheduling and rostering;
- (iv) training programs; and
- (v) flight safety;
- (d) the contents of the air operator's Company Operations Manual;
- (e) the supervision of and the production and amendment of the Company Operations Manual;
- (f) liaison with the regulatory authority on all matters concerning the flight operations including any variation to the air operator's operator certificate;
- (g) liaison with any external agencies which may effect air operator operations;
- (h) ensuring that the air operator's operations are conducted in accordance with current regulations, standards and air operator policy;
- (i) ensuring that crew scheduling complies with flight and duty time regulations, and that all crew members are kept informed of any changes to the regulations and standards;
- (j) the receipt and actioning of any aeronautical information affecting the safety of flight;
- (k) the dissemination of helicopter safety information, both internal and external;
- (l) qualifications of flight crew;
- (m) maintenance of a current operations library; and
- (n) in his or her absence, all responsibilities for operational duties shall be delegated to another individual qualified in accordance with the Lebanese Aviation Regulations except that the knowledge requirements detailed under Operations Manager Qualifications may be demonstrated to the air operator rather than the Minister.
- (3) Chief Pilot

Qualifications

If the Air Operator Certificate authorizes:

- (a) day VFR only hold an Airline Transport Pilot License (Helicopter) or a Commercial Pilot License (Helicopter);
- (b) day and Night VFR hold an Airline Transport Pilot License (Helicopter) or a Commercial Pilot License (Helicopter);
- (c) IFR hold an Airline Transport Pilot License (Helicopter) with an instrument rating;
- (d) have at least 3 years experience as pilot-in-command of multi-engined helicopters;
- (e) be qualified in accordance with the air operators training program to act as pilot-in-command of one of the types of helicopters operated; or
- (f) demonstrate knowledge to the Minister with respect to the content of the Company Check Pilot Manual, as applicable, the Company Operations Manual, the provisions of the regulations, standards and flight operating procedures necessary to carry out the duties and responsibilities to ensure safety.

Responsibilities. The chief pilot(s) is responsible for the professional standards of the flight crews and in particular for:

- (a) developing standard operating procedures;
- (b) developing and implementing all required approved training programs for the air operator's flight crews;
- (c) issuing directives and notices to the flight crews as required;
- (d) the operational suitability and requirements of all aerodromes and routes served by the air operator;
- (e) the actioning and distribution of accident, incident, and other occurrence reports;
- (f) the processing and actioning of any crew reports;
- (g) the supervision of flight crews;
- (h) assuming any duties delegated by the Operations Manager; and

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(i) in his or her absence, all responsibilities for duties shall be delegated to another individual qualified in accordance with this subsection except that the knowledge requirements may be demonstrated to the air operator rather than the Minister.

(4) Person Responsible for Maintenance. The person responsible for the maintenance control system shall be qualified in accordance with Section s706.03 of the Lebanese Aviation Regulations.

(5) Operational Support Services and Equipment. The requirement for operational support services and equipment will be dependent on type of helicopters and the size and scope of operations and shall include the following as applicable:

- (a) operational control system requirements;
- (b) flight operations publications including a copy of the Lebanese Civil Aviation Safety Act, applicable Lebanese Aviation Regulations, Company Operations Manual, Maintenance Control Manual/Maintenance Procedures Manual (as applicable), Lebanon Flight Supplement, Water Aerodrome Supplement (if applicable), Rotorcraft Flight Manuals, helicopter Operating Manuals (if applicable), Standard Operating Procedures, Aeronautical Information Publication, Minimum Equipment Lists (if applicable) and appropriate maps and charts;
- (c) passenger and cargo handling requirements;
- (d) communications requirements;
- (e) provision for handling dangerous goods (if applicable);
- (f) weather availability requirements;
- (g) ground de-icing/ anti-icing program requirements; and
- (h) helicopter servicing facilities and ground handling equipment.

s704.08 Contents of Air Operator Certificate

The following are the standards for Operations Specifications which may be issued under this section:

Special Helicopter Procedures

(1) The standard for authorization to use the helicopter offshore Non-Directional Beacon/Airborne Radar Approach (NDB/ARA) procedure is:

- (a) the helicopter used is type approved as a Transport Category A rotorcraft;
- (b) the helicopter is equipped with:
 - (i) two independent VHF air ground communications systems and two radio altimeter indicators with altitude alert functions;
 - (ii) one ADF and weather radar incorporating a beacon receiver mode;
 - (iii) rain protection for each windshield; and
 - (iv) a heat source for each airspeed pitot system;
- (c) the aerodrome shall be equipped with:
 - (i) ground/air communications equipment capable of providing essential approach and landing information;
 - (ii) facilities to provide essential information related to altimeter setting, observed weather, wind speed and direction, aerodrome condition and, if applicable, pitch and roll of the deck; and
 - (iii) at least one non-directional beacon (NDB);
- (d) flight crew member qualifications
 - before pilots may conduct approaches to a minimum descent altitude of 150 feet they shall have demonstrated, within the proceeding 12 months, to a Transport Lebanon Inspector or a Company Check Pilot their proficiency conducting NDB/ARA approaches to 150' MDA. The check may be conducted in an approved synthetic flight training device provided the air operator is approved to use the FTD for pilot training. NDB/ARA certification shall be annotated on the Pilot Check Report; and



- (ii) pilots-in-command having less than 100 hours pilot-in-command experience on the helicopter type or not currently holding NDB/ARA certification are restricted to NDB/ARA 250' MDA; and
- (e) approach beyond the Final Approach Fix when visibility is reported at less than 1/4 statute mile is prohibited.

(2) Category I ILS - 100' DH. The standards for authorization to use ILS approach minima to 100'DH

- and reported RVR of not less than 1200' on a Category I Instrument Landing System (ILS) are:
 - (a) the helicopter used is type-approved as a Transport Category A rotorcraft;
 - (b) the approach is a Category I ILS instrument approach procedure as published in the DGCA Approved Aeronautical Charts and the ILS system is serviceable and functioning, including medium or high intensity approach lighting and a forward scatter visibility sensor or a transmissometer at either the approach end or mid-point of the runway;
 - (c) both the pilot-in-command (PIC) and the second-in-command (SIC) have at least 100 hours on type of rotorcraft flown;
 - (d) the air operator has developed an acceptable program and has received authorization to conduct training and checks in an approved synthetic flight training device;
 - (e) the PIC and the SIC shall be checked within the previous 12 months in an approved synthetic flight training device by an approved check pilot or a DGCA Inspector and shall be certified as competent to use these minima;
 - (f) the helicopter shall be established in a stabilized approach and shall be flown at an indicated airspeed not exceeding 80 knots from the final approach fix (FAF) inbound;
 - (g) the helicopter shall be equipped with the following serviceable and functioning systems:
 - (i) a flight director or single automatic approach coupler augmenting the stabilization system;
 - (ii) two radio altimeter indicators having an altitude alert function which do not interfere with the normal operation and display of the radio altimeter system;
 - (iii) ice and rain protection for each windshield and a heat source for each airspeed system pitot tube installed;
 - (iv) two independent VHF air-ground communications systems; and
 - (v) dual ILS localizer and glide slope receivers and associated avionics failure warning systems;
 - (h) the air operator shall provide training to flight crew members in accordance with the standards of Section s704.115;
 - (i) for the purposes of crew certification, a successful approach is defined as one in which, at the DH:
 - (i) the helicopter is in trim for continuation of a normal approach and landing;
 - (ii) the indicated airspeed, heading and threshold height are satisfactory for a normal transition to an in-ground effect hover or run-on landing without an abnormally large flare such as would cause a gain in altitude and/or a loss of required visual reference;
 - (iii) the aircraft is positioned and tracking to remain within the lateral confines of the runway extended;
 - (iv) deviation from the glide path does not exceed one dot, as displayed on the ILS indicator; and
 - (v) no unusual roughness or excessive attitude changes have occurred after leaving the final approach fix (FAF); and
 - (j) for the purposes of crew certification:
 - (i) the proficiency check (initial and recurrent) will be conducted by an approved company check pilot or by a DGCA Inspector. The company check pilot must receive lower limits training and be monitored initially in the simulator by a DGCA Inspector, prior to conducting lower limits checks on company personnel;
 - (ii) the crew will consist of a pilot-in-command and a second-in-command and the company check pilot or the DGCA Inspector will not form part of the crew;



- (iii) the proficiency check (initial and recurrent) for each flight crew member shall include at least one RVR 1200'/DH 100' approach to a missed approach during which a practical emergency (e.g. engine fire) is introduced to assess crew coordination, plus a subsequent RVR 1200'/DH 100' ILS approach to a landing; and
- (iv) the lower limits certification shall be annotated on the Pilot Check Report and a copy shall be retained by the air operator in the respective pilot file.

s704.09 to s704.11 Reserved



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DIVISION III - FLIGHT OPERATIONS

s704.12 to s704.13 Reserved

s704.14 Scheduled Air Service Requirements

The standard for scheduled operations into or out of an uncertified aerodrome is as follows:

The operation shall be conducted under conditions established by the Minister which require the air operator and the aerodrome operator to ensure a level of safety in respect to the use of the aerodrome that is equivalent to the level of safety established by Part III, Subpart 2 (TBD) of the Lebanese Aviation Regulations.

s704.15 Operational Control System

Operations conducted under Part VII, Subpart 4 of the Lebanese Aviation Regulations require a Type C or D operational control system. Another organization may be contracted to exercise operational control on behalf of an air operator.

Type C Operational Control System

General

- (a) Application. A Type C operational control system shall apply to Commuter Operations using helicopters operating under Instrument Flight Rules (IFR) and Visual Flight Rules (VFR) at night.
- (b) Responsibility and Authority. Operational control is delegated to the pilot-in-command of a flight by the Operations Manager, who retains responsibility for the day to day conduct of flight operations.
- (c) Centers. Current information on the location of the air operator's helicopters shall be maintained at the main base of operations, its sub-base or, where appropriate, the location from which flight following is being carried out.
- (d) Communications. Each aircraft shall maintain two-way communications with a ground radio station for the purpose flight following. Such ground stations may be operated by the government, the air operator or a private agency.
- (e) Dispatch Release. Flights operated under this system are self dispatched and released by the pilot-in-command.
- (f) Flight Following. Flight Following for a Type C system is the monitoring of a flight's progress, the provision of such operational information as may be required by that flight, and the notification of appropriate air operator and search and rescue authorities if the flight is overdue or missing.

Flight Following procedures and the standards of training and qualification for the individual performing this function shall be described in the air operators Company Operations Manual.

The pilot-in-command is solely responsible for flight watch but shall be supported by an air operator provided flight following system containing the following elements:

 a person knowledgeable in the air operator's flight alerting procedures, on duty and able to respond to requests by the pilot-in-command for information related to the flight. Such information shall include meteorological information without analysis or interpretation;



- (ii) the progress of each flight from its commencement to its termination, including any intermediate stops, shall be monitored, which may be done by the same person as in Subsection (i) above; and
- (iii) the pilot-in-command shall be responsible for passing messages concerning landings and departures from point of origin, enroute stops and final destination to the person described in Subsection (i) above.

Type D Operational Control System

General

- (a) Application. A Type D operational control system shall apply to Commuter Operations using helicopters under Visual Flight Rules (VFR) during day.
- (b) Responsibility and Authority. Operational control is delegated to the pilot-in-command of a flight by the Operations Manager, who retains responsibility for the day to day conduct of flight operations.
- (c) Centers. Current information on the location of the air operator's helicopters shall be maintained at the main base of operations, its sub-base or, where appropriate, at the location from which flight following is being carried out.
- (d) Communications. Each helicopter shall maintain two-way communications with a ground radio station for the purpose of flight following. Such ground stations may be operated by the government, the air operator or a private agency.
- (e) Flight Following. Flight Following for a Type D system is the monitoring of a flight's progress and the notification of appropriate company and search and rescue authorities if the flight is overdue or missing. Each flight shall be conducted under a Flight Plan or Flight Itinerary as appropriate.

A person knowledgeable in company flight alerting procedures shall be on duty or available when operations are being conducted.

s704.16 Reserved

s704.17 Operational Flight Plan

(1) For day VFR operations, the flight plan or flight itinerary may constitute the operational flight plan. A flight itinerary for day VFR may be in the form of a notice board, wall map or similar flight information system at the base of operations. A written copy of the operational flight plan need not be carried or retained by the operator for day VFR local flights which originate and terminate on the same day at the same aerodrome.

(2) Minimum Content of an Operational Flight Plan - VFR Night and IFR Operations

- (a) air operator name;
- (b) date;
- (c) aircraft registration, type and model;
- (d) type of flight IFR, VFR Night;
- (e) pilot-in-command name;
- (f) departure aerodrome;
- (g) destination aerodrome;
- (h) alternate aerodrome, if applicable;
- (i) routing to destination by successive navigational way points with associated tracks for each, or proposed area of operation;
- (j) routing to alternate aerodrome (IFR only, if applicable);
- (k) planned cruise altitudes;
- (l) planned cruise True Air Speed;

(m) estimated time enroute and, if applicable, to alternate;

- (n) wind and temperature at cruise altitude;
- (o) fuel on board and fuel required;
- (p) cruise Ground Speed;
- (q) number of persons on board;
- (r) fuel burn enroute;
- (s) weights:
 - (i) zero fuel weight;
 - (ii) fuel, cargo and passenger weight; and
 - (iii) take-off weight; and
- (t) signature of pilot-in-command certifying the operational flight plan.

(3) Aircraft assigned to dedicated air ambulance operations may develop and use a modified operational flight plan provided an acceptable comparable system is shown.

(4) The operational flight plan shall permit the flight crew to record the fuel state and the progress of the flight relative to the plan.

(5) the air operator shall specify in its Company Operations Manual how formal acceptance of the operational flight plan for IFR and VFR at night flights is to be recorded.

s704.18 to s704.23 Reserved

s704.24 VFR Flight Minimum Visibility - Uncontrolled Airspace

The standard for reduced VFR visibility limits of one half mile in uncontrolled airspace for helicopters is as follows:

- (a) Pilot Experience. Before conducting operations in reduced visibility, pilots shall have at least 500 hours of pilot-in-command experience in helicopters;
- (b) Airspeed for Operation in Reduced Visibility. Helicopters shall be operated at a reduced air speed that will provide the pilot-in-command adequate opportunity to see and avoid obstacles;
- (c) Pilot Training. The pilot shall have received training as follows:
 - (i) a one time attendance at a DGCA recognized Pilot Decision Making course which shall include, but not be limited to the following topics:
 - A. Human Performance Factors, including modules on fatigue, hypoxia, nourishment, medication, balance and sight phenomena and limitations;
 - B. The Decision Making Process, including modules on psychological factors, levels of performance, and "error trap" phenomena (unsafe actions taken as a result of wrongful assumptions, unsafe conditions or practices);
 - C. Human Error Countermeasures, highlighted by relevant case studies of past accidents; and
 - D. Stress and its Symptoms, including modules on recognizing and dealing with perceived pressures, family related stress and job related stress; and
 - (ii) initial and annual recurrent flight training in procedures specified in the Company Operations Manual for operations in reduced visibility; and
- (d) Company Operations Manual. The Company Operations Manual shall, in addition to the training procedures referred to in Subsection (c)(ii) above, contain low visibility operational procedures and pilot decision making considerations for operation in visibility conditions of less than one mile. These considerations shall include, but not be limited to:
 - (i) gross weight,
 - (ii) wind,
 - (iii) weather,
 - (iv) route / terrain,
 - (v) time of day,
 - (vi) communications, and



(vii) the potential for white-out.

s704.25 Reserved

s704.26 Take-off Minima

(1) The standard for authorization for a take-off where the weather conditions are at or above landing minima but below the landing minima is that a take-off alternate aerodrome which is within 60 minutes flying time at normal cruise must be specified in the IFR flight plan.

(2) The standard for authorization for take-off in IMC below the weather minima specified in the DGCA Approved Aeronautical Charts or in an equivalent foreign publication is as follows:

- (a) the Company Operations Manual shall contain detailed guidance on how to determine departure one engine inoperative climb gradient and obstacle clearance;
- (b) the take-off runway is equipped with:
 - (i) serviceable and functioning high intensity runway lights, runway center-line lights and line-line markings that are plainly visible to the pilot throughout the take-off; and
 - (ii) at least one transmissometer, situated at either the approach end or mid point of the take-off runway with a reading of not less than RVR 600 feet;
- (c) the pilot-in-command is satisfied that the required RVR 600 feet visibility exists for the takeoff runway and visual reference to the runway can be maintained at least until V_{toss} (take-off safety speed) and V_{mini} (instrument flight minimum speed) have been attained;
- (d) the pilot-in-command and second-in-command attitude (artificial horizon) instruments incorporate pitch attitude index lines in appropriate increments above and below the zero pitch reference to at least 15 degrees and incorporate operative failure warning systems which will immediately detect essential instrument malfunction or failure; and
- (e) the pilot-in-command, and the second-in-command if authorized by the air operator for RVR 600 feet take-off, shall have been checked conducting RVR 600 feet take-offs and rejected take-offs by an approved company check pilot or a DGCA Inspector within the preceding 12 months in a synthetic flight training device capable of visually depicting RVR 600 feet. The RVR 600 feet take-off certification shall be annotated on the Pilot Check Report form.

s704.27 Reserved

s704.28 VFR OTT Flight

The standard for VFR over-the-top flight for helicopters carrying passengers is:

(1) the flight shall be conducted in accordance with the requirements of Part VI, Subpart 2 (Visual Flight Rules) of the Lebanese Aviation Regulations;

(2) for IFR certified helicopters, where the pilot holds a valid helicopter instrument rating, the flight shall be conducted under conditions allowing, if an engine fails, descent under VMC conditions or continuation of the flight under IFR or VFR; and

(3) for helicopters not certified for IFR or where the pilot does not hold a valid helicopter instrument rating, the flight shall be conducted under conditions allowing, if an engine fails, descent or continuation of the flight under VMC conditions.

s704.29 Routes in Uncontrolled Airspace

The standard for establishing routes in uncontrolled airspace is:

(1) A minimum obstruction clearance altitude (MOCA) shall be established for each route segment by the use of DGCA Approved Aeronautical Charts for updating of significant obstructions as follows:

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- (a) for flight under IFR a minimum altitude of 2000 feet above the highest obstacle located within a horizontal distance of 10 miles from the center line of route, except where the flight is conducted offshore, in which case a minimum altitude of 1000 feet above the highest obstacle located within a horizontal distance of 3 miles from the center line of the route may be used; and
- (b) for flight at night in VFR conditions a minimum altitude of 1000 feet above the highest obstacle located within 3 miles from the center line of the route.

(2) For each route segment a minimum enroute altitude (MEA) shall be established which meets or exceeds the minimum obstruction clearance altitude and assures navigational signal coverage. For line of sight navigation aid reception distance for ground installed aids, the minimum reception altitude may be calculated by calculating the square root of an altitude above the navigation aid and multiplying the result by 1.25 (Sq. root 3000 ft. is $54.7 \times 1.25 = 68$ miles). The MEA will be established to the nearest higher 100 foot increment.

(3) Each route shall include:

- (a) the route segment; (1)
- (b) track;
- (c) MOCA;
- (d) MEA;
- (e) distance between fixes or waypoints; and
- (f) navigation aids.

(4) The air operator shall maintain a record of their company routes in a form and format similar to the catalogue of approved company routes.

Provided the above procedures are followed, an air operator's pilot may use routes that are not yet contained in the record of company routes.

(5) Prior to initial use of other than publicly available navigation aids, permission of the owner/operator shall be obtained and retained in company records. No VFR at night or IFR flights shall commence unless the navigation aids upon which the route is predicated are in satisfactory operating condition. When company routes are predicated on other than a publicly available navigation aid and arrangements have not been made with the owner/operator to advise when the navigation aid is out of service, instructions to pilots shall be included on how, and whom to contact, to confirm the status of the navigation aid.

(6) The air operator's Company Operations Manual shall be amended to outline the above procedures and information for pilot guidance.

(7) The flight visibility shall not be less than 3 miles for flights in VFR at night.

s704.30 Reserved

s704.31 Minimum Altitudes and Distances

(1) For air operator authority to operate a helicopter over a built-up area at altitudes and distances less than those specified in Section 602.14 of the Lebanese Aviation Regulations or to conduct a landing or take-off within the built-up area of a city or town a plan shall be submitted to the DGCA at least five working days in advance of the operation and include:

- (a) certification that the governing municipality have been informed of the proposed operation;
- (b) purpose of the flights;
- (c) dates, alternate dates and proposed time of day of the operation;
- (d) location of the operation;
- (e) type of aircraft to be used;
- (f) altitudes and routes to be used and depicted on a map of the area;

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- (g) procedures and precautions to be taken to ensure no hazard is created to persons or property on the surface, including locations of forced landing areas in the event of an emergency; and
- (h) name of contact person designated by the air operator.

(2) For operating certificate authority, the air operator shall submit an application providing the above information as applicable, show a requirement for operating certificate authority and amend its Company Operations Manual to include the routes and conditions for its use.

s704.32 Weight and Balance Control

An air operator shall publish in its Company Operations Manual a system to ensure that during any phase of flight operations the loading, weight and center of gravity of the helicopter complies with the limitations specified in the approved flight manual.

The weight and balance system shall:

- (a) establish an operational empty weight and center of gravity for each helicopter and configuration;
- (b) establish passenger and cargo weight determination procedures. Weight of passengers and cargo may be determined by using approved standard weights or approved survey weights for passengers and actual weight of cargo;
- (c) establish weights for calculation of fuel weight which may be determined using actual specific gravity or a standard specific gravity;
- (d) provide weight and center of gravity forms for calculation of maximum take-off and landing weights and calculation of longitudinal and lateral CG position;
- (e) establish preparation and disposition requirements of weight and balance forms;
- (f) establish loading procedures including floor loading limits and cargo restraint requirements; and
- (g) provide for initial and annual system training to air operator personnel responsible for the weight and balance system.

The weight and center of gravity computation may be incorporated into the operational flight plan form or be a separate form.

s704.33 Apron and Cabin Safety Procedures

(1) Safe Movement of Passengers to and from Helicopters. The procedures for the safe movement of passengers to and from the helicopter shall include:

- (a) wherever possible, helicopters are parked in a location that avoids passenger exposure to hazardous conditions;
- (b) passengers are alerted to hazardous conditions;
- (c) guidance, and where necessary an escort is provided to ensure passengers are directed along a safe route to or from the helicopter;
- (d) an escort is assigned to control passenger movements when the route to or from the helicopter is congested by other aircraft or vehicles or when required by the Air Carrier Security Measures;
- (e) passengers are not exposed to hazards from aircraft operations, refueling equipment, exposure to jet blasts, engines, rotors or propellers, or to the hazards posed by lighting conditions, obstacles positioned along the route or unsafe surface or stairway conditions;
- (f) smoking restrictions are enforced;
- (g) "Walkman" or similar entertainment system headsets that decrease awareness of other traffic or limit reception of audible direction or warning signals, are not worn;
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- (h) the procedures shall be incorporated in training programmes and training will be provided to crew members, ground handling and passenger agent staff (including contract personnel) involved with the transfer of passengers between the terminal building and the helicopter; and
- (i) the training will be adequate to ensure that personnel are fully aware of their responsibilities, are able to perform their assigned duties for the safety of passengers and know to whom the air operator personnel report in the application of their responsibilities. Where there is an overlap in the duties/responsibilities assigned to personnel, the training will ensure that the trainees know the relationship of their duties/responsibilities to those of the other personnel involved.

(2) Fuelling with Passengers on Board. Helicopters may be fuelled with passengers on board, embarking or disembarking under the following conditions:

- (a) in order to ensure that crew members receive prompt notification of a situation threatening safety such as fuel spill or a fire, two way communication is maintained between the ground crew supervising the fuelling and the qualified personnel on board the helicopter so that the helicopter can be disembarked or evacuated as necessary.
- (b) a means of communication among the qualified personnel on board the helicopter, ground/maintenance crews and fuelling agencies is determined and established and the procedures are provided to the appropriate personnel.
- (c) the helicopter engines are not running.
- (d) during the fuelling process:
 - (i) ground power generators or other electrical ground power supplies are not being connected or disconnected;
 - (ii) heaters installed on the helicopter are not operated;
 - (iii) other combustion heaters used in the vicinity of the helicopter are manufactured to Lebanese standards and approved in accordance with the Fire Commissioner of Lebanon for use in hazardous atmosphere;
 - (iv) known high energy equipment such as High Frequency (HF) radios are not operated, unless in accordance with the helicopter manufacturer's approved flight manual where the manual contains procedures for the use of this equipment during fuelling;
 - (v) weather-mapping radar equipment in the helicopter is not operated unless in accordance with the manufacturer's approved flight manual where the manual contains procedures for use during fuelling;
 - (vi) helicopter batteries are not being removed or installed;
 - (vii) external battery chargers are not being connected, operated or disconnected,
 - (viii) electric tools or similar tools likely to produce sparks or arcs are not being used, and;
 - (ix) photographic equipment is not used within 10 ft. (3m) of the fuelling equipment or the fill or vent points of the helicopter fuel systems.
- (e) fuelling is immediately suspended when there are lightning discharges within 8 km of the aerodrome.
- (f) the helicopter is fuelled in accordance with manufacturer's procedures for that type of helicopter.
- (g) the helicopter emergency lighting system is armed or on if so equipped.
- (h) "No Smoking" signs on board the helicopter are illuminated if so equipped.
- (i) procedures are established to ensure that passengers do not smoke, operate portable electronic devices or otherwise produce sources of ignition.
- (j) the designated evacuation exits during fuelling are identified by helicopter type and published in the Company Operations Manual, and are clear and available for use by passengers and crew members should an evacuation be required.
- (k) the air operator has procedures in place to ensure that there is a ready escape route from each designated evacuation exit during fuelling.
- (1) a qualified person trained in the operation and use of emergency exits and in emergency evacuation procedures is ready to initiate and direct an evacuation and is at or near the door.
- (m) where desirable for climatic reasons a boarding door may be closed, but may not be latched.



s704.34 Briefing of Passengers

(1) Standard Safety Briefing. The standard safety briefing shall consist of an oral briefing provided by a crew member or by audio or audio-visual means which includes the following information as applicable to the helicopter, equipment, and operation:

- (a) prior to embarking passengers, rotor running embarking and disembarking procedures;
- (b) prior to take-off:
 - (i) when, where, why and how carry-on baggage is required to be stowed;
 - (ii) the fastening, unfastening, tightening and general use of safety belts or safety harnesses;
 - (iii) when tables are to be stowed and seats secured in the upright position;
 - (iv) the location of emergency exits, exit location signs, and how the exit operates;
 - (v) the location, purpose of, and advisability of reading the safety features card;
 - (vi) the requirement to obey crew instructions;
 - (vii) the use, location, operation and deployment, as applicable, of emergency equipment such as life rafts, life preservers, ELT, survival equipment and first aid kit including means of access if in a locked compartment;
 - (viii) the air operator's policy on the use of portable electronic devices;
 - (ix) instructions for immersion suits;
 - (x) where applicable to wide body helicopters the method of egress in event of a roll-over accident by use of the under seat frame of the transverse cabin seats as a ladder for egress; and
 - (xi) any special instructions related to emergency evacuation if the helicopter is configured with external fixtures (e.g. ski racks);
- (c) after take-off, if not included in the pre take-off briefing:
 - (i) smoking is prohibited; and
 - (ii) the advisability of using safety-belts or safety harnesses during flight;
- (d) in-flight because of turbulence:
 - (i) when the use of seat belts is required; and
 - (ii) the requirement to stow carry-on baggage; and
- (e) prior to disembarking of passengers, the safest direction and most hazard-free route for passenger movement away from the helicopter and any hazards associated with the helicopter type such as pitot tube locations, antennae, and rotors.

Where no additional passengers have boarded the flight for subsequent take-offs on the same day, the pre-take-off and after take-off briefing may be omitted provided a crew member has verified that all carry-on baggage is properly stowed, safety belts or harnesses are properly fastened, and seat backs and chair tables are properly secured.

- (2) Individual Safety Briefing. The individual safety briefing shall include:
 - (a) any information contained in the standard safety briefing and the safety features card that the passenger would not be able to receive during the normal conduct of that safety briefing; and
 - (b) additional information applicable to the needs of that person as follows:
 - (i) the most appropriate brace position for that passenger in consideration of his/her condition, injury, stature, and/or seat orientation and pitch;
 - (ii) the location to place any service animal that accompanies the passenger;
 - (iii) for a mobility restricted passenger who needs assistance in moving expeditiously to an exit during an emergency:
 - A. a determination of what assistance the person would require to get to an exit;
 - B. the route to the most appropriate exit;
 - C. the most appropriate time to begin moving to that exit; and



- D. a determination of the most appropriate manner of assisting the passenger;
- (iv) for a visually impaired person:
 - A. detailed information of and facilitating a tactile familiarization with the equipment that he/she may be required to use;
 - B. advising the person where to stow his/her cane if applicable;
 - C. the number of rows of seats between his/her seat and his/her closest exit and alternate exit;
 - D. an explanation of the features of the exits; and
 - E. if requested, facilitating a tactile familiarization of the exit;
- (v) for a comprehension restricted person, while using the safety features card, point out the emergency exits and alternate exit(s) to use, and any equipment that he/she may be required to use;
- (vi) for persons with a hearing impairment;
 - A. while using the safety features card, point out the emergency exits and other equipment that the person may be required to use; and
 - B. communicating detailed information by pointing, face-to-face communication permitting speech reading, pen and paper, through an interpreter or through their attendant;
- (vii) for a passenger who is responsible for another person on board, information pertinent to the needs of the other person as applicable:
 - A. in the case of an infant:
 - seat belt instructions;
 - method of holding infant for take-off and landing;
 - > instructions pertaining to the use of a child restraint system; and
 - recommended brace position; and
 - B. in the case of any other person:
 - > instructions pertaining to the use of a child restraint system; and
 - evacuation responsibilities; and
- (viii) for an unaccompanied minor, instructions to pay close attention to the normal safety briefing and to follow all instructions.

A passenger that has been provided with an individual safety briefing need not be re-briefed following a change in crew if the crew member that provided the individual safety briefing has advised a member of the new crew of the contents of that briefing including any information respecting the special needs of that passenger.

A passenger may decline an individual safety briefing.

(3) Passenger Preparation for an Emergency Landing. The emergency briefing provided in the event of an emergency where time and circumstances permit shall consist of instructions pertaining to:

- (a) safety belts or safety harnesses;
- (b) seat backs and tables;
- (c) carry-on baggage;
- (d) safety features cards;
- (e) brace position (when to assume, how long to remain); and
- (f) if applicable, life preservers.

s704.35 Safety Features Card

The safety features card shall contain the following information as applicable to the helicopter and equipment carried:

(a) general safety information including:



- (i) smoking restrictions;
- (ii) each type of safety belt or safety harness installed for passenger use, including when to use, and how to fasten, tighten and release; and
- (iii) when and where carry on baggage must be stowed; and any other related requirements and restrictions pertinent to that particular helicopter;
- (b) emergency procedures and equipment including:
 - (i) location of first aid kits;
 - (ii) location of fire extinguishers that would be accessible to the passengers;
 - (iii) location of Emergency Locator Transmitters;
 - (iv) location of survival equipment, and if the stowage compartment is locked, the means of access or location of the key;
 - (v) passenger brace position for impact, as appropriate for each type of seat and restraint system installed for passenger use; including the brace position for an adult holding an infant;
 - (vi) method of egress in event of a roll-over accident;
 - (vii) the location, operation and method of using each exit type on the helicopter, including identification of those emergency exits known to be rendered unusable in a ditching or because of helicopter configuration;
 - (viii) the safest direction and most hazard-free escape route for passenger movement away from the helicopter following evacuation;
 - (ix) the attitude of the helicopter while floating;
 - location of life preservers, flotation devices and correct procedures for removal from stowage/packaging; donning and use of the life preservers for adult, child and infant users including when to inflate; and
 - (xi) location and use of life rafts;
- (c) the safety card shall bear the name of the air operator and the helicopter type and shall contain only safety information; and
- (d) the safety information provided by the card shall:
 - (i) be accurate for the helicopter type and configuration in which it is carried and in respect of the equipment carried;
 - (ii) be presented with clear separation between each instructional procedure. All actions required to complete a multi-action procedure to be presented in correct sequence and the sequence of actions to be clearly identified; and
 - (iii) be depicted in a clear and distinct manner.

s704.36 to s704.43 Reserved



DIVISION IV - AIRCRAFT PERFORMANCE OPERATING LIMITATIONS

s704.44 to s704.61 Reserved

DIVISION V - HELICOPTER EQUIPMENT REQUIREMENTS

s704.62 to s704.82 Reserved





DIVISION VI - EMERGENCY EQUIPMENT

s704.83 Reserved

s704.84 Equipment Standards and Inspection

- (1) Survival Equipment Flights Over Land. The Company Operations Manual shall:
 - (a) show how compliance with Section 602.61 of the Lebanese Aviation Regulations is to be achieved;
 - (b) list equipment on board, information on how to use it and include, as appropriate for the season and climate, a survival manual; and
 - (c) include crew member training in accordance with Subsection s704.115(3)(c).
- (2) Survival Equipment Flights Over Water. Where life rafts are required to be carried in

accordance with Section 602.63 of the Lebanese Aviation Regulations they shall be equipped with an attached survival kit containing at least:

- (a) pyrotechnic signaling devices;
- (b) whistle, signaling mirror and dye marker;
- (c) a waterproof flashlight;
- (d) a raft inflation pump and raft knife;
- (e) a bailing bucket, sponge and liferaft repair kit;
- (f) a radar reflector;
- (g) a fishing kit and sea survival manual;
- (h) a two day water supply calculated using the overload raft capacity and consisting of one pint of water per day per person or a means of desalting salt water to equivalent amount; and
- (i) a first aid kit containing antiseptic swabs, burn dressing compresses, bandages and motion sickness pills.

(3) First Aid Kit. The contents of the first aid kit required by Section 602.60 of the Lebanese Aviation Regulations shall contain the supplies and equipment for a Type A kit and, in addition, each first aid kit shall contain one pair of latex gloves.

s704.85 to s704.105 Reserved





DIVISION VII - PERSONNEL REQUIREMENTS

s704.106 to s704.107 Reserved

s704.108 Crew Member Qualifications

- (1) Pilot Proficiency Check
 - (a) the pilot proficiency check shall be conducted in accordance with the Pilot Proficiency Check Requirements of this subsection.
 - (b) a pilot proficiency check shall be conducted in a manner that enables the pilot to demonstrate the knowledge and the skill respecting:
 - (i) the helicopter, its systems and components;
 - (ii) proper control of airspeed, direction, altitude, attitude and configuration of the helicopter, in accordance with the procedures and limitations set out in the operating manual where applicable, the helicopter flight manual, the air operator's Company Operations Manual, the air operator's standard operating procedures, the check list, and any other information relating to the operation of the helicopter type;
 - (iii) departure, enroute and arrival procedures and other applicable procedures; and
 - (iv) each maneuver or procedure within a phase of flight specified in the Pilot Proficiency Check shall be performed in the helicopter or approved synthetic flight training device.
 - (c) a pilot-in-command check shall be completed in the seat normally occupied by the pilot-incommand.
 - (d) a DGCA Inspector or an approved company check pilot shall determine whether a person has demonstrated the knowledge and the skill in accordance with the following factors:
 - (i) the pilot's adherence to approved procedures; and
 - (ii) the pilot's qualities of airmanship in selecting a course of action.
 - (e) during the pilot proficiency check the person conducting the check may request any maneuver or procedure from the Schedule to this Section required to determine the proficiency of the candidate.
 - (f) where the pilot is required to hold an instrument rating, the PPC shall include the instrument procedures portion of the schedule. This shall constitute the issue or renewal of the instrument rating. Where more than one type which requires an instrument rating is flown, the PPC on only one of these types need include instrument procedures.
 - (g) synthetic flight training device (FTD) checking and training credits shall be approved by the DGCA in the training program approval process for each helicopter type. Training and checking procedures not approved for the FTD shall be completed in the helicopter.

(2) Use of Other Than an Air Operator Employee Pilot for Training and Checking. Authority may be given for other than an air operator employee pilot who has not completed the requirements of Subsections 704.108(1)(b), (c), and (d) of the Lebanese Aviation Regulations to act as a flight crew member when giving training, conducting line indoctrination and while flight crews are completing the minimum flight time requirements on a new helicopter type. The following are the conditions governing this authorization:

- (a) the air operator shall provide a resume on behalf of the pilot containing proof of background on helicopter type and recent experience appropriate to the assignment;
- (b) the pilot shall be the holder of an appropriate license and ratings. Where the pilot holds a foreign pilot license the license and, as applicable, the instrument rating shall be validated by the DGCA;
- (c) the pilot may be authorized to conduct pilot checks provided the requirements of the Company Check Pilot Manual are met with the exception of employment time with the air operator; and
- (d) a foreign licensed pilot may be granted authority only when a Lebanese licensed pilot is not available.



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HELICOPTER SCHEDULE - Pilot Proficiency Check

- (1) Pre-flight Phase
 - (b) Flight Planning
 - (i) a practical oral examination on applicable flight planning procedures, flight planning information sources and maintenance release procedures; and
 - (ii) a practical oral examination on the helicopter flight manual including limitations, loading, weight and balance, applicable flight manual supplements and the significance and use of performance charts.
 - (c) Pre-flight Inspection
 - a visual and, as applicable, functional exterior and interior inspection of the helicopter to show a practical knowledge of the airframe, major components, systems and applicable servicing procedures;
 - (ii) use of check lists and procedures including engine and system checks; and
 - (iii) pre-flight checks of communications, navigation, electrical, flight instruments and ice protection systems as appropriate.
- (2) Flight Phase
 - (a) Taxiing and Hover Maneuvers
 - taxiing includes, when appropriate to the helicopter configuration, both ground and air taxi and, where a second-in-command is undergoing the pilot proficiency check, taxiing to the extent practical from the second-in-command position;
 - (ii) taxiing in compliance with instructions issued by air traffic control or by the person conducting the pilot proficiency check;
 - (iii) compliance with appropriate taxi, hover and pre-departure check procedures;
 - (iv) 360 degree hover turns, sideward and rearward hovering maneuvers and, when practical, out of wind stationary hovering;
 - (v) landing from a hover to a sloped surface and take-off to a hover from a sloped surface; and
 - (vi) landing following simulated engine failure during hover or air taxi.
 - (b) Departure, Air Work, Approaches
 - (iv) normal transition to forward flight, climb to assigned altitude and normal approach and landing;
 - (v) for single-engine and multi-engine helicopters a take-off with a rapid deceleration or rejected take-off procedure;
 - (vi) for multi-engine helicopters a simulated failure of one engine during take-off that will allow continued climb in forward flight;
 - (vii) at assigned altitude climbs, descents and level flight throughout the normal speed range of the helicopter including steep turns with a change of heading of at least 180 degrees but not more than 360 degrees;
 - (viii) for single-engine helicopters autorotation approaches terminating at a pre-determined area in a landing or power recovery. At least one approach shall require a turn during autorotation descent through at least 180 degrees;
 - (ix) for multi-engine helicopters a simulated engine failure at assigned cruise altitude and an approach and landing with one engine inoperative;
 - (x) confined landing area procedure and approach terminating in a landing, hover or rejected approach and, when practical, a confined area departure; and
 - (xi) steep approach which may be combined with the confined area procedure.
 - (c) Instrument Procedures. Instrument procedures will consist of IFR pre-flight preparation, departure and enroute procedures, terminal procedures and system malfunctions.
 - (i) instrument take-off so that instrument flight conditions are entered or simulated at or before reaching an altitude of 200 feet above take-off elevation;
 - (ii) an area departure and an area arrival procedure where the pilot:



- A. adheres to actual or simulated air traffic control clearances and instructions; andB. properly uses available navigation facilities;
- (iii) a holding procedure that may be combined with an area arrival or departure and includes entry to, maintaining of and leaving a holding pattern;
- (iv) at least two instrument approaches performed in accordance with procedures and limitations for the approach facility used;
- (v) at least one missed approach procedure and at least one landing after transition from an instrument approach procedure; and
- (vi) emergencies and system malfunctions may be simulated during any phase of the flight.
- (d) Normal and Abnormal Procedures. The pilot shall demonstrate use of as many of the normal and abnormal procedures for installed systems, devices and aids as the person conducting the check find necessary to determine that the pilot has the knowledge and ability to properly use installed equipment such as:
 - (i) anti-icing and de-icing systems;
 - (ii) automatic flight control and auto-pilot systems; and
 - (iii) weather radar.
- (e) Emergency Procedures, Malfunctions and Flight Characteristics
 - (i) Emergency and Malfunctions. The pilot shall demonstrate or where demonstration is impractical, show knowledge of, proper procedures for as many of the emergency situations and malfunctions listed below as necessary to determine adequate knowledge and ability:
 - A. fire in flight;
 - B. smoke control;
 - C. anti-torque control failure and malfunctions;
 - D. emergency descent;
 - E. hydraulic and electrical system failures and malfunctions;
 - F. flight instrument system failure and malfunction; and
 - G. any emergency procedure included in the flight manual or helicopter operating manual.
 - (ii) Flight Characteristics. The pilot shall show a practical knowledge of:
 - A. settling with power, vortex ring state and dynamic rollover to determine that the pilot is aware of causes, prevention and appropriate recovery procedures; and
 - B. applicable flight characteristics peculiar to the helicopter type and configuration.



s704.109 Qualifications of Operational Control Personnel

A person shall successfully complete the training program outlined in Section s704.115 for a position in operational control.

s704.110 Reserved

s704.111 Crew Member Validity Period

(1) Where a flight crew member's training has expired for a period of 24 months or more, that crew member shall successfully complete the air operator's initial training program on the type of helicopter.

(2) Where a flight crew member's pilot proficiency check has expired for a period of 24 months or more, that flight crew member shall, following completion of the air operator's initial helicopter type ground and flight training, successfully complete the pilot proficiency check on the type of helicopter.

s704.112 to s704.114 Reserved



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DIVISION VIII - TRAINING

s704.115 Training Program

The syllabus of each training program shall include the programmed time allotted and the subject matter to be covered.

(1) General Training Standard

- (a) manuals, if applicable, shall be provided during training to each trainee on the subject matter to be taught;
- (b) relevant training aids such as fire extinguishers, life preservers, rafts, aircraft components, static aircraft, etc. shall be available relevant to the program being presented; and
- (c) comprehensive examinations shall be used to validate competence of the trainee.

(2) Flight Crew Training on a Contract Basis. An air operator may contract crew member training to another organization provided:

- (a) the arrangement is clearly provided for in the approved training program;
- (b) the outside organization uses the manuals and publications used by the air operator (SOP's, Aircraft Flight Manual, Aircraft Operating Manual, if applicable, Company Operations Manual, etc.);
- (c) the air operator ensures that the training is conducted in accordance with the approved program;
- (d) where type training is conducted the training is provided on the type and model operated by the air operator unless otherwise provided for in the approved training program; and
- (e) the air operator maintains training records as required by Part VII, Subpart 4 of the Lebanese Aviation Regulations.

(3) Training Facilities. Training facilities shall be adequate to ensure that training objectives can be achieved. Facilities shall be:

- (a) quiet and free of distractions;
- (b) suitably lighted for the type of instructions to be given, e.g. lectures, slides and audio-visual;
- (d) furnished with sufficient desks, chairs, chalkboards and other appropriate equipment; and
- (e) equipped with training aids such as films, Vu-graphs, system components, audio-visual, helicopter manuals or computer based systems.
- (4) Training and Qualifications of Training Personnel
 - (a) Instructor Ground Training
 - (i) has satisfied the air operator that he/she has the knowledge and skills required to conduct the training; and
 - (ii) if conducting helicopter type training has successfully completed the ground school for the type of helicopter.
 - (b) Qualifications and Responsibilities of a Training Pilot (Flight)
 - (i) Qualifications
 - A. hold the license and ratings appropriate for the type of helicopter and type of operation;
 - B. be qualified for line flying on the type of helicopter; and
 - C. know the content of the Rotorcraft Flight Manual, Aircraft Operating Manual (if applicable), Company Check Pilot Manual, Company Operations and Training Manuals and the operator's Standard Operating Procedures for the helicopter type, and the provisions of the regulations and standards.
 - (ii) Responsibilities. The Training Pilot is responsible for monitoring the operation and identifying problems which may require the provision of extra training or changes in operational procedures. The training pilot is responsible, together with the Chief Pilot, for the establishment and promulgation of the standards and piloting techniques with



which flight crew will be expected to comply during flight operations and which the flight crew will be required to demonstrate during initial and recurrent checks. Particular responsibilities are:

- A. conducting ground, synthetic flight training device and flight training of all flight crew in accordance with the approved training program;
- B. supervision of the standards and recommending amendments to their respective helicopter operating manuals and standard operating procedures;
- C. maintaining the air operator's training records;
- D. liaison with crew scheduling concerning training details; and
- E. any responsibilities assigned by the Chief Pilot.
- (c) Qualifications and Responsibility of a Training Pilot (Synthetic Training Device)
 - (i) Qualifications
 - A. hold or have held the license and ratings appropriate for the type of helicopter and type of operation;
 - B. have completed the air operator's ground school and synthetic training device program for the type of helicopter;
 - C. have successfully completed within the past 12 months a pilot proficiency check in the synthetic training device or helicopter for that type;
 - D. know the contents of the Aircraft Operating Manual (if applicable), Rotorcraft Flight Manual, Operations and Training Manuals and as applicable the Company Check Pilot Manual and the air operator Standard Operating Procedures for the helicopter type, and the provisions of the regulations and standards; and
 - E. have received instruction on the operation of the synthetic training device from an instructor qualified to operate the synthetic training device.
 - (ii) Responsibilities. The Training Pilot is responsible for monitoring the operation and identifying problems which may require the provision of extra training or changes in operational procedures. The training pilot is responsible, together with the Chief Pilot, for the establishment and promulgation of the standards and piloting techniques with which flight crew will be expected to comply during flight operations and which the flight crew will be required to demonstrate during initial and recurrent checks. Particular responsibilities are:
 - A. conducting ground and synthetic flight training of all flight crew in accordance with the approved training program;
 - B. supervision of the standards and recommending amendments to their respective helicopter operating manuals and standard operating procedures;
 - C. maintaining the air operator's training records;
 - D. liaison with crew scheduling concerning training details; and
 - E. any responsibilities assigned by the Chief Pilot.

Information Note: (1) Requirements for the use of other than an air operator employee pilot for training and checking are in Section s704.108.

> (2) The standard for air operator check pilots are those contained in the Company Check Pilot Manual (as amended).

(5) Training Program Standards. Ground training programs shall provide a means of evaluating the trainee after completion of the syllabus by completion of examination with a review and correction of any errors. Training examinations should be comprehensive, and periodically reviewed and updated.

Type training programs are to be titled as to the type of helicopter to which they apply and include the number of instructional hours to be provided. They should be performance oriented and stress the operation (normal, emergency and malfunctions) of the aircraft systems and equipment. Instruction



related to components and systems that flight crews cannot control, influence or operate should be minimized.

(6) Company Indoctrination Training. This training is required upon employment for all persons assigned to an operational control function including base managers, pilots and persons responsible flight following. The program shall ensure that persons involved in control of flight operations are aware of their responsibilities, know company reporting relationships and are competent to fulfill their assigned duties related to flight operations. Company indoctrination training shall include as applicable:

- (a) Lebanese Aviation Regulations and applicable Standards;
- (b) Air Operator Certificate and operating conditions;
- (c) company organization, reporting relationships and communication procedures, including duties and responsibilities of flight crew members and the relationship of those duties to other crew members;
- (d) flight planning and operating procedures;
- (e) fuelling procedures including procedures for fuelling with passengers on board and fuel contamination precautions;
- (f) critical surface contamination and safety awareness program;
- (g) passenger safety briefings and safe movement of passengers to/from the helicopter;
- (h) use and status of Company Operations Manual including maintenance release procedures and accident/incident reporting procedures;
- (i) use of minimum equipment lists (if applicable);
- (j) aircraft icing, and other meteorological training appropriate to the area of operations;
- (k) navigation procedures and other specialized operations applicable to the operator;
- (l) accident/incident reporting;
- (m) passenger on board medical emergency;
- (n) handling of disabled passengers;
- (o) operational control system;
- (p) weight and balance system procedures;
- (q) standard operating procedures (if applicable); and
- (r) pre-flight crew-member briefing.

(7) Technical Ground Training - Initial and Recurrent. This training shall ensure that each flight crew member is knowledgeable with respect to helicopter systems and all normal, abnormal and emergency procedures. The following subjects shall be included:

- (a) helicopter systems operation and limitations as contained in the helicopter flight manual and aircraft operating manual, and standard operating procedures;
- (b) operation of all equipment that is installed in all helicopter of the same type operated by the air operator;
- (c) differences in equipment that is installed in all helicopters of the same type in the air operators fleet;
- (d) applicable standard operating procedures for pilot flying and pilot not flying duties for normal, abnormal and emergency procedures for the helicopter;
- (e) helicopter performance and limitations; and
- (f) weight and balance procedures.

Technical ground training shall be conducted annually.

- (8) Synthetic Flight Training Device
 - (a) a Synthetic Flight Training Device has two classifications:
 - (i) full flight simulator (FFS); and
 - (ii) flight Training Device (FTD).

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(b) the DGCA encourages operators to conduct training on a simulator, or to use a combination of training in a FTD and helicopter.

(9) Level A Training Program (if applicable). An air operator with an approved Level A training program using a Level A or better FFS approved in accordance with the Airplane and Rotorcraft Simulator Manual, is permitted to conduct most initial, upgrade and recurrent training in that simulator. Additionally, flight training in a helicopter must be carried out for general handling and landing maneuvers for initial and upgrade training.

- (a) the following training in standard operating procedures for normal, abnormal and emergency operation of the helicopter systems and components shall be carried out in the FFS:
 - (i) use of checklists;
 - (ii) flight crew co-operation, command and co-ordination;
 - (iii) helicopter and cargo fire on the ground and while airborne;
 - (iv) engine fire and failure;
 - (v) effects of engine icing and anti-ice operation;
 - (vi) take-off, landing and flight with the critical engine inoperative and engine inoperative performance capabilities;
 - (vii) flight control failures and abnormalities;
 - (viii) hydraulic, electrical and other system failures;
 - (ix) failure of navigation and communication equipment;
 - (x) pilot incapacitation recognition and response during various phases of flight;
 - (xi) steep turns (45° of bank), and other flight characteristics such as unusual attitudes (as applicable for initial and upgrade only);
 - (xii) helicopter performance for climb, cruise, holding, descent and landing;
 - (xiii) normal, and performance limited take-offs;
 - (xiv) take-off and landing data calculations;
 - (xv) rejected take-off procedures;
 - (xvi) passenger and crew evacuation; and
 - (xvii) specialized airplane equipment (where available).
- (b) where the air operator seeks authorization for flight in IMC the following training in flight planning and instrument flight procedures shall be included:
 - (i) departure, enroute, holding and arrival; and
 - (ii) all types of instrument approaches and missed approaches in minimum visibility conditions using all levels of automation available (as applicable).
- (c) in addition to the training in a Level A FFS Training Program, the following flight training on the helicopter type shall be carried out:
 - (i) interior and exterior preflight checks;
 - (ii) ground handling for P-I-C;
 - (iii) hover, normal take-off, visual circuit (where possible) and landing;
 - (iv) a simulated engine inoperative approach and landing;
 - (v) simulated engine failure procedures during take-off and missed approach (at safe altitude and airspeed);
 - (vi) no electronic glide slope approach and landing; and
 - (vii) circling (if applicable) and other approaches where the simulator lacks the capability.
- (d) if a Level A flight simulator has differences in performance, systems, or cockpit layout and configuration from the air operator's helicopter, additional training on these differences shall be provided.

(10) Level B Training Program (if applicable). An air operator with an approved Level B training program using a Level B or better FFS approved in accordance with the Airplane and Rotorcraft Simulator is permitted to conduct most initial, upgrade and recurrent training in that simulator. Additionally, flight training in a helicopter must be carried out for general handling and landing maneuvers for initial and upgrade training.

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- (a) the following training in standard operating procedures for normal, abnormal and emergency operation of the helicopter systems and components shall be carried out in the FFS:
 - (i) use of checklists;
 - (ii) flight crew co-operation, command and co-ordination;
 - (iii) helicopter and cargo fire on the ground and while airborne;
 - (iv) engine fire and failure;
 - (v) effects of engine icing and anti-ice operation;
 - (vi) take-off, landing and flight with critical engine inoperative and engine inoperative performance capabilities;
 - (vii) flight control failures and abnormalities;
 - (viii) hydraulic, electrical and other system failures;
 - (ix) failure of navigation and communication equipment;
 - (x) pilot incapacitation recognition and response during various phases of flight;
 - (xi) steep turns (45° bank), and other flight characteristics such as unusual attitudes (as applicable for initial and upgrade only);
 - (xii) helicopter performance for climb, cruise, descent and landing;
 - (xiii) normal, and performance limited take-offs;
 - (xiv) take-off and landing data calculations;
 - (xv) rejected take-off procedures;
 - (xvi) passenger and crew evacuation; and
 - (xvii) specialized equipment (as applicable).
- (b) where the air operator seeks authorization for flight in IMC, the following training in flight planning and instrument flight procedures shall be included:
 - (i) departure, enroute, holding and arrival; and
 - (ii) all types of instrument approaches and missed approaches in minimum visibility conditions using all levels of automation available (as applicable).
- (c) in addition to the training in an approved Level B Simulator Training Program, the following flight training on the helicopter type shall be carried out:
 - (i) interior and exterior aircraft preflight checks;
 - (ii) ground handling for the P-I-C;
 - (iii) hover, normal take-off, visual circuit (where possible) and landing;
 - (iv) a simulated engine inoperative approach and landing;
 - (v) simulated engine failure procedures during take-off and missed approach, (at a safe altitude and airspeed);
 - (vi) no electronic glide slope approach and landing; and
 - (vii) circling (if applicable) and other approaches where the simulator lacks the capability.
- (d) if a Level B flight simulator has differences in performance, systems, or cockpit layout and configuration from the air operator's helicopter additional training on these differences shall be provided.
- (11) Helicopter Only Flight Training Program. Any simulated failures of helicopter systems shall only take place under operating conditions which do not jeopardize safety of flight.
 - (a) standard Operating Procedures for normal, abnormal and emergency operation of the
 - helicopter systems and components including:
 - (i) use of checklists including interior and exterior pre-flight checks;
 - (ii) maneuvering of the helicopter on the ground (if applicable);
 - (iii) aspects of flight crew co-operation, command and co-ordination;
 - (iv) hover, normal take-off, visual circuit, approach and landing;
 - (v) simulated helicopter and cargo fire on the ground and while airborne;
 - (vi) simulated engine fire and failure;
 - (vii) briefings on effects of airframe and engine icing and anti-ice operation;
 - (viii) take-off, landing and flight with the critical engine simulated inoperative, and engine inoperative performance capabilities;



- (ix) approach and landing;
- (x) simulated hydraulic, electrical and other system failures;
- (xi) simulated flight control failures and degraded states of operation, while in-flight, and during take-off and landing (as applicable);
- (xii) simulated failure of navigation and communication equipment;
- (xiii) simulated pilot incapacitation recognition and response;
- (xiv) steep turns (45° of bank) and other flight characteristics (as applicable for initial and upgrade only);
- (xv) helicopter performance for climb, cruise, holding, descent and landing;
- (xvi) normal and performance limited take-offs;
- (xvii) take-off data calculations;
- (xviii) simulated rejected take-off procedures;
- (xix) briefing on crew and passenger evacuation procedures; and
- (xx) other specialized equipment (where applicable).
- (b) flight planning and instrument flight procedures where the air operator is authorized for VFR flight at night or flight in IMC:
 - (i) departure, enroute, holding and arrival; and
 - (ii) all types of instrument approaches and missed approaches in simulated minimum visibility conditions, including circling approaches (where applicable) using all levels of automation available (as applicable).

(12) Emergency Procedures Training for Pilots. This training is required on an annual basis and shall include instruction in the location and operation of all emergency equipment. Training devices approved to simulate flight operating emergency conditions, static helicopters, ground demonstrations, classroom lectures, films or other devices may be used for training provided the method used ensures that each flight crew member is adequately trained in the operation or use of all emergency equipment. Where practical training is required, it shall be completed on initial training and every three years thereafter.

- (a) fire in the air and on the ground;
- (b) use of fire extinguishers including practical training;
- (c) operation and use of emergency exits including practical training;
- (d) passenger preparation for an emergency landing or ditching, (as applicable) including practical training;
- (e) emergency evacuation procedures including practical training;
- (f) donning and inflation of life preservers (when equipped) including practical training;
- (g) removal from stowage, deployment, inflation and boarding of life rafts/slide rafts (when equipped) including practical training;
- (h) pilot incapacitation including practical training;
- (i) hijacking, bomb threat and other security procedures; and
- (j) passenger on board medical emergency.

(13) Regaining Qualifications Training. For operators using an approved Level B, C, D FFS or the helicopter, the following must be completed for all pilots who have not maintained their recency qualifications in accordance with Subsection 704.108(1)(b) of the Lebanese Aviation Regulations for a period between 90 and 180 days;

- (a) a briefing on changes that have occurred to the helicopter or its operation since the last flight; and
- (b) three take-offs and landings (which may be carried out as part of a PPC where one has come due).

(14) Flight Follower Training. Persons assigned the duties of the flight follower shall receive training in at least the following:

- (a) company indoctrination;
- (b) duties and responsibilities;
- (c) communication procedures;

- (d) applicable regulations and standards;
- (e) flight preparation procedures as applicable to assigned duties;
- (f) procedures in the event of an emergency or overdue helicopter;
- (g) accident and incident reporting procedures; and
- (h) requirements of approved Company Operations Manual as applicable to the duties and responsibilities.

(15) Helicopter Surface Contamination Training. An approved surface contamination initial and recurrent training program is required for all operations personnel to ensure they are aware of hazards and procedures for ice, frost and snow critical contamination on helicopters. The training program shall include:

- (a) responsibility of pilot-in-command and other operations personnel;
- (b) regulations related to operations in icing condition;
- (c) weather conducive to ice, frost and snow contamination;
- (d) inspection before flight and removal of contamination;
- (e) in-flight icing recognition; and
- (f) hazards related to critical surface contamination of ice, frost and snow.

(16) Minimum Equipment List (MEL) Training. When an MEL has been approved for use on a helicopter type, the air operator shall provide the following training to crew members and maintenance personnel, and to dispatchers as applicable:

- (a) maintenance personnel training shall include instruction on those sections of the MCM which deal with the MEL, placarding of inoperative equipment, maintenance release of a helicopter, dispatching, and any other MEL related procedures;
- (b) pilot and operations control personnel training shall include instruction on purpose and use of an MEL, air operator MEL procedures, elementary maintenance procedures as applicable and responsibility of the pilot-in-command; and
- (c) recurrent training shall be conducted when required to ensure air operator personnel are aware of any changes to the MEL or MEL procedures.

(17) Transportation of Dangerous Goods. All training required by the Transportation of Dangerous Goods Regulations.

(18) Lower than Standard Take-off - Weather Minima RVR 600 feet. Authority to conduct 600 RVR take-offs shall be subject to approval of a training program using an approved synthetic training device for the type of helicopter to be used and capable of depicting RVR 600' take-off conditions. Training is required for the pilot-in-command only unless the air operator authorizes the second-in-command to conduct 600 RVR take-offs in which case the second-in-command shall complete the same training. The training program shall include:

- (a) take-off alternate requirements;
- (b) one engine inoperative performance requirements;
- (c) responsibility for obstacle clearance and visibility requirements;
- (d) take-off runway requirements;
- (e) helicopter equipment requirements;
- (f) pilot qualification requirements; and
- (g) training in the synthetic training device shall include normal take-offs under RVR 600' conditions and rejected take-offs under RVR 600' conditions including engine failures and system malfunctions.

(19) Lower than Standard Decision Height. Category 1 Instrument Landing System Approach Minima - Reported Visibility RVR 1200' - Decision Height 100'

Authority to conduct approaches to 100' DH with 1200 RVR is subject to approval of a training program using an approved synthetic training device for the helicopter type to be used. The training device shall be capable of depicting IMC to 100' DH. The training program shall include:

(a) capabilities and limitations of the ILS and visual aids;

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- (b) operational characteristics and limitations of the airborne system to be used such as the flight director, automatic approach coupler and systems and devices peculiar to the applicants installation such as missed approach guidance and failure warning systems;
- (c) individual crew duties including approach briefing, two pilot challenge and response communication rule, pilot incapacitation procedures and pilot monitored approach procedure with emphasis on need to continually monitor flight instruments until attitude and descent path have been visually assessed; and
- (d) training in the synthetic training device shall include effects of wind shear and turbulence, recognition and reaction to malfunctions encountered prior to and after reaching the missed approach point, ILS approaches to landings from 100'/1200 RVR conditions and missed approaches during which practical malfunctions and emergencies are introduced.

(20) Area Navigation Systems (RNAV). To qualify for use of RNAV systems on IFR operations an air operator shall have an approved flight crew training and qualifications program for use of the system. Flight crew shall have completed the appropriate training and have completed an in-flight check or an equivalent check in an approved synthetic training device. This qualification check shall be conducted by a DGCA Inspector or an authorized air operator check pilot. Training shall be in the following areas:

(a) pre-flight;

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- (b) normal operation of the system;
- (c) procedures for manually updating the system;
- (d) methods of monitoring and cross checking the system;
- (e) action in the event of discrepancy between systems, method of determining which is the most accurate or reliable system;
- (f) procedure for regaining track after deliberate or accidental deviation from cleared track;
- (g) Standard Instrument Departure (SID), Standard Terminal Arrival Route (STAR), and terminal procedures, (if applicable);
- (h) operation in area of compass unreliability;
- (i) malfunction procedures including re-synchronization (if applicable);
- (j) terminal procedures;
- (k) waypoint symbology; plotting procedures; record keeping duties/practices; and
- (l) post flight.

(21) Transportability of Pilot Proficiency Check. Transportability of Pilot Proficiency Checks from one air operator to another is permitted subject to the hiring air operator providing the following training which shall be specified in the approved operations/training manual:

- (a) company indoctrination;
- (b) pilot ground and emergency procedures training on each type of helicopter the pilot is assigned, sufficient to cover the air operator procedures and equipment differences;
- (c) standard operating procedures review;
- (d) sufficient line indoctrination to allow the pilot to become familiar with the air operator routes and operational procedures. In no case shall this be less than two sectors over typical route segments that the air operator flies; and
- (e) the hiring air operator records the PPC validity and expiration date in company records.
- (22) Survival Equipment Training. Training for all crew members shall include the following:
 - (a) survival concepts;
 - (b) contents of survival equipment kit; and
 - (c) how to use the survival equipment carried on board the helicopter as appropriate for the operation.
- (23) Aircraft Servicing and Ground Handling Training for Pilots
 - (a) fuelling procedures:
 - (i) types of fuel, oil and fluids used in the helicopter;
 - (ii) correct fuelling procedures; and
 - (iii) procedures for checking fuel, oil and fluids and proper securing of caps.

- (b) use of tow bars;
- (c) installation of protective covers on the helicopter; and
- (d) procedures for operating in cold weather such as:
 - (i) moving the helicopter out of a warm hangar when precipitation is present;
 - (ii) procedures for applying de-icing and anti-icing fluids for the helicopter type including critical flight controls post application inspections; and
- (iii) engine and cabin pre-heating procedures, including proper use of related equipment.
- (24) Pilot Line Indoctrination
 - (a) Line Indoctrination Training applies to each helicopter type to which a flight crew member is assigned for IFR operations.
 - (b) during line indoctrination training a flight crew member shall be provided the following minimum experience while performing the duties appropriate to the crew member station. Sectors/hours acquired during proving or ferry flights may be counted towards this requirement. The number of flying hours and sectors apply to the pilot-in-command and to the second-in-command.
 - (c) a sector for line indoctrination training is a flight composed of a take-off, departure, arrival and landing including at least a 30 N.M. enroute segment.
 - (d) flight crew members who have not completed line indoctrination in the same flight crew capacity on another helicopter type shall complete initial line indoctrination.
 - (e) flight crew members who have completed line indoctrination in the same flight crew capacity on another helicopter type shall complete transition line indoctrination.
 - (f) Initial Line Indoctrination Training shall be conducted under the supervision of a flight training pilot and include at least 6 flight hours and 4 mandatory sectors. After completing 4 mandatory sectors the minimum flight hour requirement may be reduced by 1 hour for each additional sector flown to a maximum 50% reduction of the flight time requirement.
 - (g) Transition Line Indoctrination Training shall be conducted under the supervision of a flight training pilot and include at least 4 flights hours and 4 mandatory sectors. After completing 4 mandatory sectors the remaining minimum flight time may be reduced by 1 hour for each additional sector flown to a maximum 50% reduction of the flight time requirement.
 - (h) the following areas, as applicable, shall be covered in line indoctrination training and recorded as having been completed.
 - (i) Flight Crew Member Duties
 - A. use of check lists and crew member coordination;
 - B. pilot-in-command responsibilities and crew briefing; and
 - C. crew member responsibilities.
 - (ii) Helicopter and Equipment
 - A. aircraft documents;
 - B. manuals and log books;
 - C. MEL procedures, deferred defects and maintenance release;
 - D. FDR and CVR procedures;
 - E. normal and emergency exits access, marking, lighting, operation;
 - F. fire extinguishers location, use, serviceability;
 - G. fire axe location and access;
 - H. first aid kit location and serviceability;
 - I. survival equipment stowage, contents, access;
 - J. life preservers serviceability, access, stowage;
 - K. immersion suits; and
 - L. ELT location and test procedures.
 - (iii) Flight Authorization
 - A. flight and duty time limitations;
 - B. weight and balance control, loading;
 - C. weather minima;



- D. IFR and night VFR routes in uncontrolled airspace;
- E. Flight Following and Flight Watch; and
- F. flight planning and fuel requirements.
- (iv) Operation of Flight
 - A. helicopter servicing and ground handling;
 - B. embarking passengers;
 - C. passenger briefing;
 - D. start, after start and pre-flight checks;
 - E. departure procedures;
 - F. enroute fuel management, use of navigation aids, diversion;
 - G. approach procedure altimeter setting, wind, checks;
 - H. hover maneuvering and landing landing checks;
 - I. helicopter shutdown procedures;
 - J. maintenance logs and flight records;
 - K. disembarking passengers:
 - emergency briefing and evacuation;
 - forced landing and ditching; and
 - malfunction procedures.

(25) Aerodrome and Area of Operation Qualifications. An air operator shall ensure that pilots-incommand are qualified for the areas of operation to which they are assigned and have received training, as applicable, to ensure safe operations are conducted.

- (a) Area Qualifications
 - (i) seasonal meteorological conditions;
 - (ii) weather phenomenon related to whiteout, blowing snow;
 - (iii) communications, air traffic facilities, flight following facilities;
 - (iv) navigation facilities and procedures;
 - (v) survival equipment requirements;
 - (vi) mountain flying techniques; and
 - (vii) restrictions over built-up areas.
- (b) Aerodrome Qualifications
 - (i) remote area unprepared landing sites reconnaissance procedures, inclined sites, confined areas;
 - (ii) use of offshore heliports and helidecks;
 - (iii) use of elevated heliports;
 - (iv) use of air ambulance heliports;
 - (v) flight watch facilities; and
 - (vi) aerodrome operating minima.

(26) Persons Assigned on Board Duties. Where an air operator has assigned on board duties to a nonflight crew member, that person shall be given adequate initial and annual training to perform the procedures relevant to the duties with which the person is to be involved including, as applicable:

- (a) authority of the pilot-in-command;
- (b) means of communication;
- (c) a general description of the helicopter in which the person is to serve and the proper use of cabin installed systems controls;
- (d) procedures for the handling of normal, abnormal, and emergency situations including:
 - (i) safe movement in the vicinity of the helicopter and safe movement to and from the helicopter;
 - (ii) briefing of passengers;
 - (iii) handling of passengers;
 - (iv) securing of cabin;
 - (v) location, operation and use of emergency, life saving and survival equipment carried, including practical training;



- (vi) fire fighting, including practical training;
- (vii) decompression;
- (viii) location, operation and use of emergency exits, including practical training;
- (ix) passenger preparation for an emergency landing or ditching, including practical training; and
- (x) evacuation, including practical training; and
- (e) knowledge of the relationship of the procedures with respect to those of the other crew members.

s704.116 to s704.119 Reserved



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DIVISION IX - MANUALS

s704.120 Reserved

s704.121 Contents of Company Operations Manual

The Company Operations Manual shall contain at least the following, as applicable to the operation:

- (a) preamble relating to use and authority of manual;
- (b) a table of contents;
- (c) amending procedures, amendment record sheet, distribution list and list of effective pages;
- (d) a copy of the Air Operator's Certificate and operations specifications;
- (e) a chart of the management organization;
- (f) the duties, responsibilities and succession of command of management and operations personnel;
- (g) description of operational control system including:
 - (i) flight authorization and flight preparation procedures;
 - (ii) preparation of operational flight plan and other flight documents;
 - (iii) procedures to ensure the flight crew are advised, prior to dispatch, of any airplane defects that have been deferred, (by Minimum Equipment List or any other means);
 - (iv) flight following and communication requirements;
 - (v) dissemination procedures for operational information and acknowledgement;
 - (vi) fuel and oil requirements;
 - (vii) weight and balance system;
 - (viii) accident/incident reporting procedures and procedures for reporting overdue aircraft;
 - (ix) use of checklists;
 - (x) maintenance discrepancy reporting and requirements of completion of flight; and
 - (xi) (xi) retention period of operational flight plans;
- (h) sample of operational flight plan, weight and balance form and retention period;
- (i) CVR procedures;
- (j) operating weather minima and applicable requirements for IFR, VFR, VFR at night, VFR over-the-top including alternate aerodrome requirements;
- (k) instrument and equipment requirements;
- (l) instrument approach procedures (including company approaches), and alternate minima requirements;
- (m) procedures for establishing company routes in uncontrolled airspace;
- (n) procedures pertaining to enroute operation of navigation and communication equipment (including collision avoidance procedures);
- (o) operations in hazardous conditions such as icing, thunderstorms, white out, windshear;
- (p) helicopter performance limitations;
- (q) carriage and securing of cargo, carry on baggage, commissary and equipment (as applicable);
- (r) passenger briefing procedures;
- (s) use of aircraft flight manual, helicopter operating manual, standard operating procedures and minimum equipment lists (as applicable);
- (t) ice, frost and snow critical surface contamination procedures;
- (u) procedures of carriage of dangerous goods;
- (v) fuelling procedures including:
 - (i) fuel contamination precautions
 - (ii) bonding requirements
 - (iii) fuelling with engine running (not permitted with passengers on board, see Section 602.09 of the Lebanese Aviation Regulations); and



- (iv) fuelling with passengers on board;
- (w) list of emergency survival equipment carried on the helicopter and how to use equipment;
- (x) emergency procedures for:
 - (i) emergency locator transmitter;
 - (ii) passenger preparation for emergency landing/ditching;
 - (iii) emergency evacuation;
 - (iv) ground emergency coordination procedures; and
 - (v) unlawful interference;
- (y) minimum flight crew members required and flight crew member qualifications;
- (z) flight duty time limitations and rest requirements;
- (aa) training programs including copy of company training and qualification record form(s);
- (bb) operational support services and equipment;
- (cc) passenger and cabin safety procedures.
- (dd) inspection details and frequency of inspection of emergency equipment carried on board the helicopter;
- (ee) policy on occupation of observer seat (if applicable);
- (ff) procedures for reduced VFR limits in uncontrolled airspace (if applicable);
- (gg) copies of all forms utilized including sufficient instruction on form completion; and
- (hh) other information related to safety.

s704.122 Reserved

s704.123 Aircraft Operating Manual

A helicopter operating manual shall consist of the following:

- (a) table of contents;
- (b) list of effective pages;
- (c) amending procedures;
- (d) preamble;
- (e) identification of the helicopter by the type and registration it is applicable to; and
- (f) helicopter operating procedures and limitations that are not less restrictive than those contained in the rotorcraft flight manual and the Lebanese Aviation Regulations (as amended).

s704.124 Standard Operating Procedures (SOP's)

The Standard Operating Procedures Manual shall contain the following information for each type of helicopter operated. Where there are significant differences in equipment and procedures between helicopters of the same type operated, the Standard Operating Procedures Manuals shall show the registration mark of the helicopter it is applicable to.

Required information, if contained in another publication carried on board the helicopter during flight, need not be repeated in the SOP.

The SOP shall include the following as applicable to the operation:

(1) General

- (a) table of contents;
- (b) list of effective pages;
- (c) amending procedure;
- (d) preamble;
- (e) communications;



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- (f) crew coordination;
- (g) use of check lists;
- (h) standard briefings; and
- (i) standard calls.
- (2) Normal Procedures
 - (a) weight and balance control requirements;
 - (b) ramp;
 - (c) battery/APU engine starts;
 - (d) taxi;
 - (e) take-off and climb;
 - (f) cruise;
 - (g) descent;
 - (h) approaches IFR, visual, VFR, and circling;
 - (i) landing;
 - (j) missed approach and balked landing procedures;
 - (k) refueling with passengers on board;
 - (l) use of on board navigation and alerting aids; and
 - (m) check lists.
- (3) Abnormal and Emergency Procedures
 - (a) emergency landings/ditching with time to prepare and without time to prepare;
 - (b) pilot incapacitation and two communication rule, (2 pilot crew);
 - (c) bomb threat and hijacking;
 - (d) engine fire/failure/shutdown;
 - (e) fire, internal/external;
 - (f) smoke removal;
 - (g) rejected take-off; and
 - (h) other abnormal and emergency procedures that are specific to the type of helicopter.

s704.125 to s704.127 Reserved



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REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>*Part VII*</u> Commercial Air Services

<u>Subpart 5</u> Airline Operations

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier







LEBANESE AVIATION REGULATIONS (LARs)

Part VII – Commercial Air Services

Subpart 5 – Airline Operations

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Subpart 5 - Airline Operations

Division I - General

705.01 Application

This Subpart applies in respect of the operation by a Lebanese Air Operator, in an air transport service or in aerial work involving sightseeing operations, of any of the following aircraft:

- (a) an airplane, other than an airplane authorized to operate under Part VI, Subpart 4, that has a MCTOW of more than 8,618 kg (19,000 pounds) or for which an Authority's type certificate has been issued authorizing the transport of 20 or more passengers;
- (b) a helicopter that has a seating configuration, excluding pilot seats, of 20 or more; or
- (c) any aircraft that is authorized by the Minister to be operated under Part VII, Subpart 5.

705.02 Aircraft Operation

No air operator shall operate an aircraft under Part VII, Subpart 5 unless the air operator complies with the conditions and Operations Specifications (OpSpecs) in an air operator certificate issued to that operator by the Minister pursuant to LARs Part VII, Section 705.07.

No air operator shall operate an aircraft under Part VII, Subpart 5 unless the air operator complies with the Commercial Air Services Standards.

705.03 Internal Evaluation Program

No air operator shall operate an aircraft under Part VII, Subpart 5 unless the air operator establishes an Internal Evaluation Program in accordance with the Commercial Air Services Standards.

705.04 Air Operator Security Program

No air operator shall operate an aircraft under Part VII, Subpart 5 unless the air operator establishes an Air Operator Security Program in accordance with Appendix VII to this Subpart and complies with Appendix VII.

705.05 to 705.06 Reserved



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Division II - Certification

705.07 Issuance or Amendment of Air Operator Certificate

(1) Subject to the Lebanese Civil Aviation Safety Act, the Minister shall, on receipt of an application submitted in the form and manner required by the Commercial Air Services Standards, issue or amend an air operator certificate where the applicant demonstrates to the Minister the ability to:

- (a) maintain an adequate organizational structure;
- (b) maintain an operational control system;
- (c) meet training program requirements;
- (d) comply with maintenance requirements;
- (e) meet the Commercial Air Services Standards for the operation; and
- (f) conduct the operation safely.
- (2) For the purposes of Subsection (1), an applicant shall have:
 - (a) a management organization capable of exercising operational control;
 - (b) managerial personnel who have been approved by the Minister in accordance with the Commercial Air Services Standards, are employed on a full-time basis and perform the functions related to the following positions, namely,
 - (i) operations manager,
 - (ii) chief pilots,
 - (iii) where the applicant does not hold an approved maintenance organization (AMO) certificate, maintenance manager, and
 - (iv) where cabin attendants are required for the operation, cabin attendant manager;
 - (c) a flight safety program that meets the Commercial Air Services Standards;
 - (d) operational support services and equipment that meet the Commercial Air Services Standards;
 - (e) where a master minimum equipment list has been established for a type of aircraft, a minimum equipment list for each aircraft of that type, approved by the Minister in accordance with the procedures specified in Part VI, Subpart 5, Standards, Appendix J;
 - (f) aircraft that are properly equipped for and crew members who are qualified for the area of operation and the type of operation;
 - (g) an operational control system that meets the requirements of Section 705.20;
 - (h) a training program that meets the requirements of Section 705.124;
 - (i) legal custody and control of at least one aircraft of each category of aircraft that is to be operated;
 - (j) a company operations manual that meets the requirements of Sections 705.134 and 705.135; and
 - (k) a maintenance control system approved pursuant to Subpart 6.

705.08 Contents of Air Operator Certificate

An air operator certificate shall contain

- (a) the legal name, trade name and address of the air operator;
- (b) the number of the air operator certificate;
- (c) the effective date of certification;
- (d) the date of issue of the certificate;
- (e) the general conditions identified in Section 705.09;
- (f) where the air operator complies with the Commercial Air Services Standards, and Operations Specifications (OpSpecs) with respect to:
 - (i) the areas of operation authorized,
 - (ii) the types of service authorized,

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- (iii) the types of aircraft authorized and, if applicable, their registration, and any operational restrictions, and
- (iv) the base of operations, scheduled points and, if applicable, sub-bases; and
- (ii) aircraft performance, equipment and emergency equipment requirements,
- (iii) instrument approach procedures,
- (iv) enroute airport authorizations and limitations,
- (v) special weather minima authorizations,
- (vi) authorizations concerning flight crew member qualifications and crew member complement,
- (vii) navigation system authorizations,
- (viii) pilot training and pilot proficiency checks,
- (ix) the air operator maintenance control system approved pursuant to Subpart 6,
- (x) leasing arrangements,
- (xi) the use of synthetic flight training devices, and
- (xii) any other condition pertaining to the operation that the Minister deems necessary for aviation safety.

705.09 General Conditions of Air Operator Certificate

An air operator certificate shall contain the following general conditions:

- (a) the air operator shall conduct flight operations in accordance with its company operations manual;
- (b) the air operator shall maintain an adequate organizational structure;
- (c) the air operator shall employ managerial personnel who meet the Commercial Air Services Standards;
- (d) the air operator shall conduct training in accordance with its training program approved pursuant to this Subpart;
- (e) the air operator shall maintain aircraft that are properly equipped for the area of operation and the type of operation;
- (f) the air operator shall employ crew members who are qualified for the area of operation and the type of operation;
- (g) the air operator shall maintain its aircraft in accordance with the requirements of Subpart 6;
- (h) the air operator shall maintain operational support services and equipment that meet the Commercial Air Services Standards;
- (i) the air operator shall notify the Minister within 10 working days after any change in its legal name, trade name, base of operations or managerial personnel;
- (j) the air operator shall demonstrate emergency evacuation procedures in accordance with Appendix IX;
- (k) the air operator shall conduct a safe operation.

705.10 Continuing Surveillance Requirements

(1) The Director General of Civil Aviation (DGCA) will establish a system for the initial inspection and continued surveillance of operators conducting operations pursuant to Part VII, Subpart 5. The system will contain the following:

- (a) written procedures for conducting continuing surveillance;
- (b) written procedures concerning the frequency of inspections;
- (c) written procedures concerning the minimum qualifications of inspectors to conduct specific inspections;
- (d) written procedures for reporting deficiencies;
- (e) written procedures for recording inspections to include:
 - (i) procedures for the filling system to maintain the records.

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- (f) written procedures for the supervision of inspectors who conduct surveillance and inspections;
- (g) written procedures requiring the following inspections:
 - (i) station facility inspection once every 6 calendar months for each line station the operator is authorized in its OpSpecs;
 - (ii) apron inspection once every 3 calendar months for each line station the operator is authorized in its OpSpecs:
 - A. apron inspections will be conducted at the operator's main base once every three calendar months.
 - (iii) en route inspection on each line Captain by a qualified DGCA Operations Inspector once each calendar year. Other en route inspections will be scheduled as necessary to ensure that the operator is complying with the LARs and associated Standards.
 - (iv) base inspection at the operator's principal base of operations once every 6 calendar months;
 - (v) training records inspection once every 6 calendar months.
 - (vi) operations and flight records inspections once every 6 calendar months;
 - (vii) aircraft maintenance records inspections once every 6 calendar months;
 - (viii) flight crew proficiency check inspections once every 3 calendar months. The proficiency check inspection will be conducted as follows:
 - A. the inspector will possess the appropriate license and be currently qualified in the specific type of aircraft to be used for the check.
 - B. the inspector will be trained on the operators policies, standard operating procedures (SOPs), and training program for the aircraft to be used for the check.
 - (ix) aircrew designated examiner inspections once every 3 calendar months in accordance with LARs Part VI, Subpart 2, Standards, Appendix IX; and
 - (x) ETOPs inspections once every 6 calendar months. The en route inspection will be conducted on an ETOPS flight segment. Simulator recurrent training will be observed to verify that the required ETOPs training is being conducted in accordance with LARs Part VI, Subpart 2, Standards, Appendix V.
- (2) The DGCA will cancel Operations Specifications (OpSpecs) paragraphs when an operator does not meet the standards required for initial certification.
- (3) The DGCA will maintain a current Statement of Compliance for each operator conducting operations pursuant to Part VII, Subpart 5 as follows:
 - (a) the original Statement of Compliance at the time of the operator's certification for operations pursuant to Part VII, Subpart 5, will be updated each time the operator has a manual system change requiring a Statement of Compliance change.
- (4) The Minister will establish written procedures for the delegation of authority that will:
 - (a) authorize DGCA inspectors to conduct the above inspections; and
 - (b) authorize the DGCA inspectors to take appropriate action after finding areas of non compliance with the LARs.

705.11 Accidents, Incidents, Noncompliance with the LARs

(1) Anytime a Director General of Civil Aviation (DGCA) Inspector becomes aware of an accident, incident, or noncompliance with the Lebanese Aviation Regulations, the following is required:

- (a) the DGCA Chief of Flight Safety and appropriate management officials will be notified immediately;
- (b) in the case of incidents were an operator's procedures or training program may be inadequate or in noncompliance, the Chief of Flight Safety will order an investigation in accordance with DGCA Order 100-7.
- (c) in the case were an accident or serious incident has occurred, the Director General of Civil Aviation will order an investigation in accordance with DGCA Order 100-6.



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Division III - Flight Operations

705.16 Exceptions

(1) Sections 705.40, 705.43, 705.75, 705.77 to 705.79, 705.104 and 705.139 do not apply where nine or fewer persons are on board an aircraft and each person is:

- (a) an employee of the air operator;
- (b) a person whose presence on board the aircraft is necessary for
 - (i) the safety of the flight,
 - (ii) the safe handling of animals,
 - (iii) the safe handling of dangerous goods,
 - (iv) the security of valuable or confidential cargo,
 - (v) the preservation of fragile or perishable cargo, or
 - (vi) the handling of cargo;
- (c) a person described in Subsection (b) who is traveling to or from an assignment;
- (d) an owner or shipper of animals; or
- (e) a dependant of an employee of the air operator.

(2) Any person referred to in Subsection (1) may be carried on board an aircraft for which the type certificate does not authorize the transport of passengers.

- (3) No air operator shall operate an aircraft with a person referred to in Subsection (1) on board unless(a) the air operator has established procedures for the transport of that person;
 - (b) the person has unobstructed access from the person's seat to the flight deck, to an exit or to an emergency exit;
 - (c) the person is provided with a means of two-way communication with the flight crew members;
 - (d) the pilot-in-command has a means of notifying the person when safety belts must be fastened; and
 - (e) the air operator ensures that, before every take-off, the person is given a briefing by a crew member in accordance with the Commercial Air Services Standards.

705.17 Operating Instructions

(1) An air operator shall ensure that all operations personnel are properly instructed about their duties and about the relationship of their duties to the operation as a whole.

(2) The operations personnel of an air operator shall follow the procedures specified in the air operator's company operations manual in the performance of their duties.

705.18 General Operational Information

Every air operator shall establish a system for the timely dissemination of general operational information that includes a means for each crew member to acknowledge receipt of such information.

705.19 Scheduled Air Service Requirements

(1) Subject to Subsection (2), every air operator that operates a scheduled air service for the purpose of transporting persons shall operate the service between airports or between an airport and a military airport.

(2) An air operator may operate a scheduled air service for the purpose of transporting persons between an airport and an airport or between two aerodromes if the air operator is authorized to do so in its air operator certificate (OpSpecs).



705.20 Operational Control System

No air operator shall operate an aircraft unless the air operator has an operational control system that meets the Commercial Air Services Standards and is under the control of its operations manager.

705.21 Flight Authorization

No person shall commence a flight unless the flight has been authorized in accordance with the procedures specified in the air operator's company operations manual.

705.22 Operational Flight Plan

(1) No air operator shall permit a person to commence a flight unless an operational flight plan that meets the Commercial Air Services Standards has been prepared in accordance with the procedures specified in the air operator's company operations manual.

(2) The pilot-in-command of an aircraft shall ensure that one copy of the operational flight plan is left at a point of departure, in accordance with the procedures specified in the company operations manual, and that another copy is carried on board the aircraft until the aircraft reaches the final destination of the flight.

(3) An air operator shall retain a copy of the operational flight plan, including any amendments to that plan, for the period specified in the company operations manual.

705.23 Maintenance of Aircraft

No air operator shall permit a person to conduct a take-off in an aircraft that has not been maintained in accordance with the air operator's maintenance control system.

705.24 Checklist

(1) Every air operator shall establish the checklist referred to in Subsection 602.60(1)(a) for each aircraft type that it operates and shall make the appropriate parts of the checklist readily available to the crew members.

(2) Every crew member shall follow the checklist referred to in Subsection (1) in the performance of the crew member's assigned duties.

705.25 Fuel Requirements

(1) Subject to Subsection (2), no air operator shall authorize a flight and no person shall commence a flight unless the aircraft:

- (a) when operating in VFR flight, carries sufficient fuel to fly to the destination airport and thereafter to fly for 45 minutes at normal cruising speed;
- (b) when operating in IFR flight on designated routes or over designated areas as defined in the Commercial Air Services Standards, carries an enroute fuel reserve of five per cent of the fuel required to fly to the destination airport; and
- (c) when operating in IFR flight, except when complying with the Safety Criteria for Approval of Extended Twin Operations (ETOPS) Manual, carries sufficient fuel to allow the aircraft
 - (i) to descend at any point along the route to the lower of
 - A. the one-engine-inoperative service ceiling, or
 - B. 10,000 feet ASL,
 - (ii) to cruise at the altitude referred to in Subsection (i) to a suitable airport,
 - (iii) to conduct an approach and a missed approach, and

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(iv) to hold for 30 minutes at an altitude of 1,500 feet above the elevation of the airport selected in accordance with Subsection (ii).

(2) An air operator may be authorized in an air operator certificate to reduce the enroute fuel reserve required by Subsection (1)(b) where the air operator complies with the Commercial Air Services Standards.

705.26 Extended Twin Operations (ETOPS)

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(1) Subject to Subsection (2), no air operator shall operate a two-engined airplane on a route containing a point that is farther from an adequate airport than the distance that can be flown in 60 minutes at the one-engine-inoperative cruise speed, unless the flight is conducted wholly within Lebanese Domestic Airspace.

- (2) An air operator may operate an airplane on a route referred to in Subsection (1) where:
 - (a) the airplane is turbine-powered;
 - (b) the air operator is authorized to do so in its air operator certificate (OpSpecs); and
 - (c) the air operator complies with LARs Section 602.164 Criteria for Approval of Extended Twin Operations, (ETOPS).

705.27 Admission to Flight Deck

(1) Where a Directorate General of Civil Aviation (DGCA) air carrier inspector presents an official identity card to the pilot-in-command of an aircraft, the pilot-in-command shall give the inspector free and uninterrupted access to the flight deck of the aircraft.

(2) An air operator and the pilot-in-command shall make available for the use of the air carrier inspector the observer seat most suitable to perform the inspector's duties, as determined by the inspector.

(3) No person, other than the following persons, shall be admitted to the flight deck of an aircraft unless there is a seat available for that person in the passenger compartment:

- (a) operator's flight crew members;
- (b) an inspector referred to in Subsection (1); and
- (c) a person authorized by the air operator in accordance with procedures specified in the air operator's company operations manual and approved by the DGCA.

705.28 Seats for Cabin Safety Inspectors

An air operator shall provide a cabin safety inspector who is performing an in-flight cabin inspection with a confirmed passenger seat in the passenger compartment.

705.29 Flight Crew Members at Controls

(1) Subject to Subsection (2), flight crew members who are on flight deck duty shall remain at their duty stations with their safety belts fastened and, where the aircraft is below 10,000 feet ASL, with their safety belts, including their shoulder harnesses, fastened.

(2) Flight crew members may leave their duty stations where:

- (a) their absence is necessary for the performance of duties in connection with the operation of the aircraft;
- (b) their absence is in connection with physiological needs; or
- (c) they are taking a rest period and are relieved by other flight crew members who meet the qualifications set out in the Commercial Air Services Standards.



705.30 Simulation of Emergency Situations

No person shall, where passengers are on board an aircraft, simulate emergency situations that could affect the flight characteristics of the aircraft.

705.31 Crew Member Briefing

The pilot-in-command of an aircraft shall ensure that, prior to each flight or series of flight segments, the crew members of the aircraft are given a pre-flight briefing that meets the Commercial Air Services Standards.

705.32 VFR Flight Obstacle Clearance Requirements

Except when conducting a take-off or landing, no person shall operate an airplane in VFR flight:

- (a) during the day, at less than 1,000 feet AGL or at a horizontal distance of less than 1,000 feet from any obstacle; or
- (b) at night, at less than 1,000 feet above the highest obstacle located within a horizontal distance of five miles from the route to be flown or, in designated mountainous regions, at less than 2,000 feet above the highest obstacle located within a horizontal distance of five miles from the route to be flown.

705.33 VFR Flight Weather Conditions

No person shall commence a VFR flight unless current weather reports and forecasts, if obtainable, indicate that the weather conditions along the route to be flown and at the destination airport will be such that the flight can be conducted in compliance with VFR.

705.34 Take-off Minima

(1) Subject to Subsection (2), no person shall conduct a take-off in an aircraft in IMC where weather conditions are at or above the take-off minima, but below the landing minima, for the runway to be used unless an alternate airport is specified in the operational flight plan and that airport is located:

- (a) in the case of a twin-engined aircraft, within the distance that can be flown in 60 minutes at the one-engine-inoperative cruise speed; or
- (b) in the case of a three- or four-engined aircraft or where an air operator is authorized in its air operator certificate to conduct ETOPS with the type of aircraft operated, within the distance that can be flown in 120 minutes at the one-engine-inoperative cruise speed.

(2) A person may conduct a take-off in an aircraft in IMC where weather conditions are at or above the take-off minima, but below the landing minima, for the runway to be used, if the weather conditions are at or above the landing minima for another suitable runway at that airport, taking into account the aircraft performance operating limitations specified in Division IV.

(3) For the purposes of Section 602.126, a person may conduct a take-off in an aircraft in IMC where weather conditions are below the take-off minima specified in the instrument approach procedure, if the person

- (a) is authorized to do so in an air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

(4) For the purposes of this Section, the landing minima are the decision height or the minimum descent altitude and the visibility published for an approach.



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705.36 VFR OTT Flight

No person shall operate an aircraft in VFR OTT flight unless

- (a) the aircraft is a helicopter;
- (b) the person is authorized to do so in an air operator certificate; and
- (c) the person complies with the Commercial Air Services Standards.

705.37 Routes in Uncontrolled Airspace

No person shall, in uncontrolled airspace, conduct an IFR flight or a night VFR flight on a route other than an air route unless the air operator establishes the route in accordance with the Commercial Air Services Standards.

705.38 Instrument Approach Procedures

(1) No person shall conduct a CAT I, CAT II or CAT III instrument approach unless

- (a) the air operator is authorized to do so in its air operator certificate (OpSpecs); and
- (b) the approach is conducted in accordance with the General Operating and Flight Rules Standards, Appendices II and III.
- (c) the air operator complies with Section 602.131 of the LARs.

(2) No person shall terminate an instrument approach with a landing unless, immediately prior to landing, the pilot-in-command ascertains, by means of radiocommunication or visual inspection,

- (a) the condition of the intended landing surface; and
- (b) the wind direction and speed.

705.39 Weight and Balance Control

(1) No person shall operate an aircraft unless, during every phase of the flight, the load restrictions, weight and center of gravity of the aircraft conform to the limitations specified in the aircraft flight manual and is authorized in its air operator certificate (OpSpecs).

(2) An air operator shall have a weight and balance system that meets the Commercial Air Services Standards.

(3) An air operator shall specify in its company operations manual its weight and balance system and instructions to employees regarding the preparation and accuracy of weight and balance forms.

705.40 Passenger and Cabin Safety Procedures

(1) An air operator shall establish procedures to ensure that:

- (a) passengers move to and from the aircraft and embark and disembark safely, in accordance with procedures that meet the Commercial Air Services Standards and that are specified in the air operator's company operations manual;
- (b) all passengers are seated and secured in accordance with Subsection 605.26(1);
- (c) subject to Subsection (2), the back of each seat is in the upright position and all chair tables and carry-on baggage are stowed during movement on the surface, take-off and landing and at such other times as the pilot-in-command considers necessary for the safety of the persons on board the aircraft; and
- (d) seats located at emergency exits and seats that are not located on the main deck of an aircraft are not occupied by passengers whose presence in those seats could adversely affect the safety of passengers or crew members during an emergency evacuation.

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(2) An air operator may, for the transportation of any passenger who has been certified by a physician as unable to sit upright, allow the back of the seat occupied by such a passenger to remain in the reclining position during movement on the surface, take-off and landing if:

- (a) the passenger is seated in a location that will not restrict the evacuation of other passengers from the aircraft;
- (b) the passenger is not seated in a row that is next to or immediately in front of an emergency exit; and
- (c) the seat immediately behind the passenger's seat is vacant.

(3) No air operator shall permit an aircraft with passengers on board to be fuelled unless the fuelling is carried out in accordance with procedures that meet the Commercial Air Services Standards and that are specified in the air operator's company operations manual.

(4) For the purposes of Section 602.08, no air operator shall permit the use of a portable electronic device on board an aircraft unless the air operator has established procedures that:

- (a) meet the Commercial Air Services Standards; and
- (b) are specified in the air operator's company operations manual.

705.41 Cabin Attendant Stations

(1) Each cabin attendant shall, for take-off and landing, occupy a seat in the passenger cabin that meets the requirements of Subsection (2).

(2) Each cabin attendant station shall be approved by the Minister in accordance with the Commercial Air Services Standards.

(3) No air operator shall permit a cabin attendant seat to be occupied by a person other than a cabin attendant unless the air operator

- (a) is authorized to do so in its air operator certificate (OpSpecs); and
- (b) complies with the Commercial Air Services Standards.

705.42 Carry-on Baggage

(1) Every air operator shall establish a carry-on baggage control program that is approved by the Minister in accordance with the Commercial Air Services Standards and is authorized in its air operator certificate (OpSpecs).

(2) No air operator shall permit a person to carry on board an aircraft any carry-on baggage unless that baggage has been accepted in accordance with a carry-on baggage control program and can be:

- (a) stowed in a compartment or overhead rack that has been approved by the Minister in accordance with applicable airworthiness standards for the stowage of carry-on baggage;
- (b) stowed under a passenger seat; or
- (c) restrained by a means that has been approved by the Minister in accordance with applicable airworthiness standards.

(3) No person shall carry on board an aircraft any carry-on baggage unless that baggage has been accepted in accordance with a carry-on baggage control program.

(4) All carry-on baggage that is stowed under a passenger seat shall be restrained in a manner that has been approved by the Minister in accordance with applicable airworthiness standards.

(5) All carry-on baggage shall be stowed so that it does not obstruct access to safety equipment, exits or the aisles of the aircraft.

(6) No air operator shall allow the passenger entry doors of an aircraft to be closed for departure until a crew member has verified that all carry-on baggage is stowed in a location that has been approved by the Minister in accordance with applicable airworthiness standards or is restrained by a means that has been approved by the Minister in accordance with applicable airworthiness standards.

(7) All carry-on baggage shall be safely stowed prior to movement of the aircraft on the surface and during take-off, periods of in-flight turbulence and landing.

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(8) No carry-on baggage that may cause injury to passengers in the event of turbulence or an emergency shall be stowed in an overhead rack unless that rack is equipped with restraining devices or doors that have been approved by the Minister in accordance with applicable airworthiness standards.

705.43 Briefing of Passengers

(1) An air operator shall ensure that passengers are given a safety briefing in accordance with the Commercial Air Services Standards.

(2) An air operator shall ensure that the safety briefing referred to in Subsection (1) is given in Arabic, English and French.

(3) Where the safety briefing referred to in Subsection (1) is insufficient for a passenger because of that passenger's physical, sensory or comprehension limitations or because that passenger is responsible for another person on board the aircraft, the air operator shall ensure that the passenger is given an individual safety briefing that

- (a) is appropriate to the passenger's needs; and
- (b) meets the Commercial Air Services Standards.

(4) An air operator shall ensure that, in the event of an emergency and where time and circumstances permit, all passengers are given an emergency briefing in accordance with the Commercial Air Services Standards.

(5) An air operator shall ensure that each passenger who is seated next to a window emergency exit is informed by a crew member that the window is an emergency exit and is made aware of how to operate that exit.

705.44 Safety Features Card

An air operator shall provide each passenger, at the passenger's seat, with a safety features card containing, in pictographic form, the information required by the Commercial Air Services Standards, and any wording shall be in Arabic, English and French.

705.45 Prohibition or Interference with Crewmembers.

No person may assault, threaten, intimidate, or interfere with a crewmember in the performance of the crewmember's duties aboard an aircraft being operated under this Subpart.

705.46 Alcoholic Beverages.

(1) No person may drink any alcoholic beverage aboard an aircraft unless the certificate holder operating the aircraft has served that beverage to him.

(2) No certificate holder may serve any alcoholic beverage to any person aboard any of its aircraft who:

(a) appears to be intoxicated;

(b) has a deadly or dangerous weapon accessible to him while aboard the aircraft.

(3) No certificate holder may allow any person to board any of its aircraft if that person appears to be intoxicated.

(4) Each certificate holder shall, within five days after the incident, report to the Minister the refusal of any person to comply with Subsection (1) of this Section, or of any disturbance caused by a person who appears to be intoxicated aboard any of its aircraft.

(5) The Chief of Flight Safety shall investigate all reports in accordance with DGCA Order 100-7.

705.47 to 705.53 Reserved



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Division IV - Aircraft Performance Operating Limitations

705.54 Exceptions

A person may operate an aircraft without complying with the requirements of this Division if the person:

- (a) is authorized to do so in an air operator certificate (OpSpecs);
- (b) complies with the Commercial Air Services Standards; and
- (c) demonstrates an equivalent level of safety.

705.55 General Requirements

Any determination made for the purposes of Sections 705.56 to 705.61 shall be based on approved performance data set out in the aircraft flight manual.

705.56 Take-off Weight Limitations

(1) No person shall conduct a take-off in an aircraft if the weight of the aircraft:

- (a) exceeds the maximum take-off weight specified in the aircraft flight manual for the pressurealtitude and the ambient temperature at the airport where the take-off is to be made; or
- (b) after allowing for planned fuel consumption during the flight to the destination airport or alternate airport, exceeds the landing weight specified in the aircraft flight manual for the pressure-altitude and the ambient temperature at the destination airport or alternate airport.
- (2) In the determination of the maximum take-off weight referred to in Subsection (1) for an airplane:
 - (a) the required accelerate-stop distance shall not exceed the accelerate-stop distance available (ASDA);
 - (b) the required take-off run shall not exceed the take-off run available (TORA); and
 - (c) the required take-off distance shall not exceed the take-off distance available (TODA).
- (3) For the purposes of Subsection (2), the following factors shall be taken into account:
 - (a) the pressure-altitude at the airport;
 - (b) the ambient temperature;
 - (c) the runway slope in the direction of takeoff; and
 - (d) not more than 50 percent of the reported headwind component or not less than 150 per cent of the reported tailwind component.

705.57 Net Take-off Flight Path

(1) No person shall conduct a take-off in an airplane if the weight of the airplane is greater than the weight specified in the aircraft flight manual as allowing a net takeoff flight path that clears all obstacles by at least 35 feet vertically or at least 200 feet horizontally within the airport boundaries, and by at least 300 feet horizontally outside those boundaries.

(2) In the determination of the maximum weight, minimum distances and flight path referred to in Subsection (1):

- (a) corrections shall be made for:
 - (i) the runway to be used,
 - (ii) the runway slope in the direction of takeoff,
 - (iii) the pressure-altitude at the airport,
 - (iv) the ambient temperature, and
 - (v) the wind component at the time of takeoff, where not more than 50 percent of the reported headwind component or not less than 150 percent of the reported tailwind component is considered; and

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- (b) calculations shall be based on the pilot
 - (i) not banking the airplane before reaching an altitude of 50 feet,
 - (ii) subject to Subsection (3), using 15 degrees or less of bank at or below 400 feet, and
 - (iii) using no more than 25 degrees of bank thereafter, aircraft speed and configuration permitting.

(3) A bank angle greater than the 15 degrees referred to in Subsection (2)(b)(ii) may be used if it is authorized in an air operator certificate (OpSpecs).

705.58 Enroute Limitations with One Engine Inoperative

(1) No person shall conduct a take-off in an airplane if the weight of the airplane is greater than the weight that will allow the airplane to attain, with any engine inoperative, a net flight path that:

- (a) has a positive slope at 1,000 feet above all terrain and obstructions within five nautical miles on either side of the intended track, at all points along the route or planned diversion there from; or
- (b) will permit flight from the cruising altitude to an airport where the requirements of Section 705.60 can be complied with, and clears vertically, by at least 2,000 feet, all terrain and obstructions within five nautical miles on either side of the intended track.

(2) For the purposes of Subsection (1), the following factors shall be taken into account after an engine failure:

- (a) the effects of wind and temperature on the net flight path; and
- (b) the effects of fuel jettisoning, where the jettisoning is conducted in accordance with procedures set out in the company operations manual and sufficient fuel remains to complete a landing with the required fuel reserves.

705.59 Enroute Limitations with Two Engines Inoperative

(1) No person shall operate an airplane having three or more engines unless:

- (a) all points along the intended track are located at a distance that can be flown in 90 minutes or less, with all engines operating at cruise power, from an airport where the requirements of Section 705.60 can be complied with; or
- (b) the weight of the airplane is not greater than the weight that, according to the two-enginesinoperative enroute net flight path data shown in the aircraft flight manual, will allow the airplane to clear vertically, by at least 2,000 feet, all terrain and obstructions within five nautical miles on either side of the intended track, and thereafter to continue flight to an airport where the requirements of Section 705.60 can be complied with.

(2) For the purposes of Subsection (1)(b), the following factors shall be taken into account after the failure of two engines:

- (a) the effects of wind and temperature on the net flight path; and
- (b) the effects of fuel jettisoning, where the jettisoning is conducted in accordance with procedures set out in the company operations manual and sufficient fuel remains to arrive at the destination airport at 1,500 feet AGL with a fuel reserve sufficient to fly for 15 minutes thereafter at cruise power.

705.60 Dispatch Limitations: Landing at Destination and Alternate Aerodromes

- (1) Subject to Subsection (3), no person shall dispatch or conduct a takeoff in an airplane unless:
 - (a) the weight of the airplane on landing at the destination airport will allow a full-stop landing:
 - (i) in the case of a turbo-jet-powered airplane, within 60 per cent of the landing distance available (LDA), or
 - (ii) in the case of a propeller-driven airplane, within 70 percent of the landing distance available (LDA); and

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(b) the weight of the airplane on landing at the alternate airport will allow a full-stop landing:

- (i) in the case of a turbo-jet-powered airplane, within 60 per cent of the landing distance available (LDA), and
- (ii) in the case of a propeller-driven airplane, within 70 percent of the landing distance available (LDA).

(2) In determining whether an airplane can be dispatched or a take-off can be conducted in accordance with Subsection (1), the following shall be taken into account:

- (a) the pressure-altitude at the destination airport and at the alternate airport;
- (b) not more than 50 percent of the reported headwind component or not less than 150 percent of the reported tailwind component; and
- (c) that the airplane must be landed on a suitable runway, considering the wind speed and direction, the ground handling characteristics of the airplane, and other conditions such as landing aids and terrain.

(3) Where conditions at the destination airport at the time of take-off do not permit compliance with Subsection (2)(c), an airplane may be dispatched and a takeoff conducted if the alternate airport designated in the operational flight plan permits, at the time of takeoff, compliance with Subsection (1)(b) and Subsection (2).

705.61 Dispatch Limitations: Wet Runway - Turbo-jet-powered Airplanes

(1) Subject to Subsection (2), when weather reports or forecasts indicate that the runway may be wet at the estimated time of arrival, no air operator shall dispatch or conduct a take-off in a turbo-jet-powered airplane unless the landing distance available (LDA) at the destination airport is at least 115 percent of the landing distance required pursuant to Subsection 705.60(1)(a).

(2) The landing distance available on a wet runway may be shorter than that required by Subsection (1), but not shorter than that required by Section 705.60, if the aircraft flight manual includes specific information about landing distances on wet runways.

705.62 to 705.66 Reserved



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Division V - Aircraft Equipment Requirements

705.67 General Requirements

No person shall operate an aircraft unless the aircraft is equipped with:

- (a) two independent static pressure systems;
- (b) a windshield wiper or rain removal system for each pilot station;
- (c) heating or de-icing equipment for each carburetor or an alternate air source for each pressure carburetor or fuel injection system;
- (d) a placard on each door that provides passenger access to a passenger emergency exit, stating that the door must be secured or locked open during take-off and landing; and
- (e) a means for the crew, in an emergency, to unlock each door that leads to a compartment that is normally accessible to passengers and that can be locked by passengers.

705.68 Landing Lights

No person shall operate an aircraft at night unless the aircraft is equipped with at least two landing lights.

705.69 Operation of Aircraft in Icing Conditions

(1) No person shall conduct a takeoff or continue a flight in an aircraft when icing conditions are reported to exist or are forecast to be encountered along the route to be flown unless the aircraft is equipped to be operated in those conditions and the aircraft type certificate authorizes flight in those conditions.

(2) No person shall operate an airplane in icing conditions at night unless the airplane is equipped with a means to illuminate or otherwise detect the formation of ice.

705.70 Weather Radar Equipment

No person shall operate an aircraft with passengers on board in IMC when current weather reports or forecasts indicate that thunderstorms may reasonably be expected along the route to be flown, unless the aircraft is equipped with weather radar equipment.

705.71 Protective Breathing Equipment

(1) No air operator shall operate a pressurized aircraft unless, at each station listed in Subsection
(3)(b), protective breathing equipment with a 15-minute supply of breathing gas at a pressure altitude of 8,000 feet is provided in accordance with this Section.

(2) The protective breathing equipment referred to in Subsection (1) may be used to meet the crew member oxygen requirements specified in Section 605.31.

(3) Protective breathing equipment shall be conveniently located and readily available:

- (a) with a fixed or portable breathing gas supply for use by each flight crew member on the flight deck; and
- (b) with a portable breathing gas supply for use by crew members in combating fires, as follows:
 - (i) one unit for use in each Class A, B and E cargo compartment that is accessible to crew members in the cabin during flight,
 - (ii) one unit for each hand-held fire extinguisher located in each isolated galley,
 - (iii) one unit on the flight deck,
 - (iv) one unit located within one meter of each hand-held fire extinguisher required in the passenger compartment by Section 705.93, except if the Minister has authorized the



location of protective breathing equipment more than one meter from each hand-held fire extinguisher where special circumstances exist that make compliance with this Subsection impractical and that location provides an equivalent level of safety, and

(v) the number of units of protective breathing equipment used to satisfy the requirements of this Subsection shall not be less than the number of cabin attendants required for the flight.

705.72 First Aid Oxygen

No air operator shall operate a pressurized aircraft with passengers on board unless the aircraft is equipped with oxygen dispensing units and an undiluted supply of first aid oxygen sufficient to provide two per cent of the occupants, and in any case at least one person, with oxygen for one hour or the entire duration of the flight at a cabin pressure altitude above 8,000 feet, after an emergency descent following cabin depressurization, whichever period is longer.

705.73 Interphone System

No person shall operate an aircraft unless the aircraft is equipped with an interphone system that can be operated independently of the public address system required by Section 705.74, except for handsets, headsets, microphones, selector switches and signaling devices.

705.74 Public Address System

No person shall operate an aircraft with passengers on board unless the aircraft is equipped with a public address system that can be operated independently of the interphone system required by Section 705.73, except for handsets, headsets, microphones, selector switches and signaling devices.

705.75 Crew Member Shoulder Harnesses

Subject to Subsection (2), no person shall operate an aircraft unless all pilot seats and seats for each cabin attendant required pursuant to Section 705.104 are equipped with a safety belt that includes dual upper torso straps with a single-point release.

705.76 Lavatory Fire Protection

No person shall operate an aircraft unless:

- (a) each lavatory in the aircraft is equipped with a smoke detector system or equivalent that provides:
 - (i) a warning light in the cockpit, or
 - (ii) a warning light or audible warning in the passenger compartment that can be readily detected by a cabin attendant, taking into consideration the positioning of cabin attendants throughout the passenger compartment during the flight;
- (b) each lavatory in the aircraft is equipped with a built-in fire extinguisher for each waste disposal receptacle that is installed in the lavatory, and each extinguisher is designed to discharge automatically into the disposal receptacle on the occurrence of a fire in that receptacle;
- (c) a readily visible sign that clearly displays a symbol indicating that smoking is prohibited or the words "No Smoking" is installed above the door handle on both sides of the door to each lavatory in the aircraft;



- (d) a readily visible sign that clearly displays a symbol indicating that cigarette disposal is prohibited or the words "No Cigarette Disposal" is installed adjacent to the opening of each waste disposal receptacle that is located in a lavatory in the aircraft; and
- (e) a self-contained, removable ashtray is installed on or near the outside of the door to each lavatory in the aircraft or in some other location or locations where it is readily visible to the users of each lavatory from outside the lavatory.

705.77 Flammability Requirements for Airplane Seat Cushions

No person shall operate an airplane for which an initial type certificate was issued after January 1, 1958 unless all passenger compartment seat cushions meet the standards respecting the fire protection of seat cushions set out in the applicable airworthiness standards.

705.78 Floor Proximity Emergency Escape Path Markings

No person shall operate, with passengers on board, an airplane for which an initial type certificate was issued after January 1, 1958 unless the airplane is provided with floor proximity emergency escape path markings that meet the standards set out in the applicable airworthiness standards.

705.79 Flashlight Stowage

No person shall operate an aircraft unless it is equipped with flashlight stowage provisions that are accessible from each required cabin attendant seat.

705.80 to 705.88 Reserved



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Division VI - Emergency Equipment

705.89 Megaphones

No person shall operate, with passengers on board, an airplane for which a type certificate has been issued authorizing the transport of 60 or more passengers, unless the following number of portable battery-powered megaphones are carried on board the airplane and are conveniently located and readily available for use by the cabin attendants:

- (a) for each passenger deck, at least one megaphone;
- (b) 61 to 99 passenger seats, one megaphone; and
- (c) 100 or more passenger seats, two megaphones.

705.90 First Aid Kits

(1) No person shall operate an aircraft unless the following number of first aid kits that meet the Commercial Air Services Standards are carried on board the aircraft:

- (a) 0 to 50 passenger seats, one kit;
- (b) 51 to 150 passenger seats, two kits;
- (c) 151 to 250 passenger seats, three kits; and
- (d) 251 or more passenger seats, four kits.
- (2) First aid kits shall be:
 - (a) distributed throughout the aircraft cabin;
 - (b) readily available to crew members and passengers;
 - (c) clearly identified;
 - (d) marked with the date of the last inspection; and
 - (e) where the aircraft is equipped with only one first aid kit, located as close as practicable to an emergency exit.
- (3) A stowage compartment that contains a first aid kit shall be clearly marked as to its contents.

705.91 Emergency Medical Kit

No person shall operate an aircraft that has a seating configuration, excluding crew seats, of more than 100 unless an emergency medical kit that meets the Commercial Air Services Standards is carried on board the aircraft.

705.92 Crash Axe

No person shall operate an aircraft unless a crash axe is carried on board the aircraft.

705.93 Hand-held Fire Extinguishers

(1) No person shall operate an aircraft unless hand-held fire extinguishers for use in the flight deck, passenger compartment and cargo compartment are carried on board the aircraft.

(2) The type and quantity of extinguishing agent shall be suitable for extinguishing fires that are likely to occur in the flight deck, passenger compartment or cargo compartment where the extinguisher is intended to be used and, in the case of the extinguishing agent for extinguishers intended to be used in the passenger compartment, shall be designed to minimize the hazard of toxic gas concentrations.(3) At least one hand-held fire extinguisher shall be conveniently located and readily available for immediate use in each class E cargo compartment that is accessible to crew members during flight, and at least one hand-held fire extinguisher shall be located in each isolated galley.

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(4) At least one hand-held fire extinguisher shall be conveniently located on the flight deck and readily available for immediate use by the flight crew members.

(5) The following number of hand-held fire extinguishers shall be conveniently located, readily available for immediate use and uniformly distributed throughout the passenger compartment on each deck:

- (a) 60 or fewer passenger seats, two extinguishers;
- (b) 61 to 200 passenger seats, three extinguishers;
- (c) 201 or more passenger seats, one extra extinguisher for each additional unit of 100 passenger seats.

(6) At least two hand-held fire extinguishers shall contain Halon 1211 (bromochlorodifluoromethane) or its equivalent.

(7) A stowage compartment or stowage container that contains a hand-held fire extinguisher shall be clearly marked as to its contents.

705.94 Portable Oxygen

No person shall operate a pressurized aircraft above FL 250 unless:

- (a) there is readily available to each cabin attendant on board portable oxygen equipment with a 15-minute supply of oxygen; or
- (b) sufficient portable oxygen units with masks, or spare outlets and masks, to ensure an immediate supply of oxygen to each cabin attendant are distributed throughout the cabin.

705.95 Survival Equipment

No air operator shall operate an aircraft unless the equipment carried on board the aircraft pursuant to Sections 602.61 and 602.63 meets the additional requirements of the Commercial Air Services Standards.

705.96 Inspection Requirements

No air operator shall operate an aircraft unless the emergency equipment carried on board pursuant to this Division is inspected regularly in accordance with the inspection schedule set out in the company operations manual.

705.97 Flashlights

Each cabin attendant required pursuant to Section 705.104 shall have a flashlight readily available for use.

705.98 to 705.102 Reserved



Division VII - Personnel Requirements

705.103 Designation of Pilot-in-command and Second-in-command

An air operator shall designate for each flight, a pilot-in-command and a second-in-command.

705.104 Cabin Attendant Requirements

(1) Subject to Subsection (3), no air operator shall operate an aircraft with passengers on board unless the crew includes at least the following number of cabin attendants:

- (a) 1 to 40 passengers on board, one attendant;
- (b) 41 to 80 passengers on board, two attendants; and
- (c) 81 or more passengers on board, one attendant for each unit of 40 passengers or portion thereof.

(2) Notwithstanding Subsection (1), no air operator shall operate an aircraft with passengers on board with fewer cabin attendants than the number required to satisfy the following requirements:

- (a) the air operator shall, for each type and model of aircraft that it operates, assign to each cabin attendant the duties to be performed in an emergency, including an emergency evacuation, and shall show that the performance of those duties adequately meets any emergency that may be reasonably anticipated, including the possible incapacitation of another cabin attendant; and
- (b) the air operator shall ensure that the duties assigned pursuant to Subsection (1) are described in its company operations manual.

(3) An air operator may operate an aircraft with passengers on board with a crew that includes fewer than the minimum number of cabin attendants required by Subsection (1), if the air operator:

- (a) is authorized to do so in its air operator certificate; and
- (b) complies with the Commercial Air Services Standards.

(4) Where an aircraft has more than one deck, the number of cabin attendants on each deck shall be in accordance with Subsections (1) and (2).

705.105 Designation of In-charge Cabin Attendant

An air operator shall, where a crew includes more than one cabin attendant, designate an in-charge cabin attendant.

705.106 to 705.111 Reserved

705.112 Check Authority

(1) The following checks shall be conducted by the Minister, Aircrew Designated Examiner or an approved check airman:

- (a) flight crewmember proficiency checks
- (b) flight crewmember line checks
- (c) initial instructor check
- (d) instructor proficiency check

(2) The following checks shall be conducted by the Minister or an Aircrew Designated Examiner

(ADE) in accordance with the provisions of LARs Part VI, Subpart 2, Standards, Appendix IX:

- (a) initial aircraft type rating
- (b) airline transport pilot license
- (c) initial operating experience check for captains
- (d) initial check airman qualification



(e) check airman proficiency check

(3) Any other check deemed necessary by the Minister will be conducted by the Minister.

705.113 Instructor Experience Requirements

No operator shall use an airman as an pilot instructor under this Subpart unless that person meets the following requirements:

- (a) that person has a minimum of 1,000 hours as pilot in command of the aircraft for which instruction duties will be performed.
- (b) the hours required in Subsection (a) above may be reduced to 500 hours if that airman has been an instructor for the operator in an aircraft of the same class and category.

705.114 Check Airman Experience Requirements

No operator shall use an airman as an pilot check airman under this Subpart unless that person meets the following requirements:

- (a) that person has a minimum of 3,000 hours as pilot in command of the aircraft for which check airman duties will be performed.
- (b) the hours required in Subsection (a) above may be reduced to 500 hours if that airman has been a check airman for the operator in an aircraft of the same class and category.

705.115 Aircrew Designated Examiner Experience Requirements

No operator shall use an airman as an Aircrew Designated Examiner (ADE) under this Subpart unless that person meets the following requirements:

- (a) that person has a minimum of 3,000 hours as pilot in command of the aircraft for which instruction duties will be performed.
- (b) the hours required in Subsection (a) above may be reduced to 500 hours if that airman has been an ADE for the operator in an aircraft of the same class and category.
- (c) that person has a minimum of 2 years experience as a check airman for the operator on the same aircraft for which ADE duties will be performed.

705.116 Initial Cadre Instructors, Check Airman, and Aircrew Designated Examiners

The requirements of Sections 705.113, 705.114 and 705.115 may be waived by the Minister under the follow circumstances:

- (a) certification of a new operator and there are no experienced captains, instructors, or check airman and the following conditions are met:
 - (i) the operator's initial cadre airmen are trained by the manufacturer or DGCA approved training center using the DGCA Approved Operator's Training Program.
 - (ii) the operator provides the same training to a qualified DGCA inspector:
 - A. the DGCA inspector will have at least 5,000 hours as pilot in command of an aircraft requiring a type rating and in commercial air services operations.
 - (iii) the DGCA inspector will check and qualify each initial cadre instructor, check airman, and aircrew designee.
 - (iv) the initial cadre airmen will be selected from senior captains and best qualified.
- (b) when an operator acquires a new aircraft and there are no experienced captains, instructors, or check airman and the following conditions are met:
 - (i) the conditions of Subsections 705.116(a)(i) through 705.116(a)(iv) will be met.

705.117 to 705.123 Reserved



Division VIII - Training

705.124 Applicability and Terms Used.

(1) This Division prescribes the requirements applicable to each certificate holder for establishing and maintaining a training program for crewmembers, flight dispatchers, and other operations personnel, and for the approval and use of training devices in the conduct of the program.

(2) No air operator shall operate under this Division unless the air operator complies with the Commercial Air Services Standards applicable to this Division.

(3) For the purpose of this Division, airplane groups are as follows:

- (a) Group I. Propeller driven, including -
 - (i) reciprocating powered; and
 - (ii) turbopropeller powered.
- (b) Group II. Turbojet powered.
- (4) For the purpose of this Division, the following terms and definitions apply:
 - (a) <u>Initial Training</u>. The training required for crewmembers and dispatchers who have not qualified and served in the same capacity on another airplane of the same group.
 - (b) <u>Transition Training</u>. The training required for crewmembers and dispatchers who have qualified and served in the same capacity on another airplane of the same group.
 - (c) <u>Upgrade Training</u>. The training required for crewmembers who have qualified and served as second in command or flight engineer on a particular airplane type, before they serve as pilot in command or second in command, respectively, on that airplane.
 - (d) <u>Differences Training</u>. The training required for crewmembers and dispatchers who have qualified and served on a particular type airplane, when the Minister finds differences training is necessary before a crewmember serves in the same capacity on a particular variation of that airplane.
 - (e) <u>Programmed Hours</u>. The hours of training prescribed in this Division which may be reduced by the Minister upon a showing by the certificate holder that circumstances justify a lesser amount.
 - (f) <u>In-flight</u>. Refers to maneuvers, procedures, or functions that must be conducted in the airplane.
 - (g) <u>Training Center</u>. An organization governed by the applicable requirements of the Lebanese Aviation Regulations (LARs) that provides training, testing, and checking under contract or other arrangement to certificate holders subject to the requirements of this Division.
 - (h) <u>Requalification Training</u>. The training required for crewmembers previously trained and qualified, but who have become unqualified due to not having met within the required period the recurrent training requirements of the LARs or the proficiency check requirements of the LARs.

705.125 Training Program: General.

- (1) Each certificate holder shall:
 - (a) establish, obtain the appropriate initial and final approval of, and provide, a training program that meets the requirements of this Division, Appendices I, II, III and IV, V, VI and the Commercial Air Services Standards and that insures that each crewmember, flight dispatcher, flight instructor, and check airman, and each person assigned duties for the carriage and handling of dangerous articles and magnetized materials, is adequately trained to perform his assigned duties.
 - (b) provide adequate ground and flight training facilities and properly qualified ground instructors for the training required by this Division;

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- (c) provide and keep current with respect to each airplane type and, if applicable, the particular variations within that airplane type, appropriate training material, examinations, forms, instructions, and procedures for use in conducting the training and checks required by this Division; and
- (d) provide enough flight instructors, simulator instructors, and approved check airmen to conduct required flight training and flight checks, and simulator training courses permitted under this Division.

(2) Whenever a crewmember or flight dispatcher who is required to take recurrent training, a flight check, or a competence check, takes the check or completes the training in the calendar month before or after the calendar month in which that training or check is required, he is considered to have taken or completed it in the calendar month in which it was required.

(3) Each instructor, supervisor, or check airman who is responsible for a particular ground training subject, segment of flight training, course of training, flight check, or competence check under this Division shall certify as to the proficiency and knowledge of the crewmember, flight dispatcher, flight instructor, or check airman concerned upon completion of that training or check. That certification shall be made a subpart of the crewmember's or dispatcher's record. When the certification required by this Section is made by an entry in a computerized recordkeeping system, the certifying instructor, supervisor, or check airman must be identified with that entry. However, the signature of the certifying instructor, supervisor, or check airman is not required for computerized entries.

(4) Training subjects that are applicable to more than one airplane or crewmember position and that have been satisfactorily completed in connection with prior training for another airplane or another crewmember position, need not be repeated during subsequent training other than recurrent training. (5) A person who progresses successfully through flight training, is recommended by his instructor or a check airman, and successfully completes the appropriate flight check by a check airman or DGCA Inspector, need not complete the programmed hours of flight training for the particular airplane. However, whenever the Minister finds that 20 percent of the flight checks given at a particular training base during the previous 6 months under this Section are unsuccessful, this Section may not be used by the certificate holder at that base until the Minister finds that the effectiveness of the flight training there has improved.

(6) In the case of a certificate holder using a course of training permitted in Section 705.132, the Minister may require the programmed hours of in-flight training in whole or in subpart, until he finds the effectiveness of the flight training has improved as provided in Subsection (5) of this Section.

705.126 Training Program: Special Rules.

(1) Other than the certificate holder, only another certificate holder certificated under this Division or a training center certificated under Part IV of the LARs is eligible under this Division to provide flight training, testing, and checking under contract or other arrangement to those persons subject to the requirements of this Division.

(2) A certificate holder may contract with, or otherwise arrange to use the services of, a training center to provide training, testing, and checking required by this Division only if the training center:

- (a) uses the DGCA Approved Training Program for the operator;
- (b) has facilities, training equipment, and courseware meeting the applicable requirements of Part VII of the LARs;
- (c) has approved curriculums, curriculum segments, and portions of curriculum segments applicable for use in training courses required by this Division; and
- (d) has sufficient instructor and check airmen qualified under the applicable requirements of LARs 705.133 or 705.135 to provide training, testing, and checking to persons subject to the requirements of this Division.

(3) A certificate holder shall notify the DGCA at least 15 days prior to conducting any training pursuant to Part VII, Subpart 5 of the LARs. The following must be provided in the notification:

(a) under what provisions of the approved training program is the training being conducted;



- (b) the location, date, and time of the training;
- (c) the instructors who will conduct the training;
- (d) the programmed hours of instruction; and
- (e) the names of the students.

705.127 Training Program: Curriculum.

(1) Each certificate holder must prepare and keep current a written training program curriculum for each type of airplane with respect to dispatchers and each crewmember required for that type airplane. The curriculum must include ground and flight training required by this Division.

- (a) each training program curriculum must include:
 - (i) a list of principal ground training subjects, including emergency training subjects, that are provided.
 - (ii) a list of all the training devices mockups, systems trainers, procedures trainers, or other training aids that the certificate holder will use.
 - (iii) detailed descriptions or pictorial displays of the approved normal, abnormal, and emergency maneuvers, procedures and functions that will be performed during each flight training phase or flight check, indicating those maneuvers, procedures and functions that are to be performed during the in-flight portions of flight training and flight checks.
 - (iv) a list of airplane simulators or other training devices approved under LARs 705.131, including approvals for particular maneuvers, procedures, or functions.
 - (v) the programmed hours of training that will be applied to each phase of training.
 - (vi) a copy of each statement issued by the Minister under LARs 705.129(4) for reduction of programmed hours of training.

705.128 Crewmember and Dispatcher Resource Management Training.

(1) No certificate holder may use a person as a flight crewmember, cabin attendant or flight dispatcher unless that person has completed approved crew resource management (CRM) or dispatcher resource management (DRM) initial training, as applicable, with that certificate holder.

(2) CRM and DRM training will be accomplished in accordance with the Commercial Air Services Standards and Appendix IV to that Standard.

705.129 Training Program and Revision: Initial and Final Approval.

(1) To obtain initial and final approval of a training program, or a revision to an approved training program, each certificate holder must submit to the Minister:

- (a) an outline of the proposed program or revision, including an outline of the proposed or revised curriculum, that provides enough information for a preliminary evaluation of the proposed training program or revised training program; and
- (b) additional relevant information as may be requested by the Minister.

(2) If the proposed training program or revision complies with this Division the Minister grants initial approval in writing after which the certificate holder may conduct the training in accordance with that program. The Minister then evaluates the effectiveness of the training program and advises the certificate holder of deficiencies, if any, that must be corrected.

(3) The Minister grants final approval of the training program or revision if the certificate holder shows that the training conducted under the initial approval set forth in Subsection (2) of this Section ensures that each person that successfully completes the training is adequately trained to perform his assigned duties.

(4) In granting initial and final approval of training programs or revisions, including reductions in programmed hours specified in this Division, the Minister considers the training aids, devices,

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methods, and procedures listed in the certificate holder's curriculum as set forth in LARs 705.127 that increase the quality and effectiveness of the teaching/learning process.

(5) If approval of reduced programmed hours of training is granted, the Minister provides the certificate holder with a statement of the basis for the approval. The basis for the reduction will demonstrate an equivalent level of safety.

(6) Whenever the Minister finds that revisions are necessary for the continued adequacy of a training program that has been granted final approval, the certificate holder shall, after notification by the Minister, make any changes in the program that are found necessary by the Minister. Within 30 days after the certificate holder receives such notice, it may file a petition to reconsider the notice with the DGCA. The filing of a petition to reconsider stays the notice pending a decision by the Minister. However, if the Minister finds that there is an emergency that requires immediate action in the interest of safety in air transportation, he may, upon a statement of the reasons, require a change effective without stay.

705.130 Reserved

705.131 Training Program: Approval of Airplane Simulators and Other Training Devices.

(1) Each airplane simulator and other training device that is used in a training course permitted under LARs 705.132, in checks required under Division IX or as permitted in Appendices I, II, III, IV, V, and VI to Part VII of the LARs must:

- (a) be specifically approved every six months by a qualified Operations Inspector for:
 - (i) the certificate holder;
 - (ii) the type airplane and, if applicable, the particular variation within type, for which the training or check is being conducted; and
 - (iii) the particular maneuver, procedure, or crewmember function involved.
- (b) simulators shall have a current Master International Qualification Test Guide (MIQTG)
 - (i) if the simulator is not recategorized, a Primary Reference Document is required in lieu of the MIQTG.
 - (ii) if the simulator is not recategorized and there is no Primary Reference Document, a special arrangement is required with the primary approving Authority.
- (c) maintain the performance, functional, and other characteristics that are required for approval
- (d) be modified to conform with any modification to the airplane being simulated that results in changes to performance, functional, or other characteristics required for approval.
- (e) be given a daily functional preflight check before being used.
- (f) have a daily discrepancy log kept with each discrepancy entered in that log by the appropriate instructor or check airman at the end of each training or check flight.

(2) A particular airplane simulator or other training device may be approved for use by more than one certificate holder.

(3) An airplane simulator may be used instead of the airplane to satisfy the in-flight requirements of 705.162, 705.164, and Appendices I, II, II, IV and VI, if the simulator:

- (a) is approved under this section and meets the appropriate requirements of Appendix V; and
- (b) is used as subpart of an approved program that meets the training requirements of Sections 705.144(1), 705.144(3) of the LARs.

(4) An airplane simulator approved under this Section must be used instead of the airplane to satisfy the pilot flight training requirements prescribed in the certificate holder's approved low altitude windshear flight training program set forth in LARs Section 705.132(5).

(5) Each operator will maintain a current list of all simulators and training devices in its approved training program manual. All current simulator and training device approval letters will be maintained in the training program manual.

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705.132 Training Courses Using Airplane Simulators and Other Training Devices.

(1) Training courses utilizing airplane simulators and other training devices will be included in the certificate holder's approved training program for use as provided in this Section.

(2) A course of training in an airplane simulator may be included for use as provided in Section 705.164 if that course:

- (a) provides at least 8 hours of training at the pilot controls of an airplane simulator as well as a proper briefing before and after each simulator training period. The training will include those maneuvers in Appendix IV to this Subpart. The 8 hours includes the Proficiency Check or Recurrent Line Oriented Flight Training (LOFT) as applicable;
- (b) provides training in at least the procedures and maneuvers set forth in Appendix IV to Part VII of the LARs; or
- (c) during alternate 6 month periods, provides Recurrent Line Oriented Flight Training (LOFT) in lieu of a proficiency check that:
 - (i) utilizes a complete flight crew;
 - (ii) includes at least the maneuvers and procedures (abnormal and emergency) that may be expected in line operations;
 - (iii) is representative of the flight segment appropriate to the operations being conducted by the certificate holder; and
- (d) is given by an instructor who meets the applicable requirements of LARs 705.134.
- (e) provides qualified crewmembers at each crew position during training and checking.
- (f) utilizes a simulator that meets the requirements of 705.131(1).
 - (i) no operator shall use a simulator for training or checking under the provisions of LARs Part VII, Subpart 5, unless that simulator has been inspected by a qualified inspector, pursuant to the LARs, and approved by the DGCA within the preceding 6 months.

(3) The satisfactory completion of the course of training must be certified by either the Minister or an approved and qualified check airman.

(4) The programmed hours of flight training (airplane) set forth in this Division do not apply if the training program for the airplane type includes:

- (a) a course of pilot training in an airplane simulator as provided in LARs 705.144(4); or
- (b) a course of flight engineer training in an airplane simulator or other training device as provided in LARs 705.145(4).

(5) Each certificate holder of this Division must use an approved simulator for each airplane type in each of its pilot training courses that provides training in at least the procedures and maneuvers set forth in the certificate holder's approved low altitude windshear flight training program. The approved low altitude windshear flight training, if applicable, must be included in each of the pilot flight training courses prescribed in LARs 705.132(2), 705.139, 705.144, and 705.147 of this Division.

705.133 Training Program: Check Airman and Instructor Qualifications.

(1) For the purposes of this Section and LARs 705.135:

- (a) a check airman (airplane) is a person who is qualified, and approved by the DGCA, to conduct proficiency checks, line checks or instruction in an airplane, in a flight simulator, or in a flight training device for a particular type airplane.
- (b) a check airman (simulator) is a person who is qualified to conduct proficiency checks or instruction, but only in a flight simulator or in a flight training device for a particular type airplane.
- (c) check airmen (airplane) and check airmen (simulator) are those check airmen who perform the functions described in LARs 705.125(1)(d).

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(2) No certificate holder may use a person, nor may any person serve as a check airman (airplane) in a training program established under this Division unless, with respect to the airplane type involved, that person:

- (a) holds the airman certificates and ratings required to serve as a pilot in command, a flight engineer, or a flight navigator, as applicable, in operations under this Division;
- (b) has satisfactorily completed the appropriate training phases for the airplane, including recurrent training, that are required to serve as a pilot in command, flight engineer, or flight navigator, as applicable, in operations under this Division;
- (c) has satisfactorily completed the appropriate proficiency checks that are required to serve as a pilot in command, flight engineer, or flight navigator, as applicable, in operations under this Division;
- (d) has satisfactorily completed the applicable training requirements of LARs 705.135 including in-flight training and practice for initial and transition training;
- (e) holds at least a Lebanese Class II medical certificate unless serving as a required crewmember, in which case holds a Class I medical certificate as appropriate;
- (f) has satisfied the recency of experience requirements of Section 705.162; and
- (g) has been approved by the Minister for the check airman duties involved.

(3) No certificate holder may use a person nor may any person serve as a check airman (simulator) in a training program established under this Division unless, with respect to the airplane type involved, that person meets the provisions of Subsection (2) of this Section, or:

- (a) holds the airman certificates and ratings, except medical certificate, required to serve as a pilot in command, a flight engineer, or a flight navigator, as applicable, in operations under this Division;
- (b) has satisfactorily completed the appropriate training phases for the airplane, including recurrent training, that are required to serve as a pilot in command, flight engineer, or flight navigator in operations under this Division;
- (c) has satisfactorily completed the appropriate proficiency checks that are required to serve as a pilot in command, flight engineer, or flight navigator in operations under this Division;
- (d) has satisfactorily completed the applicable training requirements of LARs 705.135; and
- (e) has been approved by the Minister for the check airman (simulator) duties involved.

(4) Completion of the requirements in Subsections (2) (b), (c), and (d) or (3) (b), (c), and (d) of this Section, as applicable, shall be entered in the individual's training record maintained by the certificate holder.

(5) Check airmen who have reached their 60th birthday or who do not hold an appropriate medical certificate may function as check airmen, but may not serve as pilot flightcrew members in operations under this Division.

- (6) A check airman (simulator) must accomplish the following:
 - (a) fly at least two flight segments as a required crewmember for the type airplane involved within the 12-month period preceding the performance of any check airman duty in a flight simulator; or
 - (b) satisfactorily complete an approved line-observation program within the period prescribed by that program and that must precede the performance of any check airman duty in a flight simulator.

(7) The flight segments or line-observation program required in Subsection (6) of this section are considered to be completed in the month required if completed in the calendar month before or in the calendar month after the month in which it is due.

705.134 Qualifications: Flight Instructors (airplane) and Flight Instructors (simulator).

(1) For the purposes of this section and LARs 705.136:

(a) a flight instructor (airplane) is a person who is qualified to instruct in an airplane, in a flight simulator, or in a flight training device for a particular type airplane.

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- (b) a flight instructor (simulator) is a person who is qualified to instruct, but only in a flight simulator, in a flight training device, or both, for a particular type airplane.
- (c) flight instructors (airplane) and flight instructors (simulator) are those instructors who perform the functions described in LARs 705.125(1)(d).

(2) No certificate holder may use a person nor may any person serve as a flight instructor (airplane) in a training program established under this Division unless, with respect to the airplane type involved, that person:

- (a) holds the airman certificates and rating required to serve as a pilot in command, a flight engineer, or a flight navigator, as applicable, in operations under this Division;
- (b) has satisfactorily completed the appropriate training phases for the airplane, including recurrent training, that are required to serve as a pilot in command, flight engineer, or flight navigator, as applicable, in operations under this Division;
- (c) has satisfactorily completed the appropriate proficiency checks that are required to serve as a pilot in command, flight engineer, or flight navigator, as applicable, in operations under this Division;
- (d) has satisfactorily completed the applicable training requirements of LARs 705.136, including in-flight training and practice for initial and transition training;
- (e) holds at least a Lebanese Class II medical certificate unless serving as a required crewmember, in which case holds a Class I medical certificate as appropriate.
- (f) has satisfied the recency of experience requirements of Section 705.162.

(3) No certificate holder may use a person, nor may any person serve as a flight instructor (simulator) in a training program established under this Division, unless, with respect to the airplane type involved, that person meets the provisions of Subsection (2) of this Section, or:

- (a) holds the airman certificates and ratings, except medical certificate, required to serve as a pilot in command, a flight engineer, or a flight navigator, as applicable, in operations under this Division;
- (b) has satisfactorily completed the appropriate training phases for the airplane, including recurrent training, that are required to serve as a pilot in command, flight engineer, or flight navigator, as applicable, in operations under this Division;
- (c) has satisfactorily completed the appropriate proficiency checks that are required to serve as a pilot in command, flight engineer, or flight navigator, as applicable, in operations under this Division; and
- (d) has satisfactorily completed the applicable training requirements of LARs 705.136.

(4) Completion of the requirements in Subsections (2) (b), (c), and (d) or (3) (b), (c), and (d) of this Section as applicable shall be entered in the individual's training record maintained by the certificate holder.

(5) Flight instructors who have reached their 60th birthday, or who do not hold an appropriate medical certificate, may function as flight instructors, but may not serve as pilot flight crewmembers in operations under this Division.

705.135 Initial and Transition Training and Checking Requirements: Check Airmen (airplane), Check Airmen (simulator).

(1) No certificate holder may use a person nor may any person serve as a check airman unless:

- (a) that person has satisfactorily completed initial or transition check airman training; and
- (b) within the preceding 12 calendar months that person satisfactorily conducts a proficiency check under the observation of a qualified DGCA Inspector.
- (c) within the preceding 12 calendar months that person satisfactorily conducts a line check under the observation of a qualified DGCA Inspector.

(2) The observation check required by Subsection (1)(b) of this Section is considered to have been completed in the month required if completed in the calendar month before, or the calendar month after, the month in which it is due.

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- (3) The initial ground training for check airmen must include the following:
 - (a) check airman duties, functions, and responsibilities.
 - (b) the applicable Lebanese Aviation Regulations and the certificate holder's policies and procedures.
 - (c) the appropriate methods, procedures, and techniques for conducting the required checks.
 - (d) proper evaluation of student performance including the detection of:
 - (i) improper and insufficient training; and
 - (ii) personal characteristics of an applicant that could adversely affect safety.
 - (e) the appropriate corrective action in the case of unsatisfactory checks.
 - (f) the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures in the airplane.

(4) The transition ground training for check airmen must include approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the airplane to which the check airman is in transition.

(5) The initial and transition flight training for pilot check airmen (airplane), flight engineer check airmen (airplane), and flight navigator check airmen (airplane) must include the following:

- (a) the safety measures for emergency situations that are likely to develop during a check.
- (b) the potential results of improper, untimely, or non-execution of safety measures during a check.
- (c) for pilot check airman (airplane):
 - (i) training and practice in conducting flight checks from the left and right pilot seats in the required normal, abnormal, and emergency procedures to ensure competence to conduct the pilot flight checks required by this Division; and
 - (ii) the safety measures to be taken from either pilot seat for emergency situations that are likely to develop during a check.
- (d) for flight engineer check airmen (airplane) and flight navigator check airmen (airplane), training to ensure competence to perform assigned duties.
- (6) The requirements of Subsection (5) of this Section may be accomplished in full or in part in flight,
- in a flight simulator, or in a flight training device, as appropriate except:
 - (a) Subsection (5)(c) will be accomplished in an airplane to the extent that proficiency is demonstrated.
- (7) The initial and transition flight training for check airmen (simulator) must include the following:
 - (a) training and practice in conducting flight checks in the required normal, abnormal, and emergency procedures to ensure competence to conduct the flight checks required by this Division. This training and practice must be accomplished in a flight simulator or in a flight training device.
 - (b) training in the operation of flight simulators or flight training devices, or both, to ensure competence to conduct the flight checks required by this Division.

705.136 Initial and Transition Training and Checking Requirements: Flight Instructors (airplane), Flight Instructors (simulator).

- (1) No certificate holder may use a person nor may any person serve as a flight instructor unless:
 - (a) that person has satisfactorily completed initial or transition flight instructor training; and
 - (b) within the preceding 12 calendar months, that person satisfactorily conducts instruction under the observation of a qualified DGCA Inspector as follows:
 - (i) an observation check will be accomplished in an airplane if the instructor is required to give instruction in an airplane.
 - (ii) an observation check will be accomplished in a simulator if the instructor is required to give instruction in a simulator.

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(2) The observation check required by Subsection (1)(b) of this Section is considered to have been completed in the month required if completed in the calendar month before, or the calendar month after, the month in which it is due.

(3) The initial ground training for flight instructors must include the following:

- (a) flight instructor duties, functions, and responsibilities.
- (b) the applicable Lebanese Aviation Regulations (LARs) and the certificate holder's policies and procedures.
- (c) the appropriate methods, procedures, and techniques for conducting flight instruction.
- (d) proper evaluation of student performance including the detection of:
 - (i) improper and insufficient training; and
 - (ii) personal characteristics of an applicant that could adversely affect safety.
- (e) the corrective action in the case of unsatisfactory training progress.
- (f) the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures in the airplane.
- (g) except for holders of a flight instructor certificate:
 - (i) the fundamental principles of the teaching-learning process;
 - (ii) teaching methods and procedures; and
 - (iii) the instructor-student relationship.

(4) The transition ground training for flight instructors must include the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the airplane to which the flight instructor is in transition.

(5) The initial and transition flight training for flight instructors (airplane), flight engineer instructors (airplane), and flight navigator instructors (airplane) must include the following:

- (a) the safety measures for emergency situations that are likely to develop during instruction.
- (b) the potential results of improper, untimely, or non-execution of safety measures during instruction.
- (c) for pilot flight instructor (airplane):
 - (i) in-flight training and practice in conducting flight instruction from the left and right pilot seats in the required normal, abnormal, and emergency procedures to ensure competence as an instructor; and
 - (ii) the safety measures to be taken from either pilot seat for emergency situations that are likely to develop during instruction.
- (d) for flight engineer instructors (airplane) and flight navigator instructors (airplane), in-flight training to ensure competence to perform assigned duties.
- (6) The requirements of Subsection (5) of this Section may be accomplished in full or in part in flight,
- in a flight simulator, or in a flight training device, as appropriate except:
 - (a) Subsection (5)(c) will be accomplished in an airplane to the extent that proficiency is demonstrated.

(7) The initial and transition flight training for flight instructors (simulator) must include the following:

- (a) training and practice in the required normal, abnormal, and emergency procedures to ensure competence to conduct the flight instruction required by this Division. This training and practice must be accomplished in full or in part in a flight simulator or in a flight training device.
- (b) training in the operation of flight simulators or flight training devices, or both, to ensure competence to conduct the flight instruction required by this Division.

705.137 Crewmember and Dispatcher Training Requirements.

(1) Each training program must provide the following ground training as appropriate to the particular assignment of the crewmember or dispatcher:

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- (a) basic indoctrination ground training for newly hired crewmembers or dispatchers including 40 programmed hours of instruction, unless reduced under LARs 705.129 or as specified in LARs 705.125(4), in at least the following:
 - (i) duties and responsibilities of crewmembers or dispatchers, as applicable;
 - (ii) appropriate provisions of the Lebanese Aviation Regulations (LARs);
 - (iii) contents of the certificate holder's operating certificate and Operations Specifications (not required for cabin attendants); and
 - (iv) appropriate portions of the certificate holder's operating manual.
- (b) the initial and transition ground training specified in LARs 705.140 through 705.143, as applicable.
- (c) emergency training as specified in LARs 705.138, (not required for dispatchers).

(2) Each training program must provide the flight training specified in LARs 705.144 through 705.146, as applicable.

(3) Each training program must provide recurrent ground and flight training as provided in LARs 705.147.

(4) Each training program must provide the differences training specified in LARs 705.139, if the Minister finds that, due to differences between airplanes of the same type operated by the certificate holder, additional training is necessary to insure that each crewmember and dispatcher is adequately trained to perform his assigned duties.

(5) Upgrade training as specified in LARs 705.140 and 705.144 for a particular type airplane may be included in the training program for crewmembers who have qualified and served as second in command pilot or flight engineer on that airplane.

(6) Particular subjects, maneuvers, procedures, or parts thereof specified in LARs 705.140 through 705.145 for transition or upgrade training, as applicable, may be omitted, or the programmed hours of ground instruction or in-flight training may be reduced, as provided in LARs 705.129.

(7) In addition to initial, transition, upgrade, recurrent and differences training, each training program must also provide ground and flight training, instruction, and practice as necessary to insure that each crewmember and dispatcher:

- (a) remains adequately trained and currently proficient with respect to each airplane, crewmember position, and type of operation in which he serves; and
- (b) qualifies in new equipment, facilities, procedures, and techniques, including modifications to airplanes.

705.138 Crewmember Emergency Training.

(1) Each training program must provide the emergency training set forth in this Section with respect to each airplane type, model, and configuration, each required crewmember, and each kind of operation conducted, insofar as appropriate for each crewmember and the certificate holder.
 (2) Emergency training must provide the following:

(2) Emergency training must provide the following:

- (a) instruction in emergency assignments and procedures, including coordination among crewmembers.
- (b) individual instruction in the location, function, and operation of emergency equipment including:
 - (i) equipment used in ditching and evacuation;
 - (ii) first aid equipment and its proper use;
 - (iii) portable fire extinguishers, with emphasis on type of extinguisher to be used on different classes of fires; and
 - (iv) emergency exits in the emergency mode with the evacuation slide/raft pack attached (if applicable), with training emphasis on the operation of the exits under adverse conditions.
- (c) instruction in the handling of emergency situations including:
 - (i) rapid decompression;
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- (ii) fire in flight or on the surface, and smoke control procedures with emphasis on electrical equipment and related circuit breakers found in cabin areas including all galleys, service centers, lifts, lavatories and movie screens;
- (iii) ditching and other evacuation, including the evacuation of persons and their attendants, if any, who may need the assistance of another person to move expeditiously to an exit in the event of an emergency.
- (iv) illness, injury, or other abnormal situations involving passengers or crewmembers to include familiarization with the emergency medical kit; and
- (v) hijacking and other unusual situations.
- (d) review and discussion of previous aircraft accidents and incidents pertaining to actual emergency situations.

(3) Each crewmember must accomplish the following emergency training during the specified training periods, using those items of installed emergency equipment for each type of airplane in which he or she is to serve (Alternate recurrent training required by Section 705.156 of this Division may be accomplished by approved pictorial presentation or demonstration):

- (a) one time emergency drill requirements to be accomplished during initial training. Each crewmember must perform:
 - (i) at least one approved protective breathing equipment (PBE) drill in which the crewmember combats an actual or simulated fire using at least one type of installed hand fire extinguisher or approved fire extinguisher that is appropriate for the type of actual fire or simulated fire to be fought while using the type of installed PBE required by the LARs or approved PBE simulation device as defined by Subsection (4) of this Section for combating fires aboard airplanes;
 - (ii) at least one approved firefighting drill in which the crewmember combats an actual fire using at least one type of installed hand fire extinguisher or approved fire extinguisher that is appropriate for the type of fire to be fought. This firefighting drill is not required if the crewmember performs the PBE drill of Subsection (3)(a)(i) by combating an actual fire; and
 - (iii) an emergency evacuation drill with each person egressing the airplane or approved training device using at least one type of installed emergency evacuation slide. The crewmember may either observe the airplane exits being opened in the emergency mode and the associated exit-slide/raft pack being deployed and inflated, or perform the tasks resulting in the accomplishment of these actions.
- (b) additional emergency drill requirements to be accomplished during initial training and once each 24 calendar months during recurrent training. Each crewmember must:
 - (i) perform the following emergency drills and operate the following equipment:
 - A. each type of emergency exit in the normal and emergency modes, including the actions and forces required in the deployment of the emergency evacuation slides;
 - B. each type of installed hand fire extinguisher;
 - C. each type of emergency oxygen system to include protective breathing equipment;
 - D. donning, use, and inflation of individual flotation means, if applicable; and
 - E. ditching, if applicable, including but not limited to, as appropriate:
 - cockpit preparation and procedures;
 - crew coordination;
 - > passenger briefing and cabin preparation;
 - donning and inflation of life preservers;
 - ➢ use of life lines; and
 - boarding of passengers and crew into raft or a slide/raft pack.
 - (ii) observe the following drills:
 - A. removal from the airplane (or training device) and inflation of each type of life raft, if applicable;
 - B. transfer of each type of slide/raft pack from one door to another;

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- C. deployment, inflation, and detachment from the airplane (or training device) of each type of slide/raft pack; and
- D. emergency evacuation including the use of a slide.

(4) No crewmember may serve in operations under this Division unless that crewmember has performed the PBE drill and the firefighting drill described by Subsections (3)(a)(i) and (3)(a)(i) of this Section, as subpart of a one-time training requirement of Subsections (3)(a) or (3)(b) of this Section as appropriate. Any crewmember who performs the PBE drill and the firefighting drill prescribed in Subsections (3)(a)(i) and (3)(a)(i) of this Section is deemed to be in compliance with this regulation upon presentation of information or documentation, in a form and manner acceptable to the Minister, showing that the appropriate drills have been accomplished.

(5) Crewmembers who serve in operations above 25,000 feet must receive instruction in the following:

- (a) respiration.
- (b) hypoxia.
- (c) duration of consciousness without supplemental oxygen at altitude.
- (d) gas expansion.
- (e) gas bubble formation.
- (f) physical phenomena and incidents of decompression.
- (6) For the purposes of this section the following definitions apply:
 - (a) "Actual fire" means an ignited combustible material, in controlled conditions, of sufficient magnitude and duration to accomplish the training objectives outlined in Subsections (3)(a)(i) and (ii) of this Section.
 - (b) "Approved fire extinguisher" means a training device that has been approved by the Minister for use in meeting the training requirements of LARs 705.138(3).
 - (c) "Approved PBE simulation device" means a training device that has been approved by the Minister for use in meeting the training requirements of LARs 705.138(3).
 - (d) "Combats," in this context, means to properly fight an actual or simulated fire using an appropriate type of fire extinguisher until that fire is extinguished.
 - (e) "Observe" means to watch without participating actively in the drill.
 - (f) "PBE drill" means an emergency drill in which a crewmember demonstrates the proper use of protective breathing equipment while fighting an actual or simulated fire.
 - (g) "Perform" means to satisfactorily accomplish a prescribed emergency drill using established procedures that stress the skill of the persons involved in the drill.
 - (h) "Simulated fire" means an artificial duplication of smoke or flame used to create various aircraft firefighting scenarios, such as lavatory, galley oven, and aircraft seat fires.

705.139 Differences Training: Crewmembers and Dispatchers.

(1) Differences training for crewmembers and dispatchers must consist of at least the following as applicable to their assigned duties and responsibilities:

- (a) instruction in each appropriate subject or subpart thereof required for initial ground training in the airplane unless the Minister finds that particular subjects are not necessary.
- (b) flight training in each appropriate maneuver or procedure required for initial flight training in the airplane unless the Minister finds that particular maneuvers or procedures are not necessary.
- (c) the number of programmed hours of ground and flight training determined by the Minister to be necessary for the airplane, the operation, and the crewmember or flight dispatcher involved.

(2) Differences training for all variations of a particular type airplane may be included in initial, transition, upgrade, and recurrent training for the airplane.

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705.140 Pilots and Flight Engineers: Initial, Transition, and Upgrade Ground Training.

(1) Initial, transition, and upgrade ground training for pilots and flight engineers must include instruction in at least the following as applicable to their assigned duties:

- (a) general subjects -
 - (i) the certificate holder's dispatch or flight release procedures;
 - (ii) principles and methods for determining weight and balance, and runway limitations for takeoff and landing;
 - (iii) enough meteorology to insure a practical knowledge of weather phenomena, including the principles of frontal systems, icing, fog, thunderstorms, and high altitude weather situations;
 - (iv) air traffic control systems, procedures, and phraseology;
 - (v) navigation and the use of navigation aids, including instrument approach procedures;
 - (vi) normal and emergency communication procedures;
 - (vii) visual cues prior to and during descent below DH or MDA;
 - (viii) approved crew resource management initial training; and
 - (ix) other instructions as necessary to ensure his competence.
- (b) for each airplane type:
 - (i) a general description;
 - (ii) performance characteristics;
 - (iii) engines and propellers;
 - (iv) major components;
 - (v) major airplane systems (i.e., flight controls, electrical, hydraulic); other systems as appropriate; principles of normal, abnormal, and emergency operations; appropriate procedures and limitations;
 - (vi) procedures for -
 - A. recognizing and avoiding severe weather situations;
 - B. escaping from severe weather situations, in case of inadvertent encounters, including low altitude windshear, and
 - C. operating in or near thunderstorms (including best penetrating altitudes), turbulent air (including clear air turbulence), icing, hail, and other potentially hazardous meteorological conditions;
 - (vii) operating limitations;
 - (viii) fuel consumption and cruise control;
 - (ix) flight planning;
 - (x) each normal and emergency procedure; and
 - (xi) the approved Airplane Flight Manual.

(2) Initial ground training for pilots and flight engineers must consist of at least the following programmed hours of instruction in the required subjects specified in Subsection (1) of this Section and in LARs 705.137(1):

- (a) Group I airplanes -
 - (i) reciprocating powered, 64 hours; and
 - (ii) turbopropeller powered, 80 hours.
- (b) Group II airplanes, 120 hours.

705.141 Flight Navigators: Initial and Transition Ground Training.

(1) Initial and transition ground training for flight navigators must include instruction in the subjects specified in LARs 705.140(1) as appropriate to his assigned duties and responsibilities and in the following with respect to the particular type airplane:

(a) limitations on climb, cruise, and descent speeds.

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- (b) each item of navigational equipment installed including appropriate radio, radar, and other electronic equipment.
- (c) airplane performance.
- (d) airspeed, temperature, and pressure indicating instruments or systems.
- (e) compass limitations and methods of compensation.
- (f) cruise control charts and data, including fuel consumption rates.
- (g) any other instruction as necessary to ensure his competence.

(2) Initial ground training for flight navigators must consist of at least the following programmed hours of instruction in the subjects specified in Subsection (1) of this Section and in LARs 705.137(1):

- (a) Group I airplanes:
 - (i) reciprocating powered, 16 hours; and
 - (ii) turbopropeller powered; 32 hours.
- (b) Group II airplanes, 32 hours.

705.142 Cabin Attendants: Initial and Transition Ground Training.

(1) Initial and transition ground training for cabin attendants must include instruction in at least the following:

- (a) general subjects -
 - (i) the authority of the pilot in command;
 - (ii) passenger handling, including the procedures to be followed in the case of deranged persons or other persons whose conduct might jeopardize safety; and
 - (iii) approved crew resource management initial training.
- (b) for each airplane type -
 - (i) a general description of the airplane emphasizing physical characteristics that may have a bearing on ditching, evacuation, and in-flight emergency procedures and on other related duties;
 - (ii) the use of both the public address system and the means of communicating with other flight crewmembers, including emergency means in the case of attempted hijacking or other unusual situations; and
- (iii) proper use of electrical galley equipment and the controls for cabin heat and ventilation.(2) Initial and transition ground training for cabin attendants must include a competence check to determine ability to perform assigned duties and responsibilities.

(3) Initial ground training for cabin attendants must consist of at least the following programmed hours of instruction in the subjects specified in Subsection (1) of this Section and in LARs 705.137(1).

- (a) Group I airplanes -
 - (i) reciprocating powered, 8 hours; and
 - (ii) turbopropeller powered, 8 hours.
- (b) Group II airplanes, 16 hours.

705.143 Flight Dispatchers: Initial and Transition Ground Training.

(1) Initial and transition ground training for flight dispatchers must include instruction in at least the following:

- (a) general subjects:
 - (i) use of communications systems including the characteristics of those systems and the appropriate normal and emergency procedures;
 - (ii) meteorology, including various types of meteorological information and forecasts, interpretation of weather data (including forecasting of enroute and terminal

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temperatures and other weather conditions), frontal systems, wind conditions, and use of actual and prognostic weather charts for various altitudes;

- (iii) the NOTAM system;
- (iv) navigational aids and publications;
- (v) joint dispatcher/pilot responsibilities;
- (vi) characteristics of appropriate airports;
- (vii) prevailing weather phenomena and the available sources of weather information;
- (viii) air traffic control and instrument approach procedures; and
- (ix) approved dispatcher resource management (DRM) initial training.
- (b) for each airplane:
 - a general description of the airplane emphasizing operating and performance characteristics, navigation equipment, instrument approach and communication equipment, emergency equipment and procedures, and other subjects having a bearing on dispatcher duties and responsibilities;
 - (ii) flight operation procedures including procedures specified in LARs 705.140(1)(b)(iv);
 - (iii) weight and balance computations;
 - (iv) basic airplane performance dispatch requirements and procedures;
 - (v) flight planning including track selection, flight time analysis, and fuel requirements; and
 - (vi) emergency procedures.
- (c) emergency procedures must be emphasized, including the alerting of proper governmental, company, and private agencies during emergencies to give maximum help to an airplane in distress.

(2) Initial and transition ground training for flight dispatchers must include a competence check given by an appropriate supervisor or ground instructor that demonstrates knowledge and ability with the subjects set forth in Subsection (1) of this Section.

(3) Initial ground training for flight dispatchers must consist of at least the following programmed hours of instruction in the subjects specified in Subsection (1) of this Section and in LARs 705.129:

- (a) Group I airplanes:
 - (i) reciprocating powered, 30 hours; and
 - (ii) turbopropeller powered, 40 hours.
- (b) Group II airplanes, 40 hours.

705.144 Pilots: Initial, Transition, and Upgrade Flight Training.

(1) Initial, transition, and upgrade training for pilots must include flight training and practice in the maneuvers and procedures set forth in the certificate holder's approved low altitude windshear flight training program and in Appendices I, II, and III to this Part VII, as applicable.

(2) The maneuvers and procedures required by Subsection (1) of this Section must be performed inflight except:

- (a) that windshear maneuvers and procedures must be performed in a simulator in which the maneuvers and procedures are specifically authorized to be accomplished; and
- (b) to the extent that certain other maneuvers and procedures may be performed in an airplane simulator, an appropriate training device, or a static airplane as permitted in Appendices I, II, and III to this Part VII of the LARs.

(3) Except as permitted in Subsections (4) and (5) of this Section, the initial flight training required by Subsection (1) of this Section must include at least the following programmed hours of in-flight training and practice unless reduced under LARs 705.129:

- (a) Group I airplanes -
 - (i) reciprocating powered. Pilot in command, 10 hours; second in command, 6 hours; and
 - (ii) turbopropeller powered. Pilot in command, 15 hours; second in command, 7 hours.
- (b) Group II airplanes. Pilot in command, 20 hours; second in command, 20 hours.

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(4) If the certificate holder's approved training program includes a course of training utilizing an airplane simulator under LARs 705.132(4) and (5) of this Division, each pilot must successfully complete:

- (a) with respect to LARs 705.132(4) of this Division:
 - (i) training and practice in the simulator in at least all of the maneuvers and procedures set forth in Appendices I, II, and III to this Part VII for initial flight training that are capable of being performed in an airplane simulator; and
 - (ii) a flight check in the simulator or the airplane to the level of proficiency of a pilot in command or second in command, as applicable, in at least the maneuvers and procedures set forth in LARs 705.131, that are capable of being performed in an airplane simulator.
- (b) with respect to LARs 705.132(5) of this Part VII, training and practice in at least the maneuvers and procedures set forth in the certificate holder's approved low altitude windshear flight training program that are capable of being performed in an airplane simulator in which the maneuvers and procedures are specifically authorized.

(5) If the certificate holder's approved training program includes a course of training utilizing an airplane simulator under LARs 705.132(4) and (5) of this Division, each pilot must successfully complete the programmed hours of flight simulator training as outlined in the Commercial Air Services Standards.

705.145 Flight Engineers: Initial and Transition Flight Training.

(1) Initial and transition flight training for flight engineers must include at least the following:

- (a) training and practice in procedures set forth in Appendix VI and any other procedures related to the carrying out of flight engineer duties and functions. This training and practice may be accomplished either in-flight, in an airplane simulator, or in a training device.
- (b) a flight check that includes:
 - (i) preflight inspection;
 - (ii) in-flight performance of assigned duties accomplished from the flight engineer station during taxi, runup, takeoff, climb, cruise, descent, approach, and landing;
 - (iii) accomplishment of other functions, such as fuel management and preparation of fuel consumption records, and normal and emergency or alternate operation of all airplane flight systems, performed either in-flight, in an airplane simulator, or in a training device.

(2) Flight engineers possessing a commercial pilot license with an instrument, category and class rating, or pilots already qualified as second in command and reverting to flight engineer, may complete the entire flight check in an approved airplane simulator.

(3) Except as permitted in Subsection (4) of this Section, the initial flight training required by Subsection (1) of this Section must include at least the same number of programmed hours of flight training and practice that are specified for a second in command pilot under LARs 705.144.
(4) If the certificate holder's approved training program includes a course of training utilizing an airplane simulator or other training device under LARs 705.132(4), each flight engineer must successfully complete in the simulator or other training device:

- (a) training and practice in at least all of the assigned duties, procedures, and functions required by Subsection (1) of this section; and
- (b) a flight check to a flight engineer level of proficiency in the assigned duties, procedures, and functions.

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705.146 Flight Navigators: Initial and Transition Flight Training.

(1) Initial and transition flight training for flight navigators must include flight training and a flight check that are adequate to insure his proficiency in the performance of his assigned duties.

- (2) The flight training and checks specified in Subsection (1) of this section must be performed:(a) in-flight or in an appropriate training device; or
 - (b) in operations under this Division if performed under supervision of a qualified flight navigator.

705.147 Recurrent Training.

(1) Recurrent training must ensure that each crew member or dispatcher is adequately trained and currently proficient with respect to the type airplane (including differences training, if applicable) and crewmember position involved.

- (2) Recurrent ground training for crewmembers and dispatchers must include at least the following:
 - (a) a test to determine the state of the crewmember's or dispatcher's knowledge with respect to the airplane and position involved.
 - (b) instruction as necessary in the subjects required for initial ground training by LARs 705.137(1), as appropriate, including emergency training (not required for flight dispatchers).
 - (c) for cabin attendants and dispatchers, a competence check as required by LARs 705.142(2) and LARs 705.143(2), respectively.
 - (d) approved recurrent CRM training. For crewmembers, this training or portions thereof will be accomplished as follows:
 - (i) for all crewmembers, during an approved CRM recurrent ground training course every 12 months; and
 - (ii) for flight crewmembers, during an approved simulator line operational flight training (LOFT) session to include CRM training every 12 months.
 - (e) the recurrent CRM training requirement does not apply until a person has completed the applicable initial CRM training required by LARs 705.140, 705.142, or 705.143.

(3) Recurrent ground training for crewmembers and dispatchers must consist of at least the following programmed hours unless reduced under LARs 705.129(5):

- (a) for pilots and flight engineers:
 - (i) Group I, reciprocating powered airplanes, 16 hours;
 - (ii) Group I turbopropeller powered airplanes, 20 hours; and
 - (iii) Group II airplanes, 25 hours.
- (b) for flight navigators:
 - (i) Group I reciprocating powered airplanes, 12 hours;
 - (ii) Group I turbopropeller powered airplanes, 16 hours; and
 - (iii) Group II airplanes, 16 hours.
- (c) for cabin attendants -
 - (i) Group I reciprocating powered airplanes, 4 hours;
 - (ii) Group I turbopropeller powered airplanes, 5 hours; and
 - (iii) Group II airplanes, 12 hours.
- (d) for flight dispatchers:
 - (i) Group I reciprocating powered airplanes, 8 hours;
 - (ii) Group I turbopropeller powered airplanes, 10 hours; and
 - (iii) Group II airplanes, 20 hours.
- (4) Recurrent flight training for flight crewmembers must include at least the following:
 - (a) for pilots, flight training in an approved simulator in maneuvers and procedures set forth in the certificate holder's approved low altitude windshear flight training program and flight training in maneuvers and procedures set forth in Appendix IV to LARs Part VII.
 - (b) for flight engineers, flight training as provided by LARs 705.145(1) except as follows:

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- (i) the flight check, other than the preflight inspection, may be conducted in an airplane simulator. The preflight inspection may be conducted in an airplane, or by using an approved pictorial means that realistically portrays the location and detail or preflight inspection items and provides for the portrayal of abnormal conditions. Satisfactory completion of an approved line oriented simulator training program may be substituted for the flight check.
- (c) recurrent flight training in the simulator (including check) will consist of at least 8 hours.
- (d) for flight navigators, enough in-flight training and an in-flight check to insure competency with respect to operating procedures and navigation equipment to be used and familiarity with essential navigation information pertaining to the certificate holder's routes that require a flight navigator.

(5) Recurrent flight training for flight crewmembers must consist of at least the following programmed hours:

- (a) for pilots and flight engineers (including proficiency check):
 - (i) Group I, reciprocating powered airplanes, 8 hours ;
 - (ii) Group I turbopropeller powered airplanes, 8 hours; and
 - (iii) Group II airplanes, 8 hours.

704.148 Training and Qualification Records

(1) Every air operator shall, for each person who is required to receive training under this Subpart, establish and maintain a record of:

- (a) the person's name and, where applicable, personnel license number, type and ratings;
- (b) if applicable, the person's medical category and the expiry date of that category;
- (c) the dates on which the person, while in the air operator's employ, successfully completed any training, pilot proficiency check or examination required under this Subpart or obtained any qualification required under this Subpart;
- (d) information relating to any failure of the person, while in the air operator's employ, to successfully complete any training, pilot proficiency check or examination required under this Subpart or to obtain any qualification required under this Subpart; and
- (e) the type of aircraft or flight training equipment used for any training, pilot proficiency check or qualification required under this Subpart.

(2) An air operator shall retain the records referred to in Subsections (1)(c) and (d) and a record of each pilot proficiency check for at least three years.

(3) An air operator shall retain a copy of the most recent written examination completed by each pilot for each type of aircraft for which the pilot has a qualification.

705.149 to 705.153 Reserved.



Division IX--Crewmember /Dispatcher Qualifications

705.154 Applicability.

- (1) This Division:
 - (a) prescribes crewmember qualifications for all certificate holders except where otherwise specified.
 - (b) permits training center personnel authorized under Part IV of the LARs who meet the requirements of Sections 705.133 through 705.136 to provide training, testing, and checking under contract or other arrangement to those persons subject to the requirements of this Division.

(2) For the purpose of this Division, the airplane groups and terms and definitions prescribed in Section 705.124 and the following definitions apply:

- (a) consolidation is the process by which a person through practice and practical experience increases proficiency in newly acquired knowledge and skills.
- (b) line operating flight time is flight time performed in operations under this Division.
- (c) operating cycle is a complete flight segment consisting of a takeoff, climb, enroute portion, descent, and a landing.

705.155 General.

(1) Except in the case of operating experience under Section 705.158, a pilot who serves as second in command of an operation that requires three or more pilots must be fully qualified to act as pilot in command of that operation.

(2) No certificate holder may conduct a check or any training in operations under this Division, except for the following checks and training required by this Division or the certificate holder:

- (a) line checks for pilots.
- (b) flight navigator training conducted under the supervision of a flight navigator flight instructor.
- (c) flight navigator flight checks.
- (d) flight engineer checks (except for emergency procedures), if the person being checked is qualified and current in accordance with Section 705.168(1).
- (e) cabin attendant training and competence checks.

(3) Except for pilot line checks and flight engineer flight checks, the person being trained or checked will not be used as a required crewmember.

(4) For the purposes of this Division the airplane groups prescribed in Section 705.124 apply.

(5) For the purposes of this Division the terms and definitions in Section 705.124 apply.

705.156 Training Required.

(1) Initial Training. No certificate holder may use any person nor may any person serve as a required crewmember on an airplane unless that person has satisfactorily completed, in a training program approved under Division VIII of this Part VII, initial ground and flight training for that type airplane and for the particular crewmember position, except as follows:

- (a) crewmembers who have qualified and served as a crewmember on another type airplane of the same group may serve in the same crewmember capacity upon completion of transition training as provided in Section 705.137.
- (b) crewmembers who have qualified and served as second in command or flight engineer on a particular type airplane may serve as pilot in command or second in command, respectively, upon completion of upgrade training for that airplane as provided in Section 705.137.

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(2) Differences Training. No certificate holder may use any person nor may any person serve as a required crewmember on an airplane of a type for which differences training is included in the certificate holder's approved training program unless that person has satisfactorily completed, with respect to both the crewmember position and the particular variation of the airplane in which he serves, either initial or transition ground and flight training, or differences training, as provided in Section 705.137.

(3) Recurrent Training.

- (a) no certificate holder may use any person nor may any person serve as a required crewmember on an airplane unless, within the preceding 6 calendar months:
 - (i) for flight crewmembers, he has satisfactorily completed recurrent ground and flight training for that airplane and crewmember position and a flight check or LOFT training as applicable;
 - (ii) for cabin attendants and dispatchers, he has satisfactorily completed recurrent ground training and a competence check; and
 - (iii) in addition, for pilots he has satisfactorily completed, within the preceding 6 calendar months, recurrent flight training, in an airplane in which he serves as a pilot in operations under this Part VII, Subpart 5.
- (4) For each airplane in which a pilot serves, he must satisfactorily complete:
 - (a) recurrent flight training within the preceding 6 calendar months; and

(b) a proficiency check or LOFT training within the preceding 6 calendar months as applicable. (5) Pilots will receive training specified in Subsection (4) above, to include those maneuvers and procedures set forth in a certificate holder's approved low-altitude windshear flight training program when that program is included in a recurrent flight training course as required by Section 705.132(5) of Part VII.

705.157 Training Requirements: Handling and Carriage of Dangerous Articles and Magnetized Materials.

(1) No certificate holder may use any person to perform and no person may perform, any assigned duties and responsibilities for the handling or carriage of dangerous articles and magnetized materials governed by Lebanese Regulations, unless within the preceding 12 calendar months that person has satisfactorily completed training in a program established and approved under Part VII, Subpart 5 which includes instructions regarding the proper packaging, marking, labeling, and documentation of dangerous articles and magnetized materials, as required by Lebanese Regulations and instructions regarding their compatibility, loading, storage, and handling characteristics. A person who satisfactorily completes training in the calendar month before, or the calendar month after, the month in which it becomes due, is considered to have taken that training during the month it became due. (2) Each certificate holder shall maintain a record of the satisfactory completion of the initial and recurrent training given to crewmembers and ground personnel who perform assigned duties and responsibilities for the handling and carriage of dangerous articles and magnetized materials. (3) A certificate holder operating in a foreign country where the loading and unloading of aircraft must be performed by personnel of the foreign country, may use personnel not meeting the requirements of Subsections (1) and (2) of this Section if they are supervised by a person qualified under Subsections (1) and (2) of this Section to supervise the loading, offloading and handling of hazardous materials.

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705.158 Operating Experience, Operating Cycles, and Consolidation of Knowledge and Skills.

(1) No certificate holder may use a person nor may any person serve as a required crewmember of an airplane unless the person has satisfactorily completed, on that type airplane and in that crewmember position, the operating experience, operating cycles, and the line operating flight time for consolidation of knowledge and skills, required by this Section, except as follows:

- (a) crewmembers other than pilots in command may serve as provided herein for the purpose of meeting the requirements of this section.
- (b) separate operating experience, operating cycles, and line operating flight time for consolidation of knowledge and skills are not required for variations within the same type airplane.

(2) In acquiring the operating experience, operating cycles, and line operating flight time for consolidation of knowledge and skills, crewmembers must comply with the following:

- (a) in the case of a flight crewmember, he must hold the appropriate certificates and ratings for the crewmember position and the airplane, except that a pilot who is meeting the pilot in command requirements must hold the appropriate certificates and ratings for a pilot in command in the airplane.
- (b) the operating experience, operating cycles, and line operating flight time for consolidation of knowledge and skills must be acquired after satisfactory completion of the appropriate ground and flight training for the particular airplane type and crewmember position.
- (c) the experience must be acquired in flight during operations under Part VII, Subpart 5. However, in the case of an aircraft not previously used by the certificate holder in operations under Part VII, Subpart 5, operating experience acquired in the aircraft during proving flights or ferry flights may be used to meet this requirement.

However, separate operating experience is not required for variations within the same type airplane.

- (3) Pilot crewmembers must acquire operating experience and operating cycles as follows:
 - (a) a pilot in command must:
 - (i) perform the duties of a pilot in command under the supervision of a check pilot; and
 - (ii) in addition, if a qualifying pilot in command is completing initial or upgrade training specified in Section 705.144, be observed in the performance of prescribed duties by a DGCA Inspector during at least two flight legs which includes a takeoff and landing. During the time that a qualifying pilot in command is acquiring the operating experience in Subsections (3)(a) (i) and (ii) of this Section, a check pilot who is also serving as the pilot in command the check pilot serving as pilot in command may occupy the observer's seat, if the transitioning pilot has made at least two takeoffs and landings in the type airplane used, and has satisfactorily demonstrated to the check pilot that he is qualified to perform the duties of a pilot in command of that type of airplane.
 - (b) a second in command pilot must perform the duties of a second in command under the supervision of an appropriately qualified check pilot.
 - (c) the hours of operating experience and operating cycles for all pilots are as follows:
 - (i) for initial training, 15 hours in Group I reciprocating powered airplanes, 20 hours in Group I turbopropeller powered airplanes, and 25 hours in Group II airplanes.
 Operating experience in both airplane groups must include at least 4 operating cycles (at least 2 as the pilot flying the airplane).
 - (ii) for transition training, except as provided in Subsection (3)(c)(iii) of this Section, 10 hours in Group I reciprocating powered airplanes, 12 hours in Group I turbopropeller powered airplanes, 25 hours for pilots in command in Group II airplanes, and 15 hours

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for second in command pilots in Group II airplanes. Operating experience in both airplane groups must include at least 4 operating cycles (at least 2 as the pilot flying the airplane).

(iii) in the case of transition training where the certificate holder's approved training program includes a course of training in an airplane simulator under Section 705.132(4), each pilot in command must comply with the requirements prescribed in Subsections (3)(c)(i) of this section for initial training.

(4) A flight engineer must perform the duties of a flight engineer under the supervision of a check airman or a qualified flight engineer for at least the following number of hours:

- (a) Group I reciprocating powered airplanes, 8 hours.
- (b) Group I turbopropeller powered airplanes, 10 hours.
- (c) Group II airplanes, 12 hours.

(5) A cabin attendant must, for at least 5 hours, perform the assigned duties of a cabin attendant under the supervision of a cabin attendant supervisor qualified under Part VII, Subpart 5 who personally observes the performance of these duties. However, operating experience is not required for a cabin attendant who has previously acquired such experience on any large passenger carrying airplane of the same group, if the certificate holder shows that the cabin attendant has received sufficient ground training for the airplane in which the cabin attendant is to serve. Cabin attendants receiving operating experience may not be assigned as a required crewmember. Cabin attendants who have satisfactorily completed training time acquired in an approved training program conducted in a full-scale (except for length) cabin training device of the type airplane in which they are to serve may substitute this time for 50 percent of the hours required by this Section.

(6) Except as provided in Subsection (7) of this section, pilot in command and second in command crewmembers must each acquire at least 100 hours of line operating flight time for consolidation of knowledge and skills (including operating experience required under Subsection (3) of this section) within 120 days after the satisfactory completion of:

- (a) any part of the flight maneuvers and procedures portion of either an airline transport pilot license with type rating practical test or an additional type rating practical test, or
- (b) a Section 705.164 proficiency check.
- (7) The following exceptions apply to the consolidation requirement of Subsection (6) of this section:
 - (a) pilots who have qualified and served as pilot in command or second in command on a particular type airplane in operations under Lebanese Aviation Regulations are not required to complete line operating flight time for consolidation of knowledge and skills.
 - (b) pilots who have completed the line operating flight time requirement for consolidation of knowledge and skills while serving as second in command on a particular type airplane in operations under Part VII, Subpart 5 are not required to repeat the line operating flight time before serving as pilot in command on the same type airplane.
 - (c) if, before completing the required 100 hours of line operating flight time, a pilot serves as a pilot in another airplane type operated by the certificate holder, the pilot may not serve as a pilot in the airplane for which the pilot has newly qualified unless the pilot satisfactorily completes refresher training as provided in the certificate holder's approved training program and that training is conducted by an appropriately qualified instructor or check pilot.
 - (d) if the required 100 hours of line operating flight time are not completed within 120 days, the certificate holder may extend the 120-day period to no more than 150 days if:
 - (i) the pilot continues to meet all other applicable requirements of Division IX of Part VII, Subpart 5; and
 - (ii) on or before the 120th day the pilot satisfactorily completes refresher training conducted by an appropriately qualified instructor or check pilot as provided in the certificate holder's approved training program, or a check pilot determines that the pilot has retained an adequate level of proficiency after observing that pilot in a supervised line operating flight.

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- (e) the Minister, upon application by the certificate holder, may authorize deviations from the requirements of Subsection (6) of this section, by an appropriate amendment to the Operations Specifications, to the extent warranted by any of the following circumstances:
 - (i) a newly certificated certificate holder does not employ any pilots who meet the minimum requirements of Subsection (6) of this section.
 - (ii) an existing certificate holder adds to its fleet an airplane type not before proven for use in its operations.
 - (iii) a certificate holder establishes a new domicile to which it assigns pilots who will be required to become qualified on the airplanes operated from that domicile.

(8) Notwithstanding the reductions in programmed hours permitted under Sections 705.129 and 705.132 of Part VII, Subpart 5, the hours of operating experience for flight crewmembers are not subject to reduction.

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705.160 Pilot Qualification: Licenses Required.

(1) No pilot may act as pilot in command of an aircraft (or as second in command of an aircraft in a international operation that requires three or more pilots) unless he holds an airline transport pilot license and an appropriate type rating for that aircraft.

(2) No certificate holder may use nor may any pilot act as a pilot in a capacity other than those specified in Subsection (1) of this section unless the pilot holds at least a commercial pilot license with appropriate category and class ratings for the aircraft concerned, and an instrument rating. Notwithstanding the requirements of LARs Part IV, a pilot who is currently employed by a certificate holder and meets applicable training requirements of Division VIII of Part VII, Subpart 5, and the proficiency check requirements of Section 705.164, may be issued the appropriate category and class ratings by presenting proof of compliance with those requirements to the DGCA.

705.161 Pilot Operating Limitations and Pairing Requirements.

(1) If the second in command has fewer than 100 hours of flight time as second in command in operations under Part VII, Subpart 5, in the type airplane being flown, and the pilot in command is not an appropriately qualified check pilot, the pilot in command must make all takeoffs and landings in the following situations:

- (a) at special airports designated by the Minister or at special airports designated by the certificate holder; and
- (b) in any of the following conditions:
 - (i) the prevailing visibility value in the latest weather report for the airport is at or below 3/4 mile [1200 m].
 - (ii) the runway visual range for the runway to be used is at or below 4,000 feet [1200 m].
 - (iii) the runway to be used has water, snow, slush or similar conditions that may adversely affect airplane performance.
 - (iv) the braking action on the runway to be used is reported to be less than "good".
 - (v) the crosswind component for the runway to be used is in excess of 15 knots.
 - (vi) windshear is reported in the vicinity of the airport.
 - (vii) any other condition in which the PIC determines it to be prudent to exercise the PIC's prerogative.

(2) No person may conduct operations under Part VII, Subpart 5 unless, for that type airplane, either the pilot in command or the second in command has at least 75 hours of line operating flight time, either as pilot in command or second in command. The Minister may, upon application by the certificate holder, authorize deviations from the requirements of this Subsection (2) by an appropriate amendment to the operations specifications in any of the following circumstances:

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- (a) a newly certificated certificate holder does not employ any pilots who meet the minimum requirements of this Subsection.
- (b) an existing certificate holder adds to its fleet a type airplane not before proven for use in its operations.
- (c) an existing certificate holder establishes a new domicile to which it assigns pilots who will be required to become qualified on the airplanes operated from that domicile.

705.162 Pilot Qualification: Recent Experience.

(1) No certificate holder may use any person nor may any person serve as a required pilot flight crewmember, unless within the preceding 90 days, that person has made at least three takeoffs and landings in the type airplane in which that person is to serve. The takeoffs and landings required by this Subsection may be performed in a Level C or D simulator approved under Section 705.131 to include takeoff and landing maneuvers. In addition, any person who fails to make the three required takeoffs and landings within any consecutive 90-day period must reestablish recency of experience as provided in Subsection (2) of this section.

(2) In addition to meeting all applicable training and checking requirements of Part VII, Subpart 5, a required pilot flight crewmember who has not met the requirements of Subsection (1) of this section must reestablish recency of experience as follows:

- (a) under the supervision of a check airman, make at least three takeoffs and landings in the type airplane in which that person is to serve or in an advanced simulator or visual simulator.
 When a visual simulator is used, the requirements of Subsection (3) of this section must be met.
- (b) the takeoffs and landings required in Subsection (2)(a) of this section must include:
 - (i) at least one takeoff with a simulated failure of the most critical powerplant;
 - (ii) at least one landing from an ILS approach to the lowest ILS minimum authorized for the certificate holder; and
 - (iii) at least one landing to a full stop.

(3) A required pilot flight crewmember who performs the maneuvers prescribed in Subsection (2) of this section in a Level C or D simulator must:

- (a) have previously logged 100 hours of flight time in the same type airplane in which he is to serve;
- (b) be observed on the first two landings made in operations under this part by an approved check airman who acts as pilot in command and occupies a pilot seat. The landings must be made in weather minimums that are not less than those contained in the certificate holder's Operations Specifications for Category I Operations, and must be made within 45 days following completion of simulator training.

(4) When using a simulator to accomplish any of the requirements of Subsection (1) or (2) of this section, each required flight crewmember position must be occupied by an appropriately qualified person and the simulator must be operated as if in a normal in-flight environment without use of the repositioning features of the simulator.

(5) A check airman who observes the takeoffs and landings prescribed in Subsections (2)(a) and (3) of this section shall certify that the person being observed is proficient and qualified to perform flight duty in operations under Part VII, Subpart 5 and may require any additional maneuvers that are determined necessary to make this certifying statement.

705.163 Line Checks.

(1) No certificate holder may use any person nor may any person serve as pilot in command of an airplane unless, within the preceding 6 calendar months, that person has passed a line check in which he satisfactorily performs the duties and responsibilities of a pilot in command in one of the types of airplanes he is to fly.



- (2) A pilot in command line check must:
 - (a) be given by a pilot check airman who is currently qualified on both the route and the airplane; and
 - (b) consist of at least one flight over a typical part of the certificate holder's route, or over a foreign airway, or over a direct route.

705.164 Pilot Proficiency Checks.

(1) No certificate holder may use any person nor may any person serve as a required pilot flight crewmember unless that person has satisfactorily completed the following:

- (a) within the preceding 6 calendar months a proficiency check pursuant to Appendix IV; or
- (b) within the preceding 6 calendar months an approved simulator course of training under Section 705.132.
 - (i) under Section 705.132, alternate 6 month proficiency checks and Line Oriented Flight Training (LOFT) may be administered entirely in the simulator as provided for in Appendix IV.

(2) Except as provided in Subsections (3) and (4) of this section, a proficiency check must meet the following requirements:

- (a) it must include at least the procedures and maneuvers set forth in Appendix IV to Part VII, Subpart 5 unless otherwise specifically provided in that Appendix.
- (b) it must be given by the Minister or a DGCA approved pilot check airman.

(3) An approved airplane simulator or other appropriate training device may be used in the conduct of a proficiency check as provided in Appendix IV to Part VII, Subpart 5.

(4) A person giving a proficiency check may, in his discretion, waive any of the maneuvers or procedures for which a specific waiver authority is set forth in Appendix IV to Part VII. Subpart 5 if:

- (a) the Minister has not specifically required the particular maneuver or procedure to be performed;
- (b) the pilot being checked is, at the time of the check, employed by a certificate holder as a pilot; and
- (c) the pilot being checked is currently qualified for operations under Part VII, Subpart 5 in the particular type airplane and flight crewmember position or has, within the preceding six calendar months, satisfactorily completed an approved training program for the particular type airplane.

(5) If the pilot being checked fails any of the required maneuvers, the person giving the proficiency check may give additional training to the pilot during the course of the proficiency check. In addition to repeating the maneuvers failed, the person giving the proficiency check may require the pilot being checked to repeat any other maneuvers he finds are necessary to determine the pilot's proficiency. If the pilot being checked is unable to demonstrate satisfactory performance to the person conducting the check, the certificate holder will not use him nor may he serve in operations under Part VII, Subpart 5 until he has satisfactorily completed a proficiency check. The following will apply to proficiency checks:

- (a) training and checking will not be conducted simultaneously. When training is required, the check will be suspended, training conducted, and then the check resumed;
- (b) when training to proficiency is required, the check airman must record the events which were initially failed and in which training was given;
- (c) when training to proficiency is conducted and the check is subsequently completed within the original session, the overall grade for the check will be satisfactory.
- (d) when the training required to reach proficiency cannot be completed in the original checking session, the check must be recorded as unsatisfactory and the crewmember entered into requalification training.
- (e) if, after having received training, the airman fails an event again, the failure shall be recorded and the crewmember entered into requalification training.



705.165 Pilot-in-command Qualification: Route and Airports.

(1) Each certificate holder shall provide a system acceptable to the Minister for disseminating the information required by Subsection (2) of this section to the pilot in command and appropriate flight operation personnel. The system must also provide an acceptable means for showing compliance with Section 705.166.

(2) No certificate holder may use any person, nor may any person serve, as pilot in command unless the certificate holder has provided that person current information concerning the following subjects pertinent to the areas over which that person is to serve, and to each airport and terminal area into which that person is to operate, and ensures that that person has adequate knowledge of, and the ability to use, the information:

- (a) weather characteristics appropriate to the season.
- (b) navigation facilities.
- (c) communication procedures, including airport visual aids.
- (d) kinds of terrain and obstructions.
- (e) minimum safe flight levels.
- (f) en route and terminal area arrival and departure procedures, holding procedures and authorized instrument approach procedures for the airports involved.
- (g) congested areas and physical layout of each airport in the terminal area in which the pilot will operate.
- (h) Notices to Airmen.

705.166 Pilot-in-command Airport Qualification: Special Areas and Airports.

(1) The Minister may determine that certain airports (due to items such as surrounding terrain, obstructions, or complex approach or departure procedures) are special airports requiring special airport qualifications and that certain areas or routes, or both, require a special type of navigation qualification.

(2) Except as provided in Subsection (3) of this section, no certificate holder may use any person, nor may any person serve, as pilot in command to or from an airport determined to require special airport qualifications unless, within the preceding 6 calendar months:

- (a) the pilot in command or second in command has made an entry to that airport (including a takeoff and landing) while serving as a pilot flight crewmember; or
- (b) the pilot in command has qualified by using pictorial means acceptable to the Minister for that airport.

(3) Subsection (2) of this section does not apply when an entry to that airport (including a takeoff or a landing) is being made if the ceiling at that airport is at least 1,000 feet [300 m] above the lowest MEA or MOCA, or initial approach altitude prescribed for the instrument approach procedure for that

MEA or MOCA, or initial approach altitude prescribed for the instrument approach procedure for that airport, and the visibility at that airport is at least 3 miles [4800 m].

(4) No certificate holder may use any person, nor may any person serve, as pilot in command between terminals over a route or area that requires a special type of navigation qualification unless, within the preceding 12 calendar months, that person has demonstrated qualification on the applicable navigation system in a manner acceptable to the Minister, by one of the following methods:

- (a) by flying over a route or area as pilot in command using the applicable special type of navigation system.
- (b) by flying over a route or area as pilot in command under the supervision of a check airman using the special type of navigation system.
- (c) by completing the training program requirements of LARs Part VI, Subpart 2, Standards, Appendix V, Attachment 2.



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705.167 Reserved.

705.168 Flight Engineer and Second Officer Qualifications

(1) Subject to Subsection (2), no air operator shall permit a person to act and no person shall act as a flight engineer or a second officer on board an aircraft unless

- (a) the person holds the license and endorsements required by Part IV;
- (b) the air operator has determined every 6 calendar months, by means of a check in flight or in a flight simulator that has been approved by the Minister under Subpart 6 of Part VI, that the person demonstrates proficiency in the procedures set forth in Appendix VI of this Part for that type of aircraft;
- (c) the person has successfully completed or is undergoing line indoctrination training for that type of aircraft, in accordance with the Commercial Air Services Standards; and
- (d) the person has fulfilled the requirements of the air operator's training program.

(2) A person who is qualified to act as a pilot-in-command or a second-in-command in accordance with Section 705.160 may act as a second officer on board an aircraft during the cruise portion of a flight, if

- (a) the person has received initial and annual recurrent training in normal and emergency
 procedures pertaining to the cruise portion of the flight, in accordance with the Commercial
 Air Services Standards; and
- (b) the air operator has determined, by means of a check, that the person meets the Commercial Air Services Standards for that type of aircraft.

705.169 Cabin Attendant Qualifications

(1) No air operator shall permit a person to act and no person shall act as a cabin attendant on board an aircraft unless the person:

- (a) has successfully completed the air operator's training program, except that a person may act as a cabin attendant while undergoing line indoctrination training if the person is carried in addition to the number of cabin attendants required by Section 705.104 and is under the supervision of a cabin attendant; and;
- (b) has successfully completed line indoctrination training within 90 days after completing the air operator's training program or has regained competency in accordance with the Cabin Attendant Training Standard.

(2) A person who has not completed line indoctrination training within the period specified in Subsection (1)(b) shall requalify in accordance with the Cabin Attendant Training Standard.

705.170 Flight Dispatcher Qualifications.

(1) No certificate holder conducting operations pursuant to Part VII, Subpart 5 may use any person, nor may any person serve, as an flight dispatcher for a particular airplane group unless that person has, with respect to an airplane of that group, satisfactorily completed the following:

- (a) initial dispatcher training, except that a person who has satisfactorily completed such training for another type airplane of the same group need only complete the appropriate transition training.
- (b) operating familiarization consisting of at least 5 hours observing operations under Part VII, Subpart 5 from the flight deck or, for airplanes without an observer seat on the flight deck, from a forward passenger seat with headset or speaker. This requirement may be reduced to a minimum of 2 1/2 hours by the substitution of one additional takeoff and landing for an hour of flight. A person may serve as an flight dispatcher without meeting the requirement of this Subsection (1) for 90 days after initial introduction of the airplane into operations under Part VII, Subpart 5.

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(2) No certificate holder conducting operations pursuant to Part VII, Subpart 5 may use any person, nor may any person serve, as an flight dispatcher for a particular type airplane unless that person has, with respect to that airplane, satisfactorily completed differences training, if applicable.

(3) No certificate holder conducting operations pursuant to Part VII, Subpart 5 may use any person, nor may any person serve, as an flight dispatcher unless within the preceding 12 calendar months the flight dispatcher has satisfactorily completed operating familiarization consisting of at least 5 hours observing operations under this part, in one of the types of airplanes in each group to be dispatched. This observation shall be made from the flight deck or, for airplanes without an observer seat on the flight deck, from a forward passenger seat with headset or speaker. The requirement of Subsection (1) of this Section may be reduced to a minimum of 2 1/2 hours by the substitution of one additional takeoff and landing for an hour of flight. The requirement of this Section may be satisfied by observation of 5 hours of simulator training for each airplane group in one of the simulators approved under Section 705.131 for the group. However, if the requirement of Subsection (1) is met by the use of a simulator, no reduction in hours is permitted.

(4) No certificate holder conducting operations pursuant to Part VII, Subpart 5 may use any person, nor may any person serve as an flight dispatcher to dispatch airplanes in operations under Part VII, Subpart 5 unless the certificate holder has determined that he is familiar with all essential operating procedures for that segment of the operation over which he exercises dispatch jurisdiction. However, a dispatcher who is qualified to dispatch airplanes through one segment of an operation may dispatch airplanes through other segments of the operation after coordinating with dispatchers who are qualified to dispatch airplanes through those other segments.

(5) For the purposes of this Section, the airplane groups, terms, and definitions in Section 705.124 apply.

705.171 Misuse of Alcohol.

(a) No certificate holder employee shall report for duty or remain on duty requiring the performance of safety-sensitive functions while having an alcohol concentration of 0.04 or greater. No certificate holder having actual knowledge that an employee has an alcohol concentration of 0.04 or greater shall permit the employee to perform or continue to perform safety-sensitive functions.

705.172 to 705.175 Reserved



Division X - Manuals

705.176 Requirements Relating to Company Operations Manual

(1) Every air operator shall establish and maintain a company operations manual that meets the requirements of Section 705.177.

(2) An air operator shall submit its company operations manual, and any amendments to that manual, to the Minister.

(3) Where there is a change in any aspect of an air operator's operation or where the company operations manual no longer meets the Commercial Air Services Standards, the air operator shall amend its company operations manual.

(4) The Minister shall, where the Commercial Air Services Standards are met, approve the company operations manual, and any amendments to those parts.

705.177 Contents of Company Operations Manual

(1) A company operations manual, which may be issued in separate parts corresponding to specific aspects of an operation, shall include the instructions and information necessary to enable the personnel concerned to perform their duties safely and shall contain the information required by the Commercial Air Services Standards.

(2) A company operations manual shall include the instructions and information necessary to enable the operator to comply with the Lebanese Aviation Regulations (LARs).

(3) A company operations manual shall be such that:

- (a) all parts of the manual are consistent and compatible in form and content;
- (b) the manual can be readily amended;
- (c) the manual contains an amendment control page and a list of the pages that are in effect; and
- (d) the manual has the date of the last amendment to each page specified on that page.

(4) A company operations manual will contain the operator's training program that complies with Part VII, Subpart 5, Division VIII. The training program will contain:

- (a) all the requirement of Part VII, Subpart 5;
- (b) all the requirements of Part VII Commercial Air Services Standards;
- (c) maneuvers and procedures required by Part VII, Subpart 5;
- (d) pictorials required by Part VII, Commercial Air Services Standards;
- (e) qualification standards for the training and checking required by Part VII, Subpart 5 and the Part VII Commercial Air Services Standards.

705.178 Distribution of Company Operations Manual

(1) Subject to Subsection (2), an air operator shall provide a copy of the appropriate parts of its company operations manual, including any amendments to those parts, to each of its crew members and to its ground operations and maintenance personnel.

(2) An air operator may place a copy of the appropriate parts of its company operations manual in each aircraft that it operates, instead of providing a copy to each crew member, if all amendments to the manual are included in the system for the dissemination of general operational information referred to in Section 705.18.

(3) Every person who has been provided with a copy of the appropriate parts of a company operations manual pursuant to Subsection (1) shall keep it up to date with the amendments provided and shall ensure that the appropriate parts are accessible when the person is performing assigned duties.



705.179 Aircraft Operating Manual

(1) An air operator may establish and maintain an aircraft operating manual for the use and guidance of crew members in the operation of its aircraft.

(2) An aircraft operating manual shall contain

- (a) the aircraft operating procedures; and;
- (b) where the aircraft flight manual is not carried on board the aircraft, the aircraft performance data and limitations specified in the aircraft flight manual, which shall be clearly identified as aircraft flight manual requirements.

(3) An air operator that has established an aircraft operating manual shall submit a copy of the manual, and any amendments to that manual, to the Minister for approval.

(4) The Minister shall approve an aircraft operating manual, and any amendments to that manual, where the Commercial Air Services Standards are met.

(5) An air operator that has established an aircraft operating manual shall ensure that a copy of the manual is carried on board each aircraft to which it relates.

705.180 Standard Operating Procedures

(1) Every air operator shall, for each of its aircraft, establish and maintain standard operating procedures that enable the crew members to operate the aircraft within the limitations specified in the aircraft flight manual, and that meet the Commercial Air Services Standards.

(2) An air operator shall submit a copy of its aircraft standard operating procedures, and any amendments to those procedures, to the Minister.

(3) An air operator shall ensure that a copy of the standard operating procedures for an aircraft is carried on board the aircraft.

(4) Where an air operator has established an aircraft operating manual, the standard operating procedures for the aircraft shall form part of that manual.

705.181 Cabin Attendant Manual

(1) Every air operator, other than an air operator that is authorized solely for the transport of cargo in its air operator certificate, shall establish and maintain, as part of its company operations manual, a cabin attendant manual for the use and guidance of cabin attendants in the operation of its aircraft.
 (2) A cabin attendant manual shall contain the instructions and information necessary to enable cabin attendants to perform their duties safely and shall contain the information required by the Cabin Attendant Manual Standard.

(3) The Minister shall, where the Cabin Attendant Manual Standard is met, approve those parts of a cabin attendant manual, and any amendments to those parts, that relate to the safety and emergency information contained in Part A of the Cabin Attendant Manual Standard.

(4) An air operator shall provide a copy of its cabin attendant manual, including any amendments to that manual, to each of its cabin attendants.

(5) Every cabin attendant who has been provided with a copy of a cabin attendant manual pursuant to Subsection (4) shall keep it up to date with the amendments provided and shall ensure that the appropriate parts are accessible when the cabin attendant is performing assigned duties on board an aircraft.

705.182 Air Operator Security Manual

Every air operator shall establish and maintain a company security manual that:

- (a) provides for compliance with Appendix VII of this Part; and
- (b) contains the security program required by this Part.



705.183 to 705.185 Reserved

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APPENDIX I

Initial Flight Training Requirements

1. INTRODUCTION

The maneuvers and procedures required by Section 705.144 of the Lebanese Aviation Regulations (LARs) for pilot initial flight training are set forth in the certificate holder's approved low altitude windshear flight training program and in this Appendix and must be performed in-flight except that windshear maneuvers and procedures must be performed in an airplane simulator in which the maneuvers and procedures may be performed in an airplane simulator with a visual system (visual simulator), a training device, an airplane, or a static airplane as indicated by the appropriate symbol in the respective column opposite the maneuver or procedure.

For the purpose of this Appendix, the following symbols mean:

- P = Pilot in Command (PIC).
- S = Second in Command (SIC).
- B = PIC and SIC.

2. MANEUVERS AND PROCEDURES TABLES.

(1) The events which must be accomplished during flight training are listed in the maneuvers and procedures tables in this Appendix. These tables contain the acceptable flight training equipment (training devices, simulators, or aircraft) which may be used for any training event. Any maneuver or procedure permitted in a specific level of flight training device or flight simulator, may also be conducted in a higher level of flight training device, flight simulator, or the aircraft itself (providing the event can safely be accomplished in the aircraft). DGCA policy requires detailed descriptions (or pictorial displays) of at least those training events identified with the symbol "M" in the appropriate maneuvers and procedures tables. Certain training events within the tables are preceded with a box "[]". If the operator is authorized (or required) to conduct these maneuvers by Operations Specifications (for example, a circling approach), the DGCA will check the appropriate box to indicate these events must be included in the training curriculum. Certain optional training events indicated by a pound sign "#" in the maneuvers and procedures tables are not specifically required by the Regulations or Operations Specifications. Many of these optional training events, however, are often included in an operator's flight training curriculums and will be conducted in a properly qualified device or simulator.

(2) All instrument training events accomplished in the simulator, will be done under the lowest weather minimums authorized for the certificate holder.

(3) All training events that would be simulated in the airplane, will be trained in the simulator as actual events.

(4) Preceding each maneuver and procedure table is a section which states the required maneuvers and procedures for each crewmember and provides guidance on specific areas of emphasis which will be included in the training.

(5) An operator's flight check form will annotate PIC duties checked or not checked. Pursuant to LARs Part IV, Section 401.39, class or type ratings will be issued limiting the privileges to acting as copilot only as appropriate.



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APPENDIX I – INITIAL TRAINING

FLIGHT TRAINING - <u>PIC/SIC INITIAL NEW HIRE AND INITIAL</u> <u>EQUIPMENT</u> FLIGHT TRAINING: TRANSPORT CATEGORY		Fla	Lev t Train	vel of ling Dev	ice	Level of Flt Simulator				Aircraft	
	AIRPLANES	4	5	6	7	Α	В	С	D	I	S
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	T A T I C
I. PREFLIGHT	(a) Visual Inspection of the exterior of the airplane, the location of each item to be inspected, and the purpose for inspecting it. (For acft with FE, use of approved pictorial display that realistically portrays the location and detail of preflight inspection items, is authorized).										В
	(b) Use of Prestart/Pretaxi Check list, appropriate control system checks, and the selection of proper navigation and communications radio facilities and frequencies prior to flight.					В					
	(c) Use of Performance Limitations prior to takeoff.									В	
	(a) Use of Pushback Check list.					В					
	(b) [] Use of Powerback Taxi Check list.					В					
	(c) Use of Starting Engines Check list.					В					
II. SURFACE OPERATIONS	(d) Use of Taxi Check list and procedures in compliance with instructions issued by the appropriate Traffic Control Authority or by the person conducting the training.									В	
	(e) Use of Before Takeoff Check list, appropriate system checks, and the selection of proper navigation and communications radio facilities and frequencies prior to flight.					В					
	 (a) Normal Takeoffs which, for the purpose of this maneuver, begin when the airplane is taxied into position on the runway to be used. (M) 									В	
	(b) Takeoffs with instrument conditions simulated at or before reaching an altitude of 100 feet above the airport elevation.					В					
	(c) Crosswind takeoffs									В	
HL TAKEOFF	(d) Rejected Takeoffs accomplished during normal takeoff run after reaching a reasonable speed determined by giving due consideration to aircraft characteristics, runway length, surface conditions, wind direction and velocity, brake heat energy, and any other pertinent factors that may adversely affect safety or the airplane. In the simulator the maneuver will be accomplished just prior to V ₁ (M).					В					
	(e) Powerplant Failure V ₁ . Takeoffs with a simulated failure of the most critical Powerplant:			I		Γ					
	 At a point after V₁ and before V₂ that in the judgment of the person conducting the training is appropriate to the airplane type under the prevailing conditions (M); or 					В					
	(2) At a point as close as possible after V ₁ when V ₁ and V ₂ or V ₁ and V _R are identical (M).					В					
	(f) Powerplant Failure During Second Segment. #					В					
	(g) [] Takeoffs using lower than standard minimums.							В			



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PIC/SIC INITIAL NEW HIRE AND INITIAL EQUIPMENT TRAINING		Fl	Le t Traiı	vel of 1ing Dev	ice		Lev Flt Sin	•	Aircraft		
	(continued)	4	5	6	7	Α	В	С	D	Ι	S T
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	A T I C
	(a) Normal.	<u> </u>	1		1	В	r	Γ			
IV. CLIMB	(b) One-engine inoperative during climb to en route altitude.					В					
	(a) Inflight Powerplant Shutdown.				В						
V. EN-ROUTE	(b) Inflight Powerplant Restart.				В						
	(c) High Speed Handling Characteristics.					В					
VI. DESCENT	(a) Normal					В					
	(b) Maximum Rate					В					
	(a) Turns with and without spoilers.					В					
	(b) Tuck and Mach Buffet.					В					
	(c) Maximum Endurance and Maximum Range procedures.					В					
	(d) Operation of systems and controls at the flight engineer station.					в					
	(e) Runaway and Jammed Stabilizer.					В					
	(f) Normal and Abnormal or Alternate operation of the following systems and procedures:				·						
	(1) Pressurization.				В						
	(2) Pneumatics.				В						
	(3) Air Conditioning.				В						
	(4) Fuel and Oil.				В						В
	(5) Electrical.				В						В
	(6) Hydraulic.				В						В
	(7) Flight Control.				В						В
VII.	(8) Anti-icing and Deicing.					В					
FLIGHT MANEUVERS	(9) Auto-pilot.					В					
AND	(10) Automatic or other approach aids.					В				В	
PROCEDURES	(11) Stall Warning devices, stall avoidance devices, and stability augmentation devices.					В				В	
	(12) Airborne Radar devices.					В					
	(13) Any other systems, devices, or aids available.					В					
	(14) Electrical, Hydraulic, Flight Control, and Flight Instrument System malfunctioning or failure.				в						В
	(15) Landing Gear and Flap Systems failure or malfunction.				В						В
	(16) Failure of navigation or communications equipment.					В					
	(g) Flight emergency procedures that include at least the following:						•		•	•	
	(1) Powerplant, heater, cargo compartment, cabin, flight deck, wing, and electrical fires.				В						В
	(2) Smoke Control.				В						В
	(3) Powerplant Failures.		1	1	1	В	1	1	1		



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<u>PIC/SIC INITIAL NEW HIRE AND INITIAL EQUIPMENT</u> <u>TRAINING</u>		Fl	Lev t Train	vel of ling Dev	ice	Level of Flt Simulator				Aircraft	
	(continued)	4	5	6	7	А	В	С	D	I	S T
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	A T I C
	(4) Fuel Jettisoning.		1		В	r –			1		
	(5) Any other emergency procedures outlined in the appropriate flight manual.					В					
	(h) Steep Turns in each direction. Each steep turn must involve a bank angle of 45 degrees with a heading change of 180 degrees but not more than 360 degrees.					Р					
VII. FLIGHT MANEUVERS AND PROCEDURES (continued)	 (i) Approaches to Stalls. Training in at least one of the configurations must be accomplished while in a turn with a bank angle between 15 and 30 degrees (M): 										
	 Takeoff configuration (except where the airplane uses only a zero-flap configuration). 					В					
(continucu)	(2) Clean Configuration.					В					
	(3) Landing configuration.					В					
	 (j) Recovery from specific flight characteristics that are peculiar to the airplane type. 					В					
	(k) Instrument procedures that include the following:			I		ļ			I		
	(1) Area departure and arrival;		1		1	В		1			
	(2) Use of navigation systems including					В					
	adherence to assigned radials;					р					
	(c) Lee accumulation on airframe:				D	в					
VIII.	(b) Air Hazard avoidance:				Б			R			
OTHER FLIGHT	(c) Windshear / Microburst:					R		Б			
FROCEDURES	(d) [] FTOPS procedures and emergencies					Б		в			
	(a) VFR Procedures		ļ	I		I	ļ		ļ		
	(1) Visual approach (M);		1		Ι		1	1		В	
	 (2) Visual approach with 50% loss of power on one side. (2 engines inoperative on 3-engine airplanes) (M); and 							В			
	(3) Visual approach with flap/slat malfunction (M).					В					
	(b) IFR Precision Approaches that include the following:										
IX. APPROACHES	 Normal ILS approaches using 100–½ minimums for operators authorized CAT I procedures only (M); 									В	
	 Manually controlled ILS approaches with a simulated failure of one Powerplant which occurs before initiating the final approach course and continues to touchdown or through the missed approach procedure (M); 									В	
	(3) [] MLS Normal (M);									В	
	(4) [] MLS One-engine inoperative (M);									В	
	(5) [] PAR Normal (M);									В	



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PIC/SIC INITIAL NEW HIRE AND INITIAL EQUIPMENT TRAINING		Level of Flt Training Device					Lev Flt Sin	Aircraft			
	(continued)	4	5	6	7	Α	В	С	D	I	S T
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	A T I C
	(6) [] PAR One-engine inoperative (M);	1			1	1		1		В	
	(7) [] CAT II AWTA Operations (M);									В	
	(8) [] CAT III AWTA Operations (M).									В	
	(c) IFR Nonprecision Approaches which include the following:								•		
	(1) VOR/Normal (M);					В					
	(2) NDB/Normal (\mathbf{M});				В						
	(3) Nonprecision approach one-engine inoperative (M);					В					
	(4) [] LOC Backcourse procedures (M);					В					
	(5) [] SDF/LDA procedures (M);					В					
	(6) [] TACAN procedures (\mathbf{M});					В					
	(7) [] ASR procedures (M);					В					
	(8) [] GPS procedures (M)					В					
IX. APPROACHES (continued)	(9) [] RNAV procedures (M);					В					
	(10) [] LORAN C procedures (\mathbf{M}).					В					
	instrument approach must be performed according to any procedures and limitations approved for the approach facility used. The instrument approach begins when the airplane is over the initial approach fix for the approach procedure being used (or turned over to the final approach controller in the case of GCA approach) and ends when the airplane touches down on the runway or when transition to a missed approach configuration is completed.				I	1	Γ	ſ	Γ		Γ
	(d) Circling approaches which include the following (M):							В			
	 That portion of the circling approach to the authorized minimum altitude for the procedure being used must be made under simulated instrument conditions; The circling approach must be made to the authorized minimum circling approach altitude followed by a change in heading and the necessary maneuvering (by visual reference) to maintain a flight path that permits a normal landing on a runway at least 90 degrees from the final approach course of the simulated instrument portion of the approach; The circling approach must be performed without exceeding the normal operating limits of the airplane. The angle of bank 										



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PIC/SIC INITIAL NEW HIRE AND INITIAL EQUIPMENT TRAINING		Fl	Le t Trair	vel of ing Dev	ice		Lev Flt Sin	el of 1ulato1		Airo	eraft
	(continued)	4	5	6	7	Α	В	С	D	Ι	S T
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	A T I C
IX.	Training in the circling approach maneuver is not required for a pilot employed by a certificate holder subject to the operating rules of Part VII, Subpart 5, if the certificate holder's manual prohibits a circling approach in weather conditions below 1000-3 (ceiling and visibility); for a SIC if the certificate holder's manual prohibits the SIC from performing a circling approach in operations under Part VII, Subpart 5.										
(continued)	(e) Zero-flap approaches. Training in this maneuver is not required for a particular airplane type if the Minister has determined that the probability of flap extension failure on that type airplane is extremely remote due to system design. In making this determination, the Minister determines whether training on slats only and partial flap approaches is necessary.									Р	
	(f) Missed approaches which include the following:		ļ	ļ	1	ļ	ļ	ļ	ļ		
X. MISSED	(1) Missed approaches from ILS approaches (M);					В					
	(2) Missed approaches from a nonprecision approach (M);				В						
APPROACHES	(3) Missed approaches that include a complete approved missed approach procedure (M);				В						
	(4) Missed approaches that include a Powerplant failure (M).					В					
	(a) Normal landings.									В	
	(b) Landing and go around with the horizontal stabilizer out of trim.									Р	
	(c) Landing in sequence from an ILS instrument approach.									В	
	(d) Cross wind landing.									В	
	(e) From a precision instrument approach with the most critical engine inoperative;									В	
XI. LANDINGS	 (f) Maneuvering to a landing with simulated Powerplant failure, as follows: 										
AND APPROACHES TO LANDINGS	 Except as provided in subsection (3) of this section in the case of 3-engine airplanes, maneuvering to a landing with an approved procedure that approximates the loss of two powerplants (center and one out-board engine); 									Р	
	(2) Except as provided in subsection (3) of this section, in the case of other multiengine airplanes, maneuvering to a landing with a simulated failure of 50% of available powerplants with the simulated loss of power on one side of the airplane;									Р	



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PIC/SIC INI	PIC/SIC INITIAL NEW HIRE AND INITIAL EQUIPMENT TRAINING		Lev Train	vel of ing Dev	Level of Flt Simulator				Aircraft		
	(continued)	4	5	6	7	А	В	С	D	I	S T
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	A T I C
XI. LANDINGS AND APPROACHES TO LANDINGS	 (3) Notwithstanding the requirements of subsections (1) and (2) of this section, flight crewmembers who satisfy those requirements in a visual simulator must also: (i) Take inflight training in one-engine inoperative landings; 										
	 (g) Landing under simulated circling approach conditions (exceptions under IX.(d) applicable to this requirement). 									В	
	(h) Rejected landings that include a normal missed approach procedure after the landing is rejected. For the purpose of this maneuver the landing will be rejected at approximately 50 feet and approximately over the runway threshold.									В	
	 Zero-flap landings if the Minister finds that maneuver appropriate for training in the airplane. 									Р	
	 (j) Manual reversion / degraded control augmentation (if appropriate). 					В					
	Training in landings and approaches to landings must include the types and conditions provided in XI.(a) through (j) but more than one type may be combined where appropriate. Training in one of the above landings must be										
	accomplished at night.										[
XII. AFTER	(a) Parking procedures;							В			
LANDING PROCEDURES	(b) Emergency Evacuation procedures.							В			



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APPENDIX II

Transition Flight Training Requirements

1. INTRODUCTION

The maneuvers and procedures required by Section 705.144 of the Lebanese Aviation Regulations (LARs) for pilot transition flight training are set forth in the certificate holder's approved low altitude windshear flight training program and in this Appendix and must be performed in-flight except that windshear maneuvers and procedures must be performed in an airplane simulator in which the maneuvers and procedures may be performed in an airplane simulator with a visual system (visual simulator), a training device, an airplane, or a static airplane as indicated by the appropriate symbol in the respective column opposite the maneuver or procedure.

For the purpose of this Appendix, the following symbols mean:

- P = Pilot in Command (PIC).
- S = Second in Command (SIC).
- B = PIC and SIC.
- PJ = PIC transition Jet to Jet.
- PP = PIC transition Prop. to Prop.
- SJ = SIC transition Jet to Jet.
- SP = SIC transition Prop. to Prop.
- AT = All transition categories (PJ, PP, SJ, SP).
- PS = SIC upgrading to PIC (same airplane).

2. MANEUVERS AND PROCEDURES TABLES.

(1) The events which must be accomplished during flight training are listed in the maneuvers and procedures tables in this Appendix. These tables contain the acceptable flight training equipment (training devices, simulators, or aircraft) which may be used for any training event. Any maneuver or procedure permitted in a specific level of flight training device or flight simulator, may also be conducted in a higher level of flight training device, flight simulator, or the aircraft itself (providing the event can safely be accomplished in the aircraft). DGCA policy requires detailed descriptions (or pictorial displays) of at least those training events identified with the symbol "M" in the appropriate maneuvers and procedures tables. Certain training events within the tables are preceded with a box "[]". If the operator is authorized (or required) to conduct these maneuvers by Operations Specifications (for example, a circling approach), the DGCA will check the appropriate box to indicate these events must be included in the training curriculum. Certain optional training events indicated by a pound sign "#" in the maneuvers and procedures tables are not specifically required by the Regulations or Operations Specifications. Many of these optional training events, however, are often included in an operator's flight training curriculums and will be conducted in a properly qualified device or simulator.

(2) All instrument training events accomplished in the simulator, will be done under the lowest weather minimums authorized for the certificate holder.

(3) All training events that would be simulated in the airplane, will be trained in the simulator as actual events.



(4) Preceding each maneuver and procedure table is a section which states the required maneuvers and procedures for each crewmember and provides guidance on specific areas of emphasis which will be included in the training.

(5) An operator's flight check form will annotate PIC duties checked or not checked. Pursuant to LARs Part IV, Section 401.39, class or type ratings will be issued limiting the privileges to acting as co-pilot only as appropriate.



APPENDIX II – TRANSITION TRAINING

FLIGHT TR TR	AINING - TRANSITION FLIGHT TRAINING: ANSPORT CATEGORY AIRPLANES	Fl	Lev t Train	vel of ing Dev	ice		Lev Flt Sin	el of 1ulator		Airo	eraft
		4	5	6	7	Α	В	С	D	I	S T
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	A T I C
I. PREFLIGHT	(a) Visual Inspection of the exterior of the airplane, the location of each item to be inspected, and the purpose for inspecting it. (For acft with FE, use of approved pictorial display that realistically portrays the location and detail of preflight inspection items, is authorized).										AT
	(b) Use of Prestart/Pretaxi Check list, appropriate control system checks, and the selection of proper navigation and communications radio facilities and frequencies prior to flight.					AT					
	(c) Use of Performance Limitations prior to takeoff.				AT						
	(a) Use of Pushback Check list.					AT					
	(b) [] Use of Powerback Taxi Check list.					AT					
	(c) Use of Starting Engines Check list.				AT						
II. SURFACE OPERATIONS	(d) Use of Taxi Check list and procedures in compliance with instructions issued by the appropriate Traffic Control Authority or by the person conducting the training.					AT					
	(e) Use of Before Takeoff Check list, appropriate system checks, and the selection of proper navigation and communications radio facilities and frequencies prior to flight.					AT					
	(a) Normal Takeoffs which, for the purpose of this maneuver, begin when the airplane is taxied into position on the runway to be used. (M)									AT	
	(b) Takeoffs with instrument conditions simulated at or before reaching an altitude of 100 feet above the airport elevation.					AT					
	(c) Crosswind takeoffs									AT	
III. TAKEOFF	(d) Rejected Takeoffs accomplished during normal takeoff run after reaching a reasonable speed determined by giving due consideration to aircraft characteristics, runway length, surface conditions, wind direction and velocity, brake heat energy, and any other pertinent factors that may adversely affect safety or the airplane. In the simulator the maneuver will be accomplished just prior to V ₁ (M).					AT					
	 Powerplant Failure V₁. Takeoffs with a simulated failure of the most critical Powerplant: 		-			-			-		
-	 At a point after V₁ and before V₂ that in the judgment of the person conducting the training is appropriate to the airplane type under the prevailing conditions (M); or 							AT			
	 (2) At a point as close as possible after V₁ when V₁ and V₂ or V₁ and V_R are identical (M). 							AT			
	(f) Powerplant Failure During Second Segment. #	<u> </u>						AT			
	(g) [] Takeoffs using lower than standard minimums.							AT			



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	<u>TRANSITION TRAINING</u> (continued)	Level ofLevel ofFlt Training DeviceFlt Simulator							•	Aircraft		
FLIGHT	MANEUVEDS / DOCEDUDES	4	5	6	7	A	B PH	C PH	D PH	I N F I	S T A T	
PHASE	MANEUVERS / FROCEDURES					V15	1	II	III	T	I C	
	(a) Normal.							AT				
IV. CLIMB	(b) One-engine inoperative during climb to en route altitude.							AT				
	(a) Inflight Powerplant Shutdown.					AT						
V. EN-ROUTE	(b) Inflight Powerplant Restart.					AT						
	(c) High Speed Handling Characteristics.					AT						
VI. DESCENT	(a) Normal					AT				-	-	
	(b) Maximum Rate					AT				ļ	ļ	
	(a) Turns with and without spoilers.				AT					ļ	ļ	
	(b) Tuck and Mach Buffet.				AT							
	(c) Maximum Endurance and Maximum Range procedures.				AT							
	(d) Operation of systems and controls at the flight engineer station.				AT							
	(e) Runaway and Jammed Stabilizer.							AT				
	(f) Normal and Abnormal or Alternate operation of		-									
	(1) Drecovirgation	-	1		4.77	1	1	1	1	1	1	
	(1) Pressurization.				AT							
	(2) Pheumatics.				AT							
	(3) Air Conditioning.				AT							
	(4) Fuel and Oil.										AT	
	(5) Electrical.				AT						AT	
	(6) Hydraulic.				AT						AT	
	(7) Flight Control.										AT	
VII. FLIGHT	(8) Anti-icing and Deicing.				AT							
MANEUVERS	(9) Auto-pilot.				AT							
PROCEDURES	(10) Automatic or other approach aids.				AT							
	(11) Stall Warning devices, stall avoidance devices, and stability augmentation devices.				AT							
	(12) Airborne Radar devices.				AT							
	(13) Any other systems, devices, or aids available.				AT							
	(14) Electrical, Hydraulic, Flight Control, and Flight Instrument System malfunctioning or failure.				AT						AT	
	(15) Landing Gear and Flap Systems failure or malfunction.				AT						AT	
	(16) Failure of navigation or communications equipment.											
	(g) Flight emergency procedures that include at least the following:			•					•			
	(1) Powerplant, heater, cargo compartment, cabin, flight deck, wing, and electrical fires.				AT						AT	
	(2) Smoke Control.		1	1	AT	1	1	1	1	1	AT	
	(3) Powerplant Failures.							AT				



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	<u>TRANSITION TRAINING</u> (continued)	Flt	Le Trair	vel of ing Dev	ice		Lev Flt Sin	el of 1ulator		Airo	eraft
		4	5	6	7	Α	В	С	D	Ι	S
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	A T I C
	(4) Fuel Jettisoning.				в	ĺ			Í –		В
	(5) Any other emergency procedures outlined in the appropriate flight manual.					AT					
	(h) Steep Turns in each direction. Each steep turn must involve a bank angle of 45 degrees with a heading change of 180 degrees but not more than 360 degrees.					PJ					
VII. FLIGHT	 (i) Approaches to Stalls. Training in at least one of the configurations must be accomplished while in a turn with a bank angle between 15 and 30 degrees (M): 										
MANEUVERS AND PROCEDURES (continued)	 Takeoff configuration (except where the airplane uses only a zero-flap configuration). 					AT					
(continued)	(2) Clean Configuration.					AT					
	(3) Landing configuration.					AT					
	(j) Recovery from specific flight characteristics that are peculiar to the airplane type.					AT					
	(k) Instrument procedures that include the following:		I	•	•	i	•	•	i	i	
	(1) Area departure and arrival;					AT					
	(2) Use of navigation systems including adherence to assigned radials;					AT					
	(3) Holding.					AT					
	(a) Ice accumulation on airframe;				AT						
VIII. OTHER FLIGHT	(b) Air Hazard avoidance;					AT					
PROCEDURES	(c) Windshear / Microburst;							AT			
	(d) [] ETOPS procedures and emergencies.					AT					
	(a) VFR Procedures					1	1	1	n	1	1
	(1) Visual approach (M);							AT			
	(2) Visual approach with 50% loss of power on one side. (2 engines inoperative on 3- engine airplanes) (M); and							AT			
	(3) Visual approach with flap/slat malfunction (M).							AT			
	(b) IFR Precision Approaches that include the following:			1	r						
IX. APPROACHES	 Normal ILS approaches using 100–½ minimums for operators authorized CAT I procedures only (M); 									AT	
	(2) Manually controlled ILS approaches with a simulated failure of one Powerplant which occurs before initiating the final approach course and continues to touchdown or through the missed approach procedure (M);							AT			
	(3) [] MLS Normal (M);							AT			
	(4) [] MLS One-engine inoperative (M);							AT			
	(5) [] PAR Normal (M);							AT			



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TRANSITION TRAINING (continued)		Flt Tr		vel of ning Dev	vice		Lev Flt Sin	el of nulator	•	Air	eraft
		4	5	6	7	Α	В	С	D	Ι	S
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	A T I C
	(6) [] PAR One-engine inoperative (M);				1		1	AT			
	(7) [] CAT II AWTA Operations (M);							AT			
	(8) [] CAT III AWTA Operations (M).							AT			
	(c) IFR Nonprecision Approaches which include the following:										
	(1) VOR/Normal (M);					AT					
	(2) NDB/Normal (M);					AT					
	(3) Nonprecision approach one-engine inoperative (M);					AT					
	(4) [] LOC Backcourse procedures (M);					AT					
	(5) [] SDF/LDA procedures (M);					AT					
	(6) [] TACAN procedures (M);					AT					
	(7) [] ASR procedures (M);					AT					
	(8) [] GPS procedures (M)					AT					
	(9) [] RNAV procedures (M);					AT					
	(10) [] LORAN C procedures (M).					AT					
IX. APPROACHES (continued)	instrument approach must be performed according to any procedures and limitations approved for the approach facility used. The instrument approach begins when the airplane is over the initial approach fix for the approach procedure being used (or turned over to the final approach controller in the case of GCA approach) and ends when the airplane touches down on the runway or when transition to a missed approach configuration is completed.										
	(d) Circling approaches which include the following (M):									AT	
	 That portion of the circling approach to the authorized minimum altitude for the procedure being used must be made under simulated instrument conditions; The circling approach must be made to the authorized minimum circling approach altitude followed by a change in heading and the necessary maneuvering (by visual reference) to maintain a flight path that permits a normal landing on a runway at least 90 degrees from the final approach course of the simulated instrument portion of the approach; The circling approach must be performed without exceeding the normal operating limits of the airplane. The angle of bank 										



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	TRANSITION TRAINING (continued)			Level ofLevel ofFlt Training DeviceFlt Simulator						Aircraft		
		4	5	6	7	Α	В	С	D	Ι	S	
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	A T I C	
IX.	Training in the circling approach maneuver is not required for a pilot employed by a certificate holder subject to the operating rules of Part VII, Subpart 5, if the certificate holder's manual prohibits a circling approach in weather conditions below 1000-3 (ceiling and visibility); for a SIC if the certificate holder's manual prohibits the SIC from performing a circling approach in operations under Part VII, Subpart 5.										_	
(continued)	(e) Zero-flap approaches. Training in this maneuver is not required for a particular airplane type if the Minister has determined that the probability of flap extension failure on that type airplane is extremely remote due to system design. In making this determination, the Minister determines whether training on slats only and partial flap approaches is necessary.					PJ PP						
	(f) Missed approaches which include the following:		,	,				,			,	
	 Missed approaches from ILS approaches (M); 					AT						
X. MISSED	(2) Missed approaches from a nonprecision approach (M);					AT						
APPROACHES	(3) Missed approaches that include a complete approved missed approach procedure (M);					AT						
	(4) Missed approaches that include a Powerplant failure (M).					AT						
	(a) Normal landings.									AT		
	(b) Landing and go around with the horizontal stabilizer out of trim.					PJ PP						
	(c) Landing in sequence from an ILS instrument approach.									AT		
	(d) Cross wind landing.									AT		
	(e) From a precision instrument approach with the most critical engine inoperative;					PJ PP						
XI. LANDINGS	(f) Maneuvering to a landing with simulated Powerplant failure, as follows:											
LANDINGS AND APPROACHES TO LANDINGS	 Except as provided in subsection (3) of this section in the case of 3-engine airplanes, maneuvering to a landing with an approved procedure that approximates the loss of two powerplants (center and one out-board engine); 					PJ PP						
	(2) Except as provided in subsection (3) of this section, in the case of other multiengine airplanes, maneuvering to a landing with a simulated failure of 50% of available powerplants with the simulated loss of power on one side of the airplane;					PJ PP						



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	<u>TRANSITION TRAINING</u> (continued)	Fl	Le t Trair	vel of ing Dev	ice		Lev Flt Sin	el of nulator		Airo	craft
		4	5	6	7	Α	В	С	D	I	S T
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	F L T	A T I C
	 (3) Notwithstanding the requirements of subsections (1) and (2) of this section, flight crewmembers who satisfy those requirements in a visual simulator must also: (i) Take inflight training in one-engine inoperative landings; 										
	 (g) Landing under simulated circling approach conditions (exceptions under IX.(d) applicable to this requirement). 					AT					
XI. LANDINGS AND APPROACHES TO LANDINGS	(h) Rejected landings that include a normal missed approach procedure after the landing is rejected. For the purpose of this maneuver the landing will be rejected at approximately 50 feet and approximately over the runway threshold.					AT					
	 Zero-flap landings if the Minister finds that maneuver appropriate for training in the airplane. 					PP PJ					
	 (j) Manual reversion / degraded control augmentation (if appropriate). 					AT					
	Training in landings and approaches to landings must include the types and conditions provided in XI.(a) through (j) but more than one type may be combined where appropriate. Training in one of the above landings must be										
	accomplished at night.										
XII. AFTER	(a) Parking procedures;					AT					
LANDING PROCEDURES	(b) Emergency Evacuation procedures.					AT					



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APPENDIX III

Upgrade Flight Training Requirements

1. INTRODUCTION

The maneuvers and procedures required by Section 705.144 of the Lebanese Aviation Regulations (LARs) for pilot and flight engineer upgrade flight training are set forth in the certificate holder's approved low altitude windshear flight training program and in this Appendix and must be performed in-flight except that windshear maneuvers and procedures must be performed in an airplane simulator in which the maneuvers and procedures may be performed in an airplane simulator with a visual system (visual simulator), a training device, an airplane, or a static airplane as indicated by the appropriate symbol in the respective column opposite the maneuver or procedure.

For the purpose of this Appendix, the following symbols mean:

- S = Second in Command (SIC).
- B = PIC and SIC.
- F = Flight Engineer.
- PJ = PIC transition Jet to Jet.
- PP = PIC transition Prop. to Prop.
- SJ = SIC transition Jet to Jet.
- SP = SIC transition Prop. to Prop.
- AT = All transition categories (PJ, PP, SJ, SP).
- PS = SIC upgrading to PIC (same airplane).
- SF = Flight Engineer upgrading to SIC (same airplane).
- BU = Both SIC and Flight Engineer upgrading (same airplane).

2. MANEUVERS AND PROCEDURES TABLES.

(1) The events which must be accomplished during flight training are listed in the maneuvers and procedures tables in this Appendix. These tables contain the acceptable flight training equipment (training devices, simulators, or aircraft) which may be used for any training event. Any maneuver or procedure permitted in a specific level of flight training device or flight simulator, may also be conducted in a higher level of flight training device, flight simulator, or the aircraft itself (providing the event can safely be accomplished in the aircraft). DGCA policy requires detailed descriptions (or pictorial displays) of at least those training events identified with the symbol "M" in the appropriate maneuvers and procedures tables. Certain training events within the tables are preceded with a box "[]". If the operator is authorized (or required) to conduct these maneuvers by Operations Specifications (for example, a circling approach), the DGCA will check the appropriate box to indicate these events must be included in the training curriculum. Certain optional training events indicated by a pound sign "#" in the maneuvers and procedures tables are not specifically required by the Regulations or Operations Specifications. Many of these optional training events, however, are often included in an operator's flight training curriculums and will be conducted in a properly qualified device or simulator.

(2) All instrument training events accomplished in the simulator, will be done under the lowest weather minimums authorized for the certificate holder.

(3) All training events that would be simulated in the airplane, will be trained in the simulator as actual events.



(4) Preceding each maneuver and procedure table is a section which states the required maneuvers and procedures for each crewmember and provides guidance on specific areas of emphasis which will be included in the training.

(5) An operator's flight check form will annotate PIC duties checked or not checked. Pursuant to LARs Part IV, Section 401.39, class or type ratings will be issued limiting the privileges to acting as co-pilot only as appropriate.



APPENDIX III – UPGRADE TRAINING

FLIGHT T TR	FLIGHT TRAINING - UPGRADE FLIGHT TRAINING: TRANSPORT CATEGORY AIRPLANES		Level of Flt Training Device					Level of Flt Simulator				eraft
			4	5	6	7	А	В	С	D	I	S T
FLIGHT PHASE	MANE	UVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	A T I C
I. PREFLIGHT	 (a) Visual Insp the location purpose for of approved portrays the inspection i 	ection of the exterior of the airplane, of each item to be inspected, and the inspecting it. (For acft with FE, use pictorial display that realistically location and detail of preflight tems, is authorized).										BU
	(b) Use of Pres control syst proper navi facilities an	tart/Pretaxi Check list, appropriate em checks, and the selection of gation and communications radio d frequencies prior to flight.					BU					
	(c) Use of Perfe	ormance Limitations prior to takeoff.					BU					
	(a) Use of Push	back Check list.					BU					
	(b) [] Use of F	owerback Taxi Check list.					BU					
	(c) Use of Start	ing Engines Check list.					BU					
II. SURFACE OPERATIONS	(d) Use of Taxi compliance appropriate person cond	Check list and procedures in with instructions issued by the Traffic Control Authority or by the lucting the training.									BU	
	(e) Use of Before system check navigation a and frequent	ber Takeoff Check list, appropriate eks, and the selection of proper and communications radio facilities cies prior to flight.					BU					
	(a) Normal Tak maneuver, b position on	teoffs which, for the purpose of this begin when the airplane is taxied into the runway to be used. (M)					BU					
	(b) Takeoffs wi or before re the airport e	ith instrument conditions simulated at aching an altitude of 100 feet above elevation.					BU					
	(c) Crosswind	takeoffs									BU	
III. TAKEOFF	(d) Rejected Ta takeoff run determined aircraft chan conditions, heat energy may adverss the simulato just prior to	keoffs accomplished during normal after reaching a reasonable speed by giving due consideration to racteristics, runway length, surface wind direction and velocity, brake , and any other pertinent factors that ely affect safety or the airplane. In or the maneuver will be accomplished V_1 (M).				BU						
	(e) Powerplant simulated fa	Failure V ₁ . Takeoffs with a ailure of the most critical Powerplant:		1	1	T	0	1	1	0		1
-	(1) At a p judgm trainir under	oint after V_1 and before V_2 that in the tent of the person conducting the g is appropriate to the airplane type the prevailing conditions (M); or							BU			
	(2) At a p when idention	oint as close as possible after V_1 V_1 and V_2 or V_1 and V_R are cal (M).							BU			
	(f) Powerplant	Failure During Second Segment. #							BU		L	
	(g) [] Takeoff minimums.	s using lower than standard							BU			



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	UPGRADE TRAINING (continued)	Level of Flt Training Device					Level of Flt Simulator				craft
		4	5	6	7	Α	В	С	D	I	S T
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	F L T	A T I C
	(a) Normal.		1			BU	1				
IV. CLIMB	(b) One-engine inoperative during climb to en route altitude.					BU					
	(a) Inflight Powerplant Shutdown.					BU					
V. EN-ROUTE	(b) Inflight Powerplant Restart.					BU					
	(c) High Speed Handling Characteristics.					BU					
VI. DESCENT	(a) Normal					BU					
	(b) Maximum Rate					BU					
	(a) Turns with and without spoilers.					BU					
	(b) Tuck and Mach Buffet.				BU						
	(c) Maximum Endurance and Maximum Range procedures.				BU						
	(d) Operation of systems and controls at the flight engineer station.				PS						
	(e) Runaway and Jammed Stabilizer.					BU					
	(f) Normal and Abnormal or Alternate operation of										
	the following systems and procedures:		1	1		1	1	1	1	r	r
	(1) Pressurization.				BU						
	(2) Pneumatics.				BU						
	(3) Air Conditioning.				BU						
	(4) Fuel and Oil.				BU						BU
	(5) Electrical.				BU						BU
	(6) Hydraulic.				BU						BU
	(7) Flight Control.				BU						BU
VII. FLIGHT	(8) Anti-icing and Deicing.					BU					
MANEUVERS	(9) Auto-pilot.					BU				ļ	ļ
AND PROCEDURES	(10) Automatic or other approach aids.					BU				SF	
	(11) Stall Warning devices, stall avoidance devices, and stability augmentation devices.					BU				SF	
	(12) Airborne Radar devices.					BU					
	(13) Any other systems, devices, or aids available.					BU					
	(14) Electrical, Hydraulic, Flight Control, and Flight Instrument System malfunctioning or failure.				BU						BU
	(15) Landing Gear and Flap Systems failure or malfunction.				BU						BU
	(16) Failure of navigation or communications equipment.					BU					
	(g) Flight emergency procedures that include at least the following:										
	(1) Powerplant, heater, cargo compartment, cabin, flight deck, wing, and electrical fires.				BU						BU
	(2) Smoke Control.				BU	BU					BU
	(3) Powerplant Failures.				BU						



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	<u>UPGRADE TRAINING</u> (continued)	Flt	Le Trair	vel of ing Dev	ice	-	Lev Flt Sin	el of 1ulator		Airo	eraft
		4	5	6	7	Α	В	С	D	I	S
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	A T I C
	(4) Fuel Jettisoning.				BU						BU
	(5) Any other emergency procedures outlined in the appropriate flight manual.					BU					
	(h) Steep Turns in each direction. Each steep turn must involve a bank angle of 45 degrees with a heading change of 180 degrees but not more than 360 degrees.					PS					
VII. FLIGHT	 (i) Approaches to Stalls. Training in at least one of the configurations must be accomplished while in a turn with a bank angle between 15 and 30 degrees (M): 										
MANEUVERS AND PROCEDURES (continued)	 Takeoff configuration (except where the airplane uses only a zero-flap configuration). 					BU					
(continueu)	(2) Clean Configuration.					BU					
	(3) Landing configuration.					BU					
	(j) Recovery from specific flight characteristics that are peculiar to the airplane type.					BU					
	(k) Instrument procedures that include the following:			i	i	i	i	i —	i	i	i
	(1) Area departure and arrival;					BU					
	(2) Use of navigation systems including adherence to assigned radials;					BU					
	(3) Holding.					BU					
	(a) Ice accumulation on airframe;					BU					
VIII. OTHER FLIGHT	(b) Air Hazard avoidance;					BU					
PROCEDURES	(c) Windshear / Microburst;							BU			
	(d) [] ETOPS procedures and emergencies.							BU			
	(a) VFR Procedures			1	1	1	1	1	1	1	1
	(1) Visual approach (M);							BU		BU	
	(2) Visual approach with 50% loss of power on one side. (2 engines inoperative on 3-engine airplanes) (M); and							BU			
	(3) Visual approach with flap/slat malfunction (M).							BU			
	(b) IFR Precision Approaches that include the following:				·						
IX. APPROACHES	 Normal ILS approaches using 100–½ minimums for operators authorized CAT I procedures only (M); 									BU	
	 Manually controlled ILS approaches with a simulated failure of one Powerplant which occurs before initiating the final approach course and continues to touchdown or through the missed approach procedure (M); 					BU					
	(3) [] MLS Normal (M);					BU					
	(4) [] MLS One-engine inoperative (M);					BU					
	(5) [] PAR Normal (M);					BU					



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<u>UPGRADE TRAINING</u> (continued)			Level of Level of Flt Training Device Flt Simulator							Aircraft		
		4	5	6	7	Α	В	С	D	Ι	S T	
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	A T I C	
	(6) [] PAR One-engine inoperative (M);	[r – –	BU	[<u> </u>				
	(7) [] CAT II AWTA Operations (M);					BU						
	(8) [] CAT III AWTA Operations (M).					BU						
	(c) IFR Nonprecision Approaches which include the following:									1		
	(1) VOR/Normal (M);					BU						
	(2) NDB/Normal (M);					BU						
	(3) Nonprecision approach one-engine inoperative (M);					BU						
	(4) [] LOC Backcourse procedures (M);					BU						
	(5) [] SDF/LDA procedures (M);					BU						
	(6) [] TACAN procedures (M);					BU						
	(7) [] ASR procedures (M);					BU						
	(8) [] GPS procedures (M)					BU						
	(9) [] RNAV procedures (M);					BU						
	(10) [] LORAN C procedures (M).											
IX. APPROACHES (continued)	instrument approach must be performed according to any procedures and limitations approved for the approach facility used. The instrument approach begins when the airplane is over the initial approach fix for the approach procedure being used (or turned over to the final approach controller in the case of GCA approach) and ends when the airplane touches down on the runway or when transition to a missed approach configuration is completed.											
	(d) Circling approaches which include the following									BU		
	 That portion of the circling approach to the authorized minimum altitude for the procedure being used must be made under simulated instrument conditions; The circling approach must be made to the authorized minimum circling approach altitude followed by a change in heading and the necessary maneuvering (by visual reference) to maintain a flight path that permits a normal landing on a runway at least 90 degrees from the final approach course of the simulated instrument portion of the approach; The circling approach must be performed without excessive maneuvering, and 			L	I							
	without exceeding the normal operating limits of the airplane. The angle of bank will not exceed 30 degrees.											



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	UPGRADE TRAINING (continued)		Le [.] t Trair	vel of ning Dev	rice	Level of Flt Simulator				Airo	eraft
		4	5	6	7	Α	В	С	D	Ι	S
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	N F L T	A T I C
IX.	Training in the circling approach maneuver is not required for a pilot employed by a certificate holder subject to the operating rules of Part VII, Subpart 5, if the certificate holder's manual prohibits a circling approach in weather conditions below 1000-3 (ceiling and visibility); for a SIC if the certificate holder's manual prohibits the SIC from performing a circling approach in operations under Part VII, Subpart 5.										
(continued)	(e) Zero-flap approaches. Training in this maneuver is not required for a particular airplane type if the Minister has determined that the probability of flap extension failure on that type airplane is extremely remote due to system design. In making this determination, the Minister determines whether training on slats only and partial flap approaches is necessary.					PS					
	(f) Missed approaches which include the following:		,					,	,		
	 Missed approaches from ILS approaches (M); 					BU					
X. MISSED	 Missed approaches from a nonprecision approach (M); 					BU					
APPROACHES	(3) Missed approaches that include a complete approved missed approach procedure (M);					BU					
	(4) Missed approaches that include a Powerplant failure (M).					BU					
	(a) Normal landings.									BU	
	(b) Landing and go around with the horizontal stabilizer out of trim.				PS						
	(c) Landing in sequence from an ILS instrument approach.					BU					
	(d) Cross wind landing.									BU	
	(e) From a precision instrument approach with the most critical engine inoperative;					PS					
XI. LANDINGS	(f) Maneuvering to a landing with simulated Powerplant failure, as follows:										
LANDINGS AND APPROACHES TO LANDINGS	 Except as provided in subsection (3) of this section in the case of 3-engine airplanes, maneuvering to a landing with an approved procedure that approximates the loss of two powerplants (center and one out-board engine); 					PS					
	(2) Except as provided in subsection (3) of this section, in the case of other multiengine airplanes, maneuvering to a landing with a simulated failure of 50% of available powerplants with the simulated loss of power on one side of the airplane;					PS					



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	<u>UPGRADE TRAINING</u> (continued)	Fh	Lev Train	vel of ing Dev	ice		Lev Flt Sin	el of nulator		Air	craft
[Γ	4	5	6	7	Α	В	С	D	I N	S T
FLIGHT PHASE	MANEUVERS / PROCEDURES					VIS	PH 1	PH II	PH III	F L T	A T I C
	 (3) Notwithstanding the requirements of subsections (1) and (2) of this section, flight crewmembers who satisfy those requirements in a visual simulator must also: (i) Take inflight training in one-engine inoperative landings; 										
	 (g) Landing under simulated circling approach conditions (exceptions under IX.(d) applicable to this requirement). 					BU					
XI. LANDINGS AND APPROACHES TO LANDINGS	(h) Rejected landings that include a normal missed approach procedure after the landing is rejected. For the purpose of this maneuver the landing will be rejected at approximately 50 feet and approximately over the runway threshold.					BU					
	 Zero-flap landings if the Minister finds that maneuver appropriate for training in the airplane. 					PS					
	 (j) Manual reversion / degraded control augmentation (if appropriate). 					BU					
	Training in landings and approaches to landings must include the types and conditions provided in XI.(a) through (j) but more than one type may be combined where appropriate. Training in one of the above landings must be										
	accomplished at night.										
XII. AFTER	(a) Parking procedures;					BU					
LANDING PROCEDURES	(b) Emergency Evacuation procedures.					BU					



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APPENDIX V

Advanced Simulation

1. INTRODUCTION

(1) This Appendix provides guidelines and a means for achieving flightcrew training in advanced airplane simulators. This Appendix describes the simulator and visual system requirements which must be achieved to obtain approval of certain types of training in the simulator. The requirements in this Appendix are in addition to the simulator approval requirements in Section 705.131. Each simulator which is used under this Appendix must be approved as a Level B, C, or D simulator, as appropriate.

(2) To obtain DGCA approval of the simulator for a specific level, the following must be demonstrated to the satisfaction of the Minister:

- (a) documented proof of compliance with the appropriate simulator, visual system, and additional training requirements of this Appendix V or the level for which approval is requested.
- (b) an evaluation of the simulator to ensure that its ground, flight, and landing performance matches the type of airplane simulated.
- (c) an evaluation of the appropriate simulator and visual system requirements of the level for which approval is requested.

(3) While a need exists for some flexibility in making changes in the software program, strict scrutiny of these changes is essential to ensure that the simulator retains its ability to duplicate the airplane's flight and ground characteristics. Therefore, the following procedure must be followed to allow these changes without affecting the approval of an Appendix V simulator:

- (a) thirty days before making changes to the software program which might impact flight or ground dynamics of an Appendix V simulator, a complete list of these planned changes, including dynamics related to the motion and visual systems, must be provided in writing to the DGCA.
- (b) if the DGCA does not object to the planned change within 30 calendar days, the operator may make the change.
- (c) changes which might affect the approved simulator Level B test guide must be tested by the operator in the simulator to determine the impact of the change before submission to the DGCA.
- (d) software changes actually installed must be summarized and provided to the DGCA. When the operator's test shows a difference in simulator performance due to a change, an amended copy of the test guide page which includes the new simulator test results will also be provided to update the DGCA's copy of the test guide.
- (e) the DGCA may examine supporting data or flight check the simulator, or both, to ensure that the aerodynamic quality of the simulator has not been degraded by any change in software programming.
- (f) all requests for changes are evaluated on the basis of the same criteria used in the initial approval of the simulator for Level B, C, or D. Simulator Minimum Equipment List (MEL)

(4) Because of the strict tolerances and other approval requirements of Appendix V simulators, the simulator can provide realistic training with certain nonessential items inoperative. Therefore, an operator may operate its simulator under an MEL which has been approved by the Minister for that simulator. The MEL includes simulator components and indicates the type of training or checking that is authorized if the component becomes inoperative. To accomplish this, the component is placed in one of the following categories along with any remarks applicable to the component's use in the training program:

- (a) no training or checking.
- (b) training in specific maneuvers.



- (c) certification and checking.
- (d) Line Oriented Flight Training (LOFT).

2. Advanced Simulation Training Program

(1) For an operator to conduct Level C, or D training under this Appendix all required simulator instruction and checks must be conducted under an advanced simulation training program which is approved by the Minister for the operator. This program must also ensure that all instructors and check airmen used in Appendix V training and checking are highly qualified to provide the training required in the training program. The advanced simulation training program shall include the following:

- (a) the operator's initial, transition, upgrade, and recurrent simulator training programs and its procedures for reestablishing recency of experience in the simulator.
- (b) how the training program will integrate Level C, and D simulators with other simulators and training devices to maximize the total training, checking, and certification functions.
- (c) documentation that each instructor and check airman has served for at least 1 year in that capacity in a certificate holder's approved program or has served for at least 1 year as a pilot in command or second in command in an airplane of the group in which that pilot is instructing or checking.
- (d) a procedure to ensure that each instructor and check airman actively participates in either an approved regularly scheduled line flying program as a flight crewmember or an approved line observation program in the same airplane type for which that person is instructing or checking.
- (e) a procedure to ensure that each instructor and check airman is given a minimum of 4 hours of training each year to become familiar with the operator's advanced simulation training program, or changes to it, and to emphasize their respective roles in the program. Training for simulator instructors and check airmen shall include training policies and procedures, instruction methods and techniques, operation of simulator controls (including environmental and trouble panels), limitations of the simulator, and minimum equipment required for each course of training.
- (f) a special Line Oriented Flight Training (LOFT) program to facilitate the transition from the simulator to line flying. This LOFT program consists of at least a 4 hour course of training for each flightcrew. It also contains at least two representative flight segments of the operator's route. One of the flight segments contains strictly normal operating procedures from push back at one airport to arrival at another. Another flight segment contains training in appropriate abnormal and emergency flight operations.

Level C

Training and Checking Permitted

- (a) night takeoffs and landings (Part VII, Subpart 5, Appendices I, II, and III).
- (b) landings in a proficiency check without the landing on the line requirements Section 705.164.
- (c) for all pilots, transition training between airplanes in the same group, and for a pilot in command the certification check.
- (d) upgrade to pilot in command training and the certification check when the pilot:
 - (i) has previously qualified as second in command in the equipment to which the pilot is upgrading;
 - (ii) has at least 500 hours of actual flight time while serving as second in command in an airplane of the same group; and
 - (iii) is currently serving as second in command in an airplane in this same group.
- (e) initial pilot in command training and the certification check when the pilot:
 - (i) is currently serving as second in command in an airplane of the same group;

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- (ii) has a minimum of 2,500 flight hours as second in command in an airplane of the same group; and
- (iii) has served as second in command on at least two airplanes of the same group.
- (f) for all second-in command pilot applicants who meet the aeronautical experience requirements of Part IV of the LARs in the airplane, the initial and upgrade training and checking required by this part, and the certification check requirements of Part IV of the LARs.

Simulator Requirements

- (a) representative crosswind and three-dimensional windshear dynamics based on airplane related data.
- (b) representative stopping and directional control forces for at least the following runway conditions based on airplane related data:
 - (i) dry.
 - (ii) wet.
 - (iii) icy.
 - (iv) patchy wet.
 - (v) patchy icy.
 - (vi) wet on rubber residue in touchdown zone.
- (c) representative brake and tire failure dynamics (including antiskid) and decreased brake efficiency due to high brake temperatures based on airplane related data.
- (d) a motion system which provides motion cues equal to or better than those provided by a six axis freedom of motion system.
- (e) operational principal navigation systems, including electronic flight instrument systems, INS, and OMEGA, if applicable.
- (f) means for quickly and effectively testing simulator programming and hardware.
- (g) expanded simulator computer capacity, accuracy, resolution, and dynamic response to meet Level C demands. Resolution equivalent to that of at least a 32 bit word length computer is required for critical aerodynamic programs.
- (h) timely permanent update of simulator hardware and programming subsequent to airplane modification.
- (i) sound of precipitation and significant airplane noises perceptible to the pilot during normal operations and the sound of a crash when the simulator is landed in excess of landing gear limitations.
- (j) aircraft control feel dynamics shall duplicate the airplane simulated. This shall be determined by comparing a recording of the control feel dynamics of the simulator to airplane measurements in the takeoff, cruise, and landing configuration.
- (k) relative responses of the motion system, visual system, and cockpit instruments shall be coupled closely to provide integrated sensory cues. These systems shall respond to abrupt pitch, roll, and yaw inputs at the pilot's position within 150 milliseconds of the time, but not before the time, when the airplane would respond under the same conditions. Visual scene changes from steady state disturbance shall not occur before the resultant motion onset but within the system dynamic response tolerance of 150 milliseconds. The test to determine compliance with these requirements shall include simultaneously recording the analog output from the pilot's control column and rudders, the output from an accelerometer attached to the motion system platform located at an acceptable location near the pilots' seats, the output signal to the visual system display (including visual system analog delays), and the output signal to the pilot's attitude indicator or an equivalent test approved by the Minister. The test results in a comparison of a recording of the simulator's response to actual airplane response data in the takeoff, cruise, and landing configuration.

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Visual Requirements

- (a) dusk and night visual scenes with at least three specific airport representations, including a capability of at least 10 levels of occulting, general terrain characteristics, and significant landmarks.
- (b) radio navigation aids properly oriented to the airport runway layout.
- (c) test procedures to quickly confirm visual system color, RVR, focus, intensity, level horizon, and attitude as compared to the simulator attitude indicator.
- (d) for the approach and landing phase of flight, at and below an altitude of 2,000 feet height above the airport (HAA) and within a radius of 10 miles from the airport, weather representations including the following:
 - (i) variable cloud density.
 - (ii) partial obscuration of ground scenes; that is, the effect of a scattered to broken cloud deck.
 - (iii) gradual break out.
 - (iv) patchy fog.
 - (v) the effect of fog on airport lighting.
 - (vi) Category II and III weather conditions.
- (e) continuous minimum visual field of view of 75° horizontal and 30° vertical per pilot seat. Visual gaps shall occur only as they would in the airplane simulated or as required by visual system hardware. Both pilot seat visual systems shall be able to be operated simultaneously.
- (f) capability to present ground and air hazards such as another airplane crossing the active runway or converging airborne traffic.

Level D

Training and Checking Permitted

Except for the requirements listed in the next sentence, all pilot flight training and checking required by this part and the certification check requirements of Part IV of the LARs. The line check required by Section 705.163 of this Subpart, the static airplane requirements of Appendices I, II, and III to this part, and the operating experience requirements of Section 705.158 of this Subpart must still be performed in the airplane.

Simulator Requirements

- (a) characteristic buffet motions that result from operation of the airplane (for example, high speed buffet, extended landing gear, flaps, nosewheel scuffing, stall) which can be sensed at the flight deck. The simulator must be programmed and instrumented in such a manner that the characteristic buffet modes can be measured and compared to airplane data. Airplane data are also required to define flight deck motions when the airplane is subjected to atmospheric disturbances such as rough air and cobblestone turbulence. General purpose disturbance models that approximate demonstrable flight test data are acceptable.
- (b) aerodynamic modeling for aircraft for which an original type certificate is issued after June 1, 1980, including low altitude, level flight ground effect, mach effect at high altitude, effects of airframe icing, normal and reverse dynamic thrust effect on control surfaces, aeroelastic representations, and representations of nonlinearities due to side slip based on airplane flight test data provided by the manufacturer.
- (c) realistic amplitude and frequency of cockpit noises and sounds, including precipitation static and engine and airframe sounds. The sounds shall be coordinated with the weather representations required in visual requirement No. 3.
- (d) self-testing for simulator hardware and programming to determine compliance with Level B, C, and D simulator requirements.
- (e) diagnostic analysis printout of simulator malfunctions sufficient to determine MEL compliance. These printouts shall be retained by the operator between recurring DGCA

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Accepted Authority's simulator evaluations as part of the daily discrepancy log required under Section 705.131(1)(e).

Visual Requirements

- (a) daylight, dusk, and night visual scenes with sufficient scene content to recognize a specific airport, the terrain, and major landmarks around that airport and to successfully accomplish a visual landing. The daylight visual scene must be part of a total daylight cockpit environment which at least represents the amount of light in the cockpit on an overcast day. For the purpose of this rule, daylight visual system is defined as a visual system capable of producing, as a minimum, full color presentations, scene content comparable in detail to that produced by 4,000 edges or 1,000 surfaces for daylight and 4,000 light points for night and dusk scenes, 6 foot lamberts of light at the pilot's eye (highlight brightness), 3 arc minutes resolution for the field of view at the pilot's eye, and a display which is free of apparent quantization and other distracting visual effects while the simulator is in motion. The simulation of cockpit ambient lighting shall be dynamically consistent with the visual scene displayed. For daylight scenes, such ambient lighting shall neither "washout" the displayed visual scene nor fall below 5 foot lamberts of light as reflected from an approach plate at knee height at the pilot's station and/or 2 foot lamberts of light as reflected from the pilot's face.
- (b) visual scenes portraying representative physical relationships which are known to cause landing illusions in some pilots, including short runway, landing over water, runway gradient, visual topographic features, and rising terrain.
- (c) special weather representations which include the sound, visual, and motion effects of entering light, medium, and heavy precipitation near a thunderstorm on takeoff, approach, and landings at and below an altitude of 2,000 feet [600 m] HAA and within a radius of 10 miles from the airport.
- (d) Level C visual requirements in daylight as well as dusk and night representations.
- (e) wet and, if appropriate for the operator, snow covered runway representations, including runway lighting effects.
- (f) realistic color and directionality of airport lighting.
- (g) weather radar presentations in aircraft where radar information is presented on the pilot's navigation instruments.





APPENDIX VI

Flight Engineer Initial Equipment, Transition, and Recurrent Flight Training Requirements

1. INTRODUCTION

The procedures required by Section 705.145 and 705.147 of the Lebanese Aviation Regulations (LARs) for Flight Engineer initial equipment, transition and recurrent flight training are set forth in this Appendix and must be performed in-flight except that windshear maneuvers and procedures must be performed in an airplane simulator in which the maneuvers and procedures are specifically authorized to be accomplished and except to the extent that certain other maneuvers and procedures may be performed in an airplane simulator with a visual system (visual simulator), a training device, an airplane, or a static airplane as indicated by the appropriate symbol in the respective column opposite the maneuver or procedure.

2. MANEUVERS AND PROCEDURES TABLES.

(1) The events which must be accomplished during flight training are listed in the procedure tables in this Appendix. These tables contain the acceptable flight training equipment (training devices, simulators, or aircraft) which may be used for any training event. Any maneuver or procedure permitted in a specific level of flight training device or flight simulator, may also be conducted in a higher level of flight training device, flight simulator, or the aircraft itself (providing the event can safely be accomplished in the aircraft).

(2) DGCA policy requires detailed descriptions (or pictorial displays) of at least those training events identified with the symbol "M" in the appropriate maneuvers and procedures tables

(3) All training events that would be simulated in the airplane, will be trained in the simulator as actual events.

(4) Each training event will be demonstrated to proficiency as a flight crew with the required compliment pilots.



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F/E INITIAL EQUIPMENT, INITIAL NEW-HIRE, TRANSITION AND RECURRENT FLIGHT TRAINING		Level of Elt Training Davido		Level of Fit Simulator			А			
		4	5	iing Dev	7	А	B B	C	D	С
FLIGHT PHASE	TRAINING EVENT		5	0	,	VIS	PH 1	PH II	PH III	F T
PREPARATION	Airplane Preflight				Х					
	Logbook Procedures									
	Safety Checks (PICTORIAL DISPLAY) Cabin/Interior									
	Exterior Walkaround M									
	Servicing/Deicing									
	Use of Oxygen									
GROUND	Performance Data	Х								
OPERATIONS	I/O LND Data Airport Analysis									
	Weight and Balance									
	Use of Checklist	X								
	Panel Setup									
	Starting				Х					
	External Power External Air									
	Communications	X								
	Station Procedures									
	ACARS									
	Taxi				Х					
TAKEOFF	Powerplant Control				Х					
	Flaps/Landing Gear				Х					
	Fuel Management	Х								
	Other Systems Operation	Х								
	Aircraft Performance	Х								
	Checklist Completion	Х								
CLIMB	Powerplant Control					Х				
	Fuel Management	Х								
	Pressurization					Х				
	Electrical System					Х				
	Air Conditioning					Х				
	Flight Controls					Х				
	Other Systems	Х								
EN ROUTE	Powerplant Operation					Х				
	Fuel Management	Х								
	Performance Management					Х				
	High Altitude Performance					Х				
	Other Systems Operation	Х								
DESCENT	Powerplant Operation					Х				
	Other Systems Operations	Х								
	Performance Management					Х				
APPROACH	Landing Data	Х								
	Landing Gear Operation					Х				
	Flap/Slat/Spoiler Operation					Х				
	Approach Monitoring M					Х				
LANDINGS	Powerplant Operation					Х				
	Aircraft Configuration					Х				
	System Operation				1	Х				
	Emergency Evacuation					Х				



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PROCEDURES	Cockpit Equipment	X					
DURING ANY	Flap/Slats/Gear			Х			
AIRBORNE	Powerplant			Х			
PHASE	Pressurization			Х			
	Pneumatic			Х			
	Air Conditioning			Х			
	Fuel and Oil	Х					
	Electrical			Х			
	Hydraulic			Х			
	Flight Controls			Х			
	Anti-Icing & Deicing			Х			
	Other Checklist Procedures	X					
Note: F/E app LARs I Recurre	Dicants for initial certification must complete the flight sim Part IV. ent Flight Engineer Training will be accomplished with a fu	ulator and/or tr	aining device	training hou ght crewme	rs as desc mbers.	ribed in	



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APPENDIX VII

Air Operator Security

1. Applicability.

- (1) This Appendix prescribes aviation security rules governing:
 - (a) the operations of holders of Directorate General of Civil Aviation (DGCA) air operator certificates issued pursuant to Part VII, Subpart 5 of the Lebanese Aviation Regulations (LARs);
 - (b) each person aboard an airplane operated by a certificate holder described in Subsection (a) of this section;
 - (c) each person on an airport at which the operations described in Subsection (a) of this section are conducted;
 - (d) each person who files an application or makes entries into any record or report that is kept, made or used to show compliance under this Appendix, or to exercise any privileges under this Appendix.
- (2) This Appendix does not apply to helicopter or to all-cargo operations.

2. Definitions.

The following are definitions of terms used in this Appendix:

- (a) "Certificate holder" means a person holding a DGCA operating certificate when that person engages in scheduled passenger or public charter passenger operations or both under the provisions of Part VII, Subpart 5.
- (b) "Passenger seating configuration" means the total number of seats for which the aircraft is type certificated that can be made available for passenger use aboard a flight and includes that seat in certain airplanes which may be used by a representative of the Minister to conduct flight checks but is available for revenue purposes on other occasions.
- (c) "Private charter" means any charter for which the charterer engages the total capacity of an airplane for the carriage of:
 - (i) passengers in civil or military air movements conducted under contract with the Government of Lebanon, of the Government of a foreign country; or
 - (ii) passengers invited by the charterer, the cost of which is borne entirely by the charterer and not directly or indirectly by the individual passengers.
- (d) "Public charter" means any charter that is not a "private charter."
- (e) "Scheduled passenger operations" means holding out to the public of air transportation service for passengers from identified air terminals at a set time announced by timetable or schedule published in a newspaper, magazine, or other advertising medium.
- (f) "Sterile area" means an area to which access is controlled by the inspection of persons and property in accordance with an approved security program or a security program used.

3. Falsification.

No person may make, or cause to be made, any of the following:

- (a) any fraudulent or intentionally false statement in any application for any security program, access medium, or identification medium, or any amendment thereto, under this Appendix.
- (b) any fraudulent or intentionally false entry in any record or report that is kept, made, or used to show compliance with this part, or to exercise any privileges under this Appendix.

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(c) any reproduction or alteration, for fraudulent purpose, of any report, record, security program, access medium, or identification medium issued under this Appendix.

4. Security Program: Adoption and Implementation.

(1) Each certificate holder shall adopt and carry out a security program that meets the requirements of Section 5. for each of the following scheduled or public charter passenger operations:

- (a) each operation with an airplane having a passenger seating configuration of more than 60 seats.
- (b) each operation that provides deplaned passengers access, that is not otherwise controlled by a certificate holder using an approved security program or a foreign air carrier using a security program required by Subpart 1, to a sterile area.
- (c) each operation with an airplane having a passenger seating configuration of more than 30 but less than 61 seats; except that those parts of the program effecting compliance with the requirements listed in Section 5.(2)(a), (b), and (d) need only be implemented when the Director of Civil Aviation or a designate of the Director notifies the certificate holder in writing that a security threat exists with respect to the operation.

(2) Each certificate holder that has obtained DGCA approval for a security program for operations not listed in Subsection (1) of this section shall carry out the provisions of that program.

5. Security Program: Form, Content, and Availability.

(1) Each security program required by Section 4. shall:

- (a) provide for the safety of persons and property traveling in air transportation against acts of criminal violence and air piracy;
- (b) be in writing and signed by the certificate holder or any person delegated authority in this matter;
- (c) include the items listed in Subsection (2) of this section, as required by Section 4.; and
- (d) be approved by the Minister.

(2) Each security program required by Section 4. must include the following, as required by that section:

- (a) the procedures and a description of the facilities and equipment used to perform the screening functions specified in Section 6.
- (b) the procedures and a description of the facilities and equipment used to perform the airplane and facilities control functions specified in Section 9.
- (c) the procedures used to comply with the applicable requirements of Section 10 regarding law enforcement officers.
- (d) the procedures used to comply with the requirements of Section 11 regarding the use of X-ray systems.
- (e) the procedures used to comply with the requirements of Section 13 regarding bomb and air piracy threats.
- (f) the procedures used to comply with the applicable requirements of Section 7.
- (g) the curriculum used to accomplish the training required by Section 15.
- (3) Each certificate holder having an approved security program shall:
 - (a) maintain at least one complete copy of the approved security program at its principal business office;
 - (b) maintain a complete copy or the pertinent portions of its approved security program or appropriate implementing instructions at each airport where security screening is being conducted;
 - (c) make these documents available for inspection upon request of any DGCA Inspector;



- (d) restrict the distribution, disclosure, and availability of sensitive security information to persons with a need-to-know; and
- (e) refer requests for sensitive security information by other persons to the Director General of Civil Aviation.

6. Screening of Passengers and Property.

(1) Each certificate holder required to conduct screening under a security program shall use the procedures included, and the facilities and equipment described, in its approved security program to prevent or deter the carriage aboard airplanes of any explosive, incendiary, or a deadly or dangerous weapon on or about each individual's person or accessible property, and the carriage of any explosive or incendiary in checked baggage.

(2) Each certificate holder required to conduct screening under a security program shall refuse to transport:

- (a) any person who does not consent to a search of his or her person in accordance with the screening system prescribed in Subsection (1) of this section; and
- (b) any property of any person who does not consent to a search or inspection of that property in accordance with the screening system prescribed by Subsection (1) of this section.

(3) Except as provided by its approved security program, each certificate holder required to conduct screening under a security program shall use the procedures included, and the facilities and equipment described, in its approved security program for detecting explosives, incendiaries, and deadly or dangerous weapons to inspect each person entering a sterile area at each preboarding screening checkpoint in Lebanon for which it is responsible, and to inspect all accessible property under that person's control.

(4) Each certificate holder shall staff its security screening checkpoints with supervisory and nonsupervisory personnel in accordance with the standards specified in its security program.

7. Prevention and Management of Hijackings and Sabotage Attempts.

(1) Each certificate holder shall:

- (a) provide and use a Security Coordinator on the ground and in flight for each international flight, as required by its approved security program; and
- (b) designate the pilot in command as the in-flight Security Coordinator for each flight, as required by its approved security program.

(2) <u>Ground Security Coordinator</u>. Each ground Security Coordinator shall carry out the ground Security Coordinator duties specified in the certificate holder's approved security program.
 (3) <u>In-flight Security Coordinator</u>. The pilot in command of each flight shall carry out the in-flight Security Coordinator duties specified in the certificate holder's approved security program.

8. Carriage of Weapons.

(1) No certificate holder required to conduct screening under a security program may permit any person to have, nor may any person have, on or about his or her person or property, a deadly or dangerous weapon, either concealed or unconcealed, accessible to him or her while aboard an airplane for which screening is required unless:

- (a) the person having the weapon is:
 - (i) an official or employee of Lebanon, who is authorized by his or her agency to have the weapon; or
 - (ii) authorized to have the weapon by the certificate holder and the Minister, and has successfully completed a course of training in the use of firearms acceptable to the Minister.

- (b) the person having the weapon needs to have the weapon accessible in connection with the performance of his or her duty from the time he or she would otherwise check it in accordance with Subsection (4) of this section until the time it would be returned after deplaning.
- (c) the certificate holder is notified:
 - (i) of the flight on which the armed person intends to have the weapon accessible to him or her at least 1 hour, or in an emergency as soon as practicable, before departure; and
 - (ii) when the armed person is other than an employee or official of Lebanon, that there is a need for the weapon to be accessible to the armed person in connection with the performance of that person's duty from the time he or she would otherwise check it in accordance with Subsection (4) of this section until the time it would be returned to him or her after deplaning.
- (d) the armed person identifies himself or herself to the certificate holder by presenting credentials that include his or her clear, full face picture, his or her signature, and the signature of the authorizing official of his or her service or the official seal of his or her service. A badge, shield, or similar may not be used as the sole means of identification.
- (e) the certificate holder:
 - (i) ensures that the armed person is familiar with its procedures for carrying a deadly or dangerous weapon aboard its airplane before the time the person boards the airplane;
 - (ii) ensures that the identity of the armed person is known to each law enforcement officer and each employee of the certificate holder responsible for security during the boarding of the airplane; and
 - (iii) notifies the pilot in command, other appropriate crewmembers, and any other person authorized to have a weapon accessible to him or her aboard the airplane of the location of each authorized armed person aboard the airplane.

(2) No person may, while on board an airplane operated by a certificate holder for which screening is not conducted, carry on or about that person a deadly or dangerous weapon, either concealed or unconcealed. This Subsection does not apply to:

- (a) officials or employees of Lebanon, who are authorized to carry arms; or
- (b) crewmembers and other persons authorized by the certificate holder to carry arms.

(3) No certificate holder may knowingly permit any person to transport, nor may any person transport or tender for transport, any explosive, incendiary or a loaded firearm in checked baggage aboard an airplane. For the purpose of this section, a loaded firearm means a firearm which has a live round of ammunition, cartridge, detonator, or powder in the chamber or in a clip, magazine, or cylinder inserted in it.

(4) No certificate holder may knowingly permit any person to transport, nor may any person transport or tender for transport, any unloaded firearm in checked baggage aboard an airplane unless:

- (a) the passenger declares to the certificate holder, either orally or in writing before checking the baggage, that any firearm carried in the baggage is unloaded;
- (b) the firearm is carried in a container the certificate holder considers appropriate for air transportation;
- (c) when the firearm is other than a shotgun, rifle, or other firearm normally fired from the shoulder position, the baggage in which it is carried is locked, and only the passenger checking the baggage retains the key or combination; and
- (d) the baggage containing the firearm is carried in an area, other than the flightcrew compartment, that is inaccessible to passengers.

(5) No certificate holder may serve any alcoholic beverage to a person having a deadly or dangerous weapon accessible to him or her nor may such person drink any alcoholic beverage while aboard an airplane operated by the certificate holder.

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(6) Subsections (1), (2), and (4) of this Section do not apply to the carriage of firearms aboard air carrier flights conducted for the military forces of the Government of Lebanon when the total cabin load of the airplane is under exclusive use by those military forces if the following conditions are met:

- (a) no firearm is loaded and all bolts to such firearms are locked in the open position; and
- (b) the certificate holder is notified by the unit commander or officer in charge of the flight before boarding that weapons will be carried aboard the aircraft.

9. Security of Airplanes and Facilities.

Each certificate holder required to conduct screening under a security program shall use the procedures included, and the facilities and equipment described, in its approved security program to perform the following control functions with respect to each airplane operation for which screening is required:

- (a) prohibit unauthorized access to the airplane.
- (b) ensure that baggage carried in the airplane is checked in by a responsible agent and that identification is obtained from persons, other than known shippers, shipping goods or cargo aboard the airplane.
- (c) ensure that cargo and checked baggage carried aboard the airplane is handled in a manner that prohibits unauthorized access.
- (d) conduct a security inspection of the airplane before placing it in service and after it has been left unattended.

10. Law Enforcement Officers.

(1) At airports within Lebanon, each certificate holder engaging in scheduled passenger or public charter passenger operations shall:

- (a) if security screening is required by the LARs, provide for law enforcement officers meeting the qualifications and standards, and in the number and manner specified, in the LARs; and
- (b) when using airplanes with a passenger seating configuration in a public charter operation for which screening is not required, arrange for law enforcement officers meeting the qualifications and standards specified in the LARs to be available to respond to an incident, and provide to its employees, including crewmembers, as appropriate, current information with respect to procedures for obtaining law enforcement assistance at that airport.

11. Use of X-ray Systems.

(1) No certificate holder may use an X-ray system within Lebanon to inspect carry-on or checked articles unless specifically authorized under a security program required by the LARs or use such a system contrary to its approved security program. The Minister authorizes certificate holders to use X-ray systems for inspecting carry-on or checked articles under an approved security program if the certificate holder shows that:

- (a) the system meets the guidelines in ICAO SARPS.
- (b) a program for initial and recurrent training of operators of the system is established, which includes training in radiation safety, the efficient use of X-ray systems, and the identification of weapons and other dangerous articles;
- (c) procedures are established to ensure that each operator of the system is provided with an individual personnel dosimeter (such as a film badge or thermoluminescent dosimeter). Each dosimeter used shall be evaluated at the end of each calendar month, and records of operator duty time and the results of dosimeter evaluations shall be maintained by the certificate holder; and

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(d) the system meets the imaging requirements set forth in the approved Air Carrier Security Program.

(2) No certificate holder may use an X-ray system within Lebanon unless within the preceding 12 calendar months a radiation survey has been conducted which shows that the system meets the applicable performance standards.

(3) No certificate holder may use an X-ray system after the system is initially installed or after it has been moved from one location to another, unless a radiation survey is conducted which shows that the system meets the applicable performance standards, except that a radiation survey is not required for an X-ray system that is moved to another location if the certificate holder shows that the system is so designed that it can be moved without altering its performance.

(4) No certificate holder may use an X-ray system that is not in full compliance with any defect notice or modification order issued by the appropriate Authority, unless the certificate holder has been advised that the defect or failure to comply does not create a significant risk or injury, including genetic injury, to any person.

(5) No certificate holder may use an X-ray system to inspect carry-on or checked articles unless a sign is posted in a conspicuous place at the screening station and on the X-ray system which notifies passengers that such items are being inspected by an X-ray and advises them to remove all X-ray, scientific, and high speed film from carry-on and checked articles before inspection. This sign shall also advise passengers that they may request that an inspection be made of their photographic equipment and film packages without exposure to an X-ray system. If the X-ray system exposes any carry-on or checked articles to more than 1 milliroentgen during the inspection, the certificate holder shall post a sign which advises passengers to remove film of all kinds from their articles before inspection. If requested by passengers, their photographic equipment and film packages shall be inspected without exposure to an X-ray system.

(6) Each certificate holder shall maintain at least one copy of the results of the most recent radiation survey conducted under Subsection (2) or (3) of this section and shall make it available for inspection upon request by the Minister at each of the following locations:

- (a) the certificate holder's principal business office; and
- (b) the place where the X-ray system is in operation.

(7) Each certificate holder shall comply with X-ray operator duty time limitations specified in its security program.

12 Security Directives and Information Circulars.

(1) Each certificate holder required to have an approved security program for passenger operations shall comply with each Security Directive issued to the certificate holder by the Director of Civil Aviation, or by any person to whom the Director has delegated the authority to issue Security Directives, within the time prescribed in the Security Directive for compliance.

(2) Each certificate holder who receives a Security Directive shall:

- (a) not later than 24 hours after delivery by the DGCA or within the time prescribed in the Security Directive, acknowledge receipt of the Security Directive;
- (b) not later than 72 hours after delivery by the DGCA or within the time prescribed in the Security Directive, specify the method by which the certificate holder has implemented the measures in the Security Directive; and
- (c) ensure that information regarding the Security Directive and measures implemented in response to the Security Directive are distributed to specified personnel as prescribed in the Security Directive and to other personnel with an operational need to know.

(3) In the event that the certificate holder is unable to implement the measures contained in the Security Directive, the certificate holder shall submit proposed alternative measures, and the basis for submitting the alternative measures, to the Director of Civil Aviation for approval. The certificate holder shall submit proposed alternative measures within the time prescribed in the Security

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Directive. The certificate holder shall implement any alternative measures approved by the Director of Civil Aviation.

(4) Each certificate holder who receives a Security Directive or Information Circular and each person who receives information from a Security Directive or Information Circular shall:

- (a) restrict the availability of the Security Directive or Information Circular and information contained in the Security Directive or the Information Circular to those persons with an operational need to know; and
- (b) refuse to release the Security Directive or Information Circular and information regarding the Security Directive or Information Circular to persons other than those with an operational need to know without the prior written consent of the Director of Civil Aviation.

13. Security Threats and Procedures.

(1) Upon receipt of a specific and credible threat to the security of a flight, the certificate holder shall:

- (a) immediately notify the ground and in-flight security coordinators of the threat, any evaluation thereof, and any countermeasures to be applied; and
- (b) ensure that the in-flight security coordinator notifies the flight and cabin crewmembers of the threat, any evaluation thereof, and any countermeasures to be applied.

(2) Upon receipt of a bomb threat against a specific airplane, each certificate holder shall attempt to determine whether or not any explosive or incendiary is aboard the airplane involved by doing the following:

- (a) conducting a security inspection on the ground before the next flight or, if the airplane is in flight, immediately after its next landing.
- (b) if the airplane is being operated on the ground, advising the pilot in command to immediately submit the airplane for a security inspection.
- (c) if the airplane is in flight, immediately advising the pilot in command of all pertinent information available so that necessary emergency action can be taken.

(3) immediately upon receiving information that an act or suspected act of air piracy has been committed, the certificate holder shall notify the Minister. If the airplane is in airspace under other than Lebanese jurisdiction, the certificate holder shall also notify the appropriate authorities of the State in whose territory the airplane is located and, if the airplane is in flight, the appropriate authorities of the State in whose territory the airplane is to land. Notification of the appropriate air traffic controlling authority is sufficient action to meet this requirement.

14. Carriage of Passengers Under the Control of Armed Law Enforcement Escorts.

(1) Except as provided in Subsection (5) of this section, no certificate holder required to conduct screening under a security program may carry a passenger in the custody of an armed law enforcement escort aboard an airplane for which screening is required unless:

- (h) the armed law enforcement escort is an official or employee of Lebanon who is required by appropriate authority to maintain custody and control over an individual aboard an airplane;
- (i) the certificate holder is notified by the responsible government entity at least 1 hour, or in case of emergency as soon as possible, before departure:
 - (i) of the identity of the passenger to be carried and the flight on which it is proposed to carry the passenger; and
 - (ii) whether or not the passenger is considered to be in a maximum risk category;
- (j) if the passenger is considered to be in a maximum risk category, that the passenger is under the control of at least two armed law enforcement escorts and no other passengers are under the control of those two law enforcement escorts;
- (k) no more than one passenger who the certificate holder has been notified is in a maximum risk category is carried on the airplane;



- if the passenger is not considered to be in a maximum risk category, the passenger is under the control of at least one armed law enforcement escort, and no more than two of these persons are carried under the control of any one law enforcement escort;
- (m) the certificate holder is assured, prior to departure, by each law enforcement escort that:
 - (i) the officer is equipped with adequate restraining devices to be used in the event restraint of any passenger under the control of the escort becomes necessary; and
 - (ii) each passenger under the control of the escort has been searched and does not have on or about his or her person or property anything that can be used as a deadly or dangerous weapon;
- (g) each passenger under the control of a law enforcement escort is:
 - boarded before any other passengers when boarding at the airport where the flight originates and deplaned at the destination after all other deplaning passengers have deplaned;
 - (ii) seated in the rearmost passenger seat when boarding at the airport where the flight originates; and
 - (iii) seated in a seat that is neither located in any lounge area nor located next to or directly across from any exit; and
- (h) a law enforcement escort having control of a passenger is seated between the passenger and any aisle.
- (2) No certificate holder operating an airplane under Subsection (1) of this section may:
 - (a) serve food beverage or provide metal eating utensils to a passenger under the control of a law enforcement escort while aboard the airplane unless authorized to do so by the law enforcement escort.
 - (b) serve a law enforcement escort or the passenger under the control of the escort any alcoholic beverages while aboard the airplane.

(3) Each law enforcement escort carried under the provisions of Subsection (1) of this section shall, at all times, accompany the passenger under the control of the escort and keep the passenger under surveillance while aboard the airplane.

(4) No law enforcement escort carried under Subsection (2) of this section or any passenger under the control of the escort may drink alcoholic beverages while aboard the airplane.

(5) This section does not apply to the carriage of passengers under voluntary protective escort.

15. Training.

(1) No certificate holder may use any person as a Security Coordinator unless, within the preceding 12 calendar months, that person has satisfactorily completed the security training as specified in the certificate holder's approved security program.

(2) No certificate holder may use any person as a crewmember on any domestic or international flight unless within the preceding 12 calendar months that person has satisfactorily completed the security training required by Section 705.138(2)(c)(v) and as specified in the certificate holder's approved security program. With respect to training conducted under Section 705.138, whenever a crewmember who is required to take recurrent training completes the training in the calendar month before or the calendar month after the calendar month in which that training is required, he is considered to have completed the training in the calendar month in which it was required.

16. Approval of Security Programs and Amendments.

(1) Unless otherwise authorized by the Minister, each certificate holder required to have a security program for a passenger operation shall submit its proposed security program to the Minister for approval at least 90 days before the date of the intended passenger operations. Within 30 days after receiving the program, the Minister either approves the program or notifies the certificate holder to

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modify the program to comply with the applicable requirements of this Appendix. The certificate holder may petition the Minister to reconsider the notice to modify within 30 days after receiving the notice, and, except in the case of an emergency requiring immediate action in the interest of safety, the filing of the petition stays the notice pending a decision by the Minister.

(2) The Minister may amend an approved security program if it is determined that safety and the public interest require the amendment, as follows:

- (a) the Minister notifies the certificate holder, in writing, of the proposed amendment, fixing a period of not less than 30 days within which it may submit written information, views, and arguments on the amendment.
- (b) after considering all relevant material, the Minister notifies the certificate holder of any amendment adopted or rescinds the notice. The amendment becomes effective not less than 30 days after the certificate holder receives the notice, unless the certificate holder petitions the Minister to reconsider the amendment, in which case the effective date is stayed by the Minister.
- (c) if the Minister finds that there is an emergency requiring immediate action with respect to safety in air transportation or in air commerce that makes the procedure in this Section impracticable or contrary to the public interest, the Minister may issue an amendment, effective without stay, on the date the certificate holder receives notice of it. In such a case, the Minister incorporates the findings, and a brief statement of the reasons for it, in the notice of the amendment to be adopted.

(3) A certificate holder may submit a request to the Minister to amend its program. The application must be filed with the Minister at least 30 days before the date it proposes for the amendment to become effective, unless a shorter period is allowed by the Minister. Within 15 days after receiving a proposed amendment, the Minister either approves or denies the request. Within 30 days after receiving from the Minister a notice of refusal to approve the application for amendment, the applicant may petition the Minister to reconsider the refusal to amend.

17. Evidence of Compliance.

On request of the Minister, each certificate holder shall provide evidence of compliance with this Appendix and its approved security program.

18. Standards for Security Oversight.

(1) Each certificate holder shall ensure that:

- (a) each person performing a security related function for the certificate holder has knowledge of the provisions of this Appendix, applicable Security Directives and Information Circulars promulgated pursuant to this Appendix, and the certificate holder's security program to the extent that the performance of the function imposes a need to know.
- (b) daily, a Ground Security Coordinator at each airport:
 - (i) reviews all security related functions for effectiveness and compliance with this appendix, the certificate holder's security program, and applicable Security Directives; and
 - (ii) immediately initiates corrective action for each instance of noncompliance with this Appendix, the certificate holder's security program, and applicable Security Directives.

(2) The requirements prescribed in Subsection (1) of this section apply to all security related functions performed for the certificate holder whether by a direct employee or a contractor employee.

19. Employment Standards for Screening Personnel.

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(1) No certificate holder shall use any person to perform any screening function, unless that person has:

- (a) a secondary school diploma, a General Equivalency Diploma, or a combination of education and experience which the certificate holder has determined to have equipped the person to perform the duties of the position;
- (b) basic aptitudes and physical abilities including color perception, visual and aural acuity, physical coordination, and motor skills to the following standards:
 - screeners operating X-ray equipment must be able to distinguish on the X-ray monitor the appropriate imaging standard specified in the certificate holder's security program. Wherever the X-ray system displays colors, the operator must be able to perceive each color;
 - (ii) screeners operating any screening equipment must be able to distinguish each color displayed on every type of screening equipment and explain what each color signifies;
 - (iii) screeners must be able to hear and respond to the spoken voice and to audible alarms generated by screening equipment in an active checkpoint environment;
 - (iv) screeners performing physical searches or other related operations must be able to efficiently and thoroughly manipulate and handle such baggage, containers, and other objects subjects to security processing; and
 - screeners who perform pat-downs or hand-held metal detector searches of persons must have sufficient dexterity and capability to conduct those procedures on all parts of the persons' bodies.
- (c) the ability to read, speak, and write English and Arabic well enough to:
 - (i) carry out written and oral instructions regarding the proper performance of screening duties;
 - (ii) read English and Arabic language identification media, credentials, airline tickets, and labels on items normally encountered in the screening process;
 - (iii) provide direction to and understand and answer questions from English and Arabic speaking persons undergoing screening; and
 - (iv) write incident reports and statements and log entries into security records in the English and Arabic language.
- (d) satisfactorily completed all initial, recurrent, and appropriate specialized training required by the certificate holder's security program.

(2) Notwithstanding the provisions of Subsection (1)(d) of this section, the certificate holder may use a person during the on-the-job portion of training to perform security functions provided that the person is closely supervised and does not make independent judgments as to whether persons or property may enter a sterile area or aircraft without further inspection.

(3) No certificate holder shall use a person to perform a screening function after that person has failed an operational test related to that function until that person has successfully completed the remedial training specified in the certificate holder's security program.

(4) Each certificate holder shall ensure that a Ground Security Coordinator conducts and documents an annual evaluation of each person assigned screening duties and may continue that person's employment in a screening capacity only upon the determination by that Ground Security Coordinator that the person:

- (a) has not suffered a significant diminution of any physical ability required to perform a screening function since the last evaluation of those abilities;
- (b) has a satisfactory record of performance and attention to duty; and
- (c) demonstrates the current knowledge and skills necessary to courteously, vigilantly, and effectively perform screening functions.

(5) Subsections (1) through (4) of this section do not apply to those screening functions conducted outside Lebanon over which the certificate holder does not have operational control.

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(6) At locations outside Lebanon where the certificate holder has operational control over a screening function, the certificate holder may use screeners who do not meet the requirements of Subsection (1)(c) of this section, provided that at least one representative of the certificate holder who has the ability to functionally read and speak Arabic/English is present while the certificate holder's passengers are undergoing security processing.

20. Employment History, Verification and Criminal History Records Checks.

- (1) Scope. The following persons are within the scope of this section:
 - (a) each employee or contractor employee covered under a certification made to an airport operator;
 - (b) each individual issued air carrier identification media that one or more airports accepts as airport approved media for unescorted access within a security identification display area (SIDA);
 - (c) each individual assigned to perform the following functions:
 - (i) screen passengers or property that will be carried in a cabin of an aircraft of an air carrier required to screen passengers under Appendix;
 - serve as an immediate supervisor (checkpoint security supervisor (CSS)), or the next supervisory level (shift or site supervisor), to those individuals described in Subsection (1)(c)(i) of this section.

(2) Employment history investigations required. Each air operator must ensure that, for each individual described in Subsection (1) of this section, the following requirements are met:

- (a) the individual has satisfactorily undergone an employment history investigation. It will consists of a review of the previous 10 years of employment history and verifications of the 5 employment years preceding the date the employment history investigation is initiated as provided in Subsection (3) of this section; and
- (b) if required by Subsection (3)(e) of this section, the individual has satisfied a process to determine if the individual has a criminal record. To satisfy this requirement, the criminal records check must not disclose that the individual has been convicted or found not guilty by reason of insanity, in any jurisdiction, during the 10 years ending on the date of such investigation, of any of the crimes listed below:
 - (i) forgery of certificates, false marking of aircraft, and other aircraft registration violation;
 - (ii) interference with air navigation;
 - (iii) improper transportation of a hazardous material;
 - (iv) aircraft piracy;
 - (v) interference with flightcrew members or flight attendants;
 - (vi) commission of crimes aboard aircraft in flight;
 - (vii) carrying a weapon or explosive aboard aircraft;
 - (viii) conveying false information and threats;
 - (ix) aircraft piracy;
 - (x) lighting violations involving transporting controlled substances;
 - (xi) unlawful entry into an aircraft or airport area that serves air operators or foreign air operators contrary to established security requirements;
 - (xii) destruction of an aircraft or aircraft facility;
 - (xiii) murder;
 - (xiv) assault with intent to murder;
 - (xv) espionage;
 - (xvi) sedition;
 - (xvii) kidnapping or hostage taking;
 - (xviii) treason;

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- (xix) rape or aggravated sexual abuse;
- (xx) unlawful possession, use, sale, distribution, or manufacture of an explosive or weapon;
- (xxi) extortion;
- (xxii) armed robbery;
- (xxiii) distribution of, or intent to distribute, a controlled substance;
- (xxiv) felony arson; or
- (xxv) conspiracy or attempt to commit any of the aforementioned criminal acts.

(3) Investigative steps. Employment history investigations must be completed on all persons described in Subsection (1) of this section:

(a) the individual must provide the following information on an application:

- (i) the individual's full name, including any aliases or nicknames;
- (ii) the dates, names, phone numbers, and addresses of previous employers, with explanations for any gaps in employment of more than 12 consecutive months, during the previous 10-year period;
- (iii) any convictions during the previous 10-year period of the crimes listed in Subsection
 (2)(b) of this section.

(2) the air operator must include on the application form a notification that the individual will be subject to an employment history verification and possibly a criminal records check.

(3) the air operator must verify the identity of the individual through the presentation of two forms of identification, one of which must bear the individual's photograph.

(4) the air operator must verify the information on the most recent 5 years of employment history required under Subsection (3)(a)(ii) of this section. Information must be verified in writing, by documentation, by telephone, or in person.

(4) Individual notification. Prior to commencing the criminal records check, the air operator must notify the affected individuals and identify a point of contact for follow-up. An individual who chooses not to submit fingerprints may not be granted unescorted access privilege and may not be allowed to hold screener or screener supervisory positions.

(5) Determination of arrest status. In conducting the criminal record checks required by this section, the air operator must not consider the employment history investigation complete unless it investigates arrest information for the crimes listed in Subsection (2)(b) of this section for which no disposition has been recorded and makes a determination that the arrest did not result in a disqualifying conviction.

(6) Employment status while awaiting criminal record checks. Individuals who have submitted their fingerprints and are awaiting results may perform work details under the following conditions:

- (a) those seeking unescorted access to the SIDA must be escorted by someone who has unescorted SIDA access privileges;
- (b) those applicants seeking positions covered under Subsections(1)(c) and (1)(d) of this section, may not exercise any independent judgments regarding those functions.
- (7) Recordkeeping.
 - (a) the air operator must physically maintain and control employment history investigation file until 180 days after the termination of the individual's authority for unescorted access or termination from positions covered under Subsection (a)(3) of this section. The employment history investigation, completed on screening personnel must be maintained at the airport where they perform screening functions. The employment history investigation file must consist of the following:
 - (i) the application;
 - (ii) the employment verification information obtained by the employer;
 - (iii) the names of those from whom the employment verification information was obtained;
 - (iv) the date and the method of how the contact was made; and
 - (v) any other information as required by the Minister.

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- (vi) the results of the record check; or
- (vii) certification from the air operator that the check was completed and did not uncover a disqualifying conviction.
- (b) the files required by this Subsection must be maintained in a manner that is acceptable to the Minister and in a manner that protects the confidentiality of the individual.
- (8) Continuing responsibilities.
 - (a) any individual authorized to have unescorted access privilege to the SIDA or who performs functions covered under Subsection (1)(c) of this section, who is subsequently convicted of any of the crimes listed in Subsection (2)(b) of this section must, within 24 hours, report the conviction to the air carrier and surrender the SIDA access medium or any employment related identification medium to the issuer.
 - (b) if information becomes available to the air carrier indicating that an individual has a possible conviction for one of the disqualifying crimes in Subsection (2)(b) of this section, the air operator must determine the status of the conviction and, if the conviction is confirmed:
 - (i) immediately revoke access authorization for unescorted access to the SIDA; or
 - (ii) immediately remove the individual from screening functions covered under Subsection
 (1)(c) of this section.
- (9) Air operator responsibility. The air operator must:
 - (a) designate an individual(s), in the security program, to be responsible for maintaining and controlling the employment history investigation for those whom the air carrier has made a certification to an airport operator and for destroying the criminal record files when their maintenance is no longer required.
 - (b) designate individual(s), in the security program, to maintain and control employment history investigations of screeners whose files must be maintained at the location or station where the screener is performing his or her duties.
 - (c) Audit the employment history investigations performed in accordance with this section. The audit process must be set forth in the air carrier approved security program.



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APPENDIX VIII

Indirect Air Operator Security

1. Applicability.

(1) This Appendix prescribes aviation security rules governing each air operator, including each air freight forwarder and each cooperative shippers' association, engaged indirectly in air transportation of property;

(2) For the purposes of this Appendix, "property" means any package cargo.

2. Security Program.

(1) Each indirect air carrier shall adopt and carry out a security program that:

- (a) is designed to prevent or deter the unauthorized introduction of any explosive or incendiary device into any package cargo intended for carriage by air;
- (b) is in writing and signed by the carrier or any person delegated authority in this matter;
- (c) includes a system of security safeguards acceptable to the Minister; and
- (d) has been approved by the Minister.

(2) Each indirect air operator shall maintain at least one complete copy of its security program at its principal business office, and a complete copy or the pertinent portions of its security program or appropriate implementing instructions at each office where package cargo is accepted, and shall make those documents available for inspection upon request of any Directorate General of Civil Aviation Inspector.

(3) Each indirect air operator shall:

(1) restrict the distribution, disclosure, and availability of sensitive security information to persons with a need-to-know; and

(2) refer requests for sensitive security information by other persons to the Minister.

3. Approval of Security Programs and Amendments.

(1) Each indirect air operator shall submit its security program to the Minister for approval. Each operator engaged in the air transportation of property shall submit its program at least 30 days before the date it intends to engage in that transportation.

(2) Within 30 days after receipt of the program, the Minister either approves the program or notifies the operator as to modifications necessary for the program to comply with this Appendix.

(3) Any person notified pursuant to Subsection (2) of this section may petition the Minister to reconsider the notice to modify within 30 days after receipt of the notice and, except in the case of any emergency requiring immediate action in the interest of safety, the filing of the petition stays the notice pending a decision by the Minister.

(4) The Minister may order amendment of an approved security program, if it is determined that safety and the public interest require the amendment, as follows:

- (a) the Minister notifies the carrier, in writing, of the proposed amendment, fixing a period of not less than 30 days within which it may submit written information, views, and arguments on the amendment.
- (b) after considering all relevant material, the Minister notifies the carrier of any amendment adopted, or rescinds the notice of the proposed amendment. The amendment becomes effective not less than 30 days after such person receives the notice, unless it petitions the Minister to reconsider the amendment, in which case the effective date is stayed by the Minister.



(c) if the Minister finds that there is an emergency requiring immediate action with respect to safety in air transportation or in air commerce that makes the procedure in this Subsection impracticable or contrary to the public interest he may issue an amendment, effective on the date the operator receives notice of it, and not subject to stay. In such a case, the Minister incorporates the findings and a brief statement of the reasons for it, in the notice of the amendment to be adopted.

(5) An operator may submit a request to the Minister to amend its program. The application must be filed with the Minister at least 30 days before the date it proposes for the amendment to become effective, unless a shorter period is allowed by the Minister. Within 15 days after receipt of a proposed amendment, the Minister either approves or denies the request. Within 30 days after receiving from the Minister a notice of refusal to approve the application for amendment, the applicant may petition the Minister to reconsider the refusal to amend.



REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>*Part VII*</u> Commercial Air Services

<u>Subpart 5</u> Airline Operations

<u>Standards</u> s705.01 to s705.185

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier



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LEBANESE AVIATION REGULATIONS (LARs)

Part VII – Commercial Air Services

Subpart 5 – Airline Operations

Standards s705.01 to s705.185

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COMMERCIAL AIR SERVICES STANDARDS

Subpart 5 - Airline Operations \$705.01 to \$705.185

DIVISION I - GENERAL

1. INTRODUCTION

(1) These Airline Operations Standards outline the standards that must be met to comply with the requirements of Part VII, Subpart 5 of the Lebanese Aviation Regulations (LARs).

(2) For ease of cross reference, the divisions and numbers of the standards are assigned to correspond to the regulations, therefore Standards Section s705.13 would reflect a standard required by Section 705.13 of the LARs.

(3) The Standard is incorporated by reference in the Lebanese Aviation Regulations (LARs) respecting Airline Operations.

(4) Standards are printed in "normal print" and use the operative verb "shall" and Information Notes and Recommended Practices are printed in "italicized print" and use the operative verb "should". Information Notes are indicated by the prefix "Information Note:" and Recommended Practices are indicated by the prefix "Recommended Practice:"

(5) The standards under this subpart apply to every Lebanese air operator engaged in commercial air services under Part VII, Subpart 5 of the Lebanese Aviation Regulations (LARs).

2. DEFINITIONS

The words and expressions used in these Standards have the same meaning as in the General Provisions in Part I of the LARs with the following additions:

"deplane" - means disembark; an airplane is deplaned when passengers leave the airplane in the normal manner, as opposed to evacuating the airplane.

"designated evacuation exits during fuelling" - exits that are available for immediate use should an evacuation be required.

"evacuate" - the egress from an airplane in an emergency situation using all available emergency exits and assist means such as ropes, wings, evacuation slides, etc.

"fuelling" - means the act of transferring fuel into or out of an airplane fuel tank from or to an external supply.

"operations co-ordination" - means the exercise of authority by an air operator over its operating activities, excluding operational control.

s705.01 to s705.06 Reserved



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DIVISION II - CERTIFICATION

s705.07 Issuance or Amendment of Air Operator Certificate

(1) Application for an Air Operator Certificate. The following constitutes an application for an air operator certificate:

- (a) DGCA Ops Form 100-12, Airports information required to determine the suitability of the base of operations, any sub-bases and all scheduled points. The operator shall be able to demonstrate that operations are permitted at each base, sub-base or scheduled point. This will normally be done by providing written permission from the Director General of Civil Aviation (DGCA). Where the air operator cannot obtain written permission and operations have not been denied in writing by the DGCA, access to the aerodrome shall be demonstrated by other means; such as facilities provided through a lease, contractual agreement, etc.;
- (b) DGCA Ops Form 100-13, Aircraft information with respect to each airplane by registration;
- (c) DGCA Ops Form 100-14 Personnel information on required personnel. These shall be supported by resumes and statements of qualification for each position;
- (d) DGCA Ops Form 100-15, Maintenance Facilities;
- (e) maintenance control procedures;
- (f) company operations manual;
- (g) standard operating procedures;
- (h) Minimum Equipment List(s);
- (i) nomination for Company Check Pilot (if applicable);
- (j) DGCA Ops Form 100-18, Cabin Safety; and
- (k) Initial Statement of Compliance that:
 - (i) identifies where in the operator's manual system the LARs are complied with.
 - (ii) contains compliance statements for each section and subsection as applicable.
 - (iii) contains compliance statements for Parts V, VI, and VII.
 - (iv) contains compliance statements for any regulation or standard that the Minister deems necessary.
- (2) Qualifications and Responsibilities of Managerial Personnel
 - (a) Operations Manager
 - (i) <u>Qualifications</u>
 - A. holds or has held the appropriate license and ratings for which a pilot-incommand is required to hold for one of the airplanes operated; or
 - B. has acquired not less than 3 years related supervisory experience with an operator of a commercial air service whose flight operations are similar in size and scope; and
 - C. demonstrates knowledge to the Minister with respect to the content of the operations manual, the air operator's certificate and operations specifications, the provision of the regulations and standards necessary to carry out the duties and responsibilities to ensure safety.
 - (ii) <u>Responsibilities</u>. The operations manager is responsible for safe flight operations. In particular, the responsibilities of the position include:
 - A. control of operations and operational standards of all airplanes operated;
 - B. the identification of operations coordination functions which impact on operational control (eg. maintenance, crew scheduling, load control, equipment scheduling);
 - C. supervision, organization, manning and efficiency of the following:
 - flight operations;
 - ➢ cabin safety;
 - crew scheduling and rostering;



- training programs; and
- flight safety program;
- D. the contents of the air operator's company operations manual;
- E. the supervision of and the production and amendment of the company operations manual;
- F. liaison with the regulatory authority on all matters concerning flight operations, including any variations to the air operator's operator certificate;
- G. liaison with any external agencies which may affect air operator operations;
- H. ensuring that the air operator's operations are conducted in accordance with current regulations, standards and air operator policy;
- I. ensuring that crew scheduling complies with flight and duty time regulations, and that all crew members are kept informed of any changes to the regulations and standards;
- J. the receipt and actioning of any aeronautical information affecting the safety of flight;
- K. the dissemination of airplane safety information, both internal and external, in conjunction with the flight safety program;
- L. qualifications of flight and cabin crews;
- M. maintenance of a current operations library; and
- N. in his or her absence all responsibilities for operational duties shall be delegated to another qualified individual, except that the knowledge requirements detailed under operations manager qualifications may be demonstrated to the air operator rather than the Minister.
- (b) Chief Pilot
 - (i) <u>Qualifications</u>. The Chief Pilot shall:
 - A. hold a valid Airline Transport Pilot License (airplanes), a valid Instrument Rating appropriate for the group of airplane and a type rating for at least one of the types of airplanes operated;
 - B. have at least 3 years airplane experience (commercial operations experience not required) as pilot-in-command:
 - ➢ of an airplane referred to in Section 705.01(a) of the LARs; and
 - in the weight group (more or less than 100,000 lbs) and type of operations (domestic / international, cargo /passenger);
 - C. be qualified for line flying on one of the types of airplanes operated; and
 - D. demonstrate knowledge to the Minister with respect to the content of the Company Operations Manual, Training Manuals, Standard Operating Procedures, Company Check Pilot Manual (if applicable), and the provisions of the Regulations and Standards necessary to carry out the duties and responsibilities of the position.
 - (ii) <u>Responsibilities</u>. The chief pilot is responsible for the professional standards of the flight crews under his/her authority, and in particular:
 - A. developing standard operating procedures;
 - B. developing and/or implementing all required approved training programs for the air operator flight crews;
 - C. issuing directives and notices to the flight crews as required;
 - D. the operational suitability and requirements of all aerodromes and routes served by the air operator;
 - E. the actioning and distribution of accident, incident, and other occurrence reports;
 - F. the processing and actioning of any flight crew reports;
 - G. the supervision of flight crews;
 - H. assuming any responsibilities delegated by the Operations Manager; and



- I. in his or her absence, all responsibilities for duties shall be delegated to another qualified individual, except that the knowledge requirements detailed under chief pilot qualifications may be demonstrated to the air operator rather than the Minister.
- (c) Maintenance Manager. The maintenance manager shall be qualified in accordance with section 706.03 of the Canadian Aviation Regulations, Person Responsible for Maintenance Control System.
- (d) Flight Attendant Manager
 - (i) <u>Qualifications</u>. A Flight Attendant Manager shall:
 - A. know such of the contents of the air operator's operations manual, air operator certificate and operations specifications as are necessary for the performance of the assigned duties;
 - B. know such of the provisions of the Lebanese Civil Aviation Safety Act, the Lebanese Aviation Regulations and Standards, as are necessary for the performance of the assigned duties; and
 - C. demonstrate to the Minister that the person has the ability to fulfill the responsibilities of the position.
 - (ii) <u>Responsibilities</u>. The Flight Attendant Manager is responsible for the professional standards of the cabin crews under his/her authority and in particular:
 - A. assuring a current and approved Flight Attendant Manual is in place;
 - B. assuring a current and approved flight attendant training program;
 - C. the issuance of directives and notices to the flight attendants as required;
 - D. the actioning and distribution of accident, incident, and other occurrence reports;
 - E. the processing and actioning of any cabin crew reports;
 - F. the supervision of flight attendants;
 - G. assuming any responsibilities delegated by the Operations Manager;
 - H. training of flight attendants in accordance with the approved training program;
 - I. the maintenance of flight attendant training records;
 - J. liaison with other company departments;
 - K. the development of safety features cards; and
 - L. in his or her absence, all responsibilities for duties shall be delegated to another qualified individual, except that the knowledge requirements detailed under flight attendant manager qualifications may be demonstrated to the air operator rather than the Minister.

(3) Air Operator Flight Safety Program. An air operator shall on a continuing basis maintain a Flight Safety Program. Appendix VI to this standard specifies the program elements.

(4) Operational Support Services and Equipment. The requirement for operational support services and equipment will be dependent on types of airplanes and the size and scope of the operation and shall include, as applicable:

- (a) operational control system requirements;
- (b) current flight operations publications including a copy of the Lebanese Civil Aviation Safety Act, applicable Lebanese Aviation Regulations, company operations manual, Maintenance Control Manual/Maintenance Procedures Manual, Lebanese Flight Supplement, Airplane Flight Manuals, Aircraft Operating Manuals, Standard Operating Procedures, Aeronautical Information Publication, Minimum Equipment Lists and appropriate maps and charts;
- (c) issue or amendment of the operational flight plan, the ATC flight plan, required weather, NOTAMS and other information required for the flight;
- (d) handling of passengers, passenger security, and provisions for the handling of dangerous goods;
- (e) method for the calculation of cargo and baggage weight in accordance with Section 705.39 of the Lebanese Aviation Regulations;



- (f) facilities and procedures for servicing the airplane and the handling of airplane surface contamination;
- (g) charts for the usable runways;
- (h) runway surface charts which include information on pavement classification number, length of the runway, clearways and stopways and associated obstacles within the immediate area;
- (i) assurance of appropriate navigation and approach facilities for the use of the airplane concerned including associated maps, approach and landing charts;
- (j) system for accurate control and calculation of the weight and balance in accordance with Section 705.39 of the Lebanese Aviation Regulations and the transmission to the pilot-incommand;
- (k) maintenance control procedures including the handling of unserviceabilities and MEL procedures; and
- (1) method for the retention of records of weight and balance, passenger and baggage counts, fuel uplift, cargo weights.

s705.08 to s705.15 Reserved



DIVISION III - FLIGHT OPERATIONS

s705.16 Exceptions

Briefing to Persons on Board

(1) The pilot-in-command shall ensure that all passengers on board the aircraft are briefed before takeoff with respect to:

- (a) the location and use of emergency and normal exits;
- (b) the location and use of safety belts;
- (c) the securing of seat backs, and, where applicable, chair tables;
- (d) the stowage of carry-on baggage;
- (e) where the aircraft is unpressurized and it is planned that the flight will require the use of oxygen by the passengers, the location and use of oxygen equipment; and
- (f) any prohibition against smoking.
- (2) The pilot-in-command of an aircraft shall ensure that all passengers on the aircraft are briefed:
 - (a) in the case of an over-water flight, before commencement of the over-water portion of the flight, with respect to the location and use of personal flotation devices and life preservers; and
 - (b) in the case of a pressurized aircraft that is to be operated at an altitude above FL 250, before the aircraft reaches FL 250, with respect to the location and use of oxygen equipment.

(3) The pilot-in-command of an aircraft shall, before take-off, ensure that all passengers on the aircraft are provided with information respecting the location and use of any life raft that is required to be carried on board pursuant to Part VI, Subpart 2, Section 602.63 of the Lebanese Aviation Regulations (LARs).

s705.17 to s705.19 Reserved

s705.20 Operational Control System

<u>General</u>

(1) Operational control is the exercise of authority over the formulation, execution, and amendment of an operational flight plan in respect of a flight.

(2) An air operator's organizational chart must clearly show that the commercial function of the air operator (operations co-ordination) has no direct link or no authority over the air operator's operational control system.

(3) Operations conducted under Part VII, Subpart 5 of the Lebanese Aviation Regulations require a Type A, B or C operational control system.

(4) Another organization may be contracted to exercise operational control on behalf of an air operator.

Definitions

"co-authority dispatch" - means a flight where the flight dispatcher and the pilot-in-command share responsibility for Flight Watch.

"complex operations" - means operations where any two of the following conditions exist:

(a) the air operator operates more than 6 airplanes having a passenger-seating configuration of 20 or more and a maximum gross take-off weight of 45,455 kg (100,000 lbs.) or more;

- (b) the air operator operates more than 18 flights (constituting 18 take-offs and 18 landings) per 24 hour period; and
- (c) the air operator's operations are mixed domestic and international.

"flight following" - means the monitoring of a flight's progress, the provision of such operational information as may be requested by the pilot-in-command, and the notification of appropriate air operator and search-and-rescue authorities if the flight is overdue or missing. Meteorological information provided to the pilot-in-command by the flight follower shall not include analysis or interpretation.

"flight watch" - means maintaining current information on the progress of the flight and monitoring all factors and conditions that might affect the Operational Flight Plan.

"pilot's self-dispatch" - means a flight where the pilot-in-command is solely responsible for Flight Watch.

Application

(1) In order to meet its own operational needs, an air operator may choose to operate under an operational control system of a higher classification.

(2) Type A. A Type A classification shall apply to air operators carrying passengers in Airline Operations using more than 6 airplanes:

- (a) having a passenger-seating configuration of 20 or more;
- (b) having a maximum gross take-off weight of 45,455 kg (100,000 lbs.) or more; and
- (c) operating under complex operations.
- (3) Type B
 - (a) a Type B classification shall apply to air operators carrying passengers in Airline Operations using airplanes:
 - (i) having a passenger-seating configuration of 20 or more; and
 - (ii) having a maximum gross take-off weight of less than 45,455 kg (100,000 lbs.).
 - (b) this classification shall also apply to air operators carrying passengers in Airline Operations using 6 or fewer airplanes:
 - (i) having a passenger-seating configuration of 20 or more;
 - (ii) having a maximum gross take-off weight of 45,455 kg (100,000 lbs.) or more; and
 - (iii) not operating under complex operations.
- (4) Type C. A Type C classification shall apply to air operators:
 - (a) operating cargo-only airplanes; or
 - (b) carrying passengers in Airline Operations when:
 - (i) operating airplanes having a passenger-seating configuration of less than 20;
 - (ii) operating 3 or less propeller-driven airplanes with a passenger-seating configuration of 20 or more but fewer than 60.

(5) Air operators using type A or B Operational Control systems for their passenger services may revert to a type "C" Operational Control system for cargo only operations provided that the cargo and passenger operations are outlined in separate sections within the Company Operations Manual with appropriate cross references.

(6) For purposes of this section, a combination of cargo and passenger flights will be considered passenger operations.



Systems Description

Type A System

(1) General

(a) <u>Responsibility and Authority</u>

Prior to acceptance by the pilot-in-command of the Operational Flight Plan (OFP), operational control, as delegated by the Operations Manager in the company operations manual, is exercised jointly by the flight dispatcher and the pilot-in-command of a flight.

After the pilot-in-command accepts the Operational Flight Plan, the flight dispatcher and the pilot-in-command share responsibility for Flight Watch. The flight dispatcher shall provide pertinent and related flight information to the pilot-in-command, including any changes to the Operational Flight Plan proposed by the dispatcher or the air operator.

Once a flight has commenced, the final decision on any changes to the Operational Flight Plan shall be taken by the pilot-in-command based on considerations of safety. For the purpose of operational control systems, a flight is deemed to be "commenced" after brake release for take-off.

Limited pilot self-dispatch of flights may be permitted at those enroute stops where a lack of communications facilities prevents the co-authority dispatch of a flight. In such cases, the air operator shall develop, and submit to the Directorate General of Civil Aviation (DGCA) for approval, those additional procedures that are intended to compensate for the lack of flight dispatcher participation in the flight's next operational flight plan.

- (b) <u>Center</u>. The Flight Dispatch Center shall be established so as to ensure operational control throughout the air operator's entire route structure or area of operations.
- (c) <u>Communications</u>
 - (i) In-flight Communications. Timely and direct communication between the responsible flight dispatcher, if applicable, and the pilot-in-command of a flight shall be maintained during flight time over all or almost all the route structure. A communications capability similar to that required for a Type B Operational Control system may be authorized for mid-route sectors of flights and certain destinations, such as those specified in Section (1)(a) above, where direct communication is not practical.
 - (ii) *On-ground Communications*. A direct communications capability between the pilot-incommand and the flight dispatcher shall be provided at any station regularly served by the air operator. The equipment used shall be accessible to the pilot-in-command and may include the following:
 - A. VHF/HF Radio voice;
 - B. telephone;
 - C. data link; and
 - D. teletype.

This requirement may be waived by Transport Canada - Civil Aviation, at those stations where a lack of facilities prevents communication between the pilot-in-command and flight dispatch.

Timely communication means the ability to establish communications domestically within thirty minutes of first trying and internationally within one hour when the flight is in cruise.



Direct communication means the ability of the flight dispatcher and the pilot-incommand to communicate using the air operator's facilities, an electronic data link facility, or a facility operated by a third party according to an agreement.

(d) Flight Dispatchers On Duty

The air operator will provide sufficient dispatchers to operate their operational control system based on the air operator's workload analysis.

- (2) Flight Dispatch Center
 - (a) each center shall have a means of providing to the flight dispatcher without delay:
 - (i) NOTAM and NOTAM summaries;
 - (ii) all weather reports for airports used as destination or alternate airports or for emergencies;
 - (iii) forecasts, area and terminal, for the area of responsibility and such wider area as are needed for proper weather trend analysis; and
 - (iv) weather radar summaries, where available as part of the normal weather reporting system.

The air operator shall establish a system to inform flight dispatchers at each center of significant changes in flight conditions and in conditions at stations significant to the company's flights.

- (b) each center shall be provided with:
 - (i) airplane operating manuals and Minimum Equipment Lists, as appropriate;
 - (ii) company operations manual;
 - (iii) airport runway data; and
 - (iv) such additional information as may be needed to enable the formulation of an operational flight plan or to exercise Flight Watch services.
- (c) each center shall be provided with communications equipment that ensures:
 - (i) a means to provide a hard copy of an operational Flight Plan, or an amendment, to the pilot-in-command; and
 - (ii) direct ATS contact.
- (3) Flight Dispatcher
 - (a) the air operator shall ensure that each flight dispatcher is trained and qualified in accordance with the requirements of its approved training program.
 - (b) before commencing duty, a flight dispatcher shall receive a briefing on, or shall study, all pertinent weather charts, weather reports, NOTAM, operational restrictions in force, flights in the air, flights for which Operational Flight Plans (Dispatch Releases) have been issued but that have not yet commenced and for which he or she shall be responsible, and the forecast flight schedule.
 - (c) the responsible flight dispatcher may supervise personnel, including assistants, as part of an approved on-the-job training program, provided this supervision does not interfere with the performance of his or her duties.
 - (d) the flight dispatcher shall maintain a record of information generated or exchanged in relation to any flight for which that flight dispatcher has responsibility.

(4) Dispatch Release. The Dispatch Release of a flight occurs when the flight dispatcher approves the Operational Flight Plan, after which it is submitted to the pilot-in-command for acceptance. When there is disagreement between the flight dispatcher and the pilot-in-command over the dispatch of a flight, the disagreement resolution policy, where one has been specified by the air operator, or the most conservative course of action shall be followed. The dispatch release may be in the form of an

Operational Flight Plan or a separate document, signed by the flight dispatcher and issued in accordance with the company operations manual.

A means shall be provided and procedures developed to ensure that at each location where flights originate, the pilot-in-command:

- (a) receives meteorological information related to the flight;
- (b) obtains a hard copy of the Operational Flight Plan; and
- (c) except where communication is not practical, can contact the responsible flight dispatcher prior to take-off, if necessary.
- (5) Flight Watch
 - (a) a flight dispatcher shall maintain current information on the progress of flights for which he or she is responsible.
 - (b) Flight Watch, which shall continue until completion of the flight, shall be maintained on all factors and conditions that might affect the Operational Flight Plan. The pilot-in-command shall be kept fully advised of all these factors and conditions.
 - (c) in-flight reports shall be directed to the flight dispatcher performing Flight Watch:
 - (i) after each take-off and landing;
 - (ii) at least once an hour on any flight longer than one hour conducted in uncontrolled airspace;
 - (iii) at intervals not greater than two hours on international operations where communications are possible;
 - (iv) when the fuel remaining at any time on the flight falls below the minimum specified on the Operational Flight Plan; and
 - (v) where the pilot-in-command determines a change is necessary to the Operational Flight Plan enroute.

Type B System

- (1) General
 - (a) <u>Responsibility and Authority</u>
 - (i) the requirements are the same as for Type A, paragraph (1)(a); or
 - (ii) when departure is from an airport not routinely served by the air operator and communications do not permit the co-authority dispatch of a flight, the Operational Flight Plan (dispatch release) shall be established before the arrival of the flight. The pilot-in-command shall advise the flight dispatcher of any modifications made to the Operational Flight Plan when communications allow.
 - (b) <u>Center</u>. The Flight Dispatch Center shall be established so as to provide assistance to the pilots-in-command over any area for which a Type B system is approved.
 - (c) <u>Communications</u>
 - (i) In-Flight Communications. Direct or indirect communication between the flight dispatcher and the pilot-in-command shall be maintained during flight time with as short a delay as practical considerations permit. A private agency under contract to the air operator may be approved to provide the required communications services. The use of ATS communications is permitted if the services of a private agency are not available.
 - (ii) On-ground Communications. The requirements are the same as for Type A, Subsection (1)(c)(ii).
 - (d) <u>Flight Dispatchers On Duty</u>. The requirements are the same as for Type A, Section (1)(d).
- (2) Flight Dispatch Center
 - (a) information provided to flight dispatchers the requirements are the same as for Type A, Section (2)(a).
 - (b) provisions of each center the requirements are the same as for Type A, paragraph (2)(b).
 - (c) each center shall be provided with communications equipment that ensures:

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- direct contact with the pilot-in-command during flight when operating in the vicinity of airports regularly served by the air operator. At those stations where a lack of facilities prevent direct communications between the pilot-in-command and flight dispatch, reliable indirect contact through a ground station, by the air operator personnel, and radio relay from that station to the pilot-in-command shall be permitted;
- (ii) direct communication with the flight line at each airport regularly served by the operator; and
- (iii) direct ATS contact.

(3) Flight Dispatcher. The requirements are the same as for Type A, Subsection (3).

(4) Dispatch Release. The requirements are the same as for Type A, Subsection (4), except where differences are approved.

(5) Flight Watch. The requirements are the same as for Type A, Subsection (5), with the exception of Subsection (5)(c)(iii), which is to be observed as far as practical, taking into consideration the nature of the particular operations.

Type C System

(1) General

- (a) <u>Responsibility and Authority</u>. Operational control is delegated to the pilot-in-command of a flight by the Operations Manager who retains responsibility for the day-to-day conduct of flight operations.
- (b) <u>Center</u>. Current information on the location of the air operator's airplanes shall be maintained at the main base of operations or, where appropriate, at its sub-base of operations.
- (c) <u>Communications</u>. Each airplane shall be equipped with serviceable and functioning communications equipment that permits the pilot-in-command to communicate with a ground radio station for the purpose of exchanging messages with the air operator. Such a ground station may be operated by the government, the air operator, or a private agency.
- (d) <u>Personnel on Duty</u>. Refer to Subsection (4) below.

(2) Dispatch Release. Flights operated under this system are self-dispatched and released by the pilotin-command. Where an air operator chooses to use a Dispatch Release, as required under a Type B system, the flight dispatcher preparing that release shall be qualified in accordance with Type B operational control system.

(3) Flight Follower. The air operator shall ensure that each flight follower is trained in accordance with the requirements of its approved training program.

(4) Flight Watch and Flight Following

- (a) flight following for a Type C system is the monitoring of a flight's progress, the provision of such operational information as may be required by that flight, and the notification of appropriate air operator and search-and-rescue authorities if the flight is overdue or missing.
- (b) flight following procedures shall be described in the air operator's Company Operations Manual.
- (c) under a Type C system, the pilot-in-command is solely responsible for Flight Watch but shall be supported by a Flight Following System containing the following elements:
 - a person, qualified and knowledgeable in the air operator flight alerting procedures, on duty and able to respond to requests by the pilot-in-command for information related to the flight. Such information shall include meteorological information without analysis or interpretation;
 - (ii) the progress of each flight from its commencement to its termination, including any intermediate stops, shall be monitored, which may be done by the same person as in Subsection (4)(b)(i) above; and
 - (iii) the pilot-in-command shall be responsible for passing messages concerning airplane landings and departures from point of origin, enroute stops, and final destination to the person described in Subsection (4)(b)(i) above.


s705.21 Reserved

s705.22 Operational Flight Plan

(1) In accordance with the classification of its operational control system (s705.20), an air operator shall adhere to one of the following types of operational flight plan (OFP):

- (a) 30 items OFP as listed below;
- (b) 18 items OFP as indicated by asterisk in the list below; or
- (c) informal operational flight plan, being either an ATC flight plan, a flight itinerary or other flight following information as required.

Operational Control System	Type of Operational Flight Plan	
Туре А	30 items OFP	
Type B international	30 items OFP	
Type B Domestic	18 items OFP	
Type C – IFR (except local) and VFR at night	18 items OFP	
Type C – VFR (day) and IFR local	Informal OFP	
All short range flights (less than 30 minutes)	18 items OFP	
All local flights (within 25 nm from the departure airport)	Informal OFP	

- (2) The Minimum Required Content of an Operational Flight Plan is:
 - (a) * air operator's name;
 - (b) * date;
 - (c) * airplane registration;
 - (d) * airplane tail number (as applicable);
 - (e) *airplane type and model (as applicable);
 - (f) * flight number (as applicable);
 - (g) type of flight (IFR or VFR)(not required if all the air operator's flights are the same);
 - (h) * pilot-in-command's name;
 - (i) * flight dispatcher's name (as applicable);
 - (j) * departure aerodrome;
 - (k) * destination aerodrome;
 - (l) * alternate aerodrome (as applicable), including enroute alternates where required;
 - (m) routing to destination by successive navigational way points and a method to obtain associated tracks for each;
 - (n) routing to alternate aerodrome (as applicable);
 - (o) specification of any way points enroute to satisfy special operations requirements (ETOPS, etc.);
 - (p) * planned cruise altitudes to destination and alternate (as applicable);
 - (q) planned cruise true air speed;
 - (r) planned cruise indicated air speed, or mach number (as applicable);
 - (s) winds at planned cruise altitude: these may be expressed in terms of direction/velocity or as a component/drift angle;
 - (t) temperature at cruise altitude;
 - (u) ground speed or wind component during cruise;
 - (v) * estimated time enroute: if broken down into way point time components, a total shall be specified;
 - (w) time from destination to alternate (as applicable);
 - (x) distance to destination: if broken down into way point distance components, a total shall be specified;
 - (y) distance from destination to alternate (as applicable);



- (z) * fuel burn enroute and from destination to alternate;
- (aa) * fuel required for the type of flight plan for (as applicable):
 - (i) taxi,
 - (ii) destination,
 - (iii) alternate,
 - (iv) holding reserve, and
 - (v) additional requirements or enroute reserve (as applicable);
- (bb) * weights:
 - (i) total fuel on board,
 - (ii) zero fuel weight, and
 - (iii) planned maximum take-off weight;
- (cc) * signature of pilot-in-command and the flight dispatcher (as applicable) or alternate means of certifying acceptance; and

(dd) * number of persons on board, crew and passengers, as amended by final load figures. (3) The format of the full operational flight plan shall allow the crew to record the fuel state and the progress of the flight relative to the plan. The operational flight plan may be computer generated or produced manually, working from charts and tables, by either the flight dispatcher or the flight crew. When an operational flight plan is prepared manually, an approved form displaying the requisite information and providing the necessary space to make flight following entries as the flight progresses shall be used.

(4) The air operator shall specify, in its company operations manual, how formal acceptance of the operational flight plan by the Pilot-in-Command and, if applicable, the flight dispatcher shall be recorded.

s705.23 to s705.24 Reserved

s705.25 Fuel Requirements

(1) Designated Areas and Required Fuel Reserve. The designated routes or areas where the enroute fuel reserve of 5% is required, with exclusions as indicated, are:

- (a) routes where flights are within International Airspace with the following exclusions:
 - (i) airspace within Continental United States excluding Alaska;
 - (ii) airspace over the land mass of Continental Europe west of 20 degrees east longitude, including the United Kingdom, and the Republics of Finland, Greece and Ireland.

(2) Reduced Enroute Fuel Reserve - Designated Routes. To be authorized in an air operator certificate to fly routes designated as not requiring the enroute fuel reserve, the following conditions shall be met:

- (a) high/low airway structure
 - (i) high and low level airway structure are complementary to company routings;
 - (ii) ATS approved company RNAV routes are acceptable; and
 - (iii) operations on high and low level air routes shall be in controlled airspace;
- (b) ground and airborne navigation aids
 - (i) navigation aids and airborne equipment are complementary to airway and terminal structure;
 - (ii) airborne navigation equipment has redundancy;
 - (iii) there shall be a maximum distance of 400 NM between navigation facilities in the high level structure;
 - (iv) at least 90% of the facilities shall be DME equipped; and
 - (v) FSS communication system shall be reliable and of a high quality;
- (c) ATC Enroute and Terminal Radar
 - (i) enroute radar capability providing 90% route coverage;
 - (ii) terminal radar capability at airports with high traffic levels;



- (iii) enroute Radar equipped with SSR with Mode Al (4096 codes), mode C and emergency coder capabilities; and
- (iv) high quality and reliable ATC communication system;
- (d) communications. ATS and FSS provide enroute NOTAM, weather reporting and forecasting service for all flight plan areas;
- (e) enroute airports
 - (i) adequate for landing of the airplane concerned;
 - (ii) ATS controllers with language skills adequate to ensure the exchange of information with flight crews;
 - (iii) 50% of enroute airports equipped with Terminal Radar, ILS, and VASIs; and
 - (iv) within 60 minutes flying time with one engine inoperative.
- (f) high/low level weather and NOTAM availability
 - (i) complete NOTAM, forecast and actual weather information available at all points of departure for departure, enroute, destination and alternate airports;
 - (ii) proven reliability in wind forecasting at all enroute altitudes;
 - (iii) CAT and windshear prediction capability;
 - (iv) full coverage of weather and NOTAM information through FSS enroute; and
 - (v) 60% weather coverage of company routes (including area weather and enroute airports);
- (g) flight watch/flight dispatch capability. Flights must be operated under a Type A operational control system; and
- (h) air operator route and airport training. Comprehensive information provided on foreign rules, routes and airports.
- (3) Reduced Enroute Fuel Reserve for the Portion of a Flight Outside Domestic Airspace
 - (a) definitions
 - (i) "domestic airspace" for the purpose of this subsection, means an area including Lebanese airspace.
 - (ii) "enroute destination" means a destination airport associated with a decision point, where the flight is to proceed if the remaining fuel on board does not meet the fuel required beyond the decision point.
 - (iii) "enroute alternate" is the alternate aerodrome associated with an enroute destination.
 - (iv) "enroute flight release" means a dispatch release issued during flight.
 - (b) to be authorized in an air operator certificate to carry an enroute fuel reserve only for that portion of a flight conducted outside domestic airspace, the following conditions shall be met:
 - (i) the air operator shall define a decision point in domestic airspace when entering or leaving domestic airspace and suitable enroute destination and enroute alternate for that decision point. The air operator may define other decision points outside of domestic airspace each of which shall have suitable enroute destination and enroute alternate. The decision points, enroute destinations and enroute alternates are designated in the operational flight plan. The decision points are to be located along the proposed track, no further than abeam the associated enroute destination;
 - (ii) enroute destinations and enroute alternates shall meet the same weather requirements as if they were actual destinations and alternates;
 - (iii) the enroute fuel reserve for a route segment outside of domestic airspace shall be 5% of the total fuel required to fly from a decision point, to the next decision point, then to the associated enroute destination, and then to the associated enroute alternate;
 - (iv) the flight is operated under a Type A operational control system;
 - (v) within two hours of a flight arrival at a decision point, the flight dispatcher issues an enroute flight release indicating the fuel required to the next enroute destination or to final destination, as applicable, and if a factor, the one engine inoperative and the depressurization fuel required to proceed beyond the decision point. Additional

information pertinent to the safety of the flight and updates on the fuel status are also to be provided;

- (vi) the flight is not to proceed beyond a decision point unless the pilot-in-command confirms from the enroute flight release that there is fuel on board to reach the next enroute destination or final destination, as applicable, with the required fuel reserves. If upon reaching a decision point without sufficient fuel on board, the flight is to proceed to the enroute destination;
- (vii) if no enroute flight release is received at a decision point, the pilot-in-command may choose to proceed to final destination providing he is satisfied that the required fuel is on board. The pilot-in-command is to advise the flight dispatcher of his action as soon as practicable;
- (viii) the airplane MEL requires the airplane be equipped with a serviceable ACARS or with a serviceable SELCAL with two serviceable HF or two VHF transceivers when the enroute flight release is planned to be transmitted on this type of communication;
- (ix) the air operator develops procedures for reduced enroute fuel reserve operations for inclusion in the company operations manual and the flight crews and flight dispatchers receive initial and recurrent training to confirm competency for flight operations utilizing reduced enroute fuel reserves; and
- (x) the operational flight plan, flight crew log and dispatcher log identify each decision point, and at each decision point, the actual fuel requirements at the time of the issue of the enroute flight release and the actual fuel on the airplane.

s705.26 to s705.28 Reserved

s705.29 Flight Crew Members at Controls

(1) "Cruise portion of a flight" - means that phase of flight between reaching initial cruise altitude and the beginning of descent at destination.

(2) Providing the procedures for handover of responsibility are detailed in the standard operating procedures manual of the air operator, relief of a flight crew member at the controls is permitted under the following conditions:

- (a) a captain, first officer, second officer or flight engineer may be relieved at any time during the flight, by a captain, first officer, second officer or flight engineer providing:
 - (i) the crew member is qualified on type in accordance with Section 705.103 of the Lebanese Aviation Regulations (LARs); and
 - (ii) occupies the same cockpit position.
- (b) a captain may be relieved by a first officer providing:
 - (i) the first officer is qualified on type in accordance with Section 705.103 of the Lebanese Aviation Regulations;
 - (ii) a first officer is designated to act as pilot-in-command or is delegated with the responsibility for the safe operation of the airplane and holds a valid Air Transport Pilot License; and
 - (iii) relief occurs during the cruise phase of flight only.
- (c) a first officer may be relieved by a captain providing:
 - (i) the captain is qualified on type in accordance with the of the Lebanese Aviation Regulations (LARs); and
 - (ii) relief occurs during the cruise phase of flight only.
- (d) a second officer or a flight engineer may be relieved by a captain or first officer during the cruise phase of flight only, providing the captain or first officer meets the requirements of subsection of the Lebanese Aviation Regulations (LARs).
- (e) a captain or first officer may be relieved by a cruise relief pilot providing the cruise relief pilot:



- holds a Commercial Pilot License and is endorsed on the airplane type as a Cruise Relief Pilot;
- (ii) holds a valid Group I Instrument Rating;
- (iii) is qualified in accordance with the Lebanese Aviation Regulations (LARs);
- (iv) has successfully completed an approved ground and flight training course for a cruise relief pilot;
- (v) has passed a cruise relief pilot proficiency check conducted by an approved check pilot;
- (vi) has completed annual recurrent ground and synthetic training device training;
- (vii) has passed a cruise relief pilot line check conducted by an approved check pilot; and
- (viii) where the cruise relief pilot relieves the captain:
 - A. the first officer is designated to act as pilot-in-command or is delegated with the responsibility for the safe operation of the airplane;
 - B. the first officer holds a valid Air Transport Pilot License; and
 - C. relief occurs during the cruise phase of flight only; and
- (ix) where the cruise relief pilot relieves the first officer:
 - A. relief occurs during the cruise phase of flight only.

s705.30 Reserved

s705.31 Crew Member Briefing

(1) The pre-flight crew member briefing shall consist of a joint crew member briefing involving all crew members or a briefing from the pilot-in-command to the in-charge flight attendant and from the in-charge flight attendant to other cabin crew members. Where the flight involves only one flight attendant the pilot-in-command shall brief that flight attendant.

(2) Pre-flight Briefing - All Crew Members. The contents of the pre-flight crew member briefing that involves all crew members shall include the following as appropriate:

- (a) anticipated weather;
- (b) anticipated flying conditions;
- (c) flight time;
- (d) altitudes;
- (e) review of selected communication procedures;
- (f) review of selected emergency procedures;
- (g) review of selected safety procedures; and
- (h) any additional information necessary for the flight including information respecting unserviceable equipment or abnormalities that may affect passengers.

(3) Pre-flight Briefing - PIC to In-charge Flight Attendant. The contents of a pre-flight pilot-incommand to the in-charge flight attendant briefing shall include the following:

- (a) anticipated weather;
- (b) anticipated flying conditions;
- (c) flight time;
- (d) altitudes; and
- (e) any additional information necessary for the flight including information respecting unserviceable equipment or abnormalities that may affect passengers.

(4) Pre-flight Briefing - In-charge to Cabin Crew. The contents of a pre-flight in-charge flight attendant to cabin crew briefing shall include the following:

- (a) review of selected communication procedures;
- (b) review of selected emergency procedures;
- (c) review of selected safety procedures; and
- (d) any additional information necessary for the flight including information respecting unserviceable equipment or abnormalities that may affect passengers.



s705.32 through s705.33 Reserved

705.34 Take-off Minima

The standard for take-off in IMC below the take-off weather minima specified in the Jeppesen charts or in the equivalent foreign publication is:

(1) Take-off Minima - Reported Visibility - RVR 1200 feet (1/4 mile)

- (a) the company operations manual shall contain detailed guidance on how to determine departure one engine inoperative climb gradient and obstacle clearance;
- (b) an aerodrome used as take-off alternate is specified in the operational flight plan and that aerodrome is located:
 - (i) in the case of a twin-engined airplane, within the distance that can be flown in 60 minutes at the one-engine-inoperative cruise speed; or
 - (ii) in the case of a three- or four-engined aircraft or where an air operator is authorized in its air operator certificate to conduct ETOPS with the type of airplane operated, within the distance that can be flown in 120 minutes at the one-engine-inoperative cruise speed;
- (c) the take-off alternate aerodrome weather minima shall meet the alternate requirements set out in the Jeppesen charts or equivalent;
- (d) the runway has the following equipment in accordance with ICAO Manual of Aerodrome Standards and Recommended Practices (TP-312):
 - (i) serviceable and functioning high intensity runway lights;
 - (ii) runway center line lights; or
 - (iii) with runway center line markings that are plainly visible to the pilot throughout the take-off run;
- (e) the pilot-in-command is satisfied that the required RVR 1,200 feet (1/4 mile) visibility exists for the runway to be used before commencing take-off;
- (f) the pilot-in-command and second-in-command attitude instruments (artificial horizons) on the airplane shall incorporate pitch attitude index lines in appropriate increments above and below the zero pitch reference line to at least 15°, and are capable of ensuring ready depiction of total airplane attitude. An approved failure warning system which will immediately detect essential instrument and equipment failures or malfunctions shall be installed and operative. For the purpose of reduced visibility take-offs, essential instruments are defined as attitude indicators, directional gyros and HSI's;
- (g) the flight crew members shall be given training in accordance with Part VI, Subpart 2 of the Lebanese Aviation Regulations (LARs) as applicable.
- (h) the chief pilot has certified in the document certifying qualifications and proficiency that the pilot-in-command is competent to conduct an RVR 1,200 feet (1/4 mile) takeoff;
- (i) the pilot-in-command shall have at least 100 hours of pilot-in-command experience on the airplane type. A pilot-in-command converting onto an airplane type similar to that on which he had been maintaining pilot-in-command qualifications at these limits for at least 90 days prior to conversion may be authorized these limits by the air operator on completion of required line indoctrination. Similar airplanes shall be considered as turbo-propeller to turbo-propeller or turbo-jet.
- (2) Take-off Minima Reported Visibility RVR 600 feet
 - (a) the Company Operations Manual shall contain detailed guidance on how to determine departure one engine inoperative climb gradient and obstacle clearance;
 - (b) an aerodrome used as take-off alternate is specified in the operational flight plan and that aerodrome is located:
 - (i) in the case of a twin-engined airplane, within the distance that can be flown in 60 minutes at the one-engine-inoperative cruise speed; or



- (ii) in the case of a three- or four-engined aircraft or where an air operator is authorized in its air operator certificate to conduct ETOPS with the type of airplane operated, within the distance that can be flown in 120 minutes at the one-engine-inoperative cruise speed;
- (c) the take-off alternate aerodrome weather minima shall meet the alternate requirements set out in the Jeppesen charts or equivalent;
- (d) the runway has the following equipment in accordance with applicable Lebanese Regulations:
 (i) serviceable and functioning high intensity runway lights, runway center line lights and center line markings that are plainly visible to the pilot throughout the take-off run;
 - (ii) at least two transmissometers, one situated at the approach end and one at the mid-point of the runway, each reading not less than RVR 600 feet; and
 - (iii) if three transmissometers are available and the mid-point transmissometer is unserviceable, take-off is authorized provided the transmissometers at the approach end and the departure end of the runway, each is reading not less than RVR 600 feet;
- (e) the pilot-in-command is satisfied that the required RVR 600 feet visibility exists for the runway to be used before commencing take-off;
- (f) the pilot-in-command and second-in-command attitude instruments (artificial horizons) on the airplane shall incorporate pitch attitude index lines in appropriate increments above and below the zero pitch reference line to at least 15°, and be capable of ensuring ready depiction of total airplane attitude. An approved failure warning systems which will immediately detect essential instrument and equipment failures or malfunctions shall be installed and operative. For the purpose of reduced visibility take-offs, essential instruments are defined as attitude indicators, directional gyros and HSI's;
- (g) the flight crew members shall be given training in accordance with Part VI, Subpart 2 of the Lebanese Aviation Regulations (LARs) as applicable;
- (h) the pilot-in-command, and the second-in-command if authorized by the air operator for lower than normal take-off minima, shall be checked within the preceding 12 months in an approved synthetic training device by an approved company check pilot or a DGCA inspector and shall be certified on the document certifying qualifications and proficiency as competent to conduct an RVR 600 feet take-off;
- (i) the pilot-in-command shall have at least 100 hours of pilot-in-command experience on the airplane type. A pilot-in-command converting onto an airplane type similar to that on which he had been maintaining pilot-in-command qualifications at these limits for at least 90 days prior to conversion may be authorized these limits by the air operator on completion of required line indoctrination. Similar airplanes shall be considered as turbo-propeller to turbo-propeller or turbo-jet.

s705.35 to s705.36 Reserved

s705.37 Routes in Uncontrolled Airspace

For an air operator to establish routes in uncontrolled airspace the following standards shall be met:

(1) A minimum obstruction clearance altitude (MOCA) shall be established for each route segment by the use of aeronautical charts for updating of significant obstructions as follows:

- (a) for flight under IFR a minimum altitude of 2000 feet above the highest obstacle located within a horizontal distance of 10 miles from the center line of route;
- (b) for flight at night in VFR conditions a minimum altitude of 1000 feet above the highest obstacle located within 3 miles from the center line of the route;

(2) For each route segment a minimum enroute altitude (MEA) shall be established which meets or exceeds the minimum obstruction clearance altitude and assures navigational signal coverage. For line of sight navigation aid reception distance for ground installed aids, the minimum reception



altitude may be calculated by calculating the square root of an altitude above the navigation aid and multiplying the result by 1.25 (Sq. root 3000 ft. is $54.7 \times 1.25 = 68$ miles). The MEA will be established to the nearest higher 100 foot increment.

(3) Each route shall include:

- (a) the FROM/TO route segment;
- (b) track;
- (c) MOCA;
- (d) MEA;
- (e) distance between fixes or waypoints; and
- (f) navigation aids.

(4) The air operator shall maintain a record of its company routes in a form and format similar to the catalogue of approved routes.

Provided the above procedures are followed, an air operator's pilot may use routes that are not yet contained in the record of company routes.

(5) Prior to initial use of other than a publicly available navigation aid, permission of the owner/operator shall be obtained and retained in company records. No VFR at night or IFR flights shall commence unless the navigation aids upon which the route is predicated are in satisfactory operating condition or the flight is conducted using an approved long range navigation system.

When company routes are predicated on other than a publicly available navigation aid and arrangements have not been made with the owner/operator to advise when the navigation aid is out of service, instructions to pilots shall be included on how, and whom to contact, to confirm that the navigation aid is in service.

(6) The air operator's company operations manual shall be amended to outline the above procedures and information for pilot guidance.

(7) The flight visibility shall not be less than 3 miles for flights in VFR at night.

s705.38 Reserved

s705.39 Weight and Balance Control

The weight and balance system required by Section 705.39 of the Lebanese Aviation Regulations (LARs) shall specify for each flight how the air operator will establish and be responsible for the accuracy of:

(1) airplane basic empty weight and center of gravity determined in accordance with the Airplane Flight Manual;

(2) airplane operational empty weight and center of gravity. The airplane operational empty weight is the actual weight of the airplane before loading for dispatch consisting of the airplane basic empty weight and may include removable equipment, flight crew members (including baggage), crew members (including baggage and supplies) water, toilet fluids and chemicals, oil, unusable fuel and emergency equipment and shall be defined by the air operator;

(3) weight of passengers, carry-on baggage and checked baggage, determined either by actual weight, by using approved standard weights or by using approved survey weights, and the actual weight of cargo;

(4) weight of the fuel load determined by using either the actual specific gravity or a standard specific gravity;



(5) airplane loading including, but not limited to, compartment weight and bulk cargo limits, floor loading limits, cargo restraint and unit load device/pallet loading considering weight and center of gravity limits;

(6) airplane zero fuel weight;

(7) location of the center of gravity to include the longitudinal position and where required, lateral and vertical positions;

(8) preparation and disposition of all required documentation whether by the air operator or other qualified personnel authorized by the air operator; and

(9) the training, both initial and recurrent, of all air operator personnel and other qualified personnel authorized by the air operator with duties and responsibilities in this system. The training shall be in the appropriate parts of the company operations manual.

The weight and balance computation may be incorporated in the operational flight plan or be a separate form.

s705.40 Passenger and Cabin Safety Procedures

(1) Safe Movement of Passengers to and from the Airplane (refers to Subsection 705.40(1)(a) of the Lebanese Aviation Regulations)

The procedures for the safe movement of passengers to and from the airplane shall include:

- (a) wherever possible, airplanes are parked in a location that avoids passenger exposure to hazardous conditions;
- (b) announcements to embarking/disembarking passengers as warranted to alert them to hazardous conditions or dangers that may be encountered during embarkment/disembarkment and/or enroute to or from the airside exit/entrance points, and advising them to follow any directions provided outside the airplane;
- (c) adequate guidance, and where necessary an escort, provided to passengers so as to ensure that their movements while airside are properly controlled. The responsibility for this shall be clearly defined and the controls shall ensure:
 - (i) passengers are directed along the correct and safe route between the airplane and the airside entrance/exit point, and a sufficient number of personnel are assigned to exercise surveillance and control of passengers and to give prompt attention to stragglers where necessary;
 - (ii) an escort is assigned to control passenger movements when the route to or from the airplane is congested by other aircraft or vehicles or when required by the Air Carrier Security Measures; and
 - (iii) passengers are not exposed to hazards from aircraft operations, fuelling equipment, exposure to jet blasts, engines, rotors or propellers, or to the hazards posed by lighting conditions, obstacles positioned along the route or unsafe surface or stairway conditions;
- (d) smoking restrictions are enforced;
- (e) "Walkman" or similar entertainment system headsets that decrease awareness of other traffic or limit reception of audible direction or warning signals, are not worn;
- (f) clearly assigning the responsibility for the opening/closing and the locking/unlocking of terminal building doors, to enable embarking/disembarking passengers to access the apron or terminal. Where this responsibility is assigned to persons other than the air operator's personnel or those contracted by the air operator, the crew members are so advised;
- (g) where conditions so warrant, the embarking or disembarking activity is postponed until a safe walking zone is prepared; and
- (h) unsatisfactory or hazardous conditions are reported to the responsible authority.

The procedures shall not preclude the safe embarkment and disembarkment of all passengers.

The procedures shall be incorporated in training programs and training will be provided to crew members, ground handling and passenger agent staff (including contract personnel) involved with the transfer of passengers between the terminal building and the airplane.

The training will be adequate to ensure that personnel are fully aware of their responsibilities, are able to perform their assigned duties for the safety of airside passengers and know to whom the air operator personnel report in the application of their responsibilities. Where there is an overlap in the duties/responsibilities assigned to personnel, the training will ensure that the trainees know the relationship of their duties/responsibilities to those of the other personnel involved.

(2) Fuelling with Passengers on Board (refers to Subsection 705.40(3) of the Lebanese Aviation Regulations)

Airplanes may be fuelled with passengers embarking, disembarking, or on board under the following conditions:

- (a) in order to ensure that crew members receive prompt notification of a situation threatening safety such as major fuel spill or a fire, two way communication is maintained between the ground crew supervising the fuelling and the qualified personnel on board the airplane so that the airplane can be deplaned or evacuated as necessary.
- (b) a means of communication among the qualified personnel on board the airplane, ground/maintenance crews and fuelling agencies is determined and established and the procedures are provided to the appropriate personnel.
- (c) the airplane engines are not running unless the aircraft incorporates a propeller brake and the brake is set. The Aircraft Flight Manual must refer to the propeller brake/engine as an auxiliary power unit (APU).
- (d) during the fuelling process:
 - (i) airplane ground power generators or other electrical ground power supplies are not being connected or disconnected;
 - (ii) combustion heaters installed on the airplane (e.g. wing and tail surface heaters, integral cabin heaters) are not operated;
 - (iii) other combustion heaters used in the vicinity of the airplane are manufactured to CSA or ULC standards and approved in accordance with the Fire Commissioner of Lebanon or equivalent for use in hazardous atmosphere;
 - (iv) known high energy equipment such as High Frequency (HF) radios are not operated, unless in accordance with the airplane manufacturer's approved flight manual where the manual contains procedures for the use of this equipment during fuelling;
 - (v) weather-mapping radar equipment in the airplane is not operated unless in accordance with the manufacturer's approved airplane flight manual where the manual contains procedures for use during fuelling;
 - (vi) airplane batteries are not being removed or installed;
 - (vii) external battery chargers are not being connected, operated or disconnected;
 - (viii) airplane-borne auxiliary power units which have an efflux discharging into the zone are not started after filler caps are removed or fuelling connections are made;
 - (ix) if an auxiliary power unit (APU) is stopped for any reason during fuelling it shall not be restarted until the flow of fuel has ceased and there is no risk of igniting fuel vapours, however, the APU may be operated in accordance with the manufacturer's approved airplane flight manual if the manual contains procedures for starting the APU during fuelling;
 - (x) electric tools or similar tools likely to produce sparks or arcs are not being used; and



- (xi) photographic equipment is not used within 10 ft. (3m) of the fuelling equipment or the fill or vent points of the airplane fuel systems;
- (e) fuelling is immediately suspended when there are lightning discharges within 8 km of the aerodrome;
- (f) the airplane is fuelled in accordance with manufacturer's procedures for that type of airplane;
- (g) the airplane emergency lighting system is armed or on;
- (h) "No Smoking" signs on board the airplane are illuminated, as applicable;
- (i) procedures are established to ensure that passengers do not smoke, operate portable electronic devices or otherwise produce sources of ignition;
- (j) a minimum of two exits are designated evacuation exits during fuelling; one of which must be the entry doors through which the passengers embarked;
- (k) the designated evacuation exits during fuelling are identified by airplane type and published in the company operations manual, and are clear and available for immediate use by passengers and crew members should an evacuation be required;
- the air operator has procedures in place to ensure that there is a ready escape route from each designated evacuation exit during fuelling, and that designated evacuation exits which are equipped with slides have the slides armed or a crew member is in the immediate vicinity to arm the slides if required;
- (m) a means of evacuation such as a deployed integral stair, a loading stair or stand, a loading bridge or a passenger transfer vehicle (PTV) is in place at the airplane door used for the embarking and disembarking of passengers and is free of obstruction and available for immediate use by the airplane occupants if necessary;
- (n) for airplanes requiring a minimum cabin crew of one, a qualified person trained in the operation and use of emergency exits and in emergency evacuation procedures who is ready to initiate and direct an evacuation is at or near the passenger entry door;
- (o) for airplanes requiring a minimum cabin crew of more than one, at least the minimum number of flight attendants for the airplane type or the number of passengers on board, whichever is greater, are on board and positioned at or near each designated evacuation exit during fuelling. Flight attendants may be replaced by an equivalent number of other staff provided that they have successfully completed the air operator's approved emergency evacuation procedures training for that airplane type;
- (p) flight crew members inform the in-charge flight attendant when they are leaving the airplane;
- (q) where desirable for climatic reasons, and provided a flight crew member is on board or a means of communication is available to the flight attendants, an airplane embarking door, that is inward opening or that can be fully opened to the exterior without repositioning of loading stairs or stand, may be closed and latched if necessary to keep it closed, but may not be locked; and
- (r) procedures are established to ensure that flight attendants or qualified persons replacing flight attendants in accordance with paragraph (o) are made aware of when fuelling will take place.

(3) Use of Portable Electronic Devices (refers to Subsection 705.40(4) of the Lebanese Aviation Regulations).

- (a) the prohibited devices, the permitted devices without restrictions and the permitted devices with restrictions are defined as follows, and are to be used in accordance with the stated requirements as applicable:
 - (i) prohibited devices. Any transmitting device that intentionally radiates radio frequency signals;
 - (ii) permitted devices without restrictions:
 - A. hearing aids,
 - B. heart pacemakers,
 - C. electronic watches, and
 - D. properly certificated air operator installed equipment;
 - (iii) permitted devices with restrictions:



- A. personal life support systems may be operated during all phases of flight, provided that the device does not cause interference with the aircraft's systems or equipment;
- B. portable two-way radio communication devices may be used subject to all of the following conditions and restrictions being met:
 - use is prohibited at all times when the aircraft engines are running, excluding the auxiliary power unit,
 - when the pre-flight safety briefing begins prior to engine start, use is terminated during the delivery of the pre-flight safety briefing and demonstration, and
 - the company operations manual contains procedures to ensure these devices are turned off and properly stowed during the delivery of the pre-flight safety briefing and demonstration and while the aircraft engines are running;
- C. other portable electronic devices may be used, except during take-off, climb, approach and landing;
- (b) passengers shall be informed of the air operator's policy pertaining to the use of portable electronic devices and those devices that are prohibited from use during the delivery of the pre-flight safety briefing and demonstration;
- (c) when interference with the aircraft's systems or equipment is suspected from use of a portable electronic device, crew members shall:
 - (i) confirm passenger use of portable electronic device(s),
 - (ii) instruct passenger(s) to terminate the use of portable electronic device(s),
 - (iii) prohibit the use of suspected portable electronic device(s), and
 - (iv) recheck the aircraft's systems and equipment.
- (d) the pilot-in-command shall report incidents of portable electronic device interference and include the following information in the report:
 - (i) flight Information aircraft type, registration, date and UTC time of incident, aircraft location (VOR bearing/DIST/LAT/LONG), altitude, weather conditions, pilot name and telephone number,
 - (ii) description of Interference description of effects on cockpit indicators, audio or systems, including radio frequency, identification, duration, severity and other pertinent information,
 - (iii) action taken by pilot/crew to identify cause or source of interference,
 - (iv) identification of portable electronic device description of device, brand name, model, serial number, mode of operation (i.e. FM radio), device location (seat location), and regulatory approval number (FCC/other),
 - (v) identification of user name and telephone number of passenger operating the device, and
 - (vi) additional information as determined pertinent by the crew;
- (e) reports of portable electronic device interference shall be submitted to the Director General of Civil Aviation, Lebanon.

s705.41 Flight Attendant Stations

- (1) Standard for Approval of Flight Attendant Stations
 - (a) the flight attendant stations for flight attendants required by Section 705.104 of the Lebanese Aviation Regulations shall be evenly distributed throughout the cabin and shall:
 - be located in the passenger cabin near floor level emergency exits or, because of exit type and distribution or the access to the communication system, at some other approved exit;
 - (ii) be positioned so that the seat will not interfere with the use of a passageway or exit when the seat is not in use;



- (iii) provide access to the communication system when the flight attendant is seated, except when the communication system and flight attendant seat are installed in accordance with the original type certification basis of the airplane; and
- (iv) be located to minimize the probability of injury to the occupant from items dislodged in a galley or from a stowage compartment or serving cart. Secondary latching mechanisms must be used to prevent items from being dislodged.
- (b) each airplane shall, for each flight attendant required by Section 705.104 of the Lebanese Aviation Regulations, be equipped with either a forward or aft facing seat designed to at least the inertial load factors established under the original type certification basis of the airplane. The seat shall provide an energy absorbing rest to support the arms, shoulders, head, and spine.
- (c) there shall be a means to secure each combined safety belt and shoulder harness when not in use so as to prevent interference with rapid egress in an emergency.
- (d) flight attendant stations shall be approved for use in order of priority based on the minimum crew required for that airplane up to the maximum number of flight attendants carried.
- (e) where the passenger entry door is an emergency exit, the flight attendant seat located nearest to it shall be the primary station. All other exits shall be prioritized in the following manner:
 - (i) no two opposite and no two adjacent floor level exits shall be unassigned;
 - (ii) flight attendant seats located adjacent to communication panels, evacuation horns, or the emergency light switch shall have a higher priority than seats that are not so located; and
 - (iii) the lowest priority is an aisle passenger seat located at a Type III window exit.
- (f) notwithstanding (e), the approval of the flight attendant stations shall consider the emergency procedures for the airplane type/model for the operator as well as conditions imposed during the original type certification of the airplane.
- (2) Standard for occupancy of Flight Attendant Seats

The air operator may permit persons other than assigned flight attendants to occupy an available flight attendant seat under the following conditions:

- (a) a crew member employed by the air operator, but not assigned as a member of the operating crew for the flight in question, may occupy an available flight attendant seat when:
 - (i) there are no passenger seats available;
 - (ii) the person is wearing the company uniform, or is appropriately identified and is briefed on:
 - A. the operation and use of the flight attendant seat and restraint system;
 - B. the location and use of the oxygen system at the flight attendant seat where applicable;
 - C. the location and use of life preserver; and
 - D. the person's responsibilities and actions during an emergency.
- (b) a Cabin Safety Inspector carrying out an in-flight cabin inspection, may occupy an available flight attendant seat only when:
 - (i) an inaccurate load forecast for a multi-sector flight results in the displacement of the Inspector by a revenue passenger or a deadheading crew member;
 - (ii) in extenuating circumstances when the completion of the in-flight cabin inspection is mandatory and alternate seating is not available; or
 - (iii) the Inspector has been briefed on:
 - A. the operation and use of the flight attendant seat and restraint system;
 - B. the location and use of the oxygen system at the flight attendant seat where applicable;
 - C. the location and use of life preserver; and
 - D. the person's responsibilities and actions during an emergency.
- (c) any other person may occupy a flight attendant seat if the following conditions prevail:



- (i) a declared emergency exists;
- (ii) the person is an able-bodied person displaced from a passenger seat to a flight attendant seat to enhance evacuation management; and
- (iii) the person is briefed by a qualified crew member regarding his/her responsibilities and actions.

s705.42 Carry-on Baggage

The objective of the carry-on baggage control program shall be to prevent the boarding of carry-on baggage which will exceed the weight, size, shape, and total volume limitations of the approved stowage areas of the airplane. The approved carry-on baggage control program shall:

- (a) identify who is responsible for the acceptance or refusal of carry-on baggage;
- (b) identify and publicize the criteria that will be used for the acceptance or refusal of carry-on baggage;
- (c) identify the procedures that will be used in acceptance or refusal of carry-on baggage;
- (d) identify the locations and under what conditions the screening will take place;
- (e) include the training for all involved employees and agents;
- (f) be published in the company operations manual and flight attendant manual as well as any other appropriate location; and
- (g) contain at least the following elements:
 - (i) at least one carry-on baggage control point shall be established;
 - (ii) the control point shall be located outside the airplane;
 - (iii) each article of carry-on baggage shall be assessed by an employee of the air operator prior to reaching the airplane;
 - (iv) the air operator shall establish the maximum dimensions of articles or combination of articles that can be safely stowed on board the flight;
 - (v) the air operator shall establish the maximum number of articles or combinations of articles that can be carried on board an airplane per passenger for the flight. This allowance shall include duty free articles;
 - (vi) the procedures and locations for stowage of crew baggage;
 - (vii) the means by which passengers will be informed of specific carry-on baggage requirements or limitations for the flight;
 - (viii) the procedures for acceptance of stand-by passengers carry-on baggage and carry-on baggage from connecting flights of differing airplane sizes;
 - (ix) the procedures for handling unusual or fragile items including extremely delicate scientific instruments, human organs for transplant, articles which exceed the maximum dimensions, passenger mobility aids, or medical equipment; and
 - (x) the procedures for the proper stowage of carry-on baggage on board the airplane.

s705.43 Briefing of Passengers

(1) Standard Safety Briefing

The standard safety briefing shall consist of an oral briefing provided by a crew member or by audio or audio-visual means in both official languages which includes the following information as applicable to the airplane, equipment, and operation:

- (a) prior to take-off
 - (i) when, where, why and how carry-on baggage is required to be stowed;
 - (ii) the fastening, unfastening, adjusting and general use of safety belts or safety harnesses;
 - (iii) when seat backs must be secured in the upright position and chair tables must be stowed;

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- (iv) the location of emergency exits, and for persons seated next to that exit, how that exit operates;
- (v) the Floor Proximity Emergency Escape Path lighting system;
- (vi) the location, purpose of, and advisability of reading the safety features card;
- (vii) the regulatory requirement to obey crew instructions regarding safety belts and no smoking or Fasten Seat Belt signs and No Smoking signs and the location of these signs;
- (viii) where flight attendants are not required, the location of any emergency equipment the passenger may have a need for in an emergency situation such as the ELT, fire extinguisher, survival equipment (including the means to access if in a locked compartment), first aid kits, and life rafts;
- (ix) the use of passenger operated portable electronic devices;
- (x) the location, and operation of the fixed passenger oxygen system, including the location and presentation of the masks; the actions to be performed by the passenger in order to obtain the mask, activate the flow of oxygen and correctly don and secure the mask. This will include a demonstration of their location, method of donning including the use of elastic band, and operation, and instruction on the priority for persons assisting others. This briefing may be completed after take-off but prior to reaching 25,000 feet; and
- (xi) the location, and use of life preservers, including how to remove from stowage/packaging and a demonstration of their location, method of donning and inflation, and when to inflate life preservers. This briefing may be completed after take-off prior to the over water portion of the flight;
- (b) after take-off
 - (i) that smoking is prohibited; and
 - (ii) the advisability of using safety-belts or safety harnesses during flight;
- (c) in-flight when the Fasten Seat Belt Sign has been Turned on for Reasons of Turbulence
 - (i) when the use of seat belts is required; and
 - (ii) when the level of turbulence is anticipated to exceed light, the requirement to stow carry-on baggage;
- (d) prior to landing
 - (i) carry on baggage stowage requirements;
 - (ii) correct seat back and chair table positioning;
 - (iii) on flights scheduled for four hours duration or more, the location of emergency exits; and
 - (iv) the seat belt requirement;
- (e) prior to passenger disembarkment, the no smoking requirement, the safest direction and most hazard-free route for passenger movement away from the airplane following disembarkment; and any dangers associated with the airplane type such as pitot tube locations, propellers, or engine intakes.

The safety message of the briefing may not be diluted by the inclusion of any service information or advertising that would affect the integrity of the safety briefing.

(2) Individual Safety Briefing

The individual safety briefing shall include:

- (a) any information contained in the standard safety briefing and the safety features card that the passenger would not be able to receive during the normal conduct of that safety briefing; and
- (b) additional information applicable to the needs of that person as follows:
 (i) the most appropriate brace position for that passenger in consideration of his/her condition, injury, stature, and/or seat orientation and pitch;

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- (ii) the location to place any service animal that accompanies the passenger;
- (iii) for a mobility restricted passenger who needs assistance in moving expeditiously to an exit during an emergency:
 - A. a determination of what assistance the person would require to get to an exit;
 - B. the route to the most appropriate exit;
 - C. the most appropriate time to begin moving to that exit; and
 - D. a determination of the most appropriate manner of assisting the passenger;
- (iv) for a visually impaired person:
 - A. detailed information of and facilitating a tactile familiarization with the equipment that he/she may be required to use;
 - B. advising the person where to stow his/her cane if applicable;
 - C. the number of rows of seats between his/her seat and his/her closest exit and alternate exit;
 - D. an explanation of the features of the exits; and
 - E. if requested, a tactile familiarization of the exit;
- (v) for a comprehension restricted person: while using the safety features card, pointing out the emergency exits and alternate exits to use, and any equipment that he/she may be required to use;
- (vi) for persons with a hearing impairment:
 - A. while using the safety features card, point out the emergency exits and alternate exits to use, and any other equipment that the person may be required to use;
 - B. communicating detail information by pointing, face-to-face communication permitting speech reading, pen and paper, through an interpreter or through their attendant;

(vii) for a passenger who is responsible for another person on board, information pertinent to the needs of the other person as applicable:

- A. in the case of an infant
 - seat belt instructions;
 - > method of holding infant for take-off and landing;
 - > instructions pertaining to the use of a child restraint system;
 - > oxygen mask donning instructions;
 - recommended brace position; and
 - ▶ location and use of life preservers, as required.
- B. in the case of any other person
 - oxygen mask donning instructions;
 - > instructions pertaining to the use of a child restraint system; and
 - evacuation responsibilities;
- (viii) for an unaccompanied minor, instructions to pay close attention to the normal safety briefing and to follow all instructions. A passenger that has been provided with an individual safety briefing need not be re-briefed following a change in crew if the crew member that provided the individual safety briefing has advised a member of the new crew of the contents of that briefing including any information respecting the special needs of that passenger. A passenger may decline an individual safety briefing.
- (3) Passenger Preparation for Emergency Landing

The emergency briefing provided in the event of an emergency where time and circumstances permit shall consist of instructions pertaining to:

- (a) safety belts/safety harnesses;
- (b) seat backs and chair tables;
- (c) carry-on baggage;
- (d) safety features cards;
- (e) brace position (how to brace, when to assume position, how long to remain);



- (f) if applicable, life preservers; and
- (g) location of exits.

s705.44 Safety Features Card

The safety features card shall contain the following information as applicable to the airplane and equipment carried:

- (a) general safety information including:
 - (i) smoking is prohibited on board the airplane;
 - (ii) each type of safety belt or safety harness installed for passenger use, including when to use, and how to fasten, tighten and release;
 - (iii) when and where carry on baggage must be stowed for take-off and landing; and any other related requirements and restrictions pertinent to that particular airplane; and
 - (iv) correct positioning of seat backs and chair tables for take-off and landing;
- (b) emergency procedures and equipment including:
 - (i) fixed passenger oxygen system showing:
 - A. mask location and presentation; the actions to be performed by the seated passenger in order to obtain the mask, activate the flow of oxygen and correctly don and secure the mask; and
 - B. priority for persons assisting others with oxygen;
 - (ii) for airplanes where flight attendants are not required:
 - A. location of first aid kits;
 - B. location of fire extinguishers that would be accessible to the passengers;
 - C. location of Emergency Locator Transmitters; and
 - D. location of survival equipment, and if the stowage compartment is locked, the means of access or location of the key;
 - (iii) passenger brace position for impact, as appropriate for each type of seat and restraint system installed for passenger use; including the brace position for an adult holding an infant;
 - (iv) the location, operation and method of using each emergency exit type on the airplane, including identification of those emergency exits known to be rendered unusable in a ditching or because of the airplane configuration such as a combi configuration;
 - (v) the safest direction and most hazard-free escape route for passenger movement away from the airplane following evacuation;
 - (vi) the attitude of the airplane while floating;
 - (vii) location of life preservers and correct procedures for removal from stowage/packaging; donning and use of the life jacket for adult, child and infant users including when to inflate;
 - (viii) location and use of life rafts;
 - (ix) location, removal and use of flotation devices; and
 - (x) the form, function, color and location of any Floor Proximity Emergency Escape Path lighting system that is installed.
- (c) the safety features card shall bear the name of the air operator and the airplane type and shall contain only safety information.
- (d) the safety information provided by the card shall:
 - (i) be accurate for the airplane type and configuration in which it is carried and in respect of the equipment carried;
 - (ii) be presented with clear separation between each instructional procedure. All actions required to complete a multi-action procedure to be presented in correct sequence and the sequence of actions to be clearly identified; and
 - (iii) be depicted in a clear and distinct manner.



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s705.45 to s705.53 Reserved



DIVISION IV - AIRPLANE PERFORMANCE OPERATING LIMITATIONS

s705.54 Exceptions

The standards for operating an airplane without fully complying with Sections 705.55 through 705.61 of the Lebanese Aviation Regulations are as follows:

(1) General Requirements

(a) operations using other than Approved Performance Data - Contaminated Runway

The standard for operating an aircraft to or from a contaminated runway, where the operator elects to use performance data from a source other than the Airplane Flight Manual is as follows:

- (i) the airplane shall be operated in accordance with a contaminated runway operations supplement to the Flight Manual that has been prepared or approved by the aircraft manufacturer;
- (ii) take-off weight limitations may be based on an engine-out condition using a 15-foot screen height, provided the area to be used for first segment climb contains no obstacles taller than 15 feet;
- (iii) where the manufacturer permits, stopping distance calculations may include credit for reverse thrust on the operative engine;
- (iv) operation at reduced thrust settings shall not be permitted, and V_{mc} shall be based on full-rated thrust;
- (v) the Company Operations Manual shall set out procedures for operations using contaminated runways; and
- (vi) pilot and, where applicable, dispatcher ground training shall address contaminated runway operations.
- (b) operations using other than Approved Performance Data Reciprocating Engined Airplanes in Cargo-only Operations

The standard for operating a reciprocating engined airplane during cargo-only operations from or to unprepared surfaces, when such operations are not specifically addressed in the Airplane Flight Manual is as follows:

The air operator's Company Operations Manual shall set out the program for operations involving unprepared surfaces. The program shall include:

- (i) pilot-in-command training, checking and experience requirements:
 - A. at least 100 hours on type;
 - B. completed a course of ground and flight training covering topics such as takeoff and landing surface characteristics, obstacle assessment and interpretation of pertinent airplane data;
 - C. completed at least 25 hours of line indoctrination involving unprepared surface operations; and
 - D. passed a line check covering unprepared surface operations;
- (ii) procedures for company operational approval for unprepared surface operations; and
- (iii) procedures for assessing and operating from/to unprepared surfaces and unfamiliar approach and departure routes.

(2) Take-off Weight Limitations - Accelerate-Stop Distance

The standard for operating a reciprocating engined airplane where the Accelerate-Stop Distance Required exceeds the Accelerate-Stop Distance Available requires the air operator to prevent more than 9 passenger seats from being occupied. (3) Net Take-off Flight Path - Visual Obstacle Avoidance

The standard for determining Net Take-off Flight Path for a reciprocating engined airplane when visual obstacle avoidance is possible is as follows:

- (a) obstacle assessment
 - (i) the air operator shall obtain the best available data concerning obstacles in the proposed take-off path. Transient obstacles (such as construction equipment or moored watercraft, etc.) shall be considered when they are estimated to lie within 300 feet of the centerline of the proposed takeoff path; and
 - (ii) where the precise height, bearing and distance of an object is not known (such as objects depicted on a topographical map), the air operator shall use a reasonable estimate for performance calculations. Calculations shall clearly indicate where estimated information is used;
- (b) departure planning
 - (i) the Operations Manager or his/her delegate shall establish a company engine-out departure plan using procedures set out in the Company Operations Manual, and including at least the following:
 - A. obstacle assessment;
 - B. airplane performance, including turn radii; and
 - C. visual reference points to be used during the departure route;

Information Note: In all cases the air operator shall retain the departure plan for audit purposes.

(ii) prior to commencing a take-off, the pilot-in-command shall, in consideration of the current winds, density altitude and airplane weight, satisfy himself or herself that the departure plan to be followed in the event of an engine failure on take-off avoids all obstacles in the departure path by either 35 feet vertically or 300 feet horizontally.

s705.55 to s705.66 Reserved



DIVISION V - AIRPLANE EQUIPMENT REQUIREMENTS

s705.67 to s705.88 Reserved



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DIVISION VI - EMERGENCY EQUIPMENT

s705.89 Reserved

s705.90 First Aid Kit

The content of the first aid kits required by Section 705.90 of the Lebanese Aviation Regulations are the supplies and equipment set out below:

ITEMS	QUANTITY	
1. Adhesive bandage compresses, 1 inch	16	
2. Antiseptic swabs	20	
3. Ammonia inhalants	10	
4. Bandage compresses, 4 inch	8	
5. Triangular bandage compresses, 40 inch	5	
6. Arm splint, noninflatable	1	
7. Leg splint, noninflatable	1	
8. Roller bandage, 4 inch	4	
9. Adhesive tape, 1-inch standard roll	2	
10. Bandage scissors	1	
NOTE: Arm and leg splints which do not fit within a first-aid kit may be stowed in a readily accessible location that is as near as practicable to the kit.		



s705.91 Emergency Medical Kit

For airplanes with more than one hundred (100) passenger seats, an emergency medical kit must be carried and shall contain as a minimum, the following:

	ITEMS	QUANTITY
1.	Sphygmomanometer	1
2.	Stethoscope	1
3.	Airways, orogharyngeal (3 sizes) : 1 pediatric, 1 small adult, 1 large adult	3
4.	Self-inflating manual resuscitation device with 3 masks (1 pediatric, 1 small adult, 1 large adult)	1:3 masks
5.	CPR mask (3 sizes) 1 pediatric, 1 small adult, 1 large adult	3
6.	IV admin Tubing w/ 2 Y connectors	1 set
7.	Alcohol sponges	2
8.	Adhesive tape, 1-inch standard roll adhesive	1
9.	Tape scissors	1 pair
10.	Tourniquet	1
11.	Saline solution, 500 cc	1
12.	Protective nonpermeable gloves or equivalent	1 pair
13.	Needles (2-18 ga., 2-20 ga., 2-22 ga., or sizes necessary to administer required medications)	6
14.	Syriges (1-5 cc, 2-10 cc, or sizes necessary to administer required medications)	4
15.	Analgesic, non-narcotic, tablets, 325 mg.	4
16.	Antihistamine tablets, 25 mg.	4
17.	Antihistamine injectable, 50 mg. (single dose ampule or equivalent	2
18.	Atropine, 0.5 mg., 5 cc (single dose ampule or equivalent)	2
19.	Aspirin tablets, 325 mg.	4
20.	Brochodilator, inhaled (metered dose inhaler or equivalent)	1
21.	Dextrose, 50%/50 cc injectable, (single dose ampule or equivalent)	1
22.	Epinephrine 1:1,000, 1 cc, injectable (single dose ampule or equivalent)	2
23.	Epinephrine 1:10,000, 2 cc, injectable (single dose ampule or equivalent)	
24.	Lidocaine, 5 cc, 20 mg/ml, injectable (single dose ampule or equivalent)	2
25.	Nitroglycerin tablets, 0.4 mg.	10
26.	Basic instructions for use of the drugs in the kit	1

s705.92 to s705.94 Reserved

s705.95 Survival Equipment

(1) Survival Equipment - Flights Over Land

For flights over land the following standard shall be met:

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- (a) the company operations manual shall show how compliance with Part VII, Subpart 5, Division VIII of the Lebanese Aviation Regulations is to be achieved;
- (b) a list of survival equipment shall be carried on board with information on how to use it;
- (c) a survival manual appropriate for the season and climate; and
- (d) crew member training in accordance with Subsection Part VII, Subpart 5, Division VIII of the Lebanese Aviation Regulations.
- (2) Survival Equipment Flights Over Water

Where life rafts are required to be carried in accordance with Section 602.63 of the Lebanese Aviation Regulations, they shall be equipped with an attached survival kit containing at least the following:

- (a) a pyrotechnic signaling device;
- (b) a radar reflector;
- (c) a life raft repair kit;
- (d) a bailing bucket and sponge;
- (e) a signaling mirror;
- (f) a whistle;
- (g) a raft knife;
- (h) an inflation pump;
- (i) dye marker;
- (j) a waterproof flashlight;
- (k) a two day supply of water, calculated using the overload capacity of the raft, consisting of one pint of water per day for each person or a means of desalting or distilling salt water sufficient to provide an equivalent amount;
- (l) a fishing kit;
- (m) a book on sea survival; and
- (n) a first aid kit containing antiseptic swabs, burn dressing compresses, bandages and antimotion sickness pills.

s705.96 to s705.102 Reserved



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DIVISION VII - PERSONNEL REQUIREMENTS

s705.103 Reserved

s705.104 Cabin Attendant Requirements

(1) A flight may be dispatched where accident or sickness occurs enroute and results in one less qualified flight attendant for a flight requiring two or more flight attendants if the following standard is complied with:

- (a) the flight is not departing a location where qualified flight attendant employees are stationed;
- (b) the pilot-in-command authorizes the assigning of a responsible air operator employee to an approved flight attendant take-off and landing station until that flight reaches the nearest point where qualified flight attendants are stationed;
- (c) prior to flight, the assigned employee is briefed under supervision and to the satisfaction of the pilot-in-command, on the operation of emergency exits and emergency procedures, including assigned take-off and landing stations; and
- (d) each occurrence is recorded and retained in a company file for two years.

(2) An airplane that has met the emergency evacuation demonstration requirements of the LARs, using no more than one flight attendant for the compliance test and has been approved by Directorate General of Civil Aviation (DGCA) - Civil Aviation Airworthiness, may be operated with one flight attendant provided:

- (a) the airplane is configured for 50 or less passenger seats;
- (b) the airplane has been type approved to FAR 25, Amendment 25-51 or later;
- (c) the public address system and the crew interphone system at the approved flight attendant take-off and landing station referenced in (e) is serviceable;
- (d) emergency and normal procedures in the flight attendant manual clearly reflect the differences when one flight attendant is carried and when more than one flight attendant is carried; and
- (e) the flight attendant is assigned to occupy the approved flight attendant take-off and landing station located near a floor level exit.

s705.105 to s705.123 Reserved



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DIVISION VIII - TRAINING

s705.124 to s705.153 Training

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DIVISION IX – CREWMEMBER QUALIFICATIONS

s705.154 to s705.175 Crewmember Qualifications

See Appendix I to this Standard



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DIVISION X - MANUALS

s705.176 Reserved

s705.177 Contents.

Each manual shall have the date of the last revision and revision number on each revised page. The manual must include:

- (a) the name of each management person who is authorized to act for the certificate holder, the person's assigned area of responsibility, and the person's duties, responsibilities, and authority;
- (b) a chart of the management organization;
- (c) procedures for ensuring compliance with airplane weight and balance limitations;
- (d) copies of the certificate holder's operations specifications or appropriate extracted information, including area of operations authorized, category and class of airplane authorized, crew complements, and types of operations authorized;
- (e) procedures for complying with accident notification requirements;
- (f) procedures for ensuring that the pilot in command knows that required airworthiness inspections have been made and that the airplane has been approved for return to service in compliance with applicable maintenance requirements;
- (g) procedures for reporting and recording mechanical irregularities that come to the attention of the pilot in command before, during, and after completion of a flight;
- (h) procedures to be followed by the pilot in command for determining that mechanical irregularities or defects reported for previous flights have been corrected or that correction has been deferred;
- (i) procedures to be followed by the pilot in command to obtain maintenance, preventive maintenance, and servicing of the airplane at a place where previous arrangements have not been made by the operator, when the pilot is authorized to so act for the operator;
- (j) procedures for the release for, or continuation of, flight if any item of equipment required for the particular type of operation becomes inoperative or unserviceable enroute;
- (k) procedures for refueling airplanes, eliminating fuel contamination, protecting from fire (including electrostatic protection), and supervising and protecting passengers during refueling;
- (l) procedures to be followed by the pilot in command in the briefing under Section 705.31;
- (m) description of operational control system including:
 - (i) flight authorization and flight preparation procedures;
 - (ii) preparation of operational flight plan and other flight documents;
 - (iii) procedures to ensure the flight crew are advised, prior to dispatch, of any airplane defects that have been deferred, (by Minimum Equipment List or any other means);
 - (iv) flight watch, flight following and communication requirements;
 - (v) dissemination procedures for operational information and acknowledgement;
 - (vi) fuel and oil requirements;
 - (vii) weight and balance system;
 - (viii) accident/incident reporting procedures and procedures for reporting overdue aircraft;
 - (ix) use of checklists;
 - (x) maintenance discrepancy reporting and requirements of completion of flight; and
 - (xi) retention period of operational flight plans;
- (n) flight locating procedures, when applicable;
- (o) procedures for ensuring compliance with emergency procedures, including a list of the functions assigned each category of required crewmembers in connection with an emergency and emergency evacuation;

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- (p) the approved airplane inspection program;
- (q) procedures and instructions to enable personnel to recognize hazardous materials, and if these materials are to be carried, stored, or handled, procedures and instructions for:
 - (i) accepting shipment of hazardous material to assure proper packaging, marking, labeling, shipping documents, compatibility of articles, and instructions on their loading, storage, and handling;
 - (ii) notification and reporting hazardous material incidents; and
 - (iii) notification of the pilot in command when there are hazardous materials aboard;
- (p) procedures for the evacuation of persons who may need the assistance of another person to move expeditiously to an exit if an emergency occurs;
- (q) the identity of each person who will administer tests required by this part, including the designation of the tests authorized to be given by the person; and
- (r) other procedures and policy instructions regarding the certificate holder's operations that are issued by the certificate holder.

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s705.179 Aircraft Operating Manual.

(1) Each certificate holder shall keep a current approved Airplane Flight Manual or approved equivalent for each type airplane that it operates.

(2) Each certificate holder shall carry the approved Airplane Flight Manual or the approved equivalent aboard each airplane it operates. A certificate holder may elect to carry a combination of the manuals. If it so elects, the certificate holder may revise the operating procedures sections and modify the presentation of performance from the applicable Airplane Flight Manual if the revised operating procedures and modified performance data presentation are approved by the Minister.

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APPENDIX I

to Commercial Air Services Standards

Division VIII – Training and Division IX - Crewmember Qualifications \$705.124 to \$705.185

Division I - Scope, Concepts, and Definitions

1. TRAINING PROGRAM OVERVIEW.

This standard contains the procedures to be used by Lebanese Aviation Regulations (LARs), Part VII, Subpart 5 operators and Directorate General of Civil Aviation (DGCA) personnel responsible for the evaluation, approval, and surveillance of Lebanese Aviation Regulations (LARs) Part VII, Subpart 5 flightcrew training programs and crewmember checking.

- (a) an applicant for a LARs Part VII, Subpart 5 operating certificate is required to develop a training program. An existing operator may need to revise its training program when purchasing new equipment, operating in a new environment, obtaining new authorizations, or when new DGCA requirements are specified. These new or revised training requirements must be incorporated into an operator's training program. Each Part VII, Subpart 5 certificate holder must obtain DGCA approval of curriculums used for training flight crewmembers, instructors, check airmen, and flight dispatchers. The operator is responsible for ensuring that its training program is complete, current, and in compliance with regulations. (Unless otherwise specified in this Standard, the term "operator" applies equally to an applicant for a certificate holder).
- (b) it is the policy of the DGCA to encourage operators to be innovative and creative when developing training methods and techniques. DGCA Operations Inspectors are responsible for ensuring that regulatory requirements are met and that the operator's crewmembers and dispatchers can competently perform their assigned duties before they are authorized to enter revenue service. The Chief of Flight Safety is empowered by the DGCA to use discretion, allow latitude, and to exercise judgment concerning the details of training program approvals and training techniques that operators use.

2. DEFINITIONS.

The following terms are used throughout this Standard and are defined as follows:

- (a) <u>Training Program</u>: A system of instruction which includes curriculums, facilities, instructors, check airmen, courseware, instructional delivery methods, and testing and checking procedures. This system must satisfy the training program requirements of LARs Part VII, Subpart 5 and ensure that each crewmember and dispatcher remains adequately trained for each aircraft, duty position, and kind of operation in which the person serves.
- (b) <u>Modular Training</u>: The concept of program development in which logical subdivisions of training programs are developed, reviewed, approved, and modified as individual units. Curriculum segments and modules may be used in multiple curriculums. The modular approach allows great flexibility in program development and reduces the administrative workload on both operators and instructors in the development and approval of these programs.
- (c) <u>Categories of Training</u>: The classification of instructional programs by the regulatory requirement the training fulfills. Categories of training consist of one or more curriculums.

The categories of training are initial new hire, initial equipment, transition, upgrade, recurrent, and requalification.

- (d) <u>Curriculum</u>: A complete training agenda specific to an aircraft type, a crewmember or dispatcher duty position, and a category of training. An example is an "initial new hire, Boeing 727 flight engineer curriculum." Each curriculum consists of several curriculum segments.
- (e) <u>Curriculum Segment</u>: The largest subdivision of a curriculum containing broadly related training subjects and activities based on regulatory requirements. Curriculum segments are logical subdivisions of a curriculum which can be separately evaluated and individually approved. Examples are a "ground training" segment and a "flight training" segment. Each curriculum segment consists of one or more training modules.
- (f) <u>Training Module</u>: A subpart of a curriculum segment which constitutes a logical, selfcontained unit. A module contains elements or events which relate to a specific subject. For example, a ground training curriculum segment could logically be divided into modules pertaining to aircraft systems (such as hydraulic, pneumatic, and electrical). As another example, a flight training curriculum segment is normally divided into flight periods, each of which is a separate module. A training module includes the outline, appropriate courseware, and the instructional delivery methods. It is usually, but not necessarily, completed in a single training session.
- (g) <u>Element</u>: An integral part of a training, checking, or qualification module that is not task oriented but subject oriented. For example, an "electrical power" ground training module may include such elements as a DC power system, an AC power system, and circuit protection.
- (h) <u>Event</u>: An integral part of a training, checking, or qualification module which is task oriented and requires the use of a specific procedure or procedures. A training event provides a student an opportunity for instruction, demonstration, and/or practice using specific procedures. A checking or qualification event provides an evaluator the opportunity to evaluate a student's ability to correctly accomplish a specific task without instruction or supervision.
- (i) <u>Checking and Qualification Module</u>: An integral part of a qualification curriculum segment which contains checking and qualification requirements specified under LARs Part VII, Subpart 5. For example, a qualification curriculum segment may contain a proficiency check module, a LOFT module and an operating experience (qualification) module.
- (j) <u>Courseware</u>: Instructional material developed for each curriculum. This is information in lesson plans, instructor guides, computer software programs, audiovisual programs, workbooks, aircraft operating manuals, and handouts. Courseware must accurately reflect curriculum requirements, be effectively organized, and properly integrate with instructional delivery methods.
- (k) <u>Instructional Delivery Methods</u>: Methodology for conveying information to a student. For example, this may include lectures, demonstrations, audiovisual presentations, programmed and directed self study workshops, and drills. Training devices, simulators, aircraft, and computer work stations are also considered instructional delivery methods.
- (l) <u>Testing and Checking</u>: Methods for evaluating students as they demonstrate a required level of knowledge in a subject, and when appropriate apply the knowledge and skills learned in instructional situations to practical situations.
- (m) <u>Training Hours</u>: The total amount of time necessary to complete the training required by a curriculum segment. This must provide an opportunity for instruction, demonstration, practice, and testing, as appropriate. This time must be specified in hours on the curriculum segment outline. A training hour includes time for normal breaks, usually 10 minutes each hour. Lunch breaks are not included.
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- (n) <u>Programmed Hours</u>: The hours specified in LARs Part VII, Subpart 5 for certain categories of training (initial new hire, initial equipment, and recurrent). Programmed hours are specified in curriculum segment outlines in terms of training hours.
- (o) <u>Duty Position</u>: The functional or operating position of a crewmember or flight dispatcher. For LARs Part VII, Subpart 5 operations, duty positions are pilot in command (PIC), second in command (SIC), flight engineer (FE), cabin attendant (FA), flight navigator (NAV), and flight dispatcher (FD).
- (p) <u>Training/Checking Month (Base Month)</u>: The calendar month during which a crewmember or flight dispatcher is due to receive required recurrent training, a required flight check, a required competency check, or required operating familiarization. Calendar month means the first day through the last day of a particular month.
- (q) <u>Eligibility Period</u>: Three calendar months (the calendar month before the "training/checking month," the "training/checking month," and the calendar month after the "training/checking" month). During this period a crewmember or flight dispatcher must receive recurrent training, a flight check, or a competency check to remain in a qualified status. Training or checking completed during the eligibility period is considered to be completed during the "training/checking month" and is due in the "training/checking month" in the following year.
- (r) <u>Initial Approval</u>: A DGCA letter which conditionally authorizes an operator to begin instruction to qualify personnel under a specific curriculum or curriculum segment pending an evaluation of training effectiveness. An initial approval letter must specify an expiration date for the conditional authorization.
- (s) <u>Final Approval</u>: A DGCA letter, without an expiration date, which authorizes an operator to continue training in accordance with a specific curriculum or curriculum segment.

3 AIRCRAFT FAMILIES.

There are five basic families of aircraft used in LARs Part VII operations. Aircraft are grouped into families according to their performance and flight characteristics to simplify development of training programs. The ground and flight training requirements for crewmembers are significantly different for each family of aircraft. Within each aircraft family, however, the ground and flight training requirements are similar, even though individual aircraft may be quite different in construction and appearance. The five families of aircraft are as follows:

- Transport category and commuter category airplanes
- Multiengine, turbopropeller airplanes
- Multiengine, general purpose airplanes
- Single engine, general purpose airplanes
- Helicopters
- (a) <u>Transport Category and Commuter Category Airplane Family</u>. The transport category and commuter category airplane family includes all airplanes certified under U.S. FAR Part 25 or equivalent (and predecessor rules such as CAR 4, 4A and 4B and SR 422, 422A, and 422B) and those few turbojet airplanes certified under U.S. FAR Part 23 or equivalent. This family of airplanes also includes those few large airplanes of 30 or more passenger seats certified under Aero Bulletin 7A (DC-3, L-18, C-46) known as large, nontransport airplanes when operated in revenue service. This aircraft family also includes those airplanes certified under U.S. FAR Part 23 in the commuter category.
- (b) <u>Multiengine, and Turbopropeller, Airplane Family</u>. This aircraft family consists of turbopropeller airplanes and those airplanes certified under U.S. FAR Part 23 or equivalent in the normal category. In accordance with U.S. FAR 135.293(b), certain airplanes of particular make and model have been determined to be equivalent to other models in a series. Airplanes



of an equivalent series may be considered a single type for purposes of training and checking (Figure 1).

FIGURE 1.
Equivalent Series of the Multiengine,
and Turbopropeller Family

- * Beechcraft Turbopropeller: B65-A90, 90, 99, 100, and 200
- * Cessna Turbopropeller of the 400 series
- * Piper Cheyenne Series
- * Rockwell Commander Turbopropeller: 680T, 690V, 680W, and 690
- * Fairchild SA 226-227 Series
- (c) <u>Multiengine, General Purpose Airplane Family</u>. This aircraft family includes all multiengine airplanes certified for operations with 9 or less passenger seats and not more than 12,500 lb [5,700 k] maximum takeoff weight (MTOW). It does not include any airplanes certified in the transport or commuter category regardless of the MTOW. Crewmembers operating airplanes in this family must have similar knowledge, skills, and abilities to operate them under LARs Part VII, Subpart 5. For example, a pilot operating an airplane within this family may require diversified training in short and soft field landings, but is not required to have training in V_1 cuts. This type of operation may require specific training, such as seaplane operations (Figure 2).



- (d) <u>Single Engine, General Purpose Airplane Family</u>. This aircraft family includes all single engine airplanes of not more than 12,500 lb [5,700 k] MTOW other than turbine powered airplanes. Crewmembers operating airplanes in this family must have similar knowledge, skills, and abilities to operate them under LARs Part VII, Subpart 5. For example, pilots operating single engine airplanes are required to have training that applies to all airplanes in this group, such as forced landing procedures. The type of operation may require specific training, such as seaplane or skiplane training.
- (e) <u>Helicopter Family</u>. This aircraft family includes all helicopters. Helicopter operations under LARs Part VII require similar knowledge, skills, and abilities. General training requirements for this family of aircraft include such events as autorotation and antitorque failure. The type of operation may require specific training in events such as high altitude landings or airborne radar approach (ARA) procedures.

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Information Note: There are other types of aircraft such as single engine turboprop which do not fit in the five families of aircraft. Each of these types of aircraft require separate training programs.

4. APPLICABILITY.

This Standard is applicable to operators conducting operations pursuant to LARs VII, Subpart 5 with aircraft that have a MCTOW of more than 19,000 lb [8,618 k] or authorized to carry 20 or more passengers.

5. TRAINING PROGRAMS.

(1) Some elements of a training program are depicted in figure 3 to show the relationship between the total training program and the categories of training, curriculums, curriculum segments, and training modules. The illustration in figure 3 is representative only and is intended to present a framework for the modular development of a training program. By using this "modular approach," the DGCA has various strategies available for the evaluation of training effectiveness and for the planning of long term surveillance. These strategies are discussed in Division II of this Standard.

(2) The illustration in figure 3 consists of five parts as follows:

- (a) Part A depicts representative components which, when combined, constitute an operator's overall training program. These components differ in that some must be specifically approved by the DGCA (for example, courseware and check airmen), while others are accepted as essential supporting elements (for example, facilities and equipment).
- (b) Part B illustrates the six categories of training that are recognized by the DGCA.
- (c) Part C is an example of a curriculum which is a complete agenda of training specific to an aircraft type and crewmember or dispatcher duty position. This example depicts a PIC B-727 transition training curriculum.
- (d) Part D is an example of a specific curriculum segment and shows that it consists of several training modules. This example is the flight training curriculum segment of the PIC B-727 transition training curriculum.
- (e) Part E is an example of a specific training module. In this case the module is simulator lesson number 4.





FIGURE 3. Schematic Depiction of Training Programs

6. CATEGORIES OF TRAINING

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There are six basic categories of training applicable to LARs Part VII, Subpart 5 operators. The primary factors which determine the appropriate category of training are the student's previous experience with the operator and previous duty position. Each category of training consists of one or more curriculums, each one of which is specific to an aircraft type and a duty position (for example: B-727 FE, B-727 SIC, and B-727 PIC). Training will be identified with and organized according to specific categories of training. When discussing training requirements, DGCA inspectors will be specific regarding the category of training being discussed and use the nomenclature described in this Standard. The DGCA will require operators to use this nomenclature when developing new training curriculums or revising existing training curriculums. Use of this common nomenclature improves standardization and mutual understanding. The six categories of training are briefly discussed in the following Subsections:

- (a) <u>Initial New Hire Training</u>. This training category is for personnel who have not had previous experience with the operator (newly hired personnel). It also applies, however, to personnel employed by the operator who have not previously held a crewmember or dispatcher duty position with that operator. Initial new hire training includes basic indoctrination training and training for a specific duty position and aircraft type. Except for a basic indoctrination curriculum segment, the regulatory requirements for "initial new hire" and "initial equipment" training are the same. Since initial new hire training is usually the employee's first exposure to specific company methods, systems, and procedures, it must be the most comprehensive of the six categories of training. For this reason, initial new hire training is a distinct separate category of training and will not be confused with initial equipment training. As defined by this Standard, initial equipment training is a separate category of training.
- (b) <u>Initial Equipment Training</u>. This category of training is for personnel who have been previously trained and qualified for a duty position by the operator (not new hires) and who are being reassigned for any of the following reasons:
 - (i) for LARs Part VII, Subpart 5 operations, the crewmember is being reassigned in one of the following circumstances:
 - A. reassignment is to any duty position on an airplane of a different group (Group I is reciprocating and turbopropeller powered and Group II is turbojet powered).
 - B. reassignment is to a different duty position on a different airplane type when the flight crewmember has not been previously trained and qualified by the operator for that duty position and airplane type.
 - (ii) for LARs Part VII, Subpart 5 operations, the crewmember is being reassigned in one of the following circumstances:
 - A. reassignment is to a different duty position on a different aircraft type and the crewmember has not been previously trained and qualified by the operator for that duty position and aircraft type.
 - B. reassignment is to an aircraft of a category or class for which the crewmember has not previously qualified with that operator.

(3) *Transition Training*. This category of training is for an employee who has been previously trained and qualified for a specific duty position by the operator and who is being assigned to the same duty position on a different aircraft type. For LARs Part VII, Subpart 5 operations, the different type aircraft must be in the same group. If it is not in the same group, initial equipment training is the applicable category of training.

(4) *Upgrade Training*. This category of training is for an employee who has been previously trained and qualified as either SIC or FE by the operator and is being assigned as either PIC or SIC, respectively, to the same aircraft type for which the employee was previously trained and qualified.

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(5) *Recurrent Training*. This category of training is for an employee who has been trained and qualified by the operator, who will continue to serve in the same duty position and aircraft type, and who must receive recurring training and/or checking within an appropriate eligibility period to maintain currency.

(6) *Requalification Training*. This category of training is for an employee who has been trained and qualified by the operator, but has become unqualified to serve in a particular duty position and/or aircraft due to not having received recurrent training and/or a required flight or competency check within the appropriate eligibility period. Requalification training is also applicable in the following situations:

- (a) PICs who are being reassigned as SICs on the same aircraft type when seat dependent training is required
- (b) PICs and SICs who are being reassigned as FEs on the same aircraft type, provided they were previously qualified as FEs on that aircraft type

(7) *Summary of Categories of Training*. The categories of training are summarized in general terms as follows:

- (a) all personnel not previously employed by the operator must complete initial new hire training.
- (b) all personnel must complete recurrent training for the duty position and aircraft type for which they are currently assigned within the appropriate eligibility period.
- (c) all personnel who have become unqualified for a duty position on an aircraft type with the operator must complete requalification training to reestablish qualification for that duty position and aircraft type.
- (d) all personnel who are being assigned by the operator to a different duty position and/or aircraft type must complete either initial equipment, transition, upgrade, or requalification training depending on the aircraft type and duty position for which they were previously qualified. Table 1 summarizes these categories of training for LARs Part VII, Subpart 5. This table indicates the appropriate category of training for normal crewmember progression or reassignment. It may not address certain situations. The guidance in this Division and the requirements of appropriate regulations must be followed when the tables do not address such situations.

TABLE 1. CATEGORIES OF TRAINING IN PART VII, SUBPART 5 OPERATIONS

ASSIGNED DUTY POSITION

	PIC 1A	PIC 1B	PIC 2A	PIC 2B	SIC 1A	SIC 1B	SIC 2A	SIC 2B	FE 1A	FE 1B	FE 2A	FE 2B	CA 1A	CA 1B	CA 2A	CA 2B	FD 1A	FD 1B	FD 2A	FD 2B
PIC 1A	R*	Т	Ι	Ι	R	Ι	Ι	Ι	R/I	Ι	Ι	Ι								
PIC 1B	Т	R*	Ι	Ι	Ι	R	Ι	Ι	Ι	R/I	Ι	Ι								
PIC 2A	Ι	Ι	R*	Т	Ι	Ι	R	Ι	Ι	Ι	R/I	Ι								
PIC 2B	Ι	Ι	Т	R*	Ι	Ι	Ι	R	Ι	Ι	Ι	R/I								
SIC 1A	U	Ι	Ι	Ι	R*	Т	Ι	Ι	R/I	Ι	Ι	Ι								
SIC 1B	Ι	U	Ι	Ι	Т	R*	Ι	Ι	Ι	R/I	Ι	Ι								
SIC 2A	Ι	Ι	U	Ι	Ι	Ι	R*	Ι	Ι	Ι	R/I	Ι								
SIC 2B	Ι	Ι	Ι	U	Ι	Ι	Т	R*	Ι	Ι	Ι	R/I								
FE 1A	Ι	Ι	Ι	Ι	U	Ι	Ι	Ι	R*	Т	Ι	Ι								
FE 1B	Ι	I	I	Ι	Ι	U	I	Ι	Т	R*	Ι	I								
FE 2A	Ι	Ι	Ι	Ι	Ι	Ι	U	Ι	Ι	Ι	R*	Т								
FE 2B	Ι	Ι	Ι	Ι	Ι	Ι	I	U	Ι	Ι	Т	R*								
CA 1A													R*	Т	Ι	Ι				
CA 1B													Т	R*	I	Ι				
CA 2A													I	I	R*	Т				
CA 2B													I	I	Т	R*				
FD 1A																	R*	Т	I	I
FD 1B																	Т	R*	I	I
FD 2A																	I	I	R*	Т
FD 2B																	I	I	Т	R*
	Required Categories of Training:I =Initial Equipment Training.T = Transition TrainingU = Upgrade TrainingR = Requalification Training R^* =Requalification Training if person has become unqualified. R/I =Requalification Training required if previously qualified for the duty position or Initial Equipment Training required if not previously qualified for the duty position.																			

TABLE KEY:

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PIC = Pilot-in-command

SIC = Second-in-command

- FE = Flight Engineer CA = Cabin Attendant
- FD = Flight dispatcher

- 1. = Group I (reciprocating or turbopropeller powered airplanes.
- 2. = Group II (turbojet powered airplanes).
- A. =A specific airplane type (different from B).
- B. = A specific airplane type (different from A).

EXAMPLES:

1. Current duty position is SIC on airplane type B, a Group II airplane, assigned as PIC on same airplane group and type. Upgrade training required.

2. Current duty position is SIC on airplane type B, a Group II airplane, assigned to same duty position (SIC) on airplane type A, also a Group II airplane. Transition training required.

8. APPLICABILITY OF TRAINING CATEGORIES.

Usually, operators will need to conduct training in all six categories of training. Recurrent training applies to all operators. Initial equipment training, transition training, upgrade training, and requalification training apply in most situations. However, transition training is not applicable for an operator who operates only one aircraft type. Initial new hire training applies to operators who train and qualify newly hired personnel or personnel who have not been previously qualified as a crewmember by that operator. Abbreviated curriculum segment outlines of initial new hire training may apply to merger or air carrier acquisition situations.

9. CURRICULUM DEVELOPMENT.

(1) Operators must develop one or more curriculums for each category, specific duty position, and aircraft type in which the operator conducts training.

(2) *Required Curriculums*. The operator is required to develop and maintain only those curriculums that will be used. For example, if an operator specifies that all newly hired pilots must be trained first as B-727 FEs, the appropriate curriculum for that category of training would be B-727 FE initial new hire training. The operator would not be required to develop any initial new hire pilot training curriculums for other aircraft or duty positions.

(3) *Types of Transport Category, and Turbine Airplanes*. An operator may consider each model of transport category, turbine powered airplane or a helicopter as a "type" when determining the need to construct a curriculum. Operators must provide differences training to qualify crewmembers in different models of aircraft considered the same "type" for this purpose.

(4) *Multiple Curriculums of a Single Category*. Operators may develop and have multiple curriculums approved for any single duty position and aircraft type. For example, an operator may have one initial new hire curriculum approved for pilots with minimum hours and without any previous revenue experience. A second curriculum could then be approved for pilots previously qualified in service in the type of aircraft for which training is being conducted. Operators that develop multiple curriculums must carefully specify the qualifications of students in each curriculum. Some acceptable means that operators may use include the following:

- (a) documentation such as training records from previous employers showing the extent and scope of previous training
- (b) validated pretesting

(5) Curriculum Outlines. Curriculum outlines are documents used by operators to specify the curriculum content. Outlines must contain at least the information specified in Division II, Subsection 5 of this Standard. This information is required so that the DGCA can determine whether the operator's curriculum meets regulatory requirements during phase three of the approval process (See Division II, Subsection 9 of this Standard). Curriculum outlines will contain enough detail so that lesson plans can later be constructed from them. Other information is not necessary, and the DGCA will discourage operators from including it. Detailed information will be placed in lesson plans, training manuals, and other documents maintained by the operator. This material is reviewed during phase four of the approval process (See Division II, Subsection 14 of this Standard).
(6) Completion Requirements. Each person required to train under a curriculum must complete that curriculum in its entirety. Each student must satisfactorily complete all curriculum segments prescribed by an approved training curriculum. When a person has completed the training and checking specified by a curriculum, that person is qualified to serve in a specific duty position on a specific aircraft type.



10. CURRICULUM SEGMENTS.

Curriculum segments which make up a curriculum depend upon the category of training and the duty position. The curriculum segments which must be included in each curriculum for each category of training are outlined in table 2. Each curriculum consists of specific curriculum segments. A curriculum segment consists of a group of broadly related training subjects and activities based on regulatory requirements. Curriculum segments are titled as follows:

- (a) basic indoctrination
- (b) aircraft ground training
- (c) emergency training
- (d) flight training
- (e) special curriculum segment
- (f) hazardous materials (carriage or noncarriage)
- (g) qualification segment

TABLE 2.
Categories of Training, Curriculums, and Curriculum Segments

		CATEGORIES OF TRAINING																										
Initial New Use											Tr	aining	for C	ewme	ember	s/Disp	atcher	s Prev	iously	Quali	fied b	y the (Operat	tor				
			1	Fraining				Initia T	l Equip Training	ment			Ti T	ansition raining	n		Upg Trai	rade ning	Recurrent Training					Requalification Training **				
											Curri	culum	s for S	pecifi	ic Dut	y Posi	itions a	and Ai	rcraft							0		
	Desis	PIC	SIC	FE	FA	FD	PIC	SIC	FE	FA	FD	PIC	SIC	FE	FA	FD	PIC	SIC	PIC	SIC	FE	FA	FD	PIC	SIC	FE	FA	FD
	Indoctrination	0	0	0	0	0																						
C	Aircraft Ground Training	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
U R	Emergency Training	о	0	0	0		0	0	0	0									0	0	0	0		о	0	0	0	
к I	Flight Training	о	0	0			0	0	0			0	0	0			0	0	0*	0*	0*			о	0	0		
U L	Differences Training (if applicable)	о	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	о	о	0	0	о
U M	Special Segment (if applicable)	This curriculum segment varies with the company's operational needs or authorizations (CAT II, ETOPS etc.)																										
	Qualification Segment							1				0	1													0		
S E	 Appropriate Flight Check 	о	0	0			0	0	0			0	0	0			0	0	0	0	0			о	0	0		
G M E N T	- Competency Check				0	0				0	0				0	0						0	0				0	о
	- Initial Operating Experience (IOE)	0	0	0	0		0	0	0	0		0	0	0			0	0										
S	- FAM Flight					0					0					0							0					0
	- Line Check	о					0					0					0		0					о				

NOTES: * A proficiency check may be substituted for the recurrent flight training curriculum segment. ** The curriculum segments for requalification training depends on the period of time the crewmember / dispatcher has been unqualified.

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11. TRAINING MODULE CONSTRUCTION (ELEMENTS OR EVENTS).

(1) Curriculum segments consist of training modules. Training modules are in turn constructed of elements or events arranged in a logical sequence. Curriculum segments and modules will be constructed so that instruction proceeds from the most basic concept and skill to the more advanced in a building block approach. When the phrase "training module" is used, it refers to the complete courseware and instructional delivery method used by the operator to convey the information required in the training module outline. The phrase "training module outline," as used in this Standard, refers to the outline of a module incorporated in a curriculum segment for submission to the DGCA for purposes of approval.

(2) Operators will present training modules to the DGCA in outline form for initial approval. The following are examples of training module outlines. These are only examples and are not intended to imply the only acceptable methods, sequence of instructional delivery, subject titles, or amount of detail.

TITLE OF TRAINING MODULE

ELEMENTS

WITHIN A

TRAINING

MODULE

Example of related "elements" in an aircraft ground training module outline:

Electrical System

- * Systems Overview
- * AC Power
- * DC Power
- * Standby Power
- * AMU Generator
- * External Power
- * Power Distribution
- * Circuit Protection
- * Controls and Indicators
- * Limitations
- * Normal Procedures
- * Abnormal and Emergency Procedures

Example of related "events" in a flight training module outline:



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(3) Operators must construct training module outlines with enough detail to ensure that the DGCA can identify that the essential features of the subject have been addressed and that regulatory requirements have been met. The training module outline will later serve as a foundation from which the operator will develop complete and usable courseware and select appropriate instructional delivery methods. The effectiveness of courseware and instructional delivery methods cannot be evaluated before instruction begins and must, therefore, be evaluated as a final step in the approval process. Excessive detail is neither necessary nor helpful to the DGCA during the initial approval process.

- (a) in the development of a training module, the operator may consider the students' previous experience and training. Previous experience considerations include past experience in Part VII, Subpart 5 operations; past experience with the operator's systems, methods and procedures, previous duty positions; and previous experience with an aircraft type.
- (b) once approved, training module outlines normally remain relatively fixed, requiring adjustment only when new elements are introduced. For example, existing training outlines require the addition of a Traffic Alert and Collision Avoidance System (TCAS) and operations modules with the introduction of TCAS.
- (c) one reason for excluding excessive detail from the training module outline is to allow the operator flexibility in adjusting courseware without time consuming and unnecessary reviews on the part of the DGCA. During the final approval process and beyond, the operator is free to make adjustments determined necessary on the basis of experience to courseware that does not add or delete elements or events from the outline. The DGCA may also find it necessary, on the basis of surveillance reports or other information, to require the operator to modify courseware and course outlines.

(4) Curriculum segments are composed of training modules. The scope and content of each training module depends upon the category of training and the curriculum in which the curriculum segment is to be incorporated. The number and content of modules for a particular curriculum segment may vary from one category of training to another. For example, aircraft ground training modules in the upgrade training category may not need to be as comprehensive as the aircraft ground training module determines the initial equipment category of training. The amount of detail in each module determines the time required to present the instructional material in a curriculum segment. The amount of detail also controls the development of courseware, such as lesson plans and the flight maneuvers and procedures documents.

(5) A single module may be used in more than one curriculum and in more than one category of training. For example, a module which specifies a review of emergency evacuation procedures for recurrent training could be the same for requalification training. The DGCA will, however, encourage operators to develop courseware which places emphasis on the particular category of training. For example, PIC upgrade training will emphasize duty position responsibilities. The emphasis in SIC upgrade training (FE to SIC), however, will be on piloting skills as well as on the requirements of the new duty position. Transition training will emphasize aircraft systems and the procedures and piloting skills needed to operate a different aircraft type. In many cases, operators may develop different sets of courseware from a single outline to cover differences in emphasis.

(6) Checking and qualification curriculum modules consist of those events required by regulation to act in revenue service without supervision.



DIVISION II

Training Approval Process

1. GENERAL.

(1) Training curriculum approvals follow the five phase general process for approval or acceptance described in LARs Part VI, Subpart II, General Operating and Flight Rules Standards, Appendix VII. The basic steps of this process must be followed. Each phase, however, may be adjusted to accommodate existing circumstances. Depending on the complexity of the operator's request and the availability of DGCA resources, the approval process may be accomplished in only a few days, or the process may last many months. The approval process applies to each operator requesting approval of a new curriculum or a revision to a currently approved curriculum. Inherent in the approval process is the DGCA's responsibility to deny approval of any training which does not meet regulatory requirements or which has been found deficient. Training curriculums which have been granted approval and later found either to be in conflict with regulatory requirements or to be ineffective, must be appropriately modified by the operator, or DGCA approval must be withdrawn. This Division establishes procedures for granting approval or withdrawing approval of all or part of a training curriculum. When appropriate, job aids have been developed to assist inspectors in the approval process of curriculum segments. These job aids are discussed in subsequent Divisions of this Standard.

(2) The training approval process discussed in this Division applies only to Part VII, Subpart 5 Operators.

2. OPERATIONS CONDUCTED UNDER BOTH PART VII, SUBPART 5 AND SUBPARTS 3 OR 5.

(1) There are only a few differences in the training required by Part VII, Subpart 5 and Subparts 3 or 4, however, generally Subpart 5 contains more stringent requirements. To maintain the requisite level of safety without unnecessary restrictions and redundant training, certain considerations may be given to operators using crewmembers in operations conducted under both Subparts 5 and 3 or 4. All regulatory requirements applicable to the operation in which the crewmember is engaged must be met. Training which meets the same requirements of Subpart 5, 4, and 3, however, does not have to be repeated. Training curriculums may be combined if the training given clearly meets all applicable regulatory requirements. For example, with aircraft of similar types, such as the SD360 and SD330, if applicable differences training is included in a combined curriculum, the Subpart 5 training on the SD360 meets the training requirements for the SD330. For most aircraft, however, a combined curriculum may not be possible due to differences in the training requirements between Subparts 5, 4 and 3.

(2) The DGCA recognizes that the airman and crewmember training, checking, and qualification requirements of Part VII, Subpart 5 will always meet or exceed the requirements of Subparts 3 and 4. This is consistent with the recognition that Subpart 5 affords the highest standards of safety in civil flight operations. Therefore, as a matter of safety policy, the DGCA will both permit and encourage compliance with Subpart 5 by operators who conduct Subpart 3 and 4 operations. It is DGCA policy that a training, checking, and qualification program submitted by Subparts 3 and 4 operators, which is found by the DGCA to be in compliance with Part VII, Subpart 5, will be considered as a program that exceeds the requirements of Part VII, Subparts 3 or 4 and will be approved by the DGCA for use by that operator. The DGCA is authorized to approve curriculum segments (including qualification curriculum segments which permit training to be substituted for checking), provided the operator adopts all the training, checking, and qualification requirements of Part VII, Subpart 5.

3. INITIATING THE APPROVAL PROCESS - PHASE ONE.

- (1) The training approval process can be initiated by either the operator or the DGCA as follows:
 - (a) <u>Operator Initiated</u>. The operator informs the DGCA that it is planning to establish a new training curriculum or to change an existing curriculum.
 - (b) <u>DGCA Initiated</u>. The DGCA informs an operator that revisions to its training program are required based on recently acquired information relative to training techniques, aviation technology, aircraft operational history, operator performance, or regulatory changes.

(2) When a proposal is initiated by the operator, one of the first steps the DGCA or Certification Project Manager (CPM) will take, is to obtain the following basic information:

- (a) type of operation
- (b) type of equipment to be operated
- (c) geographic areas of operation
- (d) proposed training schedules
- (e) proposed date of revenue operations
- (f) proposed contract training, if any
- (g) type of simulator to be used, if any
- (h) facilities to be used

4. DGCA INVOLVEMENT IN PHASE ONE.

(1) Early in the process, the DGCA and the operator will establish, through discussion, a common understanding of both the regulatory training requirements and the direction and guidance provided in these Standards. The DGCA or CPM and the operator must examine the entire operation to ensure that any training necessitated by operational requirements, authorizations, or limitations (such as those in the Operations Specifications (OpSpecs), Minimum Equipment Lists (MEL), deviations, and exemptions), is included in the operator's training curriculums. The training program is the area most affected by operational changes. The DGCA will review all general requirements in the regulations and in this Standard that apply to the proposed operation. The DGCA will be aware of changes to the information initially provided by the operator. The DGCA will discuss with the operator the sequence and timing of events which occur in the development and the granting of initial and final approval of a training curriculum. If the operator's proposal involves complex operations (such as long range navigation or polar navigation operations), the DGCA must consult appropriate Divisions of the Lebanese Aviation Regulations (LARs) and other relevant documents and be prepared to advise the operator during this phase. In such a case, the DGCA will also determine whether assistance from a aviation specialist is necessary.

(2) A DGCA inspector shall be prepared to provide advice to an operator during training curriculum development. During phase one, the operator must be informed of the procedure for requesting initial approval and of the types of additional supporting information which the DGCA will require the operator to submit. An inspector shall be prepared to provide advice and guidance to the operator on the following:

- (a) the general format and content of curriculums, curriculum segments, training modules, and flight maneuvers and procedures documents
- (b) courseware
- (c) facilities
- (d) qualifications of instructor personnel
- (e) other areas of the operator's proposed training program
- (3) Early DGCA involvement is also important for the following reasons:
 - (a) DGCA advice and guidance during development of training may provide a useful service to the operator. This advice may save the operator and the DGCA from unnecessary use of

resources. It may also prevent the operator from submitting a training curriculum proposal which would not be approved by the DGCA.

- (b) the DGCA can become familiar with the material the operator intends to submit. This facilitates review of the proposal before the granting of initial approval.
- (c) the DGCA can begin planning long range needs, such as qualification of inspectors on the operator's aircraft, and evaluation of the program's overall effectiveness.

Information Note: *Early DGCA inspector involvement in the development of training programs is appropriate. A DGCA inspector, however, must act in an advisory capacity only. The inspector must avoid active participation in the actual training program development. The operator is responsible for the development of its own training program. The DGCA inspector must not assume that responsibility.*

(4) As the operator's proposals solidify, any significant requirements which may affect office inspector resources will be discussed with the Chief of Flight Safety. A DGCA inspector may need training on an operator's aircraft type. Requests for inspectors from outside Lebanon to assist in the training approval process may be necessary.

(5) The operator will be aware of the potential for delays in approval. Such delays may be caused by any of the following reasons:

- (a) the applicant for a certificate not meeting the schedule of events
- (b) the operator failing to expeditiously transmit information to the DGCA
- (c) a change in plans, for example, changing either the training locations or the type of aircraft
- (d) inadequate, insufficient, or unclear material submitted in phase two
- (e) deficiencies in the training discovered during phases two, three, or four
- (f) delays in obtaining equipment (such as simulators) or simulator approval
- (g) higher priority work (such as accidents) assigned to inspectors associated with the training approval process

5. REQUESTS FOR INITIAL APPROVAL - PHASE TWO.

Phase two begins when the operator submits its training proposal in writing, for initial approval, to the DGCA. The operator is required to submit to the DGCA an outline of each curriculum or curriculum segment and any additional relevant supporting information requested by the DGCA. These outlines, any additional supporting information, and a letter must be submitted to the DGCA. This letter will request DGCA approval of the training curriculum. Two copies of each curriculum or curriculum segment outline will be forwarded along with the letter of request to the DGCA.
 (2) Each operator must submit its own specific curriculum segment outlines appropriate for its type of aircraft and kinds of operations. These outlines may differ from one operator to another and from one category of training to another in terms of format, detail, and presentation. Each curriculum will be easy to revise and shall contain a method for controlling revisions, such as a revision numbering system. Curriculums for different duty positions may be combined in one document, provided the positions are specifically identified and any differences in instruction are specified for each duty position. Each curriculum and curriculum segment outline must include the following information:

- (a) operator's name
- (b) type of aircraft
- (c) duty position
- (d) title of curriculum and/or curriculum segment including the category of training
- (e) consecutive page numbers
- (f) page revision control dates and revision numbers

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- (3) Each curriculum and curriculum segment must also include the following items, as appropriate:(a) prerequisites prescribed by the LARs or required by the operator for enrollment in the
 - (a) prerequisites prescribed by the LARs or required by the operator for enrollment in the curriculum
 - (b) statements of objectives of the entire curriculum and a statement of the objective of each curriculum segment
 - (c) a list of each training device, mockup, system trainer, procedures trainer, simulator, and other training aids which require DGCA approval (The curriculum may contain references to other documents in which the approved devices, simulators, and aids, are listed.)
 - (d) descriptions or pictorial displays of normal, abnormal, and emergency maneuvers and procedures which are intended for use in the curriculum, when appropriate (These descriptions or pictorial displays, when grouped together, are commonly referred to as the flight maneuvers and procedures document. The operator may choose to present detailed descriptions and pictorial displays of flight maneuvers and procedures in other manuals. For example, the flight maneuvers and procedures document may be described in an aircraft operating manual. However, as a required part of the training curriculum, it must either be submitted as part of the curriculum or be appropriately referenced in the curriculum.)
 - (e) an outline of each training module within each curriculum segment (Each module will contain sufficient detail to ensure that the main features of the principal elements or events will be addressed during instruction.)
 - (f) training hours which will be applied to each curriculum segment and the total curriculum
 - (g) the checking and qualification modules of the qualification curriculum segment used to determine successful course completion, including any LARs qualification requirements for crewmembers or dispatchers to serve in Part VI, Subpart 4, or Part VII, Subpart 5 operations (such as initial operating experience, line checks, operating familiarization)

6. ADDITIONAL RELEVANT SUPPORTING INFORMATION - PHASE TWO.

(1) As specified in the LARs, an operator must submit any additional relevant supporting information requested by the DGCA. This information is that additional information the DGCA finds necessary for determining whether the proposed training program is feasible and adequately supported. It is information which would be difficult to include in a curriculum outline format. The type and amount of supporting information needed will vary depending on the type of training, aircraft types to be operated, and kinds of operations. The DGCA must determine the appropriate types of supporting information to be required. This will be limited to only that information critical to the determination of the proposed training program's acceptability. The following list of types of relevant supporting information is not all-inclusive, but includes information that is typical.

(2) A description of facilities is appropriate if the DGCA is unfamiliar with the facilities, or if the facilities are not readily available for examination.

(3) A list of ground and flight instructors and their qualifications may be requested. This information is particularly important if the operator intends to use contract instructors. The DGCA will determine whether the proposed instructors meet regulatory requirements and if they are qualified to conduct training.

(4) A detailed description of each flight simulator and training device is appropriate when the simulator or training device is not readily available for DGCA examination. This detailed description is particularly important when the operator intends to contract for a specific flight simulator or training device. This description will provide sufficiently detailed information to enable the DGCA to determine whether the training and checking to be conducted is appropriate for the level of the flight simulator or training device to be used.

(5) A detailed description of minimum student qualifications and enrollment prerequisites is appropriate when such prerequisites are not described in detail in the curriculum. Examples of these prerequisites which may need to be detailed as supporting information include: type of airman

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certificate, aircraft type qualifications, previous training programs, minimum flight hours, experience with other Part VII, Subpart 5 operators, and recency of experience. This description may be useful to the DGCA when determining whether the proposed amount of detail outlined in training modules and the proposed training hours are adequate.

(6) Copies of training forms and records to be used for recording student progress and the completion of training may be required. This ensures the operator has planned for the LARs recordkeeping requirements. This type of supporting information shall be required of applicants for an air operator certificate. It is also required of operators with any significant revision to existing training programs. These forms, records, or computer transmittal worksheets must be designed so that attendance and course completion information is recorded and retrievable for verifying regulatory compliance.
(7) Supporting information will include samples of courseware, such as lesson plans and instructor guides. Descriptions of other types of courseware, such as home study, computer based instruction, and line oriented flight training (LOFT) scenarios, will be in enough detail to provide an understanding of how the training will be administered and of the proposed instructional delivery method. This information will describe the instructor/student interaction and indicate methods for measuring student learning.

7. INITIAL REVIEW OF REQUESTS FOR APPROVAL - PHASE TWO.

In phase two the DGCA must review the submitted training curriculum and supporting information for completeness, general content, and overall quality. A detailed examination of the documents is not required during phase two. If after initial review, the submission appears to be complete and of acceptable quality, or if the deficiencies are immediately brought to the operator's attention and can be quickly resolved, the DGCA may begin the phase three in-depth review. If the submission is determined to be incomplete or obviously unacceptable, the approval process is terminated and the DGCA must immediately return the documents (within 5 working days) with an explanation of the deficiencies. The documents must be immediately returned, so the operator will not erroneously assume the DGCA is continuing the process to the next phase. The approval process can be resumed when the revised training curriculum or curriculum segment is resubmitted.

8. TRAINING CURRICULUMS SUBMITTED WITH AIR OPERATOR CERTIFICATE APPLICATIONS.

An applicant for a certificate in the early stages of certification, may be unable to provide all information required for its training program. For example, the applicant may not yet know what training facilities or devices it intends to use. The lack of such information in the formal application does not necessarily indicate that the training curriculum attachment be returned. There will be an understanding between the applicant and the Certification project manager (CPM) that such portions are missing. The CPM may initiate the phase three in-depth review without this type of information. Initial approval, however, of a curriculum segment must be withheld until all portions pertinent to the curriculum segment have been examined. For example, it may be appropriate to initially approve a ground training curriculum segment even though the simulator has not yet been evaluated and approved for flight training. However, effective evaluation of training curriculums can be hampered when an excessive number of incomplete curriculum segments are permitted. The CPM shall either delay initial approval of training curriculums or return them to the applicant when an excessive number of incomplete curriculums or return them to the applicant when an excessive number of incomplete have been submitted with the formal application.

9. IN-DEPTH REVIEW OF SUBMITTED CURRICULUMS - PHASE THREE.

(1) Phase three is initiated when the DGCA begins a detailed analysis and evaluation of a training curriculum or curriculum segment. The purpose of this phase is to determine the acceptability of

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training curriculums for initial approval. This phase ends either with the initial approval or with the rejection of all or part of the training curriculum. To complete an evaluation in a timely manner the DGCA may need to involve other DGCA personnel early in this phase. Certain specialists or offices may be required to participate in the approval process as follows:

- (a) the military security inspector will be involved in security and hazardous materials training issues.
- (b) various aviation safety inspector specialists will be involved when appropriate. For example, navigation specialists will be involved with evaluating special navigation operations.
- (c) the DGCA may need to contact an Authority's Flight Standardization Board (FSB) and the Flight Operations Evaluation Board (FOEB) for information on training recommendations and minimum equipment list procedures.
- (d) the DGCA Chief of Flight Safety may need to be involved with locating and directing additional DGCA resources to accomplish the approval process.

(2) Before granting initial approval for a specific curriculum or curriculum segment, the DGCA must ensure that the following evaluations are accomplished:

- (a) a side by side examination of the curriculum outline with the appropriate regulations and with the direction provided in the LARs must be performed. This examination is to ensure that training will be given in at least the required subjects and in-flight training maneuvers. It will also ensure that appropriate training will be given on safe operating practices.
- (b) an examination of the courseware developed or being developed by the operator must be performed. This review will include a sampling of available courseware such as lesson plans, audiovisual programs, flight maneuvers and procedures documents, and student handouts. The courseware must be consistent with each curriculum and curriculum segment outline. From this review, the DGCA will be able to determine whether the operator is capable of developing and producing effective training courseware.
- (c) an inspection of training facilities, training devices, and instructional aids (which will be used to support the training) must be performed if the DGCA is not familiar with the operator's training program capabilities.
- (d) the training hours specified in each curriculum segment outline must be evaluated. An inspector will not attempt to measure the quality or sufficiency of training by the number of training hours alone. This can only be determined by direct observation of training and testing (or checking) in progress, or by examination of surveillance and investigation reports. The specified training hours must be realistic, however, in terms of the amount of time it will take to accomplish the training outlined in the curriculum segment so as to achieve the stated training objectives. During the examination of courseware, an inspector will note the times allotted by the operator for each training module. These times will be realistic in terms of the complexity of the individual training modules. The number of training hours for any particular curriculum segment depends upon many factors. Some of the primary factors are as follows:
 - (i) the aircraft family in which the specific aircraft belongs
 - (ii) complexity of the specific aircraft
 - (iii) complexity of the type of operation
 - (iv) amount of detail that needs to be covered
 - (v) the experience and knowledge level of the students
 - (vi) efficiency and sophistication of the operator's entire training program (including items such as instructor proficiency, training aids, facilities, courseware, and the operator's experience with the aircraft)

(3) If after completing these evaluations, the DGCA determines that the curriculum or curriculum segment is satisfactory and adequately supported, and that the training hours are realistic, initial approval will be granted. Sometimes a portion of the submittal may appear to be satisfactory. However, if that portion is dependent upon another undeveloped portion or another unsatisfactory

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portion, initial approval must be withheld. For example, a PIC BE-100 initial equipment, flight training curriculum segment is satisfactory but related training modules within the initial equipment ground training curriculum segment are unsatisfactory. In such a case, it may be inappropriate to grant initial approval to the initial equipment flight training curriculum segment until the ground training curriculum segment is determined to be satisfactory.

(4) During phase three of the approval process, the DGCA must establish priorities to ensure that, if appropriate, the granting of initial approval, is not unnecessarily delayed. These priorities will assure that deficiencies are resolved so that initial approval can be granted before the operator's planned starting date for training.

10. EXPIRATION DATES FOR INITIAL APPROVALS.

When the DGCA determines that a training curriculum or curriculum segment will be initially approved, the DGCA must also determine an appropriate expiration date for the initial approval. The expiration date is important throughout phase four of the approval process. LARs Part VII, Section 705.125 require the operator to obtain final approval of training curriculums. The expiration date provides an incentive to the operator for refining all aspects of the program to assure that this regulatory requirement is met. The expiration date also provides the DGCA with a time frame with which to plan evaluation activities for determining the effectiveness of the training. The expiration date assigned to an initially approved training curriculum must not exceed 24 months from the date of initial approval. The expiration date of initial approval may be reduced by the DGCA if it is apparent that a 24 month time frame will unnecessarily delay final approval. The DGCA will be aware that shortening the initial approval expiration date will commit them to completing the final approval phase within the shorter time period. The DGCA may grant final approval any time before the expiration date. Except when unforeseen circumstances preclude an adequate evaluation of training effectiveness, an extension to the initial approval expiration date will not be permitted. A new expiration date, however, may be established for a curriculum segment when there are significant revisions to an initially approved curriculum segment.

11. METHOD OF GRANTING INITIAL APPROVAL.

(1) Initial approval is granted by letter. A Sample letter granting initial approval are included at the end of this Division (figure 4.). The initial approval letter must include at least the following information:

- (a) specific identification of the curriculums and/or curriculum segments initially approved, including page numbers and revision control dates
- (b) a statement that initial approval is granted, including the effective and expiration dates
- (c) any specific conditions affecting the initial approval, if applicable
- (d) a request for advance notice of training schedules so that training may be evaluated in accordance with the LARs, as appropriate
- (e) if the DGCA is authorizing a reduction in the programmed hours specified by Part VII, Subpart 5, a statement concerning the basis for reduction

(2) An initial approval letter and a list of effective curriculum or curriculum segment pages, or pages with a preprinted signature and date blocks serves as the primary record of curriculum or curriculum segment pages that are currently effective.

(3) The original pages of the curriculum or curriculum segment shall be returned to the operator with the transmittal letter. These documents will be retained by the operator as an official record. A copy of the training curriculum or curriculum segment, with a copy of the transmittal letter granting initial approval attached, shall be maintained on file by the DGCA during the period that the initial approval is valid. The DGCA shall also maintain on file with the curriculum all additional relevant supporting information.



FIGURE 4. LETTER OF INITIAL APPROVAL

ABC Airlines Director of Training 1 Park Avenue Beirut Lebanon

Dear Mr. Halawi:

This letter is in reference to ABC Airline's B-737 Pilot in Command and Second in Command Initial Equipment Ground Training curriculum, pages 100/1 through 100/15, dated April 14, 2000. This curriculum is granted initial approval, effective April 30, 2000. The approval is contingent upon a satisfactory evaluation of your advanced systems ground trainer scheduled for April 28 and 29, 2000.

The expiration date of this initial approval is April 30, 2000. This office requests ABC Airlines provide at least 7 days advance notice of any training to be conducted under this curriculum to allow for evaluation of the training in accordance with LARs 705.129(2) and (3).

Approval of the reduced training hours from the programmed hours required by LARs 705.140(2) to 75 hours is based on the improved training techniques available from your advanced systems ground trainer.

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12. METHOD OF DENYING INITIAL APPROVAL.

If the DGCA determines that initial approval of a proposed training curriculum or curriculum segment must be denied, the operator shall be notified in writing of the reasons for denial. This letter must contain an identification of the deficient areas of the training curriculum and a statement that initial approval is denied. It is not necessary that each minor deficiency which resulted in the denial be identified, however the major deficiencies will be outlined in the letter. It is the operator's responsibility to redevelop or correct the deficient area before resubmission to the DGCA. A copy of the denial letter and a copy of the proposed training curriculum or curriculum segment shall be kept on file in the DGCA Document Control Center. Figure 5 is a sample letter of a denial of initial approval.



FIGURE 5. LETTER OF DENIAL OF INITIAL APPROVAL

ARK Airlines Director of Training 48 Turnover Place Beirut Lebanon

Dear Mr. Halawi:

This letter is in response to your request for initial approval of Revision 2 to ARK Airline's DC-9 Pilot in Command and Second in Command Recurrent Ground Training curriculum, dated August 2, 2000. Your request for initial approval of revision 2 is denied for the following reason:

More than 70 percent of your scheduled operations occur in areas which during the winter months, are subject to cold weather, snow, ice, and sleet. Your pilot workforce must have adequate training in the safe operating practices associated with a cold weather environment, to enable them to cope effectively with such hazards. Revision 2 deletes training previously given on major aspects of cold weather operations and does not provide any identifiable instruction to your crews for operating flights in such conditions. Presently there is not another course of training for ARK Airline's pilots containing adequate information on cold weather procedures.

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13. EVALUATING INITIALLY APPROVED TRAINING CURRICULUMS - PHASE FOUR.

(1) Phase four begins when the operator starts training under the initially approved curriculum. This phase will provide the operator with adequate time to test the program and the flexibility to adjust the program during DGCA evaluation. The DGCA must require an operator to provide ongoing schedules of all training and checking to be accomplished under an initially approved training curriculum. The DGCA must closely monitor training conducted under initial approval. The first session of training conducted under initial approval will be monitored by a qualified operations inspector. A DGCA inspector does not need to observe every training session. A sufficient sampling of the training sessions, however, will be observed as a basis for a realistic evaluation. Inspectors qualified in the type aircraft, and other individuals knowledgeable of the curriculum subject matter, will assist in evaluating the training. During training under initial approval, the operator is expected to evaluate and appropriately adjust training methods as needed. Often adjustments can be made by changing courseware and instructional delivery without (or with only minor) revisions to the initially approved curriculum. Conversely, it may be necessary for the operator to substantially change the curriculum which may require another initial approval action by the DGCA before the changes can be put into effect. Sometimes proposed revisions may be transmitted to the DGCA just before the initial approval expiration date. If the change is significant, the DGCA may need to establish a different expiration date for the curriculum segment, or for the revised portions, to allow adequate time for a proper evaluation.

(2) During phase four, the operator must demonstrate the ability to effectively train crewmembers and dispatchers. Each deficiency identified during the evaluation of training conducted under an initially approved curriculum must be discussed with the operator. If the deficiencies are significant, they must be documented and kept on file. In most cases, when the cause of a deficiency has been accurately identified, the operator will make the necessary changes to correct the deficiency to obtain final approval. Each significant deficiency which has been accurately identified must be immediately corrected. If an operator does not take appropriate corrective action, the DGCA shall advise the operator in writing that initial approval is withdrawn.

14. ELEMENTS AVAILABLE FOR EVALUATING TRAINING - PHASE FOUR.

(1) The DGCA must develop a plan for systematically evaluating training given under the initially approved training curriculum. This plan will remain in effect throughout the initial approval period. There are five elements which can be evaluated when assessing the overall effectiveness of training programs. These five elements are: curriculum segment outlines, courseware, instructional delivery methods and training environment, testing and checking, and surveillance and investigation of operator activities. These elements are interrelated, however, each can be separately evaluated. See table 3 for a summary of the five elements.

(2) Before evaluating a training program, an inspector must become familiar with the contents of the curriculums or curriculum segments to be evaluated. This preparation is essential if an inspector is to determine whether an operator has developed an effective course of instruction from its initially approved training curriculum.

(3) Direct examination of courseware includes reviewing materials such as lesson plans, workbooks, or flight instructor guides. The inspector must determine whether the courseware is consistent with the curriculum or curriculum segment and that it has been organized to facilitate effective instructional delivery. Courseware is usually the training program element which is most adaptable to revision or refinement. Inspectors must review at least a sampling of the courseware.

(4) Direct observation of instructional delivery includes surveillance of training methods, such as instructor lectures, computer based instruction presentations, and inflight instruction. Effective learning can only occur when an instructor is organized, prepared, and properly uses the courseware and various training aids. The inspector must determine that the instructional delivery is consistent

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with the courseware. For example, the inspector will note whether the instructor teaches the topics specified in the lesson plan. Training aids and devices will function as intended during the instructional delivery. In addition, during training, the inspector will be sensitive to the type of questions being asked by students and will identify the reasons for any excessive repetition. These conditions may indicate ineffective instructional delivery or courseware. The inspector must also determine if the instructional environment is conducive to learning. Distractions which adversely affect instructional delivery, such as excessive temperatures, extraneous noises, poor lighting, cramped classrooms or workspaces, are deficiencies because they interfere with learning.
(5) Direct observation of testing and checking is an effective method for determining whether learning has occurred. Examining the results of tests, such as oral or written tests or flight checks, provides a quantifiable method for measuring training effectiveness. The DGCA must examine and determine the causal factors of significant failure trends.

(6) Direct observation of training and checking in progress is an effective method of evaluating training. Sometimes the opportunity for direct observation, however, will be limited. In such cases, the DGCA will have to rely more on evaluation of other sources of information such as reports of surveillance and investigations. Results of inspection reports, incident or accident reports, enforcement actions, and other relevant information about the operator's performance will be reviewed by the DGCA for indications of training effectiveness. The DGCA must establish methods to evaluate these sources of information for trends which may develop while training is being conducted under initial approval. For example, repeated reports of deficiencies such as excessive taxi speed, navigation deviations, incomplete briefings, or incorrect use of the checklists, may be traceable to a lack of specific training or ineffective training. Such information may provide indications that revisions or refinements are needed for a curriculum segment and/or training modules.



TABLE 3.ELEMENTS FOR TRAINING EVALUATION

Elements Available for Evaluating Training

CURRICULUM SEGMENT OUTLINES - Curriculum segment outlines contain the specific training modules and the amount of time allocated for the curriculum segment. The modules must be consistent with regulatory requirements and safe operating practices. This element requires direct examination.

COURSEWARE - Courseware converts curriculum outline information into usable instructional material. Courseware must be consistent with the curriculum outline and be organized to permit effective instructional delivery. It is readily adaptable to adjustments and refinement by the operator. This element usually requires direct examination.

INSTRUCTIONAL DELIVERY METHODS AND TRAINING ENVIRONMENT - Instructional delivery methods are used to convey information to the student. Effective learning is maximized if the instructional delivery adheres to and properly uses the courseware. The training environment will be conducive to effective learning. This element requires direct observation.

TESTING AND CHECKING - Testing and checking is method for determining whether learning has occurred. Testing and checking standards are used to determine that a desired level of knowledge and skill has been acquired. Testing and checking also measures the effectiveness of courseware and instructional deliver. This element requires direct observation. It can be supplemented by examining operator records of test and checks.

SURVEILLANCE AND INVESTIGATION OF OPERATOR ACTIVITIES - Surveillance and investigations produce information about an operator's overall performance. A high rate of satisfactory performance usually indicates a strong, effective training program. Repeated unsatisfactory performances can often be traced to deficiencies in a training program. This element requires the examination and analysis of surveillance and investigative reports.

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15. METHOD FOR GRANTING FINAL APPROVAL - PHASE FIVE.

(1) This phase involves the granting of final approval of an operator's training curriculum. Based on the results of the evaluation, the DGCA must determine whether to grant or deny final approval of a training curriculum. This determination must be made before, the expiration date of the initial approval. If the DGCA decides not to grant final approval, the procedures outlined in Division II, Subsection 17 shall be followed. If the DGCA decides that final approval will be granted, the following procedures apply:

- (a) <u>Programs that Contain a List of Effective Pages</u>. Final approval of the training curriculum can be granted and documented by the DGCA on the List of Effective Pages. This means that the DGCA has given final approval of every page of the operator's training curriculum, as listed on that page, but only one DGCA approval block must be completed and signed.
 - (i) the stamped page that documents final approval of the training curriculum and/or curriculum segment shall be stamped for approval, dated, and signed by the DGCA. The approval stamp that appears on the page will be a facsimile of the stamp that appears in this Division.
 - (ii) the original curriculum and/or curriculum segment must contain the one page that documents DGCA approval on the List of Effective Pages. The curriculum and/or curriculum segment must be transmitted to the operator with an approval letter signed by the DGCA in accordance with LARs guidance.
- (b) <u>Programs that do not Contain a List of Effective Pages</u>. The original and a copy of each page of the training curriculum and/or curriculum segment shall be stamped for approval, dated, and signed by the DGCA. The approval stamp shall appear on each page and be a facsimile of the following stamp:

DGCA FINAL APPROVAL
EFFECTIVE DATE: __________
NAME: __________
SIGNATURE:

(2) The original stamped curriculum or curriculum segment must be transmitted to the operator with an approval letter signed by the DGCA. This letter must specifically identify the curriculum or curriculum segment; contain a statement that final approval is granted; and provide the effective date of approval. This letter must also state that final approval shall remain in effect until otherwise notified by the DGCA that a revision is necessary in accordance with LARS Section 705.129, provided the operator continues to train in accordance with the approved curriculum. If the DGCA is authorizing a reduction in the programmed hours specified by Part VII, Subpart 5, the letter must contain a statement concerning the basis for reduction. A copy of the stamped curriculum or curriculum segment, and a copy of the approval letter must be kept on file in the DGCA Document Control Center. Figure 6 is a sample letter of final approval.



FIGURE 6. LETTER OF FINAL APPROVAL

ABC Airlines, Inc. Director of Training 417 Oakton Boulevard Beirut Lebanon

Dear Mr. Halawi:

Final approval is granted to ABC Airlines' Cabin Attendant Recurrent Ground Training curriculum, for pages 1 through 5, dated May 21, 2000, and for pages 6 through 7, dated April 15, 2000.

The effective date of final approval is January 20, 2000. ABC Airlines may continue to train in accordance with this curriculum until a revision is required by the DGCA under LARs Section 705.129(5) or, until ABC Airlines revises the curriculum.

Approval of the reduced training hours from the programmed hours required by LARs Section 705.147(3)(c) to 8 hours is based on continued use of the Rolex II cabin mockup.

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16. REVISIONS TO TRAINING CURRICULUMS.

(1) Revisions to initially approved training curriculums shall be processed as described in Division II, Sections 5 through 14. To incorporate significant revisions into a training curriculum with final approval usually requires the full training approval process. Final approval, however, may be directly granted to a proposed revision, if the revision involves any of the following situations:

- (a) correction of administrative errors such as typographical or printing errors
- (b) a reorganization of training, or any changes in the sequence of training that does not affect the quality or quantity of training
- (c) an improvement to the quality, or an increase in the quantity, of training

(2) Other proposed revisions, including any proposal to reduce the approved number of training hours, are subject to the training program approval process. Although each step in the process must be completed, the process may be abbreviated in proportion to the complexity and extent of the proposal. There are many factors that could require revisions to training curriculums. Such factors include the following:

- (a) the effects and interrelationships of changes in the kind of operations
- (b) the size and complexity of an operation
- (c) the type of aircraft being used
- (d) any special authorizations through operations specifications
- (e) a revised MEL, CDL, or DDPG
- (f) any exemptions or deviations

17. WITHDRAWING APPROVAL OF TRAINING CURRICULUMS.

Before withdrawing approval of an operator's training curriculum or curriculum segment, the DGCA shall make reasonable efforts to convince the operator to make the necessary revisions. It is important to understand that withdrawing approval could be detrimental to the operator's business. The operator's ability to continue to hold a certificate may be in question if a new curriculum is not submitted for initial approval within a reasonable period of time. A decision to withdraw approval must be based on sound judgment and justifiable safety reasons. When sufficient reasons are established, it is mandatory for the DGCA to take immediate action to remove DGCA approval from an ineffective or noncompliant training curriculum. When an approval is withdrawn, the DGCA must ensure that the operator clearly understands that any further training conducted under an unapproved curriculum is contrary to LARs requirements. Enforcement action must be taken if any company employee who received unapproved training is used in Part VII, Subpart 5 operations. The three methods for withdrawing approval of a training curriculum are as follows:

- (a) allowing an initially approved training curriculum to expire without granting final approval (Division II Subsection 18)
- (b) withdrawing approval of an initially approved training curriculum before the expiration date (Division II, Subsection 19)
- (c) withdrawing approval of a training curriculum which has already received final approval in accordance with LARs Part VII, Section 705.129 (Division II, Subsection 20)

18. EXPIRED TRAINING CURRICULUMS.

A training curriculum granted initial approval has an expiration date. Usually, this date shall not be later than 24 months after the initial approval date. If the DGCA does not grant final approval before the expiration date, training under that curriculum must terminate as of that date. Therefore, the DGCA shall not allow an initially approved curriculum to expire due to the DGCA's inability to administratively grant final approval. Final approval may not be granted to an operator's training curriculum for several reasons. One reason, for example, may be the operator's inability to achieve an

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acceptable level of training effectiveness during phase four of the approval process. Another example of a reason for not granting final approval is the discontinued use of the initially approved curriculum. When the DGCA decides not to grant final approval before the expiration date, they must notify the operator of this decision in writing, at least 30 days before the expiration date of the initially approved curriculum. An operator not so notified may mistakenly assume that the initial approval will continue in effect until receipt of notification of either final approval or termination. The notification letter will contain the reasons for allowing the curriculum to expire and will state that any further training under the expired curriculum will not be in compliance with regulatory requirements. If the DGCA fails to provide this 30 day notification, they must establish a new expiration date so that appropriate notification can then be given to the operator.

19. WITHDRAWAL OF INITIAL APPROVAL OF TRAINING CURRICULUMS.

DGCA may decide to withdraw initial approval any time during phase four of the approval process. This action may be necessary if the training is not in regulatory compliance, does not provide for safe operating practices, or is ineffective in meeting training objectives. An operator who has received a letter withdrawing approval must revise or refine the training curriculum and resubmit it for initial approval. The DGCA must ensure that the operator understands that it is his responsibility to correct each deficiency in the training program. The DGCA withdraws initial approval of training curriculums by letter. This letter must contain both a statement informing the operator that initial approval is withdrawn and the effective date of the withdrawal. This letter must include the reasons for withdrawal of approval and a precaution concerning the use of persons trained under a curriculum which is not DGCA approved. A sample letter for withdrawing initial approval is in provided figure 7.



FIGURE 7. LETTER OF WITHDRAWAL OF INITIAL APPROVAL

ABC Airlines, Inc. Director of Training 49 Wheat Drive Beirut Lebanon

Dear Mr. Hachem:

This letter notifies you that DGCA initial approvals of the following training curriculum segments are withdrawn, effective April 1, 2000:

- 1. The emergency training segment for the DC-9 Second in Command Initial New Hire Training curriculum, pages 9.1 through 9.3, dated 11/15/99.
- 2. The emergency training segment for the DC-9 Pilot in Command Upgrade Training curriculum, pages 9.31 through 9.33, dated 6/1/98.

The investigation of the inflight incident that occurred on ABC Airline's flight 943 on February 10, 1998, revealed that the flightcrew did not take positive action to isolate the source of smoke caused by a malfunctioning cabin light ballast. During the DGCA interview, the flightcrew displayed a lack of concern about the importance of taking immediate and positive action to control inflight fire and smoke. In addition, since this incident, inspectors from this office have been emphasizing fire and smoke combatting procedures during oral testing of the DC-9 pilots taking the above listed training. These inspectors have observed that many of your DC-9 pilots have a serious lack of knowledge about fire and smoke control procedures and the use of firefighting equipment, particularly the type of extinguishers to be used in different classes of fire.

We have discussed these deficiencies with your staff and they have effectively revised the Emergency Training curriculum segment for the DC-9 PIC/SIC Recurrent Training. Your staff, however, advises that they will not revise the training curriculums listed above. Therefore, DGCA initial approval is withdrawn. Initial approval can be reobtained by revising the curriculum to require detailed instruction on fire and smoke control procedures and firefighting equipment.

It is contrary to Lebanese Aviation Regulation Part VII, Subpart 5 to use pilots who have not been trained in accordance with an approved training curriculum.

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20. WITHDRAWAL OF FINAL APPROVAL OF TRAINING CURRICULUMS.

(1) Each operator is responsible for ensuring that its training curriculums, once they have been granted final approval, continue to provide training in accordance with the conditions under which final approval was granted. In accordance with LARs Part VII, Section 705.129, whenever the DGCA determines revisions to a curriculum that has been granted final approval are necessary, the operator shall, after notification, make the necessary changes to ensure the effectiveness and acceptability of its training. Such notification by the DGCA effectively withdraws final approval. These regulations also provide the operator with certain appeal rights. Therefore, the following procedures will be applied when a decision is made to withdraw final approval of a training curriculum:

- (a) the Chief of Flight Safety shall inform the Director General of Civil Aviation of the impending action to withdraw final approval. The DGCA must notify the operator in writing that revisions are required in accordance with Part VII, Section 705.129. See Figure 8 for a sample letter of a notification for withdrawing final approval. The notification letter must contain the following:
 - (i) a statement that DGCA approval of the training curriculum is withdrawn
 - (ii) a list of the revisions which must be made
 - (iii) a brief description of the reasons necessitating the revisions
 - (iv) a precautionary statement concerning the use of personnel trained under a curriculum which is not DGCA approved
 - (v) a statement that the actions specified in the letter may be appealed
 - (vi) instructions on how to make an appeal
- (b) if the operator chooses to revise the training program in response to the notification letter, the proposed revision will be processed in the same manner as a request for initial approval. The DGCA must reinitiate the five phase approval process previously described.
- (c) if an operator decides to appeal the DGCA's action, it must, within 30 days after receiving notification, petition the DGCA for reconsideration of the withdrawal of final approval. The petition must be in writing and contain a detailed explanation on why the operator believes the revisions described in the withdrawal notice are unnecessary. If upon receipt of a petition, the Chief of Flight Safety believes that an emergency exists which directly impacts aviation safety, he must immediately inform the operator in writing, of his decision. The Chief of Flight Safety's letter must include a statement that an emergency exists, a brief description of the revisions which must be made, and the reasons the revisions are necessary. In this case, the Chief of Flight Safety's letter upholds the DGCA's decision to withdraw final approval. The operator must revise its training program if DGCA approval is to be obtained. If the Chief of Flight Safety does not believe an emergency exists, careful consideration must be given to both the operator's petition and the DGCA's reasons for withdrawal of approval. The operator's petition stays the DGCA's withdrawal of final approval and the operator may continue to train under the training curriculum, pending the Chief of Flight Safety's decision. The Chief of Flight Safety may need to conduct additional evaluations of the operator's training program. It may be appropriate for the Chief of Flight Safety to obtain additional facts from other sources. The Chief of Flight Safety must make a decision within 60 days after receipt of an operator's petition. If the Chief of Flight Safety accepts the operator's explanations, he will direct the DGCA to rescind the letter that withdrew final approval, either partially or fully. If the decision is to uphold the DGCA's action, the Chief of Flight Safety must respond to the operator's petition in writing. The letter denying the petition will indicate that careful consideration was given to the petition. The letter must also contain the reasons for denying the petition and a statement that confirms the withdrawal of final approval. The letter must also contain a statement that any training conducted under the unapproved training curriculum is contrary to the LARs.



FIGURE 8. LETTER OF WITHDRAWAL OF FINAL APPROVAL

ABC Airlines, Inc. Director of Training 49 Wheat Drive Beirut Lebanon

Dear Mr. Hachem:

This letter notifies you that, effective April 7, 2000, final approval of your Airbus A-320 Pilot in Command Upgrade Training curriculum, dated March 11, 1999, is withdrawn in accordance with Lebanese Aviation Regulations (LARs) Part VII, Subpart 5. This course of training must be revised as discussed below if DGCA initial approval is to be reobtained.

The revised curriculum is required to have more detailed ground and inflight instruction on the performance, limitations, and proper operating procedures for the NST-410 area navigation systems. During the past two months, three of you're a-320 flights failed to maintain the assigned route flight specified by the ATC clearance. Two of the flights required ATC radar assistance for reestablishing an ATC clearance. Both pilots involved in these deviations were recently upgraded to pilots in command by completing the aforementioned training curriculum. The DGCA has determined, through interviews with these pilots, that the training being given does not provide sufficient knowledge for the proper operation of the NST-410 area navigation systems.

You may file a petition for reconsideration of this withdrawal of final approval within 30 days after receipt of this letter by writing to the DGCA, Chief of Flight Safety. Your letter will contain a complete explanation of why you believe final approval of the A-320 Pilot in Command Upgrade Training curriculum will not be withdrawn.

It is contrary to LARs Part VII, Subpart 5 to use pilots who have not been trained in accordance with an DGCA approved training curriculum.

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21. ORGANIZATION OF DGCA TRAINING PROGRAM FILES.

(1) The DGCA shall maintain a separate training program file for each operator at the DGCA Documentation Control Center. Each operator's training program file will be organized and maintained to keep each major curriculum type and any revisions together. Superseded training curriculum pages must be kept on file for 2 years. All correspondence and additional relevant supporting information associated with each training curriculum will be filed with the curriculum or curriculum segment, as appropriate.



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DIVISION III

Flightcrew Basic Indoctrination Curriculum Segments

1. GENERAL.

This Division specifies the objectives and content of basic indoctrination curriculum segments. This training is required for all flight crewmembers who are enrolled in an initial new hire category of training. Basic indoctrination is normally the first curriculum segment of instruction conducted for newly hired flight crewmembers. It serves as the initial introduction for the new hire employee to the operator and, in many cases, to the operational requirements of Part VII, Subpart 5.

2. OBJECTIVE OF BASIC INDOCTRINATION.

The objective of basic indoctrination training is to introduce the new hire flight crewmember to the operator and its manner of conducting operations in air transportation. It specifically acquaints the student with the operator's policies, procedures, forms, organizational and administrative practices, and ensures the student has acquired basic airman knowledge. The flight crewmember basic indoctrination curriculum segment consists of training modules which contain information applicable to the student's specific duty position. Two general subject areas are required during basic indoctrination training. These subject areas are "operator specific" and "airman specific" training. These two areas serve to acquaint the student with the operator's means of regulatory compliance and to ensure that basic knowledge has been acquired by the student before entering aircraft ground and flight training. These two areas are not always mutually exclusive and in many cases may be covered in the same training module.

3. OPERATOR SPECIFIC INDOCTRINATION TRAINING.

- (1) The first subject area, "operator specific," must include training modules in at least the following:
 - (a) duties and responsibilities of flight crewmembers
 - (b) appropriate provisions of the Lebanese Aviation Regulations (LARs)

(c) contents of the certificate holder's operating certificate and Operations Specifications (2) Operator specific training modules will also include information about the company which the student needs in order to properly perform his duties as an employee of the operator. This information may include such items as the operator's history, organization, policies, scope of operation, administrative procedures, employee rules of conduct, compensation, benefits, and contracts.

4. AIRMAN SPECIFIC INDOCTRINATION TRAINING.

(1) The second subject area, "airman specific," must address appropriate portions of the certificate holder's operating manual. Airman specific training will also include other pertinent information that ensures the student will be prepared for aircraft ground and flight training. Airman specific indoctrination training will include elements which show that training applicable to the duty position will be given on the general principles and concepts of the following:

- (a) flight control (This includes dispatch or flight release for Part VII, Subpart 5 operators)
- (b) weight and balance
- (c) aircraft performance and airport analysis
- (d) meteorology
- (e) navigation

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- (f) airspace and ATC procedures
- (g) enroute and terminal area charting and flight planning
- (h) instrument procedures

(2) Airman specific indoctrination training will address the kind of operation and the general capabilities of the operator's aircraft. For example, a Part VII, Subpart 5 operator using transport category turbojet aircraft will include high altitude meteorological information (for example, the jetstream) in the meteorology training module. It is important to note that airman specific training is not "aircraft specific" and is intended to ensure the student has a fundamental understanding of certain generalized areas before progressing into aircraft ground and flight training for a specific aircraft.

5. FLIGHTCREW BASIC INDOCTRINATION TRAINING MODULES.

(1) The flight crewmember basic indoctrination curriculum segments must include as many training modules as necessary to ensure appropriate training. Each module outline must provide at least the following:

- (a) a descriptive title of the training module
- (b) a list of the related module elements to be presented during instruction on that module

(2) The training module outlines must contain sufficient elements to ensure a student will receive training in both operator specific and airman specific subject areas to provide a suitable foundation for subsequent "aircraft specific" curriculum segments. An operator has a certain amount of flexibility in the construction of these training modules. For example, the airman specific training modules for students with significant experience in Part VII, Subpart 5 operations may be less comprehensive than the training modules for students without that experience. This is usually the case during acquisitions, mergers, or with operators who hire only highly qualified personnel with experience in Part VII, Subpart 5 operations.

(3) The following example illustrates one of the many acceptable methods in which a basic indoctrination training module could be presented:



(4) It is not necessary or desirable to include detailed descriptions of each element within a training module outline. Such detailed descriptions are more appropriate when included in the operator's courseware such as lesson plans. During the approval process, the DGCA will review lesson plans as necessary to ensure the scope and depth of the courseware is adequate. The following example illustrates the interrelationship of training modules in the flight crewmember basic indoctrination curriculum segment:

6. TRAINING HOURS.

(1) LARs Part VII, Section 705.137 specifies a minimum of 40 programmed hours of instruction for basic indoctrination training. Normally, 40 hours will be the minimum number of training hours for basic indoctrination for Part VII, Subpart 5 operators who employ personnel with little or no previous Part VII, Subpart 5 experience. Reductions to the programmed hours in certain situations, however,
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may be appropriate for several reasons. One example would be a merger or acquisition situation where flight crewmembers new to the surviving certificate holder may only require "operator specific" training modules. Another example would be the operator's enrollment prerequisites requiring a high level of Part VII, Subpart 5 experience.

7. COURSE COMPLETION REQUIREMENTS.

Completion of this curriculum segment must be documented by an instructor's or supervisor's certification that a student has successfully completed the course. This certification is usually based on the results of a written examination given at the end of the course. With some training methods, the certification may be based on student progress checks administered during the course.

8. CONTENT OF FLIGHTCREW BASIC INDOCTRINATION CURRICULUM SEGMENTS.

A basic indoctrination curriculum segment will show that training will be given in at least two general subject areas appropriate to the operator's type of operation. These subject areas of training are "operator specific" (See Division II, Subsection 9) and "airman specific" (See Subsection 10).

9. OPERATOR SPECIFIC TRAINING MODULES.

(1) The subject area of a basic indoctrination training curriculum segment referred to as "operator specific" includes training modules that pertain to the operator's methods of compliance with the regulations and safe operating practices. Examples of recommended training modules for the operator specific subject area follow:

- (a) duties and responsibilities.
 - (i) company history, organization, and management structure
 - (ii) operational concepts, policies, and kind of operation
 - (iii) company forms, records, and administrative procedures
 - (iv) employee standards and rules of conduct
 - (v) employee compensation, benefits, and contracts
 - (vi) authority and responsibilities of duty position
 - (vii) company required equipment
 - (viii) company manual organization, revisions, and employee responsibilities concerning manuals
- (b) appropriate provisions of the Lebanese Aviation Regulations.
 - (i) flight crewmember certification, training, and qualification requirements
 - (ii) medical certificates, physical examination, and fitness for duty requirements
 - (iii) flight control requirements (dispatch, flight release, or flight locating)
 - (iv) flight duty and rest requirements
 - (v) recordkeeping requirements
 - (vi) operational rules in Parts I, II, IV, VI, and VII (as appropriate) and any other applicable regulations
 - (vii) regulatory requirements for company manuals
 - (viii) other appropriate regulations such as flightcrew emergency authority, interference with crewmembers, and reporting requirements
- (c) contents of Certificate and Operations Specifications (OpSpecs).
 - (i) regulatory basis in Part VII and the Lebanese Civil Aviation Safety Act
 - (ii) definitions, description, and organization of Operations Specifications
 - (iii) limitations and authorizations of Operations Specifications (OpSpecs)
 - (iv) description of certificate
 - (v) description of DGCA and responsibilities of DGCA inspectors



10. AIRMAN SPECIFIC TRAINING MODULES.

The "airman specific" training modules of the basic indoctrination curriculum segment contain training to ensure a student will be able to enter subsequent ground and flight training curriculum segments. These modules address the appropriate portions of the operator's manual and standard practices of airmanship and flight procedures in other documents such as the ICAO Annexes and Documents. The emphasis in airman specific training is not aircraft specific. It will relate to the operator's kind of operation and the family or families of aircraft used by the operator. The objective of airman specific training is to ensure the student has acquired the basic knowledge necessary for Part VII, Subpart 5 operations. Examples of recommended training modules for the airman specific subject area follow:

- (a) company flight control
 - (i) dispatch, flight release, or flight locating systems and procedures (as applicable)
 - (ii) organization, duties, and responsibilities
 - (iii) weather and NOTAM information
 - (iv) company communications
- (b) weight and balance
 - (i) definitions (such as zero-fuel weight, moments, and inches of datum)
 - (ii) general loading procedures and center of gravity computations
 - (iii) effects of fuel burn and load shifts in flight
 - (iv) weight and balance forms, load manifests, fuel slips, and other applicable documents
- (c) aircraft performance and airport analysis
 - (i) definitions (such as balanced field, VMC, obstruction planes, and maximum endurance)
 - (ii) effects of temperature and pressure altitude
 - (iii) general TERPS criteria (obstacle clearance standards)
 - (iv) airport analysis system as appropriate to the type of operation and family or families of aircraft
 - (v) effects of contaminated runways
- (d) meteorology
 - (i) basic weather definitions (such as forecasts, reports, and symbols)
 - (ii) temperature, pressure, and winds
 - (iii) atmosphere moisture and clouds
 - (iv) air masses and fronts
 - (v) thunderstorms, icing, and windshear
- (e) navigation
 - (i) definitions (such as Class I, Class II navigation)
 - (ii) basic navigational instruments
 - (iii) dead reckoning and pilotage concepts and procedures
 - (iv) navigational aids
 - (v) VHF, VLF, and self-contained systems (as applicable)
- (f) airspace and ATC Procedures
 - (i) definitions (such as precision approaches, airways, and ATIS)
 - (ii) description of airspace
 - (iii) navigation performance and separation standards
 - (iv) controller and pilot responsibilities
 - (v) ATC communications
 - (vi) air traffic flow control
 - (vii) wake turbulence recognition and avoidance
- (g) route and terminal area charting and flight planning



- (i) terminology of charting services (such as Jeppesen or NOAA)
- (ii) takeoff minimums, landing minimums, and alternate requirements
- (iii) general company flight planning procedures
- (iv) flight service and international procedures (as applicable)
- (v) airport diagrams
- (h) concepts of Instrument Procedures
 - (i) definitions (such as MDA, HAA, HAT, DH, CAT II ILS, and NOPT)
 - (ii) holding patterns, procedure turns
 - (iii) precision approaches (such as CAT I, CAT II, and CAT III)
 - (iv) nonprecision approaches
 - (v) circling, visual, and contact approaches (as applicable)

11. EVALUATION OF FLIGHTCREW BASIC INDOCTRINATION CURRICULUM SEGMENT OUTLINES FOR INITIAL APPROVAL.

When evaluating a basic indoctrination curriculum segment, inspectors must determine that the operator specific and airman specific subject areas are properly addressed. Operator specific and airman specific elements may be outlined in the same training module. Inspectors must determine that basic indoctrination curriculum segments meet the following two requirements:

- (a) the operator specific training must contain information of sufficient quality, scope, and depth to ensure the crewmember fully understands the duties and responsibilities applicable to the duty position. Training modules must also provide enough information to acquaint the student with the operator's policies, procedures, and practices.
- (b) airman specific modules must address appropriate portions of the certificate holder's operating manual and other pertinent information. These modules will contain elements which address the operator's type of operation and certain generalized areas, such as meteorology and the principles of weight and balance. It is essential that the inspectors and operators understand that airman specific training is not aircraft specific training. Airman specific training is intended to ensure that students have acquired fundamental aviation concepts before progressing into ground and flight training for a specific aircraft.

12. FLIGHT CREWMEMBER BASIC INDOCTRINATION CURRICULUM SEGMENT JOB AID.

(1) The basic indoctrination curriculum segment job aid (table 4) is provided to assist the inspector when evaluating this curriculum segment outline. This job aid focuses on the two subject areas of this curriculum segment (operator specific and airman specific training). It serves as an aid for inspectors when evaluating individual training modules.

(2) When using the job aid, inspectors will make a side by side comparison of the operator's proposal to make the following determinations:

- (a) the proposal provides for operator specific and airman specific instruction
- (b) the proposal is generalized in nature, and serves to acquaint the student with the operator's procedures, policies, and practices
- (c) normally, training modules will not contain elements which are "aircraft specific"
- (d) sufficient training module elements will be listed to ensure the appropriate depth and scope of the material will be presented

(3) The job aid is organized with training subjects listed in the left column and evaluation criteria or remarks listed horizontally across the top. Inspectors may use the spaces within the matrix for items such as notes, comments, dates, or checkmarks. There are also blank columns and rows in each job aid which permit inspectors to include additional training modules or evaluation criteria.



TABLE 4.

FLIGHTCREW BASIC INDOCTRINATION TRAINING JOB AID - SUBJECT AREA 1: OPERATOR SPECIFIC TRAINING

	EVALUATION CRIT		N CRITERIA	
TRAINING SUBJECTS	Adequacy of Elements/ Events	Adequacy of Courseware	Training Aids and Facilities	
Company History, Organization, and Description				
Operational Concepts, Scope, and Policy				
General Forms, Records, and Administrative Procedures				
Employee Standards and Rules of Conduct				
Employee Compensation and Benefits				
Contract				
Overview of LARs				
Certificate and Operations Specifications				
Company Manuals				
Flight Control				
Weight and Balance				
Principles of Weight and Balance				
Performance and Airport Analysis				
Principles of Meteorology				
Principles of Navigation				
Airspace and ATC Procedures				
En Route/Terminal Charting and Flight Planning				
Instrument Procedures				



DIVISION IV

FLIGHTCREW GENERAL EMERGENCY TRAINING CURRICULUM SEGMENTS

1. GENERAL.

(1) There are two types of emergency training which Parts VII, Subpart 5 operators must provide to flight crewmembers. One type is "aircraft specific." This type of emergency training includes instruction and practice in emergency and abnormal procedures associated with aircraft systems, structural design, and operational characteristics. This training provides pilots and flight engineers with the knowledge and skills necessary to perform the emergency or abnormal procedures specified in the approved AFM (or those AFM procedures incorporated in the operator's aircraft operating manual). Examples of such procedures are those used when engine, landing gear, flight control, and/or pressurization problems occur. "Aircraft specific" also includes training on the location of specific items of emergency equipment on the aircraft, such as fire extinguishers, oxygen bottles, liferafts, life vests and first aid kits. Aircraft specific training must be included in the aircraft ground and flight training curriculum segments as described in Divisions III and IV of this Standard. The other type of emergency training is referred to as "general emergency training." General emergency training is required for crewmembers on each item specified in LARs Part VII, Section 705.138. This Division provides direction and guidance on the content, methods of presentation, evaluation, and approval of flightcrew general emergency training.

(2) Two distinct subject areas of training are required in the conduct of general emergency training. These areas of training are "emergency drill" training and "emergency situation" training. The general emergency training curriculum segment must contain training modules which provide for training in both subject areas.

- (a) "Emergency Drill" training provides instruction and practice in the actual use of certain items of emergency equipment, such as fire extinguishers, life vests, oxygen bottles, and first aid equipment.
- Information Note: The discharge of Halon extinguishing agents during firefighting drills is not appropriate unless a training facility is used that is specifically designed to prevent harm to the environment from the discharged Halon. When such facilities are not used, other fire extinguishing agents that are not damaging to the environment will be used during the drills.
 - (b) "Emergency Situation" training consists of instruction on the factors involved, as well as the procedures to be followed, when emergency situations occur. Examples include passenger evacuations, ditching, rapid decompressions, aircraft fires, and persons needing first aid.

(3) The training modules for general emergency training must address the type of operation performed by an operator. For example, if a company operates aircraft above 25,000 feet, crewmembers must receive instruction in subjects such as respiration, hypoxia, decompression sickness and any related procedures. As another example, a company which does not conduct extended overwater operations does not need to conduct training in the use of liferafts.

2. GENERAL EMERGENCY TRAINING CURRICULUM SEGMENTS.

(1) All Part VII, Subpart 5 operators must develop and obtain approval of a general emergency training curriculum segment for the initial new hire category of training. Operators using both Group I (propeller driven) and Group II (turbojet) aircraft must develop a general emergency training

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curriculum segment for flight crewmembers required to receive initial equipment training on an aircraft in a different group for the first time. Operators may elect (or DGCA may require) to develop a separate general emergency training curriculum segment for flight crewmembers required to receive initial equipment training on an aircraft in the same group. In this situation, the decision to develop a separate general emergency training curriculum segment will be based on the complexity of the operation, the extent of the differences in the flight regimes of the aircraft involved, and the extent of differences in the emergency equipment and procedures associated with the aircraft involved. (2) *Transition and Upgrade Training*. There is not a requirement for a separate general emergency curriculum segment for the transition and upgrade categories of training. For these categories of training, flight crewmembers will have previously received the appropriate general emergency training uring initial new hire training or, when appropriate, initial equipment training. "Aircraft specific" emergency training must be included in the transition or upgrade aircraft ground and flight training curriculum segments.

(3) *Recurrent Training*. Operators must develop and obtain approval of a separate general emergency training curriculum segment for the recurrent category of training. Usually it will be appropriate to have two general emergency curriculum segments, one which reflects a 12 month cycle of emergency situation training and another which reflects a 24 month cycle of emergency drill (actual hands-on) training. See Division IV, Subsection 3. It is acceptable, however, to incorporate the emergency drill "hands-on" training into a single curriculum segment provided it clearly requires that flight crewmembers receive the emergency drill (hands-on) training at least once each 24 months.
(4) *Requalification Training*. Whether a general emergency curriculum segment is required for the requalification category of training is dependent on the purpose of the requalification training. In general, if the purpose of the requalification training is to requalify flight crewmembers who have been unqualified for more than one year, a general emergency training curriculum segment will be required.

3. RECURRENT GENERAL EMERGENCY TRAINING.

(1) Part VII, Subpart 5 operators are required to conduct recurrent general emergency training. This curriculum segment is separate from the aircraft ground recurrent training curriculum segment. Recurrent general emergency training consists of "emergency situation" and "emergency drill" training modules.

(2) Recurrent general emergency training for Part VII, Subpart 5 operators consists of all the items contained in LARs Part VII, Section 705.138. This training must be conducted every 12 months, usually at the same time that aircraft ground recurrent training is conducted.

(3) The emergency situation training modules that are part of the recurrent general emergency training curriculum segment, must include at least the following:

- (a) rapid decompression (if applicable)
- (b) inflight fire (or on the surface) and smoke control procedures
- (c) ditching and evacuation situations
- (d) illness, injury, the proper use of first aid equipment, and other abnormal situations involving passengers or crewmembers

(4) The emergency drill training modules, which require the crewmember to actually operate the items of emergency equipment (hands-on), must be conducted at least every 24 months. During the alternate 12 month periods, the emergency drill training may be accomplished by pictorial presentation or demonstration. The emergency drill training modules that are part of the recurrent general emergency training curriculum segment must include at least the following:

- (a) operation of emergency exits (such as floor level, overwing, and tail cone) in the normal and emergency modes
- (b) operation of each type of hand-held fire extinguisher
- (c) operation of each type of emergency oxygen system

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- (d) donning, use, and inflation of life preservers and other floatation devices (if applicable)
- (e) ditching procedures (if applicable), including cockpit preparation, crew coordination, passenger briefing, cabin preparation, the use of lifelines, and boarding of passengers and crew into a liferaft or slideraft as appropriate

(5) The following illustration serves to clarify the chronological order of recurrent general emergency training requirements:

	MONTHS SINCE FIRST GENERAL EMERGENCY TRAINING CURRICULUM SEGMENT WAS COMPLETED			
TYPE OF RECURRENT GENERAL EMERGENCY TRAINING REQUIRED	12 MONTHS	24 MONTHS	36 MONTHS	48 Months
EMERGENCY SITUATION TRAINING	Х	Х	Х	Х
EMERGENCY DRILL (EITHER HANDS ON OR A PICTORIAL PRESENTATION/DEMO)	Х	Х	Х	Х
EMERGENCY DRILL (HANDS ON REQUIRED)		Х		Х

4. GENERAL EMERGENCY TRAINING MODULES.

(1) A general emergency training curriculum segment must include as many training modules as necessary to ensure appropriate training. Each module outline must provide at least the following information:

- (a) a descriptive title of the training module
- (b) a list of the related elements or events which will be presented during instruction on the module

(2) The training module outline must contain sufficient elements or events to ensure a student will receive training on the emergency equipment and procedures common to all of the operator's aircraft and the type of operation being conducted.

(3) It is unnecessary to include detailed descriptions of each element within a training module outline. Such detailed descriptions are appropriate when included in the operator's courseware, such as lesson plans. During the approval process, the DGCA will review courseware as necessary to ensure that the scope and depth of the training modules are adequate. An example of one of the many acceptable methods of presenting a general emergency training module outline follows:

3. AIRCRAFT FIRES

- (a) Principles of combustion and classes of fires
- (b) Toxic fumes and chemical irritants
- (c) Use of halon, CO2, and water extinguishers
- (d) Lavatory fires
- (e) Smoke masks and goggles

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Information Note: In the preceding illustration such items as engine fire procedures, electrical fire procedures, and the location of each fire extinguisher are intentionally not included. These elements or events are included in the aircraft ground and flight training curriculum segments.

(4) The following example illustrates the interrelationship of training modules in the flight crewmember general emergency training curriculum segment:





5. TRAINING HOURS.

The norm for general emergency training curriculum segments is 8 hours for Part VII, Subpart 5 operators. When approving these curriculum segments, the DGCA must consider the complexity of the type of operation and the complexity of the aircraft used. The training hours for a complex type of operation may need to exceed the norm while training hours below the norm may be acceptable for a less complex type of operation. Norms have not been established for initial equipment or recurrent general emergency training.

6. COURSE COMPLETION REQUIREMENTS.

Completion of the curriculum segment must be documented by an instructor's or supervisor's certification that the student has successfully completed the course. The certification is usually based on the results of a written examination given at the end of the course. With some training methods, the certification may be based on student progress checks administered during the course.

7. CONTENT OF FLIGHT CREWMEMBER GENERAL EMERGENCY TRAINING CURRICULUM SEGMENTS.

A general emergency training curriculum segment must indicate that training will be given, appropriate to the operator's type of operation, in two distinct areas. These areas of training are "emergency situation" and "emergency drill" training.

8. EMERGENCY SITUATION TRAINING MODULES.

Emergency situation training modules provide instruction, demonstration, and practice in the handling of emergency situations. Examples of recommended training modules for the emergency situation subject area follow:

- (a) flight crewmember duties and responsibilities
 - (i) emergency assignments
 - (ii) Captain's emergency authority
 - (iii) reporting incidents and accidents
- (b) crew coordination and company communication
 - (i) cabin crew notification procedures
 - (ii) ground agency notification procedures (DGCA, Airport Authority)
 - (iii) company communication procedures
- (c) aircraft fires
 - (i) principles of combustion and classes of fire
 - (ii) toxic fumes and chemical irritants
 - (iii) use of appropriate hand-held extinguishers
 - (iv) lavatory fires
 - (v) smoke masks and goggles
- (d) first aid equipment
 - (i) contents of first aid kit
 - (ii) requirements for first aid kit integrity
 - (iii) use of individual items
- (e) illness, injury, and basic first aid
 - (i) principles of CPR
 - (ii) ear and sinus blocks
 - (iii) seeking medical assistance
 - (iv) treatment of shock

- (v) heart attack and pregnancy situations
- (f) ground evacuation
 - (i) aircraft configuration
 - (ii) directing passenger flow
 - (iii) blocked or jammed exit procedures
 - (iv) fuel spills and other ground hazards
 - (v) handicapped persons
- (g) ditching
 - (i) cockpit and cabin preparation
 - (ii) passenger briefing
 - (iii) crew coordination
 - (iv) primary swells, secondary swells, and sea conditions
 - (v) ditching heading and water landings
 - (vi) ditching at night
- (h) rapid decompression
 - (i) respiration
 - (ii) hypoxia, hypothermia, hyperventilation
 - (iii) time of useful consciousness
 - (iv) gas expansion/bubble formation
 - (v) physical phenomena and actual incidents
- (i) previous aircraft accidents/incidents
 - (i) accident report reviews
 - (ii) human factors/considerations
 - (iii) incident reporting system
- (j) crewmember incapacitation
 - (i) company procedures
 - (ii) reporting requirements (DGCA)
 - (iii) interference with crewmembers
- (k) hijacking and other unusual situations
 - (i) hijack procedures
 - (ii) bomb threat procedures
 - (iii) security coordinator responsibilities
 - (iv) inflight intercept signals and procedures

9. EMERGENCY DRILL TRAINING MODULES.

The area of a general emergency training curriculum segment referred to as emergency drill training provides instruction, demonstration, and practice in the actual operation of certain items of emergency equipment. Examples of recommended training modules for the emergency drill training subject area are as follows:

- (a) hand-held fire extinguishers
 - (i) inspection tags, dates, and proper charge levels
 - (ii) removal and stowage of extinguishers
 - (iii) actual discharge of each type of extinguisher
 - (iv) maintenance procedures and MEL
- (b) portable oxygen systems
 - (i) inspection tags, dates, and pressures
 - (ii) removal and stowage of oxygen bottles
 - (iii) actual operation of each type of bottle and each type of mask
- (c) emergency exits and slides
 - (i) actual operation (open and close) of each exit in the normal and emergency modes

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- (ii) instruction on slide or slideraft deployment, transfer from one door to another, and detachment from the aircraft (or training device) of each type of slide or slideraft (if applicable)
- (iii) actual use of slide or slideraft (this requirement needs to be accomplished only once during initial new hire or initial equipment training)
- (d) ditching equipment (if applicable)
 - (i) actual donning, use, and inflation of individual floatation means (life preservers)
 - (ii) instruction on liferaft removal from the aircraft and inflation of each type of liferaft
 - (iii) instruction on the use of life lines
 - (iv) actual boarding of a liferaft or slideraft
 - (v) instruction on survival equipment

10. RECURRENT GENERAL EMERGENCY TRAINING MODULES.

Recurrent general emergency training consists of elements and events (in the form of training modules) which are selected by the operator and approved by the DGCA. These training modules consist of emergency situation training elements and emergency drill training events.
 During alternate 12 month periods, when emergency drill (actual hands-on) training is not required, operators may use approved pictorial presentations or demonstrations. When approving pictorial presentations, the DGCA shall ensure that the presentation meets the following criteria:

- (a) the equipment shown in each pictorial presentation must be functionally identical to the equipment on board the aircraft.
- (b) the pictorial display of equipment must be large enough to be properly viewed by the whole class.
- (c) all procedures must be accurately and logically presented.
- (d) all emergency equipment not actually demonstrated during the course of instruction must be presented pictorially.

(3) Every 24 months each crewmember must receive emergency drill (actual hands-on) training. This means each crewmember must actually perform each drill or procedure and must actually operate each piece of emergency equipment specified in Division IV, Subsection 9. Certain hands-on emergency drill events must be conducted in a static aircraft or in an approved cabin/exit mockup training device.

11. CABIN AND EXIT MOCKUPS.

Hands-on emergency drill training for items such as emergency exits and passenger oxygen systems will be conducted in a static aircraft, in an approved cabin mockup training device, or by use of an approved exit mockup training device. Cabin and exit mockup training devices will be representative of a full-scale section of an aircraft. Cabin mockups will include operational doors, window exits, slides, rafts, and other equipment used in emergency drill training. The DGCA shall not approve cabin or exit mockup training devices without an inspection to determine the adequacy of the devices. Generally, cabin and exit mockup training devices are acceptable if they meet the following criteria:

- (a) cabin mockups will be representative of the operator's aircraft with appropriate equipment installed.
- (b) cabin mockups will be full-scale, except for length.
- (c) the forces required to open the exit mockups will duplicate normal and emergency conditions with the slides or slideraft installed.
- (d) the mechanisms and instructions required to operate the exits are representative of the operator's aircraft.



12. EVALUATION OF FLIGHT CREWMEMBER GENERAL EMERGENCY TRAINING CURRICULUM SEGMENT OUTLINES FOR INITIAL APPROVAL.

When evaluating a general emergency training curriculum segment for initial approval inspectors must determine that the training modules contain information of sufficient quality, scope, and depth to ensure the flight crewmember can perform emergency duties and procedures without supervision. Inspectors will use the job aid in this section when evaluating the proposed curriculum segment outline.

13. FLIGHT CREWMEMBER GENERAL EMERGENCY TRAINING JOB AID.

(1) The flight crewmember general emergency training job aid (table 5) is provided to assist the inspector when evaluating this curriculum segment. The regulatory requirements of Part VII, Subpart 5 general emergency training are contained in this job aid. The job aid covers the two subject areas of general emergency training, "emergency situation" and "emergency drill" training, and is intended to assist the inspector in evaluating individual training modules.

(2) When using this job aid the inspector will make a side by side comparison of the operator's proposal to make the following determinations:

- (a) whether training modules provide for training on the required elements and events in terms of flight crewmember duties and procedures
- (b) whether sufficient training module elements and events are outlined to ensure the appropriate depth and scope of the material will be presented

Information Note:	Although some elements and events in general emergency
	training are "aircraft specific" (such as exits and slides or
	sliderafts), the majority of the elements and events will apply to
	the operator's aircraft fleet.

(3) The job aid is organized with the training subjects listed in the left column and evaluation criteria listed horizontally across the top. Inspectors may use the spaces within the matrix for items such as notes, comments, dates, and checkmarks. There are also blank columns and rows in the job aid which permit inspectors to add other training modules or evaluation criteria.



TABLE 5.

FLIGHT CREWMEMBER GENERAL EMERGENCY TRAINING JOB AID - SUBJECT AREA 1: EMERGENCY <u>SITUATION</u> TRAINING

	EVALUATION CRITERIA			
TRAINING SUBJECTS	Adequacy of Elements/ Events	Adequacy of Courseware	Training Aids and Facilities	
Duties and Responsibilities				
Crew Coordination				
Aircraft Fires				
First Aid Equipment				
Illness, Injury, and Basic First Aid				
Ground Evacuation				
Ditching Procedures				
Rapid Decompression				
Previous Accidents and Incidents				
Basic Survival Training				

TABLE 5.

FLIGHT CREWMEMBER GENERAL EMERGENCY TRAINING JOB AID (continued) -SUBJECT AREA 2: EMERGENCY <u>DRILL</u> TRAINING

	EVALUATION CRITERIA			
TRAINING SUBJECTS	Adequacy of Elements/ Events	Adequacy of Courseware	Training Aids and Facilities	
Hand-held Fire Extinguishers				
Emergency Oxygen System				
Emergency Exits and Slides *				
Life Preservers				
Ditching Procedures **				

- * Note 1: Each crewmember is only required to participate in one emergency evacuation using a slide during Initial New-hire or initial equipment training.
- ** Note 2: Crewmembers are not required to deploy, remove, detach, transfer, or inflate slides or sliderafts on the aircraft or training device.



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DIVISION V

FLIGHTCREW AIRCRAFT GROUND TRAINING CURRICULUM SEGMENTS

1. GENERAL.

This Division specifies the objectives of aircraft ground training. Structure and content of flightcrew ground training curriculum segments are discussed. Also three distinct areas of aircraft ground training are identified. They are general operational subjects, aircraft systems, and systems integration training.

2. AIRCRAFT GROUND TRAINING OBJECTIVES.

The primary objective of aircraft ground training is to provide flight crewmembers with the necessary knowledge for understanding the basic functions of aircraft systems, the use of the individual system components, the integration of aircraft systems, and operational procedures. An important requirement of an aircraft ground training curriculum segment is that, upon completion, a student will be sufficiently prepared to enter the flight training curriculum segment. Aircraft ground training, as used in this section, is that training for a specific aircraft type. Aircraft ground training may be conducted using many methods including classroom instruction, ground training devices, computer based instruction, flight training devices, flight simulators, and static aircraft.

3. AIRCRAFT GROUND TRAINING CURRICULUM SEGMENTS.

Pilots and flight engineers must successfully complete an aircraft ground training curriculum segment for the appropriate category of training (initial new hire, initial equipment, transition, upgrade, recurrent, or requalification training). Each aircraft ground training curriculum segment consists of training modules containing pertinent subject matter appropriate to the category of training. Training modules may be designed to be used interchangeably in the various categories of training. For example, a hydraulic system training module could be used in initial new hire, initial equipment, and transition training.

4. AIRCRAFT GROUND TRAINING MODULES.

(1) An aircraft ground training curriculum segment must include as many training modules as necessary for appropriate training to occur. Each module outline must provide at least the following information:

- (a) a descriptive title of the training module
- (b) a list of the related elements or events which will be presented during instruction on the module

(2) The training module outline must contain sufficient elements or events to ensure a student will receive training on the main features of individual systems, the operation of individual systems, and the integration of those systems with other aircraft systems. It is unnecessary to include detailed descriptions of each element within a training module outline. Such detailed descriptions, however, are appropriate and will be included in the operator's courseware. During the approval process, the DGCA will review courseware as necessary to ensure the scope and depth of the training modules are adequate. The following example illustrates one of the many acceptable methods of presenting an aircraft ground training module outline:



7. HYDRAULIC SYSTEM (B737-300)	→ Descriptive Title
 (a) A System (b) B System (c) Standby System (d) System Layout (e) Limitations (f) Controls and Annunciators (g) Introduction to Procedures 	Elements Within a Training Module

(3) The job aid at the end of this Section is provided to assist inspectors when determining whether the scope and depth of the aircraft ground training modules are acceptable. The following example illustrates the interrelationship of curriculum segments and training module outlines:







5. TRAINING HOURS.

(1) The number of training hours must be specified on all aircraft ground training curriculum segment outlines. It is difficult to provide guidance on acceptable training hours for aircraft ground training curriculum segments because of the various situations that can be encountered. The DGCA must thoroughly study the operator's proposals. Based on experience with the operator, past experiences with other operators, as well as their own training experiences, the DGCA must use reasonable judgment when determining whether the training can be adequately accomplished within the training hours specified in the curriculum segment. Certain training methods, such as computer based instruction, allow students to progress through training at a rate that depends on each individual student's ability to assimilate the required knowledge or abilities. For these kinds of training methods, the specified training hours will be indicative of the time an average student will progress through training.

(2) Table 6 provides direction and guidance for determining acceptable training hours for aircraft ground training curriculum segments. Generally, training hours listed in this table approximate training days, or fractions of days. Periods for reasonable breaks during instruction are included in these training hours. The table provides two sets of training hours for the various categories of training and families of aircraft.

- (a) the first set is considered to be the accepted norm and reasonable training support is presumed such as proficient instructors, well organized courseware, and modern training devices or aids. The norm must not be construed as being always acceptable. When determining the adequacy of training hours, the DGCA will use the norm as a point from which other factors shall be weighed. There may be many reasons why the training hours need to be greater than the norm. The operator may need to specify more hours because of the complexity of the aircraft or types of operation. The DGCA may need to require more hours because of inadequate training support. Conversely, training hours less than the norm may be fully acceptable due to the use of highly sophisticated and modern training methods, the use of less complex aircraft, or the use of a less complex type of operation.
- (b) the second set of training hours, in parentheses, is an established threshold for training hours. Threshold training hours are established for particular categories of training and families of aircraft. Before granting initial approval to a curriculum segment with less than the established threshold training hours, the DGCA must ensure that the training to be given will provide sufficient training and meet the objective of the curriculum segment.
- (c) training hour norms have not been established for upgrade ground training curriculum segments. Upgrade ground training requirements vary widely depending on a flight crewmembers experience, previous duty position, and currency status in the aircraft for which training is being conducted. In cases when students have not served on the aircraft for a long time, upgrade ground training may need to be as extensive as initial equipment training. In other cases when students are currently qualified on the aircraft, either as FEs or SICs, the upgrade ground training may only be that training necessary to qualify them in the new duty position. In such cases, an operator may be able to expand or conduct upgrade flight training, and qualify students for the new duty positions, without a separate upgrade ground training curriculum segment.

(3) The following illustration provides several factors to be considered when evaluating upgrade ground training curriculum segments:



UPGRADE GROUND TRAINING						
FLIGHT CREWMEMBER STATUS	GENERAL OPERATIONAL SUBJECTS	AIRCRAFT SYSTEMS	SYSTEMS INTEGRATION			
SIC (current on aircraft) upgrade to PIC	Training modules or elements pertaining to PIC duty position.	May not be needed	Training modules or elements pertaining to PIC duty position			
SIC (not current on aircraft) upgrade to PIC	Training modules or elements pertaining to PIC duty position	Appropriate training modules depending on time not current	Appropriate training modules depending on time not current			
F/E (current on aircraft) upgrade to SIC	Training modules pertaining to SIC duty position	May not be needed	Training modules or elements pertaining to SIC duty position			
F/E (not current on aircraft) upgrade to SIC	Training modules or elements pertaining to SIC duty position	Appropriate training modules depending on time not current	Appropriate training modules depending on time not current			

(4) Training hour thresholds for upgrade ground training curriculum segments have been established.

TABLE 6.

FLIGHTCREW AIRCRAFT GROUND TRAINING HOURS NORMS (THRESHOLDS)

		CATEGORY OF TRAINING				
T R A N S P O R T C A T E G O R Y	Family of Aircraft	Initial New-Hire	Initial Equipment	Transition	Upgrade	Recurrent
	Part VII, Subpart 5 Group I (Reciprocating)	64 (48)	56 (40)	56 (40)	(16)	8 (8)
	Part VII, Subpart 5 Group I (Turboprop)	72 (56)	64 (48)	64 (48)	(16)	16 (8)
	Part VII, Subpart 5 Group II (Turbojet)	80 (64)	80 (64)	80 (64)	(24)	16 (8)

(5) LARs Part VII, Sections 705.140 and 705.147 specify LARs programmed hour requirements for initial new hire, initial equipment, and recurrent aircraft ground training curriculum segments. The regulatory programmed hours for these categories of training are listed in table 7.



TABLE 7.

PART VII, SUBPART 5 REGULATORY PROGRAMMED HOURS

LARs Programmed Hours by Category Of Training

PART VII AIRPLANE GROUPS
Group I (Reciprocating)
Initial New Hire - 64
Initial Equipment - 64
Recurrent - 16
Group I (Turboprop) Initial New Hire - 80 Initial Equipment - 80 Recurrent - 20
Group II (Turbojet)
Initial New Hire - 120
Initial Equipment - 120
Recurrent - 25

(6) Under LARs Part VII, Section 705.129, the DGCA is authorized to approve reductions to the LARs-programmed hour requirements of these three categories of training. When approving reductions to the LARs programmed hours, the DGCA must determine that the training aids, devices, and methods and procedures used by the operator will increase the quality and effectiveness of the training. The letter which transmits initial or final approval of these Part VII, Subpart 5 aircraft ground training curriculum segments must contain a statement giving the basis for the reduced LARs-programmed hours (See Division II, Subsections 11 and 15).

(7) There are no other categories of training in Part VII, Subpart 5 that specify LARs-programmed hour requirements.

6. COURSE COMPLETION REQUIREMENTS.

Completion of the curriculum segment must be documented by an instructor's or supervisor's certification that the student has successfully completed the course. This certification is usually based on the results of a written examination given at the end of the course. With some training methods, the certification may be based on student progress checks administered during the course.

7. CONTENT OF AIRCRAFT GROUND CURRICULUM SEGMENTS.

An aircraft ground curriculum segment must show that training will be given in three distinct subject areas appropriate to the specific aircraft. These subject areas of training are "general operational subjects" (See Division V, Subsection 8), "aircraft systems" (See Division V, Subsection 9), and "systems integration" (See Division V, Subsection 10). An operator will develop separate training modules for each of these distinct areas of training. Usually training in systems integration will occur during the latter part of the course. Other methods of training module development and sequencing of training, however, may be fully acceptable.



8. GENERAL OPERATIONAL SUBJECTS.

The subject area of ground training, referred to as "general operational subjects," includes instruction on certain operational requirements that are specific to the aircraft in which the training is being conducted. The general operational subject area of an aircraft training curriculum segment may include instruction on many operational subjects but will include instruction in at least the following:

- (a) dispatch, flight release, or flight locating procedures applicable to the specific aircraft
- (b) weight and balance procedures specific to the (including computation of company weight and balance forms)
- (c) adverse weather practices, including procedures specific to the aircraft which must be followed when operating in the following conditions:
 - (i) icing
 - (ii) turbulence
 - (iii) heavy precipitation
 - (iv) thunderstorms with associated windshear and microburst phenomena
 - (v) low visibility
 - (vi) contaminated runways
- (d) procedures for operating specific aircraft communications and navigation equipment in accordance with the following:
 - (i) specific company communications requirements
 - (ii) ATC clearance requirements
 - (iii) area departure and arrival requirements
 - (iv) enroute requirements
 - (v) approach and landing requirements
- (e) specific performance characteristics of the aircraft during all flight regimes, including:
 - (i) the use of charts, tables, tabulated data and other related manual information
 - (ii) normal, abnormal, and emergency performance problems
 - (iii) meteorological and weight limiting performance factors (such as temperature, pressure, contaminated runways, precipitation, climb/runway limits)
 - (iv) inoperative equipment performance limiting factors (such as MEL/CDL, DDPG, inoperative antiskid)
 - (v) special operational conditions (such as unpaved runways, high altitude airports and drift down requirements)
- (f) the following example illustrates one of many acceptable methods in which the "general operational subjects" area of an aircraft ground training curriculum segment could be outlined (including a typical training module):



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9. AIRCRAFT SYSTEMS.

The second subject area of an aircraft ground curriculum segment is the "aircraft systems" area. This area is particularly adaptive to the use of training modules because of the modular nature of each system and its related components. Instruction on each system must be given in sufficient detail to ensure the student clearly understands system components, limitations, relevant controls, actuators, annunciators and procedures for various system configurations. An example of one of the many acceptable methods in which the aircraft systems subject area of an aircraft ground curriculum segment outline could be presented is illustrated in Division V, Subsection 4.(3). It is not possible to list every conceivable aircraft system that will be included in the aircraft ground curriculum segment, however, the following descriptions of training modules (with typical elements) illustrate the depth and scope that will be provided for an operator's submission to be acceptable:

- (a) <u>Aircraft General</u>: Typical elements include an overview of the basic aircraft such as dimensions, turning radius, panel layouts, cockpit and cabin configurations, and other major systems and components or appliances.
- (b) <u>Powerplants</u>: Typical elements include a basic engine description, engine thrust ratings, engine components such as accessory drives, ignition, oil, fuel control, hydraulic, and bleed air features.
- (c) <u>Electrical</u>: Typical elements will include elements identifying the sources of aircraft power including engine driven generators, APU generator, and external power. Other elements

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include the electrical buses and related components such as circuit breakers, fuses, the aircraft battery, and other standby power systems, if applicable.

- (d) <u>Hydraulic</u>: Some typical elements are the hydraulic reservoirs, pumps, accumulators; the means of routing hydraulic fluid through filters, check valves, interconnects, and to associated actuators and hydraulically operated components.
- (e) <u>Fuel</u>: Elements include the fuel tank system (location and quantities), engine driven pumps, boost pumps, system valves, crossfeeds, quantity indicators, and provisions (if applicable) for fuel jettisoning.
- (f) <u>Pneumatic</u>: Typical elements include bleed air sources (such as engines, APU, or external ground air) the means of routing, venting and controlling bleed air via associated valves, ducts, chambers, and temperature and pressure limiting devices.
- (g) <u>Air Conditioning and Pressurization</u>: Typical elements include heaters, air conditioning packs, fans, and other environmental control devices. Pressurization system components include elements such as outflow and negative pressure relief valves with associated automatic, standby, and manual pressurization controls and annunciators.
- (h) <u>Flight Controls</u>: Elements in flight controls include primary (yaw, pitch, and roll devices) and secondary controls (leading/trailing edge devices, flaps, trim, and damping mechanisms). Elements which indicate the means of actuation (direct/indirect or fly by wire) will be included as well as applicable redundancy devices.
- (i) <u>Landing Gear</u>: Typical elements will include the landing gear extension and retraction mechanism including the operating sequence of struts, doors, and locking devices, and brake and antiskid systems, if applicable. Other elements are steering (nose or body steering gear), bogie arrangements, air/ground sensor relays, and visual downlock indicators.
- (j) <u>Ice and Rain Protection</u>: Elements will include rain removal systems and each anti-icing and/or deicing system which prevents or removes the formation of ice from airfoils, flight controls, engines, pitot static probes, fluid outlets, cockpit windows, and aircraft structures. Other elements will include system components such as pneumatic/electrical valves, sensors, ducts, electrical elements, or pneumatic devices.
- (k) <u>Equipment and Furnishings</u>: Typical elements are the aircraft exits, galleys, water and waste systems, lavatories, cargo areas, crewmember and passenger seats, bulkheads, seating and/or cargo configurations, and nonemergency equipment and furnishings.
- (1) <u>Navigation Equipment</u>: Typical elements are flight navigation system components including flight directors, horizontal situation, radio magnetic indicators, navigation receivers (ADF, VOR, OMEGA, LORAN-C, RNAV, Marker Beacon, DME) used on the aircraft. Other elements include applicable inertial systems (INS, IRS), functional displays, fault indications, and comparator systems; aircraft transponders, radio altimeters, weather radar, and cathode ray tube or computer generated displays of aircraft position and navigation information.
- (m) <u>Auto Flight System</u>: Typical elements include such items of equipment as the autopilot, autothrottles and their interface with aircraft flight director and navigation systems, including automatic approach tracking, autoland, and automatic fuel or performance management systems.
- (n) <u>Flight Instruments</u>: Typical elements will include an overview of the panel arrangement and the electrical and pitot static sources and alternate sources for the flight instruments. Other elements include attitude, heading (directional gyro and magnetic), airspeed, vertical speed, altimeters, standby flight instruments, and other relevant instruments.
- (o) <u>Communication Equipment</u>: Elements include the VHF/HF radios, audio panels, inflight interphone and passenger address systems, the voice recorder, and air/ground passive communications systems (ACARS).
- (p) <u>Warning Systems</u>: Typical elements are aural, visual, and tactile warning systems, including the character and degree of urgency related to each signal. Other elements include warning and caution annunciator systems, including ground proximity and takeoff warning systems.

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- (q) <u>Fire Protection</u>: Elements will include all fire and overheat sensors, loops, modules, or other means of providing visual and/or aural indications of fire or overheat detection. Other elements include procedures for the use of fire handles, automatic extinguishing systems, agents, and the power sources necessary to provide protection for fire and overheat conditions in engines, APU, cargo bay/wheel well, the cockpit, cabin, and lavatories.
- (r) <u>Oxygen</u>: Typical elements are the aircraft oxygen system including the installed passenger, crew, and portable systems. Other elements include sources of oxygen (gaseous or solid), flow and distribution networks, automatic deployment systems, regulators, pressure levels, gauges, and servicing requirements.
- (s) <u>Lighting</u>: Typical elements are the cockpit, cabin, and external lighting systems, including power sources, switch positions, and spare light bulb locations.
- (t) <u>Emergency Equipment</u>: Typical elements are the type, location, and purpose of each item of emergency equipment such as fire and oxygen bottles, first aid kits, liferafts, life preservers, crash axes, and emergency exits and lights. Other elements include each item of egress equipment such as slides, sliderafts, escape straps or handles, hatches, ladders or movable stairs.
- (u) <u>Auxiliary Power Unit (APU)</u>: Elements will include installation of the APU, APU capacity and operation including its electrical and bleed air capabilities and how it interfaces with the aircraft's electrical and pneumatic systems. Other elements include the APU components such as inlet doors, exhaust ducts, and fuel supply.

10. AIRCRAFT SYSTEMS INTEGRATION TRAINING.

(1) The third subject area of a ground training curriculum segment is referred to as "Systems Integration Training." This area provides the student with training on how systems interrelate with respect to normal, abnormal, and emergency procedures. This training includes procedures as basic as those for powering the aircraft electrical and pneumatic systems with the APU or as complex as those for programming computerized navigation and autoflight systems. System integration training will include flightcrew interaction in the use of checklists, cockpit resource management, and other operational procedures. It is normally conducted using ground training devices portraying a specific cockpit layout, including the switch and indicator/annunciator logic. The flight training devices and flight simulators described in the Flight Training Section (Division 6) may be used for systems integration training. Additionally, computer based instruction or other interactive systems may be used for this training. Integration training may be conducted in conjunction with systems training or as a later phase of the aircraft ground training curriculum segment.

(2) Effective systems integration training serves as a logical bridge between conventional ground training instructional delivery methods and flight training. This training allows students to become familiar with the cockpit layout, checklists, operator procedures, and other areas which are best learned before they conduct actual flight maneuvers and procedures. The DGCA will consider this type of training, and the quality and capability of the involved training devices, as factors in the decision for reducing training hours.

- (3) The following examples are of aircraft systems integration training modules with typical elements:
 - (a) <u>Use of Checklist</u>: Typical elements include safety chocks, cockpit preparation (switch position and checklist flows), checklist callouts and responses, and checklist sequence.
 - (b) <u>Flight Planning</u>: Elements will include performance limitations (meteorological, weight, and MEL/CDL items), required fuel loads, weather planning (lower than standard takeoff minimums or alternate requirements).
 - (c) <u>Display Systems</u>: Typical elements include the use of weather radar and other CRT displays (checklist, vertical navigation or longitudinal navigation displays).
 - (d) <u>Navigation Systems</u>: Elements include preflight and operation of applicable receivers, onboard navigation systems, and flight plan information input and retrieval.

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- (e) <u>Autoflight</u>: Typical elements include the autopilot, autothrust, and flight director systems, including the appropriate procedures, normal and abnormal indications, and annunciators.
- (f) <u>Cockpit Familiarization</u>: Typical elements include activation of aircraft system controls and switches to include normal, abnormal, and emergency switches and control positions and relevant annunciators, lights, or other caution and warning systems.

(4) Aircraft systems integration training may be as simplistic as a student learning checklist procedures in a single engine aircraft or as complex as programming aircraft computer systems for an international flight. Integration training is particularly effective when an aircraft is equipped with relatively sophisticated computerized navigation, flight director, performance, and autoflight systems. The key to effective training in this area is to use a training device which provides an accurate, real time, and interactive medium for the students during the practice of procedures. The functional requirements of the training device do not necessarily require motion or visual systems or specific aircraft flight data characteristics. The training device, however, will accurately portray relevant keyboards, switches, CRTs and include air/ground and flightpath logic.

(5) The following example illustrates one of the many acceptable methods in which the "aircraft systems integration" subject area of an aircraft ground training curriculum segment could be outlined (including a typical training module):



11. GROUND TRAINING DEVICES.

(1) Ground training devices are commonly used by operators in the conduct of aircraft ground training. The level of sophistication of these devices may range from a simple paper pictorial display to a static aircraft. They may include slide/tape presentations, computer based instruction systems, aircraft system panels, models, mockups, flight training devices, flight simulators, and numerous other instructional delivery methods. The DGCA will approve or accept each ground training device for use when granting initial or final approval of a ground training curriculum segment for the operator.
 (2) Ground training devices used for systems integration training must be individually evaluated by the DGCA. If these devices are also used for flight training (level 6 and 7 flight training devices or



level A through D flight simulators) they must be evaluated and found satisfactory for flight training by the DGCA.

12. EVALUATION OF GROUND TRAINING CURRICULUM SEGMENT OUTLINES FOR INITIAL APPROVAL.

When evaluating an aircraft ground training curriculum segment outline an inspector must determine whether it meets the following criteria:

- (a) the training hours specified in each curriculum segment outline must be examined. Inspectors will not attempt to measure the quality or sufficiency of training by the amount of training hours alone. Adequacy of quality and sufficiency of training can only be determined by direct observation of training and testing (or checking) in progress or by examination of surveillance and investigation reports. The specified training hours, however, must be realistic in terms of the amount of time it will take to accomplish the training outlined in the curriculum segment. Any request and the appropriate justification for reductions to training hours must be submitted with the initial proposal.
- (b) the curriculum segment outline contains appropriate training modules for the specific aircraft. The training modules will have sufficient elements or events to ensure that the quality and depth of training given in a particular subject area will be provided.

13. AIRCRAFT GROUND TRAINING CURRICULUM SEGMENT JOB AID.

(1) The aircraft ground training curriculum segment job aid (Figure 9) is provided to assist the inspector in evaluating curriculum segments. The job aid focuses on the three subject areas of this segment, general operational subjects, aircraft systems, and systems integration training. It serves as an aid for evaluating individual training modules.

(2) When using the job aid, an inspector will make a side by side comparison of the operator's proposal to determine the following:

- (a) whether each subject is aircraft specific in terms of description, company policy, and appropriate procedures
- (b) whether sufficient training module elements or events are listed to ensure the appropriate depth and scope of the material being presented

(3) The job aid is organized with the training modules listed in the left column and evaluation criteria or remarks listed horizontally across the top. Inspectors may use the spaces within the matrix for items such as notes, comments, dates, or checkmarks. There are also blank columns and rows in the job aid in which inspectors may include additional training modules for systems unique to a particular aircraft and methods or procedures unique to a particular operation.



FIGURE 9.

AIRCRAFT GROUND TRAINING MODULE JOB AID - SUBJECT AREA 1: GENERAL OPERATIONAL SUBJECTS

	EVALUATION CRITERIA			
TRAINING SUBJECTS	Adequacy of Elements/ Events	Adequacy of Courseware	Training Aids and Facilities	
Flight Control *				
Weight and Balance				
OpSpecs Authorizations/Limitations				
Adverse Weather				
Flight Planning				
Aircraft Flight Manual				
Company Operations Manual				
Performance				



FIGURE 9.

AIRCRAFT GROUND TRAINING MODULE JOB AID (continued) - SUBJECT AREA 2: AIRCRAFT SYSTEMS

	EVALUATION CRITERIA			
TRAINING SUBJECTS	Adequacy of Elements/ Events	Adequacy of Courseware	Training Aids and Facilities	
Aircraft General				
Equipment and Furnishings				
Emergency Equipment				
Power Plants				
Electrical				
Pneumatic				
Air Conditioning and Pressurization				
Ice and Rain Protection				
APU				
Hydraulics				
Landing Gear and Brakes				
Flight Controls				
Fuel				
Communications Equipment				
Flight Instruments				
Navigation Equipment				
Autoflight				
Warning Systems				
Fire and Overheat Protection				
Oxygen				
Performance				



FIGURE 9.

AIRCRAFT GROUND TRAINING MODULE JOB AID (continued) - SUBJECT AREA 3: AIRCRAFT SYSTEMS INTEGRATION

	EVALUATION CRITERIA			
TRAINING SUBJECTS	Adequacy of Elements/ Events	Adequacy of Courseware	Training Aids and Facilities	
Use of Checklists				
Cockpit Familiarization				
Preflight Planning				
Inflight Planning				
Use of Weather Radar / CRTs				
Navigation Systems				
Communication Systems				
Autoflight / Flight Director				



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DIVISION VI

FLIGHT TRAINING CURRICULUM SEGMENTS

1. GENERAL.

This Division specifies the objectives of flight training. Both the structure and content of flight training curriculum segments are discussed. Also clarified are the differences between training objectives and qualification objectives. Flight training consists of certain required maneuvers and procedures which are referred to as "training events." The training events which must be included in flight training curriculum segments to satisfy the requirements of Lebanese Aviation Regulations (LARs) Part VII, Subpart 5, are specified in maneuvers and procedures tables (see tables 11 through 14).

2. FLIGHT TRAINING OBJECTIVES.

Flight training, as used in this Division, means the conduct of training events in an aircraft, a flight simulator, or a flight training device in accordance with an approved training curriculum. Flight training (except for windshear training) may be conducted entirely in an aircraft. Flight training may also be conducted using a combination of an aircraft with either a flight simulator and/or a flight training device. In certain cases, flight training may be conducted entirely in an advanced flight simulator. In all cases, the primary objective of flight training is to provide an opportunity for flight crewmembers to acquire the skills and knowledge necessary to perform to a desired standard. This opportunity provides for demonstration, instruction, and practice of the maneuvers and procedures (training events) pertinent to a particular aircraft and crewmember duty position. Successful completion of flight training is validated by appropriate testing and checking.

3. QUALIFICATION OBJECTIVES.

The objective of the qualification curriculum segment is to determine whether enough learning has occurred by comparing an individual's performance in practical situations, to established standards. A person meeting the qualification objectives satisfactorily completes the curriculum. A person failing to meet these objectives must be returned to training status. After additional training, that person must retake and satisfactorily complete at least the previously unsatisfactory portions of the qualification curriculum segment.

4. FLIGHT TRAINING MODULES OR EVENT OUTLINES.

(1) A flight training curriculum segment may be outlined in a modular format or may be outlined as a series of events in which training must be accomplished. This curriculum segment must include as many training modules or events as necessary to provide appropriate training. Each training module or event outline will provide at least the following information:

- (a) a descriptive title of the training module
- (b) a list of the training events that must be accomplished during flight training
- (c) any specific conditions applicable to a particular training event such as the weather minimums to be used
- (d) provisions for briefing before and after each training period

(2) The operator may submit an outline containing training modules representing blocks of training events, or the operator may submit an outline listing all the elements and events to be accomplished during the flight training. Other forms of presenting the flight training curriculum segment may be

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acceptable. Regardless of the format used, inspectors will evaluate a proposed flight training curriculum by comparing it with the maneuvers and procedures tables in this Division. During actual training, the order and rate of training event presentation may vary. An instructor may vary the events in a published curriculum segment, during any particular period, when a student's progress indicates it is necessary. However, a required event must not be omitted from the curriculum segment. The DGCA will review the operator's flight training courseware, such as lesson plans or instructor guides, to assure that a plan exists in which all events will be appropriately accomplished. To further support that a plan exists, the DGCA will review the forms that will be used to record flight training. It is unnecessary for the DGCA to approve courseware or training record forms.

(3) It is unnecessary to include detailed descriptions of how specific maneuvers or procedures will be accomplished in a flight training module outline or training event outline. However, detailed descriptions must be included in the DGCA approved flight manual, the operator's operating manual, or in a separate maneuvers and procedures document. Detailed descriptions or pictorial displays are required for certain normal, abnormal, and emergency maneuvers, procedures, and functions which are performed in flight training. The DGCA will require operators to provide extremely detailed training outlines in any of the following situations:

- (a) when directed by the DGCA
- (b) when a new technology or procedure is addressed in the training module (examples include fly by wire aircraft control, and helicopter IFR flight slower than Vmin)
- (c) when an operator has had approval of a curriculum segment withdrawn because of deficiencies, the DGCA will require any redeveloped flight curriculum segments to include highly detailed training module or training event outlines (The level of detail will provide sufficient information for the DGCA to determine that previously identified deficiencies are corrected.)

(4) To ensure regulatory compliance, the training module or training event outlines must contain at least the training events listed in the maneuvers and procedures tables in this Division. The interrelationship of training modules and/or training events in a curriculum segment will provide for an orderly and practical progression of training. For example, taxiing may be listed as a training event in the first module of a flight training curriculum segment but does not have to be listed in subsequent training modules, even though training on the taxiing maneuver will occur throughout flight training. Training event modules will be developed so that training events are presented in a logical sequence. For example, missed approach training will be conducted in conjunction with approach training. (5) The following example illustrates the interrelationship of a curriculum segment and training modules when a modular format is used:





5. TRAINING HOURS.

(1) Flight training curriculum segments must specify a planned number of training hours. The operator's proposed number of training hours must realistically allow enough time for demonstration, instruction, and practice of the training events listed in the entire curriculum segment. The DGCA shall not approve a proposed flight training curriculum segment unless the specified training hours realistically allow enough time to accomplish the required training events.

(2) LARs Part VII, Sections 705.144 and 705.145 specify programmed hours of flight training for pilots and flight engineers enrolled in the initial new hire and initial equipment categories of training. It is DGCA direction and guidance that the training hours specified for any LARs Part VII, Subpart 5 pilot-in-command (PIC), second-in-command (SIC), or flight engineer (FE) flight training curriculum segments shall not be less than the programmed hours specified by LARs Part VII, Sections 705.144 and 705.145. Table 8 lists the Part VII, Subpart 5 programmed hours.



TABLE 8.

PART VII, SUBPART 5 REGULATORY PROGRAMMED HOURS

LARs Programmed Hours By
Category Of Training

Part VII Group I	Part VII Group I	Part VII Group II
(Reciprocating)	(Turboprop)	(Turbojet)
Initial New Hire	Initial New Hire	Initial New Hire
PIC - 10	PIC - 15	PIC - 20
SIC - 6	SIC - 7	SIC - 10
FE - 6	FE - 7	FE - 10
Initial Equipment	Initial Equipment	Initial Equipment
PIC - 10	PIC - 15	PIC - 20
SIC - 6	SIC - 7	SIC - 10
FE - 6	FE - 7	FE - 10

(3) LARs Part VII, Section 705.147 stipulate that programmed hours are not specified for pilot or flight engineer recurrent flight training. However, if the flight training is conducted in an approved airplane simulator, LARs Part VII, Section 705.132 requires at least 8 hours of training at the pilot controls for PIC and SIC training. Four hours of training are required regardless of whether the training is conducted on the events listed in Part VII, Appendix IV, or the training is conducted under an approved line oriented flight training (LOFT) program.

(4) Part VII, Subpart 5 does not specify programmed hours for the other categories of training. The number of training hours must be specified, however, on all flight training curriculum segment outlines. Because of the various situations that can be encountered, it is difficult to provide guidance on acceptable training hours for flight training curriculum segments. The DGCA must thoroughly study the operator's proposals. Based on experience with the operator, past experiences with other operators, as well as their own training experiences, the DGCA must use reasonable judgment when determining whether the training can be adequately accomplished within the training hours specified by the curriculum segment.

(5) When flight training is conducted in a flight simulator or training device, it is acceptable and preferable for the flight training curriculum segment to be developed so that two pilots can be trained during a single flight training session. This includes the training of a PIC and SIC, two PICs, or two SICs at the same time. During this type of training, one pilot (pilot A) manipulates the controls of the aircraft while the other pilot (pilot B) performs the duties of the "pilot not flying" (PNF) the aircraft. During the same training session, the pilots reverse roles. Pilot B manipulates the controls and pilot A performs the duties of the PNF are typically included in the operator's aircraft operating manuals and/or in the maneuvers and procedures document. These duties include normal, abnormal, and emergency duties (that are performed by the PNF) and the crew participation activities (crew resource management (CRM) concepts) used by the operator. Both pilots are receiving essential "crew concept" training throughout the training session. Therefore, the total training hours accomplished during the training session can be credited to each of the participating pilots. For example, if a PIC and an SIC participated in a 4 hour simulator session, both pilots would receive 4 hours of training credit. This method of crediting training hours is only valid when both student pilots

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manipulate the controls for approximately equal amounts of time. This method of crediting training hours is not valid when the instructor is providing instruction and also is occupying one of the pilot seats of the flight simulator, flight training device, or aircraft.

(6) Both recurrent and qualification LOFT training sessions will be based on at least 8 hours of total crewmember training activity. When Appendix III, "Line Operational Simulations: Line-Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation" as revised or equivalent, is followed, all crewmembers who participate in a LOFT training session are credited with 4 hours of training time, as follows:

- (a) <u>Two Trainees</u>. Appropriate crew composition is central to the LOFT training concept. Acceptable scheduling practices and crew substitution allowances differ in recurrent LOFT and qualification LOFT. Refer to Appendix III of this Standard for specific differences. When the crew consists of two PIC trainees or two SIC trainees, both pilots will receive full credit (4 hours), provided the following conditions are met:
 - (i) the LOFT session conforms to the minimum 4-hour format described in Appendix III to this Standard.
 - (ii) at least 2 1/2 hours are spent in the LOFT scenario
 - (iii) the pilots swap seats at approximately the midpoint in the LOFT flight segment
- (a) <u>One Trainee</u>. When only one trainee participates in qualification LOFT, that trainee will receive full credit (4 hours), provided the following conditions are met:
 - (i) the LOFT session conforms to the minimum 4-hour format described in Appendix III to this Standard.
 - (ii) at least 2 1/2 hours are spent in the LOFT scenario (including SPOT)

Information Note: A 2-hour qualification LOFT session for one pilot does not meet the training requirements of LARs Part VII, Appendix III. A qualification LOFT program consists of at least a 4-hour course of training for each flightcrew.

(7) Tables 9 and 10 specify established norms for flight training curriculum segments. These norms are based on the assumption that there is reasonable training support, such as proficient instructors and well organized flight instructor guides. The norms in table 9 are for flight training when most or all of it is being conducted in a flight training device or flight simulator, and when two pilots are being trained at the pilot controls during the same training session (See Subsection (5). The norms in table 10 are for flight training when only one pilot is being trained in a flight training device or flight simulator, or when flight training is conducted entirely in an aircraft.

(8) When determining the adequacy of flight training hours, the DGCA will use these norms as a point from which other factors shall be weighed. There may be many reasons why the training hours need to be greater than the norm. The operator may need to specify more hours because of the complexity of the aircraft or types of operation. The DGCA may need to require more hours because of inadequate training support. Conversely, training hours fewer than the norm may be fully acceptable due to the use of highly sophisticated, modern training methods, effective systems integration in aircraft ground training, less complex aircraft, or the conduct of a less complex type of operation. Some factors that would indicate more training hours are needed may be counterbalanced by other factors indicating fewer training hours are necessary. The following diagram illustrates some of the factors that will be considered when determining the adequacy of flight training hours:



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	New Entrant Operator		Basic Servo/Mec Instruments	hanical
	Complex Pilot Operation of Aircraft Systems, Engines, Propellers		Pilot Experience Aircraft	with Similar
	Critical Aircraft Performance		Modern Simulato Devices	rs and Training
	EFIS, FMS, Autoflight		Well Organized F Guides	Flight Instructor
	Dissimilar Flightcrew Experience Levels		Basic Navigation	Systems
	Low Visibility Capabilities		Simple Flight Ha Characteristics	ndling
	Complex Navigation Systems		Effective System Training	s Integration
← -	More Than Norm	Norm – – –		Less Than Norm – \rightarrow


TABLE 9.

FLIGHT TRAINING HOURS (NORMS)

TWO PILOTS: FLIGHT TRAINING DEVICE AND/OR FLIGHT SIMULATOR

TRANSPORT CATEGORY

Part VII Group I (Reciprocating)	Part VII Group I (Turboprop)	Part VII Group II (Turbojet)
Initial New Hire	Initial New Hire	Initial New Hire
PIC - 24	PIC - 24	PIC - 28
SIC - 24	SIC - 24	SIC - 28
FE - 20	FE - 20	FE - 20
Initial Equipment	Initial Equipment	Initial Equipment
PIC - 20	PIC - 20	PIC - 24
SIC - 20	SIC - 20	SIC - 24
FE - 20	FE - 20	FE - 20
Transition	Transition	Transition
PIC - 20	PIC - 20	PIC - 24
SIC - 20	SIC - 20	SIC - 24
FE - 20	FE - 20	FE - 20
Upgrade	Upgrade	Upgrade
SIC TO PIC - 8	SIC TO PIC - 8	SIC TO PIC - 8
FE TO SIC - 20	FE TO SIC - 20	FE TO SIC - 28
Recurrent	Recurrent	Recurrent
PIC - 4	PIC - 4	PIC - 4
SIC - 4	SIC - 4	SIC - 4
FE - 4	FE - 4	FE - 4



TABLE 10.

FLIGHT TRAINING HOURS (NORMS)

WHEN ALL TRAINING IS CONDUCTED IN AN AIRCRAFT

Part VII Group I	Part VII Group I	Part VII Group II
(Reciprocating)	(Turboprop)	(Turbojet)
Initial New Hire	Initial New Hire	Initial New Hire
PIC - 14	PIC - 15	PIC - 20
SIC - 14	SIC - 15	SIC - 16
FE - 12	FE - 12	FE - 12
Initial Equipment	Initial Equipment	Initial Equipment
PIC - 14	PIC - 15	PIC - 20
SIC - 14	SIC - 15	SIC - 16
FE - 12	FE - 12	FE - 12
Transition	Transition	Transition
PIC - 12	PIC - 12	PIC - 12
SIC - 12	SIC - 12	SIC - 12
FE - 12	FE - 12	FE - 12
Upgrade	Upgrade	Upgrade
SIC TO PIC - 6	SIC TO PIC - 6	SIC TO PIC - 6
FE TO SIC - 14	FE TO SIC - 15	FE TO SIC - 16
Recurrent	Recurrent	Recurrent
PIC - 4	PIC - 4	PIC - 4
SIC - 4	SIC - 4	SIC - 4
FE - 4	FE - 4	FE - 4



6. COURSE COMPLETION REQUIREMENTS.

(1) Ordinarily, a flight crewmember completes a flight training curriculum segment by successfully accomplishing each training event and the specified number of training hours. Flight crewmembers are then required to successfully meet the requirements specified in the qualification curriculum segment (See Division 9 for the qualification curriculum segment requirements). If a person fails to meet any of the qualification requirements because of a lack in flight proficiency, that person must be returned to training status. After retraining, an instructor recommendation is required for reaccomplishing the unsatisfactory qualification requirement.

(2) A flight crewmember may successfully complete a flight training curriculum segment without completing the specified number of training hours, provided all of the following conditions are met:

- (a) the crewmember successfully completes all of the training events required by the curriculum segment.
- (b) an instructor recommends the flight test be conducted before completion of the specified number of training hours. The recommendation must be suitably documented and substantiated.
- (c) the flight crewmember satisfactorily completes the qualification curriculum segment requirements. If a flight crewmember fails to meet the qualification curriculum segment requirements because of a lack in flight proficiency, he must be required to complete all the training hours specified in the flight training curriculum segment. The crewmember must then be recommended by an instructor before reaccomplishing the failed qualification requirements.

7. EVALUATION OF FLIGHT TRAINING CURRICULUM SEGMENT OUTLINES FOR INITIAL APPROVAL.

When evaluating a flight training proposal for initial approval, an inspector must determine that the proposed curriculum segment meets the following requirements:

- (a) the training events must be consistent with the maneuvers and procedures tables applicable to the specific category of training. An inspector must select the appropriate maneuvers and procedures table and make a side by side comparison of the table and the proposed flight training curriculum segment. The required training events and the appropriate level flight training device, flight simulator, or aircraft to be used must be in the proposal. Omission of any required training event or inappropriate use of a flight training device or flight simulator will require a denial of initial approval.
- (b) the specified training hours are realistic, as discussed in Division VI, Subsection 5.
- (c) the training emphasizes specific areas applicable to the category of training. Since flight training curriculum outlines are not usually constructed in a manner that allows for a determination that appropriate areas are emphasized, an inspector must examine courseware (such as flight instructor guides and LOFT scenarios) to determine if appropriate areas will be emphasized and if the operator is capable of developing acceptable courseware. In the Sections preceding the applicable maneuvers and procedures tables in this section, training emphasis considerations for each category of flight training are discussed.

8. EVALUATING THE OPERATOR'S MANEUVERS AND PROCEDURES DOCUMENT.

The operator must provide a maneuvers and procedures document for approval by the DGCA. An inspector must determine that this document provides detailed descriptions or pictorial displays for the normal, abnormal, and emergency maneuvers, including the procedures and functions that will be performed in flight training. Instructor guides or lesson plans which support the maneuvers and procedures document will specify the conditions (such as weather, aircraft weight, and other

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parameters) to be applied during training on a maneuver or procedure. The conditions specified in these guides or lesson plans will be equivalent to the types of operations authorized by the Operations Specifications, such as low visibility takeoffs or the use of Category I (CAT I), Category II (CAT II), or Category III (CAT III) minimums. DGCA policy requires detailed descriptions (or pictorial displays) of at least those training events identified with the symbol "M" in the appropriate maneuvers and procedures tables. Maneuvers and procedures documents must be evaluated in sufficient detail to ensure the following requirements are met:

- (a) the descriptions of applicable maneuvers or procedures must conform to recommendations made in the Flight Standardization Board report or equivalent when appropriate.
- (b) the description of each maneuver or procedure must conform to the operating limitations and procedures in the Authority's approved airplane/rotorcraft flight manual or the operator's aircraft operating manual.
- (c) the description of each maneuver or procedure must conform to the certificate holder's procedural instructions for cockpit checks, altitude awareness, required callouts, crew coordination, and cockpit resource management.
- (d) the description of each maneuver or procedure must specify the operator's procedures, such as altitudes, configuration airspeeds, and other parameters.

9. AIRCRAFT FAMILIES.

(1) The four families of aircraft used in Part VII operations are described in Division I, Subsection 3. The flight training requirements for flight crewmembers differ significantly between each family. Within each family, the flight training requirements are similar, even though individual aircraft may differ significantly in construction and appearance. The maneuvers and procedures tables have been tailored to account for similar flight crewmember knowledge, skill, and ability requirements common to aircraft of a particular family and specific to different kinds of operations within a family. (2) Transport and Commuter Category Airplane Family. Airplanes in this family are similar in operational characteristics. Crewmembers of airplanes in this family are required to have similar knowledge, skills, and abilities regardless of the applicable operating regulation. The maneuvers and procedures tables containing required training events for flight crewmembers operating airplanes in this family are in Division VI, Subsections 20 through 23 (See tables 11 through 14). (3) Multiengine General Purpose Airplane Family. Crewmembers of airplanes in this family are required to have similar knowledge, skills, and abilities when operating under Part VII. (4) Single Engine Airplane Family. Crewmembers of airplanes in this family are required to have similar knowledge, skills, and abilities to be operated under Part VII. (5) *Helicopter Family*. Crewmembers operating helicopters under Part VII are required to have similar knowledge, skills, and abilities.

10. FLIGHT TRAINING DEVICES AND FLIGHT SIMULATORS.

Flight training equipment consists of seven levels of flight training devices, four levels of flight simulators, and the aircraft. The approved use of each item of flight training equipment is listed in the maneuvers and procedures tables. These devices and simulators are the only types of flight training equipment (other than aircraft) which may be approved for use in a DGCA approved flight training program. Before any level 1 through level 5 flight training device can be used, it must be evaluated by the DGCA to determine that it meets the prescribed requirements for the appropriate level of flight training device. Before a specific level 6 and 7 training device or any level flight simulator can be used, it must be evaluated and qualified by a qualified DGCA Inspector. The following Sections describe the flight training devices and flight simulators applicable to Part VII, Subpart 5 flight training. U.S. Advisory Circulars 120-40 and 120-45 (as amended) or equivalent provide the qualification policy, and criteria, as well as more detailed technical descriptions of flight simulators

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and flight training devices. The functional descriptions in the following Sections provide only a brief overview. Therefore, the appropriate U.S. Advisory Circulars or their equivalent are the only authorized source documents and must be used for evaluation and approval of flight training devices and flight simulators.

Information Note: The functional and technical descriptions for the first three levels of flight training devices are presently under development(U.S.) and are not applicable to Part VII, Subpart 5 flight training.

11. LEVEL 4 - FLIGHT TRAINING DEVICE.

(1) *Purpose*: To permit learning, development, and the practice of skills and cockpit procedures necessary for understanding and operating the integrated systems of a specific aircraft.
 (2) *Functional Description*: A level 4 training device has the following characteristics and components:

- (a) a replica of the flightdeck panels, switches, controls, and instruments, in proper relationship, to represent the aircraft for which training is to be accomplished
- (b) systems indications which respond appropriately to switches and controls which are required to be installed for the training or checking to be accomplished
- (c) air/ground logic (however, simulated aerodynamic capabilities are not required)

12. LEVEL 5 - FLIGHT TRAINING DEVICE.

(1) *Purpose*: To permit learning, development, and the practice of skills, cockpit procedures, and instrument flight procedures necessary for understanding and operating the integrated systems of a specific aircraft in typical flight operations in real time.

(2) *Functional Description*: A level 5 training device has the following characteristics and components:

- (a) a replica of the flightdeck panels, switches, controls, and instruments, in proper relationship, to represent the aircraft for which training is to be accomplished
- (b) systems indications which respond appropriately to switches and controls which are required to be installed for the training or checking to be accomplished
- (c) simulated aerodynamic capabilities representative of the aircraft group or class
- (d) functional flight and navigational controls, displays, and instrumentation
- (e) control forces and control travel of sufficient precision for manually flying an instrument approach.

13. LEVEL 6 - FLIGHT TRAINING DEVICE.

(1) *Purpose*:

(a) to permit learning, development, and the practice of skills in cockpit procedures, instrument flight procedures, certain symmetrical maneuvers and flight characteristics necessary for operating the integrated systems of a specific aircraft in typical flight operations.

Information Note: Nonvisual simulators are categorized with level 6 training devices and may be used as prescribed in LARs Part VII applicable Appendices.

(2) *Functional Description*: A level 6 training device has the following characteristics and components:

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- (a) systems indications which respond appropriately to switches and controls which are required to be installed
- (b) a replica of the cockpit of the aircraft for which training is to be accomplished
- (c) simulated aerodynamic capabilities which closely represent the specific aircraft in ground and flight operations
- (d) functional flight and navigational controls, displays, and instrumentation
- (e) control forces and control travel which correspond to the aircraft
- (f) instructor controls

14. LEVEL 7 - FLIGHT TRAINING DEVICE.

(1) *Purpose*: To permit learning, development, and the practice of skills in cockpit procedures, instrument flight procedures and maneuvers, and flight characteristics necessary for operating the integrated systems of a specific aircraft in typical flight operations.

(2) *Functional Description*: A level 7 training device has the following characteristics and components:

- (a) systems representations, switches, and controls which are required by the type design of the aircraft and by the approved training program
- (b) systems which respond appropriately and accurately to the switches and controls of the aircraft being simulated
- (c) full-scale replica of the cockpit of the aircraft being simulated
- (d) correct simulation of the aerodynamic and ground dynamic characteristics of the aircraft being simulated
- (e) correct simulation of the effects of selected environmental conditions which the simulated aircraft might encounter
- (f) control forces, dynamics, and travel which correspond to the aircraft
- (g) instructor controls and seat

15. LEVEL A FLIGHT SIMULATOR.

(1) *Purpose*: To permit development and practice of the necessary skills for accomplishing flight operational tasks, to a prescribed standard of airman competency, in a specific aircraft and duty position. Level A flight simulators may be used for specified pilot recency of experience requirements and specified flight operational task training requirements in transition, upgrade, recurrent, and requalification training under LARs Part VII, Subpart 5. It may also be used for initial new hire and initial equipment training on specified events.

Information Note: Level A flight simulators comply with the technical standards specified for basic (visual) simulators in U.S. Advisory Circular AC 120-40, as amended or equivalent.

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(2) *Functional Description*: Level A flight simulators have the following characteristics and components:

- (a) systems representations, switches, and controls which are required by the type design of the aircraft and by the user's approved training program
- (b) systems which respond appropriately and accurately to the switches and controls of the aircraft being simulated
- (c) full-scale replica of the cockpit of the aircraft being simulated
- (d) correct simulation of the aerodynamic characteristics of the aircraft being simulated
- (e) correct simulation of the effects of selected environmental conditions which the simulated aircraft might encounter
- (f) control forces and travel which correspond to the aircraft
- (g) instructor controls and seat
- (h) at least a night visual system with the minimum of a 45° horizontal by 30° vertical field of view for each pilot station
- (i) a motion system with at least 3 degrees of freedom

16. LEVEL B FLIGHT SIMULATOR.

(1) *Purpose*: To permit development and practice of the skills for accomplishing flight operational tasks, to a prescribed standard of airman competency, in a specific aircraft and duty position. Level B flight simulators may be used for pilot recency of experience requirements and for specified flight operational task training requirements in transition, upgrade, recurrent, and requalification training under Part VII, Subpart 5. It may also be used for initial new hire and initial equipment training on specified events. Level B simulators may also be used to accomplish night takeoffs and landings and for landings in a proficiency check.

Information Note: Level B flight simulators comply with the technical standards specified for Phase I simulators in Part VII, Appendix III and U.S. Advisory Circular AC 120-40, as amended or equivalent.

(2) *Functional Description*: Level B flight simulators have the following characteristics and components:

- (a) systems representations, switches, and controls which are required by the type design of the and by the user's approved training program
- (b) systems which respond appropriately and accurately to the switches and controls of the aircraft being simulated
- (c) full-scale replica of the cockpit of the aircraft being simulated
- (d) correct simulation of the aerodynamic (including ground effect) and ground dynamic characteristics of the being simulated
- (e) correct simulation of the effects of selected environmental conditions which the simulated aircraft might encounter
- (f) control forces and travel which correspond to the aircraft
- (g) instructor controls and seat
- (h) at least a night visual system with a minimum of a 45 degree horizontal by 30 degree vertical field of view for each pilot station
- (i) a motion system with at least 3 degrees of freedom

17. LEVEL C FLIGHT SIMULATOR.

(1) *Purpose*: To permit development and practice of the necessary skills for accomplishing flight operational tasks, to a prescribed standard of airman competency, in a specific aircraft and duty

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position. Level C flight simulators may be used for pilot recency of experience requirements and for specified flight operational task training in transition, upgrade, recurrent, and requalification training under Part VII, Subpart 5. It may also be used for initial new hire and initial equipment training on certain specified events. All training events may be conducted in a Level C flight simulator for persons who have previously qualified as PIC or SIC with that operator.

Information Note: Level C flight simulators comply with the technical standards specified for "Phase II simulators" in Part VII, Appendix III and U.S. Advisory Circular AC 120-40 (as amended) or equivalent.

(2) *Functional Description*: Level C flight simulators have at least the following characteristics and components:

- (a) systems representations, switches, and controls which are required by the type design of the aircraft and by the user's approved training program
- (b) systems which respond appropriately and accurately to the switches and controls of the aircraft being simulated
- (c) full-scale replica of the cockpit of the aircraft being simulated
- (d) correct simulation of the aerodynamic including ground effect, and ground dynamic characteristics of the aircraft being simulated
- (e) correct simulation of the effects of selected environmental conditions which the simulated aircraft might encounter
- (f) control forces, dynamics, and travel which correspond to the aircraft
- (g) instructor controls and seat
- (h) at least a night and dusk visual system with a minimum of a 75° horizontal by 30° vertical field of view for each pilot station
- (i) a motion system with at least 6 degrees of freedom

18. LEVEL D FLIGHT SIMULATOR.

(1) *Purpose*: To permit development and practice of the necessary skills for accomplishing flight operational tasks, to a prescribed standard of airman competency, in a specific aircraft and duty position. Level D flight simulators may be used for Part VII, Subpart 5 pilot currency and for all flight operational task training except for static aircraft training.

Information Note: Level D flight simulators comply with the technical standards specified for "Phase III simulators" in LARs Part VII, Appendix III and U.S. Advisory Circular AC 120-40 (as amended) or equivalent.

(2) *Functional Description*: Level D flight simulators have the following characteristics and components:

- (a) systems representations, switches, and controls which are required by the type design of the aircraft and by the user's approved training program
- (b) systems which respond appropriately and accurately to the switches and controls of the aircraft being simulated
- (c) full-scale replica of the cockpit of the aircraft being simulated
- (d) correct simulation of the aerodynamic (including ground effect) and ground dynamic characteristics of the aircraft being simulated
- (e) correct simulation of selected environmentally affected aerodynamic and ground dynamic characteristics of the aircraft being simulated considering the full range of its flight envelope in all approved configurations

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- (f) correct and realistic simulation of the effects of environmental conditions which the aircraft might encounter
- (g) control forces, dynamics, and travel which correspond to the aircraft
- (h) instructor controls and seat
- (i) a daylight, dusk, and night visual system with the minimum of a 75 ° horizontal by 30 ° vertical field of view for each pilot station
- (j) a motion system with at least 6 degrees of freedom

19. MANEUVERS AND PROCEDURES TABLES.

(1) The events which must be accomplished during flight training are listed in the maneuvers and procedures tables in LARs Part VII, Appendices I through VI. The requirements of LARs Part VII, Subpart 5 are included in these tables. These tables will be used in the development and evaluation of flight training curriculum segment proposals. Compliance with the provisions of LARs Part VII, Appendices I, II, III, and IV ensures that all requirements of LARs Part VII, Subpart 5 are met. The tables also contain the acceptable flight training equipment (training devices, simulators, or aircraft) which may be used for any training event. Any maneuver or procedure permitted in a specific level of flight training device or flight simulator, may also be conducted in a higher level of flight training device, flight simulator, or the aircraft itself (providing the event can safely be accomplished in the aircraft). DGCA policy requires detailed descriptions (or pictorial displays) of at least those training events identified with the symbol "M" in the appropriate maneuvers and procedures tables. Certain training events within the tables are preceded with a box

"[]". If the operator is authorized (or required) to conduct these maneuvers by Operations Specifications (for example, a circling approach), the DGCA will check the appropriate box to indicate these events must be included in the training curriculum. Certain optional training events indicated by a pound sign "#" in the maneuvers and procedures tables are not specifically required by the Regulations or Operations Specifications. Many of these optional training events, however, are often included in an operator's flight training curriculums and will be conducted in a properly qualified device or simulator.

(2) Windshear training is a training event in each table. The tables indicate that windshear training may only be performed in a level 7 flight training device or any level of flight simulator.(3) Preceding each maneuver and procedure table is a Section which states the required maneuvers and procedures for each crewmember and provides guidance on specific areas of emphasis which will be included in the training.

20. PIC/SIC INITIAL NEW HIRE AND INITIAL EQUIPMENT FLIGHT TRAINING: TRANSPORT CATEGORY AIRPLANES.

(1) *Required Maneuvers and Procedures*. Training in the maneuvers and procedures in LARs Part VII, Appendix I, must be conducted for satisfactory completion of initial new hire and initial equipment flight training.

- (a) PICs must complete training in each training event in this table.
- (b) SICs must complete training in each training event in this table. SIC training in the following events does not require manipulation of the primary aircraft controls but will emphasize duties of the pilot not flying:
 - (i) steep turns
 - (ii) approach and landing with pitch mistrim
 - (iii) approach and landing with 50% loss of power
 - (iv) approach and landing with flap/slat malfunction

(2) *Training Emphasis Considerations*. The DGCA will ensure that the operator's flight training emphasizes appropriate areas for these categories of training:



- (a) for Initial New Hire Training, emphasis will be on specific company procedures and procedures for the particular aircraft.
- (b) for Initial Equipment Training, emphasis will be on company procedures specific to the aircraft.

21. PIC/SIC TRANSITION AND UPGRADE FLIGHT TRAINING: TRANSPORT CATEGORY AIRPLANES.

(1) *Required Maneuvers and Procedures*. Training in the maneuvers and procedures in LARs Part VII, (Appendix II Transition Training), and (Appendix III, Upgrade Training), must be conducted for satisfactory completion of transition or upgrade flight training.

- (a) For PIC Transition Training: PICs must complete training in each training event in this table.
- (b) <u>For SIC Transition Training</u>: SICs must complete training in each training event in this table. SIC training in the following events does not require manipulation of the primary flight controls but will emphasize the duties of the pilot not flying:
 - (i) approach and landing with pitch mistrim
 - (ii) approach and landing with 50% loss of power
 - (iii) approach and landing with flap/slat malfunction
 - (iv) steep turns
- (c) <u>For PIC Upgrade Training</u>: An SIC upgrading to PIC must complete training in each training event in this table (including those marked "**PIC**").
- (d) For Appendix V SIC to PIC Initial Equipment Training: LARs Part VII, Appendix V "Phase II, Training and Checking Permitted" permits certain SICs to be trained as PICs in a different aircraft of the same group, if the training is conducted in a level C simulator. Because of the experience levels required in Appendix V for SICs in this type of training (which is actually initial equipment training) the training may be accomplished in the same manner as PIC upgrade training.
- (e) <u>For SIC Upgrade Training</u>: FEs upgrading to SIC must complete training in each training event in Part VII, Appendix III. FEs upgrading to SIC are not required to manipulate the primary flight controls for the following events, but will receive training which emphasizes duties of the pilot not flying. The training events are as follows:
 - (i) steep turns
 - (ii) approach and landing with pitch mistrim
 - (iii) approach and landing with 50% loss of power
 - (iv) approach and landing with flap/slat malfunction

(2) *Training Emphasis Considerations*. The DGCA will ensure that the operator's transition and upgrade training emphasizes the appropriate areas for these categories of training:

- (a) for Transition Training, emphasis will be on the handling characteristics and the maneuvers and procedures pertinent to the specific aircraft type.
- (b) for Upgrade Training, emphasis will be on the specific duties and responsibilities pertinent to the crewmember position. Additionally, in the case of an FE upgrading to SIC, maneuver emphasis training (particularly in approaches and landings) will be included.

22. PIC/SIC RECURRENT FLIGHT TRAINING: TRANSPORT CATEGORY AIRPLANES

(1) *Required Maneuvers and Procedures*. Training in the maneuvers and procedures in LARs Part VII, Appendix IV, must be conducted for the satisfactory completion of recurrent flight training.

Information Note: When training or evaluating the ability of a pilot to control an aircraft on instruments and to navigate without reference to outside cues, the inspector, check airman, or instructor must

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restrict the pilot's vision to the aircraft's instrument panel. This can only be ensured with the use of an appropriate view-limiting device. When a flight simulator is not available for training or checking, the dilemma is how to safely perform these maneuvers under the "see and be seen" requirements of visual meteorological conditions (VMC) flight and still be able to accurately assess the pilot's ability to control and navigate an aircraft without reference to outside cues. On one hand, the use of a view-limiting device must not restrict the ability of the check airman or other observers to safely clear the area and conduct outside vigilance during all maneuvers. On the other hand, the check airman must be certain that the pilot is not using any outside references. In final analysis, the check or training will not be conducted it the requirements of safety and test integrity cannot be met.

- (a) LARs Part VII, Subpart 5 Recurrent Flight Training (RFT). LARs Part VII, Subpart 5 RFT is training that must be conducted for PICs and SICs once each 6 months, and must include training on the maneuvers and procedures listed in Appendix IV of Part VII. Levels C, and D flight simulators qualify for "training and checking to proficiency" on all the maneuvers and procedures required for RFT by Part VII, Subpart 5. RFT can be conducted in an airplane. Recurrent flight training can be conducted entirely in a simulator. Recurrent flight training is referenced in several different ways in Part VII, Subpart 5. The following are examples: "A course of training in an airplane simulator" (LARs Part VII, Section 705.132, "... flight training program approved by the Minister" (LARs Part VII, Section 705.147; and "the approved simulator course of training" (LARs Part VII, Section 705.156 and 705.164). Level A flight simulators are not qualified to be used for "training to proficiency" on certain maneuvers listed in Appendix IV (such as takeoffs and landings). However, level A flight simulators can be used for training and practice on the procedures used to accomplish these maneuvers. Line Oriented Flight Training (LOFT) may be substituted for alternate periods of proficiency checking. The entire proficiency check will be conducted in a level B, C, or D simulator as appropriate.
- (b) <u>LARs Part VII, Subpart 5 Requalifications Flight Training</u>. Requalification flight training is conducted specifically to restore a previously line qualified crew member to line qualified status. To be eligible for this training, a crewmember must have previously been qualified in a specific aircraft type and duty position and have subsequently lost his/her qualification.

(2) *Training Emphasis Considerations*. Operators will develop RFT curriculum segments which serve to maximize training on certain maneuvers and procedures. An airman's competency to function in his assigned duty position is evaluated during alternate proficiency. checks. During that check, at least the events required by LARs Part VII, Appendix IV must be accomplished. The RFT curriculum outline will address all the required training events listed in Appendix IV. However, during RFT, specific training on every event is unnecessary unless it is needed for maintaining pilot proficiency on particular events. It is DGCA direction and guidance that during periods of RFT, that training emphasis will be on those events or other maneuvers or procedures not normally encountered during routine line operations, such as abnormal or emergency procedure training or windshear training. Additionally, training on new or revised maneuvers or procedures, new equipment, or other similar areas is ideally suited for periods of RFT. Time will be allotted to conduct training in maneuvers or procedures the airman wishes to practice, or in certain operational areas in which deficiencies have surfaced during proficiency or line checks, indicating a need for additional training.

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Information Note: Even though all of the maneuvers and procedures may not be accomplished during RFT, the recurrent flight training curriculum segment outline will address all of the required training events listed in Appendix IV of Part VII.

23. FE INITIAL EQUIPMENT, INITIAL NEW HIRE, TRANSITION AND RECURRENT FLIGHT TRAINING TRANSPORT CATEGORY AIRPLANES.

(1) *Training Required for Initial Issuance of an FE Certificate*. All applicants for a flight engineer certificate with the initial class rating must satisfy all of the requirements pursuant to LARs Part IV and LARs Part VII, Appendix VI.

(2) *FE Transition Flight Training*. A flight engineer employed by a LARs Part VII, Subpart 5 operator who transitions from one airplane to another must complete a transition flight training curriculum segment approved under LARs Part VII, Subpart 5. This training is not approved or conducted within the context of LARs Part IV. The use of flight training devices, flight simulators, or aircraft, for accomplishing training events must be proposed by the operator and approved by the DGCA.

(3) *Required Procedures*. Training in the procedures in Appendix VI of Part VII must be conducted for satisfactory completion of initial new hire, initial equipment, transition or recurrent training, for previously certificated flight engineers and for the initial certification of flight engineers. Training for these maneuvers and procedures must include training in normal, abnormal, alternate, and emergency procedures, as appropriate.

(4) *Training Emphasis Considerations*. The DGCA will ensure that the operator's FE flight training emphasizes the appropriate areas for these categories of training:

- (a) for Initial New Hire Training, emphasis will be on areas involving crew concept, duties, responsibilities, systems integration concepts, and company procedures.
- (b) for Transition and Initial Equipment Training, emphasis will be on the systems and procedures that pertain to the specific aircraft type.
- (c) for Recurrent Training, emphasis will be on new or revised maneuvers or procedures that are pertinent to line operations.



DIVISION VII

Flightcrew Qualification Curriculum Segments

1. GENERAL.

(1) This Division contains the Standards concerning qualification curriculum segments and qualification modules. A qualification curriculum segment is the final segment of each of the six categories of training defined in Division I of this Appendix. A qualification curriculum segment is composed of those testing, checking, and experience modules that a flight crewmember must successfully complete after formal training has been completed and before being qualified to serve unsupervised as a required flight crewmember in Part VII, Subpart 5 operations.

- (2) A qualification curriculum segment has the following primary objectives:
 - (a) to ensure that each flight crewmember has reached an acceptable level of proficiency in all assigned duties before being released from training and supervision
 - (b) to provide a means for measuring the effectiveness of the training program and for identifying and correcting training deficiencies

(3) The guidance in this Division applies to the development and approval of qualification curriculum segments for Parts VII, Subpart 5 training curriculums. When the guidance in this Division applies specifically to one flightcrew duty position or regulatory part, the duty position or regulatory part will be specified.

2. TYPES OF QUALIFICATION MODULES.

(1) Qualification curriculum segments are composed of qualification modules. Qualification modules are generally divided into testing, checking, and experience modules.

(2) *Definitions*. The following definitions are used in this Section:

- (a) <u>Qualification Curriculum Segment</u>: That segment of a specified curriculum that begins when formal training has been completed and ends when the airman is fully qualified to perform unsupervised and without restriction in revenue service
- (b) <u>Testing</u>: Any form of examination of knowledge or skill, whether oral, written, or practical
- (c) <u>Checking</u>: Specifically, a practical skills test (For flight crewmembers, a check consists of physical manipulation of aircraft controls in <u>real time</u>.)
- (d) <u>Basic Checking Module</u>: The proficiency or competency check listed in a qualification segment of a curriculum outline required for qualification in the basic duties of an airman position
- (e) <u>Additional Checking Module</u>: A check conducted to qualify an airman for an additional level of responsibility or skill, beyond that of the basic crew position
- (f) <u>Experience Module</u>: An operation conducted in revenue service that is either under supervision or under restriction, and is measured inflight hours or in the number of repetitions of an event
- (g) <u>Line Oriented Flight Training (LOFT)</u>: Line oriented flight training (LOFT) is a module of training conducted in a simulator after completion of a basic checking module to satisfy the requirements of Part VII, Appendix V or alternate periods of recurrent checking.

(3) *Experience Modules*. The LARs require that experience modules be completed before a crewmember may perform unsupervised and without restriction in revenue service. Other experience modules are required for special authorizations or to reestablish currency. One or more of the following experience modules may be required in a qualification curriculum segment:

(a) operating experience (OE)



- (b) pilot in command (PIC) experience (required to use standard turbojet minimums)
- (c) special operations experience (such as Class II long range navigation)
- (d) currency (to reestablish landing or instrument currency)

3. FORMAT OF QUALIFICATION CURRICULUM SEGMENTS.

The content of a qualification curriculum segment for Part VII, Subpart 5 operations is almost entirely controlled by regulation. A Part VII, Subpart 5 operator may, however, use more than one means of accomplishing these requirements. For example, an operator could conduct checks for most categories of training in a C-level simulator. In such a case, the operator would be required to conduct a LOFT training module after the completion of the basic checking module. An operator that uses an A-level simulator would be required to conduct the basic checking module in the simulator and a second module in the airplane. To ensure that a clear understanding exists between the operator and the DGCA, the DGCA will require that the operator list each element or event in a qualification module along with the device to be used. The operator's format may either be a simple outline, a table , or any other format that the DGCA finds clearly establishes the methods to be used and elements and events to be checked.

4. PART VII, SUBPART 5 REQUIRED LICENSES AND CERTIFICATES.

(1) Flight crewmembers must hold specific certificates and ratings before performing duties in Part VII, Subpart 5 revenue service. If a flight crewmember does not hold the required licenses and/or ratings, they must be obtained when the flight crewmember completes the qualification curriculum segment.

- (2) A PIC in Part VII, Subpart 5 operations must hold the following:
 - (a) airline transport pilot (ATP) license
 - (b) airplane category rating
 - (c) appropriate class rating
 - (d) applicable type rating
 - (e) class 1 medical certificate
- (2) A second in command (SIC) in Part VII, Subpart 5 operations must hold the following:
 - (a) commercial pilot license (or ATP license)
 - (b) instrument rating (or ATP license)
 - (c) airplane category rating
 - (d) appropriate class rating
 - (e) at least a class 1 medical certificate
- (3) A flight engineer (FE) must hold the following:
 - (a) flight engineer license
 - (b) applicable class rating
 - (c) at least a class 1 medical certificate

5. THE BASIC CHECKING MODULE.

(1) The basic checking modules for Part VII, Subpart 5 are composed of two parts. One part consists of the written or oral test elements and the other part consists of the flight check events. Although they are distinct and separate parts, when combined they make up a single checking module.
 (2) Basic Checking Module Content. The subject areas that must be addressed in the written or oral test for the Part VII, Subpart 5 basic checking module are described in Appendix IV of Part VII. These regulations require a written or oral test element as a distinct part of the basic checking module. The basic checking modules required for Part VII, Subpart 5 are further discussed in Division VII, Subsection 6.

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(3) Performance Standards. In Part VII, Subpart 5 operations, a higher standard of proficiency is required than that required for initial pilot licensing. The standard required for basic checks is at least that required for obtaining the certificate which must be held to act as PIC. For example, an SIC holding a commercial license with an instrument rating who is making an ILS approach in a DC-10 must perform to the same standard of proficiency as the PIC seated in the left seat who holds an ATP certificate and a DC-10 type rating. The Standard in Appendix VIII will be used for the issuance of ATP Licenses and aircraft type ratings. The DGCA will ensure that guidance pertaining to proficiency and competency checks is brought to the operator's and check airman's attention: (4) Use of Simulators. An operator may take maximum advantage of simulators and training devices in designing qualification curriculum segments. For example, an operator may evaluate a PIC and an SIC simultaneously on many normal, non-normal, and emergency procedures when a simulator is used. The DGCA will encourage operators to design qualification modules accordingly. (5) LOFT Training. A LOFT training module is considered to be part of the qualification curriculum segment, but is an experience event, not a checking event. A pilot who qualifies for a license or rating in a C-level or D-level simulator is issued the license or rating immediately after satisfactorily completing the basic check. The pilot is not qualified to either exercise the privileges of the license or rating, or enter revenue service until the pilot has successfully completed the LOFT training module.

6. PART VII, SUBPART 5 BASIC CHECKING MODULE.

The basic checking module required in Part VII, Subpart 5 is referred to as a proficiency check. For pilots, a proficiency check consists of the written or oral test elements and the flight test events specified in Appendix IV of Part VII. The elements and events that make up a proficiency check are summarized in Figure 10. A proficiency check qualifies pilots for both VFR and IFR Class I navigation and instrument approaches to standard minimums (CAT I, if approved for the operator). Operations such as CAT II or CAT III approaches require additional checking modules. For a flight engineer, the proficiency check consists of the flight test events summarized in Figure 11. Although Part VII, Subpart 5 does not specifically require a written or oral test element as part of the flight engineer proficiency check. POIs shall ensure the test is included as an element of the basic checking module.



ORAL OR WRITTEN FOLIIPMENT EXAM

Both

FIGURE 10.

PILOT PROFICIENCY CHECK (PART VII, APPENDIX IV)

	Dom
GROUND OPERATIONS	
Preflight inspection	Both
• Taxiing	Both 1
Powerplant checks	Both 1
TAKEOFFS	
• Normal	Both
• Instrument	Both
Crosswind	Both
• With powerplant failure	Both
Rejected takeoff	Both *
5	
INSTRUMENT PROCEDURES	
Area departure	Both *
• Area arrival	Both *
Holding	Both *
Normal ILS approach	Both
• Engine-out ILS	Both
Coupled ILS approach	Both 1
Nonprecision approach	Both
Second nonprecision approach	Both
Missed approach from an ILS	Both
Second missed approach	PIC
Circling approach	Both *2
5 TI	
IN-FLIGHT MANEUVERS	
• Steep turns	PIC *
Specific flight characteristics	Both 5
Approaches to stalls	Both *
Powerplant failure	Both
• 2 engine inoperative approach (3 and 4 engine aircraft)	Both
Normal landing	Both
• Landing from an ILS	Both
Crosswind landing	Both

•

•

Landing with engine-out

Landing from circling approach.....

Both

Both *2



NORMAL AND NONNORMAL PROCEDURES	
 Rejected landing 2-engine inoperative approach (3 and 4 engine aircraft) 	Both PIC
OTHER EVENTS At Check Airman's Discretion	*4

NOTES:

- 1. "Both": The term "Both" applies to PICs and SICs
- 2. * May be waived under certain conditions (see DGCA Order 100-5)
- 3. PIC and SIC may both simultaneously take credit for this event
- 4. When the operator is authorized to conduct circling approaches according to paragraph 53 of the OpSpecs (This is not required for SICs if the operator's manual prohibits SICs from making this approach.)
- 5. See guidance contained in (see DGCA Order 100-5)
- 6. The check airman is authorized to evaluate any event required for the ATP certificate (see DGCA Order 100-5)



FIGURE 11.

FLIGHT ENGINEER (FE) PROFICIENCY CHECK (PART VII, SUBPART 5)

NORMAL PROCEDURES

- Oral or Written Examination
- Exterior preflight
- Interior preflight
- Panel set-up
- Fuel load
- Engine start procedures
- Taxi and before takeoff procedures
- Takeoff and climb
- Pressurization
- Cruise and fuel management
- Descent and approach
- After landing and securing
- Crew coordination
- Situational awareness, traffic scan, etc.
- Performance computations
- Anti-ice, deice

NONNORMAL AND EMERGENCY PROCEDURES

Sample as many nonnormal and emergency procedures as needed to evaluate performance:

- Trouble shooting
- Knowledge of checklist
- Ability to perform procedures
- Crew coordination
- Minimum Equipment List (MEL)
- Configuration Deviation List (CDL)
- Dispatch Deviation Procedures Guide (DDPG)

8. CREDIT FOR CERTIFICATION FLIGHT CHECKS.

(1) When a flight check is conducted for an ATP certificate or for an additional type rating to an ATP certificate, the certification flight check may simultaneously be credited for a Part VII, Subpart 5 proficiency check.

(2) The certification flight test for a flight engineer certificate or class rating simultaneously satisfies the Part VII, Subpart 5 proficiency check requirement.

9 CONDUCT OF PROFICIENCY CHECKS.

(1) Specific direction and guidance for the conduct of certification flight tests is in Part IV of the LARs. The same standards and direction and guidance are applicable to both inspectors and check airmen when conducting proficiency checks. The DGCA must evaluate the operator's check airman

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program to ensure that check airmen are applying the same standards and are adhering to the direction and guidance for proficiency and competency checks that is applicable to certification flight checks. (2) *Waiving of Events*. Inspectors and check airmen may waive those events indicated by an asterisk in figures 10 and 11. This provision applies to all checks conducted under Part VII, Subpart 5.

- (a) the use of waiver authority is not automatic. Check airmen are cautioned to exercise judgment in the use of this authority. When an applicant demonstrates a high level of performance, check airmen will make liberal use of the waiver authority. When an applicant's performance only approaches the minimum acceptable standards, however, none of the events of the flight test will be waived.
- (b) inspectors and check airmen are cautioned that some waiver provisions apply to portions of an event rather than to a whole event (for example, the stall series). Other events have specific conditions which must be fully met before waiver authority may be exercised (for example, the second nonprecision approach). See the discussion of the conditions and limitations of waiver authority and the guidance on acceptable means and standards for conducting specific checking events in (TBD).
- (c) Part VII, Appendix IV contains certain restrictions on waiving events. For example, when a circling approach is required but cannot be accomplished due to traffic or other reasons, it may be waived. Circling approaches, however, may not be waived for two successive checks.

(3) *Training to Proficiency*. When a check airman determines that an event is unsatisfactory, the check airman may conduct training and repeat the testing of that event. This provision has been made in the interest of fairness and to avoid undue hardship and expense for airmen and operators. Training may not be conducted, however, without recording the failure of these events. The quality control of a training program is accomplished, among other means, by identifying those events on checks which crewmembers fail. The DGCA shall ensure the following guidance is supplied to operators and check airmen concerning the practice of training to proficiency:

- (a) training and checking cannot be conducted simultaneously. When training is required, the check must be temporarily suspended, training conducted, and then the check resumed.
- (b) when training to proficiency is required, the check airman must record the events which were initially failed and in which training was given.
- (c) when training to proficiency is conducted and the check is subsequently completed within the original session, the overall grade for the check may be recorded as satisfactory. When the training required to reach proficiency cannot be completed in the original checking session, the check must be recorded as unsatisfactory and the crewmember entered into requalification training.
- (d) when training to proficiency is required and it is practical to do so, the remaining events of the flight test phase will be completed before training in the failed event is conducted. If it is more practical, the failed event may be repeated at the end of a logical sequence. For example, training on a stall might be conducted at altitude after all other air work has been completed, but before returning to the traffic pattern.
- (e) if, after having received training, the airman <u>fails an event again</u>, the failure shall be recorded and the crewmember entered into requalification training.

Information Note: If for mechanical or other reasons the check cannot be completed after the failure of an event and before training and retesting can be accomplished, the check is considered terminated; however, the crewmember may not serve in revenue operations until the check is successfully completed.



10. USE OF FLIGHT TRAINING DEVICES AND SIMULATORS FOR PROFICIENCY CHECKS.

The guidance of this Division applies to the use of flight training devices and simulators in conducting Part VII, Subpart 5 proficiency checks. The level of flight training device or flight simulator that can be used for any particular flight test event in these checks depends on the crewmembers duty position and on the category of training. LARs Part VII, Appendices I, II, III, and IV, along with the introductory information in Division VI, Subsections 20 through 23 of this Division specify the minimum level of flight training device or simulator that can be used for a particular training event. This minimum level is also the level that can be used to test the event during a proficiency check. Before beginning a proficiency check, inspectors and check airmen must determine which flight test events can be conducted in the flight training device or simulator to be used.

11. THE "OPERATING EXPERIENCE" (OE) QUALIFICATION MODULE.

(1) PICs and SICs in Part VII, Subpart 5 operations who have been trained under an initial new hire, initial equipment, transition, or upgrade category of training, must acquire OE. The qualification curriculum segment outline that is applicable to these flight crewmember positions must list the appropriate requirements for each duty position. Part VII, Subpart 5 specifies the minimum flight hour requirements for these duty positions. An operator may elect to specify a greater flight hour requirement than the regulatory minimum. Inspectors shall not approve any qualification curriculum segment that lists a flight hour requirement that is less than that specified by the appropriate regulation. When a pilot is actually acquiring OE, however, LARs Part VII, Section 705.158(6) provides for a reduction in the minimum flight hours. These regulations specify that the minimum hours may be reduced to 50% of the total required flight hours by the substitution of 1 takeoff and landing for 1 hour of flight.

(2) Part VII, Subpart 5 Minimum OE Flight Hours.

- (a) the minimum OE flight hours for pilots who have been trained under an initial new hire or an initial equipment curriculum or a PIC transition curriculum which includes training in a flight simulator under LARs Part VII, Subpart 5, are as follows:
 - (i) Group I reciprocating 15 hours
 - (ii) Group I turbopropeller 20 hours
 - (iii) Group II turbojet 25 hours
- (b) LARs Part VII, Section 705.158(3)(c)(ii) specifies the minimum flight hours for pilots who have been trained under a transition curriculum which does not include an approved course of training in a flight simulator, are as follows:
 - (i) Group I reciprocating 10 hours
 - (ii) Group I turbopropeller 12 hours
 - (iii) Group II turbojet 15 hours
- (c) although Part VII, Subpart 5 requires OE for pilots who have been trained under an upgrade curriculum, the minimum flight hours are not specified. The following minimum flight hours are recommended, however, for an SIC upgrading to PIC, and for a FE upgrading to SIC, regardless of whether or not the upgrade curriculum includes training in a flight simulator:
 - (i) Group I reciprocating -
 - (ii) SIC to PIC 8 hours
 - (iii) FE to SIC 15 hours
 - (iv) Group I turbopropeller -
 - (v) SIC to PIC 8 hours
 - (vi) FE to SIC 15 hours
 - (vii) Group II turbojet -
 - (viii) SIC to PIC 10 hours

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- (ix) FE to SIC 25 hours
- (d) in accordance with LARs Part VII, Section 705.158(4), the minimum OE flight hours for FEs who have been trained under an initial new hire, initial equipment, or transition curriculum are as follows:
 - (i) Group I reciprocating 8 hours
 - (ii) Group I turbopropeller 10 hours
 - (iii) Group II turbojet 12 hours

(3) *Conduct of OE*. All flight crewmembers must have successfully completed a flight check before starting OE, and are therefore considered to be qualified to serve in revenue operations, under the appropriate supervision. OE must be acquired while conducting revenue operations, except when the aircraft has not been previously used by the operator. In this case, the flight hours acquired while conducting proving flights, ferry flights, or training flights may be credited towards the OE requirement.

- (a) a pilot in the process of acquiring OE as a PIC under the provision of Part VII, Subpart 5 must occupy the appropriate pilot position and perform PIC duties under the supervision of a check airman. The check airman must also occupy a pilot position. In the case of a PIC trained under a transition curriculum, however, the check airman may occupy a jumpseat after the gualifying PIC has made at least two takeoffs and landings and the check airman is satisfied that the pilot candidate is competent to perform the duties of PIC. During the time that a qualifying PIC is acquiring OE, the supervising check airman will give instruction as needed and help to refine the pilot's proficiency as a PIC. The check airman must determine when the PIC is fully proficient and ready to be administered an initial line check. If the qualifying PIC is not ready for an initial line check after the minimum flight hours have been completed, the supervision must be continued until the PIC is proficient. The check airman will not recommend an initial line check until the check airman is satisfied that the qualifying PIC is proficient. If the check airman recommends the PIC for an initial line check before the minimum flight hours are acquired, the time spent conducting the line check may be credited toward the required flight hours. In all cases, however, the qualifying PIC must acquire the minimum flight hours under the supervision of a check airman before the PIC can be released to operate unsupervised in revenue flights.
- (b) a pilot in the process of acquiring OE as an SIC under the provisions of Part VII, Subpart 5 must perform the duties of an SIC in a pilot seat under the supervision of a check airman, or must observe the performance of those duties from the jumpseat. The preferred method is for the qualifying SIC to occupy the appropriate pilot position and perform the duties of an SIC. It is important that operators use the preferred method for an SIC when the SIC has received all flight training and flight testing solely in a simulator or when the aircraft involved has advanced instrument displays and computer based systems. In either case, the qualifying SIC must acquire the minimum flight hours before being assigned as the required SIC in revenue operations. When an operator schedules an SIC to acquire OE by occupying the jumpseat (not under the supervision of a check airman) the DGCA will consider special enroute surveillance of that SIC after the SIC is assigned as the required SIC in revenue operations. The purpose of this special surveillance is to determine whether the operator's training and flight testing program sufficiently prepares SICs for line operations.
- (c) a flight engineer in the process of acquiring OE must perform the duties of a flight engineer at the flight engineer station under the supervision of a flight engineer check airman or a qualified flight engineer. In either case, the qualifying flight engineer must acquire the minimum flight hours before being assigned as the required flight engineer in revenue operations. When an operator schedules FEs to acquire OE under the supervision of a qualified flight engineer who has not been trained as a check airman, the DGCA will consider special enroute surveillance of those FEs after they are assigned as required FEs in revenue

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operations. The purpose of this special surveillance is to determine whether the operator's training, flight testing, and OE programs sufficiently prepare the FEs for line operations.

(4) *OE Qualification Guides*. The DGCA will encourage operators to develop an OE qualification guide to be used by supervisors and check airman. The purpose of the qualification guide is to ensure that a crewmember systematically gains experience in all required duties the crewmember will later be required to perform without supervision. Some of the typical experience events that might be incorporated in a qualification guide are as follows:

- (a) terminal security procedures
- (b) aircraft security and antihijacking procedures
- (c) weather forecasts and information sources
- (d) flight planning
- (e) dispatch procedures
- (f) cockpit setup, initialization of computers, entering present position and waypoints, confirming navigation set up
- (g) weight and balance computation (including last minute changes)
- (h) air traffic control (ATC) flow control procedures
- (i) MEL, DDPG, and CDL procedures
- (j) pushback and powerback procedures and limitations
- (k) procedures for fueling and confirming fuel loads
- (1) familiarity with major terminal areas
- (m) terminal and enroute communications
- (n) flight progress and fuel monitoring procedures
- (o) inflight weather watch
- (p) diversion procedures

12. LINE CHECK QUALIFICATION MODULE.

(1) Part VII, Subpart 5 specifies that before a pilot can serve as an unsupervised PIC in revenue operations, that pilot must have satisfactorily completed a line check. Except for requalification training, the qualification curriculum segment for PICs will include a line check module as a requirement for all other categories of training. Requalification training curriculums that are used to requalify PICs who have been unqualified for 12 months or more will include a required PIC line check module. Part VII, Subpart 5 specifies that all PICs must satisfactorily complete a line check once every 12 calendar months in at least one of the aircraft types in which the PIC is to serve. Therefore, the qualification curriculum segment for recurrent training will include a line check module for the PIC.

(2) *General Direction and Guidance*. Part VII, Subpart 5 specifies that the line check is to be given by a check airman who is properly qualified in the particular airplane being used. In certain unique situations, such as when an operator is qualifying an initial cadre of check airmen, the only practical way of completing the line check requirement may be for an DGCA inspector to conduct the line check and to certify to the PICs performance. The amount of time flown during a line check may be credited to the OE flight hour requirement. The line check, however, will not be conducted until the OE flight hour requirement has been substantially completed. The DGCA will encourage operators to place emphasis on their line check programs. A well run line check program can provide detection of deficiencies and adverse trends and establish the need for a revision of old procedures or an initiation of new procedures. The DGCA will encourage operators to design and use line check forms to facilitate the collection of such information.

(3) *Part VII, Subpart 5 Line Checks*. For Part VII, Subpart 5 operations, the line check must be conducted over at least one typical route in which the PIC may be assigned. If the typical route the PIC will be flying includes Class II navigation, the line check must be conducted on a route where

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Class II navigation is used. The line check may be conducted during either revenue or nonrevenue operations.

13. ADDITIONAL CHECKING MODULES.

(1) Additional checking modules include flight test events that must be conducted to qualify flight crewmembers for special operations, such as CAT II or CAT III instrument approach procedures. Another example of an additional checking module is the requirement that a PIC be initially qualified over a route or area requiring a special type of navigation such as INS, OMEGA, or LORAN C (See LARs Part VII, Section 705.166(4)(b)).

(2) Additional checking modules are frequently conducted concurrently with a proficiency check, competency check, or line check.

- (a) the regulations require additional checks, but usually do not specify the content of these checks. Since there are often several acceptable means of conducting these checks, the additional checking module outline must specify the content of these checks (See examples in Division VII, Subsection 2).
- (b) when a Part VII, Subpart 5 operator chooses to conduct an additional checking module in conjunction with a basic checking module, the requirements of both modules must be accomplished. A single event may, however, be credited for both modules simultaneously. For example, an operator who conducts basic checking modules and CAT II additional checking modules at the same time, may combine the ILS approach requirements. The basic checking module requires a normal ILS; a manually flown, engine-out ILS; a coupled ILS; a landing from an ILS; and a missed approach from an ILS. The normal ILS and the coupled ILS may be combined in the basic checking module for a minimum of two ILS approaches. In this case, one approach must terminate in a landing and one in a missed approach. For an operator who conducts only coupled CAT II approaches, the CAT II additional checking module requires a minimum of two approaches to CAT II minimums; one approach must be to a landing and one to a missed approach. The DGCA may approve combining the compatible events of these two modules. In this case, the combined requirement is one engine-out, manually flown ILS to CAT I minimums; one coupled, CAT II ILS to a landing, and one coupled, CAT II ILS approach to a missed approach. Inspectors who have concerns over what combinations are permissible will consult the Chief of Flight Safety.

(3) Operators may choose to conduct additional checking modules separately from a proficiency check, a competency check, or a line check. It may be more practical to accomplish an additional flight test separately because of high minimum PIC requirements or because of pilot bidding practices for international routes. When an operator conducts separate checking modules, the operator must limit the use of flight crewmembers to those operations that do not involve the special operations until the flight crewmembers have satisfactorily completed the additional testing.



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DIVISION VIII

SPECIAL CURRICULUM SEGMENTS

1. GENERAL.

This Division contains direction and guidance to be used by the DGCA for the evaluation of an operator's special curriculum segments for approval. To conduct such an evaluation, the DGCA will be aware of the following distinction between basic training and special training.

- (a) <u>Basic Training</u>. The six training categories defined in this Standard (See Division I, Subsection 6) contain the basic training required for crewmembers and dispatchers for qualification in a specific duty position on a specified aircraft type. Training in the operations and procedures necessary to operate in the standard service volume to standard minimums is an integral part of these curriculums. This basic training must be conducted by all operators. Training methods and events are specified either in regulations and are well understood in the air transportation industry.
- (b) <u>Special Training</u>. "Special" training is that training conducted by an operator to qualify crewmembers and dispatchers beyond the scope of basic training. Each operator is required to conduct only that special training required for the operator's specific operations. Special training consists of either curriculum segments integrated into one or more of the six defined training categories or of curriculum segments grouped as an independent program. Special training is normally required for operations which require specific authorization by the operator's OpSpecs, such as the following:
 - (i) Class II navigation
 - (ii) CAT II and CAT III approaches
 - (iii) lower than standard minimums takeoffs
 - (iv) extended range operations with two engine airplanes (ETOPS)
 - (v) use of an autopilot instead of a second in command
 - (vi) airborne radar approaches
 - (vii) MNPS/NAT Operations
 - (viii) RVSM Operations
 - (ix) RNP Operations

2. SPECIAL CURRICULUM SEGMENT CONTENT.

When evaluating an operator's training program, the DGCA must ensure that the operator's special curriculum segments contain the necessary and appropriate elements. Since operators may develop special curriculum segments to accomplish almost any objective, the curriculum content is a result of the specific objective and will be no more or less than what is required to achieve the objective. The DGCA will ensure that an operator's special curriculum segments have been developed from a clearly stated objective, a task analysis, and specified performance standards. Special curriculum segments must be designed to develop each crewmembers knowledge, skill, and judgment in the performance of the stated tasks. Special curriculum segments must contain qualification criteria for the assessment of each crewmembers ability to perform identified tasks to the specified standard. Special training curriculum segments may also be required to be conducted on a recurring basis.



3. SPECIAL CURRICULUM SEGMENT APPROVAL.

The DGCA will follow the five step process described in Division 2 of this Standard for the approval of special curriculum segments. The DGCA will evaluate an operator's initial curriculum outline to ensure that it includes appropriate segments, modules, elements, and events. U.S. Advisory Circulars or equivalent, regarding the various special operations can also be an aid to the DGCA in defining training requirements for those operations. The DGCA will evaluate the initial curriculum outline using both the applicable Advisory Circulars or equivalent and this Standard. The DGCA may grant initial approval when the operator's outline is in compliance with such guidance. When such direction and guidance does not exist, the DGCA must have the operator perform a task analysis to identify the required tasks and appropriate performance standards for the special curriculum segment. The task analysis and performance standards will be submitted by the operator as supporting documentation along with the initial curriculum outline. The DGCA must evaluate the supporting documentation in conjunction with the outline before granting initial approval.

4. SPECIFIC APPLICATIONS OF SPECIAL CURRICULUMS.

The DGCA will know of several common situations in which special curriculum segments are required. Some examples of specific applications of special curriculums follow.

- (a) Part VII, Subpart 5 Operations. In Part VII, Subpart 5 Operations it is a requirement that flight crewmembers possess knowledge of those procedures and OpSpecs applicable to these operations. For Class II navigation it may be required for flight crewmembers to have knowledge of specialized navigation procedures (such as MNPS, NAT, RVSM) and equipment (such as INS, IRU, LORAN, OMEGA). The DGCA will ensure that in Part VII, Subpart 5 operations, flight crewmembers are required to have supervised practice and to demonstrate their competence in these operations before performing them without supervision.
- (b) CAT II and CAT III Approaches. For training in CAT II and CAT III approaches, the DGCA must ensure that the required training includes special equipment, procedures, practice, and a demonstration of competency. While some operators have successfully integrated this training into the six defined categories of training, others have conducted this training as a separate curriculum. The DGCA may approve either method of organization.
- (c) Lower Than Standard Minimum Takeoffs. Before pilots may conduct takeoffs with lower than standard minimums in revenue service, they must be given training and practice in, and have successfully demonstrated competence in, performing takeoffs in minimum authorized visibility conditions. The DGCA must ensure that training is given in: runway and lighting requirements; rejected takeoffs at, or near, V₁ with a failure of the most critical engine; taxi operations; and in procedures to prevent runway incursions under low visibility conditions. While the preferred method of conducting this training is in a simulator, other methods may be approved by the DGCA for operators who do not use simulators inflight training (see DGCA Order 100-5).



DIVISION IX

DIFFERENCES TRAINING - ALL TRAINING CATEGORIES

1. GENERAL.

(1) This Division contains information, direction, and guidance to be used by inspectors when evaluating an operator's differences training program in all categories of training.

(2) *Background*. Due to differences in instrumentation and installed equipment, the skills and knowledge required to operate two aircraft of the same make and model can differ. The range of differences between variations of a basic aircraft model has become extremely wide in recent years with the introduction of computerized guidance systems, electronic instrument displays, and two crewmember flightcrews. Crewmembers trained on one variant of an aircraft may require additional training to safely and efficiently operate other variants of that aircraft. Part VII, Subpart 5 requires that operators conduct "differences" training in all categories of training when the crewmember is authorized to serve on more than one variant of an aircraft.

(3) *Terminology*. The following terminology is defined as it applies to differences training and as it is used throughout this Standard:

- (a) <u>Base Aircraft</u>: The aircraft or group of aircraft designated by the operator for use as a reference to compare differences with other aircraft within the operator's fleet. This comparison of differences between aircraft is for items that affect, or could affect, flightcrew knowledge, skills, or abilities pertinent to flight safety. Operators designate base aircraft by the "N" number (such as "N 611DL"), the airline tail number (such as "aircraft 801 820"), the make/model/series (such as "DC9-31"), and/or other classifications which can uniquely distinguish between the operator's different aircraft pertaining to the different configurations, handling characteristics, performance procedures, limitations, controls, instruments, indicators, systems, equipment, options or modifications. A base aircraft may either be a single aircraft or a group of aircraft are typically those aircraft within a fleet which the flightcrews are first trained in, which the airline has the most number of, or which represent a target configuration for the operator to eventually use as a standard.
- (b) <u>Variant Aircraft</u>: An aircraft or a group of aircraft with the same features, that have pertinent differences from a base aircraft. Pertinent differences are those which could affect flight safety. Typical pertinent differences are those relating to configuration, handling qualities, performance, procedures, limitations, controls, instruments, indicators, systems, equipment, options, or modifications. Variants exist within a model or series, due to differences in installed equipment. For example, a B737-200 ADV with a performance data computer system, Omega, SP-177 autopilot, dual cue flight director, and autoland is a different variant than another B737-200 ADV with a single cue flight director, SP-77 autopilot, and basic VOR/DME navigation equipment. An operator may have a number of variants, in addition to a base aircraft within a fleet.

2. METHODS FOR ACCOUNTING FOR DIFFERENCES.

(1) There are several acceptable methods operators may use to account for differences. Inspectors will be knowledgeable of the following acceptable methods.

(2) *Standardized Configurations*. The simplest and most traditional method for operators to use when dealing with differences is to avoid them by installing common instruments and equipment in each aircraft in the fleet.

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(3) *Separate Fleets*. Some operators treat variants of an aircraft as if they were different aircraft by developing separate curriculums for each variant and by scheduling crewmembers to operate only that variant of aircraft on which they have been trained.

(4) *Integrated Training*. An operator can conduct differences training as an integral part of each of the six defined categories of training. When the operator chooses to use this method, the DGCA must ensure that an analysis of the differences between the variants of aircraft in the operator's fleet has been made and that instructional elements have been provided in each curriculum segment to account for the identified differences. The DGCA may approve this method when systems differences between the aircraft are minor, procedural differences are minor, and flight training is not required. Approval of integrated differences training is accomplished in conjunction with the approval of the curriculum of which it is a part. When the operator chooses this method, a differences evaluation will be submitted as supporting documentation for the initial curriculum outline.

(5) Separate Differences Curriculum Segments. The operator may choose to limit instruction throughout a curriculum to one specific "base" aircraft and then conduct training as to the differences present in variations of the aircraft as a separate and distinct curriculum segment. For example, an operator might designate the 100 series aircraft as the base aircraft in a B-737 transition course. Ground, integration, flight, and qualification curriculum segments would be based on this aircraft. At an appropriate point in the instruction, a distinct segment of training would be presented to cover differences in the 200, 300, or 400 series aircraft. This method is advantageous when the operator operates numerous variants of an aircraft.

3. SPECIFIC SITUATIONS REQUIRING DIFFERENCES TRAINING.

Inspectors will be knowledgeable in the several situations in which differences training may be required, as follows:

- (a) when an operator contracts for training from another party or conducts training in a leased simulator or aircraft having instrumentation or equipment different from the aircraft operated by the operator
- (b) when an operator generates a need for differences training by introducing a variation of an aircraft into an existing fleet or by creating a variant aircraft by modifying one or more aircraft in the fleet
- (c) when airline mergers and acquisitions generate the need for fleets to be merged in operations

4. DIFFERENCES EVALUATION.

Differences training must be based on an accurate analysis of the differences in systems, equipment, and operating procedures of the aircraft involved (Figure 12). In 1989, the flight standardization boards (FSBs) began analyzing differences in variants of existing aircraft during certification. This analysis is published in a Master Differences Program Requirements (MDPR) document. The MDPR document contains a listing of differences and differences training requirements. When an MDPR or equivalent has been published which covers all variants involved, the operator's proposed differences training program must comply with the requirements in the document. An operator preparing a training program for which an MDPR has not been published, must submit a difference analysis conducted by the operator or other qualified party (such as a manufacturer or another operator). The analysis may take any form as long as it accurately identifies all differences analysis, but not the only means, is to construct a curriculum outline for the base aircraft and to identify each curriculum item in which there is a difference.



FIGURE 12.

EXAMPLE OF DIFFERENCES WORKSHEET

DIFFERENCES EVALUATION WORKSHEET		
BASE AIRCRAFT	VARIANT AIRCRAFT	
Aircraft System	is Subject Areas	
Hydraulic Systems		
Pumps	Pneumatic pump deleted	
	Electric pump added	
• Supply	Same	
System A components	Same	
System B components	Yaw damper added	
• RAT	Deleted	
Limitations	Electrical pump time	
	Yaw damper off below 100'	
Electrical System Module	Same	
Air Conditioning Module Etc.	Same	
Systems Integration Subject Areas		
Normal Procedures Module		
Loran Receiver	Deleted	
INS Operation	New Procedures	
Normal Procedures Module		
Hydraulic Systems	Contains Differences	
Fluid Loss Procedure	Same	
• Pump Failure	Different	
Fluid Overheat	Same	
• Electrical System Etc.	Same	
Flight Training Subject Areas		
Normal Procedures	Contains Differences	
Preflight	Contains Differences	
No-flap Approach	Contains Differences	
Emergency Procedures	Contains Differences	
Pressurization Loss	Same	
Engine-out Approach Etc.	Contains Differences	

5. DEGREES OF DIFFERENCES.

(1) The DGCA must ensure that the methods and devices used to conduct differences training are appropriate to the degree of difference between the base aircraft and the variant aircraft. For purposes of describing degrees of difference and for defining acceptable training methods, five levels of differences have been defined (Levels A - E). These levels are compatible with those described in MDPRs but are discussed here primarily for guiding the DGCA in approving differences training programs that are not based on MDPRs.

(2) *Level A Differences*. Level A differences are those differences which the crewmember needs to be aware of, but which have little effect on systems operations. For example, an engine starter on one

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variant aircraft has different time limits but does not have differences in controls, indicators, function, or procedures. Self instruction methods such as highlighted pages of operating manuals or training bulletins are acceptable for these differences. At the Level A of differences, testing may not be required or may be delayed until the next period of recurrent training. Among the several appropriate means of conducting such testing are open book tests, verbal quizzes, and computer based instruction (CBI). Once such differences are incorporated into the operator's aircraft operating manual, there is usually not a requirement for currency events.

(3) Level B Differences. Level B differences are those differences in systems, controls, and indicators that have only minor procedural differences. Level B differences are of great enough degree to require formal training in either general operating subjects, aircraft systems, or both, but are not of great enough degree to require systems integration training. An example of a Level B difference might be a fuel system with additional fuel tanks, pumps, and gauges. Procedural differences are limited to the operation of transfer valves and pumps while an aircraft is in cruise flight. Appropriate instructional methods for Level B differences include, but are not limited to, tape slide/presentations, lectures, and CBI. The testing that is appropriate to Level A differences is also appropriate to Level B differences, however, testing must be conducted immediately after training.

(4) Level C Differences. Level C differences are those differences of great enough degree to require a systems integration training module but that are not of great enough degree to require actual flight training (See Division V, Subsection 10 of this Standard for a definition and description of integration training). An example of a Level C difference is the installation of a flight management system (FMS) computer. Appropriate training and testing methods in the general operating and systems training modules are the same as those used for Level B differences. Appropriate training devices in the integration module are dedicated systems trainers or training devices of level 4 or greater. Testing methods appropriate to Level C differences are demonstrations of skill in the procedures affected by the difference. In the case of the installation of an FMS computer, testing might consist of preflight programming of the computer and a demonstration of its use in navigation, climbs, and descents. In this case, the qualification curriculum segment will also contain supervised operating experience. (5) Level D Differences. Level D differences are those differences for which there is a requirement for flight training modules but not for high fidelity simulation for landings. When Level D differences exist between two aircraft, general operating training modules, systems training modules, and integration training modules may be required. An example of a Level D difference might be the installation of an electronically integrated flight instrumentation display. Aircraft operations using such a display are required to contain flight training in most phases of flight, except landings. Level 6 or greater flight training devices are appropriate for conducting Level D differences training and qualification modules. The testing required consists of applicable events of a Part VII, Subpart 5 proficiency check.

(6) Level E Differences. Level E differences are those differences for which there is a requirement for flight training, including landing events. An example of a Level E difference is the installation of a STOL (short takeoff and landing) kit on an aircraft resulting in a very different flare and landing attitude. A Level C or higher (Phase II) simulator, or an airplane is required for flight training in Level E differences. The testing required in Level E differences consists of the applicable events of a Part VII, Subpart 5 proficiency check.

6. RECURRENT DIFFERENCES TRAINING AND CURRENCY EVENTS.

When operators schedule crewmembers on multiple variants of an aircraft, some form of differences training must be included in the recurrent training curriculum. The amount and type of required training depends on the degree of difference involved and the operator's circumstances. Levels A and B differences will be reviewed within recurrent ground training curriculum segments. Levels C, D, and E differences require some degree of proficiency testing in a flight training device, simulator, or aircraft. Recurrent differences training and testing can be reduced when the operator adopts a system

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to ensure that crewmembers remain current in all variations of the aircraft operated. For example, when a crewmember is operating aircraft equipped with servo mechanical and CRT cockpit displays, currency could be expressed by the operator in terms of the number of flight legs in each variant of the aircraft each quarter.

7. APPROVAL PROCESS.

The approval process for differences training follows the five step process described in Division 2 of this Standard. The operator must submit an outline of the differences training program. This outline will contain appropriate modules and elements. Before the DGCA may grant initial approval of the training program, the operator must also submit documentation supporting the differences analysis. The documentation may consist of a reference to other documents available to the DGCA, such as the MDPR. The documentation may also be a differences analysis prepared by the operator or other qualified party. When the operator chooses to use the integrated method of training, differences training appears in the outline as differences modules in the appropriate curriculum segment. When the operator conducts differences training as a separate and distinct curriculum segment, all differences modules are grouped in that segment. In either case, DGCA approval will be predicated on the operator meeting the following required criteria:

- (a) differences analysis is complete and accurate (but not necessarily in great detail)
- (b) outline contains the appropriate instructional elements to account for the differences identified in the analysis
- (c) the appropriate modes of instruction and devices to conduct the training are used

8. SEAT DEPENDENT TRAINING.

Pilots operating aircraft from the left and right pilot seats are frequently confronted with special skill and training requirements. The differences in crew duties and skill requirements vary from insignificant to highly significant in various makes and models of aircraft. For this reason, the DGCA must evaluate an operator's seat dependent training requirements on a case by case basis. The DGCA may require that operators use a differences evaluation (as described in this Division) for making this determination.



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DIVISION X

Flightcrew Recurrent Training Curriculums

1. GENERAL.

This Division contains information, direction, and guidance to be used by the DGCA in the evaluation of an operator's flightcrew recurrent training curriculums. The information covered includes the objectives and content of these recurrent training curriculums. The recurrent category of training is conducted for flight crewmembers who have been previously trained and qualified by the operator, who are continuing to serve in the same duty position and aircraft type, and who must receive recurring training and/or checking within a specific eligibility period to maintain currency. Part VII, Subpart 5 flightcrew recurrent curriculums contain the following curriculum segments: aircraft ground training, general emergency training, flight training, and qualification. Special operations and differences training curriculum segments must also be included when applicable.

2. OBJECTIVE OF RECURRENT TRAINING.

(1) The objective of recurrent training is to ensure that flight crewmembers continue to be knowledgeable of, and proficient in, their specific aircraft type and duty assignment. Periodic recurrent training also provides operators with an opportunity to introduce crewmembers to changes in company operating procedures, in crewmember duties and responsibilities, and in developments within the operating environment and aviation industry.

(2) The DGCA must ensure that the operator conducts the required number of hours of training for each cycle of recurrent training, and within the time period specified by the LARs. Furthermore, the DGCA must take into account that although an operator may have satisfied the LARs, the operator may not have satisfied the objective. The DGCA can consider the objective to have been met when the crewmember is able to perform at the required standard of proficiency immediately before entering the next cycle of required training.

(3) The DGCA shall review recurrent training curriculum segments to ensure that the subject matter is appropriate, and of the proper scope and depth. The training given by the operator in each segment must meet the objective of that segment. Since there are limits as to the amount of recurrent training operators can reasonably conduct, the DGCA must ensure that operators use the time allocated for recurrent training efficiently and effectively. The DGCA and operators will carefully consider the following:

- (a) the LARs require that all required subjects and topics in initial training be covered in recurrent training. Crewmembers must remain proficient in these subjects as long as they continue to serve in the aircraft and crew position. Operators must give sufficient training to ensure that crewmembers continually remain proficient. The training required to meet this objective must be given even if it is in excess of the scheduled hours or listed topics.
- (b) the LARs do not require that every subject and topic of training be reviewed during each cycle of training. The DGCA will encourage operators to construct recurrent training outlines with different topics and elements emphasized in each cycle of training, so that when an element is addressed, it may be addressed in adequate depth.
- (c) recurrent training curriculum segments may not contain material that is not pertinent to flightcrew aircraft training, ground training, flight training, and general emergency training requirements (such as security training a separate training requirement and curriculum segment).
- (d) recurrent training syllabuses (not necessarily curriculum outlines) will be revised frequently (preferably annually). Operators must remove any unnecessary, outdated, superfluous, or

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inappropriate material and replace it with current and timely material. The DGCA will encourage operators to construct recurrent training curriculum segment outlines in a manner that allows for training syllabus variation in subsequent cycles of training, while not necessitating a new program approval (See Division X, Subsection 4).

(e) The DGCA shall encourage operators to use pretesting to identify areas in which crewmembers are deficient. While operators do not have to train in areas in which crewmembers demonstrate competence, they must, however, be able to identify areas with deficiencies and conduct training to proficiency in those areas.

3. TRAINING/CHECKING MONTH AND ELIGIBILITY PERIODS.

(1) Part VII, Subpart 5 requires that for flight crewmembers to be scheduled or serve in revenue service, they must have completed various recurrent training and checking events within 12 calendar months. When an operator adopts a modular approach for recurrent training, all such training elements and events must be grouped into specified modules to be administered and recorded as a recurrent training curriculum segment. When an operator does not adopt a modular training approach, records must be kept of each airman's accomplishment for each element of required training and each element or event must be scheduled separately. The DGCA will use the following direction and guidance when reviewing an operator's recurrent training and checking events.
(2) Training/Checking Month. The training/checking month is that calendar month during which a

(2) *Fraining/Checking Month.* The training/checking month is that calendar month during which a flight crewmember is due to receive recurrent training. Calendar month means the first day through the last day of a particular month. PICs conducting Part VII, Subpart 5 operations are also due a recurrent training or checking module 6 months after the training/checking month.

- (a) <u>Designating the Training/Checking Month</u>. When a crewmember completes an initial, transition, upgrade, or requalification training program within a 3 calendar month period, the month in which the qualification curriculum segment is completed is then considered to be that crewmembers training/checking month. If the training has been completed within the 3 month period, the operator may make a single record of the entire curriculum without noting when individual events occurred. Subsequent scheduling of recurrent training may then be based on the training/checking month. If the time taken to complete initial, upgrade, transition, or requalification training has exceeded 3 calendar months, however, the operator must record and schedule the accomplishment of recurring events separately.
- (b) <u>Adjusting the Training/Checking Month</u>. Operators may adjust a crewmembers training/checking month by administering a period of recurrent training and qualification. When training is accomplished before it is due, operators must ensure that all requirements are accomplished within the 12 calendar months allowed by the regulations. Requirements are sometimes omitted when an airman completes an initial equipment, transition, or upgrade training curriculum at some time other than the previous eligibility period. When a training/checking month is adjusted, the reason for the adjustment must be noted in the airman's record. A coding system for this adjustment may be used for computerized recordkeeping systems.
- (c) <u>Requalification</u>. When an airman's qualification has lapsed due to not completing recurrent training or checking requirements, that airman must complete requalification training (See Division 11 of this Standard). When an airman is entered into requalification training, a record of the reason for entry must be placed in the airman's record. The operator may establish a new training/checking month or retain the airman's original training/checking month after the airman successfully completes the requalification training.

(3) *Eligibility Period*. The eligibility period is a 3 month period comprised of the calendar month before the month in which training is due, the month in which training is due, and the calendar month after the month in which training is due. In Part VII, Subpart 5 operations, required recurrent training or checking that is completed any time during the eligibility period is considered to have been

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completed during the month in which training is due. A crewmember who has not completed all recurrent training or checking requirements in the month due may be scheduled and may serve in revenue service during the remainder of the eligibility period, but not thereafter. A flight crewmember who fails to complete all required training and qualification modules within the eligibility period must complete requalification training before serving in revenue operations.

4. RECURRENT AIRCRAFT GROUND TRAINING CURRICULUM SEGMENTS.

(1) The DGCA must ensure that an operator's recurrent aircraft ground training consists of instruction in three subject areas: general operational subjects, aircraft systems, and systems integration training. Differences and special operations training (such as windshear) will also be required. LARs Part VII, Section 705.147 requires that recurrent aircraft ground training must contain instruction in the same subjects required for initial training. This requirement does not mean that each element of initial training must be reaccomplished during each period of recurrent training. It means that pertinent subject areas must be reaccomplished often enough to ensure that crewmembers remain competent in the performance of their assigned duties. The LARs also require that certain subjects, such as emergency training be covered each year.

(2) *Training Hours*. Ground training hours must be specified in the recurrent training curriculum segment. The number of training hours required for various aircraft and the approval of training hours are discussed in Division 5, Subsection 5 of this Standard. Operators may be required, however, to conduct more than the minimum number of hours specified by the regulations to achieve the training objective. LARs Part VII, Section 705.147 requires that training in all subject elements which are required in initial aircraft ground training must be given "as necessary" in recurrent training. A recommended means of constructing recurrent training, additional training modules may be accomplished at subsequent cycles of training until all of the areas of initial training have been completely reviewed. A complete cycle will not exceed 3 years.

(3) *Differences and Special Operations Training*. When either aircraft differences training or special operations training is applicable, it must be included in recurrent training curriculums. This training may either be presented as a separate and distinct curriculum segment or the training may be integrated into other modules. An effective way for an operator to conduct differences training is to discuss the differences in individual systems and procedures as an integral part of the training. When special operations are conducted, special curriculum modules are normally required as opposed to integrating the training into other segments. Recurrent training will also include updated information on equipment, operational practices and procedures, information from accidents and incidents, and on areas which require emphasis as a result of line and proficiency check evaluations.

5. WRITTEN OR ORAL TESTING.

(1) The DGCA must ensure that the following written or oral testing requirements are in the operator's recurrent training curriculum.

(2) Written or oral testing is a required module of the recurrent flight checks for Part VII, Subpart 5 curriculums. This testing may either be conducted in conjunction with the flight check module or separately. The testing must be accomplished within the airman's eligibility period (See previous Division X, Subsection 3.(3)).

Information Note: Although operators may use computer based instruction, programmed instruction, or "open book" instruction and testing to obtain a reduction in ground training hours, this training/checking is not intended to be a substitute for the testing required in the qualification segment. (3) *Composition of Written and Oral Test Modules*. The oral or written test module must contain three distinct sets of test elements.

- (a) the first set of test elements is general in nature and covers the applicable provisions of: Parts I, IV, VI, VII, and the operator's OpSpecs; and the operations manual. This segment only has to be completed once during each qualification cycle and does not need to be repeated if the crewmember is qualifying on more than one aircraft.
- (b) the second set of test elements includes aircraft systems, operating procedures, weight and balance, and performance data relative to each specific make and model of aircraft. This segment of the test module must be completed on each make and model aircraft on which the airman is to serve. When the airman is qualifying to serve on more than one variation of an aircraft, a written or oral differences test segment is also required.
- (c) the third set of test elements consists of special or unique operations. Special operations testing may be included in the general or aircraft specific segments, as appropriate.

6. RECURRENT GENERAL EMERGENCY TRAINING CURRICULUM SEGMENTS.

(1) Part VII, Subpart 5 operators are required to conduct recurrent general emergency training. This curriculum segment is separate from the aircraft ground recurrent training curriculum segment. Recurrent general emergency training consists of emergency situation and emergency drill training modules. Division 4 of this Standard contains additional direction and guidance on the scope and content of general emergency training modules.

(2) Recurrent general emergency training for Part VII, Subpart 5 consists of all the items required by LARs Part VII, Section 705.138. This training must be conducted every 12 months, typically at the same time recurrent aircraft ground training is conducted.

(3) The emergency situation training modules that are part of the recurrent general training curriculum segment must include at least the following elements:

- (a) rapid depressurization (if applicable)
- (b) fire inflight (or on the surface) and smoke control procedures
- (c) ditching and evacuation situations
- (d) illness, injury, or other abnormal situations involving passengers or crewmembers

(4) Part VII, Subpart 5 crewmembers must complete emergency drill training at least once every 24 months. During alternate 12 month periods, training may be accomplished by the operator using pictorial presentations or demonstrations. The emergency drill training modules that are part of the recurrent general emergency training curriculum segment must include at least the following events:

- (a) operation of each type of emergency exit in the normal and emergency modes
- (b) operation of each type of hand-held fire extinguisher
- (c) operation of each type of emergency oxygen system
- (d) donning, use, and inflation of each type of life preserver and the use of other flotation devices (if applicable)
- (e) ditching procedures (if applicable) including cockpit preparation, crew coordination, passenger briefing and cabin preparation, the use of lifelines, and the boarding of passengers and crewmembers into a liferaft or slideraft

(5) The following illustration clarifies the chronological order of recurrent general emergency training requirements:


TABLE 11.

	MONTHS SINCE FIRST GENERAL EMERGENCY TRAINING CURRICULUM SEGMENT WAS COMPLETED					
TYPE OF RECURRENT GENERAL EMERGENCY TRAINING REQUIRED	12 MONTHS	24 MONTHS	36 MONTHS	48 MONTHS		
Emergency Situation Training	Х	Х	Х	Х		
Emergency Drill (Either hands-on or pictorial demonstration)	Х		Х			
Emergency Drill (Hands on Required)		Х		Х		

PART VII SUBPART 5 RECURRENT GENERAL EMERGENCY TRAINING TIMETABLE

7. RECURRENT FLIGHT TRAINING AND QUALIFICATION CURRICULUM SEGMENTS PART VII, SUBPART 5.

(1) The DGCA must refer to LARs Part VII, Section 705.154 and 705.165 and when determining the various acceptable means that an operator may use to construct recurrent flight training and qualification curriculum segments. The DGCA will use the direction and guidance that follows when making these determinations.

(2) LARs Part VII, Section 705.156(3)(a)(i) requires that all pilots complete a flight training curriculum segment every 6 calendar months in each airplane in which the pilot is to serve. This regulation also requires that the applicable flight test (as prescribed in LARs Part VII, Section 705.164) be accomplished. The flight training and flight test requirements are separate and distinct but are both due in the pilot's training/checking month.

(3) LARs Part VII, Section 705.156(3)(iii) requires PICs to complete a flight training module annually in addition to the module conducted in the airman's training/checking month. This module is due in the calendar month 6 months after the training/checking month.

(4) LARs Part VII, Section 705.156(3)(b) allows a course of simulator training described under LARs Part VII, Section 705.132(2) to be substituted for alternate periods of recurrent flight training. A course of flight training in a simulator under LARs Part VII, Section 705.132(2)(a) consists of 4 hours at the controls practicing at least the procedures, maneuvers, and events in Appendix II. A course of flight training in a simulator under LARs Part VII, Section 705.132(2)(c) consists of line oriented flight training (LOFT).

(5) LARs Part VII, Section 705.156(3)(b) permits an operator to conduct a proficiency check instead of recurrent flight training but does not authorize training instead of a required proficiency check. This provision is not intended to allow perpetual substitution of checking for training. The DGCA must emphasize that training is of primary importance, and checking is the means of verifying that training has been adequate. The DGCA shall ensure that operators conduct adequate refresher and remedial flight training in addition to conducting the required checks. The provision allowing for the substitution of checks for training is intended to allow the following:

- (a) realignment of a crewmember's training/checking month
- (b) relief for crewmembers requalifying after losing qualification
- (c) necessary flexibility for operators when realigning and revising training programs

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(6) LARs Part VII, Section 705.164 requires that a PIC must have completed a proficiency check within the last 12 calendar months and either a proficiency check or one of the simulator courses of training described under LARs Part VII, Section 705.132(2) within the last 6 calendar months.
(7) LARs Part VII, Section 705.164 requires an SIC to have completed a proficiency check or a course of simulator training described under LARs Part VII, Section 705.132(2) every 12 calendar months. An SIC must also have completed a proficiency check or LOFT within 24 calendar months.

Information Note: LARs Part VII, Section 705.164 states that within the previous 6, 12, and 24 calendar months, crewmembers must complete specified requirements. LARs Part VII, Section 705.125, however, allows an additional, calendar month grace period for crewmembers to complete these requirements.

(8) Table 12 that follows, contains a summary of the methods that a Part VII, Subpart 5 operator may use to comply with the combined recurrent qualification requirements of the cited regulations.

TABLE 12.

METHODS FOR COMBINING RECURRENT TRAINING PART VII, SUBPART 5

Months	0	6	12	18	24
	Р	Р	Р	Р	Р
PIC	Р	T or L	Р	T or L	Р
	Р	Р	L or T	Р	L or T
	Р		Р		P, L, T
SIC	Р		L		P, L, T
	Р		Т		P or L

Notes:

P = Proficiency check in an airplane or simulator

L = LOFT

T = Simulator training

(9) For recurrent training, flight engineers must have completed a proficiency check within 12 calendar months.

(10) When a crewmember flies more than one aircraft type, the training/checking month for each subsequent airplane is the same calendar month that is one year after the original check on that type of airplane. Operators normally find it advantageous to align the training/checking month on the second airplane 6 calendar months after the training/checking month on the first airplane.



DIVISION XI

Flightcrew Requalification Training Curriculums

1. GENERAL.

(1) This Division contains information, direction, and guidance to be used by the DGCA for the review and approval of requalification training curriculums. In this Division a formal definition of requalification training is given; a definition is not included in the LARs. Since crewmembers qualified for operations in revenue service under Part VII, Subpart 5 sometimes lose their qualification, it is useful for the operators to have a definition of requalification training, including the reasons for it and its objectives.

(2) *Definition*. For the purposes of this Standard, requalification training is defined as that category of training conducted specifically to restore a previously qualified crewmember to a qualified status. The operator's requalification training curriculum must contain the specific duty position and aircraft type for the applicable operations. To be eligible for training in a requalification curriculum, a crewmember must have been previously qualified in that aircraft type and duty position and have subsequently lost that qualification.

(3) *Reasons for Crewmembers Losing Qualification*. A crewmember may lose qualification status and become "unqualified" for any of the following reasons: failure to accomplish all of the recency of experience requirements required by the regulations (noncurrent); failure to complete recurrent training within the eligibility period established by the regulations (becoming overdue); or failure of a checkride (becoming disqualified). A crewmember may be simultaneously qualified in one airplane or duty position and unqualified in another.

Information Note: *If a crewmember fails a checkride in one airplane, that crewmember cannot fly in revenue service in another airplane until the crewmember's qualification has been reestablished.*

(4) *Objectives of Requalification Training*. Crewmembers meet requalification training objectives by completing a combination of aircraft ground, flight, and qualification curriculum segments, as applicable. The training and qualification curriculum segments needed for a crewmembers requalification are determined by the reasons for, and the length of, the crewmember's unqualified status. A crewmember's requalification after a loss of currency may be as simple as reaccomplishing the currency events in which the crewmember is delinquent, such as landings. Requalification, however, may be as complex as the crewmember having to accomplish the events in the initial equipment category of training when the crewmember has been unqualified for an extended period of time. Remedial training after disqualification will be tailored to the specific case.

2. REESTABLISHING LANDING CURRENCY OF PART VII, SUBPART 5 PILOTS.

(1) LARs Part VII, Section 705.162(1) requires that each pilot operating under Part VII, Subpart 5 must have made at least three takeoffs and three landings in the airplane type in which the pilot is to serve in the previous 90 day period. A pilot who fails to meet this requirement is unqualified to serve in Part VII, Subpart 5 operations. In such a case, the qualification curriculum segment for requalification training consists of either an experience module or a basic qualification module (proficiency check) in accordance with Appendix II of Part VII, and Division 7 of this Standard. Aircraft ground training curriculum segments and flight training curriculum segments are usually not required. The DGCA must ensure that the operator's training modules for requalification meet the requirements that follow.

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(2) A recency of experience qualification module may be used which contains at least three takeoffs, three landings, and the following:

- (a) a takeoff and landing with a simulated failure of the most critical powerplant
- (b) a landing from an ILS approach to the lowest ILS minimums the pilot is authorized in revenue operations
- (c) a landing to a full stop

(3) The recency of experience qualification module may be accomplished in one of the following devices:

- (a) an airplane, in nonrevenue operations under the supervision of a check airman
- (b) an approved Level B, C, or D simulator under the supervision of a check airman
- (c) in a Level A simulator under the supervision of a check airman (The pilot must have previously logged 100 hours in the same type airplane. The pilot must also be subsequently observed during the first two landings in line operations by a check airman. The pilot may not conduct approaches to minimums lower than CAT I, as specified in the operator's OpSpecs, until this requirement has been satisfied. The landings must be made within 45 days after completion of simulator training.)

(4) When a simulator is used to reestablish currency, all flightcrew positions must be occupied by individuals qualified in the operator's procedures and in the specified duty positions. The simulator must be operated in a normal flight scenario. Repositioning is not allowed.

(5) The check airman must certify to the proficiency of the pilot and enter that certification into the pilot's records.

3. REESTABLISHING CURRENCY OF PART VII, SUBPART 5 FLIGHT ENGINEERS.

LARs Part VII, Section 705.168 requires that flight engineers (FEs) must have acquired at least 50 hours of flight time as FEs in the preceding 6 months in the airplane type in which they are to serve. A FE who becomes noncurrent for failing to meet this requirement must reestablish currency by completing a basic qualification module (proficiency check) conducted either by an FE check airman or by a DGCA inspector, in accordance with Division 7 of this Standard. The check may be conducted in an airplane in nonrevenue operations, or in a simulator.

4. REQUALIFICATION FOR FAILURE TO COMPLETE RECURRENT TRAINING DURING THE ELIGIBILITY PERIOD.

A requalification curriculum segment is required when a crewmember fails to complete recurrent training hour during a preestablished eligibility period. The minimum amount of training required in each segment of the curriculum is determined by the length of time the crewmember has been unqualified. Crewmembers must be trained to proficiency and complete a qualification module before being returned to revenue service. Requalification curriculum outlines must specify minimum training hours and events. In each individual case, more or less training hours called for in the curriculum outline may be required. Table 13 contains the requalification requirements for Parts VII, Subpart 5 crewmembers who have exceeded their respective eligibility periods for required training or checks.



TABLE 13.

Time Past Month Due	RGT SEGMENT	RFT SEGMENT	QUALIFICATION SEGMENT		
More than 36 days and less than 60 days	N/A	Refamiliarization simulator or base or 2 sectors of line flying under the supervision of a line Captain. (2 satisfactory instrument approaches must be completed under supervision).			
60 days or more and less than 6 calendar months.	The portion of RGT not accomplished when due	4 hour Refamiliarization simulator and 4 sectors of line flying under the supervision of a line Captain. (2 satisfactory instrument approaches must be completed under supervision).			
More than 6 months and less than 12 months	RGT	RFT	Proficiency Check		
12 to 35 months	RGT (minimum 16 hours)	RFT (minimum 8 hours)	All qualification modules of the transition curriculum		
36 to 59 months	RGT (minimum 24 hours)	RFT (minimum 16 hours)	All qualification modules of the transition curriculum		
More than 59 months	SAME AS INITIAL EQUIPMENT TRAINING				

PART VII SUBPART 5 REQUALIFICATION CURRICULUMS FLIGHT CREWMEMBER OVERDUE TRAINING

5. CREWMEMBERS WHO ARE NONCURRENT OR OVERDUE UPON REASSIGNMENT TO A DIFFERENT TYPE OF AIRCRAFT.

A crewmember who is reassigned to a duty position or aircraft type in which the crewmember was previously qualified, but is not currently qualified, must receive requalification training. The method used to requalify the crewmember differs according to the reason for the requalification, as follows:

- (a) a crewmember who is unqualified solely because of not having accomplished the required currency events, may be requalified in accordance with Division XI, Subsections 4 and 5 of this Standard, as applicable.
- (b) a crewmember who is unqualified for being overdue recurrent training may be requalified in accordance with table 13.

6. CREWMEMBERS REASSIGNED TO A PREVIOUSLY HELD DUTY POSITION IN AN AIRCRAFT CURRENTLY BEING FLOWN.

(1) When a crewmember is reassigned to a duty position previously held in the same type of aircraft the crewmember currently flies, requalification training may be necessary. The method used to requalify the crewmember differs according to the reason for the requalification, as follows:

- (a) when a pilot is returning from SIC to PIC or from FE to SIC, the crewmember must meet both the recency of experience and recurrent training requirements for the duty position or be placed in requalification training.
 - (i) a crewmember who is unqualified solely for being noncurrent may be requalified in accordance with Division XI, Subsections 4 and 5 of this Standard as applicable.

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(ii) a crewmember who is unqualified for being overdue for a recurrent training module may be requalified in accordance with table 13.

(2) When a crewmember is moving from a pilot crewmember position to the flight engineer position, requalification must be accomplished in accordance with Division XI, Subsection 4 (See table 13).
(3) When a PIC moves to an SIC position, requalification training consists of seat dependent tasks related to the SIC position, such as checklist flow, and paperwork such as flight logs and weight and balance. Seat dependent requalification training requirements vary depending on the length of time the pilot was out of the SIC position and the complexity of the aircraft. Because of the wide variance in these situations it is not practical for each situation to be addressed in this Standard. The DGCA must exercise judgment when reviewing each case.

7. REQUALIFICATION OF FLIGHT CREWMEMBERS WHO HAVE FAILED A CHECK.

(1) A flight crewmember who fails a required check must be entered into requalification training. The requalification training segment must consist of at least that remedial training required to restore the airman's competence in the failed events. Training may consist of as little as a detailed debriefing or it may need to be very extensive. Additional training will be given to strengthen the crewmembers overall performance. The reasons for the disqualification and the training given must be entered in the airman's records.

(2) The instructor or check airman conducting this training must certify to the crewmembers proficiency before the crewmember reaccomplishes the checkride. This certification is not limited to the events the crewmember failed but it encompasses all events of the qualification module.
(3) The operator must notify the DGCA of all failures. Notification must be timely, so that the DGCA can arrange for an inspector to conduct or observe the qualification module when, in the DGCA's judgment, this action is required. Observation will be accomplished in the case of PICs failing basic qualification modules or line check modules. Operators will conduct as much requalification training as necessary before scheduling and conducting the qualification module.

(4) The qualification curriculum segment for an SIC or FE shall consist of the module previously failed. The qualification curriculum segment for a PIC shall consist of either the basic qualification module, the line check module, or both, if appropriate.

8. EVALUATION OF REQUALIFICATION TRAINING CURRICULUMS FOR INITIAL APPROVAL.

(1) When evaluating a requalification training curriculum outline for initial approval, inspectors must determine that the appropriate aircraft ground, flight, and qualification curriculum segments are listed and that each curriculum segment contains the required elements.

(2) Recency of experience modules only have to contain a listing of the events to be accomplished and the method the operator intends to use to accomplish them.

(3) The curriculum will contain training and qualification segments for remedial training of disqualified crewmembers. The training segment only needs to contain a simple statement that the training given will be prescribed for the individual case in order to re-establish the crewmembers proficiency. The qualification segment, however, shall contain a listing of the modules the crewmember must complete to regain qualification.

(4) Separate curriculum outlines will be prepared for crewmembers overdue training in accordance with table 13. The curriculum outline will provide sufficient information to allow the DGCA to determine that the elements and events in each training module are adequate to properly requalify the crewmember. An example of a requalification training curriculum outline, with a sample training module (autoflight/flight director), is in figure 13. The subject area content of aircraft ground and flight training curriculum segments and of qualification curriculum segments are in Divisions 5, 6,

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and 7, respectively, of this Standard. The job aids associated with these sections will be used in conjunction with table 13 by the DGCA when determining the adequacy of an operator's proposal. (5) One technique an operator may use to construct requalification curriculum segments for approval is to start with ground and flight training modules from other curriculums (such as PIC transition aircraft ground training) and to remove unnecessary elements or to adjust the content of the elements as necessary. In the example shown in figure 13, the number of elements and events in the training modules have been reduced from those provided for initial equipment training.



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FIGURE 13. EXAMPLE OF A REQUALIFICATION TRAINING CURRICULUM OUTLINE





DIVISION XII

Check Airman and Air Transportation Flight Instructor Training

1. GENERAL.

(1) This Division provides the Standards concerning the training requirements for check airmen and air transportation flight instructors.

(2) *Candidates: Selection of Instructors and Nomination of Check Airmen.* The operator selects instructors and submits the selections for re view by the DGCA. The operator nominates check airman and submits the nominees for approval by the DGCA. Since the experience levels of pilots and flight engineers vary among operators, it is impractical to specify minimum experience levels for candidates. In some cases, such as cases involving new operators, candidates may have relatively little flight experience. Regardless of experience levels, however, candidates must be able to demonstrate high levels of knowledge and skill in the applicable job functions. The DGCA must ensure that adequate training for check airmen and air transportation flight instructors is completed and documented in the applicable records.

2. TRAINING FOR FLIGHT INSTRUCTORS AND CHECK AIRMEN.

(1) To ensure that its flight instructor or proficiency check airmen are adequately trained, each operator's approved initial flight instructor training program and initial check airman training program shall include the training specified in Lebanese Aviation Regulations (LARs) Part VII, Section 705.133, 705.135 and Appendix V, as applicable. Check airman and air transportation flight instructor candidates must satisfactorily complete the operator's approved initial, transition, or upgrade training programs for the desired aircraft and duty position. In addition, instructors must complete the operator's instructor and check airmen must complete the operator's instructor and check airmen training. Flight instructors and check airmen need not repeat curriculum segments in transition training that apply to more than one aircraft or duty position when they have completed those curriculum segments satisfactorily in previous training.

(2) *Ground Training*:

- (a) pilot flight instructors (including flight instructors using simulators).
- (b) proficiency check airmen (including check airmen using simulators).
- (c) line check airmen.

Ground training for air transportation pilot flight instructors, pilot proficiency check airmen and line check airmen shall include the following topics:

- (a) fundamental principles of the teaching-learning process.
- (b) teaching methods and procedures.
- (c) instructor-student relationships.

Information Note: LARs 705.135(2) provide that these topics need not be included when the candidate holds a Flight Instructor Certificate (CFI) issued by the DGCA. These regulations do not relieve the operator of the responsibility for ensuring that instructors and check airmen remain proficient in these areas.

- (d) regulatory and administrative functions of instructors and check airman, as appropriate.
- (e) applicable LARs.
- (f) the operator's policies and procedures.
- (g) methods, procedures, and techniques for conducting required checks.

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- (h) seat-dependent tasks for the specific aircraft.
- (i) analysis of airman performance including identification of improper or insufficient training.
- (j) crew resource management (CRM) concepts and vocabulary.
- (k) appropriate corrective actions for unsatisfactory performance in training or evaluation.
- (1) guidelines and safety measures for emergency situations likely to develop in conducting the required normal, abnormal, and emergency procedures in an aircraft and in a simulator, as appropriate.
- (m) the consequences of improper or untimely safety measures.

(3) Flight Training:

- (a) flight instructors Aircraft Simulators
- (b) proficiency check airmen Aircraft Simulators
- (c) line check airmen

Flight training shall include the following:

- (a) enough flight training and practice in conducting training (and flight checks for check airmen) from the left and right pilot seats using the required normal, abnormal, and emergency procedures to ensure the individual's competency in conducting the required flight training (and pilot flight checks if applicable). For an air transportation flight instructor-aircraft and a proficiency check pilot-aircraft, training and practice in the takeoff and landing events of the operator's approved training program must be conducted in an aircraft; the remainder of the training may be conducted in a simulator. For an air transportation flight instructor-simulator only and a proficiency check airman-simulator only, this training may be completed entirely in a flight simulator
- (b) for proficiency check airmen/line check airman-aircraft training in flight in an aircraft supervising normal takeoffs and landings from either pilot seat. The operator shall ensure that the check air-man candidate is thoroughly trained in second-in-command (SIC) functions and capable of accomplishing them competently while supervising and evaluating a new captain
- (c) guidelines and safety measures for emergency situations likely to develop in conducting the required normal, abnormal, and emergency procedures in an aircraft and in a simulator, as appropriate
- (d) the consequences of improper or untimely safety measures
- (4) Flight Training Flight Engineer Instructors. Flight training shall include the following:
 - (a) enough flight training and practice to ensure the instructor's competency. Normal, abnormal, and emergency procedures shall be covered. For a flight engineer instructor all checks, flight training may be completed entirely in a flight simulator device
 - (b) guidelines and safety measures for emergency situations likely to develop in conducting the required normal, abnormal, and emergency procedures in an aircraft and in a simulator, as appropriate
 - (c) consequences of improper or untimely safety measures
- (5) Credit for Check Airman Training Multiple Operators.

The DGCA may approve a check airman to serve more than one operator. Equivalent training completed with one operator may be credited toward the check airman training requirement for another operator, in the discretion of the DGCA. Creditable training may include parts of ground training and flight training. For example, a check airman might be eligible for training credit under the following conditions:

- (a) employed by a training center.
- (b) regularly performing proficiency or competency checks.
- (c) using the same procedures for all operators.

When procedures, aircraft, or types of operations differ, the DGCA shall require that the check airman candidate (for service with an additional operator) complete appropriate additional training.



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Appropriate additional training shall address differences, and may comprise entire curriculum segments.



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DIVISION XIII

Flight Dispatcher Training and Qualification Programs

SECTION 1. Flight Dispatcher Training Curriculums

1. GENERAL.

This Division contains flight dispatcher training and qualification requirements and information, direction, and Standards for DGCA personnel responsible for the evaluation and approval of flight dispatcher training curriculums. Each operator must qualify and use certified flight dispatchers to exercise operational control over its flights. Each flag or operator must also obtain DGCA approval of flight dispatcher training curriculums. Furthermore, each operator must ensure that its training program is complete, current, and in compliance with the regulations. This section contains definitions relevant to flight dispatcher training, a schematic depiction of flight dispatcher training programs, and Standards for inspectors concerning the training requirements and curriculum development for the five categories of training applicable to flight dispatchers.

Information Note: Unless otherwise specified in this chapter, the term "operator" applies equally to an applicant for a certificate and to an existing certificate holder.

2. DEFINITIONS.

(1) The terms used in this Division concerning training programs are consistent with their use in this Standard, "Training Programs and Airman Qualifications." The definitions of these terms are tailored specifically to flight dispatchers as follows:

(2) *Training Program.* A system of instruction which includes curriculums, facilities, instructors, supervisors, courseware, instructional delivery methods, and testing and checking procedures. A training program must satisfy Part VII, Subpart 5 training program requirements and ensure that each flight dispatcher remains adequately trained and current for each aircraft and kind of operation which the operator conducts.

(3) *Categories of Training*. A classification of training based on who will receive the training and on the purpose of the training. There are five categories of training that apply to flight dispatchers:

- (a) initial new-hire;
- (b) initial equipment;
- (c) transition;
- (d) recur rent; and
- (e) regualification.

Each category of training consists of one or more curriculums.

(4) *Curriculum*. A complete training agenda for one or more aircraft types; for example, a B-727 transition curriculum. Each curriculum consists of several curriculum segments.

(5) Curriculum Segment. An integral phase of training which can be separately evaluated and individually approved, but does not by itself qualify a person in the flight dispatcher duty position. The three curriculum segments relevant to flight dispatcher training are: basic indoctrination, ground training, and qualification. Each curriculum segment consists of one or more training modules.
(6) Training Module. A self-contained unit of instruction within a curriculum segment which contains descriptive information, elements, or events which relate to a specific subject. For example, an initial new-hire ground training curriculum segment must contain a training module (composed of "elements") pertaining to meteorology. As another example, a basic indoctrination curriculum

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segment must include a module pertaining to appropriate provisions of the LARs. A training module includes an outline, appropriate courseware, and instructional delivery methods.

(7) *Checking and Qualification Module.* Qualification curriculum segments containing the competency check and operational familiarization modules referred to as subjects in Part VII, Subpart 5.

(8) *Element.* The rudiment of the subject matter in a training, checking, or qualification module that is subject-oriented. For example, a module of a basic indoctrination curriculum segment may include such elements as aircraft nomenclature and organization of the operator's general operations manual (GOM).

(9) *Event.* The rudiment of the subject matter in a training, checking, or qualification module that is task-oriented. An event encompasses the use of a specific procedure or procedures. During a training event, a student has the opportunity for instruction, demonstration, and/or practice using specific procedures. During a checking or qualification event, the evaluator has the opportunity to determine a student's ability to correctly accomplish a specific task without instruction or supervision.

(10) *Courseware*. Instructional material developed for each curriculum. This is information in lesson plans, instructor guides, computer software programs, audiovisual programs, workbooks, flight dispatcher manuals, and handouts. Courseware must accurately reflect curriculum requirements, be effectively organized, and properly integrate with instructional delivery methods.

(11) *Instructional Delivery Methods*. Methodology for conveying information to a student. For example, this may include lectures, demonstrations, simulations, audiovisual presentations, programmed instruction, workshops, and drills. Training de-vices, aircraft, and computer work stations are also considered to be instructional delivery methods.

(12) *Testing and Checking*. Methods for evaluating applicants as they demonstrate a required level of knowledge in a subject, and as they apply (if appropriate) the knowledge and skills learned in instructional situations to practical situations.

(13) *Training Hours*. The total amount of time necessary to complete the training required by a curriculum segment. Training hours must provide opportunity for instruction, demonstration, practice, and testing, as appropriate. This time must be specified as a specific number of hours on the curriculum segment outline.

(14) *Programmed Hours*. The hours specified in Part VII, Subpart 5 for initial new-hire, initial equipment, and recurrent categories of training. Programmed hours are specified in curriculum segment outlines in terms of training hours.

(15) *Training/Checking Month.* The base calendar month during which an flight dispatcher is due to receive required recurrent training or a competency check. "Calendar" month means the first day through the last day of a particular month.

(16) *Eligibility Period*. Three calendar months: the calendar month before the "training/checking month," the "training/checking month," and the calendar month after the "training/checking month." Training or checking completed during the eligibility period is considered to be completed during the "training/checking month."

Information Note: If the training or checking occurs during the eligibility period, the "training/ checking month" remains the same. A request to change the "training/checking month" to balance the training workload, must be coordinated with the DGCA and annotated in the individual airman's training record. This change must occur before the eligibility period.

(17) *Initial Approval.* The conditional authorization of an operator to begin instruction to qualify personnel under a specific curriculum or curriculum segment pending an evaluation of training effectiveness. This authorization is given in the form of an initial approval letter and must contain a specific expiration date for the conditional authorization.

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(18) *Final Approval.* The authorization of an operator to continue training in accordance with a specific curriculum or curriculum segment.

3. TRAINING PROGRAMS: A SCHEMATIC DEPICTION.

(1) Some elements of a training program are depicted in figure 14 to show the relationship between the total training program and the categories of training, curriculums, curriculum segments, and training modules.

(2) *Modular Approach.* The illustration in figure 14 is representative only and is intended to present a framework for the modular development of a training program. By using this "modular approach," the DGCA has various strategies available for the evaluation of training effectiveness and for the planning of long-term surveillance. These strategies are discussed in other sections of this Division. (3) *Figure 14.* This depiction is divided into five parts as follows:

(1) Part A depicts representative components which, when combined, constitute an operator's overall training program. These components differ in that some must be specifically approved by the DGCA (for example, curriculums), while others are accepted as essential supporting parts (such as facilities and equipment).

(2) Part B illustrates the five categories of training that are recognized by the DGCA for flight dispatchers.

(3) Part C is an example of a curriculum for the flight dispatcher duty position. This example depicts an flight dispatcher initial new-hire training curriculum.

(4) Part D is an example of a specific curriculum segment, which illustrates that it consists of several training modules. This example is the flight dispatcher basic indoctrination training curriculum segment.

(5) Part E is an example of a specific training module.



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	CATEGORIES OF TRAINING								
		CAT	FEGORIE	ES OF TRAI	NING				
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		FLIGHT DISPATC ♥ Pilot/Dispat ♥ Weather As ♥ Relief Brief ♥ Steps in Pre ♥ Pilot Briefin ♥ Flight-Follo	cher Resp sessment 1 ing paring a R ng owing	onsibilities Prior to Duty Release		Elements Within a Training Module		<u>PART E</u>	

FIGURE 14. Schematic Depiction of Dispatcher Training Programs



4. CATEGORIES OF TRAINING.

(1) There are six categories of training, of which five are applicable to certified flight dispatchers: initial new-hire, initial equipment, transition, recurrent, and requalification. The factors which determine the appropriate category of training are the student's previous experience with the operator and the student's current qualification status in relation to the specific airplane. Operators may develop and have approved several different curriculums for a specific aircraft in each category of training. While the regulatory requirements for course content may be identical for two different categories of training, the emphasis and depth of training required in each curriculum varies. When discussing training requirements, DGCA inspectors will be specific regarding the category of training discussed and will use the nomenclature described in this Standard. Since use of this common nomenclature improves standardization and mutual understanding, the DGCA will encourage operators to use this nomenclature when developing new training curriculums or revising existing training curriculums. The five categories of training applicable to flight dispatchers are briefly discussed in the following subsections:

- (a) <u>Initial New-Hire Training</u>. Operators must use the initial new-hire category of training to qualify personnel who have not had previous dispatcher experience with the operator. Initial new-hire training applies to certified dispatchers who have never worked for the operator and to personnel employed by the operator in a position other than flight dispatcher. This category includes initial new-hire basic indoctrination training, training in basic flight dispatcher duties, and training specific to one or more aircraft types. Since initial new-hire training is usually the employee's first exposure to specific company methods, policies, and procedures, it must be the most comprehensive of the five categories of training. Operators may organize initial new-hire training in a number of ways. Two common and acceptable methods follow:
 - (i) operators may limit initial new-hire training to one specific aircraft type. After the new-hire flight dispatcher is qualified, the operator may then conduct transition training to qualify the flight dispatcher in other aircraft.
 - (ii) operators may design initial new-hire flight dispatcher training curriculums that qualify the new-hire flight dispatcher to dispatch all aircraft in the operator's fleet. An initial new-hire curriculum designed in this manner should contain both general and aircraftspecific training. For example, an initial new-hire flight dispatcher curriculum for B-727 and DC-9 aircraft could contain a general module on hydraulic systems, a module on the specifics of B-727 hydraulic systems, and another module on the specifics of DC-9 hydraulic systems.
- (b) <u>Initial Equipment Training</u>. Operators must use the initial equipment category of training to qualify an flight dispatcher who has previously trained and qualified as an flight dispatcher on one group of aircraft and is now qualifying on an aircraft in another group. The areas of emphasis in initial equipment training are the following:
 - (i) the general characteristics of the aircraft group
 - (ii) the unique features of the specific aircraft
 - (iii) the unique dispatcher duties related to the aircraft group and specific aircraft type
- (c) <u>Transition Training</u>. Operators must use the transition category of training for an flight dispatcher who has previously trained and qualified as an flight dispatcher on an aircraft type and is now qualifying on another aircraft type of the same group. The two areas of emphasis in transition training are the following:
 - (i) the unique features of the specific aircraft
 - (ii) the specific dispatcher duties for that aircraft
- (d) <u>Recurrent Training</u>. Operators must use the recurrent category of training for an flight dispatcher who has been trained and qualified by the operator, and who must receive recurrent

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training and a competency check within the appropriate eligibility period to maintain currency. The area of emphasis in recurrent training is on flight dispatcher duties.

(e) <u>Requalification Training</u>. Operators must use the requalification category of training to requalify an flight dispatcher who has been trained and qualified by the operator, but who has become unqualified due to not having satisfactorily completed recurrent training, a competency check, or operational familiarization within the appropriate eligibility period.

- (f) <u>Summary of Categories of Training</u>. The categories of training are summarized in general terms as follows:
 - (i) all personnel qualifying as flight dispatchers who have not been previously employed by the operator as a dispatcher must complete *initial new-hire* training.
 - (ii) all currently qualified dispatchers who are being assigned by the operator to a different aircraft group for the first time must complete *initial equipment* training.
 - (iii) all currently qualified dispatchers who are being assigned by the operator to any different type aircraft within the same group on which they have not been previously qualified must complete *transition* training.
 - (iv) all flight dispatchers must complete *recurrent* training within the appropriate eligibility period.
 - (v) all flight dispatchers who have become unqualified must complete *requalification* training to re-establish qualification.

5. CURRICULUM DEVELOPMENT.

(1) The operator is required to develop, obtain approval for, and maintain only those curriculums that will be used. For example, operators who operate only one group of airplanes are not required to develop initial equipment curriculums. Operators who train new-hire dispatchers on all aircraft they operate during initial new-hire training are not required to have a transition training curriculum. Such an operator would only need a transition curriculum if a new type of aircraft were added to the fleet. (2) *Flight Dispatcher Qualification*. Each person that is required to train under a specific curriculum must complete that curriculum in its entirety. When a person has completed the training and checking specified in a curriculum, that person is qualified to dispatch those aircraft types specified in the curriculum in Part VII, Subpart 5 revenue service.

(3) *Multiple Curriculums*. Operators may develop more than one curriculum for each applicable category of training. Each curriculum may be tailored to a specific group of students. An initial new-hire curriculum developed for students with little or no previous airline experience must be more extensive than a curriculum for students with previous airline experience. For example, an abbreviated curriculum for initial new-hire training may be used in merger or air carrier acquisition situations.



SECTION 2. Flight Dispatcher Basic Indoctrination Curriculum Segments

1. GENERAL.

(1) This section contains direction and guidance to be used by inspectors when evaluating the content of flight dispatcher basic indoctrination curriculum segments. LARs 705.137(1)(a) requires that all new-hire flight dispatchers complete basic indoctrination ground training in the initial new-hire category of training.

(2) *Purpose of Basic Indoctrination Training*. The basic indoctrination curriculum segment is unique to the initial new-hire category of training. An flight dispatcher basic indoctrination curriculum segment serves the following purposes: as an introduction for the new-hire employee to the operator, as the manner in which the operator complies with the requirements of Part VII, Subpart 5, and as the basis for subsequent flight dispatcher training. The flight dispatcher basic indoctrination curriculum segment consists of that information required as background for new-hire flight dispatchers for the ground training curriculum segment.

(3) *Regulatory Requirements*. LARs 705.137(1)(a) requires that all new-hire flight dispatchers complete 40 hours of basic indoctrination training. LARs 705.137(1)(a) requires that training in the following subjects be included in the flight dispatcher basic indoctrination curriculum segment:

- (a) flight dispatcher duties and responsibilities
- (b) appropriate provisions of the LARs
- (c) contents of the operator's operating certificate and operations specifications (OpSpecs)
- (d) appropriate portions of the operator's manual

(4) *Optional Training Subjects.* Operators should include, and may take credit for, training given on other subjects in the flight dispatcher basic indoctrination curriculum segment. These subjects may be in addition to the subject areas required by the LARs. This training consists of the information that new-hire flight dispatchers need as a foundation for the specific and detailed training to be conducted in the ground training curriculum segment. Among the appropriate subjects for this type of training are the following:

- (a) <u>Overview of Company</u>. Type and scope of operations conducted.
- (b) <u>Company Structure</u>. Management organization; route structure; fleet composition (size and type); facility locations.
- (c) <u>Administrative Orientation</u>. Required documentation; scheduling; inner-company communications.

2. FLIGHT DISPATCHER BASIC INDOCTRINATION TRAINING.

Flight dispatcher basic indoctrination training curriculum segments must consist of at least the "operator-specific" training modules dealing with the requirements of LARs 705.137(1)(a) and other related topics. These operator-specific training modules include the following:

(a) <u>Duties and Responsibilities</u>" <u>Module</u>. This module contains the duties the new-hire flight dispatcher will be assigned after becoming qualified. For example, a small operator may assign the flight dispatcher with responsibilities for constructing flightplans, load planning, and performing weight-and-balance calculations. The industry trend, however, is to assign these functions to specialized groups of employees. Dispatchers are required to ensure that such functions have been adequately accomplished before releasing a flight, whether the functions have been accomplished by the flight dispatcher or by another employee. The new-hire flight dispatcher must be trained specifically as to how and by whom these tasks are to be accomplished in the operator's operation. Since the qualified dispatcher will be required to

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evaluate the adequacy of flight and load planning, the operator must ensure that the new-hire dispatcher has a thorough knowledge of the basic principles of these subjects.

- (b) <u>Appropriate Provisions of the LARs" Module</u>. This module contains policies and procedures that ensure that the flight dispatcher and the operator are in compliance with the LARs during flight operations. Operators will cite specific regulations during this "appropriate provisions of the LARs" module and show how the operator's procedures are designed to comply with the LARs as follows:
 - (i) inspectors must ensure that at least the following are covered:
 - A. Airplane Performance Operating Limitations
 - B. Flight Dispatcher Qualifications and Duty Time Limitations
 - C. Flight Time Limitations
 - D. Flight Operations
 - E. Dispatching and Flight Release Rules
 - F. Records and Reports
 - (ii) inspectors should also ensure that the following LARs provisions are covered:
 - A. Part VI and Appendices
 - B. Part VII and Appendices
- (c) <u>Contents of the Operator's Operating Certificate and Operations Specifications Module</u>. This module contains training in the specific operations the operator may conduct, such as operations which are prohibited, required weather minimums, and limitations. The new-hire flight dispatcher must be thoroughly familiar with this information before assuming dispatcher duties.
- (d) <u>Appropriate Portions of the Operator's Manual Module</u>. This module contains training on the organization and content of the relevant sections of the operator's manuals. Usually the training on the contents of the operator's manuals is covered simultaneously with the training on the operator's policies and procedures. Inspectors must ensure, however, that in this process the contents of the manuals are thoroughly covered. Operators must also provide flight dispatchers with information on the organization of the manuals and training on how to use the reference system of the manuals. Appropriate topics for this type of training are the following:
 - (i) overview of manual sections, correlation of manual sections to the flight dispatcher training program
 - (ii) use of reference, revision, and distribution systems for manuals
 - (iii) access to manual when performing assigned duties
 - (iv) maintaining manual currency

3. FLIGHT DISPATCHER BASIC INDOCTRINATION TRAINING MODULES.

(1) An flight dispatcher basic indoctrination curriculum segment must include as many training modules as necessary to ensure adequate training. Each training module must include a module outline containing, at least, a descriptive title of the training module and a list of the related elements or events to be presented during instruction on the module.

(2) *Training Module Outline.* The training module outline must contain only those elements and events required to ensure that flight dispatcher students will receive adequate training. Operators are not required to include detailed descriptions of each element or event for initial approval, as detailed descriptions are more appropriate for courseware. During the final approval process, the inspector who evaluates the training must review the courseware to ensure that the scope and depth of the training modules are adequate.

(3) *Construction of Modules*. Operators have a certain amount of flexibility in the construction of flight dispatcher basic indoctrination training modules.

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- (a) a training module for students with significant experience in Part VII, Subpart 5 operations may be less comprehensive than a training module for students without that experience. This is usually the case with operators who hire only highly-qualified personnel with extensive experience in Part VII, Subpart 5 operations.
- (b) the training modules required by LARs 705.137(1) must be included in the basic indoctrination curriculum segment outline and counted toward the hours requirement for this segment. The actual sequence of the training can be determined by the operator. For example, while the training module containing PIC weather briefing requirements must be included in the flight dispatcher basic indoctrination curriculum segment outline, the operator may actually conduct the training for this module after having completed the meteorology training module of the initial ground training segment.
- (c) an operator may choose to put a training module in more than one curriculum segment. For approval purposes, however, the training module must be shown in the curriculum segment designated by the LARs. For example, in order to comply with LARs 705.137, the content of the operator's operations specifications (OpSpecs) must be covered in the basic indoctrination curriculum segment. This LAR does not, however, prohibit the operator from covering applicable provisions of the OpSpecs in other curriculum segments, such as ground training.

(4) The following is an example of one of the many acceptable methods of presenting an flight dispatcher basic indoctrination training module outline:

FLIGHT DISPATCHER DUTIES AND RESPONSIBILITIES

- ➢ Communication and Coordination
- ≻ Flight Following Duties
- Special Flight Situations



(5) The following example illustrates the interrelation-ship between training modules in the flight dispatcher basic indoctrination curriculum segment:



I. FLIGHT DISPATCHER BASIC INDOCTRINATION TRAINING CURRICULUM SEGMENT

- A. Training Objective: "To acquaint the new-hire flight dispatcher with...."
- B. Operator Specific Training

1. Policies and Procedures

- 2. LARs
- 3. Dispatch Manual
- 4. Aircraft Operating Manual
- 5. Weather Manual

→ 1. Policies and Procedures

- Authority of PIC
- > Authority of Flight Dispatcher
- > Communications Procedures

4. CURRICULUM SEGMENT COMPLETION REQUIREMENTS.

An instructor or supervisor must certify that an flight dispatcher student has completed a curriculum segment. This certification is usually based on the satisfactory results of a written or oral examination. The examination may be administered at the end of each segment or at the end of the course. With some training methods, such as computer-based instruction (CBI), the certification may be based on student progress checks administered during the training course.

5. EVALUATION OF TRAINING HOURS.

LARs 705.137 specifies a minimum of 40 programmed hours of instruction for flight dispatcher basic indoctrination training. Operators who employ personnel with little or no previous Part VII, Subpart 5 experience will program 40 training hours for basic indoctrination. The DGCA will consider the complexity of both the operation and the aircraft itself when evaluating flight dispatcher basic indoctrination curriculum segment outlines. Training hours for complex operations may exceed the 40-hour regulatory minimum. The DGCA may reduce the program hours based on conditions that would warrant a reduction of hours. For example, a reduction in program hours may be allowed when the operator's enrollment prerequisites require a verified high level of Part VII, Subpart 5 experience. Another reason for a program hour reduction could be a pretest which accurately demonstrates the satisfactory proficiency and knowledge of the student.

Title of Curriculum Segment and specified Training Hours

Statement of Training Objectives

Title of Training Module

> Training Modules Within a Curriculum Segment

Elements Within a

Training

Module



6. EVALUATION OF AN FLIGHT DISPATCHER BASIC INDOCTRINATION CURRICULUM SEGMENT OUTLINE FOR INITIAL APPROVAL.

(1) Inspectors must determine whether the training modules in the operator's basic indoctrination curriculum segment outline contain the required information for flight dispatchers to fully understand the operator's manner of conducting operations, the operator's means of regulatory compliance, and the guidance materials pertinent to an flight dispatcher's duties and responsibilities. Inspectors should use the job aid in this section when evaluating an operator's proposed flight dispatcher basic indoctrination curriculum segment outline (see figure 15).

(2) *Basic Indoctrination Curriculum Segment Job Aid.* This job aid (see figure 15) is provided for guidance only and must not be construed as being a document that contains mandatory rules or regulatory requirements. The job aid is intended to assist inspectors during the evaluation of individual basic indoctrination training curriculum segment modules.

(3) *Use of Job Aid.* When using the job aid, inspectors should make a side-by-side comparison of the operator's proposal to make the following determinations:

- (a) whether the proposal serves to acquaint the student with the operator's procedures, policies, practices, and methods of compliance
- (b) whether sufficient training module elements are listed to ensure that the appropriate depth and scope of the material will be presented

(4) The job aid is organized with training subjects listed in the left column and evaluation criteria or remarks listed across the top. Inspectors may use the spaces within the matrix for items such as notes, comments, dates, or checkmarks. There are also blank columns and rows in each job aid for inspectors to include additional training modules or evaluation criteria.



FLIGHT DISPATCHER BASIC INDOCTRINATION TRAINING JOB AID

	EVALUATION CRITERIA				
TRAINING SUBJECTS	Adequacy of Elements and Events	Adequacy of Courseware	Training Aids and Facilities		
Company Orientation					
Operator Policies and Procedures					
Dispatcher GOM, Weather Manuals					
Operations Specifications					
LARs & Applicable Rules/Regs					
Part VI Flight Rules					
Part VII Airplane Performance					
Part VII Dispatcher Duty Time					
Part VII Dispatcher Qualification					
Part VII Crew Duty Time					
Part VII Flight Operations					
Part VII Dispatch Rules					
Lebanese & International AIM, ICAO Flight Planning Doc.					
Hazardous Materials					



SECTION 3.

FLIGHT DISPATCHER INITIAL EQUIPMENT AND TRANSITION GROUND TRAINING CURRICULUM SEGMENTS

1 GENERAL.

(1) This section contains direction and guidance to be used by inspectors when evaluating the content of flight dispatcher initial equipment and transition ground training curriculum segments. LARs 705.143 requires that initial and transition flight dispatcher ground training curriculum segments include instruction in at least the following: general dispatch subjects, aircraft characteristics, operations procedures, and emergency procedures.

- (2) General Dispatch Subjects. General dispatch subject areas must include the following:
 - (a) international weather reports (if applicable)
 - (b) communications (must include the characteristics of the systems to be used and the appropriate normal and emergency procedures to be used)
 - (c) meteorology (must include the various types of meteorological information and forecasts and interpretation of weather, including the fore-casting of en route and terminal temperatures and other weather conditions; frontal systems; wind conditions; the use of actual and prognostic weather charts; and, when jet aircraft are involved, the inclusion of upper-air reports and forecasts, including turbulence)

Information Note: *Weather interpretation and adverse conditions must be strongly emphasized in initial training.*

- (d) adverse weather phenomena (must include clear air turbulence, windshear, and thunderstorms
- (e) NOTAM's
- (f) navigational charts and publications
- (g) joint dispatcher-pilot responsibilities
- (h) air traffic control (ATC) coordination procedures
- (i) familiarization with operation area
- (j) characteristics of special airports and other operationally significant airports which the operator uses (These characteristics may include terrain, approach aids, or prevailing weather phenomena.)

Information Note: The airports covered should include the air-ports in the area for which the flight dispatcher will be responsible after becoming qualified. The operator's emphasis should be on airports that create special problems for flight dispatchers in the operator's operations.

(3) *Aircraft Characteristics*. The operator should provide both general training and aircraft-specific training when the flight dispatcher student is to be qualified on more than one type of aircraft. Training must be conducted on the general operating characteristics of the aircraft groups that the operator uses, such as turbojet or reciprocating aircraft. A description of each aircraft the flight dispatcher will be authorized to release is also required. This training must be *directly related* to flight dispatcher duties. The following areas should be emphasized in the operator's training program: aircraft operating and performance characteristics, navigation equipment, instrument approach and communications equipment, and emergency equipment. The operator must also provide training on the content and use of those portions of the flight manual applicable to flight dispatcher duties, such as MEL's, and abnormal and emergency procedures.

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(4) Aircraft training must be tailored to flight dispatcher duties. It is not necessary for this training to contain the same degree of detail and emphasis on aircraft systems as exists in flightcrew training. The DGCA shall ensure that aircraft training is not conducted to the exclusion of other required training. For example, flight dispatchers will be taught that jet transport aircraft are equipped with constant speed drive (CSD) units; that CSD's are necessary for the proper functioning of the engine-driven generator; and that when a CSD is inoperative, the associated generator is also inoperative. Equipped with this knowledge, the flight dispatcher should be able to determine the correct action for an inoperative CSD by referring to the minimum equipment list (MEL). Flight dispatchers are not required to have detailed training on aircraft systems to comprehend this information.

(5) Operators may choose to conduct initial equipment training on one type of aircraft or to include all aircraft the operator operates in an initial new-hire curriculum. When the operator chooses to limit initial new-hire aircraft training to one specific type of aircraft, the flight dispatcher must be qualified on additional types of aircraft by means of transition training.

(6) LARs 705.139 requires that operators conduct differences training when the air carrier has aircraft variances within the same type of aircraft. This training will focus on the differences which affect flight dispatcher duties, such as operating characteristics, performance limitations, or MEL's.
(7) *Operations Procedures*. Operators must provide training in the specific operations the flight dispatcher must perform and training relative to each type of aircraft the flight dispatcher is authorized to release. Operators must provide flight dispatchers with specific training in the following procedures:

- (a) operations under adverse weather phenomena conditions (must include clear air turbulence, windshear, and thunderstorms);
- (b) weight and balance computations and load control procedures;
- (c) aircraft performance computations, to include takeoff weight limitations based on departure runway, arrival runway, and en route limitations, and also engine-out limitations;
- (d) flight-planning procedures, to include route selection, flight time, and fuel requirements analysis;
- (e) dispatch release preparation;
- (f) crew briefings;
- (g) flight monitoring procedures;
- (h) flightcrew response to various emergency situations, including the assistance the flight dispatcher can provide in each situation;
- (i) MEL and CDL procedures;
- (j) manual performance of all required procedures in case of the loss of automated capabilities;
- (k) training in appropriate geographic areas;
- (1) ATC and instrument procedures, to include ground hold and central flow control procedures; and
- (m) radio/telephone procedures.

(8) *Emergency Procedures*. Operators must provide training to flight dispatchers in the procedures the dispatcher is to follow in case of an emergency. This training must cover actions taken to aid the flightcrew and to notify the company, government, and private agencies.

2. AREAS OF EMPHASIS.

(1) Operators should emphasize specific areas for each category of training in the flight dispatcher ground training curriculum segment.

(2) A. *Initial New-Hire Training*. In the initial new-hire category of training, operators must provide thorough training in each subject area. The operator must ensure that each flight dispatcher student has mastered each skill required to perform adequately on the job. In addition to the academic or classroom training, flight dispatchers are usually required to complete on-the-job training (OJT) to become proficient in the required flight dispatcher skills. Although the LARs do not require OJT, it is

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an effective method the operator can use to develop a new-hire flight dispatcher's skills in the finer points of flight dispatcher duties and responsibilities. Furthermore, it is one of the best training methods for qualifying flight dispatchers to the standard of performance required on competency checks.

(3) *Initial Equipment Training*. Operators must conduct initial equipment training when a currently qualified flight dispatcher is qualifying to dispatch an aircraft of a different group, such as turbojet, turbopropeller, or reciprocating. The operator should emphasize two areas in this training: the operating characteristics of the new aircraft and the new considerations an flight dispatcher should make as a result of the new aircraft. For example, when flight dispatchers are first learning to dispatch turbojet aircraft, training will be required in high altitude meteorology, clear air turbulence awareness, the tropopause, and jetstreams.

(4) *Transition Training*. Operators must conduct transition training to qualify an flight dispatcher in a new type of aircraft of the same group. The flight dispatcher must be fully qualified as a dispatcher on an aircraft of the same group to be eligible for training in the transition category. Since qualified dispatchers may be assumed to possess a general familiarity with the characteristics of airplanes of the same group, the ground training curriculum segment consists almost exclusively of aircraft-specific training on the new aircraft.

3. EVALUATION OF TRAINING HOURS.

(1) *Initial New-Hire and Initial Equipment Ground Training Hours*. LARs 705.143(3) specifies that the minimum programmed hours of instruction required for the flight dispatcher initial-new hire and initial-equipment ground training curriculum segments are as follows:

- (a) Group I reciprocating airplanes 30 hours
- (b) Group I turbopropeller airplanes 40 hours
- (c) Group II turbojet airplanes 40 hours

(2) *Transition Training Hours*. Programmed hours for transition training are not specified in the LARs. The number of hours required for transition training varies widely depending on the similarity of the aircraft types involved and the experience of the flight dispatcher. With similar aircraft types, transition training may not have to be extensive. When differences between aircraft types are great, more extensive training is required.

(3) *Determining General Ground Training Hours.* The DGCA must consider the complexity of both the operation and the aircraft when evaluating an operator's general ground training curriculum outline. Training for a complex type of operation may require more than the 40-hour minimum regulatory requirement. The proposed program hours should initially be at least the 40 hours specified in Part VII, Subpart 5. Usually the r required training can only be accomplished in the minimum 40 hours specified by regulation for simple operations of one or two types of aircraft. When complex operations and several different airplane types are involved, more hours are usually required. The actual required training hours can only be determined in the final approval process by the inspector's observing and assessing the effectiveness of the training provided. Reductions to the programmed hours are appropriate when the operator demonstrates that the training provided is sufficient.

4. EVALUATION OF AN FLIGHT DISPATCHER GENERAL GROUND TRAINING CURRICULUM SEGMENT OUTLINE FOR INITIAL APPROVAL.

(1) The DGCA must determine whether an operator's proposed general ground training modules contain the information and training on skills required for flight dispatchers to become fully proficient in flight dispatcher duties and responsibilities. Inspectors should use the job aid in this section when evaluating the operator's proposed curriculum segment outline (see figure 16.).



(2) Flight Dispatcher Ground Training Segment Job Aid. This job aid (figure 16.), is provided for guidance only and must not be construed to be an outline of mandatory rules or regulatory requirements. The job aid is intended to assist inspectors during the evaluation of individual flight dispatcher ground training curriculum segment modules for both initial and final approval.
(3) Use of Job Aid. When using the job aid, inspectors should make a side-by-side comparison of the operator's proposal. The job aid is organized with training subjects listed in the left column and evaluation criteria or remarks listed across the top. Inspectors may use the spaces within the matrix for notes, comments, dates, or checkmarks. There are also blank columns and rows in each job aid for inspectors to indicate additional training modules or evaluation criteria.



FLIGHT DISPATCHER GROUND TRAINING SEGMENT JOB AID

	EVALUATION CRITERIA				
TRAINING SUBJECTS	Adequacy of Elements and Events	Adequacy of Courseware	Training Aids and Facilities		
General Dispatch Communications					
Meteorology Reports & Forecast					
Weather Interpret. Winds & Temperature					
Terminal & Frontal Weather					
International Weather					
Upper Air Reports and Prog Charts					
Adverse Weather					
NOTAM System					
Navigational Publications					
Flight Planning					
Organized Track Systems and Procedures					
Joint Pilot – Dispatcher Responsibility					
Dispatch Release Preparation					
Forecasting Terminal Temperatures					
Radio Telephone Procedures					
Geographic Area					
Manual Flight Planning					



FLIGHT DISPATCHER GROUND TRAINING SEGMENT JOB AID (continued)

PIC Briefing			
Flight-Following			
Airports, Terrain Aids, Approaches			
Prevailing Weather Phenomena			
Aircraft General Characteristics			
Description of Each Type			
Operating and Performance Characteristics			
Navigation and Communication Equipment			
Emergency Equipment			
Use of Flight Manual			
Differences			
Weight and Balance Procedures			
Takeoff Performance Limits and Calculations			
En Route Performance Limits and Calculations			
Destination Limits and Calculations			
Flight Planning Tracks, Fuel, Alternates			



FLIGHT DISPATCHER GROUND TRAINING SEGMENT JOB AID (continued)

MEL, CDL, DDPG			
ATC and Flow Control			
Release Preparation			
Flight Monitoring			
Redispatch in Flight			
Emergency Procedures and Notification			
Special Airports			



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SECTION 4.

FLIGHT DISPATCHER QUALIFICATION CURRICULUM SEGMENTS AND RECURRENT AND REQUALIFICATION CURRICULUMS

1. GENERAL.

(1) This section contains Standards, direction and guidance to be used by the DGCA for the evaluation of flight dispatcher qualification curriculum segments for all categories of training and for the content of flight dispatcher recurrent and requalification training curriculums.
 (2) *Initial Qualification*. LARs 705.143(2) requires that the flight dispatcher qualification curriculum segment of all initial qualification categories of training (initial new-hire, initial-equipment, and transition) must contain a competency check. Operating familiarization, however, is only required in the qualification curriculum segment of the initial new-hire or initial-equipment category of training. In addition, the LARs require that an flight dispatcher be familiar with the essential operating procedures for each segment of the operation, such as area or desk, in which the flight dispatcher exercises jurisdiction. One means an operator may use to comply with this rule is to conduct a competency check on a representative area of the operation in which the flight dispatcher is qualified.

(3) *Currency*. The LARs require that flight dispatchers complete both an annual competency check and an operational familiarization flight and that they maintain a familiarity with the operating procedures for the operational segment over which they exercise jurisdiction:

- (a) LARs 705.156(3)(ii)requires that each flight dispatcher complete recurrent training and a competency check every 12 calendar months.
- (b) LARs 705.170(3) requires that each flight dispatcher complete recurrent operational familiarization every 12 calendar months in one type of aircraft from each aircraft group in which the flight dispatcher is qualified to dispatch.

Information Note: A competency check or operational familiarization completed in the calendar month before or in the calendar month after the "training/checking" month, is considered to have been completed in the training/checking month. This 3-month period is termed the "eligibility period".

(3) LARs 705.170(4) requires that each flight dispatcher be "familiar with all essential operating procedures for that segment of the operation over which he exercises dispatch jurisdiction." (4) *Requalification*. Part VII, Subpart 5 does not specifically address dispatcher requalification. When flight dispatchers lose qualification in accordance with Part VII, Subpart 5, they must requalify prior to operating as an flight dispatcher. LARs 705.137(7)(a) requires that, in addition to initial, transition, and recurrent categories of training, each flight dispatcher be provided with the necessary training for maintaining proficiency on each airplane and operation in which the dispatcher serves. It is the operator's responsibility to develop the requalification training curriculum to restore a previously qualified dispatcher to a qualified status. The direction and guidance of this section is provided to standardize the DGCA approval of requalification training curriculums.

2. COMPETENCY CHECKS.

(1) LARs 705.143(2) requires that an flight dispatcher demonstrate both knowledge and ability to a supervisor or ground instructor during a competency check. A supervisor is defined as any person that the operator has designated to conduct the competency check. A supervisor does not necessarily

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have to be a person with a management title. LARs 705.143(2) authorizes a ground school instructor to conduct a competency check. The instructor must, however, be currently qualified as an flight dispatcher for the operator. During the competency check, the candidate only has to demonstrate knowledge and ability concerning those geographic areas for which the candidate is qualifying. (2) *Conduct of Check.* The competency check must be a comprehensive evaluation in which the supervisor observes all aspects of the dispatch function. A portion of the competency check must consist of the flight dispatcher candidate releasing actual flights. If the candidate is not currently qualified, all required paperwork must be reviewed and signed by a fully-qualified flight dispatcher. The remaining portion of the competency check may be conducted in a classroom or other environment that enables the candidate to demonstrate knowledge and ability in those areas that may not occur during a routine duty period.

Information Note: Flight releases under the special fuel reserves of OpSpecs paragraph B43 and planned inflight releases under OpSpecs paragraph B44 should be observed under actual conditions if possible.

(3) *Differences in Competency Checks for Each Category*. Inspectors will use the following guidance when evaluating competency checks in the following training categories:

- (a) <u>Initial New-Hire</u>. Flight dispatcher initial new-hire competency checks should include all of the types of airplanes the flight dispatcher will be qualified to dispatch. The DGCA may approve a competency check of representative types when, in the DGCA's judgment, a check including all types is impractical or unnecessary. Operators must make initial new-hire competency checks comprehensive enough to allow the flight dispatcher candidate to adequately demonstrate knowledge and ability in normal and abnormal situations.
- (b) <u>Initial Equipment and Transition</u>. Flight dispatcher initial-equipment checks and transition checks may be limited solely to the dispatch of the types of airplanes on which the flight dispatcher is qualifying (unless the check is to simultaneously count as a recurrent check).
- (c) <u>Recurrent and Requalification</u>. Flight dispatcher recurrent and requalification competency checks must encompass a representative sample of aircraft and routes for which the flight dispatcher maintains current qualification.
- (d) <u>Special Operations</u>. When an flight dispatcher is qualified in extended, twin-engine, overwater procedures (ETOPS), or in operations conducted according to paragraphs B43 or B44 of the OpSpecs, these functions shall be observed and evaluated by an appropriately-qualified supervisor or inspector.

(4) *Required Proficiency Level*. The flight dispatcher candidate must be able to successfully dispatch all flights in the time the operator normally allows a fully-qualified flight dispatcher candidate to accomplish the same amount of work. Evaluators must determine that the candidate's proficiency is of a level that the successful outcome of the dispatch work is never in doubt.

3. OPERATIONAL FAMILIARIZATION FLIGHTS.

(1) The LARs provide for the accomplishment of operational familiarization flights in that they establish a minimum hour requirement. An flight dispatcher must accomplish operational familiarization in one aircraft type of each group when initially qualifying in that group of airplanes and annually thereafter. LARs 705.170(1)(b) specifies that the 5 hours of operational familiarization may be reduced to 2 1/2 hours with the substitution of 1 hour of flight time for each additional takeoff and landing.

(2) *Training Objectives*. The DGCA shall ensure that operators make effective use of initial and recurrent familiarization flights to achieve valid training objectives as follows.

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(1) The flights selected should take the flight dispatcher candidate through the representative areas in which the candidate is to be qualified. The flights should transit a major terminal area within the region. For operational familiarization flights in succeeding years, the operator should have a plan to systematically expose an flight dispatcher to different routes and terminal areas in the flight dispatcher's area of responsibility.

(2) The DGCA will ensure that flight dispatchers responsible for extended overwater routes are provided operational familiarization with those routes and with flightcrew procedures, as well as with domestic routes. Flight dispatchers with responsibility for ETOPS and operations according to paragraphs B43 and B44 of the OpSpecs will observe these operations.

(3) *Operational Familiarization in a Simulator*. The LARs permit flight dispatchers to accomplish operational familiarization in a simulator. The DGCA should encourage operators to take advantage of this provision (after the flight dispatcher is qualified) to allow dispatchers to observe line-oriented flight training (LOFT) and cockpit resource management training of flight crewmembers. This training relates directly to flight dispatcher duties. The DGCA shall ensure, however, that approval is not given for operational familiarization repeatedly conducted in a simulator in lieu of actual line flights. The DGCA must not approve use of a simulator in lieu of actual flights in the initial new-hire or initial equipment categories of training.

4. QUALIFICATION CURRICULUM SEGMENTS OF INITIAL NEW-HIRE AND INITIAL EQUIPMENT CATEGORIES OF TRAINING.

The events of an flight dispatcher initial training qualification curriculum segment are clearly specified in the LARs. Inspectors will ensure that the operator's course outline submitted for initial approval contains at least each required module and the regulatory citation. Before granting final approval, the DGCA shall ensure that supervisors are requiring adequate standards of proficiency on flight dispatcher competency checks and that valid training objectives are being met on flight dispatcher operational familiarization flights.

5. QUALIFICATION CURRICULUM SEGMENTS IN THE TRANSITION CATEGORY OF TRAINING.

The events of a transition training qualification curriculum segment are clearly specified in LARs 705.143. The operator's course outline submitted for initial approval only has to contain the specified flight dispatcher competency check. Operational familiarization is not required in the flight dispatcher transition category of training. If the competency check is to be simultaneously counted as a recurrent check, however, operational familiarization is required as a training module of the recurrent category of training. Before granting final approval, the DGCA shall ensure that supervisors are requiring an adequate standard of proficiency on flight dispatcher competency checks.

6. RECURRENT TRAINING.

(1) LARs 705.147 and 705.137 require that operators conduct flight dispatcher recurrent training to ensure that each dispatcher remains adequately trained and proficient in assigned duties and responsibilities in relation to each assigned airplane and type of operation. LARs 705.137(7)(b) also requires flight dispatcher training in new equipment, facilities, procedures, and techniques.
 (2) *Training Requirement*. LARs 705.156(3)(b) requires that each flight dispatcher complete recurrent training every 12 calendar months. Operators are also required to conduct a competency check of each flight dispatcher and to ensure that each flight dispatcher completes 5 hours of operational familiarization flights every 12 calendar months, as required by LARs 705.170(3). The preferred procedure is for the operator to align the month in which the flight dispatcher training, the competency check, and the operational familiarization flight are due.

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(3) *Programmed Hours*. LARs 705.147(3)(d) specifies the minimum programmed hours of instruction for recurrent training curriculum segments. The objective of flight dispatcher recurrent training is to ensure that flight dispatchers remain proficient in assigned duties and responsibilities. This objective has been met when an flight dispatcher can perform at an acceptable level of proficiency immediately before entering the next cycle of recurrent training, which may require more training hours than specified by the regulation. The minimum required hours are as follows:

- (a) Group I reciprocating airplanes 8 hours
- (b) Group I turbopropeller airplanes 10 hours
- (c) Group II turbojet airplanes 20 hours

(4) *Recurrent Training Course Content.* LARs 705.147 requires that recurrent training be given in each ground training subject required for initial qualification. This requirement does not mean that each training module required for initial training curriculum must be covered during each annual training cycle, but that sufficient training must be conducted to assure continual proficiency in each specified area of training. Operators may choose to provide indepth coverage of selected subjects on any one cycle of training. In such cases, the operator's training program must cover all of the subjects required for initial qualification within 3 years. Inspectors must ensure that operators have a means of surveying and detecting deficiencies in each flight dispatcher's knowledge and proficiency in each of the required areas.

- (a) LARs 705.137(7)(b) requires training in new equipment, facilities, procedures, and techniques. Operators will allot a block of time in recurrent or specialized training each year for such topics. Current problems and concerns should also be addressed. This block of recurrent training will be revised on an annual cycle.
- (b) recurrent training on each aircraft type, including differences training, must be conducted for flight dispatchers every year. This training must be directly and specifically related to flight dispatcher duties and may not be simply a repeat of the training given to flight crewmembers. The amount of training given to the air-craft dispatcher must ensure the flight dispatcher's continued proficiency in duties relative to each airplane. Airplane training, however, cannot be given to the exclusion of the other required training.

(5) *Approval.* The operator will prepare a course outline for initial approval which contains details of the proposed training hours and an outline of the broad topic areas to be covered. The DGCA shall evaluate the course content by using the job aids in this Standard.

- (a) the training hours proposed for each year in the course outline should initially meet or exceed regulatory specifications, when required. Usually, the required recurrent training must be accomplished in the minimum hours specified by regulation for simple operations of one or two types of aircraft. When complex operations and several different airplane types are involved, more hours are normally required. Operators and the DGCA can only determine the actual training hours required by observing and assessing the effectiveness of the training provided.
- (b) after final approval, the operator may vary the content of the blocks of training which are designated for current topics.

7. AREA FAMILIARIZATION.

(1) Operators typically assign flight dispatchers to exercise authority over a particular geographic area, but may require that the flight dispatcher maintain familiarity over additional areas. LARs 705.170(4) requires operators to ensure that each flight dispatcher is familiar with all essential operating procedures in a particular segment or geographic area before assigning the dispatcher jurisdiction over revenue flights through that area.

(2) *Criteria.* Operators must develop the criteria that identifies when an flight dispatcher is not current to work a segment and to develop the necessary procedures for familiarization. The means the operator may use to identify when a dispatcher is not current depends on many factors. These factors
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can include the complexity of the particular segment's operation, the experience of the dispatcher, and the dispatcher's length of time away from the position.

(3) *Refamiliarization*. Depending on the situation, the method the operator uses to re-establish familiarization may be as simple as a briefing by a qualified dispatcher or as involved as a competency check by a supervisor.

8. REQUALIFICATION TRAINING.

(1) Flight dispatchers that fail to complete recurrent training, a competency check, or operating familiarization within the eligibility period must complete requalification training before they can perform unsupervised in revenue service. The content and length of the requalification curriculum depends on the length of time the flight dispatcher has been unqualified. The DGCA must ensure that requalification curriculum segment outlines contain specific program training hours and events for approval (see figure 17 for guidelines to be used by the DGCA for this purpose). Operators and DGCA should understand that requalification is based on an flight dispatcher's demonstration of individual proficiency through a competency check and through the accomplishment of delinquent training and checking events. An flight dispatcher must be given the amount of training required to reach an acceptable state of proficiency. The amount of hours for requalification training can never be less than the time required for annual recurrent training. If an flight dispatcher reaches a state of proficiency in fewer hours than programmed, the flight dispatcher does not have to complete the remaining programmed hours.

Time Past Month Due	Ground Training Segment	Qualification Segment
Up to 3 calendar months	Recurrent training (if not accomplished in eligibility period)	Any module not accomplished in eligibility: CC or OF
More than 3 and less than 6 months	8 hours remedial and (if not accomplished in eligibility period) recurrent training	CC and (if not accomplished in eligibility) OF
More than 6 and less than 12 months	8 hours remedial, recurrent training, and OJT to proficiency	CC and OF
More than 12 and less than 36 months	16 hours remedial, recurrent training, and OJT to proficiency	CC and OF
More than 36 months	Initial training	CC and OF
KEY: CC = Competency Check		

FIGURE 17 REQUALIFICATION TRAINING

OF = Operational Familiarization



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DIVISION XIV CABIN ATTENDANT TRAINING AND QUALIFICATION PROGRAMS

SECTION 1 CABIN ATTENDANT TRAINING CURRICULUMS

1. OVERVIEW.

This division discusses Part VII, Subpart 5 cabin attendant training and qualification requirements and provides direction and guidance to DGCA personnel responsible for the evaluation and approval of cabin attendant training curriculums. An applicant for an air operator certificate or operating certificate is required to develop a training program under Part VII. An existing operator may need to revise its training program when purchasing new equipment, operating in a new environment, obtaining new authorizations, or when new DGCA requirements are specified. These new or revised training requirements must be incorporated into an operator's training program. Each Part VII, Subpart 5 certificate holder that uses cabin attendants must obtain DGCA approval of the training curriculums used for that training. The operator is responsible for ensuring the training program is complete, current, and in compliance with regulations. Unless otherwise specified in this division, the term "operator" applies equally to an applicant for a certificate and to an existing certificate holder.

2. DEFINITIONS.

Several terms are used throughout this chapter and are consistent with their use in division II of this volume, "Training Programs and Airman Qualification", specifically concerning flightcrew training. These terms are defined as follows:

- (a) <u>Training Program</u>: A system of instruction which includes curriculums, facilities, instructors, supervisors, courseware, instructional delivery methods, and testing and checking procedures. This system must satisfy the training program requirements of Part VII and ensure that each cabin attendant remains adequately trained for each aircraft and kind of operation in which the cabin attendant serves.
- (b) <u>Categories of Training</u>: Courses of training which provide the necessary training, testing, and checking for cabin attendants to serve unsupervised in revenue service. There are four categories of training for cabin attendants: initial new hire, transition, recurrent, and requalification. Each category of training consists of one or more curriculums.
- (c) <u>Curriculum</u>: A complete training agenda for one or more aircraft types, for example a B727 transition curriculum. Each curriculum consists of several curriculum segments.
- (d) <u>Curriculum Segment</u>: An integral phase of a curriculum which can be separately evaluated and individually approved but does not by itself qualify a person in the cabin attendant duty position. The five curriculum segments relevant to cabin attendant training are: basic indoctrination training, general emergency training, aircraft ground training, aircraft differences training, and qualification segments. Each curriculum segment consists of one or more training modules.
- (e) <u>Training Module</u>: An integral part of a curriculum segment which contains descriptive information, elements, or events which relate to a specific subject. For example, an aircraft ground training curriculum segment must have a training module (composed of "elements") pertaining to the location of aircraft equipment such as first aid kits and megaphones. As another example, a general emergency training curriculum segment may include a module pertaining to emergency situations such as ground evacuation and loss of cabin pressure. A training module includes an outline, appropriate courseware, and instructional delivery methods. It is usually completed in a single training session.

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- (f) <u>Checking and Qualification Module</u>: Qualification curriculum segments contain the checking and qualification modules specified by Part VII and Part IV. A Part VII, Subpart 5 operator's qualification curriculum segment must contain a competency check module and an operating experience module. For a Part VII, Subpart 5 operator these modules only need to be specified in the operator's outline by the module title and the controlling regulation for the module.
- (g) <u>Element</u>: An integral part of a training, checking, or qualification module that is not task oriented but subject oriented. For example, a module of a basic indoctrination curriculum segment may include such elements as aircraft nomenclature and organization of the cabin attendant manual.
- (h) Event: An integral part of a training, checking, or qualification module which is task oriented and requires the use of a specific procedure or procedures. A training event provides a student with an opportunity for instruction, demonstration, and/or practice using specific procedures. A checking or qualification event provides the evaluator with the opportunity to evaluate a student's ability to correctly accomplish a specific task without instruction or supervision.
- (i) <u>Courseware</u>: Instructional material developed for each curriculum. This is information in lesson plans, instructor guides, computer software programs, audiovisual programs, workbooks, cabin attendant manuals, and handouts. Courseware must accurately reflect curriculum requirements, be effectively organized, and properly integrate with instructional delivery methods.
- (j) <u>Instructional Delivery Methods</u>: Methodology for conveying information to a student. For example, this may include lectures, demonstrations, simulations, audiovisual presentations, home study assignments, workshops, and drills. Training devices, aircraft, and computer work stations are also considered instructional delivery methods.
- (k) <u>Testing and Checking</u>: Methods for evaluating students as they demonstrate a required level of knowledge in a subject, and as they apply (if appropriate) the knowledge and skills learned in instructional situations to practical situations.
- <u>Training Hours</u>: The total amount of time necessary to complete the training required by a curriculum segment. This time must allow opportunity for instruction, demonstration, practice, and testing, as appropriate. This time must be specified in hours on the curriculum segment outline.
- (m) <u>Programmed Hours</u>: The hours specified in Part VII, Subpart 5 for certain categories of training (initial new hire, transition, requalification, and recurrent). Programmed hours are specified in curriculum segment outlines in terms of training hours.
- (n) <u>Training/Checking Month</u>: The calendar month during which a cabin attendant is due to receive required recurrent training or a competency check. "Calendar" month means the first day through the last day of a particular month.
- (o) <u>Eligibility Period</u>: Three calendar months (the calendar month before the "training/checking month," the "training/checking month," and the calendar month after the "training/checking" month) during which a cabin attendant must receive both recurrent training and a competency check to remain qualified. Training or checking completed during the eligibility period, is considered to be completed during the "training/checking month."
- (p) <u>Initial Approval</u>: The conditional authorization of an operator to begin instruction to qualify personnel under a specific curriculum or curriculum segment pending an evaluation of training effectiveness. This authorization is given in the form of an initial approval letter and must specify an expiration date for the conditional authorization.
- (q) <u>Final Approval</u>: The authorization of an operator to continue training in accordance with a specific curriculum or curriculum segment. Each page of the curriculum or curriculum segment is stamped to show final DGCA approval. This authorization is given in the form of a final approval letter and does not have an expiration date.

2. TRAINING PROGRAMS: A SCHEMATIC DEPICTION.

Some elements of a training program are depicted in figure 18 to show the relationship between the total training program and the categories of training, curriculums, curriculum segments, and training modules.

(1) The illustration in figure 18 is representative only and is merely intended to present a framework for the modular development of a training program. By using this "modular approach," the POI has a variety of strategies available for the evaluation of training effectiveness and for the planning of long term surveillance. These strategies are discussed in other sections of this division.

(2) The illustration in figure 18 consists of five parts as follows:

- (a) Part A depicts representative components which, when combined, constitute an operator's overall training program. These components differ in that some must be specifically approved by the DGCA such as curriculums, while others are accepted as essential supporting elements such as facilities and equipment.
- (b) Part B illustrates the four categories of training that are recognized by the DGCA for cabin attendants.
- (c) Part C is an example of a curriculum outline for the cabin attendant duty position. This example depicts a PIC B727 transition training curriculum.
- (d) Part D is an example of a specific curriculum segment and shows that it consists of several training modules. This example is the flight training curriculum segment of the B727 cabin attendant transition training curriculum.
- (e) Part E is an example of a specific training module.





FIGURE 18. Schematic Depiction of Cabin Attendant Training Programs



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3. CATEGORIES OF TRAINING.

There are six categories of training, of which four are applicable to flight attendants: initial new hire, transition, recurrent, and requalification. The two primary factors in the determination the appropriate category of training are the student's previous experience with the operator and the student's current qualification status in relation to the specific airplane. Each category of training may consist of several curriculums which are specific to the aircraft. While the regulatory requirements for course content may be identical for two categories of training, the emphasis and depth of training required can vary. When discussing training requirements, DGCA inspectors should be specific regarding both the category of training being discussed and the use of the nomenclature described in this Standard. Use of this common nomenclature improves standardization and mutual understanding, therefore POI's should encourage operators to use it when developing new training are briefly discussed in the Subsections that follow.

(1) *Initial New Hire Training*. This training category is for personnel who have not had previous experience with the operator (newly hired personnel). It also applies, however, to personnel employed by the operator who have not previously held a cabin attendant duty position with that operator. Initial new hire training includes basic indoctrination training, training in basic cabin attendant duties, and training on one or more specific aircraft types. Since initial new hire training is usually the employee's first exposure to specific company methods, policies, and procedures, it must be the most comprehensive of the four categories of training.

- (a) operators may limit initial new hire training to one specific aircraft type. After the new hire flight attendant is qualified, the operator may then conduct transition training to qualify the cabin attendant in the other aircraft in the operator's fleet.
- (b) operators may design initial new hire flight attendant training curriculums that encompass all aircraft in the operator's fleet. An initial new hire curriculum designed in this manner must contain both general curriculum segments and aircraft specific curriculum segments. For example an initial new hire cabin attendant curriculum for the B727 and DC9 aircraft must contain training in basic cabin attendant duties (a module of basic indoctrination training) and training in duties specific to each aircraft (a module of B727 and DC9 ground training respectively).

(2) *Transition Training*. This category of training is for a cabin attendant who has been previously trained and qualified on a specific aircraft type and is now qualifying on another aircraft type. Transition training emphasizes the unique features of the aircraft and the specific flight attendant duties on that aircraft.

(3) *Recurrent Training*. This category of training is for a cabin attendant who has been trained and qualified by the operator, and who must receive recurring training and a competency check within the appropriate eligibility period to maintain currency. Recurrent training emphasizes general emergency training and the specifics of each aircraft in which the cabin attendant is qualified.

(4) *Requalification Training*. This category of training is for a cabin attendant who has been trained and qualified by the operator, but who has become unqualified to serve due to not having received recurrent training or a competency check within the appropriate eligibility period.

(5) *Summary of Categories of Training*. The categories of training are summarized in general terms as follows:

- (a) all cabin attendants not previously employed by the operator as a cabin attendant must complete initial new hire training.
- (b) all cabin attendants must complete *recurrent training* for the aircraft type or types for which they are currently assigned within the appropriate eligibility period.
- (c) all cabin attendants who have become unqualified on an aircraft type with the operator must complete *requalification training* to reestablish qualification for that aircraft type.

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(d) all cabin attendants who are being assigned by the operator to a different aircraft type must complete either transition or requalification training, depending on whether or not they were previously qualified on the aircraft type.

4. CURRICULUM DEVELOPMENT.

The operator is required to develop and maintain only those curriculums that will be used. Most often operators will need to develop curriculums in all four categories of training applicable to cabin attendants. Operators who train on all aircraft they operate during initial new hire training do not require a transition training curriculum until a new aircraft is added to the fleet. Such an operator would then need a transition curriculum to train currently qualified cabin attendants on the new aircraft.

(1) The operator may develop more than one curriculum for each applicable category of training. Each curriculum may be tailored for a specific group of students. An initial new hire curriculum developed for students without any airline experience must be more extensive than a curriculum which specifies only students with previous airline experience. For example, an abbreviated curriculum for initial new hire training may be used in merger or air operator acquisition situations.
(2) Each person required to train under a curriculum must complete that curriculum in its entirety. When a person has adequately completed the training and checking specified in a curriculum, that person is then qualified to serve in the specified aircraft type in revenue service.



SECTION 2. CABIN ATTENDANT TRAINING APPROVAL PROCESS

1. GENERAL. Cabin attendant (C/A) training curriculum approvals follow the same five-phase general process for approval or acceptance in LARs Part VI, Standards, Appendix VII and described in volume 1, division IV, section 6, of the Operations Inspector's Handbook. Information and guidance regarding each phase of the approval process is located in volume 3, division II, section 2 of the Operations Inspector's Handbook.



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SECTION 3

CABIN ATTENDANT BASIC INDOCTRINATION TRAINING CURRICULUM SEGMENTS

1. GENERAL.

The LARs require all new hire cabin attendants to complete the basic indoctrination curriculum segment in the initial new hire category of training. This section provides direction and guidance to inspectors for evaluating the content of cabin attendant basic indoctrination curriculum segments.

(1) *Purpose of Basic Indoctrination Training*. The basic indoctrination curriculum segment is unique to the initial new hire category of training. The training in the basic indoctrination curriculum segment serves as an introduction for the new hire employee to the operator and to the operational requirements of Part VII, Subpart 5, and also serves as the basis for subsequent cabin attendant training.

(2) *Regulatory Requirements*. LARs 705.137 requires all new hire cabin attendants to complete 40 hours of basic indoctrination training. LARs 705.137 require that basic indoctrination curriculum segments for cabin attendants include training in the following areas:

- (a) duties and responsibilities;
- (b) appropriate provisions of the LARs; and
- (c) appropriate portions of the operator's manual.

(3) Acceptable Basic Indoctrination Curriculum Segment Content. In addition to the required training listed in previous subsection (2), operators should include other types of training in basic indoctrination curriculum segments. There is required training that a new hire cabin attendant must be given before performing duty in revenue service that does not fit the criteria for general emergency training or aircraft ground training. This training should be placed in the basic indoctrination curriculum segment and may be credited toward the 40 hour requirement for basic indoctrination training.

2. BASIC INDOCTRINATION TRAINING SUBJECT AREAS.

In the cabin attendant basic indoctrination training curriculum segment there are two distinct subject areas of training which are required in the conduct of basic indoctrination training. These two subject areas, which need to be covered in the curriculum segment modules, are "operator specific" training and "cabin attendant specific" training.

(1) Operator Specific Training. "Operator specific" training must, according to LARs 705.137, include training modules in appropriate provisions of the LARs and appropriate portions of the certificate holder's operating manual. The policies and procedures contained in the operator's manual are formulated to ensure that the flight attendant and the operator are in compliance with the LARs during flight operations. The operator normally fulfills both training requirements simultaneously by training cabin attendants in the requirements of the manual and by informing cabin attendants that these requirements are mandatory under the regulations. Operators are not normally required to cite specific regulations during this training. An example of operator specific training is instruction on how the operator's specified procedures for the acceptance and stowage of carryon baggage must be applied.

(2) *Cabin attendant Specific Training*. "Cabin attendant specific" training, according to LARs 705.137, includes training on the duties and responsibilities of crewmembers. Cabin attendant specific training covers all LARs that pertain specifically to cabin attendants, such as the requirement that cabin attendants must have access to the manual aboard the aircraft. Cabin attendant specific training modules should also include any additional information flight attendants need to know, such as general aircraft

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and aviation orientation, when performing assigned duties. An example of cabin attendant specific training is instruction on the crew briefing during preflight. These two areas of training are not always mutually exclusive and in many cases may be covered in the same training module. The appropriate LARs should be incorporated into the training modules of both subject areas.

3. CABIN ATTENDANT BASIC INDOCTRINATION TRAINING MODULES.

A cabin attendant basic indoctrination curriculum segment must include as many training modules as necessary to ensure adequate training. Each training module outline must provide at least a descriptive title of the training module and a list of the related elements or events to be presented during instruction on that module.

(1) The training module outline must contain sufficient elements and events to ensure students will receive adequate training in both the "operator specific" area and the "cabin attendant specific" area. For initial approval, it is unnecessary for operators to include detailed descriptions of each element or event within a training module outline. Detailed descriptions are more appropriate when they are included in the operator's courseware. During the approval process, the inspector evaluating the training should review the courseware to ensure that the scope and depth of the training modules are adequate.

(2) An operator has a certain amount of flexibility in the arrangement of the basic indoctrination training modules, as follows:

- (a) a training module for students with significant experience in Part VII, Subpart 5 operations may be less comprehensive than a training module for students without that experience. This is usually the case with operators who hire only highly qualified personnel with experience in Part VII, Subpart 5 operations.
- (b) the training modules required by the LARs for basic indoctrination training must be included in the basic indoctrination curriculum segment outline and counted toward the hour requirement for this segment. The sequence of the actual training, however, can be determined by the operator. For example, while a training module addressing sterile cockpit requirements must be included in the basic indoctrination curriculum segment outline, the operator may actually conduct training on this module after conducting a module on aircraft specific training in the aircraft ground training curriculum segment.
- (c) while an operator may choose to put a training module in more than one curriculum segment, for approval purposes, that training module must be placed in the curriculum segment designated in this Appendix. For example, in order to comply with LARs 705.138, the first aid training module must be placed in the general emergency training curriculum segment. At the operator's discretion, however, the first aid training module could also be covered in the basic indoctrination curriculum segment, but cannot be included in the required number of programmed hours.

(3) The following is an example of one of the many acceptable methods of presenting a basic indoctrination training module outline:

CREWMEMBER FLIGHT DUTIES AND RESPONSIBILITIES

- Crew Communication and Coordination
- Routine Flight Duties
- Special Flight Situations

Elements Within a Training Module

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(4) The following example illustrates the interrelationship between training modules in the cabin attendant basic indoctrination curriculum segment:



4. OPERATOR SPECIFIC TRAINING MODULES.

Operator specific training modules consist of instruction in: the operator's policies and procedures; the operator's methods of compliance with the appropriate LARs and other applicable regulations; and information about the operator which cabin attendants, as employees, need to know to properly perform assigned duties. Cabin attendants need to know and understand not only the LARs, but also the relationship between the LARs and company policies.

(1) Training Criteria. Operator specific training should be developed to ensure that cabin attendants have adequate knowledge in the following areas:

- (a) the operator's organization, scope of operation, and administrative practices as applicable to cabin attendant assignments and duties;
- (b) appropriate provisions of the LARs and other applicable regulations and guidance materials;
- (c) operator policies and procedures;
- (d) cabin attendant manual and appropriate portions of the operator's General Operating Manual.

(2) Training Module Content. The following are examples of training modules for the operator specific training subject area. These examples of training modules encompass different types of operations and may not be applicable to an operator's specific type of operation. It should be noted

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that there are elements and events contained in these training modules which are not specified in the LARs but which are intended to provide POI's with further examples of material that may be included in training modules. These are examples only and it is not intended that these examples indicate the only acceptable sequence of instructional delivery, subject titles, or amount of detail.

- (a) <u>Company Orientation</u>
 - (i) Overview of Company: Type and scope of operations conducted;
 - (ii) *Company Structure*: Management organization, route structure, fleet composition (size and type), facility locations.
- (b) <u>Appropriate Provisions of the LARs and Other Applicable Regulations and Guidance</u> <u>Materials</u>
 - (i) *Directorate General of Civil Aviation*: Regulatory function ; overview of appropriate provisions of LARs, including Parts VI, and VII; additional guidance materials such as advisory circulars, action notices, and memorandums
 - (ii) Other Regulatory Agencies Interfacing with Civil Aviation: Applicable regulations of Lebanese Customs Service; and Lebanese Immigration Service. Usually operators include information of this type in the cabin attendant manual and then train cabin attendants on the content of the manuals. Training in the "Operator Policies and Procedures" module should emphasize the relationship between the LARs and the company's policies and procedures.
- (c) Operator Policies and Procedures
 - (i) Operational Policies and Regulations Relating to Cabin attendant Activities: Authority of PIC; chain-of-command; credential requirements for admission to cockpit; locking of cockpit door; sterile cockpit procedures; required number of cabin attendants; cabin attendant substitutes at intermediate stops; taxi requirements; passenger briefings and demonstrations; carriage and briefing of passengers who require special assistance; carryon baggage requirements; exit row seating requirements; carriage of cargo in passenger compartments; stowage of canes and crutches; stowage of crew bags; identification and stowage of hazardous materials; serving alcoholic beverages; fueling with passengers on board; electronic devices; carriage of pets; stowage of inflight service items; galley equipment restraints; stowage compartment restraints; cabin attendant jumpseat requirements; passenger seating requirements; infant/child restraints; required placards and signs; compliance with seatbelt and no smoking signs; smoking regulations; cockpit-to-cabin signals; serving food to flight crewmembers; MEL provisions; preflight policies; reporting mechanical irregularities
 - (ii) Passenger Handling Policies and Regulations Relating to Cabin attendant Activities: Passenger acceptance and refusal policies; passengers requiring special assistance; armed passengers; prisoners with escorts; couriers; unauthorized persons; apprehensive passengers; passengers who carry oxygen for personal use; oxygen administration inflight; serious illness or injury inflight; apparent death inflight; problem passengers such as passengers who appear to be emotionally disturbed, passengers who appear to be under the influence of alcoholic beverages and narcotic drugs, passengers who abuse flight attendants, passengers who interfere with a crewmember in the performance of duties, passengers who smoke in lavatories, passengers who refuse to follow the safety instructions of crewmembers; passengers who do not comply with the LARs; passengers with special needs such as infants, children, unaccompanied minors, elderly, obese, pregnant, and non-English speaking.
- (d) <u>Cabin attendant Manual and Appropriate Portions of the Operator's General Operating</u> <u>Manual (GOM)</u>
 - (i) Cabin attendant Manual Organization: Overview of manual sections; correlation of manual sections to cabin attendant training program; reference system; revision system; distribution system;

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- (ii) Cabin attendant Manual Requirements: Cabin attendant responsibilities, including carriage of manual when performing assigned duties and maintaining manual currency; importance of standardization of procedures and communication signals between flight crewmembers and cabin attendants;
- (iii) *General Operating Manual*: Organization and familiarity with portions applicable to cabin attendants.
- (e) <u>Administrative Practices</u>. Required documentation; scheduling; inner-company communications.

5. CABIN ATTENDANT SPECIFIC TRAINING MODULES.

Cabin attendant specific training modules provide cabin attendants with general aircraft and aviation information and instruction on the proper performance of crewmember duties and responsibilities.

(1) *Training Criteria*. Cabin attendant specific training should be developed to ensure that cabin attendants have adequate knowledge in the following areas:

- (a) basic aircraft and aviation familiarization;
- (b) cabin attendant requirements and standards;
- (c) crewmember flight duties and responsibilities for each phase of flight.

(2) *Training Module Content.* The following are examples of training modules for the cabin attendant specific training subject area. These examples of training modules encompass different types of operations and may not be applicable to an operator's specific type of operation. It should be noted that there are elements and events contained in these training modules which are not specified in the LARs but which are intended to provide POI's with further examples of material that may be included in training modules. These are examples only and it is not intended that these examples indicate the only acceptable sequence of instructional delivery, subject titles, or amount of detail.

- (a) <u>General Aircraft and Aviation Orientation</u>. While the following elements are broad subject areas, these elements should be limited to cabin attendant and cabin safety needs in relation to the operator's specific operation.
 - (i) Aircraft Familiarization: Basic aircraft description and terminology (interior and exterior); basic aircraft components such as flaps and landing gear; cockpit and cabin configurations; appropriate cabin systems such as communication, lighting, and oxygen; effect of weight and balance on passenger seating; recognition of unusual aircraft functioning;
 - (ii) *Weather Conditions*: A basic understanding of: clear air turbulence; cloud penetration; thunderstorms; winter operations;
 - (iii) *Time Conversion*: 24 hour clock, including time zones; Greenwich Mean Time; International Date Line;
 - (iv) Aviation Terminology: Airport; flight and ground operations; airport designator.
- (b) Cabin attendant Requirements and Standards
 - (i) Cabin attendant Requirements: Company required equipment, including cabin attendant manual responsibilities; required documents and immunizations; required duties; training and qualification requirements to include recurrent training, performance checks, and competency checks; rules on consumption of alcoholic beverages and use of narcotics by crewmembers
- (c) <u>Crewmember Flight Duties and Responsibilities</u>
 - (i) Crew Communication and Coordination: Importance and content of crew briefing; flight familiarization, including takeoffs and landings; inflight communications; postflight debriefing; crewmember team concept; standardization of procedures and signals between cockpit and crew, to include: preflight responsibilities, chime signals, signal for evacuation, signal for sterile cockpit, security procedures, procedures for

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initiation of evacuation, procedures for notification of emergency, cockpit emergency assignments, procedures for notifying cockpit that all passengers are seated prior to movement of aircraft for takeoff and for landing, positioning of cockpit door prior to takeoff, procedures for cabin attendant entry to cockpit, announcements for cabin attendants to be seated prior to takeoff;

- (ii) Routine Flight Duties: Authority of crew duty positions; crewmember duties and responsibilities specific to each crew position for each phase of flight such as emergency equipment preflight and passenger boarding responsibilities; review of LARs and company policies relevant to cabin safety; awareness of interior and exterior safety hazards; content of passenger briefings for all phases of flight;
- (iii) *Special Flight Situations*: Procedures for delayed flights; spoiled food; passenger complaints; damaged personal effects.

6. CURRICULUM SEGMENT COMPLETION REQUIREMENTS.

An instructor or supervisor must certify that a student has completed a curriculum segment. This certification is normally based on the satisfactory results of a written or oral examination given at the end of the course. With some training methods, such as computer based instruction (CBI), the certification may be based on student progress checks administered during the course.

7. EVALUATION OF TRAINING HOURS.

(1) Part VII, Subpart 5 specifies a minimum of 40 programmed hours of instruction for basic indoctrination training. Usually, 40 hours should be the minimum number of training hours for basic indoctrination for Part VII, Subpart 5 operators who employ personnel without Part VII, Subpart 5 experience or those with minimal experience. When approving the basic indoctrination curriculum segment, the POI must consider the complexity of both the operation and the aircraft. Training for a complex type of operation may require that the 40 hour minimum be exceeded, while there may be an acceptable reduction in training hours for a less complex type of operation. Reductions to the programmed hours in certain situations may be appropriate, such as when the operator's enrollment prerequisites stipulate a high level of Part VII, Subpart 5 experience.

8. EVALUATION OF A CABIN ATTENDANT BASIC INDOCTRINATION CURRICULUM SEGMENT OUTLINE FOR INITIAL APPROVAL.

When evaluating a basic indoctrination curriculum segment outline for initial approval, inspectors must determine whether the training modules contain the information required for cabin attendants to fully understand the operator's manner of conducting operations, the operator's means of regulatory compliance, and the guidance materials pertinent to a cabin attendant's duties and responsibilities.



SECTION 4

CABIN ATTENDANT GENERAL EMERGENCY TRAINING CURRICULUM SEGMENT

1. GENERAL.

This section provides direction and guidance on the content, evaluation, and approval of the cabin attendant (C/A) general emergency training curriculum segments. For direction and guidance on aircraft specific emergency training, see volume 3, division XIV, section 5, "Cabin attendant Ground Training."

(1) Emergency training requirements are specified by Lebanese Aviation Regulations (LARs) 705.138. These LARs may be divided into two types of training, which will be referred to in this Appendix as "general" emergency training and "aircraft specific" emergency training. General emergency training is training on those emergency items that are common to all aircraft. An example of general emergency training is training on fire extinguishers and firefighting procedures— which would be applicable to all aircraft in the operator's fleet. Aircraft specific emergency training is training on those items that are specific to each aircraft. An example of aircraft specific emergency training is instruction on the location of emergency equipment and crewmember emergency assignments for a DC-9-30 aircraft.

(2) The objective of general emergency training is to provide C/A's with the necessary knowledge concerning emergency equipment, situations, and procedures to ensure implementation of the correct actions in the event of an emergency.

(3) When a certificate holder operates a number of different aircraft, it is to the certificate holder's advantage to obtain DGCA approval for training curriculums that have distinct general emergency training and aircraft specific emergency training segments. A certificate holder may, however, design a training curriculum that does not make a distinction between general emergency training and aircraft specific training, such as when a certificate holder operates only one make and model of aircraft.

- (a) general emergency training is required in the initial new hire, recurrent, and requalification categories of training, but not in transition training. Only aircraft specific emergency training is required in the transition category of training. A certificate holder may choose to limit initial new hire training to a specific make and model of aircraft and then conduct transition training to qualify C/A's in each additional aircraft. When the C/A completes initial new hire training, a training/checking month is established and general emergency training is not required again until the next recurrent training cycle.
- (b) a certificate holder may choose to train its F/A's in all makes and models of aircraft in the operator's fleet during initial new hire training. In this case, a general emergency training curriculum segment provides the basis for all aircraft specific training to follow. If a general emergency training curriculum segment is not defined, the operator must duplicate this training on each specific aircraft type.
- (4) Wet Ditching Training and Drills.
 - (a) water impact accidents, while they rarely occur, severely test the emergency procedure skills of all flight crewmembers. The chances of human survival from these types of accidents have been increased by advances in cabin design and better passenger safety awareness. However, improved aircrew emergency training is the major factor contributing to human survival.
 - (b) principal operations inspectors (POI) should encourage their assigned air operators to provide realistic environments for wet ditching training and drills. Training objectives should be accomplished in swimming pools or other safe aquatic environments using the flotation devices required to be on board the aircraft.
 - (c) emergency equipment and drill training should be fully integrated into the operator's situational awareness training modules. POI's should ensure that inadvertent water impact

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accidents (ditching), such as those occurring with little or no warning, are emphasized during wet ditching training.

2. GENERAL EMERGENCY TRAINING SUBJECT AREAS.

In the C/A general emergency training curriculum segment there are three distinct subject areas of training that are required in the conduct of general emergency training. These three subject areas, which need to be covered in the curriculum segment modules, are as follows: "emergency equipment" training, "emergency situation" training, and "emergency drill" training. Emergency equipment training consists of individual instruction, demonstration, and practice in the functions and operation of emergency equipment, such as fire extinguishers and oxygen bottles. Emergency situation training consists of instruction in the factors involved and the procedures to be followed when emergency situations occur, such as training on ground evacuations and inflight medical emergencies. Emergency drill training provides an opportunity for C/A's to perform emergency procedures with hands-on practice in the actual operation of emergency equipment, such as a firefighting drill with the use of a fire extinguisher and protective breathing equipment (PBE). While emergency drills are always designated under the general emergency training curriculum segment, these drills can be taught as either general to all aircraft or as aircraft specific. In addition, the training modules for general emergency training must cover the necessary training for the type of operation performed by the operator. For example, when an operator conducts extended overwater operations, the training modules must include training on the use of sliderafts or liferafts.

(1) *Emergency Equipment Training*. LARs 705138 requires training on certain equipment. In addition to the required equipment, training should be conducted on any additional emergency equipment located on the operator's aircraft such as demo equipment, cardiopulmonary resuscitation (CPR) equipment, cockpit key, seatbelt extensions, and lavatory smoke detectors. Inspectors shall ensure that training modules cover the function and operation of at least the following emergency equipment:

- (a) equipment used in ditching and evacuation;
- (b) first aid equipment (including its proper use);
- (c) portable fire extinguishers (with emphasis on type of fire extinguisher to be used for different classes of fires);
- (d) emergency exits in the emergency mode with the evacuation slide/raft pack attached, if applicable (with training emphasis on the operation of the exits under adverse conditions).
- (2) Emergency Situation Training.
 - (a) the second subject area, emergency situation training, must, according to LARs 705.138, include training modules that cover emergency procedures and coordination among crewmembers in at least the following emergency situations:
 - (i) rapid decompression;
 - (ii) fire in flight or on the surface, and smoke control procedures (with emphasis on electrical equipment and related circuit breakers found in cabin areas including all galleys, service centers, lifts, lavatories and movie screens);
 - (iii) ditching and other evacuations (including the evacuation of persons and their attendants, if any, who may need the assistance of another person to move expeditiously to an exit in the event of an emergency);
 - (iv) illness, injury, or other abnormal situations involving passengers or crewmembers (to include familiarization with the emergency medical kit);
 - (v) hijacking and other unusual situations;
 - (vi) review and discussion of previous aircraft accidents or incidents pertaining to actual emergency situations;

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- (vii) for crewmembers who serve in operations above 25,000 feet, instruction in respiration, hypoxia, duration of consciousness without supplemental oxygen at altitude, gas expansion, gas bubble formation, physical phenomena and incidents of decompression.
- (b) emergency situation training modules may also include information on any additional unusual situations that could result in an emergency situation, such as passengers who may jeopardize aircraft or passenger safety, turbulence, blown tires, and engine/auxiliary power unit (APU) torching.
- (3) *Emergency Drill Training*.
 - (a) the third subject area, emergency drill training, must, according to LARs 705.138, include training modules that ensure crewmember accomplishment of these emergency drill requirements, as follows:
 - (i) the following onetime emergency drills must be performed by each crewmember during initial training: the PBE/firefighting drill and the emergency evacuation drill.
 - (ii) the following additional emergency drills must be accomplished during initial training and once every 24 calendar months during recurrent training—with each crewmember performing the following drills while operating the appropriate equipment: the emergency exit drill, hand fire extinguisher drill, emergency oxygen system drill, flotation device drill, and the ditching drill (if applicable).
 - (iii) the following additional emergency drills must be accomplished during initial training and once every 24 calendar months during recurrent training—with each crewmember observing the following drills: liferaft removal and inflation drill; slideraft transfer drill; slide or slideraft deployment, inflation, and detachment drill; emergency evacuation slide drill.
 - (b) Emergency drill training modules may also include any additional drills deemed necessary by the operator, such as a CPR equipment drill or a megaphone drill.

(4) One element of effective emergency training is to simulate realistic emergency situations by having participants actively involved in situational problem solving activities. These types of activities provide students with the opportunity to practice emergency procedures in a controlled environment until proficiency is obtained. An example of a simulation for "emergency situation" training is one in which some C/A's prepare a "cabin" (classroom, mockup, or actual aircraft) for a land evacuation, while others assume the roles of crewmembers and passengers. An example of a situation for emergency drill training is one in which C/A's perform after impact commands and actions while opening an emergency exit (in the emergency mode) and directing the evacuation of passengers.

3. CONTENT OF C/A GENERAL EMERGENCY TRAINING CURRICULUM SEGMENT OUTLINE.

A general emergency training curriculum segment outline must include appropriate modules of emergency equipment training, emergency situation training, and emergency drill training. The modules, elements, and events listed on the outline only have to contain enough detail to ensure that the LARs required training is provided.

(1) LARs 705.138 specify that crewmembers must receive instruction in the function and operation of emergency "equipment" and the handling of emergency "situations." Emergency equipment training and emergency situation training are distinguished for the use of the building block approach to reinforce basic concepts. For example, emergency equipment training for the Halon fire extinguisher should provide training on the extinguisher's function and operation. Emergency situation training, however, should provide training on appropriate actions and commands to use when operating the Halon fire extinguisher in a particular firefighting situation.

(2) LARs 705.138 specifies the emergency "drills" that crewmembers must perform and the equipment that must be operated during emergency training.

4. GENERAL EMERGENCY TRAINING MODULES.

A general emergency training curriculum segment must include as many training modules as necessary to ensure adequate training. Each training module outline must provide at least a descriptive title of the training module and a list of the related elements or events that are to be presented during instruction on the module.

(1) The general emergency training module outline must contain sufficient elements or events to ensure that students will receive adequate training in the emergency equipment, emergency situation, and emergency drill subject areas. Operators do not have to include detailed descriptions of each element or event within a training module outline. Detailed descriptions are more appropriate when included in the operator's courseware. During the approval process, the POI should review courseware as necessary to ensure that the scope and depth of the training modules are adequate.
(2) The training modules designated to fulfill the requirements of LARs 705.138 are contained in both the general emergency training curriculum segment and the aircraft ground training curriculum segment. Operators have flexibility in the arrangement of general emergency training modules as follows:

- (a) the training modules required by the LARs for general emergency training must be included in the general emergency training curriculum segment outline and counted toward the hour requirement for this curriculum segment. The sequence of the actual training can be determined by the operator. For example, while a module on decompression must be contained in the general training curriculum segment outline, the operator may actually conduct training on decompression procedures immediately before or after conducting training on a related aircraft specific training module designated in the aircraft ground training curriculum segment.
- (b) an operator may choose to put a training module in more than one curriculum segment. For approval purposes, however, that training module must be placed in the curriculum segment designated in this Appendix. For example, LARs 705.138 requires that a first aid training module be placed in the general emergency training curriculum segment. At the operator's discretion, however, the first aid training module could also be covered in the basic indoctrination curriculum segment.

(3) The following is an example of one of the many acceptable methods of presenting a general emergency training module outline:



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(4) The following example illustrates the interrelationship between training modules in the C/A general emergency training curriculum segment:



5. EMERGENCY EQUIPMENT TRAINING MODULES.

Emergency equipment training modules consist of instruction in the function and operation of that emergency equipment common to all aircraft that the student is qualifying for in the operator's fleet. Emergency equipment training must provide for the demonstration of emergency equipment that duplicates the specifications of the emergency equipment on the actual aircraft. For example, if the operator's fleet of aircraft is equipped with both portable oxygen bottles and chemical oxygen

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generators, then both types of oxygen devices must be used during the course of instruction. Any pertinent information related to the function of a piece of emergency equipment should also be addressed during the emergency equipment training. For example, the different types of fires must be addressed before adequate training can be given on the selection of appropriate fire extinguishers. Specifically, a training element for water fire extinguishers must emphasize that water extinguishers can only be used on Class A fires (ordinary combustibles).

(1) *Training Criteria*. Emergency equipment training should be developed to ensure that C/A's meet the following knowledge and ability criteria:

- (a) use of proper preflight techniques (when part of C/A duties);
- (b) procedures to be used if equipment fails to meet preflight requirements;
- (c) methods to be used for removing equipment from securing devices;
- (d) methods to be used for properly securing equipment;
- (e) operation of equipment, including awareness of operational limitations;
- (f) functions of equipment, including operation under adverse conditions;

Passengers, at times, have consciously or inadvertently moved door operating mechanisms, even when the mechanisms are located under protective plastic covers. POI's will ensure that their assigned operators inform crewmembers of the potential problem of and the need to be alert to the possibility of passengers moving an exit mechanism, and have procedures for crewmembers on unpressurized aircraft to check the position of the door handles periodically during flight.

(2) *Training Module Content.* The following are examples of training modules for the emergency equipment subject area. These examples of training modules encompass different types of operations and may not be applicable to an operator's specific type of operation. It should be noted that there are elements and events contained in these training modules that are not specified in the LARs, but that are intended to provide POI's with further examples of material that may be included in training modules. These are examples only, and it is not intended that these examples indicate the only acceptable methods, sequence of instructional delivery, subject titles, or amount of detail.

- (a) <u>Ditching Equipment</u>.
 - (i) Preflight: Inspection tags; dates; pressures; accessibility; integrity of casings;
 - (ii) Life Preservers: Removal; function; donning; inflation; activation and deactivation of locator light; donning an adult vest on a small child or infant; special use for children, nonswimmers, handicapped, elderly; swimming techniques;
 - (iii) Flotation Seat Cushions: Removal; function; donning; swimming techniques;
 - (iv) Liferafts: Removal and handling; positioning; lanyard attachment; launching, including under adverse conditions; inflation; detachment from aircraft; boarding techniques;
 - (v) Sliderafts: Deployment; inflation; detachment from aircraft; move from door to door; boarding techniques;
 - (vi) Slides: Deployment; inflation; detachment from aircraft for use as a flotation device; boarding techniques;
 - (vii) Raft Survival Equipment (Including Canopy and Survival Kit): Function; use;
 - (viii) Megaphones, Flashlights, Emergency Lights, Emergency Locator Transmitters, First Aid Kits: Removal; function; use; operation during a ditching.
- (b) Ground Evacuation Equipment.
 - (i) Preflight: Inspection tags; seals; dates; operable/ pressures; security; accessibility;
 - (ii) Window Exit Escape Ropes: Removal; function; use during ditching or ground evacuation;
 - (iii) Slides or Sliderafts: Deployment; inflation; sliding techniques; use under adverse conditions;

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- (iv) Megaphones, Flashlights, Emergency Lights, Emergency Locator Transmitters: Removal; function; use; operation during ground evacuation.
- (c) First Aid Equipment
 - (i) *Preflight*: Inspection tags; dates; integrity of casing; accessibility;
 - (ii) *Emergency Medical Kit:* Removal; contents; use, including reporting requirements;
 - (iii) First Aid Kit: Removal; contents; use
- (d) Portable Oxygen Systems (Oxygen Bottles, Chemical Oxygen Generators, PBE).
 - (i) *Preflight*: Inspection tags; dates; seals; pressures; integrity of tubing and masks, casings, or smokehoods; security; accessibility;
 - (ii) Portable Oxygen Devices/Masks (Oxygen Bottles and Chemical Oxygen Generators): Removal and handling; function; operation including donning, activation, and cautions; procedure for administering oxygen to self, to passengers, and to persons with special oxygen needs; methods of securing an oxygen device while administering oxygen;
 - (iii) *PB*E: Removal; function; limitations; operation, including donning, activation, and cautions; use with fire extinguisher in a firefighting situation, including methods of maneuvering in limited space with reduced visibility; utilization of communications system;
 - (iv) Passenger Supplied Oxygen: Function; operation; requirements for carriage
- (e) Firefighting Equipment.
 - (i) *Preflight*: Inspection tags; dates; seals; proper charge levels; properly serviced; security of mounting; accessibility;
 - (ii) *Individual Extinguishers*: Removal; function; operation and operating techniques; cautions;
 - (iii) Classes of Fires: Appropriate extinguishers; specific firefighting techniques;
 - (iv) PBE, Smoke Goggles: Donning; use;
 - (v) *Lavatory Equipment*: Integrity of trash container; spring loaded doors; smoke alarms; fire extinguishers; placards.
- (f) Emergency Exits.
 - (i) Exits with Slides or Sliderafts: Preflight door seals; integrity and condition of girt bar and brackets; slide or slideraft connections and pressure indicators; slide or slideraft engaging/disengaging mechanism; markings and placards; door opening controls; signs; lights; assist handles; function; operation, including under adverse conditions; impact of wind, weather, and fire on slides;
 - (ii) Window Exits: Preflight window seals, window opening controls, markings, placards, signs, lights, tactile indicators for non visual conditions; function; operation and positioning, including under adverse conditions;
- (g) <u>Exits Without Slides</u>: Preflight door seals; door opening controls; markings and placards; signs; lights; assist handles; function; operation, including under adverse conditions
- (h) Additional Emergency Equipment.
 - (i) *Preflight*: Equipment integrity; equipment accessibility;
 - (ii) Cockpit Key (if applicable), Demo Equipment, CPR Equipment, Seatbelt Extensions, Lavatory Smoke Detectors: Function; use.

6. EMERGENCY SITUATION TRAINING MODULES.

Emergency situation training modules consist of instruction, demonstration, and practice in the handling of emergency situations common to all aircraft on which the student is qualifying in the operator's fleet. "Emergency situation" training provides the opportunity for the student to correlate the concepts developed in "emergency equipment" training with the procedural applications of various types of emergency situations that can occur. For example, this training could include instruction on the use of a water extinguisher on a seat cushion fire. To reinforce the development of

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these procedural concepts, emergency situation training should incorporate situational problem solving activities that depict inflight emergencies. These simulations should be as realistic as possible and should reflect the operator's type of operation.

(1) *Training Criteria*. Emergency situation training should be developed to ensure that C/A's meet the following knowledge and ability criteria:

- (a) knowledge of crew coordination, emergency procedures, and emergency equipment;
- (b) knowledge of each crewmember's emergency procedures, signals, and safety related duties;
- (c) ability to recognize an emergency situation and select appropriate procedures;
- (d) ability to take the initiative and promptly implement the appropriate emergency procedures;
- (e) ability to assume decisive leadership in the event flight crewmembers are incapacitated or unable to participate;
- (f) knowledge of requirements for reporting accidents and incidents.

(2) *Training Module Content.* The following are examples of training modules for the emergency situation subject area. These examples of training modules encompass different types of operations and may not be applicable to an operator's specific type of operation. It should be noted that there are elements and events contained in these training modules which are not specified in the LARs but which are intended to provide POI's with further examples of material that may be included in training modules. These are examples only and it is not intended that these examples indicate the only acceptable methods, sequence of instructional delivery, subject titles, or amount of detail.

- (a) <u>Basic Principles</u>:
 - (i) *General*: Types of emergencies; need for standardization of procedures between crewmembers; crew coordination and communication, including team responsibilities, assertive command and control, response initiation, passenger behavior and management;
- (b) Decompression:
 - (i) *General*: Causes and recognition of cabin pressure loss; physiological effects of reduced atmospheric pressure; time of useful consciousness;
 - (ii) Rapid Decompression (Immediate Action/Secondary Action Procedures): Possible causes; cabin effects; physiological effects; crew coordination procedures; "immediate action procedures," including recognition of signs of decompression, grasping nearest oxygen mask, sitting down or holding onto something solid, waiting for notification from the flight deck before moving around; "secondary action procedures," including obtaining and putting on portable oxygen, checking other C/A's, assisting passengers, treating injuries, damage assessment and control;
 - (iii) *Insidious Decompression*: Possible causes; cabin effects; physiological effects; crew coordination; immediate action procedures;
 - (iv) *Cracked Window/Pressure Seal Leaks*: Cabin effects; crew coordination; immediate action procedures;.
- (c) Fires:
 - Principles of Combustion and Classes of Fires: Characteristics of an aircraft fire, including flashover and time element; toxic fumes and chemical irritants; review of function and use of firefighting equipment; firefighting techniques; special factors, including cabin material flammability and toxicity; confined space; cabin ventilation;
 - (ii) *Fire Prevention*: C/A readiness; cabin checks, including stowage of articles which could contribute to fire; lavatory checks, including condition of trash container, spring-loaded door, smoke detectors, and fire extinguishers; galley checks, including ovens and electrical equipment; enforcement of smoking regulations; procedures for use of circuit breakers;
 - (iii) *Basic Firefighting Procedures*: Flight crewmember notification procedures; source identification; firefighting and crew coordination procedures; proper use of PBE;

effective use of aircraft communication systems; methods of gaining access to a fire source; smoke control and removal procedures;

- (iv) Extinguishing Cabin Fires: Crew coordination, including team response; procedures for extinguishing cabin fires to include lavatories; galleys/lower lobe galleys; ovens; volatile fuel vapors; light ballasts; cabin furnishings; stowage bins/hat racks; trash containers; clothing;
- (v) *External Fires on Ground*: Crew coordination; role of C/A's for exterior aircraft, APU, jetway, ramp fires;
- (vi) *Electrical Equipment and Circuit Breakers*: Procedures for circuit breaker use with galleys, service centers, lifts, lavatories, and movie screens.
- (d) Ditching:
 - (i) Basic Practices: Description of ditching and unanticipated water landings (prior to impact/after impact); crew notification, including time before touchdown, type of landing, signal to assume protective brace position; crew coordination, including cabin and passenger preparation; passenger briefings; helper briefing; passenger protective brace positions; C/A protective brace positions (forward facing jump seat head forward, aft facing jumpseat—head back); impact on water; assessing conditions; commands; opening primary/secondary exits; use of flotation devices; evacuation at overwing exits including use of escape ropes; redirection techniques; evacuating persons needing assistance; passenger control;
 - (ii) *Prior to Impact—Unanticipated*: C/A readiness; protective brace positions; commanding passengers to assume protective brace positions;
 - (iii) After Impact—Unanticipated: Assessing conditions; crew coordination procedures; releasing C/A seatbelts; ensuring activation of emergency lights; commanding passengers to release seatbelts and don individual flotation devices; assessing exits; redirection techniques; opening exits, including deploying flotation devices and commanding helpers to assist; commanding passengers to evacuate at exit, inflate vests, and use flotation devices; assisting incapacitated passengers and crewmembers; removing appropriate emergency equipment from aircraft;
 - (iv) Prior to Impact—Anticipated: Crew notification and coordination; passenger briefing and preparation; donning life vests; cabin preparation; helper briefings; assuming protective brace positions; C/A review of ditching duties;
 - (v) After Impact—Anticipated: Assessing conditions; crew coordination procedures; releasing C/A seatbelts; ensuring activation of emergency lights; commanding passengers to release seatbelts; assessing exits; redirection techniques; opening exits, including deploying sliderafts or launching rafts, commanding helpers to assist; commanding passengers to evacuate at exit, inflate life vests, and board sliderafts or rafts; assisting incapacitated passengers and crewmembers; removing appropriate emergency equipment from aircraft;
 - (vi) *Evacuation Techniques*: Aircraft flotation characteristics; adverse conditions; assisting handicapped; directing passenger flow; boarding rafts;
 - (vii) *Survival at Sea*: Raft management; basic survival procedures in a raft environment; signaling.
- (e) Ground Evacuation:
 - (i) Basic Practices: Description of unanticipated and anticipated evacuations (prior to impact/ after impact); crew notification, including time before touchdown, type of landing, signal to assume protective brace position; crew coordination, including cabin and passenger preparation; passenger briefings; helper briefings; passenger protective brace positions; C/A protective brace positions (forward facing jump seat head forward, aft facing jumpseat—head back); impact and post crash fire; assessing conditions; initiation evacuation; commands; opening primary/ secondary exits;

evacuation at overwing exits, including use of escape ropes; redirection techniques; evacuating persons who may need assistance; passenger control;

- (ii) *Prior to Impact—Unanticipated*: C/A readiness; assuming protective positions; commanding passengers to assume protective positions;
- (iii) Prior to Impact—Anticipated: Crew notification and coordination; passenger briefing and preparation; cabin preparation; helper briefings; assuming protective positions; C/A review of evacuation duties;
- (iv) After Impact—Unanticipated or Anticipated: Assessing conditions; crew coordination procedures; releasing C/A seatbelts; ensuring activation of emergency lights; initiation of evacuation, including decision and signal to evacuate or not to evacuate; commanding passengers to release seatbelts and evacuate; assessing exits; redirection techniques; opening exits, including deploying slides; commanding helpers to assist; commanding passengers to evacuate at exit and run away from aircraft; assisting incapacitated passengers and crewmembers; removing appropriate emergency equipment from aircraft;
- (v) *Evacuation Techniques*: Aircraft landing attitudes; adverse conditions; assisting handicapped; directing passenger flow; slide egress;
- (vi) Post Crash Rescue: Role of C/A's;
- (vii) Survival in Uninhabited Area: Group management; basic survival procedures on land.
- (f) <u>Unwarranted Evacuation</u>:
 - (i) *Passenger or Crew Initiated*: C/A readiness; assessing situation Crew Coordination: Method of communicating that an unwarranted evacuation is in progress
 - (ii) *Stopping the Evacuation*: Commands; actions.
- (g) <u>Illness or Injury</u>:
 - (i) General Principles of Care: Effects of aircraft environment; crew medical responsibilities; crew coordination, including flightcrew notification; requesting and verification of medically qualified personnel; rules for administering medication; documentation and written reports; ground-to-air assistance; removal of ill or injured passengers;
 - (ii) Inflight Medical Emergencies/Incidents: Illness or injury symptom recognition and examination; attempt to obtain medical history; assessment of passenger; appropriate medical treatments; handling of passenger; aircraft limitations; crewmember incapacitation; apparent death in flight; review of contents and use of first aid equipment.
- (h) <u>Abnormal Situations Involving Passengers or Crewmembers</u>:
 - (i) *Passenger Abuse of C/A*: Crew coordination; recommended procedures;
 - (ii) *Passengers Who Appear to be Under the Influence of Intoxicating Substances*: Crew coordination; recommended procedures;
 - (iii) *Passengers Who May Jeopardize Aircraft or Passenger Safety*: Crew coordination; recommended procedures.
- (i) <u>Hijacking/Bomb Threat</u>:
 - (i) *Hijacking*: Specific company hijacking procedures; reinforcement of security training procedures; methods of communicating with other crewmembers when hijacking is threatened or in progress;
 - Bomb Threat: Specific company security procedures; reinforcement of security training procedures; crew coordination procedures; specific bomb search procedures; bomb handling and stabilization procedures for each aircraft.
- (j) <u>Turbulence:</u>
 - (i) *Basic Action (Dependent on Severity of Turbulence)*: Flight crewmember notification procedures; communication procedures for securing passengers, crewmembers, cabin, galleys, serving carts;

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- (ii) *Severe Turbulence (Anticipated or Unanticipated)*: Crew coordination procedures; appropriate actions;
- (iii) *Mild Turbulence (Anticipated or Unanticipated)*: Crew coordination procedures; appropriate actions.
- (k) Other Unusual Situations (Recommended but not Required):
 - (i) *Blown Tires*: C/A readiness;
 - (ii) *Condensation*: Passenger briefing; appropriate actions;
 - (iii) Engine Shutdown: Passenger briefing; appropriate actions;
 - (iv) Engine/APU Torching: Passenger briefing;
 - (v) *Fuel Dumping*: Passenger briefing; appropriate actions;
 - (vi) Rejected Landing/Missed Approach/Rejected Takeoff: C/A readiness;
 - (vii) *Malfunction of Lift Safety Interlock System*: Immediate actions and appropriate procedures.
- (l) <u>Previous Aircraft Accidents and Incidents</u>:
 - (i) General: Types and major causes of accidents; NTSB recommendations; survivability factors, including crewmember and passenger preparation for impact; ability of aircraft to withstand impact; ability of crewmembers to perform assigned duties after impact; emphasis on crew coordination and communication as critical elements in emergency situations;
 - (ii) Accident/Incident Aftermath: Coping with survival.

7. EMERGENCY DRILL TRAINING MODULES.

Emergency drill training modules provide an opportunity for C/A's to gain experience in the performance of emergency procedures with the actual operation of emergency or safety equipment. Emergency drill training consists of an integration of emergency equipment, emergency situation, and aircraft specific training. These drills can be taught as either general to all aircraft or as aircraft specific. For example, if all aircraft in an operator's fleet are equipped with the same type of portable oxygen bottle, the emergency drill would be taught as "general" to all aircraft. If, however, the aircraft in an operator's fleet are equipped with various types of portable oxygen bottles, the emergency drill would be taught as "aircraft specific." The sequence of emergency drill training should be adjusted according to the complexity of the operator's type and number of aircraft, training mockups, and other training devices. For certain emergency drills it is appropriate to sequence emergency drill training after aircraft specific training. For example, emergency drill training on emergency exits is more effective after training on the functions and controls of the emergency exits for specific aircraft. Emergency drill training is the performance and demonstration phase of emergency training. The objective of this training is to train each C/A to proficiency by reinforcing the concepts developed in the instruction phase of emergency training. The drills require the use of the specific type of emergency equipment as the equipment that is installed on the operator's aircraft; the equipment must have the identical dimensions, weight, forces, and specifications. Each of the drills should be as realistic as possible. For example, if artificial smoke is not used in an emergency evacuation drill, attempts should be made to simulate darkened conditions.

(1) *Training Criteria*. Emergency drill training should be developed to ensure that C/A's obtain proficiency in emergency situations and have the ability to do the following:

- (a) correctly preflight and prepare emergency/safety equipment for each type of aircraft (when part of assigned duties);
- (b) identify the type of emergency and correctly utilize the appropriate emergency equipment;
- (c) exercise good judgment in assessing an emergency situation;
- (d) implement the appropriate emergency procedures and to coordinate actions and signals with other crewmembers;

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(e) operate emergency/safety equipment for each type of aircraft;

(f) communicate effectively with crewmembers and passengers in an emergency situation.

(2) *Training Module Content.* The following are examples of training modules for the emergency equipment subject area. These examples of training modules encompass different types of operations and may not be applicable to an operator's specific type of operation. It should be noted that there are elements and events contained in these training modules which are not specified by the LARs but which are intended to provide POI's with further examples for consideration when evaluating training module content. These are examples only, and it is not intended that these examples indicate the only acceptable methods, sequence of instructional delivery, subject titles, or amount of detail.

8. EMERGENCY DRILLS.

(1) One Time Emergency Drill Requirements. The following emergency drills are required to be accomplished at least one time during initial new hire training (for the onetime emergency drill requirements of transition training. Included with each emergency drill are recommended elements or events that C/A's should be able to demonstrate satisfactorily.

- (a) <u>PBE Firefighting Drill</u>. During a PBE firefighting drill, the student is required to fight an "actual" fire by actually discharging a fire extinguisher charged with the appropriate fire retardant agent while wearing PBE. PBE must be worn while fighting the actual fire. The following recommended elements and events apply to fighting the fire:
 - (i) Approach to Fire/Smoke: Ability to locate source of fire or smoke;
 - (ii) *Crew Coordination*: Ability to implement procedures for effective crew coordination and communication, including notification of flight crewmembers about fire situation;
 - (iii) *Donning and Activating PBE*: Ability to maneuver in limited space with reduced visibility and to effectively use the aircraft's communication system;
 - (iv) *Selection of Appropriate Fire Extinguisher*: Ability to identify class of fire; to select the appropriate extinguisher; to properly remove extinguisher from securing device;
 - (v) Actual Discharge of Fire Extinguisher on Fire: Ability to prepare extinguisher for use; to operate and discharge extinguisher properly; to utilize correct firefighting techniques for type of fire;
 - (vi) Fire Saturation: Ability to completely extinguish fire.
- (b) <u>Emergency Evacuation Drill</u>. During an emergency evacuation drill, each student is required to egress the aircraft or approved training device using at least one type of installed emergency evacuation slide.
 - (i) *Prior to Impact*: Ability to recognize and evaluate emergency; to assume appropriate protective position; to command passengers to assume protective position;
 - (ii) After Impact: Ability to implement crew coordination procedures; to release seatbelt; to ensure activation of emergency lights; to assess aircraft conditions; to initiate evacuation (dependent on signal or decision); to command passengers to release seatbelts and evacuate; to assess exit and redirect, if necessary; to open exit, including deploying slides and commanding helpers to assist; to command passengers to evacuate at exit and run away from aircraft;
 - (iii) Actual Exit on Emergency Evacuation Slide: Ability to correctly jump onto slide; to maintain correct body position while sliding; to land on feet and run away from aircraft;
 - (iv) *Special Sliding Techniques*: Awareness of methods for assisting special need passengers, such as handicapped, elderly, and persons in a state of panic.

(2) *Additional Emergency Drill Requirements*. The following emergency drills must be accomplished by students during initial new hire and initial equipment training, and once every 24 calendar months during recurrent training. Included with each emergency drill are recommended elements or events that C/A's should be able to demonstrate satisfactorily.

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- (a) <u>Emergency Exit Drill</u>. During an emergency exit drill, students must operate each type of emergency exit in the normal and emergency modes, including the actions and forces required for deployment of the emergency evacuation slides.
 - (i) *Preflight Exit*: Ability to correctly preflight each type of emergency exit and evacuation slide or slideraft (if part of C/A's assigned duties);
 - (ii) Actual Disarming and Opening of Each Type of Door Exit in Normal Mode: Ability to open exit properly by disarming door either manually or automatically; to verify girt bar disengagement; to assume correct body position; to use door controls correctly; to secure exit in open and locked position; to secure safety strap;
 - (iii) Actual Closing of Each Type of Door Exit in Normal Mode: Ability to close exit properly by removing safety strap (if installed); to release locking mechanism; to assume correct body position; to use door controls correctly; to secure exit in closed and locked position;
 - (iv) Actual Arming of Each Type of Door Exit in Emergency Mode: Ability to arm exit properly by checking if threshold is free of debris; to arm door either manually or automatically; to verify girt bar engagement;
 - (v) Actual Opening of Each Type of Door Exit in Emergency Mode: Ability to open exit properly by assuming correct body/protective position; to use door controls correctly; to ensure that door is in open and locked position; to use manual slide inflation system to accomplish or ensure slide or slideraft inflation;
 - (vi) *Actual Opening of Each Type of Window Exit*: Ability to open exit properly by assuming correct body/protective position; to use controls correctly; to place window safely; to remove escape rope and position for use.
- (b) <u>Hand Fire Extinguisher Drill</u>. During a hand fire extinguisher drill, students must operate and discharge each type of installed hand fire extinguisher (such as Halon 1211, water, carbon dioxide, and dry chemical fire extinguishers). Fighting an actual or a simulated fire is not necessary during this drill.
 - (i) *Preflight*: Ability to correctly preflight each type of hand fire extinguisher (if part of C/A's assigned duties);
 - (ii) Operation: Ability to correctly operate each type of hand fire extinguisher and to implement appropriate firefighting procedures; to locate source of fire or smoke and identify class of fire; to select appropriate extinguisher and remove from securing device; to prepare extinguisher for use; to actually operate and discharge extinguisher; to utilize correct firefighting techniques for type of fire The discharge of Halon extinguishing agents during firefighting drills is not appropriate unless a training facility is used that is specifically designed to prevent harm to the environment from the discharged Halon. When such facilities are not used, other fire extinguishing agents that are not damaging to the environment should be used during the drills;
 - (iii) *Crew Coordination*: Ability to implement procedures for effective crew coordination and communication, including notification of flight crewmembers about the type of fire situation.
- (c) <u>Emergency Oxygen System Drill</u>. During an emergency oxygen system drill, each student must operate each type of emergency oxygen system, including PBE.
 - (i) *Preflight and Operation of Portable Oxygen Devices*: Ability to correctly preflight (if part of C/A's assigned duties) and actually operate portable oxygen bottles, including masks and tubing; ability to preflight and verbally demonstrate operation of chemical oxygen generators, including procedures for administering oxygen;
 - (ii) *Administering Oxygen from Portable Oxygen Bottles*: Ability to properly remove from securing device; to prepare for use; to operate oxygen device properly, including donning and activation; to administer oxygen to self, passengers, and to those persons

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with special oxygen needs; to utilize proper procedures for effective crew coordination and communication;

- (iii) Preflight and Operation of PBE: Ability to correctly preflight (if required) and properly put on equipment; to actually activate equipment and maneuver in limited space with reduced visibility; to utilize the aircraft's communication system for effective crew coordination Several operators equip their aircraft with approved PBE units that have approved storage pouches fastened with two metal staples at one end. However, considerations of practicality and cost compel operators to use a less durable storage pouch for training purposes, one that lacks the staple fasteners. As a result, pilots and C/A's have been surprised that opening the pouch furnished on board requires more force than opening the training pouch. POI's should require crewmember training that includes the appropriate procedures for operating PBE. In those cases where pouches with staples are used for storage of the PBE unit, special emphasis in training should highlight the difference between the training pouch and the onboard pouch. The training pouch may be easy to open, but the approved, onboard pouch may require as much as 28 pounds of force to overcome the 2 staple fasteners.
- (iv) Utilization of Aircraft Oxygen System: Ability to manually open each type of oxygen mask compartment and deploy oxygen masks; to identify compartments with extra oxygen masks; to implement immediate action decompression procedures; to reset oxygen system (if applicable).
- (d) <u>Flotation Device Drill</u>. During a flotation device drill, the student must put on, use, and inflate (as applicable) each type of individual flotation device.
 - (i) *Preflight*: Ability to correctly preflight (if part of C/A's assigned duties) each type of individual flotation device;
 - (ii) Donning and Inflating Life Vests: Ability to locate and remove from packaging; to properly put on and inflate (automatically and manually); to activate and deactivate locator light; to put on a small child or infant; to instruct children, nonswimmers, handicapped, and elderly on how to use and when to inflate; to demonstrate swimming techniques with a life vest;
 - (iii) *Flotation Seat Cushions*: Ability to remove from seat and properly use; to demonstrate swimming techniques using a seat cushion.
- (e) <u>Ditching Drill (if applicable)</u>. During a ditching drill, students must perform the "prior to impact" and "after impact" procedures for a ditching, as appropriate to the specific operator's type of operation.
 - (i) *Crew Coordination*: Ability to implement crew coordination procedures, including briefing with captain to obtain pertinent ditching information and briefing C/A's; to coordinate timeframe for cabin and passenger preparation;
 - (ii) Passenger Briefing: Ability to adequately brief passengers on ditching procedures, including information on the removal and stowage of restrictive personal articles; removal, donning, inflation of life vests; positioning of seats and tray tables; stowage of carryon baggage; securing and release of seatbelts; appropriate brace positions; location of exits; location and boarding of rafts; helper briefings;
 - (iii) Passenger and Cabin Preparation: Ability to ensure that all passenger briefing procedures are implemented properly; to ensure that cabin is prepared, including the securing of carryon baggage, lavatories, and galleys;
 - (iv) Launching of Sliderafts or Rafts: Ability to assess conditions; to demonstrate how to properly deploy and inflate sliderafts; to remove, position, attach to aircraft, and inflate rafts; to use escape ropes at overwing exits; to command helpers to assist; to use slides and seat cushions as flotation devices; to remove appropriate emergency equipment from aircraft;

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- (v) Boarding of Passengers and Crew into Slideraft or Raft: Ability to command passengers to exit aircraft, to inflate life vests, to board rafts properly; to initiate raft management procedures, including disconnecting rafts from aircraft, applying immediate first aid, rescuing persons in water, salvaging floating rations and equipment, deploying sea anchor, tying rafts together, activating or ensuring emergency locator transmitter in operation; to initiate basic survival procedures, including removing and utilizing survival kit items, repairing and maintaining raft, ensuring protection from exposure, erecting canopy, communicating location, providing continued first aid, providing sustenance;
- (vi) Use of Life Lines: Ability to use heaving line to rescue persons in water; to tie sliderafts or rafts together; to use life line on edge of slideraft or raft as a handhold and to secure survival kit items.
- (f) <u>Liferaft Removal and Inflation Drill (if applicable)</u>. During a liferaft removal and inflation drill, students must observe the removal of a liferaft from the aircraft or training device, as well as the inflation of a liferaft.
 - (i) *Raft Removal*: Removal of raft from raft compartment, including using correct method of handling raft; positioning raft at exit; removing raft lanyard; securely attaching raft lanyard to aircraft interior before raft launching; commanding helpers to assist;
 - (ii) *Raft Launching and Inflation*: Ensuring that exit is open and usable; launching raft into water and inflating raft; commanding passengers to evacuate at exit and board raft; detaching raft from aircraft; commanding helpers to assist; initiating raft management and basic survival procedures;
 - (iii) Raft Launching at Window Exits: Removing and positioning raft from raft compartment to window exit; removing raft lanyard; securely attaching raft lanyard to aircraft interior; ensuring that window exit is open and usable; removing escape rope and attaching to fitting on wing; carrying raft onto wing and launching raft off leading edge of wing into water; inflating raft; commanding passengers to evacuate at window exit, to walk onto wing holding escape rope, and to board raft; detaching raft from aircraft; commanding helpers to assist.
- (g) <u>Slideraft Transfer Drill</u>. During a slideraft transfer drill, students must observe the transfer of each type of slideraft pack from an unusable door to a usable door.
 - (i) *Disconnecting Slideraft at Unusable Door*: Crew coordination procedures, assessing conditions to determine usable door, redirecting passengers to usable slideraft, completing specific steps for slideraft disconnection at unusable door;
 - (ii) *Slideraft Installation and Deployment at Usable Door*: Positioning slideraft pack at usable door, completing specific steps for slideraft installation at usable door.
- (h) <u>Slide or Slideraft Deployment, Inflation, and Detachment Drill</u>. During a slide or slideraft deployment, inflation, and detachment drill, students must observe the deployment, inflation, and detachment of the slide or slideraft pack from the aircraft or training device.
 - (i) *Slides With Quick Release Handle*: Engaging slide girt bar in floor brackets; opening of door and verification of slide deployment; inflating slide either manually or automatically; disconnecting slide from aircraft for use as a flotation device;
 - (ii) *Slides Without Quick Release Handle*: Engaging slide girt bar in floor brackets; opening door and verifying slide deployment; disconnecting slide from aircraft; inflating slide for use as a flotation device;
 - (iii) *Sliderafts*: Arming sliderafts for automatic inflation; opening door and verifying inflation; disconnecting slideraft from the aircraft.
- (i) <u>Emergency Evacuation Slide Drill</u>. During an emergency evacuation slide drill, students must observe the deployment and inflation of an evacuation slide, including participants egressing from the cabin via the evacuation slide.
 - (i) *Opening Exit*: Opening armed exit with slide or slideraft deployment and inflation;

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- (ii) *Evacuation of Aircraft*: Commanding the evacuation; having participants egress from aircraft via the evacuation slide and run away to a safe distance.
- Information Note: In drills No. (f), (g), (h) and (i), C/A's are not required to actually remove and inflate liferafts or to deploy, inflate, detach, or transfer slides or sliderafts. LARs 705.138, however, requires that these drills at least be observed. LARs 705.138 defines "perform" and "observed." "Perform" is defined as the accomplishment of "a prescribed emergency drill using established procedures that stress the skill of those persons involved in the drill." "Observe" is defined as watching "without participating actively in the drill." When evaluating an "observed" drill, either with audiovisual aids or with participants performing the drill, the inspector must determine whether it adequately conveys a clear understanding of each of the steps involved to perform a required function.

9. ADAPTATION OF GENERAL EMERGENCY TRAINING CURRICULUM SEGMENTS TO THE VARIOUS CATEGORIES OF TRAINING.

The general emergency training curriculum segment is required in the following categories of training: initial new hire, recurrent, and requalification. When determining if general emergency training curriculum segments are appropriately adapted to the different categories of training, POI's should use figure 19.

(1) *Initial New Hire Category of Training*. Operators must develop and obtain approval of a general emergency training curriculum segment for the initial new hire category of training. An operator who operates both reciprocating powered and turbojet powered aircraft may be required to develop separate general emergency curriculum segments for incorporation into the initial new hire category of training appropriate to these types of aircraft.

(2) *Transition Category of Training*. There is requirement for a separate general emergency curriculum segment for the transition category of training. For this category of training, C/A's will have previously received the appropriate general emergency training during initial new hire training. Aircraft specific emergency training, however, must be included in the aircraft ground training segment of a transition curriculum. Aircraft specific emergency training may require elements that are in a general emergency training curriculum segment. For example, an operator may not operate an aircraft equipped with escape slides. If the operator subsequently adds an aircraft so equipped, training on slides must be included in transition training.

(3) *Recurrent Category of Training.*

(a) <u>LARs Part VII, Subpart 5</u>. LARs Part VII, Subpart 5 operators must develop and obtain approval for a separate general emergency training curriculum segment for the recurrent category of training. Usually it will be appropriate to have two general emergency curriculum segments, one which reflects a 12 month cycle of emergency equipment and emergency situation training, and another which reflects a 24 month cycle of emergency drill training. It is acceptable, however, to incorporate the emergency drill "hands-on" training into a single curriculum segment, provided the segment contains a requirement that C/A's must receive the emergency drill training at least once every 24 months.

(4) *Requalification Category of Training LARs Part VII, Subpart 5.* The determination of whether a general emergency curriculum segment is appropriate for the requalification category of training depends on the length of time an C/A has been unqualified. In general, C/A's become unqualified for not completing recurrent training for more than 1 year.

10. CURRICULUM SEGMENT COMPLETION REQUIREMENTS.

Completion of the curriculum segment must be certified by an instructor or a supervisor indicating that the student has successfully completed the course. This certification is usually based on the satisfactory evaluation of a student's performance. With some training methods, such as computer-based instruction (CBI), the certification may be based on student progress checks administered during the course.

11. EVALUATION OF TRAINING HOURS.

(1) LARs Part VII, Subpart 5 do not specify a minimum number of training hours for general emergency training curriculum segments. When approving these curriculum segments, the DGCA must consider the complexity of the type of operation to be conducted and the complexity of the aircraft to be used. The following figure provides guidance and direction for POI's when approving general emergency training curriculum segments. The figure provides "norms" for the initial new hire general emergency training hours. The purpose of having established national norms is to assist the POI when evaluating proposed programs for new operators or when evaluating proposed programs introducing new aircraft by existing operators. For a complex type of operation the training hour s may need t o exceed the norm, while for less complex type of operation the training hours below the norm may be acceptable.

TYPE OF OPERATION	EMERGENCY EQUIP/ SITUATIONS	EMERGENCY DRILLS	TOTAL HOURS
LAND OPERATIONS	10.0	4.0	14.0
EXTENDED OVERWATER OPERATIONS	4.0	3.0	7.0
OPERATIONS ABOVE 25,000 FEET	2.0	1.0	3.0

FIGURE 19

(2) Figure 19 lists three general levels of operational complexity. The basic level of complexity for the initial new hire training category is considered to be "land operations." The norm for land operations is 14 hours for the general emergency training curriculum segment, divided into 10 hours for emergency equipment/situations and the remaining 4 hours for emergency drills. The norm for "extended overwater operations" is an additional 7 hours divided into 4 hours for emergency equipment/situations and the remaining 3 hours for emergency drills. The norm for "operations above 25,000 feet" is an additional 3 hours, divided into 2 hours for emergency equipment/ situations and the remaining 1 hour for emergency drills. For an operator conducting all three operational complexities, the norm is a total of 24 hours for the general emergency training curriculum segment.

12. EVALUATION OF CABIN AND EXIT MOCKUPS.

Hands-on emergency drill training for items such as emergency exits and passenger oxygen systems should be conducted in either a static aircraft, an approved cabin mockup training device, or an approved exit mockup training device. Cabin and exit mockup training devices should be representative of a full scale section of an aircraft. Cabin mockups should include operational doors, window exits, slides, rafts, and other equipment used in emergency drill training. Cabin or exit mockup training devices shall not be approved unless they have been evaluated by a qualified DGCA inspector and determined to be adequate. Generally, cabin mockups are acceptable if they are representative of the operator's aircraft with the appropriate equipment installed, and they are full



scale in cross section. Generally, exit mockups are acceptable if the forces required to open them closely duplicate normal and emergency conditions with the slide or slideraft installed, and if the mechanisms and instructions required to operate them are representative of the operator's aircraft.

13. EVALUATION OF C/A GENERAL EMERGENCY TRAINING CURRICULUM SEGMENT OUTLINE FOR INITIAL APPROVAL.

When evaluating a general emergency training curriculum segment outline for initial approval, inspectors must determine whether the training modules contain the information required for C/A's to perform emergency duties and procedures without supervision.



SECTION 5

CABIN ATTENDANT AIRCRAFT GROUND TRAINING CURRICULUM SEGMENT

1. GENERAL.

This section specifies the objectives of a cabin attendant (C/A) aircraft ground training curriculum segment and discusses the structure and content of aircraft ground training. Two distinct subject areas of aircraft ground training are identified: general operational subjects and aircraft specific emergency training. These subject areas must contain training to satisfy the requirements of the LARs Part VII.

(1) *Objective*. The objective of aircraft ground training is to provide C/A's with an understanding of the basic aircraft to which the C/A will be assigned. This knowledge is necessary for the C/A to perform required duties and procedures in routine, abnormal, and emergency situations. Aircraft ground training, as used in this section, is training for a specific aircraft. An operator may use many methods when conducting aircraft ground training, including classroom instruction, ground training devices, computer based instruction (CBI), and static aircraft.

(2) *Scope and Content.* The scope and content of the training module events and elements presented in this section are examples for guidance and may be particularly useful for a new operator undergoing certification by the DGCA. Although the modular content provided in these examples exceeds DGCA regulatory requirements, the DGCA considers it to exemplify a good operating practice; however, the inspector should not require existing operators who are functioning under currently approved training programs to change their training solely to accommodate the examples presented in this section.

2. AIRCRAFT GROUND TRAINING CURRICULUM SEGMENT.

The outline for an aircraft ground training curriculum segment should include training that is appropriate to the operator's type of operation. The operator should outline the training in two distinct subject areas of aircraft ground training: general operational subjects training, and aircraft specific emergency subjects training.

(1) *Module Outline*. Modules are outlined under each subject area. The outline should provide a descriptive title of the module and list the related elements or events presented during instruction. The modules, elements, and events listed under the subject area should contain enough detail to ensure that they provide LARs required training.

(2) *Level of Detail.* Operators do not have to include detailed descriptions of each element or event within a training module outline. Detailed descriptions are more appropriate when included in the operator's courseware. During the approval process, the principal operations inspector (POI) should review courseware as necessary to ensure that the scope and depth of the training modules are adequate.

(3) *Operator's Flexibility*. An operator has a certain amount of flexibility in the construction of the aircraft ground training modules, as follows:

(a) <u>Training Hours</u>. The number of training hours must be specified on all aircraft ground training curriculum segment outlines. POI's must thoroughly study the operator's proposals. On the basis of experience with the operator, past experiences with other operators, as well as their own training experiences, POI's must use reasonable judgment when determining whether the operator can adequately accomplish training within the training hours specified in the curriculum segment. These training hours usually include periods, during instruction, for reasonable breaks.
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(b) Sequence of Training. The operator can determine the sequence of the actual training and may choose to put a training module in more than one curriculum segment; however, the operator should place that training module in the curriculum segment designated in this Appendix. For example, LARs 705.142 requires that an electrical galley equipment training module be placed in the aircraft ground training curriculum segment. At the operator's discretion, however, the electrical galley equipment training module could also be covered in the aircraft general emergency training curriculum segment in conjunction with the fire fighting training module.

(4) *Curriculum Segment Example*. The following example illustrates a curriculum segment and one of many acceptable methods for presenting a module outline:



3. GENERAL OPERATIONAL SUBJECTS TRAINING MODULES.

Modules in general operational subjects training consist of instruction in the general description of the aircraft, aircraft equipment, furnishings, and systems; routine crewmember communication and coordination procedures; routine crewmember duties and procedures as applicable to specific aircraft

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during each phase of flight; and passenger handling responsibilities that are specific to the aircraft the crewmember is qualifying for in the operator's fleet.

(1) *Minimum Training Requirements*. General operational subjects training must include training in at least the following:

- (a) the authority of the pilot-in-command (PIC);
- (b) passenger handling, including the procedures to be followed in the case of deranged persons or other persons whose conduct might jeopardize safety;
- (c) a general description of the airplane, emphasizing physical characteristics that may have a bearing on ditching, evacuation, inflight emergency procedures, and other related duties;
- (d) the use of the public address (PA) system to communicate with passengers, and the means of communicating with other flight crewmembers, including emergency means in the case of attempted hijacking or other unusual situations;
- (e) the proper use of electrical galley equipment, the cabin environmental equipment (heat and ventilation), and the cabin electric circuit breakers.

(2) Additional Information. Training modules for general operational subjects may also include information on operational requirements that are specific to the aircraft in which the training is being conducted. This information may include C/A assigned duties and procedures, crewmember coordination, and crewmember communication responsibilities during each phase of flight.
(3) *Training Module Content*. The following are examples of training modules for the general operational subject area. These examples of training modules encompass different types of operations that may not be applicable to an operator's specific type of operation. There are elements and events contained in these training modules that are not specified in the LARs but are intended to provide POI's with further examples of material that may be included in training modules. These examples do not indicate the sole acceptable method, sequence of instructional delivery, subject titles, or amount of detail.

- (a) Aircraft Familiarization.
 - (i) *Aircraft Characteristics and Description:* Description of aircraft make, model, type, and series, including the following:
 - A. design
 - B. principal dimensions
 - C. interior configuration
 - D. powerplant
 - E. range
 - F. speed
 - G. altitude
 - (ii) *Flightdeck Configuration*: Description and location of the following:
 - A. flight crewmember and observer stations
 - B. portable emergency equipment
 - C. stowage areas
 - D. operation of cockpit door including emergency opening
 - (iii) Cabin Configuration: Description and location of the following:
 - A. C/A station(s)
 - B. passenger seating zone and aisle
 - C. passenger seats
 - D. galley
 - E. lavatory
 - F. stowage areas
 - G. emergency exits
 - H. oxygen mask compartments
 - I. passenger service units



- J. passenger convenience panels
- K. passenger information signs
- L. required placards
- M. passenger cargo configurations (combi aircraft)
- (iv) *Galleys:* Description, location, function, and operation of galley equipment, such as the following:
 - A. ovens
 - B. refrigeration units
 - C. stowage compartments and latching devices
 - D. carts and braking mechanisms and restraining devices
 - E. electrical control panels and circuit breakers
 - F. water system and water shutoff valves
 - G. oxygen mask compartments
 - H. lower lobe galleys including operation of escape exits and lifts
- (v) Lavatories: Description and location of equipment, such as the following:
 - A. washbasins
 - B. stowage compartments and latching devices
 - C. oxygen mask compartments
 - D. passenger information signs
 - E. required placards
 - F. automatic fire extinguishers
 - G. smoke detectors
 - H. water shutoff valves
 - I. water heater switches and indicators
 - J. interior door locking mechanism and signs
 - K. exterior door locking and unlocking mechanisms
- (vi) *Stowage Areas:* Description, location, and function of stowage areas, such as the following:
 - A. overhead bins and racks
 - B. coat closets
 - C. stowage compartments
 - D. weight restrictions
 - E. restraint or latching requirements
 - F. required placards
- (b) Aircraft Equipment and Furnishings.
 - (i) C/A Stations.
 - A. procedures for preflight checks of an C/A jumpseat, such as the following:
 - ➤ automatic seat retraction
 - jumpseat headrest
 - ➢ restraint system integrity
 - description of the function and operation of restraint system
 - C. securing restraint system when not in use.
 - (ii) C/A Panels:

B.

- A. identification of and function of controls, switches, and indicators on C/A panels.
- B. preflight and use of controls and switches.
- (iii) *Passenger Seats:* Description of passenger seats and surrounding area, such as the following:
 - A. seat belts
 - B. armrests, footrests, and seat recline controls
 - C. tray tables
 - D. passenger service units



- E. passenger convenience panels on armrests (as applicable)
- F. passenger information signs
- G. placards
- H. passenger entertainment and convenience systems
- (iv) *Passenger Service Units and Convenience Panels:* Description of function and use of the following:
 - A. controls on passenger service units, such as reading lights and reading light switches
 - B. gasper air outlets
 - C. C/A call light indicator and C/A call light switch
 - D. NO SMOKING and FASTEN SEAT BELT signs
 - E. emergency oxygen outlets
- (v) *Passenger Information Signs:* Description of location, purpose, and chime indicator of the following passenger information signs:
 - A. NO SMOKING signs
 - B. FASTEN SEAT BELT signs LAVATORY OCCUPIED signs
 - C. RETURN TO SEAT signs in the lavatory
 - D. EXIT signs
- (vi) *Aircraft Markings:* Include description, location, and purpose of aircraft markings such as the following:
 - A. interior emergency exit markings indicating location of each passenger emergency exit
 - B. emergency exit operating handle markings indicating location of operating handle and instructions for opening exit
 - C. emergency equipment markings identifying equipment
 - D. emergency equipment compartment or container markings identifying contents
- (vii) *Aircraft Placards:* Description, location, and purpose of aircraft placards, such as the following:
 - A. placards on each forward bulkhead and passenger seat back stating FASTEN S EAT B ELT WHILE SEATED
 - B. placards in each lavatory stating PENALTIES FOR TAMPERING WITH THE SMOKE DETECTOR INSTALLED IN THIS LAVATORY.
- (viii) *Bassinets and Bayonet Tables:* Description of, and use of, bassinets and bayonet tables including the following:
 - A. means of securing while in use
 - B. proper stowage when not in use
 - C. applicable restrictions
- (c) Aircraft Systems.

B.

- (i) *Air Conditioning and Pressurization System:*
 - A. description, location, function, and operation of temperature controls, such as the following:
 - > gasper air outlets
 - cabin pressurization indicators
 - location and function of decompression vents
- (ii) *Aircraft Communication Systems:* Description, location, function, and operation of the following:
 - A. manual system controls
 - B. cabin intercommunication data systems
- (iii) *Communications—Call System:* Description, location, function, and operation of the call system, such as the following:
 - A. call light switches



- B. chime and light indicators when call is initiated
- C. routine and emergency call light identification
- D. resetting procedures for call light indicators
- (iv) *Communications—Interphone System:* Description of interphone system, such as the following:
 - A. location of handset controls and indicators
 - B. function and operation of routine and emergency controls and indicators
 - C. interphone system inoperative procedures
- (v) *Communications—Passenger Address System:* Description, function, and operation of passenger address system, including the following:
 - A. location of handset and microphone controls and indicators
 - B. passenger address system inoperative procedures
- (vi) Lighting and Electrical Systems:
 - A. description and location of interior and exterior lighting.
 - B. function and operation of cabin lighting systems including the following:
 - \succ controls
 - ➤ switches
 - testing procedures
 - description and location of circuit breakers, including the following:
 - means of access
 - ➤ switches

C.

- ➤ indicators
- resetting procedures
- (vii) Oxygen—Flightcrew and Observer Oxygen System: Description and function of flightcrew and observer oxygen system, including the following:
 - A. location of oxygen regulators and quick donning oxygen masks
 - B. operation of oxygen regulator switches and indicators
 - C. distinction between "on demand" and "under pressure" oxygen flow
 - D. proper use of oxygen masks
- (viii) Oxygen—Passenger Oxygen System: Including the following:
 - A. description and location of each type of oxygen mask and compartment.
 - B. location of extra masks.
 - C. description and location of oxygen mask compartment door latching indicators.
 - D. instruction on manual opening of each type of oxygen mask compartment.
 - E. restrictions for repacking oxygen mask compartments.
 - F. function of passenger oxygen system, including the following:
 - > automatic and manual means of system activation
 - indicators of oxygen system activation.
 - procedure for initiating oxygen flow to mask
 - > procedure for properly donning oxygen mask and testing for oxygen flow
 - procedure for resetting oxygen system in the event oxygen system is not designed to shut off automatically
 - > procedure for activating aircraft system for first aid oxygen
- (ix) Water System: Description of aircraft potable water system, such as the following:
 - A. location of quantity indicators
 - B. water supply preflight procedures
 - C. location and operation of individual or main water shutoff valves
- (x) Entertainment and Convenience Systems:
 - A. description of aircraft entertainment and convenience system(s).
 - B. location and operation of controls and switches including system indicators.
 - C. problem identification including the following:



- > probable causes
- corrective action procedures
- (d) Aircraft Exits.

(iii)

A.

- (i) *General Information:* Description, location, and identification of each type of cabin and cockpit exit, including the following:
 - A. type and number
 - B. function
 - C. dimensions
 - D. basic components
 - E. controls
- (ii) Exits with Slides or Sliderafts—Preflight:
 - A. identification and function of door opening controls and indicators.
 - B. procedures to preflight door seals
 - C. integrity and condition of the following:
 - girt bar and brackets
 - slide or slideraft connections and pressure indicators
 - slide or slideraft engaging and disengaging mechanisms
 - accessible tailcone emergency access handle (as applicable)
 - exit markings and placards
 - signs
 - \succ lights
 - > assist handles
 - Exits with Slides or Sliderafts—Normal Operation:
 - procedures for opening exit in normal mode, including the following:
 - disarming door either manually or automatically
 - verifying girt bar disengagement
 - assuming correct body position for door opening
 - > operating door controls correctly
 - securing exit in open and locked position
 - securing safety strap (if applicable)
 - B. procedures for closing exit in normal mode, including the following:
 - removing safety strap (if applicable)
 - releasing door latching mechanism
 - assuming correct body position for door closing
 - using door controls correctly
 - securing exit in closed and locked position
- (iv) Exits without Slides—Preflight:
 - A. identification and function of door opening controls and indicators.
 - B. procedures to preflight the following:
 - \succ door seals
 - airstair system (as applicable)
 - exit markings and placards
 - ➤ signs
 - ➢ lights
 - assist handles
- (v) Exits without Slides—Normal Operation:
 - A. procedures for opening exit, including the following:
 - assuming correct body position for door opening
 - operating door controls correctly
 - securing exit in open and locked position
 - ▶ securing safety strap and using airstair system to lower stairs, as applicable

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- B. procedures for closing exit, including the following:
 - > removing safety strap and using airstair system to raise stairs (as applicable)
 - releasing door latching mechanism
 - assuming correct body position for door closing
 - using door controls correctly
 - securing exit in closed and locked position
- (vi) Window Exits—Preflight:
 - A. identification and function of window opening controls and indicators.
 - B. procedures to preflight the following:
 - window seals
 - ➤ markings
 - > placards
 - ➤ signs
 - ➢ lights
 - tactile indicators for nonvisual conditions
- (e) <u>Crewmember Communication and Coordination</u>.
 - (i) *Captain's Authority:* Description of the captain's authority on aircraft in routine and emergency conditions, including the chain of command as applicable to specific aircraft.
 - (ii) Routine Communication Signals and Procedures: Review of location, function, and operation of communication systems as applicable to specific aircraft, including specific procedures for cockpit and cabin chime and interphone signals for routine situations. The following are examples:
 - A. C/A notification to be seated prior to movement on the surface
 - B. C/A notification of critical phases of flight
 - C. flight crewmember notification when requesting access to cockpit
 - (iii) Crewmember Briefing: Review the following:
 - A. importance of crew briefing and development of crewmember resource management concept (CRM)
 - B. description of crewmember responsibilities for crew briefing including any required paperwork
 - C. content of crew briefing as applicable to specific aircraft
- (f) <u>Routine Crewmember Duties and Procedures</u>.
 - (i) Crewmember General Responsibilities:
 - A. crewmember communication and coordination while performing crewmember assignments, duties, and procedures as applicable to specific aircraft during each phase of flight
 - B. description of all operator policies and LARs pertinent to crewmember performance of assigned duties on specific aircraft
 - (ii) Reporting Duties and Procedures for Specific Aircraft:
 - A. identification of required crewmembers when specific aircraft is parked at the gate.
 - B. description of preflight and inflight duty assignments and responsibilities.
 - C. description of passenger boarding procedures.
 - D. description of carryon baggage stowage procedures.
 - E. assurance of exit seat program compliance.
 - F. conduct of cockpit and cabin crew briefings.
 - G. assurance of the possession of all required personal equipment, such as the following:
 - ➢ C/A manuals
 - ➢ flashlights

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- cockpit keys (if applicable)
- (iii) Predeparture Duties and Procedures Prior to Passenger Boarding:
 - A. description of preflight safety check assignments and procedures.
 - B. review of preflight responsibilities as applicable to specific aircraft. The following are examples:
 - checking jump seat restraint system, retraction, and emergency oxygen source
 - locating and inspecting all assigned emergency equipment including switches and controls
 - locating and ensuring that safety information and exit seating cards are applicable to make, model, type, and series of aircraft
 - > preparing demo equipment and safety briefing information videotape
 - > ensuring that cockpit keys are secured per company policy
- (iv) *Passenger Boarding Duties and Procedures:* Ensure adherence to all regulatory and company requirements as applicable to specific aircraft. The following are examples:
 - A. ensuring that a minimum number of required C/A's are at the assigned boarding station
 - B. implementing security procedures
 - C. monitoring passenger boarding and seating
 - D. making required announcements
 - E. assessing passengers to identify possible helpers
 - F. identifying and handling any unruly passengers
 - G. screening carryon baggage
 - H. screening exit seat occupants
 - I. ensuring that infant and child restraint devices are approved for use on aircraft and secured properly
 - J. conducting an individual briefing of any person who may need the assistance of another person to move expeditiously to an exit in the event of an emergency
- (v) Prior to Movement on the Surface Duties and Procedures:
 - A. checking for stowaways.
 - B. verifying the following:
 - that exit seat and carryon baggage requirements as applicable to specific aircraft are met
 - ▶ that all stowage compartments are secured properly
 - > that no carryon baggage, cargo, or trash is in unauthorized receptacles
 - that galley and service equipment is stowed and secured
 - ➤ that galley doors, curtains, and dividers are secured open
 - that galleys and lavatories are unoccupied
 - the proper operation of the doors and airstairs including latching and arming prior to movement on the surface

(vi) *Prior to Takeoff Duties and Procedures:* Description of prior to takeoff duties and procedures as applicable to specific aircraft. The following are examples:

- A. taking demo positions.
- B. making required safety briefing announcement and demonstration or safety briefing videotape.
- C. individually briefing passengers in seats with restricted view of C/A demonstration or screen.
- D. making passenger and cabin safety inspection to verify the following:
 - ➢ no smoking
 - seat belts fastened
 - > infants held properly or secured in approved infant seat



- ➤ seatbacks and tray tables in fully upright position
- all carryon baggage, including infant restraint devices, properly secured coordinating with cockpit regarding the security of the cabin for takeoff.
- E. coordinating with cockpit regarding the security of the cabin for takeoff.
 (vii) *In-Flight Duties and Procedures:* Description of performance of routine inflight assignments, duties, and procedures as applicable to specific aircraft. The following are examples:
 - A. following sterile cockpit procedures
 - B. stowing the restraint system upon leaving C/A seat
 - C. implementing appropriate procedures for the handling of any emergency or abnormal situations including turbulence
 - D. restraining each item of galley equipment and each serving cart when not in use
 - E. implementing safe lift and lower lobe galley procedures
- (viii) *Prior to Landing Duties and Procedures:* Description of duties and procedures as applicable to specific aircraft. The following are examples:
 - A. reporting cabin discrepancies to cockpit.
 - B. following sterile cockpit procedures except for safety related communication.
 - C. making passenger and cabin safety inspection to verify the following:
 - \succ no smoking
 - seat belts fastened
 - > infants held properly or secured in approved infant restraint devices
 - seatbacks and tray tables in fully upright position
 - all carryon baggage including infant restraint devices and loose objects stowed and secured properly
 - > all stowage compartments secured properly
 - > no carryon baggage, cargo, or trash in unauthorized receptacles
 - D. stowing and securing galley and service equipment.
 - E. securing galley doors, curtains, and dividers in open position, lifts in down position.
- (ix) Movement on the Surface and Arrival Duties and Procedures: Description of movement on the surface and arrival duties and responsibilities as applicable to specific aircraft. The following are examples:
 - A. the use of the PA to inform passengers to remain seated with seat belt fastened until arrival at gate
 - B. disarming the girt bar manually or automatically after jetway or stairs are positioned at aircraft
 - C. verifying girt bar disengagement
 - D. opening doors and airstairs
 - E. verifying doors and airstairs opened properly and securely latched
- (x) After Arrival Duties and Procedures:
 - A. ensuring minimum number of required C/A's at assigned arrival station.
 - B. reviewing deplaning responsibilities as applicable to specific aircraft. The following are examples:
 - implementing security procedures
 - ensuring that C/A's are uniformly distributed throughout cabin in accordance with the LARs and company policy
 - monitoring passenger deplaning to ensure adherence to all regulatory and company requirements
 - ensuring that all cabin electrical equipment is turned off
 - inspecting unique areas of the cabin and galley to ensure safety precautions specific to that aircraft
- (xi) Intermediate Stops:



- A. determining minimum number of C/A's required to remain on board at intermediate stops when passengers remain on board the aircraft
- B. ensuring that C/A's are positioned at designated stations
- C. implementing procedures to ensure passenger safety during fueling and defueling including procedures for emergency evacuation while parked at gate or ramp
- (g) Passenger Handling Responsibilities.
 - (i) *Crewmember General Responsibilities:* Description of crewmember duties and procedures for the handling of passengers applicable to the specific type of aircraft and operation.
 - (ii) *Infants, Children, and Unaccompanied Minors:* Specific procedures as applicable to specific aircraft. The following are examples:
 - A. designation of seating locations
 - B. designation of additional oxygen masks and infant and child life vest locations
 - C. designation of infant and child operator and bassinet seat locations
 - D. description of reporting requirements
 - (iii) *Passengers Needing Special Assistance:* Procedures as applicable to specific aircraft such as the following:
 - A. procedures for the handling of onboard wheelchairs and special aircraft accommodations, such as accessible lavatories and moveable armrests
 - B. procedures for the carriage of stretchers and incubators
 - C. method and procedures for the carriage of a passenger requiring oxygen for personal use
 - D. description of recommended alternate locations for administering medical assistance
 - E. description of escape paths and methods for the evacuation of passengers with physical limitations
 - (iv) *Passengers Needing Special Accommodation:* Procedures as applicable to specific aircraft for the following:
 - A. armed passengers
 - B. escorts
 - C. prisoners
 - D. couriers
 - E. VIP's
 - F. deportees
 - G. runaways
 - H. persons traveling without visas
 - I. other designated unescorted individuals
 - (v) *Carry On Stowage Requirements:* Procedures as applicable for specific aircraft, such as the following:
 - A. location requirements for oversized items in the cabin
 - B. designated areas for the carriage of pets and pet containers
 - C. designated areas for the stowage of passenger assistance aids, such as wheelchairs, canes, and crutches
 - (vi) *Passenger Seating Requirements*. Procedures as applicable to specific aircraft, such as the following:
 - A. location of exit seats
 - B. location of seats for accommodating passengers who are unable to sit erect for a medical reason
 - C. designated areas for passengers with trained assist animals
 - (vii) *Smoking and No Smoking Requirements:* Procedures as applicable to specific aircraft, such as the location of no smoking areas and smoking areas, as applicable.

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4. AIRCRAFT SPECIFIC EMERGENCY SUBJECTS TRAINING MODULES.

Modules for aircraft specific emergency training consist of instruction in the location, function, and operation of emergency equipment; crewmember emergency assignments and procedures, including crew coordination and communication; the handling of emergency or other unusual situations; and emergency drills that are specific to the aircraft the crewmember is qualifying for in the operator's fleet.

(1) *Definition of Aircraft Specific Emergency Training Area.* The aircraft specific emergency equipment and the aircraft specific emergency training drills should be taught under the Aircraft Specific Emergency Training Subject area if not previously taught under the General Emergency Training Curriculum Segment. For example, if all aircraft in an operator's fleet are equipped with the same type of halon fire extinguisher, this fire extinguisher would be taught as "general" to all aircraft in the C/A General Emergency Training Curriculum Segment. If, however, the specific aircraft in the operator's fleet is equipped with various types of halon fire extinguishers, each fire extinguisher would be taught as "aircraft specific" in the C/A Aircraft Ground Training Curriculum Segment. (2) *Minimum Requirements.* Aircraft specific training must include training in at least the following, with respect to each airplane make, model, type, series, and configuration; each required crewmember; and each kind of operation conducted:

- (a) instruction in emergency assignments and procedures, including coordination among crewmembers
- (b) instruction in the location, function, and operation of emergency equipment
- (c) instruction in the handling of emergency situations
- (d) review of previous aircraft accidents and incidents
- (e) required emergency drills

Aircraft specific emergency training modules may also include any additional information pertinent to the aircraft equipment and furnishings C/A's need to be familiar with in order to perform assigned duties.

Aircraft specific emergency training modules may also include instruction on procedures for an emergency situation that is specific to the aircraft on which training is being conducted.

(3) *Training Module Content.* The following are examples of training modules for the aircraft specific emergency training. These examples of training modules encompass different types of operations and may not be applicable to a specific operator's type of operation. It should be noted that there are elements and events contained in these training modules that are not specified in the LARs, but are intended to provide POI's with further examples of material that may be included in training modules. These are examples and are not intended to indicate the sole acceptable method, sequence of instructional delivery, subject titles, or amount of detail.

- (a) Emergency Equipment. The emergency equipment modules should be accomplished only if they have not been accomplished previously under the General Emergency Training Curriculum Segment. Only the training modules that are unique to the aircraft and type of operation need to be accomplished. Detailed elements pertaining to each of the Emergency Equipment Training Modules are located in the General Emergency Training Emergency Equipment Training in section 4.
 - (i) *Aircraft Exits:* Location and description of emergency operation of exit including emergency escape system and backup procedures.
 - (ii) Exits with Slides or Sliderafts Emergency Operation:
 - A. procedures for arming exit in emergency mode including the following:
 ➢ ensuring that door is fully closed and locked



- checking to see that threshold is free of debris
- > arming door either manually or automatically
- > verifying girt bar engagement
- B. procedures for opening exit in emergency mode including the following:
 - assessing conditions prior to opening exit
 - assuming correct body protective position for door opening
 - operating door controls correctly
 - ensuring that door is in open and in locked position
 - using manual slide inflation system to accomplish or ensure slide or slideraft deployment and inflation
 - assessing condition of and stabilizing slide or slideraft
 - using slide as hand held escape device (if applicable)
 - operating exit under adverse conditions including impact of wind, weather, and fire on slide
 - passing expeditiously through exit
 - > assessing and following a safe path away from exit
- (iii) Slides and Sliderafts in a Ditching:
 - A. identification of exits and slides or sliderafts usable in ditching
 - B. deactivation of unusable slides or sliderafts
 - C. deployment, inflation, and detachment of slides or sliderafts from aircraft
 - D. overwing evacuation procedures including slide or slideraft operation
 - E. movement of slides or sliderafts from door to door; use of door mounted slides as raft boarding platforms
 - F. use of door mounted slides as flotation devices; boarding techniques
 - G. detachment of mooring line from aircraft
- (iv) *Exits without Slides—Emergency Operation:* Procedures for opening exit including the following:
 - A. assessing conditions before opening
 - B. assuming correct body protective position for door opening, operating door controls correctly
 - C. securing exit in open and locked position
 - D. using emergency airstair system to lower stairs (as applicable)
 - E. operating exit under adverse conditions
 - F. passing expeditiously through exit
 - G. assessing and following a safe path away from exit
- (v) *Window Exits—Emergency Operation:* Procedures for opening exit including the following:
 - A. assessing conditions prior to opening
 - B. using tactile indicators to locate window exit
 - C. assuming correct body protective position for window opening
 - D. operating window controls correctly
 - E. positioning window to preclude evacuation obstruction
 - F. using escape ropes
 - G. operating exit under adverse conditions
 - H. passing expeditiously through exit
 - I. assessing and following a safe path away from exit
- (vi) Exits with Tailcones—Emergency Operation:
 - A. procedures for arming exit in emergency mode, if applicable.
 - B. procedures for opening exit including the following:
 - assessing conditions prior to opening
 - removing emergency handle protective device (as applicable)



- assuming correct body protective position for door opening
- > operating door controls and emergency handle correctly
- ensuring that door is in an open and locked position or positioning hatch to preclude evacuation obstruction, if applicable
- walking on catwalk
- locating and using jettison handle to accomplish tailcone jettison or as backup procedure
- ▶ using manual slide inflation system to ensure slide deployment and inflation
- > assessing condition of and stabilizing slide
- operating exit under adverse conditions including impact of wind, weather, and fire on slide
- > assuming correct body protective position on assist platform
- passing expeditiously through exit
- > assessing and following a safe path away from exit
- (vii) *Cockpit Exits—Emergency Operation:* Procedures for opening exit including the following:
 - A. assessing conditions prior to opening
 - B. assuming correct body position for exit opening
 - C. operating exit controls correctly
 - D. using escape ropes and inertial escape reels
 - E. exit operation under adverse conditions
 - F. passing expeditiously through exit
 - G. assessing and following a safe path away from exit
- (viii) *Ground Evacuation and Ditching Equipment:* Description of the operation, function, preflight, removal (as applicable), and operation of the evacuation equipment including slide or sliderafts; aircraft emergency landing attitudes.
- (ix) *First Aid Equipment:* Review of the location and number; description of the function, preflight, removal, and operation of the first aid equipment, emergency medical kit, and first aid kit.
- (x) Portable Oxygen Systems (Oxygen Bottles, Chemical Oxygen Generators, Protective Breathing Equipment (PBE)):
 - A. review of the location and number
 - B. description of the function
 - C. preflight, removal, and operation of the oxygen systems
- (xi) *Firefighting Equipment:* Review of the location and number; description of the function, preflight, removal (as applicable), and operation of the firefighting equipment.
- (xii) Communications—Emergency Notification Systems: Description, location, function, and operation of evacuation alerting devices, smoke or fire detection warning systems, decompression alerting devices including controls and indicators; system inoperative procedures; system resetting procedures.
- (xiii) *Emergency Lighting Systems:* Description, location, function, and operation of emergency lighting including the following:
 - A. exit signs and arrows
 - B. floor proximity escape path
 - C. cabin lighting
 - D. exterior lighting
 - E. switches and testing procedures
- (ix) *Additional Emergency Equipment:* As applicable, the description of the location, function, preflight, removal, and operation of any additional unique emergency equipment, such as cargo barrier nets, smoke barriers, firefighting extension wands.

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- (b) Emergency Assignments and Procedures. The following Emergency Assignments and Procedures Training Module should be accomplished in conjunction with the Emergency Situation Training Modules and Elements outlined in the General Emergency Training Curriculum Segment in section 4. Only the training modules that are unique to the aircraft and type of operation need to be accomplished. For detailed elements pertaining to each of the Emergency Assignments and Procedures Training Modules, refer to the General Emergency Training Curriculum Segment—Emergency Situation Training Modules in section 4.
 - (i) *General:* Types of emergencies specific to aircraft including the following:
 - A. standardization of procedures among crewmembers
 - B. crew coordination and communication
 - C. utilization and implementation of emergency equipment and emergency assignments that are appropriate to the specific
 - (ii) *Emergency Communication Signals and Procedures:*
 - A. review of location, function, and operation of emergency communication systems on specific aircraft.
 - B. description of specific cockpit including cabin chime and inter phone signals for emergency situations including the following:
 - flight crewmember notification of emergency situation
 - flight crewmember notification of attempted hijacking
 - > flight crewmember notification that an evacuation is being initiated
 - > flight crewmember signal to evacuate or not to evacuate
 - (iii) *Rapid Decompression:* Crewmembers' emergency duties, procedures, and commands for rapid decompression.
 - (iv) Insidious Decompression and Cracked Window and Pressure Seal Leaks: Crewmembers' emergency duties, procedures, and commands for insidious decompression and cracked window and pressure seal leaks.
 - (v) *Fires:* Crewmembers' emergency duties, procedures, and commands for the extinguishing of cabin fires.
 - (vi) Ditching: Crewmembers' specific emergency assignments, procedures, and commands for an unanticipated water landing (prior to impact and after impact) and anticipated ditching (prior to impact and after impact).
 - (vii) *Ground Evacuation:* Crewmembers' specific emergency assignments, procedures, and commands for an unanticipated ground evacuation (prior to impact and after impact) and anticipated ground evacuation (prior to impact and after impact).
 - (viii) *Unwarranted Evacuation:* Crewmembers' duties, procedures, and commands for an unwarranted evacuation; for example, a passenger initiated evacuation due to torching on a B727.
 - (ix) *Illness or Injury:* Crewmembers' duties, procedures, and commands for the handling of passenger illness or injury.
 - (x) *Abnormal Situations Involving Passengers or Crewmembers:* Crewmembers' duties, procedures, and commands for abnormal situations involving the following:
 - A. passenger abuse of C/A's
 - B. passengers who appear to be under the influence of intoxicating substances
 - C. passengers who may jeopardize aircraft or passenger safety
 - (xi) *Hijacking:* Crewmembers' duties, procedures, and commands for the handling of a hijacking (this may be part of the Security Training Curriculum).
 - (xii) *Bomb Threat:* Crewmembers' duties, procedures, and commands for the handling of a bomb threat (this may be part of the Security Training Curriculum).

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- (xiii) *Turbulence:* Crewmembers' duties, procedures, and commands for severe turbulence (anticipated or unanticipated) and mild to moderate turbulence (anticipated or unanticipated).
- (xiv) *Other Unusual Situations:* Description of crewmembers' duties, procedures, and commands for other unusual situations.
- (xv) *Previous Aircraft Accidents and Incidents:* Description of previous aircraft accidents and incidents.
- (c) <u>Aircraft Specific Emergency Drills</u>. The following Aircraft Specific Emergency Drills Training Modules should be accomplished only if they have not been accomplished previously under the General Emergency Training Curriculum Segment. Aircraft Specific Emergency Drills Training Modules should be accomplished in conjunction with the Emergency Drills Training outlined in the General Emergency Training Curriculum Segment. For detailed elements pertaining to each of the Emergency Equipment Training Modules, refer to the General Emergency Training Curriculum Segment—Emergency Drills Training Modules in section 4.
 - (i) *Emergency Exit Drill:* During an emergency exit drill, each student must operate every type of emergency exit in the normal and emergency modes, including the actions and forces required for deployment of the emergency evacuation slides.
 - (ii) *Hand Fire Extinguisher Drill:* During a hand fire extinguisher drill, each student must operate every type of installed hand fire extinguisher.
 - (iii) *Emergency Oxygen System Drill:* During an emergency oxygen system drill, each student must operate every type of emergency oxygen system, including PBE.
 - (iv) *Flotation Device Drill:* During a flotation device drill, each student must put on, use, and inflate (as applicable) one type of individual flotation device.
 - (v) Ditching Drill (if applicable): During a ditching drill, each student must perform the "prior to impact" and "after impact" procedures for a ditching, as appropriate to the operator's specific type of operation.
 - (vi) *Liferaft Removal and Inflation Drill (if applicable):* During a liferaft removal and inflation drill, each student must observe the removal of a liferaft from the aircraft or training device, as well as the inflation of a liferaft.
 - (vii) *Slideraft Pack Transfer Drill (if applicable):* During a slideraft transfer drill, each student must observe the transfer of each type of slideraft pack from an unusable door to a usable door.
 - (viii) *Slide or Slideraft Deployment, Inflation, and Detachment Drill (if applicable):* During a slide or slideraft deployment, inflation, and detachment drill, students must observe the deployment, inflation, and detachment of the slide or slideraft pack from the aircraft or training device.
 - (ix) *Emergency Evacuation Slide Drill (if applicable):* During an emergency evacuation slide drill, students must observe the deployment and inflation of an evacuation slide, including participants egressing from the cabin or approved training device via the evacuation slide.

5. ADAPTATION OF FLIGHT ATTENDANT AIRCRAFT GROUND TRAINING CURRICULUM SEGMENT TO THE VARIOUS CATEGORIES OF TRAINING.

The C/A Aircraft Ground Training curriculum segment is required for the following categories of training: initial new hire, transition, recurrent and requalification. Differences training for all variations of a particular type airplane may be included in the C/A Aircraft Ground Training curriculum segment for initial, transition, and recurrent training for the airplane. Differences training is required when the Minister finds that the variant make, model, or series airplane varies so much that training on the differences is necessary. An example of this could be when the cabin doors on

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different airplanes operate in the same manner but are located in significantly different places on the airplane. The appropriate differences training would emphasize this variance in location. When differences training is required, the programmed hours should be specified.

6. CURRICULUM SEGMENT COMPLETION REQUIREMENTS.

Completion of the C/A Aircraft Ground Training Curriculum Segment must be certified by an instructor or supervisor indicating that the trainee has successfully completed the course. This certification is usually based on the satisfactory evaluation of a trainee's performance. With some training methods, such as CBI, the certification may be based on the trainee's progress checks, which are administered during the course.

7. EVALUATION OF TRAINING HOURS.

(1) *LARs Part VII, Subpart 5.* LARs 705.142 specifies 8 programmed hours of instruction for initial aircraft ground training for Group I airplanes, including reciprocating powered airplanes and turbo propeller powered airplanes. LARs 705.142 specifies 16 programmed hours of instruction for initial aircraft ground training for Group II airplanes. When approving the C/A Aircraft Ground Training Curriculum Segment, the POI should consider the following:

- (a) the complexity of the type of operation to be conducted and the complexity of the aircraft to be used should be reviewed.
- (b) training for a complex type of operation may require that the published training hours be exceeded, while there may be an acceptable reduction in training hours for a less complex type of operation.
- (c) training modules with corresponding elements and events that have been satisfactorily completed in previous aircraft training may not need to be repeated.

8. EVALUATION OF FLIGHT ATTENDANT AIRCRAFT GROUND TRAINING CURRICULUM SEGMENT OUTLINE FOR INITIAL APPROVAL.

When evaluating an Aircraft Ground Training Curriculum Segment Outline for initial approval, POI's should determine whether the training modules contain the information required for C/A's to perform all routine and emergency duties and procedures for a specific aircraft without supervision.



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APPENDIX II

to Commercial Air Services Standards

Subpart 5 – Airline Operations

Operational Approval of Windshear Training Programs

1. PURPOSE.

This Standard provides guidance for approval of low-altitude windshear training for operations under the Lebanese Aviation Regulations (LARs), Part VII. This Standard is issued as a Standard for compliance with the regulations. An applicant may elect to follow an alternate method, provided that alternate method is found acceptable by the Directorate General of Civil Aviation (DGCA).

2. DEFINITIONS.

The following definitions apply for purposes of this Standard only:

- (a) <u>Turbine-Powered Airplanes</u>. The definition includes turbo fan, turbojet, prop fan, and ultrahigh-bypass fan-powered airplanes; but, specifically excludes turbopropeller-powered airplanes equipped with variable pitch, constant speed propellers.
- (b) <u>Windshear Escape Maneuver</u>. A pilot recovery technique used when an inadvertent windshear encounter is experienced. It is achieved by pitching toward an initial target attitude while using necessary thrust to effect escape. The objective of the recovery technique is to keep the airplane flying as long as possible in hope of exiting the windshear. The maneuver is an operational technique to be used to escape from an encounter with windshear. It was specifically developed to be effective, simple, and easily remembered by the crewmembers. The maneuver should also have general applicability.

3. APPLICABILITY.

This Standard is applicable to operators subject to the training and qualification requirements of Part VII of the LARs.

4. RELATED MATERIALS.

A two-volume Windshear Training Aid publication, which includes an "Example Windshear Training Program," may be purchased from the U.S. National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia, 22161, USA, telephone (703) 487-4650. Volume I's order number is PB88127196, and Volume II's is PB88127204. A multimedia package is also available. Ask for "The Windshear Training Package," order number AVA19756KKOO.

5. BACKGROUND.

(1) United States National Transportation Safety Board investigations have shown that low-altitude windshear has been a prime cause of air carrier accidents.

(2) In 1985, the FAA contracted with a consortium of aviation specialists from The Boeing Company, United Airlines, McDonnell Douglas, Lockheed-California, Aviation Weather Associates, and Helliwell, Inc., to produce a windshear training aid to enhance a pilot's understanding of windshear.

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The resulting Windshear Training Aid consists of documents, slides, a compact disc, and video tapes designed to present effective training for flightcrews in order to minimize the windshear threat. (3) The consortium of aviation specialists who developed this uniform, industry-wide Windshear

Training Aid focused on the cause and effect of windshear and developed instructions for windshear identification, avoidance, and recovery. This information provides any operator with the necessary data to create or update its own windshear training program.

(4) There is a clear and independent need for effective windshear training. For this reason, windshear training requirements were established in LARs Part VII, Sections 705.132(5), 705.140(1)(b)(vi)(B), 705.143(a)(ii), 705.144(1), 705.147(4) and 705.156(5).

6. APPROVAL PROCESS.

(1) Overall approval for a windshear training program will rest with the DGCA. Certificate holders can use the "Example Windshear Training Program" section of the Windshear Training Aid. It is an example of a typical windshear training program. The checklists in the appendices can be used as a guide for training program approval.

(2) Operators of those aircraft that were not included in the original Windshear Training Aid are encouraged to develop their windshear training programs to reflect necessary aircraft specific differences. Windshear training programs that include recovery techniques different from those presented in the Windshear Training Aid are acceptable as long as they are based on reliable engineering data. This data will normally be supplied by an aircraft manufacturer or other sources considered reliable by the DGCA.

7. GROUND TRAINING PROGRAM.

- (1) General Training Objectives.
 - (a) reduce windshear related accidents and incidents through flight crewmember education; and(b) stress the importance of windshear avoidance to flightcrews.
- (2) Specific Training Objectives. Provide pilots with the knowledge needed to:
 - (a) identify the actual or potential presence of windshear from a variety of information sources and cues.
 - (b) adhere to a policy of avoiding, whenever possible, encounters with windshear.
 - (c) adhere to a policy that when executing a missed approach or go-around in weather conditions conducive to windshear, that the missed approach or go-around be conducted in an aggressive manner, and the flightcrew is ready to accomplish windshear escape procedures should an ensuing windshear be encountered.
 - (d) use operating procedures and techniques designed to enhance the possibility of surviving an inadvertent encounter with windshear during takeoff, approach, or landing.
 - (e) identify unique stall characteristics and windshear recovery techniques that are specific to the aircraft type. Special attention should be given to low airspeed lateral control characteristics, loss of climb capability, unique windshear characteristics, windshear flight guidance system limitations, etc.

Information Note: See the Windshear Training Aid for an example of an acceptable ground training curriculum.

8. FLIGHT SIMULATOR TRAINING.

(1) Flight Simulator Training is required for Part VII, Subpart 5 operators of turbine-powered airplanes and is recommended for Subpart 4 operators. It primarily addresses the second major goal of windshear pilot training--windshear recovery techniques. Training and practice will be provided in

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critical pilot functions, which include operational precautions, use of standard operating techniques (to improve cockpit recognition of a windshear encounter), and the recommended recovery techniques for inadvertent windshear encounters. The following applies:

- (a) <u>Flight Simulator Training Objectives</u>. The training objectives of the simulator training program will be to provide pilots with the necessary experience and skills to:
 - (i) recognize onset of a severe windshear encounter using available flight instrumentation.
 - (ii) coordinate cockpit activities to improve the pilot's ability to recognize and take the appropriate actions to recover from an inadvertent windshear encounter.
 - (iii) make proper use of pitch, power, and airplane configuration to recover from an inadvertent windshear encounter.
- (b) <u>Simulator Equipment</u>.
 - (i) flight simulators used for windshear training will be specifically qualified for that purpose by the appropriate Authority. Only then can the simulator be approved by the DGCA for use in a windshear training curriculum.
 - (ii) the simulator used for windshear training will be equipped with windshear avionics operationally equivalent to that which is in the type of aircraft the pilot will fly. Such equipment may be actual aircraft-type hardware, or a simulation thereof, which presents to the pilot an accurate replication of displays and aural warnings.
- (c) <u>Training Plan</u>.
 - (i) an operator's training plan will define the windshear avionics equipment in its flight simulators. All pilots, who operate aircraft in Part VII, Subpart 5 operations, must receive flight simulator training on windshear techniques and procedures.
 - (ii) training must ensure that pilots know how to operate the windshear avionics equipment.
 - (iii) all flight simulators used by the operator for windshear training will be equipped with windshear equipment that is operationally equivalent to that which is in the aircraft the pilot will fly.
 - (iv) flight training, for the purpose of compliance, is considered complete when all the basic windshear escape maneuvers have been trained in the simulator.
- (d) Flight Simulator Curriculum.
 - (i) pilots should be thoroughly familiar with the material contained in the ground training program prior to flight simulator windshear training.
 - (ii) a flight simulator training program (other than recurrent) should include at least one encounter in each of the following three phases of flight. Recurrent training should include at least one of the following on a rotating basis during successive training periods:
 - A. takeoff prior to Vr.
 - B. takeoff after Vr.
 - C. on approach.
 - (iii) the pilot will be trained in the proper windshear recognition criteria and crew coordination and the correct use of pitch, power, and airplane configuration to control flightpath.
 - (iv) the training scenarios should have windshear encounters of sufficient severity to allow the pilot an opportunity to develop windshear recognition skills as well as recovery procedures. In addition to windshear training scenarios containing environmental conditions conducive to windshear such as turbulence, heavy precipitation, rapidly changing airspeed, etc., windshear training scenarios will also be offered in which no turbulence or rapid airspeed changes are presented. Actual windshear events have occurred where turbulence was absent.

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- (v) predictive windshear flight simulator training is needed for pilots who operate aircraft equipped with predictive windshear detection. Currently, predictive windshear avionics are unique in that no flight command guidance is provided. Some, but not all, predictive windshear avionics should be installed in simulators used in predictive windshear training programs. The total predictive windshear avionics package need not be installed in the simulator; however, simulators used in predictive windshear training programs must be qualified for that purpose by the appropriate Authority and have predictive windshear alerting systems installed (aural and visual caution alerts). Flight simulator training will be conducted using generic windshear escape procedures identified in **paragraph 9(d)(2)(a, b, and c)**.
- (vi) if more than one type of windshear equipment is installed on the aircraft fleet that a pilot will fly, the training program will include specific training on each type of windshear equipment. This will be in the form of flight simulator training for, at least, one type of windshear equipment, and ""differences" training (videos, classroom lecture, etc.) on the other types of installed windshear equipment.



ATTACHMENT 1

CHECKLIST (PART VII OPERATORS)

1. Does the certificate holder operate turbine-powered airplanes?

2. Does the certificate holder perform its windshear FLIGHT training requirements in a qualified flight simulator?

3. Does the certificate holder include the windshear FLIGHT training program in each of the flight crewmember FLIGHT training programs listed below?

- (a) initial, transition, and upgrade flight training.
- (b) recurrent flight training.
- (c) differences training (if appropriate).

4. Does the certificate holder perform its windshear flight training requirements in an approved flight simulator for each airplane type the holder operates?

5. Does the initial, transition, and upgrade GROUND training for pilots and flight engineers include procedures listed below?

- (a) procedures for recognizing and avoiding severe weather situations.
- (b) procedures for escaping from severe weather situations in case of an inadvertent encounter, including low altitude windshear.

6. Is windshear flight training (in an approved simulator) conducted during both recurrent training periods and proficiency checks?



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APPENDIX III

to Commercial Air Services Standards

Subpart 5 – Airline Operations

<u>Line Operational Simulations Line Oriented Flight Training, Special Purpose Operational</u> <u>Training, Line Operational Evaluation</u>

1. PURPOSE.

This Standard presents the procedures for the design and implementation of Line Operational Simulations, including Line Oriented Flight Training (LOFT), Special Purpose Operational Training, and Line Operational Flight Evaluation.

2. BACKGROUND.

(1) Training which uses flight simulators and flight training devices is an important element for ensuring the qualification of flight crewmembers, both as individuals and as part of a crew. In the mid-1970s, the concept of LOFT was introduced by Authorities as a form of simulator training for a complete crew. In 1980, certain Authorities allowed LOFT under an Advanced Simulation Plan as a means to provide most or all flight crewmember training in flight simulators.

(2) Since the early 1980s, as the technology of flight simulators and flight training devices advanced, the number of training applications has increased. These training applications are now grouped under the general term of Line Operational Simulations. The increase in the number of individual training applications requires clarification of applicable procedures. These procedures are presented in this Standard and cover the following:

- (a) details on implementing LOFT for a complete crew under both recurrent training programs and Advanced Simulation Plans;
- (b) procedures for implementing other types of Line Operational Simulations (for purposes other than those in (a) above). These include: Special Purpose Operational Training (such as training in cockpit resource management skills; differences training) and Line Operational Flight Evaluation (that is, LOFT-like training which includes an evaluation component).



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DIVISION 1. INTRODUCTION

(1) The use of flight training devices and flight simulators has become increasingly important in training flight crewmembers. As the level of sophistication in simulators increased, air carriers have come to rely on simulators for part or all of their flight training programs. Since the mid-1970s, some FAR Part 121 operators have implemented alternative simulator training, which is now known as LOFT, to train crewmembers. LOFT is training in a simulator with a complete crew using representative flight segments which contain normal, abnormal, and emergency procedures that may be expected in line operations. LARS Part VII, Section 705.132(2) delineates the requirements of LOFT. In 2000, LARS Part VII, Appendix V, provided guidance for the use of LOFT in recurrent training programs and set forth guidelines for its design and implementation. This type of LOFT is now termed "Recurrent LOFT." In 2000, the DGCA published the Advanced Simulation Plan in LARS Part VII, Appendix V mandates LOFT to facilitate flight crewmember flight training in flight simulators. Appendix V mandates LOFT to facilitate flight crewmember transition from training in advanced simulators to operational flying. This type of LOFT is now termed "Qualification LOFT."

(2) LOFT is a useful training method because it gives crewmembers the opportunity to practice line operations (such as maneuvers, operating skills, systems operations, and the operator's procedures) with a full crew in a realistic environment. Crewmembers learn to handle a variety of scripted real-time scenarios which include routine, abnormal, and emergency situations. They also learn and practice cockpit resource management skills, including crew coordination, judgment, decisionmaking, and communication skills. The overall objective of LOFT is to improve total flight crew performance, thereby preventing incidents and accidents during operational flying. New issues that are related to the requirements of LARS Part VII, Section 705.132, Part VII, Appendix V, and expanding opportunities for the use of LOFT or other Line Operational Simulations will emerge. Issues which require future updating of applicable procedures are:

- (a) <u>Requirements of LARS Part VII, Section 705.132</u>. LARS Part VII, Section 705.132(2) delineates the requirements of Recurrent LOFT. LARS Part VII, Section 705.132(2) requires a complete crew to be utilized in Recurrent LOFT, but does not provide detail on what constitutes a complete crew. The procedures provided in this Standard recognizes a complete crew as one which is Line Qualified. (See definitions in Chapter 2.)
- (b) <u>Requirements of LARS Part VII, Appendix V</u>. LARS Part VII, Appendix V, contains procedures for operators who choose to provide flight crewmember training under an Advanced Simulation Plan. While Appendix V provides a detailed description for implementing training, the specific LOFT components are not clearly described. This Standard presents guidelines for implementing Qualification LOFT as required under Appendix V or as may be used within any other approved training program. This Standard discusses how Qualification LOFT is designed to help flight crewmembers transition from a training environment to operational flying.
- (c) <u>Special Purpose Operational Training</u>. New training concepts and training media have identified a need for other types of training in operational simulations called Special Purpose Operational Training. This type of operational simulation includes the concepts listed below. In addition, other types of Special Purpose Operational Training may evolve over time.
 - (i) both the DGCA and industry have recognized the importance of Cockpit Resource Management (CRM) in crewmember training. CRM training addresses human factors (such as leadership, communication skills, time management, situational awareness, and attitudes in flight operations). Training to improve performance in these areas has been identified as a factor in reducing the number of airline accidents and incidents. CRM training is designed for a complete crew environment. Application of CRM skills appears to be an integral part of safe and successful line operations. This

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Standard addresses the relationship of CRM to Special Purpose Operational Training, as well as to LOFT.

- (ii) the LARs do not presently address the use of Special Purpose Operational Training for Differences Training. This Standard presents guidelines in conducting Special Purpose Operational Training for Differences Training.
- (d) <u>Line Operational Evaluation</u>. Advanced Qualification Program (AQP) (TBD) is a voluntary training and evaluation program as an alternative to meeting the training and qualification requirements of LARS Part VII, Divisions VIII and IX. AQP allows greater flexibility in designing training programs that reflect recent advancements in aircraft technology as well as the development of new training and evaluation techniques. Requirements of an AQP include training and evaluation in operationally accurate flight simulations using realistic line oriented scenarios. Evaluation is a necessary element of this process to provide initial and subsequent assessments of flight crew and individual flight crewmember competency. Simulations using realistic, line oriented scenarios as a training and evaluation in AQP is distinct from LOFT as a training vehicle because, unlike LOFT, the proposed simulations will now involve evaluation. Therefore, the term "Line Operational Evaluation" is used to describe operationally oriented simulations that involve evaluation.

Information Note: *Airbus Industrie has a training philosophy that mirrors AQP. It is referred to as Airbus Design and Operational Philosophy for Training (ADOPT).*



DIVISION 2. DEFINITIONS

1. GENERAL.

The following terms are used throughout this Standard and are defined as follows:

- (a) <u>Line Qualified</u>. Describes a flight crewmember or instructor who is current and qualified to conduct actual flight operations in an assigned aircraft and duty position.
- (b) <u>Line Familiar</u>. Describes a flight crewmember or instructor who is familiar with a certificate holder's line operations. This person is either line qualified or otherwise qualified by participation in an approved line observation program. (An acceptable line observation program would include observation from the cockpit jump seat of a line crew on at least two operational flight segments. This will be accomplished twice annually, and the line observation program will be included as a part of the approved training program.)
- (c) <u>Task Familiar</u>. Describes a flight crewmember who is familiar with and can satisfactorily accomplish the duties of a particular cockpit duty position though not qualified for that duty position. For example, a second in command (SIC) candidate who performs the duties of the pilot in command (PIC) during simulator training.
- (d) <u>Qualification LOFT</u>. An approved flight simulator course of LOFT to facilitate transition from training using flight simulation to operational flying. Qualification LOFT meets the requirements of LARS Part VII, Appendix V.
- (e) <u>Recurrent LOFT</u>. An approved flight simulator course of LOFT which may be used to meet recurrent flight training requirements and to substitute for alternate proficiency checks. Recurrent LOFT meets the requirements of LARS Part VII, Section 705.132 as allowed under LARS Part VII, Section 705.164(1).
- (f) <u>Line Operational Evaluation</u>. An evaluation of crewmembers and crews in a flight training device or flight simulator during real-time Line Operational Simulations.
- (g) <u>Special Purpose Operational Training</u>. An approved course of operationally oriented flight training, conducted in a flight simulator or flight training device, which may be used to learn, practice, and accomplish specific training objectives; such as, training in variant aircraft or special aircraft equipment.



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DIVISION 3. BASIC ELEMENTS OF LOFT

1. GENERAL.

Certain elements about LOFT must be understood to ensure that its primary objective, to provide realistic line oriented training, is met. These elements apply to both Recurrent and Qualification LOFT and are described in this Division. (NOTE: Some or all of these elements may also apply to Special Purpose Operational Training and Line Operational Evaluation. See Divisions 5 and 6 for more information on how these concepts apply to these types of Line Operational Simulations.)

2. CREW COMPOSITION AND PARTICIPATION.

LOFT should take place in a line operational environment with a complete crew. A complete crew will always be scheduled and every effort will be made to maintain crew integrity. During LOFT, each crewmember performs both as an individual and as a member of a team, as is expected during line operations.

3. REAL-WORLD SITUATIONS.

LOFT will contain scenarios of real-world, line operational situations, which progress in real time. These scenarios will be representative of flight segments where an entire enroute operation is completed. In cases of flights involving repetitive events, the enroute segments may be compressed. However, enough time will be allotted to allow crewmembers to become sufficiently familiar with the scenario to ensure that if the scenario is compressed, crewmembers will be able to resume or restart the scenario without confusion.

4. NO-JEOPARDY TRAINING.

LOFT is "no-jeopardy" training, that is, the instructor does not issue a passing or failing grade to a participating crewmember. As a LOFT scenario progresses, it is allowed to continue without interruption so crewmembers may learn by experiencing the results of their decisions. Decisions which produce unwanted results do not indicate a training failure, but serve as a learning experience. If the LOFT instructor identifies crewmember performance deficiencies, additional training or instruction will be provided. This training or instruction may be in any form, including additional LOFT. Before the crewmember may return to line operations, the performance deficiencies will be corrected and the instructor will document the training as satisfactorily completed. The "no-jeopardy" concept allows crewmembers to use their full resources and creativity without instructor interference. At the end of a LOFT session and after debriefing, the instructor certifies that the training has been completed.

5. UNINTERRUPTED TRAINING.

LOFT scenarios run full length, with no interruption by the instructor permitted. The effects of crewmember decisions are allowed to accrue and influence the rest of the flight. The concept is that crewmembers will learn more effectively if they are allowed to learn from their experiences, rather than being interrupted and corrected by an instructor. IN RARE CASES, AND ONLY DURING QUALIFICATION LOFT, an instructor may choose to intervene if he determines negative learning is taking place.

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6. FEEDBACK.

LOFT includes feedback to crewmembers on their performance in the scenario. This takes place during the debriefing phase. (See the following Section for further detail on feedback and debriefing.)

7. PHASES OF LOFT.

LOFT scenarios will contain the following phases: briefing, preflight planning documents and activities, flight time, and debriefing. These are described in the following Sections.

- (a) <u>Briefing</u>. Before the flight segment begins, the instructor will brief crewmembers on the LOFT scenario, including the training objectives, and the role of the instructor (that is, the Instructor is considered "not present," except as an Air Traffic Controller (ATC) or as another ground base entity). The role of the flight crew will be discussed in the briefing (that is, flight crewmembers should perform their duties just as they would in line operations). Information about "the environmental setting of the scenario" should also be discussed.
- (b) <u>Preflight Planning Documents and Activities</u>. Preflight planning documents (such as weather reports and flight plans) will be prepared with the operator's particular training objectives in mind. For example, the operator may choose to have crewmembers learn how to handle unfavorable weather conditions or how to correct improper fuel loads. Preflight activities include cockpit setup, computation of takeoff data, etc.
- (c) <u>Flight Segment</u>. The flight segment includes taxiing, takeoff, flying, and landing. It should also include the time in which communication with ATC and other ground agencies takes place.
- (d) <u>Debriefing</u>. Debriefing will include feedback to crewmembers on their performance. Positive comments regarding crew performance should be emphasized in the debriefing as well as crew performance which needs improvement. The debriefing involves instructor critiques of individual crewmembers and of the crew as a team. Also, it is important that crewmembers be given the opportunity to critique and analyze their own performance and review key points of the video
- (e) <u>Record, if Used</u>. (See Sections **21 and 22** for further discussion of critiques, debriefing, and use of video records.)

8. TRAINING HOURS, RECURRENT AND QUALIFICATION LOFT.

Both Recurrent and Qualification LOFT sessions will be based on at least 4 hours of total crewmember training activity, which will include at least 2 1/2 hours of LOFT scenarios. Reasonable amounts of time should be allowed for problem solving (such as consulting minimum equipment lists and operations manuals, preparing takeoff data, as well as other crew actions which are occasioned by the training scenario). For Qualification LOFT, the 4 hours of crewmember training should include cockpit preparation, preflight activities, crew briefings, and interactions with flight dispatch and other ground agencies. For Recurrent LOFT, any additional hours of training, beyond the 2 1/2 hours of LOFT scenarios necessary to comply with LARS Part VII, Section 705.132(2) may, subject to the approval of the DGCA, be utilized for other specific training requirements. All crewmembers participating in a LOFT session are credited with 4 hours of training time.

9. LOFT SCENARIOS.

LOFT scenarios will be constructed with the following guidelines in mind:

(a) <u>Objectives</u>. The operator will assign specific training objectives to each scenario. These training objectives will be based on the particular needs of the operator. For example, if an operator is experiencing an unusual frequency of a specific operational problem, such as wet

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or icy runways, then the scenarios should be designed to include exposure to that particular operational problem. Training objectives may also be identified by the DGCA based upon documented trends. Other specific objectives may include winter operations training, unusual airport or runway operations, alternate operation of automated systems, etc.

- (b) <u>Constructing Scenarios</u>. A variety of scenarios can be constructed by choosing different combinations of elements from the suggested categories listed below. Scenarios will normally be representative of the flight segment appropriate to the operations being conducted by the operator.
 - (i) origin, routing, and destination (such as short vs. long routes).
 - (ii) revised arrival procedures (such as an unexpected runway change).
 - (iii) alternate operation of flight management systems.
 - (iv) abnormal and emergency conditions, including simple conditions (such as a potential hot start) and complex conditions which continue for the entire flight (such as a failed essential AC bus).
 - (v) adverse weather conditions.
 - (vi) partial or full loss of integrated flight management systems.
- (c) <u>Timing</u>. Scenarios will run in real time. This may include inactive time to realistically resemble actual operations.
- (d) <u>Realism</u>. Scenarios will contain realistic circumstances; such as messages from the ATC, or flight attendant interruptions. Operators may use these elements to design full length, real-time scenarios, as well as shorter scenarios which teach specific skills (such as windshear, special navigation equipment, TCAS, etc.). Scenarios will also be developed to observe checklist management procedures, standard callouts, leadership qualities, assertiveness, crew coordination, and communication. Scenarios will be updated periodically to ensure they continue to meet training objectives. Just as crewmembers could not anticipate all flight operational situations, operators will try to prevent crewmembers from anticipating the entire content of the scenarios.

10. APPROVAL OF SCENARIOS.

Scenarios will be approved by the DGCA. When submitting LOFT scenarios for approval, operators will state what training objectives are expected to be attained through completion of the LOFT. Operators may elect to submit specific LOFT scenarios or a description of a system which uses a menu of different flight situations and environmental conditions which can be selected randomly to construct a variety of LOFT scenarios. In any case, scenarios which comply with the elements provided in this Standard and meet the operator's stated training objectives may be approved. Detailed scripts of the scenarios need not be considered for approval. When updated, scenarios will conform to the same guidelines that apply to original approval.

11. LOFT AND CRM.

LOFT scenarios will contain CRM skills, whereby crewmembers utilize and reinforce various CRM concepts. CRM skills will be integrated into each operator's maneuver/procedure learning objectives. In addition, focused CRM training could be provided independently during separate Special Purpose Operational Training. For further information of CRM skills, see Appendix IV to this Standard.

12. CRITIQUE OF CREWMEMBER PERFORMANCE.

Critique of crewmembers will take place during the debriefing by the instructor. Critiques will include positive feedback regarding crew performance. Critiques will include discussion of individual and flight crew performance by the instructor as well as assessment by the crewmembers of their own

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performance. The critique should consider the crewmember's judgment and the crew's interaction with all resources in handling problems. This includes interaction with ATC, company communications, software materials (such as company operations manuals and flight manuals), workload reducing devices (such as autopilot and flight management systems), and other crewmembers.

13. USE OF AUDIOVISUAL EQUIPMENT.

Recorded audiovisual feedback is very useful as a debriefing aid for most types of LOFT because it allows crewmembers to view themselves from a third person perspective. This feedback helps crewmembers to better understand their performance, identify and accept their weak areas, and build upon their strong areas, thereby encouraging positive changes in attitudes and behavior. Recorded audiovisual feedback will be destroyed at completion of the debriefing.

14. ADDITIONAL TRAINING/LOFT COMPLETION.

Decisions which produce unwanted results do not indicate a training failure, but serve as a learning experience which may indicate need for additional instruction or modified training activities. The additional training could be any form, including additional LOFT. In any case, required additional training shall be provided and documented as satisfactorily complete prior to the crewmember's return to line operations. Although additional training for a particular individual may be necessary, each LOFT scenario will be recorded as "complete" at the end of the debriefing stage.

15. BASIC ELEMENTS OF LOFT: SUMMARY.

LOFT is defined by the following basic concepts:

- (a) it takes place in a simulated line operational environment.
- (b) it uses a complete crew with total participation.
- (c) it contains real-world incidents, unfolding in real time.
- (d) it is "no-jeopardy" training.
- (e) it contains scenarios and segments which run uninterrupted.
- (f) it contains scenarios tailored to the operator's learning objectives.
- (g) it incorporates CRM skills.
- (h) it provides critique of individual and crew performance.

16. DGCA PHILOSOPHY REGARDING LOFT.

(1) The DGCA believes that the effectiveness of LOFT is dependent on four important aspects. First, the use of the highest fidelity simulator available. Second, ensuring that only line qualified crewmembers are scheduled to participate in Recurrent LOFT, and that only crewmembers who are in training for a particular duty position or line qualified crewmembers are scheduled to participate in Qualification LOFT. Third, that LOFT scenarios run their full, uninterrupted course. Fourth, that a variety of scenarios, fully compatible with training objectives, are available and periodically updated to ensure that the LOFT experience does not become repetitive or stale.

(2) In keeping with this philosophy the DGCA expects that an operator, who has available a range of flight simulators for a particular model aircraft, will conduct LOFT in the flight simulator with the most fidelity. For example, if the operator has both a Level A and a Level D B-737-300 simulator at its training facility, the DGCA expects the operator will conduct LOFT in the Level D simulator.
(3) The DGCA believes that the training value of LOFT can be seriously diminished when inappropriate crew substitutions are made. Operators will not schedule any person other than "line qualified" crewmembers for Recurrent LOFT. For Qualification LOFT, operators will schedule only

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line qualified crewmembers or those crewmembers who are in training for a particular duty position. In both cases, the DGCA expects operators to make every reasonable effort to meet these scheduling guidelines. When, due to reasons beyond the control of the operator, the need for substitution arises, the substitution tables in this Standard may be used. However, these tables are intended to be used only after the operator has made all reasonable efforts to provide a substitute crewmember of equal status to the person originally scheduled. The DGCA recommends that the operator have an identified pool of cockpit crewmembers available to serve as substitutes in LOFT. This pool might include reserve crewmembers and/or newly qualified crewmembers. (Newly qualified crewmembers could benefit from the additional experience they would receive by serving as substitutes.) In any case, the DGCA expects operators to use the contingency features of the substitution tables only to permit continuation of scheduled training for extraordinary and infrequent situations. (4) The DGCA considers interruption of LOFT scenarios a determent to the learning qualities inherent in LOFT. Arbitrary interruption of LOFT is not acceptable. LOFT scenarios will be allowed to continue to their logical completion. In Oualification LOFT, if the instructor is certain that negative training is occurring, the scenario may be interrupted. The DGCA believes that well thought out and properly developed scenarios will not lead often to situations which require interruption. (5) Proper planning and development of LOFT scenarios are essential to ensure that training objectives are met. This is a critical characteristic of any DGCA approved LOFT program. Training value is diminished when students become familiar with scenarios. Therefore, a variety and a sufficient number of LOFT scenarios are required to guard against crewmembers experiencing repetitious situations. In addition, the DGCA expects operators to regularly update LOFT scenarios, thereby ensuring that crewmembers are exposed to new technology, procedures, and current operational problems.



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DIVISION 4. TYPES OF LOFT

1. GENERAL.

As discussed throughout this Standard, there are two types of LOFT, Recurrent LOFT and Qualification LOFT. Guidelines for designing and conducting these types of LOFT are presented below.

2. RECURRENT LOFT.

Recurrent LOFT is designed to ensure that each crewmember maintains proficiency in the type of aircraft and crewmember duty position involved. (See Sections 705.132, 705.147, 705.156, and 705.164). Recurrent LOFT is intended for flight crewmembers who are presently qualified in a particular make model and series aircraft. Recurrent LOFT is best conducted with a complete line qualified crew. Interruption of Recurrent LOFT is not permitted. Recurrent LOFT may be substituted on an alternate basis for the proficiency check requirements of LARS Part VII, Section 705.164.

3. GUIDELINES FOR RECURRENT LOFT.

Recurrent LOFT will meet the following guidelines:

- (a) <u>No Direct Instruction or Scenario Interruption</u>. Recurrent LOFT does not permit direct instruction and normally does not permit interruption of the scenario by the instructor.
- (b) <u>Crew Composition</u>. Recurrent LOFT requires scheduling of a complete crew which is line qualified.
- (c) <u>Crew Substitutes</u>. The use of substitutes is discouraged and substitution should be rare. When the composition of the scheduled line qualified crew cannot be maintained, the operator may use substitutions based on the guidelines in Table 4-1. However, the operator will attempt first to substitute with another line qualified crewmember. This table will be used only as a last resort to prevent interruption of scheduled training.
Table 4-1. Recurrent LOFT Substitution Table

- KEY: A = Pilot in Command Position
 - B = Second in Command Position
 - C = Flight Engineer (FE) Position

	Α	В	С
1.	Another person of the same status for that position.		
2.	PIC /1/	SIC /1/	FE /1/
3.	Pilot Instructor /2/	PIC /1/	FE Instructor /2/
4.		Pilot Instructor /2/	

- > /1/ Includes those who are either line qualified or in training for the position.
- /2/ May act as a substitute when a line qualified crewmember is not available. The instructor should not have previous knowledge of the scenario; however, when this is unavoidable, the instructor should not use that knowledge to influence or direct the scenario.

Information Note: *The instructor conducting the LOFT session may not act as a substitute crewmember.*

- (d) <u>Number and Type of Segments</u>. A Recurrent LOFT scenario may include one or more flight segments, depending upon the training objectives.
- (e) <u>Training Media</u>. The highest fidelity flight simulator available will be scheduled for Recurrent LOFT. (See U.S. Advisory Circular, AC 120-40, Airplane Simulator Qualification, as amended or equivalent.). Recurrent LOFT may be conducted in a Level A, B, C, or D flight simulator, however, the use of the highest level simulator (Level D) is encouraged and the use of Level A simulators is discouraged.

4. QUALIFICATION LOFT.

Qualification LOFT is designed to prepare crewmembers, who are not yet fully qualified for line operations and whose training has been provided in accordance with an Advanced Simulation Plan, for actual flight operations. Qualification LOFT provides training that facilitates the transition from flight simulator training to operational flying. Scenarios are designed to represent typical flight segments. Qualification LOFT is instructional in nature; therefore, when it is essential to do so, instructors may momentarily interrupt a scenario for instructional purposes. Qualification LOFT is best conducted when the student crewmember, who is not yet fully qualified, is scheduled with a crew complement whose other members are line qualified. For example, a PIC candidate would be scheduled with a line qualified SIC and FE.

5. GUIDELINES FOR QUALIFICATION LOFT.

Qualification LOFT will meet the following guidelines:

- (a) <u>Direct Instruction and Scenario Interruption</u>. Qualification LOFT permits MINIMAL INTERRUPTION of the scenario for the purpose of instruction. Interruption is allowed only when the instructor is certain that negative learning is taking place.
- (b) <u>Crew Composition</u>. Qualification LOFT requires the scheduling of a complete crew complement. Ideally, the crewmember who is qualifying will be scheduled with other

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crewmembers who are fully line qualified. In any case, the crewmembers will be Task Familiar with their assigned duty position but need not be Line Familiar.

(c) <u>Crew Substitutes</u>. The use of substitutes is highly discouraged and substitution should be implemented rarely. When the composition of the scheduled crew cannot be maintained, the operator may substitute crewmembers using Table 4-2. Operators should attempt first to substitute another person in the same status.

Table 4-2. Qualification LOFT Substitution Table

- KEY: A = Pilot in Command Position
 - B = Second in Command Position
 - C = Flight Engineer (FE) Position

	Α	В	С
1.	Another person of the same	status for that position.	
2.	PIC /1/	SIC /1/	FE /1/
3.	SIC /1/	PIC /1/	FE Instructor
4.	Pilot Instructor	Pilot Instructor	Pilot Instructor

- /1/ Includes those who are either line qualified or in training for the position and will be Task Familiar for the position in which they are substituting.
 - (d) <u>Number and Type of Segments</u>. Qualification LOFT should consist of at least two flight segments, one containing normal line operations and one containing abnormal and emergency occurrences.
 - (e) <u>Training Media</u>. Qualification LOFT will be conducted in flight simulators qualified at Levels C or D. (See U.S. Advisory Circular AC 120-40, Airplane Simulator Qualification, as amended or equivalent).



DIVISION 5. SPECIAL PURPOSE OPERATIONAL TRAINING

1. GENERAL.

Special Purpose Operational Training is designed for training crewmembers in a flight simulator or flight training device. Special Purpose Operational Training is useful whenever coordinated crew performance is required. It may not be substituted for Recurrent LOFT or Qualification LOFT. Examples of Special Purpose Operational Training may include training which:

- (a) focuses on CRM skills.
- (b) provides differences training on variant aircraft.
- (c) provides windshear training.
- (d) trains in special aircraft equipment, such as navigational equipment and flight management systems.

2. ELEMENTS RESEMBLING LOFT.

Special Purpose Operational Training contains some elements which are similar to those found in LOFT, including line environment, scenarios which are real-world and real-time, no-jeopardy training, and the use of feedback and critique. Elements of Special Purpose Operational Training which may vary from LOFT are described below.

3. GUIDELINES FOR SPECIAL PURPOSE OPERATIONAL TRAINING.

The components of Special Purpose Operational Training vary, depending on the purpose or objective of the training. Therefore, the following provides only general guidelines for Special Purpose Operational Training.

- (a) <u>Direct Instruction and Scenario Interruption</u>. Special Purpose Operational Training permits direct instruction and allows for interruption of the scenario by the instructor.
- (b) <u>Crew Composition</u>. Special Purpose Operational Training may include use of a complete or partial crew, depending upon the training objectives.
- (c) <u>Crew Substitutes</u>. The use of crew substitutes in Special Purpose Operational Training depends upon the type of training being provided.
- (d) <u>Number and Type of Segments</u>. Special Purpose Operational Training may contain any number of full or partial flight segments, depending upon the training objectives.
- (e) <u>Training Media</u>. Special Purpose Operational Training may use a wide range of flight simulators and flight training devices, depending upon the training objectives. (See U.S. Advisory Circular AC 120-40, as amended, Airplane Simulator Qualification and AC 120-45, as amended, Airplane Flight Training Device Qualification or equivalent.)



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DIVISION 6. LINE OPERATIONAL EVALUATION

1. GENERAL.

Line Operational Evaluation is primarily designed for crewmember evaluation under an Advanced Qualification Program (AQP) (TBD). Line Operational Evaluation is conducted in a flight simulator or flight training device and is designed to check for both individual and crew competence. Line Operational Evaluation may also be used to evaluate a specific training objective. Line Operational Evaluation includes the concepts listed below.

2. ELEMENTS RESEMBLING LOFT.

Line Operational Evaluation contains elements similar to those in LOFT; that is, line environment; complete crew; scenarios which are real-world, real-time; and may run uninterrupted. An inventory of operational problems and environmental conditions will be developed which allows scenarios to be selected on a random basis. This will ensure that flight crewmembers are not familiar with repetitive scenarios. An important factor is that every attempt be made to have a complete crew complement scheduled and maintained. Flight crewmember substitution is highly discouraged. If crew substitutions are necessary, the substitute crewmember will be either another qualified crewmember or a Task Familiar crewmember in a training status comparable to the person being evaluated. Instructors and evaluators may not serve as a substitute crewmember.

3. EVALUATION.

Unlike LOFT, Line Operational Evaluation requires evaluation of both crewmember and crew competence and performance. Therefore, Line Operational Evaluation contains an element of "jeopardy," as opposed to the "no-jeopardy" environment in LOFT.

4. EVALUATORS.

The role of an evaluator (including check airmen) in Line Operational Evaluation is to observe and evaluate crewmember performance during the simulation. The evaluator must be qualified in accordance with the operator's approved training program. The evaluator is responsible for informing crewmembers, prior to the start of the exercise, that they will be evaluated.

5. FLIGHT SIMULATORS/FLIGHT TRAINING DEVICES.

Operators conducting Line Operational Evaluation may be approved to use any level of flight simulator or flight training device, depending on the objective of the evaluation and the capability of the device. The level of the flight simulator or flight training device required to support evaluation in Line Operational Evaluation will depend upon the evaluation objectives and the device's capability to support the objectives.



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DIVISION 7. THE ROLE OF INSTRUCTORS

1. MINIMUM QUALIFICATIONS.

Instructors will be trained in the philosophy, skills, and conduct of Line Operational Simulations and CRM. They will be able to effectively observe and critique both individual and crew performance during the scenario. To do this, they will meet the minimum requirements discussed in the following Sections:

- (a) <u>Line Familiar</u>. Instructors will be Line Familiar, that is, familiar with the operations for which they are providing training. This will ensure that instructors accurately perceive and evaluate situations as they arise. In cases where instructors currently are not line qualified, an approved line observation program will ensure that they are familiar with line operational procedures and problems. In this way, instructors will maintain an understanding of the operational demands confronting line crewmembers.
- (b) <u>Qualified as Instructors</u>. Instructors will be qualified as defined in LARs Part VII, Subsection 705.133(2), or as otherwise approved. They are not required to hold current medical certificates to qualify and serve as instructors.
- (c) <u>Trained in CRM Skills</u>. Instructors will receive training in CRM skills in order to observe and critique these areas in Line Operational Simulations. (see Appendix IV to this Standard).
- (d) <u>Trained in Methods for Briefing, Debriefing, and Critique</u>. Instructors will be trained to conduct the briefing and debriefing/critique phases of Line Operational Simulations, including how to provide feedback in a nonthreatening and sensitive manner.

2. INSTRUCTOR RESPONSIBILITIES AT EACH STAGE OF LINE OPERATIONAL SIMULATIONS.

The following is a description of the roles and responsibilities expected of instructors:

- (a) <u>Briefing and Preparation</u>. Instructors will be able to effectively convey the purpose of the Line Operational Simulation and how it is representative of line operations. Instructors will also explain the instructor's role during the training; that is, as an observer and not considered present unless playing a role in the scenario.
- (b) <u>Flight Segment</u>. Instructors will be able to both observe and perform ancillary roles. They will be trained in observing both technical and CRM skills. The instructor will also be trained in proper pacing, proper introduction of abnormal/emergency procedures, and methods of handling unforeseen crew actions.
- (c) <u>Debriefing and Critique</u>. Instructors will provide both positive and negative feedback during critiques of individual and crew performance. Prior to the instructor's critiques, crewmembers will be encouraged to critique themselves. Instructors will provide feedback to the crew to encourage the changes needed for improved performance. Instructors should also provide specific recommendations to improve individual crewmembers' performance.



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APPENDIX IV

to Commercial Air Services Standards

Subpart 5 – Airline Operations

CREW RESOURCE MANAGEMENT TRAINING

1. PURPOSE.

This Standard presents procedures for developing, implementing, reinforcing, and assessing Crew Resource Management (CRM) training programs for flight crewmembers and other personnel essential to flight safety. These programs are designed to become an integral part of training and operations. This Standard provides the means by which LARs Part VII, Subpart 5 certificate holders can increase the efficiency with which flight personnel perform by focusing on communication skills, teamwork, task allocation, and decisionmaking.

2. BACKGROUND.

(1) Investigations into the causes of air carrier accidents have shown that human error is a contributing factor in 60 to 80 percent of all air carrier incidents and accidents. Long term research has demonstrated that these events share common characteristics. Many problems encountered by flightcrews have very little to do with the technical aspects of operating in a multiperson cockpit. Instead, problems are associated with poor group decisionmaking, ineffective communication, inadequate leadership, and poor task or resource management. Pilot training programs historically focused almost exclusively on the technical aspects of flying and on an individual pilot's performance; they did not effectively address crew management issues that are also fundamental to safe flight. (2) These observations have led to a consensus in industry and government that training programs should place emphasis on the factors which influence crew coordination and the management of crew resources. The need for additional training in communication between cockpit crewmembers and flight attendants has been specifically identified.

(3) Coordinated efforts by representatives from the aviation community have produced valuable recommendations for CRM training programs. This collaborative process has occurred under the auspices of the Aviation Rulemaking Advisory Committee (ARAC). ARAC comprises representatives from a broad array of aviation organizations, including pilots' and flight attendants' associations, aircraft manufacturers, government offices, and others.

(4) Continuing measurements of the impact of CRM training show that after initial indoctrination significant improvement in attitudes occurs regarding crew coordination and flight deck management. In programs that also provide recurrent training and practice in CRM concepts, significant changes have been recorded in flightcrew performance during Line Oriented Flight Training (LOFT) and during actual flight. CRM trained crews operate more effectively as teams and cope more effectively with nonroutine situations.

(5) Research also suggests that when there is no effective reinforcement of CRM concepts by way of recurrent training, improvements in attitudes observed after initial indoctrination may tend to disappear, and individuals' attitudes may tend to revert to former levels.



3. DEFINITIONS.

(1) *Human Factors*. Human factors is a multidisciplinary field devoted to optimizing human performance and reducing human error. It incorporates the methods and principles of the behavioral and social sciences, engineering, and physiology. Human factors is the applied science which studies people working together in concert with machines. Human factors embraces variables that influence individual performance and variables that influence team or crew performance.

(a) it is recognized that inadequate system design or inadequate operator training can contribute to individual human error that leads to system performance degradation. Further, it is recognized that inadequate design and management of crew tasks can contribute to group errors that lead to system performance degradation.

(2) *Crew Resource Management (CRM)*. The application of team management concepts in the flight deck environment was initially known as Cockpit Resource Management. As CRM programs evolved to include flight attendants, maintenance personnel and others, the phrase Crew Resource Management has been adopted.

- (a) CRM now refers to the effective use of all available resources; human resources, hardware, and information. A current definition includes all other groups routinely working with the cockpit crew who are involved in decisions required to operate a flight safely. These groups include but are not limited to:
 - (i) aircraft dispatchers
 - (ii) flight attendants
 - (iii) maintenance personnel
 - (iv) air traffic controllers
- (b) CRM is one way of addressing the challenge of optimizing the human/machine interface and accompanying interpersonal activities. These activities include team building and maintenance, information transfer, problem solving, decisionmaking, maintaining situational awareness, and dealing with automated systems. CRM training is comprised of three components: initial indoctrination/awareness, recurrent practice and feedback, and continual reinforcement. Each component must be continually renewed.

4. THE MISSION OF CRM TRAINING.

CRM training has been conceived to prevent aviation accidents by improving crew performance through better crew coordination.

5. BASIC CONCEPTS OF CRM.

(1) CRM training is based on an awareness that a high degree of technical proficiency is essential for safe and efficient operations. Demonstrated mastery of CRM concepts cannot overcome a lack of proficiency. Similarly, high technical proficiency might not guarantee safe operations in the absence of effective crew coordination.

(2) Experience has shown that lasting behavior changes in any environment cannot be achieved in a short time period, even if the training is very well designed. Trainees need awareness, practice and feedback, and continuing reinforcement: in a word, time to learn attitudes that will endure. In order to be effective, CRM concepts will be integrated into all aspects of training and operations.

(3) While there are various useful methods in use in CRM training today, certain features are highly recommended:

- (a) CRM training will focus on the functioning of crewmembers as teams, not as a collection of technically competent individuals.
- (b) CRM training will instruct crewmembers how to behave in ways that foster crew effectiveness.

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- (c) CRM training will provide opportunities for crewmembers to practice the skills necessary to be effective team leaders and team members.
- (d) CRM training exercises will include all crewmembers functioning in the same roles (for example, captain, first officer, and/or flight engineer, flight attendants) they normally perform in flight.
- (e) CRM training will include effective team behaviors during normal, routine operations.
- (f) good training for routine operations can have a strong positive effect on how well individuals function during times of high workload or high stress. During emergency situations, when time pressure might exist, a crewmember probably would not take the time to reflect upon his or her CRM training in order to choose the appropriate behavior. But practice of desirable behaviors during times of low stress increases the likelihood that emergencies will be handled effectively.
- (4) CRM is defined by the following characteristics:
 - (a) CRM is a comprehensive system of applying human factors concepts to improve crew performance.
 - (b) CRM embraces all operational personnel.
 - (c) CRM can be blended into all forms of aircrew training.
 - (d) CRM concentrates on crewmembers' attitudes and behaviors and their impact on safety.
 - (e) CRM uses the crew as the unit of training.
 - (f) CRM is training that requires the active participation of all crewmembers. It provides an opportunity for individuals and crews to examine their own behavior and to make decisions on how to improve cockpit teamwork.
 - (i) LOFT sessions provide an extremely effective means of practicing CRM skills and receiving reinforcement.
 - (ii) audiovisual (taped) feedback during debriefing of LOFT and other training is an excellent way for flight crewmembers to assess their skills as individuals and as team members. Bulk erasure of taped sessions is suggested to encourage candor among participants while assuring their privacy.
 - (iii) in cases where simulators are not available, crewmembers can participate in group problem solving activities designed to exercise CRM skills. Through taped feedback during debriefing, they can then assess the positive and negative behaviors of all crewmembers.
 - (iv) crewmembers may also participate in role-playing exercises. Such exercises permit practice in developing strategies for dealing with incidents and allow analysis of behaviors during those incidents. Again, taped feedback is useful for assessment and feedback during debriefing. Crews' abilities can be clearly observed in such areas as decisionmaking, teamwork, and leadership.
 - (v) attitude and/or personality measures can also be used to provide feedback to participants, allowing them to assess their own strengths and weaknesses.
 - (g) success of a CRM training program depends upon check airmen, instructors, and supervisors who are highly qualified and specially trained in CRM.

6. FUNDAMENTALS OF CRM TRAINING IMPLEMENTATION.

(1) Research programs and airline operational experience suggest that the greatest benefits are achieved by adhering to the following practices:

(a) <u>Assess the Status of the Organization Before Implementation</u>. It is important to know how widely CRM concepts are understood and practiced before designing specific training. Surveys of crewmembers, observation of crews in line observations, and analysis of incident/accident reports can provide essential data for program designers.

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- (b) <u>Get Commitment from All Managers, Starting with Senior Managers</u>. CRM programs are received much more positively by operations personnel when senior managers, flight operations managers, and flight standards officers conspicuously support CRM concepts and provide the necessary resources for training. Flight operations manuals and training manuals will embrace CRM concepts by providing crews with necessary policy and procedures guidance.
- (c) <u>Customize the Training to Reflect the Nature and Needs of the Organization</u>. Using knowledge of the state of the organization, priorities should be established for topics to be covered including special issues such as the effects of mergers or the introduction of advanced technology aircraft. This approach increases the relevance of training for crewmembers.
- (d) <u>Define the Scope of the Program</u>. Institute special CRM training for key personnel including check airmen, supervisors, and instructors. It is highly beneficial to provide training for these groups before beginning training for crewmembers. CRM training may be expanded to include aircraft dispatchers, flight attendants, maintenance personnel and other company team members as appropriate. It is also helpful to develop a long term strategy for program implementation.
- (e) <u>Communicate the Nature and Scope of the Program Before Startup</u>. Training departments will provide crews with a preview of what the training will involve together with plans for initial and continuing training. These steps can prevent misunderstandings about the focus of the training or any aspect of its implementation.
- (f) <u>Institute Quality Control Procedures</u>. It has proved helpful to monitor the delivery of training and to determine areas where training can be strengthened. Monitoring can be initiated by providing special training to program instructors (often called facilitators) in using surveys to collect systematic feedback from participants in the training.

7. COMPONENTS OF CRM TRAINING.

(1) The topics outlined below have been identified as recommended components of effective CRM training. They do not represent a fixed sequence of phases, each with a beginning and an end. Ideally, each component is continually renewed at every stage of training:

- (a) Initial Indoctrination/Awareness.
 - (i) indoctrination/awareness typically consists of classroom presentations and focuses on communications and decisionmaking, interpersonal relations, crew coordination, and leadership. In this component of CRM training, the concepts are developed, defined, and related to the safety of line operations. This component also provides a common conceptual framework and a common vocabulary for identifying crew coordination problems.
 - (ii) indoctrination/awareness can be accomplished by a combination of training methods. Lectures, audiovisual presentations, discussion groups, role-playing exercises, computer based instruction, and videotaped examples of good and poor team behavior are commonly used methods.
 - (iii) initiating indoctrination/awareness training depends upon the development of a curriculum that addresses CRM skills that have been demonstrated to influence crew performance. To be most effective, the curriculum should define the concepts involved and relate them directly to operational issues that crews encounter. Many organizations have found it useful to survey crewmembers. Survey data have helped identify embedded attitudes regarding crew coordination and cockpit management. The data have also helped to identify operational problems and to prioritize training issues.
 - (iv) effective indoctrination/awareness training increases understanding of CRM concepts. That understanding, in turn, often influences individual attitudes favorably regarding

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human factors issues. Often the training also suggests more effective communication practices.

- (v) it is important to recognize that classroom instruction alone does not fundamentally alter crewmember attitudes over the long term. The indoctrination/awareness training should be regarded as a necessary first step towards effective crew performance training.
- (b) <u>Recurrent Practice and Feedback</u>.
 - (i) CRM training will be included as a regular part of the recurrent training requirement. Recurrent CRM training will include refresher practice and feedback exercises such as LOFT with taped feedback; or a suitable substitute such as role-playing in a flight training device and taped feedback. These recurrent CRM exercises will take place with a full crew, each member operating in his or her normal crew position. A complete crew will always be scheduled, and every attempt will be made to maintain crew integrity. Recurrent training LOFT which includes CRM will be conducted with current line crews, and preferably not with instructors or check airmen as stand-ins.
 - (ii) recurrent training and feedback allows participants to practice newly improved skills in communication and interpersonal relationships and to receive feedback on their effectiveness. Feedback has its greatest impact when it comes from self-critique and from peers, together with guidance from a facilitator with special training in assessment and debriefing techniques.
 - (iii) effective feedback refers to the coordination concepts identified in Indoctrination/Awareness training and relates to specific behaviors. Practice and feedback are best accomplished through the use of simulators or training devices and videotape. Taped feedback, with the guidance of a facilitator, is particularly effective because it allows participants to view themselves from a third person perspective. This view is especially compelling in that strengths and weaknesses are captured on tape and vividly displayed. Stop action, replay, and slow motion are some of the playback features available during debriefing. Attitudes and behaviors are easily seen, and appropriate adjustments are often self-evident.
- (c) <u>Continuing Reinforcement</u>.
 - no matter how effective each curriculum segment is (the classroom, the role-playing exercises, the LOFT, or the feedback), one-time exposures are simply not sufficient. The attitudes and norms that contribute to ineffective crew coordination have developed over a crewmember's lifetime. It is unrealistic to expect a short training program to reverse years of habits. To be maximally effective, CRM will be embedded in every stage of training, and CRM concepts will be stressed in line operations as well.
 - (ii) CRM should become an inseparable part of the organization's culture.
 - (iii) there is a common tendency to think of CRM as training only for the managers and captains. This notion misses the essence of the CRM training mission: the prevention of crew related accidents. CRM training works best in the context of the entire crew. Training exercises are most effective if all crewmembers work together and learn together. In the past, much of flightcrew training has been segmented by crew position. This segmentation has been effective for meeting certain training needs such as seat dependent technical training and upgrade training, but segmentation is not appropriate for CRM training.
 - (iv) reinforcement can be accomplished in many areas. Training such as joint cabin and cockpit crew training in security can deal with many human factors issues. Joint training with aircraft dispatchers, maintenance personnel, and gate agents can also reinforce CRM concepts.

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8. SUGGESTED CURRICULUM TOPICS.

(1) The topics outlined below have been included in many current CRM programs. Specific content of training and organization of topics will reflect an organization's unique culture and specific needs. Appendix 1 offers a set of behavioral markers fitting subtopics within each topic cluster. These markers may be helpful in curriculum development and in LOFT design. Appendix 3 gives additional CRM training topics.

(2) *Communications Processes and Decision Behavior*. This topic includes internal and external influences on interpersonal communications. External factors include communication barriers such as rank, age, gender, and organizational culture. Internal factors include listening skills and decisionmaking skills, conflict resolution techniques, and the use of appropriate assertiveness and advocacy. More specific subtopics include the following:

- (a) <u>Briefings</u>. Training in addressing both operational and interpersonal issues, and training in establishing open communications.
- (b) <u>Inquiry/Advocacy/Assertion</u>. Training in the potential benefits of crewmembers advocating the course of action that they feel is best, even though it may involve conflict with others.
- (c) <u>Crew Self-Critique (Decisions and Actions)</u>. Illustrating the value of review, feedback, and critique focusing on the process and the people involved. One of the best techniques for reinforcing effective human factors practices is careful debriefing of activities, highlighting the processes that were followed. Additionally, it is essential that each crewmember be able to recognize good and bad communications, and effective and ineffective team behavior.
- (d) <u>Conflict Resolution</u>. Demonstrating effective techniques of resolving disagreements among crewmembers in interpreting information or in proposing courses of action. Demonstrating effective techniques for maintaining open communication while dealing with conflict.
- (e) <u>Communications and Decisionmaking</u>. Demonstrating effective techniques of seeking and evaluating information. Showing the influence of biases and other cognitive factors on decision quality. There are benefits in providing crews with operational models of this group decision process. Crews may refer to these models to make good choices in situations when information is incomplete or contradictory.

(3) *Team Building and Maintenance*. This topic includes interpersonal relationships and practices. Effective leadership/followership and interpersonal relationships are key concepts to be stressed. Curricula can also include recognizing and dealing with diverse personalities and operating styles. Subtopics include:

- (a) <u>Leadership/Followership/Concern for Task</u>. Showing the benefits of the practice of effective leadership through coordinating activities and maintaining proper balance between respecting authority and practicing assertiveness. Staying centered on the goals of safe and efficient operations.
- (b) <u>Interpersonal Relationships/Group Climate</u>. Demonstrating the usefulness of showing sensitivity to other crewmembers' personalities and styles. Emphasizing the value of maintaining a friendly, relaxed, and supportive tone in the cockpit and aircraft cabin. The importance of recognizing symptoms of fatigue and stress, and taking appropriate action.
- (c) <u>Workload Management and Situational Awareness</u>. Stressing the importance of maintaining awareness of the operational environment and anticipating contingencies. Instruction may address practices (for example, vigilance, planning and time management, prioritizing tasks, and avoiding distractions) that result in higher levels of situational awareness. The following operational practices may be included:
 - (i) *Preparation/Planning/Vigilance*. Issues include devoting appropriate attention to required tasks, asking for and responding to new information, and preparing in advance for required activities.
 - (ii) *Workload Distribution/Distraction Avoidance*. Issues involve proper allocation of tasks to individuals, avoidance of work overloads in self and in others, prioritization of

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tasks during periods of high workload, and preventing nonessential factors from distracting attention from critical tasks.

(d) Individual Factors/Stress Reduction. Training in this area may include describing and demonstrating individual characteristics that can influence crew effectiveness. Research has shown that many crewmembers are unfamiliar with the negative effects of stress and fatigue on individual cognitive functions and team performance. Training may include a review of scientific evidence on fatigue and stress and their effects on performance. The content may include specific effects of fatigue and stress in potential emergency situations. The effects of personal and interpersonal problems and the increased importance of effective interpersonal communications under stressful conditions may also be addressed. T raining may also include familiarization with various permissible countermeasures for coping with stressors. Additional curriculum topics may include examination of personality and motivation characteristics, self-assessment of personal style, and identifying cognitive factors that influence perception and decisionmaking.

9. SPECIALIZED TRAINING IN CRM CONCEPTS.

As CRM programs have matured, some organizations have found it beneficial to develop and implement additional courses dealing with issues specific to their operations.

- (a) after all current crewmembers have completed the Initial Indoctrination/Awareness component of CRM training, arrangements are needed to provide newly hired crewmembers with the same material. A number of organizations have modified their CRM initial courses for inclusion as part of the initial training and qualification for new hire crewmembers.
- (b) training for upgrading to captain provides an opportunity for specialized training that deals with the human factors aspects of command. Such training can be incorporated in the upgrade process.
- (c) training involving communications and the use of automation can be developed for crews operating aircraft with advanced technology cockpits, or for crews transitioning into them.

10. ASSESSMENT OF CRM TRAINING PROGRAMS.

(1) It is recommended that each program be assessed to determine if it is achieving its goals. Each organization should have a systematic assessment program. Assessment should track the effects of the training program so that critical topics for recurrent training may be identified and continuous improvements may be made in all other respects. Assessment of the training program will include observation of the training process by program administrators and self-reports by participants using standard survey methods.

(2) The emphasis in this assessment should be on crew performance. The CRM related processes recommended for assessment include communications, decisionmaking, team building and maintenance, workload management, and situational awareness; and the assessment will address the blending of traditional technical proficiency with those processes. An additional function of such assessment is to determine the impact of CRM training and organization-wide trends in crew performance.

(3) For optimal assessment, data on crewmembers' attitudes and behavior will be collected before CRM indoctrination and again at intervals after the last component of CRM training to determine both initial and enduring effects of the program. The goal will be to obtain an accurate picture of the organization's significant corporate personality traits before formal adoption of CRM training, and to continue to monitor those traits after implementation.

(4) Reinforcement and feedback are recommended components of effective CRM training programs. Crewmembers will receive continual reinforcement to sustain CRM concepts. Effective

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reinforcement depends upon usable feedback to crewmembers on their CRM practices and on their technical performance.

(5) Usable feedback requires consistent assessment. Crewmembers and those involved in training and evaluation should be able to recognize effective and ineffective CRM behaviors. It is not expected or intended that crewmembers should be formally evaluated and graded on the practice of CRM concepts. Rather, CRM concepts should be included during briefing/debriefing phases of training.
(6) To summarize, the assessment program will:

(a) measure and track the organization's corporate culture as it is reflected in attitudes and norms.

- (b) identify topics needing emphasis within the CRM program.
- (c) ensure that all check airmen, supervisors, and instructors are well prepared and standardized.

11. THE CRITICAL ROLE OF CHECK AIRMEN AND INSTRUCTORS.

(1) The success of any CRM training program ultimately depends on the skills of the people who administer the training and measure its effects. CRM instructors, check pilots, supervisors, and course designers will be skilled in all areas related to the practice and assessment of CRM. It is important to note that these skills are complementary to those skills associated with traditional flight instruction and checking.

(2) Gaining proficiency and confidence in CRM instruction, observation, and measurement requires special training for instructors, supervisors, and check pilots in many CRM training processes. Among those processes are role-playing simulations, systematic crew centered observation, administering LOFT programs, and providing usable feedback to crews.

(3) Instructors, supervisors, and check pilots also require special training in order to calibrate and standardize their own skills.

(4) Instructors, supervisors, and check airmen will use every available opportunity to emphasize the importance of crew coordination skills. The best results occur when the crews examine their own behavior with the assistance of a trained instructor who can point out both positive and negative CRM performance. Whenever highly effective examples of crew coordination are observed, it is recommended that these positive behaviors be discussed and reinforced. Debriefing and critiquing skills are important tools for instructors, supervisors, and check pilots. (Behavioral markers of effective LOFT debriefings are shown in appendix 2.)

(5) Feedback from instructors, supervisors, and check airmen is most effective when it refers to the concepts that are covered in the initial indoctrination/awareness training. The best feedback refers to instances of specific behavior, rather than behavior in general.

12. EVOLVING CONCEPTS OF CRM: EXTENDING TRAINING BEYOND THE COCKPIT.

More and more carriers are discovering the value of extending CRM training beyond the cockpit.
 Their objective is to improve the effectiveness of additional groups within the operations team.
 For many years air traffic controllers have been welcome in the cockpit in order to gain familiarity with procedures by observation from the cockpit jumpseat. Similarly, pilots are welcome to observe operations in air traffic facilities. Using real air traffic controllers during LOFT sessions has been proposed and tried.

(3) Aircraft dispatchers have functioned jointly with flight captains for years. They have been allowed, indeed required to observe cockpit operations from the cockpit jumpseat as part of their initial and recurrent qualification under the regulations. Some carriers have included day trips to their aircraft dispatchers' offices to provide the pilot insight into the other side of the joint function scheme. Those trips have commonly been part of the special training offered to first-time captains. Now, reallife aircraft dispatchers are increasingly being used in LOFT sessions. The training experience gained by the pilot and the dispatcher during LOFT is considered the logical extension of earlier training methods, providing interactivity where CRM principles are applied and discussed.

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(4) Maintenance personnel have also had access to the cockpit jumpseat under the regulations.
Training of first-time captains has often included day trips to a carrier's operations control center where a pilot and a maintenance supervisor can meet face to face and discuss issues of mutual interest in a real-life setting. Some carriers have included maintenance personnel in LOFT sessions.
Dedicated CRM training courses for maintenance personnel have been operating since 1991.
(5) Even broader sharing of CRM concepts has been considered, using other groups such as passenger service agents, mid and upper level managers and special crisis teams like hijack and bomb threat

teams.

(6) Cabin attendants are probably the most obvious of the groups other than pilots who may profit from CRM training. Some operators have joint CRM training for pilots and flight attendants. One idea for joint training has been that each group be made aware of highlights of the other's training on shared issues, with particular emphasis on differences. Examples of shared issues include delays, the use of personal electronic devices in the cabin, and evacuation and ditching. Other specific topics for joint training have been proposed, including:

- (a) preflight briefings;
- (b) post incident/accident procedures;
- (c) sterile cockpit procedures;
- (d) notification procedures pretakeoff and prelanding;
- (e) procedures for turbulence and other weather;
- (f) security procedures;
- (g) passenger handling procedures;
- (h) in-flight medical problems;
- (i) smoke/fire procedures;
- (j) passenger related LARs such as those covering carry-on baggage, smoking, and exit row seating; and
- (k) authority of the pilot in command.

(7) It is thought that CRM principles are made more relevant for both pilots and flight attendants by treating them in a familiar job related context. Furthermore, each group will benefit from concurrent training in CRM that is complemented by usable knowledge of the other's job.

(8) Communication and coordination problems between cockpit crewmembers and flight attendants continue to challenge air carriers and the DGCA. Other measures with positive CRM training value for flightcrews are being considered, such as:

- (a) requiring cockpit observation flights for all new-hire flight attendants; and permitting cockpit observation flights for all other flight attendants;
- (b) including flight attendants as participants during LOFT;
- (c) scheduling month-long pairings of pilots and flight attendants; and
- (d) providing experienced flight crewmembers to teach new-hire flight attendant orientation classes.



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ATTACHMENT 1.

CREW PERFORMANCE MARKER CLUSTERS

(Italicized Markers apply to Advanced Technology Flightdecks) {For the computerized version, markers will appear in all caps.}

These behavioral markers are provided to assist organizations in program and curriculum development and to serve as guidelines for feedback. They are not presented as a checklist for evaluating individual crewmembers.

1. COMMUNICATIONS PROCESSES AND DECISION BEHAVIOR CLUSTER.

(1) *Briefings*. The effective briefing is interesting and thorough. It addresses coordination, planning, and problems. Although briefings are primarily a captain's responsibility, other crewmembers may add significantly to planning and will be encouraged to do so.

Behavioral Markers.

- (a) the briefing establishes an environment for open/interactive communications (for example, the captain calls for questions or comments, answers questions directly, listens with patience, does not interrupt or "talk over," does not rush through the briefing, and makes eye contact as appropriate).
- (b) the briefing is interactive and emphasizes the importance of questions, critique, and the offering of information.
- (c) the briefing establishes a "team concept" (for example, the captain uses "we" language, encourages all to participate and to help with the flight).
- (d) the briefing covers pertinent safety and operational issues.
- (e) the briefing identifies potential problems such as weather, delays, and abnormal system operations.
- (f) the briefing provides guidelines for crew actions; division of labor and crew workload is addressed.
- (g) the briefing includes the cabin crew as part of the team.
- (h) the briefing sets expectations for handling deviations from standard operating procedures.
- (i) the briefing establishes guidelines for the operation of automated systems (for example, when systems will be disabled; which programming actions must be verbalized and acknowledged).
- (j) the briefing specifies pilot flying and pilot not flying duties and responsibilities with regard to automated systems.

(2) *Inquiry/Advocacy/Assertion*. These behaviors relate to crewmembers' promoting the course of action that they feel is best, even when it involves conflict with others.

- (a) crewmembers speak up and state their information with appropriate persistence until there is some clear resolution.
- (b) "challenge and response" environment is developed.
- (c) questions are encouraged and are answered openly and nondefensively.
- (d) crewmembers are encouraged to question the actions and decisions of others.
- (e) crewmembers seek help from others when necessary.

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(f) crewmembers question status and programming of automated systems to confirm situational awareness.

(3) *Crew Self-Critique Regarding Decisions and Actions*. These behaviors relate to the effectiveness of a group and/or an individual crewmember in critique and debriefing. Areas covered will include the product, the process, and the people involved. Critique may occur during an activity, and/or after completing it.

Behavioral Markers.

- (a) critique occurs at appropriate times, which may be times of low or high workload.
- (b) critique deals with positive as well as negative aspects of crew performance.
- (c) critique involves the whole crew interactively.
- (d) critique makes a positive learning experience. Feedback is specific, objective, usable, and constructively given.
- (e) critique is accepted objectively and nondefensively.

(4) *Communications/Decisions*. These behaviors relate to free and open communication. They reflect the extent to which crewmembers provide necessary information at the appropriate time (for example, initiating checklists and alerting others to developing problems). Active participation in the decisionmaking process is encouraged. Decisions are clearly communicated and acknowledged. Questioning of actions and decisions is considered routine.

Behavioral Markers.

- (a) operational decisions are clearly stated to other crewmembers.
- (b) crewmembers acknowledge their understanding of decisions.
- (c) "bottom lines" for safety are established and communicated.
- (d) the "big picture" and the game plan are shared within the team, including flight attendants and others as appropriate.
- (e) crewmembers are encouraged to state their own ideas, opinions, and recommendations.
- (f) efforts are made to provide an atmosphere that invites open and free communications.
- (g) initial entries and changed entries to automated systems are verbalized and acknowledged.

2. TEAM BUILDING AND MAINTENANCE CLUSTER.

(1) *Leadership Followership/Concern for Tasks*. These behaviors relate to appropriate leadership and followership. They reflect the extent to which the crew is concerned with the effective accomplishment of tasks.

- (a) all available resources are used to accomplish the job at hand.
- (b) flightdeck activities are coordinated to establish an acceptable balance between respect for authority and the appropriate practice of assertiveness.
- (c) actions are decisive when the situation requires.
- (d) a desire to achieve the most effective operation possible is clearly demonstrated.
- (e) the need to adhere to standard operating practices is recognized.
- (f) group climate appropriate to the operational situation is continually monitored and adjusted (for example, social conversation may occur during low workload, but not high).
- (g) effects of stress and fatigue on performance are recognized.

- (h) time available for the task is well managed.
- (i) demands on resources posed by operation of automated systems are recognized and managed.
- (j) when programming demands could reduce situational awareness or create work overloads, levels of automation are reduced appropriately.

(2) *Interpersonal Relationships/Group Climate*. These behaviors relate to the quality of interpersonal relationships and the pervasive climate of the flightdeck.

Behavioral Markers.

- (a) crewmembers remain calm under stressful conditions.
- (b) crewmembers show sensitivity and ability to adapt to the personalities of others.
- (c) crewmembers recognize symptoms of psychological stress and fatigue in self and in others (for example, recognizes when he/she is experiencing "tunnel vision" and seeks help from the team; or notes when a crewmember is not communicating and draws him/her back into the team).
- (d) "tone" in the cockpit is friendly, relaxed, and supportive.
- (e) during times of low communication, crewmembers check in with others to see how they are doing.

3. WORKLOAD MANAGEMENT AND SITUATIONAL AWARENESS CLUSTER.

(1) *Preparation/Planning/Vigilance*. These behaviors relate to crews' anticipating contingencies and the various actions that may be required. Excellent crews are always "ahead of the curve" and generally seem relaxed. They devote appropriate attention to required tasks and respond without undue delay to new developments. (They may engage in casual social conversation during periods of low workload and not necessarily diminish their vigilance.)

- (a) demonstrating and expressing situational awareness; for example, the "model" of what is happening is shared within the crew.
- (b) active monitoring of all instruments and communications and sharing relevant information with the rest of the crew.
- (c) monitoring weather and traffic and sharing relevant information with the rest of the crew.
- (d) avoiding "tunnel vision" caused by stress; for example, stating or asking for the "big picture."
- (e) being aware of factors such as stress that can degrade vigilance and watching for performance degradation in other crewmembers.
- (f) staying "ahead of the curve" in preparing for planned situations or contingencies.
- (g) ensuring that cockpit and cabin crewmembers are aware of plans.
- (h) including all appropriate crewmembers in the planning process.
- (i) allowing enough time before maneuvers for programming of the flight management computer.
- (j) ensuring that all crewmembers are aware of initial entries and changed entries in the flight management system.

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(2) *Workload Distributed/Distractions Avoided*. These behaviors relate to time and workload management. They reflect how well the crew manages to prioritize tasks, share the workload, and avoid being distracted from essential activities.

- (a) crewmembers speak up when they recognize work overloads in themselves or in others.
- (b) tasks are distributed in ways that maximize efficiency.
- (c) workload distribution is clearly communicated and acknowledged.
- (d) nonoperational factors such as social interaction are not allowed to interfere with duties.
- (e) task priorities are clearly communicated.
- (f) secondary operational tasks (for example, dealing with passenger needs and communications with company) are prioritized so as to allow sufficient resources for primary flight duties.
- (g) potential distractions posed by automated systems are anticipated, and appropriate preventive action is taken, including reducing or disengaging automated features as appropriate.

ATTACHMENT 2.

LOFT DEBRIEFING PERFORMANCE INDICATORS

(1) The effective LOFT facilitator leads the flightcrew through a self-critique of their own behavior and of their crew performance during the simulation. The debriefing and crew analysis include both technical and CRM discussion topics. Positive points of crew performance are discussed, as well as those needing improvement. At the conclusion of the session, key learning points are summarized covering all participants, including the instructor. A strong sense of training accomplishment and learning is taken away from the session.

(2) The following performance markers may be used to evaluate the LOFT facilitator's performance in the debrief/critique phase of LOFT.

- (a) actively states the debriefing and critique agenda and solicits topics from the crew on items that they would like to cover; sets time limits.
- (b) asks the crewmembers for their appraisal of the mission overall.
- (c) states his/her own perceptions of the LOFT while guarding against making the crew defensive. Comments are as objective as possible and focus on performance.
- (d) shows appropriate incidents using videotape of the LOFT session, including examples of technical and CRM performance, and selects tape segments for discussion illustrating behaviors that feature the crew performance markers.
- (e) effectively blends technical and CRM feedback in the debriefing; does not preach to the crew, but does not omit items worthy of crew discussion.
- (f) is patient, and is constructive in probing into key areas where improvement is needed.
- (g) ensures that all crewmembers participate in the discussion, and effectively draws out quiet or hostile crewmembers.
- (h) provides a clear summary of key learning points.
- (i) asks the crewmembers for specific feedback on his/her performance.
- (j) is effective in both technical and CRM debriefing.



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ATTACHMENT 3.

APPROPRIATE CRM TRAINING TOPICS (LARs PART VII, SUBPART 5 OPERATORS)

1. BACKGROUND INFORMATION.

(1) Research findings suggest that CRM training can result in significant improvements in flightcrew performance. CRM is seen as an effective approach to reducing flight errors and increasing aviation safety.

(2) Accident investigations conducted by the U.S. National Transportation Safety Board (NTSB) reveal that many accidents are caused by crewmembers who may not have been knowledgeable of and/or properly trained in CRM.

2. TRAINING TOPICS, PRINCIPLES, AND TECHNIQUES.

(1) CRM training is recommended which includes the curriculum topics described in Section 11 of this Standard and the topics, principles, and techniques which follow:

- (a) theory and practice in using communication, decisionmaking, and team building techniques and skills.
- (b) theory and practice in using proper supervision techniques, i.e., captains working with first officers.
- (c) theory and practice in selecting and using interventions needed to correct flying errors made by either pilot, especially during critical phases of flight. These interventions may include, but not be limited to, communication, assertion, decisionmaking, risk assessment, and situational awareness skills.
- (d) during Line Operational Simulation training, information, and practice of nonflying pilot functions, i.e., monitoring and challenging pilot functions, and monitoring and challenging errors made by other crewmembers for flight engineers, first officers, and captains. Training will alert flightcrews of hazards caused by tactical decision errors which are actually errors of omission. Practice in monitoring and challenging errors, especially during taxi operations, will be included. These skills are important to minimize procedural errors which may occur as a result of inadequately performed checklists.
- (e) training for check airmen in methods which can be used to enhance the monitoring and challenging functions of both captains and first officers.
- (f) training for new first officers in performing the nonflying pilot role to establish a positive attitude toward monitoring and challenging errors made by the flying pilot.
- (g) training for captains in giving and receiving challenges of errors.
- (h) factual information about the detrimental effects of fatigue and strategies for avoiding and countering its effects.
- (i) training for crewmembers which identifies conditions in which additional vigilance is required, such as holding in icing or near convective activity. Training should emphasize the need for maximum situational awareness and the appropriateness of sterile cockpit discipline, regardless of altitude.
- (j) training for crewmembers in appropriate responses when passengers intimidate, abuse, or interfere with crewmember performance of safety duties. Training will address crew coordination and actions which might defuse the situation. See Appendix V to this Standard, Interference with Crewmembers in the Performance of Their Duties. Training should include specific communication topics, such as conflict resolution.
- (k) LOFT or Special Purpose Operational Training (SPOT) for cockpit crewmembers which address appropriate responses to the effects of a blocked pitot tube. Emphasis will be on



situational awareness, inquiry/advocacy/assertion, and crew coordination, when flight instruments act abnormally.

(i) LOFT or SPOT for cockpit crewmembers which contain a controlled flight into terrain scenario. Emphasis will be on prevention through effective communication and decision behavior. The importance of immediate, decisive, and correct response to a ground proximity warning will also be addressed.

3. APPROPRIATE TRAINING INTERVENTIONS.

(1) The most effective CRM training involves active participation of all crewmembers. LOFT sessions give each crewmember opportunities to practice CRM skills through interactions with other crewmembers. If the training is videotaped, feedback based on crewmembers' actual behavior, during the LOFT, provides valuable documentation for the LOFT debrief.

(2) CRM training can be presented using a combination of the following training interventions:

- (a) operator in-house courses.
- (b) training center courses.
- (c) Special Purpose Operational Training.
- (d) LOFT sessions.
- (e) Computer Based Training courses.



APPENDIX V

to Commercial Air Services Standards

Subpart 5 – Airline Operations

Interference With Crewmembers in the Performance of Their Duties

1. PURPOSE.

This Standard provides procedures to the Directorate General of Civil Aviation (DGCA), Air Carriers, Crewmembers, and Law Enforcement Officers regarding methods which may be used to manage and reduce the instances of passenger interference with crewmembers. This Standard provides information regarding the types of subjects which will be included in an operator's program. In addition, examples of this type of information are provided in Attachments 1, 2, 3, 4, 5, and 6. These examples are based on material provided by the airline industry.

2. DISCUSSION.

(1) It is important that both the traveling public and crewmembers have a safe environment when on board an aircraft. Pertinent regulation says that no person may assault, threaten, intimidate, or interfere with a crewmember in the performance of the crewmember's duties aboard an aircraft. The majority of passenger violations are filed under this rule. Additional regulations prohibit the boarding of passengers or serving alcohol to passengers who appear to be intoxicated. Passengers must also obey passenger information signs such as the no smoking and seatbelt sign. In addition, they must obey the instructions of the crewmembers regarding compliance with these signs.

(2) Crewmembers, airlines, and DGCA personnel have concerns about the increase and nature of occurrences where passengers intimidate, threaten, and/or interfere with crewmembers In addition, passengers have complained to Authorities and the airlines about being intimidated and uncomfortable because of some of the actions of fellow passengers. Therefore, this Standard will provide guidance regarding acceptable types of programs that are designed to reduce the number of problems and the stress caused by these incidents.

(3) In order to properly discuss this matter, it is necessary to make some attempt to define the types of occurrences. For purposes of this Standard, the DGCA has divided the types of events into broad categories which are contained in the chart in Attachment 1. This chart provides one means of categorizing passenger misconduct. Additional examples of defining passenger misconduct are contained in the various attachments to this document. Any of these examples is acceptable. In addition, these are not the only means of categorizing passenger misconduct; an air carrier can develop its own methods of defining these occurrences.

3. POLICY OF THE OPERATOR.

(1) One of the most important aspects of any program dedicated to the reduction of violence in the workplace is the commitment of each individual, including those with management responsibilities. Therefore, partnerships which include employees with differing responsibilities, and appropriate government personnel will be formed to develop procedures, handle violence, and provide assistance to individuals who are involved in passenger disturbances.

(2) Airlines will make it clear to all employees what actions are to be taken when an incident occurs that meets any of the broad categories found in Attachment 1. The operator's program will involve all personnel who have direct contact with passengers. The emphasis of the program will be on keeping



APPENDIX VI

to Commercial Air Services Standards

Subpart 5 - Airline Operations

Airline Safety Department

1. PURPOSE.

This Appendix to the Commercial Air Services Standards provides the Standards for the DGCA and Part VII, Subpart 5 operators for the development of a comprehensive and effective safety department. Also, Standards are provided on the functions, qualifications, and responsibilities of the Director of Safety position.

2. BACKGROUND.

The LARs require that each certificate holder that conducts operations under Part VII, Subpart 5 have a Director of Safety. This person will be responsible for keeping the highest management officials of the certificate holder fully informed about the safety status of the certificate holder's entire operation. The DGCA believes that an independent, full time position is important if at all available or possible. However, the DGCA recognizes that in smaller operations, the Director of Safety function might be an additional function of a current manager.

3. SAFETY AND EVALUATION PROGRAMS.

(1) As a matter of policy, the DGCA requires Part VII, Subpart 5 certificate holders to identify, correct, and disclose instances of noncompliance with company procedures and Lebanese Aviation Regulations (LARs). The DGCA has developed guidance material (see Appendix VII to this Standard) that encourages certificate holders to develop Internal Evaluation Programs as a tool for continuously monitoring and evaluating practices and procedures. The DGCA believes that the development and implementation of a comprehensive and effective safety department that employs Safety and Internal Evaluation Programs will benefit both the certificate holder and the flying public. (2) Each Part VII, Subpart 5 air carrier will have a safety department that addresses the broad range of risks involved in commercial aviation to include, but not limited to, flight, maintenance, and ground safety. Since operators vary in both size and scope of operations, it is appropriate to consider such criteria as the kind of operations involved, the number and type of airplanes used, and the areas of operations when determining the size and complexity of a safety department.

(3) Safety programs will be designed to prevent personal injury and property losses resulting from accidents and incidents. The primary objective of a safety program will be to motivate safe actions through establishment of a dynamic corporate safety culture; identify hazards to safe operations; work with other company departments to develop and implement safety interventions; monitor intervention strategies to validate effectiveness; and communicate the results throughout the air carrier.

4. DIRECTOR OF SAFETY.

(1) *Functions*. One of the functions of a Director of Safety is to develop and implement a comprehensive safety program. This safety program will include a safety structure and staff that is appropriate to the size of the operator, the kind and scope of operations, and the type and number of aircraft used in its operations. In all cases, it is important for the safety program to emphasize

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operational safety, including all aspects of flight and ground operations, maintenance programs and passenger safety.

- (a) the Director of Safety will ensure that the necessary safety program elements have been developed, properly integrated, and coordinated throughout the air carrier. These elements include:
 - (i) a safety incident/accident reporting system.
 - (ii) air operator's management plan
 - (iii) responsibilities of the Director of Safety
 - (iv) training for the Director of Safety
 - (v) incident management
 - (vi) flight safety committee
 - (vii) communication and safety education
 - (viii) accident/incident investigation.
 - (ix) safety audits and inspections.
 - (x) internal evaluation program.
 - (xi) operational risk assessment program.
 - (xii) open reporting systems.
 - (xiii) routine monitoring and trend analysis programs.
 - (xiv) review of external evaluation programs.
 - (xv) safety Committee(s).
- (b) the Director of Safety will ensure that the safety program has been disseminated to all appropriate personnel and a detailed description of the safety program is incorporated in the appropriate manuals as described in Part VII, Subpart 5.
- (c) the Director of Safety will ensure that adequate safety program management is maintained.
- (d) the Director of Safety will be autonomous and separate from other departments and report directly to the highest level of management, i.e. chief executive officer, or chairman as appropriate.
- (e) the Director of Safety will have direct access to the appropriate level of senior management and to all managers/supervisors on safety issues.
- (f) the Director of Safety will provide safety concerns and findings to appropriate senior operations managers for appropriate corrective actions.
- (g) the Director of Safety will be a primary participant in the development of an internal evaluation program and the resultant safety audit procedures.
- (h) the Director of Safety position is established as a full time position responsible for keeping the highest management officials of the certificate holder fully informed about flight, maintenance, and ground safety practices, procedures, and programs of the certificate holder's entire operation.
- (2) Qualifications.
 - (a) <u>Training</u>. The Director of Safety will complete an aviation safety education program consistent with the position's responsibilities. If an individual has not completed such a program prior to appointment, the Director of Safety will attend one to supplement his experience. Participation in industry safety meetings, conferences or schools is considered an essential part of the continuing education of the Director of Safety. Training will also include such subject areas as:
 - (i) corporate safety culture.
 - (ii) the role of the safety director as advisor to Senior management officials.
 - (iii) flight safety philosophy.
 - (iv) safety data collection and analysis programs.
 - (v) risk management.
 - (vi) incident/accident prevention and investigation.
 - (vii) human factors and decision making process.

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(viii) emergency response plan.

- (b) <u>Experience</u>. The person assigned as the Director of Safety will have extensive operational experience and professional qualifications in aviation. This would include the knowledge and understanding of the following:
 - (i) aviation safety programs.
 - (ii) aviation safety standards.
 - (iii) safe aviation operating practices.
- (c) <u>Expertise</u>. The person assigned as the Director of Safety will have established professional qualifications. These qualifications may be any of the following:
 - (i) a DGCA commercial pilot or airline transport pilot certificate.
 - (ii) a DGCA mechanics certificate.
 - (iii) three years experience in a supervisory position with a Part VII, Subpart 5 air carrier.
 - (iv) three years experience in a supervisory position with the DGCA.
- (d) <u>Knowledge</u>. The person assigned as the Director of Safety will have a full understanding of the following materials with respect to the certificate holder's operation:
 - (i) the certificate holder's operations specifications.
 - (ii) the certificate holder's manuals required by the LARs.
 - (iii) all appropriate maintenance and airworthiness requirements of LARs.

(3) *Responsibilities*. The Director of Safety responsibilities may include, but not be limited to, the following:

- (a) monitor and report to senior management on all air carrier activities that may have an impact on safety;
- (b) maintain a close liaison with the DGCA;
- (c) establish a reporting system which provides for a timely and free flow of safety-related information;
- (d) develop and maintain a database of incident/accident information to monitor and analyze trends;
- (e) develop and maintain an air operator accident response plan;
- (f) monitor and evaluate the various safety and malfunction reporting systems to ensure appropriate integration and evaluation of data;
- (g) investigate and report on incidents/accidents and make recommendations to preclude a recurrence;
- (h) conduct safety audits and inspections;
- (i) conduct safety surveys;
- (j) solicit and process safety improvement suggestions;
- (k) develop and maintain a safety awareness program;
- (l) review and evaluate the adequacy of the emergency response plan;
- (m) monitor industry safety concerns that may have an impact on operations;
- (n) maintain close liaison with accident investigation organizations and industry safety organizations and associations; and
- (o) discharge their duties to meet applicable legal requirements and to maintain safe operations in accordance with the LARs.

(4) *Incident Management*. The air operator shall be responsible for providing employees with a timely means of reporting any unsafe conditions. The Director of Safety shall institute and maintain an incident reporting system. This system will provide for:

- (a) a process of reporting incidents;
- (b) investigation of incidents;
- (c) the means of advising management; and
- (d) information feedback to employees.
- (5) Flight Safety Committee. An air operator shall establish a Flight Safety Committee.

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- (a) <u>Responsibilities</u>. The responsibilities of the Committee shall be to monitor all areas of the operation, identify safety concerns and deficiencies, and make recommendations for corrective measures to senior management where applicable.
- (b) <u>Members</u>. The Committee shall be chaired by the operations manager or designate. Members shall include representatives of all operating departments in the organization.
- (c) <u>Meetings</u>. The Committee shall meet on a regular basis (at least twice a year) as established by the committee chairperson. Special meetings on urgent matters may be called by any Committee member.
- (d) <u>Minutes</u>. Minutes of the Committee meetings shall provide a record of agenda items, decisions and corrective actions taken where applicable.

(6) *Emergency Response Planning*. The air operator shall develop and maintain an Air Operator Emergency Response Plan that shall include the following elements:

- (a) air operator policy;
- (b) air operator mobilization and agencies notification;
- (c) passenger and crew welfare;
- (d) casualty and next-of-kin coordination;
- (e) accident investigation on behalf of the air operator;
- (f) air operator team's response to the accident site;
- (g) preservation of evidence;
- (h) media relations;
- (i) claims and insurance procedures;
- (j) airplane wreckage removal; and
- (k) emergency response training.

(7) *Communication and Safety Education*. The air operator shall be responsible for an efficient system of distributing appropriate safety material.

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dangerous passengers off the airplanes. There will be clear lines of responsibility regarding the handling of these events. These responsibilities will include offering and/or providing counseling for those who are involved in or who witness the events. Employee assistance groups can also play an important role in providing this assistance.

(3) Operators will establish policies which define the operator's philosophy concerning zero tolerance. Attachments 2, 3, 4, and 5 contain programs which have worked well and provide examples of policy statements where air carriers have provided information about their zero tolerance philosophies. (4) It is important that the operator provide the public with the appropriate information and thereby provide a safe environment for crewmembers and for the traveling public. The operator will provide material to passengers regarding the seriousness of inappropriate behavior on an airplane, including failure to follow instructions from crewmembers Further, the material will contain information to the passengers about the consequences of their actions including possible fines and incarceration. Public awareness information can be in the form of pamphlets passed out at airport gates, included in ticket envelopes, articles in onboard magazines, posters in gate areas, public address announcements, information given in video tapes, or any other method that management believes will convey the message to the public. A sample of the information that could be disseminated is included in Attachment 6.

4. WRITTEN PROGRAMS.

(1) Operators will make it clear to all employees what actions will be taken when an incident occurs and involves a crewmember. This program will be included in crewmember, security personnel, and other appropriate manuals. The written information will be disseminated to all employees of the air carrier who could have the responsibility for handling a situation with a dangerous passenger. A sample form carried on board the flights by crewmembers giving information about one method of handling onboard incidents is provided in Attachment 5.

(2) It is important that written programs be developed with employees who are familiar with the security aspect of the airline, including crewmembers. These are the people who have the most experience with and are familiar with the local law enforcement jurisdictions and will be the most likely to help educate their staff about passenger interference with crewmembers

(3) The written program will encourage employees to promptly report cases of interference on reporting forms such as the sample provided in Attachment 5. The written report will contain at least the names of the crewmembers the date, flight number, seat number, origin/destination of flight, the name, address, and description of the offending passenger, and the names and addresses of witnesses. If positive identification is not established by the crewmembers then the written program will provide guidance on securing identification through appropriate airline personnel, law enforcement, or other methods as appropriate.

(4) The written program will also provide information about personnel in the company who will contact law enforcement and the DGCA. Information will also be provided regarding how crewmembers may directly contact the DGCA and law enforcement on their own.

(5) In addition, the written program will include information regarding filing complaints against passengers. The process of pursuing violations requires an ongoing commitment and will not be taken lightly. The employee may be required to testify in any subsequent court proceedings.

5. TRAINING.

Air carriers will provide training for crewmembers and other responsible personnel for handling passengers who interfere in the performance of crewmember duties. The training will acknowledge that it is not desirable to have cockpit crewmembers leave their stations, especially in cases where there are two cockpit crewmembers Nevertheless, the training will also acknowledge the authority of the captain and that the decision to leave the cockpit is the responsibility of the captain. Airlines may

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want to include training on passenger misconduct in the required training during crew resource management, hijacking, and other unusual situations. Regardless of how the training is provided, it will include information which will help the crewmember recognize those situations which may, when combined with traits of some passengers, create stress. The training will include information about how to manage conflict situations, such as:

- (a) <u>Responding to Imminent Danger</u>. If the passenger becomes abusive, solicit help from other crewmembers other employees, or passengers to help restrain the individual. Usually the other person will be another flight attendant; however, at times it may be wise to involve passengers. This is especially true when the flight is operating with one flight attendant. Cockpit crewmembers will be kept well-informed. The decision to have a crewmember leave the cockpit is the responsibility of the captain. Flight attendants will provide as much information as possible to the cockpit crew. The captain will be given the passenger's name (if possible), description and the name and description of traveling companions, seat number, and if medical attention is needed. Inform the captain if you wish authorities to meet the inbound flight.
- (b) <u>Reporting the Information</u>. Flight attendants will be informed on the use of the forms which the air carrier has developed for the purpose of handling passengers who cause disturbances. When law enforcement officials are called to meet the flight, crewmembers need to be informed that written statements will be taken upon arrival and that they may be called to testify in court.

6. LAW ENFORCEMENT AND DGCA RESPONSE.

Incidents of interference with crewmembers could be a serious violation of regulations and may warrant a response from local law enforcement. In most cases, the initial response will be provided by the airport law enforcement department or, if there is no resident law enforcement unit at the airport, the department having overall responsibility for law enforcement support to the airport.
 When the incident of interference is sufficient to warrant a response from law enforcement, the captain will notify dispatch/flight following and request a law enforcement representative and an air carrier representative meet the airplane upon arrival at the gate.

(3) Law enforcement response may involve interviewing one or more members of the crew, other passengers who witnessed the incident, and the subject passenger(s). Action may be taken by the law enforcement department responding or a report will be forwarded by the local law enforcement to the DGCA. In some cases, the DGCA may be called to meet the arriving airplane. This will usually happen for the more serious incidents such as assault, intimidation using a dangerous weapon, threat or actual attempted sabotage or hijacking.

(4) It will be noted that every incident of interference will not warrant a response from law enforcement personnel. A crewmember must ask a law enforcement representative to meet the aircraft. In order to take action, there must be a legal basis for an officer to do so. For example, physically assaulting a crewmember would warrant law enforcement action. However, for example, if the incident involves failure to fasten a seatbelt, there may not be a legal basis for criminal action from the local law enforcement unit. This does not imply that a formal complaint needs to be filed by a member of the crew for action to be taken. If there is a serious incident, the action may be taken by the government for violation of a criminal statute or for violation of specific regulations.

(5) The airline will inform all members of the crew that full cooperation is necessary in reporting an incident in a timely manner and providing statements if requested by local law enforcement, or the DGCA.

(6) Jurisdiction and authority for action is a consideration for any law enforcement officer's response and an arrest may not be the result in every case. Any action taken must be within the scope of authority for the law enforcement officer. If an arrest is made by the airport law enforcement unit, prosecution rests with the appropriate office of the prosecuting attorney.

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(7) Reports forwarded to the DGCA could result in a civil penalty for the passenger involved in interfering with the crewmember.

(8) The DGCA has asked its inspectors and managers to emphasize review of incidents involving interference with crewmembers. A partnership effort between the DGCA, local law enforcement, and the industry which emphasizes communication and cooperation will lessen the number of incidents of interference.

(9) The same procedures will be followed for international flights and the law enforcement response will be those of the destination government.



ATTACHMENT 1.

MISCONDUCT CATEGORY AND ACTION TABLE

This sample airline information will be reviewed by each airline's legal department to assure that it accurately states the airline's policies and the legal duties, responsibilities, and rights of the airline and airline personnel. The DGCA does not provide legal advice about the specifics of tort and criminal law.

CATEGORY ONE.

Flight attendant requests passenger to comply. (These are actions which do not interfere with cabin or flight safety, such as minor verbal abuse.)	Passenger complies with request.	There is no further action required by the flight attendant. (Such an incident need not be reported to the cockpit, the carrier, or the DGCA.
CATEGORY TWO.		
Flight attendant requests passenger to comply.	Passenger continues disturbance which interferes with cabin safety such as continuation of verbal abuse or continuing refusal to comply with Lebanese Aviation Regulations (LARs) (such as failure to fasten seatbelt when sign is illuminated, operation of unauthorized electronic equipment). In addition, the crewmember will follow company procedures regarding cockpit notification.	After attempting to defuse the situation, the captain and the flight attendant will coordinate on the issuance of the Airline Passenger In-flight Disturbance Report or other appropriate actions. The flight attendant completes the report. Completed report is given to appropriate company personnel upon arrival. In turn, company personnel may file the incident report with the DGCA.
CATEGORY THREE.		


Examples: (1) when crewmember duties are disrupted due to continuing interference, (2) when a passenger or crewmember is injured or subjected to a credible threat of injury, (3) when an unscheduled landing is made and/or restraints such as handcuffs are used, and (4) if operator has program for written notification and passenger continues disturbance after receiving written notification.

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Advise cockpit, identify passenger, then cockpit requests the appropriate law enforcement office to meet the flight upon its arrival.

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ATTACHMENT 2.

SAMPLE AIRLINE POLICY BULLETIN -- ASSAULTS ON EMPLOYEES

(1) This sample airline information will be reviewed by each airline's legal department to assure that it accurately states the airline's policies and the legal duties, responsibilities, and rights of the airline and airline personnel. The DGCA does not provide legal advice about the specifics of tort and criminal law.

(2) Although rare, assaults on employees by customers do occur. In many cases, the assault occurs simultaneously with other actions which interfere with the duties of a crewmember. Until today, the Company has handled these cases on an individual basis with the employees involved. This policy is being adopted in an effort to help employees at all levels better understand their rights and responsibilities in the event of an assault.

(3) In many jurisdictions, an assault is defined as an action taken toward an individual that creates a threat of bodily harm, or the apprehension of physical injury. In some jurisdictions, abusive or suggestive language, unless used in a manner that creates the threat of violence or harm, is not considered an assault. If physical contact occurs, the incident is usually defined as battery. Often, an event involving an assault or battery is generally referred to as an assault.

SPECIAL PROTECTION FOR CREWMEMBERS

(1) Crew interference is governed by Lebanese Aviation Regulations (LARs), Section 705.45. Crew interference is defined as an incident where a passenger assaults, threatens, intimidates or interferes with a crewmember while in performance of crew duties on board an aircraft. THIS AIRLINE WILL NOT TOLERATE ASSAULT, THREATS, INTIMIDATION, AND INTERFERENCE. ANY EMPLOYEE WHO IS SUBJECTED TO ASSAULT WHILE AT WORK WILL RECEIVE COMPANY SUPPORT (INCLUDING LEGAL ADVICE...PAID ABSENCE TO APPEAR IN COURT DURING A CRIMINAL PROCEEDING).

(2) The decision to press charges requires an ongoing commitment by the employee and will not be taken lightly. The employee may file a complaint or be required to testify in any subsequent court proceedings.

(3) The Company will provide legal counsel and supervisory assistance in pursuing appropriate action to any employee who is subjected to abuse, physical violence, or intimidation on the job.
 (4) An employee may also pursue a civil action against a party who has committed an assault or

(4) An employee may also pursue a civil action against a party who has committed an assault or battery. A civil action is brought for the purpose of recovering money damages.

(5) In addition, support is available to any employee who is the victim of an assault through the airline's Employee Assistance Program at (phone number). The Company, jointly with the union, also provides a critical incident stress debriefing team which is available to flight attendants in certain circumstances.

(6) It is important that employees report assaults immediately to the Company. All reports will receive follow-up by the appropriate department. All reports of crew interference are filed with the DGCA for recording and possible civil enforcement action. Additional reports obtained for local police are attached to the crew reports to assist the DGCA in their investigation and assignment of appropriate penalty.

(7) It is important to obtain as much information about the offender as possible. A name and address, as well as witness statements, are valuable. At a minimum, a description of the attacker, including physical characteristics, will be important when pursuing legal action. In an aircraft situation, the passenger's assigned seat designation often allows the Company to obtain information through its reservations' records.

(8) As always, employees are expected to be understanding in trying to resolve the frustrations of our customers. However, no one can be expected to tolerate physical abuse of any kind.



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ATTACHMENT 3.

SAMPLE AIRLINE INFORMATION BULLETIN

(1) This sample airline information will be reviewed by each airline's legal department to assure that it accurately states the airline's policies and the legal duties, responsibilities, and rights of the airline and airline personnel. The DGCA does not provide legal advice about the specifics of tort and criminal law.

AIRLINE SECURITY INFORMATION BULLETIN

TO: ALL PUBLIC-CONTACT, FLIGHT OPERATIONS, IN-FLIGHT, AND ASSOCIATED MANAGEMENT PERSONNEL

SUBJECT: ASSAULTS ON EMPLOYEES

(1) Just as any of us would take action if a family member needed help, each of us may feel an obligation to respond when a fellow employee needs help. Our corporate values clearly support this by asking us to show respect for each other as individuals and demonstrating integrity in everything we do.

(2) When a fellow employee is in distress, for any reason, we will immediately and effectively assist that person. This certainly applies in cases of assault. Not coming to the aid of an employee in distress as a result of a customer's actions constitutes a clear failure to adhere to our corporate values. If serious physical assaults are ignored by pilots or managers, for example, basic safety and security may be compromised----and an individual's dignity violated. When a coworker or crewmember ignores an assaulted employee, that employee most likely will feel ignored and abandoned by the airline as well.

(3) It is very important to be aware that authorities will be called for assistance with unruly customers or instances of out-and-out battery. Furthermore, flight officers have an obligation to follow-up on an assault which occurs on an aircraft by requesting that authorities meet the trip and by filing a "Captain's Report of Crewmember Interference."

(4) The following are questions and answers which will provide you with more information about the issue of assault in the workplace.

Q. What does "ASSAULT" actually mean?

A. Many jurisdictions define assault as an action taken toward an individual that creates a threat of bodily harm or the apprehension of physical injury. Abusive or suggestive language, if it is not utilized in a manner that creates the threat of violence or harm, is not considered an assault in some jurisdictions. Generally speaking, if physical contact will occur, the incident is defined as battery. Often, any event involving an assault or battery is referred to as an assault.

Q. What is the company's policy regarding assault?

A. At (airline), assault will not be tolerated. Any employee who is subjected to assault while at work will receive company support, including legal assistance and paid absence to appear in court during a related criminal proceeding.

Q. Will the company provide me with a lawyer?

A. The company will provide legal assistance and supervisory assistance in pursuing appropriate criminal remedial action to any employee who is subjected to abuse, physical violence, or intimidation on the job. The airline, however, will provide legal advice throughout the proceedings.



Q. What if I want to file a civil suit?

A. The decision to pursue a civil action against a party who has committed an assault or battery belongs to the employee. A civil action is brought for the purpose of recovering monetary damages. The company will, however, support the employee, counsel him or her as to their rights, and even assist in finding or retaining an attorney.

(5) Assault in the workplace is a very serious issue. By lending a helping hand when necessary, we can support each other.



ATTACHMENT 4. SAMPLE PROCEDURES DEALING WITH FLIGHT ATTENDANT ASSAULT

(1) This sample airline information will be reviewed by each airline's legal department to assure that it accurately states the airline's policies and the legal duties, responsibilities, and rights of the airline and airline personnel. The DGCA does not provide legal advice about the specifics of tort and criminal law.

POLICY:

Lebanese Aviation Regulations, Section 705.45 states, "No person may assault, threaten, intimidate, or interfere with a crewmember in the performance of the crewmember's duties aboard an aircraft being operated under this Subpart."

PROCEDURES:

During Boarding, at the Gate, or Taxi- Out:

- If the boarding flight attendant or agent identifies a passenger exhibiting inappropriate behavior, they will confer and prior to the passenger boarding, notify the captain and the lead agent. An example of inappropriate behavior could be a passenger who appears to be intoxicated, or has questionable medical problems that could be an immediate threat to other customers or themselves.
- If the passenger is on board the aircraft, the lead flight attendant will notify the captain of the passenger's name, seat number, and the nature of the problem. Reports of this nature can be reported during the sterile cockpit period if necessary.

After Takeoff/En Route:

- The captain will be notified by the lead flight attendant if any passenger displays disruptive behavior, appears to be intoxicated, or is smoking on a nonsmoking flight.
- After attempting to defuse the situation, the captain and the lead flight attendant will coordinate on the issuance of the Airline Passenger In-flight Disturbance Report to the passenger.
- It may not be safe for a cockpit crewmember to leave the cockpit. If the passenger becomes abusive, solicit help from other cabin crewmembers other company employees, or passengers to help restrain the individual.
- Upon arrival, the captain will make a Public Address System Announcement (PA) requesting all passengers remain seated.
- The lead flight attendant will coordinate with the captain to identify passengers involved to the authorities.

Postflight:

- All flight attendants will complete a flight attendant report. Verify the name and address, if possible, of the passenger engaging in misconduct, and of any witnesses.
- Flight attendants need to be prepared to make a verbal and written statement to the local authorities upon landing. Flight attendants will retain a copy of any written report.
- The captain will facilitate any meetings with local authorities and/or appropriate airline personnel.
- Follow-up assistance, such as legal counseling, medical assistance, or personnel counseling will be provided by the flight attendant department or other appropriate departments.



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ATTACHMENT 5.

SAMPLE REPORTING FORM

This sample airline information will be reviewed by each airline's legal department to assure that it accurately states the airline's policies and the legal duties, responsibilities, and rights of the airline and airline personnel. The DGCA does not provide legal advice about the specifics of tort and criminal law.

AIRLINE PASSENGER IN-FLIGHT DISTURBANCE REPORT

Date: _____

Flight #:	Departure City:	

Arrival City: _____

Passenger Information: Name:

Seat #: _____

Description	of Incident:	
-		

Witness Name	Seat #·
vittless i valle.	Deat II.

Address:

Phone #:		

F/A Name:	
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Employee #:		Base:	
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 Republic of Lebanon Ministry of Transport Directorate General of Civil Aviation

F/A Signature:
Captain Name:

Employee #: _____ Base: _____

Captain Signature:

NOTICE: Your behavior may be in violation of National law.

You will immediately cease if you wish to avoid prosecution and your removal from this aircraft at the next point of arrival.

This is a formal warning that Lebanese Aviation Regulations (LARs) prohibits the following (reference LARs parts VI and VII):

- Threatening, intimidating, or interfering with a crewmember (Section 705.45)
- Smoking on a nonsmoking flight or in the lavatory (Section 705.76)
- Drinking any alcoholic beverages not served by a crewmember or creating an alcohol-related disturbance (Section 705.46)

An incident report will be filed with the DGCA. If you do not refrain from these activities you will be prosecuted. The Lebanese Civil Aviation Safety Act provides for civil monetary fines and, in some cases, imprisonment.

This sample airline information will be reviewed by each airline's legal department to assure that it accurately states the airline's policies and the legal duties, responsibilities, and rights of the airline and airline personnel. The DGCA does not provide legal advice about the specifics of tort and criminal law.



ATTACHMENT 6. POSSIBLE LANGUAGE FOR IN-FLIGHT MAGAZINE AND/OR TICKET WALLETS

Lebanese Aviation Regulations (LARs) SECTION **91.11**

Please be advised that interference with crewmembers (including flight attendants) duties is a violation of National law.

An incident report may be filed with the Directorate General of Civil Aviation regarding a passenger's behavior.

Under National law, no person may assault, threaten, intimidate, or interfere with crewmembers (including flight attendants) in the performance of their duties aboard an aircraft under operation.

National law permits penalties for crew interference to include substantial fines, imprisonment, or both.



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APPENDIX VI

to Commercial Air Services Standards

Subpart 5 - Airline Operations

Airline Safety Department

1. PURPOSE.

This Appendix to the Commercial Air Services Standards provides the Standards for the DGCA and Part VII, Subpart 5 operators for the development of a comprehensive and effective safety department. Also, Standards are provided on the functions, qualifications, and responsibilities of the Director of Safety position.

2. BACKGROUND.

The LARs require that each certificate holder that conducts operations under Part VII, Subpart 5 have a Director of Safety. This person will be responsible for keeping the highest management officials of the certificate holder fully informed about the safety status of the certificate holder's entire operation. The DGCA believes that an independent, full time position is important if at all available or possible. However, the DGCA recognizes that in smaller operations, the Director of Safety function might be an additional function of a current manager.

3. SAFETY AND EVALUATION PROGRAMS.

(1) As a matter of policy, the DGCA requires Part VII, Subpart 5 certificate holders to identify, correct, and disclose instances of noncompliance with company procedures and Lebanese Aviation Regulations (LARs). The DGCA has developed guidance material (see Appendix VII to this Standard) that encourages certificate holders to develop Internal Evaluation Programs as a tool for continuously monitoring and evaluating practices and procedures. The DGCA believes that the development and implementation of a comprehensive and effective safety department that employs Safety and Internal Evaluation Programs will benefit both the certificate holder and the flying public. (2) Each Part VII, Subpart 5 air carrier will have a safety department that addresses the broad range of risks involved in commercial aviation to include, but not limited to, flight, maintenance, and ground safety. Since operators vary in both size and scope of operations, it is appropriate to consider such criteria as the kind of operations involved, the number and type of airplanes used, and the areas of operations when determining the size and complexity of a safety department.

(3) Safety programs will be designed to prevent personal injury and property losses resulting from accidents and incidents. The primary objective of a safety program will be to motivate safe actions through establishment of a dynamic corporate safety culture; identify hazards to safe operations; work with other company departments to develop and implement safety interventions; monitor intervention strategies to validate effectiveness; and communicate the results throughout the air carrier.

4. DIRECTOR OF SAFETY.

(1) *Functions*. One of the functions of a Director of Safety is to develop and implement a comprehensive safety program. This safety program will include a safety structure and staff that is appropriate to the size of the operator, the kind and scope of operations, and the type and number of aircraft used in its operations. In all cases, it is important for the safety program to emphasize

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operational safety, including all aspects of flight and ground operations, maintenance programs and passenger safety.

- (a) the Director of Safety will ensure that the necessary safety program elements have been developed, properly integrated, and coordinated throughout the air carrier. These elements include:
 - (i) a safety incident/accident reporting system.
 - (ii) air operator's management plan
 - (iii) responsibilities of the Director of Safety
 - (iv) training for the Director of Safety
 - (v) incident management
 - (vi) flight safety committee
 - (vii) communication and safety education
 - (viii) accident/incident investigation.
 - (ix) safety audits and inspections.
 - (x) internal evaluation program.
 - (xi) operational risk assessment program.
 - (xii) open reporting systems.
 - (xiii) routine monitoring and trend analysis programs.
 - (xiv) review of external evaluation programs.
 - (xv) safety Committee(s).
- (b) the Director of Safety will ensure that the safety program has been disseminated to all appropriate personnel and a detailed description of the safety program is incorporated in the appropriate manuals as described in Part VII, Subpart 5.
- (c) the Director of Safety will ensure that adequate safety program management is maintained.
- (d) the Director of Safety will be autonomous and separate from other departments and report directly to the highest level of management, i.e. chief executive officer, or chairman as appropriate.
- (e) the Director of Safety will have direct access to the appropriate level of senior management and to all managers/supervisors on safety issues.
- (f) the Director of Safety will provide safety concerns and findings to appropriate senior operations managers for appropriate corrective actions.
- (g) the Director of Safety will be a primary participant in the development of an internal evaluation program and the resultant safety audit procedures.
- (h) the Director of Safety position is established as a full time position responsible for keeping the highest management officials of the certificate holder fully informed about flight, maintenance, and ground safety practices, procedures, and programs of the certificate holder's entire operation.
- (2) Qualifications.
 - (a) <u>Training</u>. The Director of Safety will complete an aviation safety education program consistent with the position's responsibilities. If an individual has not completed such a program prior to appointment, the Director of Safety will attend one to supplement his experience. Participation in industry safety meetings, conferences or schools is considered an essential part of the continuing education of the Director of Safety. Training will also include such subject areas as:
 - (i) corporate safety culture.
 - (ii) the role of the safety director as advisor to Senior management officials.
 - (iii) flight safety philosophy.
 - (iv) safety data collection and analysis programs.
 - (v) risk management.
 - (vi) incident/accident prevention and investigation.
 - (vii) human factors and decision making process.

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(viii) emergency response plan.

- (b) <u>Experience</u>. The person assigned as the Director of Safety will have extensive operational experience and professional qualifications in aviation. This would include the knowledge and understanding of the following:
 - (i) aviation safety programs.
 - (ii) aviation safety standards.
 - (iii) safe aviation operating practices.
- (c) <u>Expertise</u>. The person assigned as the Director of Safety will have established professional qualifications. These qualifications may be any of the following:
 - (i) a DGCA commercial pilot or airline transport pilot certificate.
 - (ii) a DGCA mechanics certificate.
 - (iii) three years experience in a supervisory position with a Part VII, Subpart 5 air carrier.
 - (iv) three years experience in a supervisory position with the DGCA.
- (d) <u>Knowledge</u>. The person assigned as the Director of Safety will have a full understanding of the following materials with respect to the certificate holder's operation:
 - (i) the certificate holder's operations specifications.
 - (ii) the certificate holder's manuals required by the LARs.
 - (iii) all appropriate maintenance and airworthiness requirements of LARs.

(3) *Responsibilities*. The Director of Safety responsibilities may include, but not be limited to, the following:

- (a) monitor and report to senior management on all air carrier activities that may have an impact on safety;
- (b) maintain a close liaison with the DGCA;
- (c) establish a reporting system which provides for a timely and free flow of safety-related information;
- (d) develop and maintain a database of incident/accident information to monitor and analyze trends;
- (e) develop and maintain an air operator accident response plan;
- (f) monitor and evaluate the various safety and malfunction reporting systems to ensure appropriate integration and evaluation of data;
- (g) investigate and report on incidents/accidents and make recommendations to preclude a recurrence;
- (h) conduct safety audits and inspections;
- (i) conduct safety surveys;
- (j) solicit and process safety improvement suggestions;
- (k) develop and maintain a safety awareness program;
- (l) review and evaluate the adequacy of the emergency response plan;
- (m) monitor industry safety concerns that may have an impact on operations;
- (n) maintain close liaison with accident investigation organizations and industry safety organizations and associations; and
- (o) discharge their duties to meet applicable legal requirements and to maintain safe operations in accordance with the LARs.

(4) *Incident Management*. The air operator shall be responsible for providing employees with a timely means of reporting any unsafe conditions. The Director of Safety shall institute and maintain an incident reporting system. This system will provide for:

- (a) a process of reporting incidents;
- (b) investigation of incidents;
- (c) the means of advising management; and
- (d) information feedback to employees.
- (5) Flight Safety Committee. An air operator shall establish a Flight Safety Committee.

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- (a) <u>Responsibilities</u>. The responsibilities of the Committee shall be to monitor all areas of the operation, identify safety concerns and deficiencies, and make recommendations for corrective measures to senior management where applicable.
- (b) <u>Members</u>. The Committee shall be chaired by the operations manager or designate. Members shall include representatives of all operating departments in the organization.
- (c) <u>Meetings</u>. The Committee shall meet on a regular basis (at least twice a year) as established by the committee chairperson. Special meetings on urgent matters may be called by any Committee member.
- (d) <u>Minutes</u>. Minutes of the Committee meetings shall provide a record of agenda items, decisions and corrective actions taken where applicable.

(6) *Emergency Response Planning*. The air operator shall develop and maintain an Air Operator Emergency Response Plan that shall include the following elements:

- (a) air operator policy;
- (b) air operator mobilization and agencies notification;
- (c) passenger and crew welfare;
- (d) casualty and next-of-kin coordination;
- (e) accident investigation on behalf of the air operator;
- (f) air operator team's response to the accident site;
- (g) preservation of evidence;
- (h) media relations;
- (i) claims and insurance procedures;
- (j) airplane wreckage removal; and
- (k) emergency response training.

(7) *Communication and Safety Education*. The air operator shall be responsible for an efficient system of distributing appropriate safety material.



Lebanese Aviation Regulations Part VII / Subpart 5 / Standards Airline Operations / Appendix VII

APPENDIX VII

to Commercial Air Services Standards

Subpart 5 – Airline Operations

Air Operator Internal Evaluation Programs

1. PURPOSE.

This Standard provides information and guidance material that will be used by air operator certificate holders, operating under Lebanese Aviation Regulations (LARs) Part VII, Subpart 5, to design or develop an Internal Evaluation Program. The procedures and practices outlined in this Standard will be applied to maintenance, flight operations, and security aspects of an air carrier's organization. Internal evaluation guidance for certificate holders other than those operating under LARs Part VII, Subpart 5 may be issued separately in the future.

2. RELATED READING MATERIAL.

For certificate holders seeking additional guidance on internal evaluation techniques and procedures, an Air Carrier Internal Evaluation - Model Program Guide is available through the U.S. National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161 (703) 487-4600. Certificate holders that decide to voluntarily disclose any apparent violations discovered by an Internal Evaluation Program will refer to (TBD), Air Carrier Voluntary Disclosure Reporting Procedures, for additional guidance.

3. BACKGROUND.

The Internal Evaluation Program is a mandatory program. As a matter of policy, the Directorate General of Civil Aviation requires certificate holders to identify, correct, and disclose instances of noncompliance. Therefore, the development and implementation of an Internal Evaluation Program will benefit both the certificate holder and the flying public.

- (a) definitions of key internal evaluation terms and a description of the basic elements of an Internal Evaluation Program are included in this Standard. These definitions and program elements are consistent with recognized quality auditing principles. Where appropriate, these terms have been tailored to conform to aviation standards and practices. Suggested procedures for documenting Internal Evaluation Program procedures are also included in this Standard.
- (b) the standards described herein are intended to help certificate holders develop their own Internal Evaluation Program. The DGCA requires certificate holders to develop an Internal Evaluation Program as a tool for continuously monitoring and evaluating practices and procedures. Public safety is enhanced if deficiencies are identified and immediately corrected when they are discovered by the certificate holder rather than when they are discovered by the DGCA.
- (c) Article 53 of the Lebanese Civil Aviation Safety Act states that "No individual or legal entity resident in Lebanon shall engage in the operation of commercial air services except under and in accordance with an air operator certificate issued to him as the operator of the aircraft in accordance with the decree" In the case of all certificate holders, the Act is clear in stating that

the duration of a certificate depends upon the ability to conduct a safe operation in accordance with prescribed rules, regulations, and standards.

(d) through surveillance and oversight, the DGCA verifies that certificate holders are upholding their responsibilities. Article 109 of the ACT states that the Minister may delegate the authority to employed inspectors for inspection and maintenance of the air carrier. The Internal Evaluation Program is intended to facilitate the inspector's advisory and cooperative capacity by providing a procedure for identifying and resolving safety related issues. The Internal Evaluation Program also will help certificate holders develop formal compliance monitoring programs.

4. DEFINITIONS.

The following key terms and phrases are defined to ensure a standard interpretation and understanding of the DGCA's Internal Evaluation Program. An Airworthiness Directive (AD) compliance system, applicable to certificate holders that own, operate, or maintain aircraft, engines, or appliances, has been used as an example to further clarify some of the following definitions.

- (a) Evidence. Evidence is a documented statement of fact, prepared by an air carrier, that may be quantitative or qualitative and is based on observations, measurements, or tests that can be verified. For the purpose of internal evaluation, evidence will generally be in the form of written documentation or reports that support an Internal Evaluation Program's analysis and review. These data are necessary to substantiate findings or concerns and to enable management or evaluators to determine the root causes of any reported findings. objective evidence generally comes from the following four elements:
 - (i) documents or manuals reviewed.
 - (ii) equipment examined.
 - (iii) activities observed.
 - (iv) interview data.
- (b) Controls.
 - (i) controls are the key procedures, responsibilities, and decision making positions within an organization, department, division, or functional area.

EXAMPLE:

The manner in which AD applicability is determined by a certificate holder that owns, operates, or maintains aircraft, engines, or appliances is considered a control of the AD compliance system. The design of this control is critical when developing an effective AD compliance system.

(ii) as part of an internal evaluation, the controls of the area being evaluated will be verified and tested. In some instances, personnel performing the internal evaluation will have to first determine the features of a control.



Continuing with the above example, internal evaluation personnel will have to determine first how the certificate holder verifies AD applicability before proceeding with an evaluation of AD accomplishment and records. In particular, the evaluation would focus on procedures that would minimize the risk of a simple human error or oversight.

(c) <u>Finding</u>. A finding is a conclusion by air carrier personnel that demonstrates noncompliance with a specific standard.

EXAMPLE:

An evaluation of powerplant AD current status records led air carrier personnel to conclude that inadequate method of compliance information existed for two applicable ADs. Evidence to support the conclusion included copies of the actual ADs and referenced service bulletins to substantiate the conclusion that the method of compliance could not be ascertained from the current status records. This would be an example of a finding that demonstrates noncompliance with the LARs. If disclosed to the DGCA in accordance with (TBD), it is considered an apparent violation until verified by the appropriate principal inspector.

EXAMPLE:

An internal evaluation can also produce a conclusion that is considered a finding by the air carrier but is not a noncompliance with the LARs. For example, an air carrier may have a procedure that requires AD applicability determination to be reviewed and signed off by quality assurance, engineering, and the vice president of maintenance. A periodic internal evaluation of the AD system discovers that, for five newly applicable ADs, there is neither a record of the review nor a sign off by the vice president of maintenance. This would be an example of a finding that demonstrates noncompliance with a standard other than the LARs (that is, company procedure).

(d) <u>Concern</u>. A concern is a conclusion by air carrier personnel, supported by objective evidence, that does not demonstrate a finding, but rather a condition that may become a finding.

EXAMPLE:

Through the use of its Internal Evaluation Program, a certificate holder found that it had not been scheduling aircraft for AD accomplishment until ADs came within 10 aircraft cycles of being due. While this procedure had not resulted in any findings, a review of scheduling material showed that some aircraft had been flown to within one cycle before performing AD work and that maintenance planners often had to "frantically" reshuffle aircraft schedules to ensure timely AD accomplishment. The internal evaluation team believed these circumstances had the potential of becoming a finding in the future and documented their analysis as a concern in the report to management.

(e) <u>Inspection</u>. An inspection is the act of observing a particular event or action to ensure that correct procedures and requirements are followed during the accomplishment of that event or action. The

primary purpose of an inspection is to verify that established standards are followed during an observed event or action.

Information Note: *NOTE: The term inspection is defined in this Standard within the context of quality auditing principles. It does not address or define DGCA inspections.*

- (f) Audit.
 - (i) an audit is a methodical, planned review used to determine how business is being conducted and compares results with how business should have been conducted in accordance with established procedures. The various techniques that comprise an effective audit are as follows:
 - A. interview personnel.
 - B. review documents.
 - C. observe operations.
 - D. select samples.
 - E. inspect activities.
 - F. document results.
 - (ii) as the above techniques show, an audit builds on the principles of inspection. The results of inspections assist in the audit objective of determining whether business is being conducted in accordance with established policies and procedures. During an audit, qualified personnel look for the existence of a systemic problem, but do not estimate the size of a problem. The results (findings and concerns) of an audit will be documented and presented to management. Management then decides how to address audit results.
- (g) Evaluation.
 - (i) an evaluation is an independent review of company policies, procedures, and systems. An evaluation should be a comprehensive and continual process that considers the following:
 A. results of audits.
 - B. overall effectiveness of the management organization in achieving stated objectives.
 - C. ability of management to respond to new technologies, market strategies, and social or environmental conditions.
 - (ii) the evaluation process builds on the concepts of audit and inspection. An evaluation is an anticipatory process, and is designed to identify and correct potential findings before they occur. Conclusions and recommendations made as a result of an evaluation will be submitted in writing to company management for appropriate action.

5. INTERNAL EVALUATION PROGRAM.

(1) The Internal Evaluation Program is based on the premise that certificate holders are primarily responsible for continuously monitoring and ensuring that their operations are safe and in compliance with the LARs. The DGCA requires air carriers to establish and conduct internal evaluations that embrace the following four principles:

- (a) a continual process that incorporates the techniques of inspections, audits, and evaluations to assess the adequacy of managerial controls in key programs and systems.
- (b) a review that extends beyond regulatory compliance to determine the causes of deficiencies and detect needed enhancements to company operating practices before deficiencies occur.
- (c) an ongoing process that identifies deficiencies, develops corrective action plans to correct these deficiencies, and performs follow-up evaluations.



(d) an independent process that organizationally has straight-line reporting responsibility to top management.

(2) The Internal Evaluation Program should not be misunderstood as a program that replaces existing regulatory auditing requirements, such as continuing analysis and surveillance. The internal evaluation concept stresses self-audit responsibilities of individual employees as well as the evaluation responsibility of top management to ensure that company policies and procedures provide for safety compliance and allow individuals to perform work properly. The initiative is mandatory. Accordingly, the decisions of how and to what extent an Internal Evaluation Program will be implemented are the responsibility of the operator.

6. PROGRAM DESCRIPTION.

(1) Air operator certificate holders operating under LARs Part VII, Subpart 5 will include as a minimum, the following essential elements in their program:

- (a) independent/defined responsibility.
- (b) top management review.
- (c) continual process.
- (d) internal evaluation schedule.
- (e) corrective action plans.
- (f) records.

(2) These elements are further described in the following Sections. It is also mandated, that certificate holders that develop an Internal Evaluation Program will consider preparing a program plan that documents the program's procedures and functional responsibilities. A recommended format for a typical program plan is further explained in appendix 1.

7. INDEPENDENCE/DEFINED RESPONSIBILITY.

(1) A certificate holder's Internal Evaluation Program will identify the person and/or group within the organization who has the responsibility and authority to:

- (a) perform evaluations, audits, and inspections as a part of an ongoing Internal Evaluation Program.
- (b) identify and record any findings or concerns, and the evidence necessary to substantiate findings or concerns.
- (c) initiate, recommend, or provide solutions to findings or concerns through designated reporting channels.
- (d) verify the implementation of solutions within a specific time.
- (e) communicate and coordinate activities with DGCA personnel on a regular basis.

(2) A top management representative will be given the responsibility to ensure that an Internal Evaluation Program is properly established, implemented, and maintained. This management position should be above the level that directly supervises work accomplishment or procedural development and should have direct contact with the chief executive officer or equivalent. For certificate holders with smaller operations, this person may be the chief executive officer, chairman, president, or equivalent.
(3) As a part of identifying internal evaluation responsibility and independence, a certificate holder will identify resources and personnel dedicated to the Internal Evaluation Program and will describe their organizational independence within the company in light of their internal evaluation functions. Individuals conducting internal evaluations will not be responsible for managing work in the areas being evaluated or the tasks being reviewed. This concept may have to be modified for some very small operations.



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(3) For some certificate holders, operating size may justify the costs associated with the necessity of having full time, dedicated resources and personnel in a separate Internal Evaluation Department or group. However, when full time, dedicated resources and personnel are not practical, the certificate holder will develop procedures that preclude persons directly responsible for the areas to be evaluated from participating in the selection of the evaluation team.

(4) For very small operations, an appropriate Internal Evaluation Program might consist of developing checklists and a schedule (monthly, quarterly, semiannual, or annual) for accomplishing checklist items. Even in such cases, the review will include a written statement acknowledging the completion of the checklist items and the signature of a top management official. Under these conditions, occasional independent oversight of checklist item development and accomplishment will be considered if possible. (5) Certificate holders using outside resources in support of, or in fulfillment of, an Internal Evaluation Program, will show that use of those outside resources is coordinated through a chain of command that reflects independence and contact with top management.

8. TOP MANAGEMENT REVIEW.

(1) As a part of an Internal Evaluation Program, top management will review internal evaluation results to verify that satisfactory corrective actions have been implemented. For the purposes of this program, the term "top management" means a certificate holder's chief executive officer, president, chairman, or a person in an equivalent position who has the authority to resolve issues and take action. The DGCA requires that top management be aware of the plans, results (findings and concerns), and follow-up actions undertaken in an Internal Evaluation Program.

(2) The review of internal evaluation information by top management will be documented in reports or other appropriate records generated by the Internal Evaluation Program. The certificate holder should decide the frequency, format, and structure for informing top management of internal evaluation plans, results, and follow-up actions. The program will include a diagram that depicts the independence of personnel who perform or supervise internal evaluation functions, including some form of straight-line reporting authority to top management. It is recommended that the reporting structure be documented by the certificate holder and become a part of its program plan, as discussed in Section 13, and demonstrated in appendix 1.

9. CONTINUAL PROCESS.

(1) In order to effectively anticipate potential problem areas and correct them before actual findings occur, an Internal Evaluation Program will be a continual program, not merely spot check inspections of operating practices. Stand alone spot check inspections will do little more than identify symptoms of potential problems.

(2) A continual process is needed to verify whether findings are isolated instances, or actual symptoms of policy, procedural, or managerial problems. A certificate holder's program will continuously monitor policies, procedures, and managerial systems to ensure a continued safe and efficient operation. A continual program will include scheduled evaluations, follow-up evaluations as necessary, and special evaluations when trends are identified.

10. INTERNAL EVALUATION SCHEDULE.

(1) To be properly organized, a continual process will be a structured activity. For this reason, it is essential for a certificate holder's Internal Evaluation Program to include a defined schedule of activities. This planned schedule will serve to verify that the internal evaluation process is:

- (a) complete and thorough.
- (b) directed.
- (c) credible.
- (d) recognized by top management.

(2) A proper internal evaluation schedule will include a planned periodic review cycle for specific areas covered by the certificate holder's Internal Evaluation Program. However, the scheduling process should also be dynamic and allow for special evaluations when trends are identified. In addition, follow-up evaluations will be scheduled as necessary to verify that corrective action commitments were met and that they were effective in eliminating any reported findings or concerns. Planned, special, and follow-up evaluations, all of which comprise an effective internal evaluation schedule are further defined below. (3) *Planned Cycle*.

- (a) establish a schedule of events that will be performed during a set calendar period under the Internal Evaluation Program.
- (b) divide the complete schedule into phases.
- (c) schedule evaluations within each phase to allow enough flexibility for resources to be committed as needed to special evaluations or follow-up evaluations.
- (4) Special Evaluations.
 - (a) conduct special evaluations based on concerns or priorities identified by top management.
 - (b) schedule special evaluations based on a review of industry trends, DGCA concerns, or identified internal trends.
- (5) Follow-up Evaluations.
 - (a) schedule follow-up evaluations to ensure corrective action commitments were met.
 - (b) conduct follow-up evaluations to verify that corrective actions eliminated the reported finding or concern.
 - (c) perform follow-up evaluations in response to FAA surveillance findings.

11. CORRECTIVE ACTION PLANS.

 (1) An Internal Evaluation Program will include procedures to ensure that corrective action plans are developed in response to findings or concerns, and for monitoring corrective action plans to verify their timely and effective implementation and completion. Internal evaluation personnel will participate in the development of corrective action plans or make suggestions that contribute to the development of corrective action plans. However, organizational responsibility and accountability for the development of corrective action plans will reside with the technical departments cited in the finding or concern.
 (2) A proper corrective action plan will include the following elements:

- (a) identification of the finding or concern.
- (b) analysis of objective evidence to determine the root cause(s) of the finding or concern.
- (c) identification of planned corrective steps to take to ensure that the apparent violation or concern does not recur.
- (d) implementation schedule, including a time frame for putting corrective steps in place.
- (e) individuals or departments responsible for implementing the corrective steps.

(3) The individuals responsible for managing an Internal Evaluation Program will facilitate the corrective action process by performing the following functions:



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- (a) ensuring corrective action plans are developed in response to findings or concerns.
- (b) verifying corrective action plans include the elements outlined above.
- (c) monitoring implementation and completion of corrective action plans.
- (d) providing top management with an independent assessment of corrective action plan development, implementation, and completion.
- (e) initiating scheduled and/or unannounced follow-up evaluations to ensure the effectiveness of corrective steps specified in corrective action plans.

12. RECORDS.

(1) Records documenting the performance and results of an Internal Evaluation Program will be maintained by the certificate holder. Records are considered to be the principal form of evidence. Documented evidence is essential in analyzing and determining the root causes of findings or concerns so that potential areas of noncompliance can be identified by the certificate holder. It is important to maintain accurate, complete, and reliable records that document the activities and results of an internal evaluation.

(2) The DGCA requires that Internal Evaluation Program files include the following data:

- (a) scheduled evaluation reports.
- (b) special evaluation reports, including the trends or other reasons associated with scheduling a special evaluation.
- (c) follow-up evaluation reports.
- (d) responses to findings or concerns contained in reports.
- (e) corrective action plans submitted in response to findings.

(3) Recognizing that much of the information contained in Internal Evaluation Program records could be proprietary in nature, a certificate holder will maintain and secure these records on their premises. All records related to findings that are disclosed to the DGCA will be made available to the DGCA for review. Proprietary information will be protected in accordance with applicable laws and regulations. Further information on voluntary disclosure reporting procedures is provided in (TBD).

13. PROGRAM PLAN OUTLINE.

It is required that Internal Evaluation Program procedures and responsibilities be documented in a program plan. This Section provides suggestions for preparing and structuring a program plan.

(1) Preparing a Program Plan.

- (a) preparing a program plan is only a recommended practice and is optional for the certificate holder. Certificate holders will review the size and complexity of their operation to determine whether a program plan will benefit their internal evaluation process.
- (b) a program plan should describe the duties, responsibilities, procedures, and organization of a certificate holder's Internal Evaluation Program. Terms and elements defined in program plans will be consistent with those outlined in Sections 4 through 12.
- (c) copies of the program plan will be distributed to appropriate company personnel, so they are aware of and are familiar with Internal Evaluation Program procedures. In addition, revisions will be made as necessary to ensure that the program plan continues to reflect the certificate holder's current internal evaluation procedures and organization.
- (d) The DGCA will approve program plan contents. Documenting the procedures and responsibilities associated with any program is considered a requirement. The DGCA will be available to provide assistance if requested.



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(2) *Structuring a Program Plan*. As a suggestion, a sample outline of a program plan using the program elements discussed in this Standard is provided in appendix 1. The outline provided in appendix 1 should be viewed as a checklist of items that warrant consideration when a certificate holder is designing an Internal Evaluation Program. The number of items addressed and how they are documented will ultimately depend on the complexity of each certificate holder's operation.

14. PROGRAM ACCEPTANCE.

The DGCA will approve Internal Evaluation Programs. Air operators certificate holders operating under LARs Part VII, Subpart 5 that develop an Internal Evaluation Program may ask for assistance from the DGCA. Preparing a program plan, as discussed in Section 13, will provide the DGCA with an opportunity to review the proposed duties, responsibilities, procedures, and organization of the certificate holder's Internal Evaluation Program. In all cases that involve Internal Evaluation Program development, the DGCA will be available to provide advice, assistance, or direction to interested certificate holders.

15. DISCLOSURE TO THE DGCA.

The DGCA requires certificate holders to openly share the results of their Internal Evaluation Program with the DGCA. For certificate holders electing to voluntarily disclose apparent violations discovered by an Internal Evaluation Program, further information is provided in (TBD).

16. CONCLUSION.

Development of Internal Evaluation Programs, as discussed in this Standard will ensure that company policies and procedures are responsive to growth and change and that certificate holders continually comply with appropriate safety requirements. Furthermore, the DGCA requires certificate holders to make Internal Evaluation Programs an integral part of their everyday management process, so that the full benefits of voluntary disclosure can be realized. Aviation safety is best served by programs that allow certificate holders to identify and correct their own instances of noncompliance and invest more resources in efforts to preclude their recurrence.



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ATTACHMENT 1

Program Plan Sample Outline

Objective and Policy:

(1) The objective should be a statement that clearly defines the purpose and structure of the certificate holder's Internal Evaluation Program. Policy statements following the objective should indicate that internal evaluation is independent, that it actively involves top management, and that it is an ongoing process designed to identify potential problem areas.

(2) *Definition of Terms*. Terms that will be used consistently in the Internal Evaluation Program should be defined. For example, a certificate holder should have a procedure for categorizing results (that is, a finding or concern). These categories, as well as other terms applicable to the internal evaluation function, should be clearly defined and documented so that company personnel can understand and properly interpret them. Definitions should be similar to those specified in Section 4.

(3) *Duties and Responsibilities*. The duties and responsibilities of internal evaluation personnel should be documented. The certificate holder will specify which personnel are responsible for performing the following tasks:

- (a) supervise the internal evaluation function.
- (b) perform evaluations, audits, and inspections as a part of internal evaluation.
- (c) identify and record any findings or concerns.
- (d) collect the objective evidence necessary to substantiate findings or concerns.
- (e) initiate, recommend, or provide solutions to findings or concerns through designated reporting channels.
- (f) monitor the development and implementation of corrective action plans.
- (g) maintain and update internal evaluation files.
- (h) verify the implementation of solutions.
- (i) communicate and coordinate Internal Evaluation Program activities with FAA personnel on a regular basis.

(4) This section of the program plan should show that personnel responsible for the tasks listed above are not responsible for the accomplishment or management of work in the areas being evaluated or the tasks being revised. The supervisor of the internal evaluation function should either be a top management representative or have straight-line reporting authority to top management.

(5) When full time dedicated resources and personnel are not practical, developed procedures should show that persons having direct responsibility for the areas to be evaluated are not involved in the selection or supervision of the internal evaluation team. In addition, identified personnel should be exempt from their other duties and completely dedicated to the Internal Evaluation Program while they participate on an evaluation team.

(6) Organization Chart. An organization chart that clearly shows the position of the Internal Evaluation Program in the certificate holder's organization should be prepared. This position should reflect both the program's independence within the corporate structure and straight-line reporting to top management. (7) *Reporting Procedures*. Reporting procedures should include company requirements that top management reviews internal evaluation information. Top management should be informed, through straight-line reporting channels, about the schedules, plans, results, and follow-up corrective actions of the Internal Evaluation Program. The procedures outlined in this section of the program plan should specify



the frequency, format, and structure for reporting information to top management. A procedure explaining how the review by top management will be documented should also be developed.

(8) *Specified Areas Covered*. A certificate holder should specify the areas within the scope of review under the Internal Evaluation Program. The DGCA believes that the most effective Internal Evaluation Program will encompass a complete review of the certificate holder's operation. However, a certificate holder has the option of limiting internal evaluation to selected systems or functional areas.

(9) *Schedule Process*. The scheduling process should be comprised of the following three elements:

- (a) scheduled evaluations over a predetermined calendar period.
- (b) special evaluations when trends are identified or priorities are set by top management.
- (c) follow-up evaluations to verify the effectiveness of corrective action plans.

(10) The program plan should include procedures for planning, developing, and coordinating the internal evaluation schedule. The responsibility for planning and developing schedule activities should also be defined.

(11) *Records*. The Internal Evaluation Program will have a defined recordkeeping process. Procedures should specify how records are filed and maintained. Standard forms or formats for filing reports also should be specified. The DGCA suggests that Internal Evaluation Program records be comprised of the following:

- (a) scheduled evaluation reports.
- (b) special evaluation reports.
- (c) follow-up evaluation reports.
- (d) responses to findings or concerns contained in reports.
- (e) corrective action plans submitted in response to findings.
- (f) reports concerning the completed corrective action.

(12) *Training*. If feasible, the certificate holder should specify that evaluators have some type of training in recognized quality auditing, and evaluation principles and techniques. This training could be any one or combination of the following:

- (a) in-house prepared courses.
- (b) college courses.
- (c) home study course materials.
- (d) industry available seminars and workshops.
- (e) selected Authority's courses.



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APPENDIX VIII to Commercial Air Services Standards

Subpart 5 – Airline Operations

AIRLINE TRANSPORT PILOT AND AIRCRAFT TYPE RATING

Practical Test Standards for Airplane

FOREWORD

These Airline Transport Pilot and Aircraft Type Rating — Airplane Practical Test Standards (PTS) are published by the Directorate General of Civil Aviation (DGCA) to establish the standards for airline transport pilot and aircraft type rating practical tests for airplanes under the provisions of Part VII of the Lebanese Aviation Regulations (LARS). DGCA inspectors, Aircrew Designated Examiners (ADE), and check airmen (referred to as examiners throughout the remaining practical test standard) shall conduct practical tests in compliance with these standards. Flight instructors and applicants should find these standards helpful in practical test preparation.



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DIVISION I - INTRODUCTION

1. GENERAL INFORMATION

(1) The Directorate General of Civil Aviation (DGCA) has developed this practical test standard to be used by Aircrew Designated Examiners (ADE) and Check Airman when conducting airline transport pilot and aircraft type rating practical tests (knowledge of the equipment and flight tasks) in airplanes. Instructors are expected to use this Standard when preparing applicants for practical tests. Applicants should refer to these standards during their training. Information considered directive in nature is described in this practical test standard in terms such as "shall" and "must" indicating the actions are mandatory. Guidance information is described in terms such as "should" and "may" indicating the actions are desirable or permissive but not mandatory.

2. PRACTICAL TEST STANDARD CONCEPT

(1) The Lebanese Aviation Regulations (LARs), Part IV specifies the areas in which knowledge and skills must be demonstrated by the applicant before the issuance of an airline transport pilot license. This Standard specifies the areas in which knowledge and skills must be demonstrated by the applicant before the issuance of an airline transport pilot license and/ or a type rating in airplanes under the provisions of LARs Part VII. The LARs provide the flexibility to permit the DGCA to publish practical test standards containing specific tasks in which pilot competency must be demonstrated. The DGCA will revise this Standard whenever it is determined that changes are needed in the interest of safety. Adherence to provisions of the regulations and this Standard are mandatory for the evaluation of pilot applicants who are trained and checked under the provisions of LARs Part VII. For some aircraft types, provisions of Flight Standardization Board (FSB) Reports may specify details as to how this Standard applies to certain maneuvers, tasks, procedures or knowledge areas.

(2) Flight proficiency for certification of airmen employed by LARs Part VII operators and DGCA personnel assigned to Part VII operators, is demonstrated when the maneuvers and procedures required for the issuance of a type rating for a specific airplane are accomplished satisfactorily. These type rating requirements may be determined through successful completion of a proficiency check under Part VII which will satisfy the requirements for the appropriate aircraft rating. Unless the Minister requires certain or all tasks to be performed, the examiner who conducts the practical test for an airline transport pilot certificate or added rating may waive any of the tasks for which the Minister approves waiver authority. For those crewmembers employed by LARs Part VII operators, and those DGCA personnel assigned to Part VII certificates, the Minister provides waiver discretion to the check airman (also a qualified examiner), or the DGCA inspector conducting the check, for the following maneuvers/procedures:

- (a) area arrival or area departure, but not both.
- (b) two of three stalls. (One demonstrated in a turn, with a bank of 15 to 30°)
- (c) holding.
- (d) second nonprecision approach.
- (e) circling approach.*
- (f) steep turns.
- (g) specific flight characteristics.
- * May not be waived on two successive proficiency checks. Waiver authority requires that the applicant is otherwise trained to proficiency in all six maneuvers/procedures in the operator's DGCA approved training program.



Information Note: Pilots employed by an air operator certificate holder, operating under Part VII, whose manual prohibits a circling approach when the weather is below 1,000 feet and 3 miles' visibility are not required to be checked on the circling approach and landing from a circling approach. Airline transport pilot and aircraft type rating certificates issued without training and checking in the circling maneuver will be annotated "CIRC. APCH. VMC ONLY." This restriction may be removed when the circling approach is satisfactorily demonstrated to a designated examiner (also a check airman), or DGCA qualified inspector, in the appropriate type airplane.

3. PRACTICAL TEST STANDARD DESCRIPTION

(1) This Standard contains the Airline Transport Pilot and Aircraft Type Rating Practical Test Standards — Airplane. The Airline Transport Pilot and Aircraft Type Rating Practical Test Standards - Airplane includes Areas of Operation and Tasks for the initial issuance of an airline transport pilot certificate and for the addition of category, class, and aircraft type ratings to that certificate. The Areas of Operation are divided into two sections. The first Area of Operation in each section is conducted on the ground to determine the applicant's knowledge of the aircraft, equipment, performance, and limitations. The eight Areas of Operation in the second section are considered to be in flight. All eight Areas of Operation in the second section test the applicant's skill and knowledge. If all increments of the practical test are not completed on one date, all remaining increments of the test must be satisfactorily completed not more than 60 calendar days after the date on which the applicant began the test. Areas of Operation are phases of the practical test arranged in a logical sequence within each standard. They begin with preflight preparation and end with postflight procedures. The examiner may combine tasks with similar objectives and conduct the practical test in any sequence that will result in a complete and efficient test. Tasks are titles of knowledge areas, flight procedures, or maneuvers appropriate to an Area of Operation. NOTE is used to emphasize special considerations required in the Area of Operation.

(2) The objective lists the important elements that must be satisfactorily performed to demonstrate competency in a task. The objective includes:

- (a) specifically what the applicant will be able to do;
- (b) the conditions under which the task is to be performed; and
- (c) the acceptable standards of performance.

(3) The Reference identifies the publication(s) that describe(s) the task. Descriptions of tasks are not included in the practical the standards because this information can be found in the listed references, as amended. Publications other than those listed may be used for references if their content conveys substantially the same meaning as the referenced publications. This standard is based on the following references:

- (a) LARs Part 1, Subpart 1, Interpretations
- (b) LARs Part IV, Personnel Licensing
- (c) LARs Part VI, General Operating and Flight Rules
- (d) U.S. Advisory Circular AC 00-6 Aviation Weather
- (e) U.S. Advisory Circular AC 00-45 Aviation Weather Services
- (f) U.S. Advisory Circular AC 60-22 Aeronautical Decision Making
- (g) U.S. Advisory Circular AC 60-28 English Language Skill Standards
- (h) U.S. Advisory Circular AC 61-21 Flight Training Handbook
- (i) U.S. Advisory Circular AC 61-27 Instrument Flying Handbook
- (j) U.S. Advisory Circular AC 61-84 Role of Preflight Preparation



- (k) LARs Part VI, Subpart 2, Standards, Appendix II Criteria for Approval of Category III Landing Weather Minima
- (1) LARs Part VI, Subpart 2, Standards, Appendix II Criteria for Approving Category I and Category II Landing Minima
- (m) U.S. Advisory Circular AC 120-40 Airplane Simulator Qualification
- (n) U.S. Advisory Circular AC 120-45 Airplane Flight Training Device Qualification
- (o) U.S. Advisory Circular AC 120-46 Use of Advanced Training Devices
- (p) U.S. Advisory Circular AC 120-51 Crew Resource Management Training
- (q) U.S. Advisory Circular AC 120-53 Crew Qualification and Pilot Type Rating Requirements for Transport Category Aircraft Operated Under Part 121
- (r) U.S. Advisory Circular AC 120-62 Takeoff Safety Training Aid
- (s) FSB Reports Flight Standardization Board Reports
- (t) AFM Approved Airplane Flight Manual
- (u) U.S. FAA AIM Aeronautical Information Manual.
- (v) other Pertinent Pilot's Operating Handbooks and Flight Manuals
- (w) En Route Low and High Altitude Charts
- (x) Profile Descent Charts
- (y) SID Standard Instrument Departure
- (z) STAR Standard Terminal Arrivals
- (aa) AFD Airport Facility Directory
- (bb) Notices to Airmen
- (cc) IAP Instrument Approach Procedure Charts

4. USE OF THE PRACTICAL TEST STANDARDS

(1) The tasks, in this practical test standard, are for airplanes. These tasks apply to the applicant who seeks an airline transport pilot certificate; the addition of a category, class, or aircraft type rating on that certificate. The applicant that holds a private or commercial pilot certificate and is seeking the addition of an aircraft type rating on that certificate, must have the proper category/class rating or accomplish the appropriate tasks in the private/commercial pilot standard which are not in this Standard. With certain exceptions, some described by Notes, all tasks are required. However, when a particular element is not appropriate to the aircraft or its equipment, that element, at the discretion of the examiner, may be omitted. Examples of element exceptions are integrated flight systems for aircraft not so equipped, operation of landing gear in fixed gear aircraft, multiengine tasks in single-engine aircraft, or other situations where the aircraft operation is not compatible with the requirement of the element.

(2) Examiners must develop a written plan of action that includes the order and combination of tasks to be demonstrated by the applicant in a manner that results in an efficient and valid test. Although tasks with similar objectives may be combined to conserve time, the objectives of all tasks must be demonstrated and evaluated at some time during the practical test. It is of utmost importance that the examiner accurately evaluate the applicant's ability to perform safely as a pilot in the International Airspace System. The examiner may simulate/act as air traffic control (ATC) while conducting the practical test. Examiners shall place special emphasis upon areas of aircraft operations considered critical to flight safety. Among these are positive aircraft control, positive exchange of the flight controls procedure (who is flying the aircraft), collision avoidance, wake turbulence avoidance, use of available automation, communication management, crew resource management (CRM), aeronautical decision making (ADM), and other areas deemed appropriate to any phase of the practical test. Although these areas may not be specifically addressed under each task, they are essential to flight safety and will be critically evaluated during the practical test. In all instances, the applicant's actions will relate to the complete situation. The examiner's role regarding ATC, crew resource management, and the duties and responsibilities of the examiner through all phases of the practical test must be explained to and understood by the applicant, prior to the test.



5. PRACTICAL TEST PREREQUISITES: AIRLINE TRANSPORT PILOT/AIRCRAFT TYPE RATING

An applicant for the original issuance of an airline transport pilot certificate is required (prior to the practical test) to:

- (a) have passed the appropriate airline transport pilot knowledge test before the date of the practical test;
- (b) have the aeronautical experience prescribed in LARs Part IV, that apply to the aircraft category and class rating;
- (c) have a minimum of a Class II medical certificate;
- (d) be at least 21 years of age; and
- (e) be able to read, speak, write, and understand the English language. If there is a doubt, use U.S. Advisory Circular AC 60-28, English Language Skill Standards.
- (f) pilot-in-command aircraft qualification training program that is appropriate to the certificate and rating sought; and
- (g) received a logbook endorsement from the instructor who conducted the training, certifying that the applicant completed all the training on the Areas of Operation in this practical test standard that apply to the aircraft type rating sought.
- (h) any other requirements set out in Part IV of the LARs.

6. AIRCRAFT AND EQUIPMENT REQUIREMENTS FOR THE PRACTICAL TEST

The applicant is required to provide an appropriate and airworthy aircraft for the practical test. Its operating limitations must not prohibit the tasks required on the practical test. Flight instruments are those required for controlling the aircraft without outside references. The aircraft must have radio equipment for communications with air traffic control and the performance of instrument approach procedures.

Information Note: The practical test must be performed in actual or simulated instrument conditions, unless the practical test cannot be accomplished under instrument flight rules because the aircraft's type certificate makes the aircraft incapable of operating under instrument flight rules.

7. Use of DGCA-Approved Flight Simulator or Flight Training Device

In the Area of Operation labeled "PREFLIGHT PREPARATION," the tasks are knowledge only. These tasks do not require the use of a flight training device (FTD), flight simulator, or an aircraft to accomplish, but they may be used. Each in-flight maneuver or procedure must be performed by the applicant in an FTD, flight simulator, or an aircraft. Part VII, Appendix I should be consulted to identify the maneuvers or procedures that may be accomplished in an FTD or flight simulator. The level of FTD or flight simulator required for each maneuver or procedure will also be found in Part VII, Appendix I. When accomplished in an aircraft, certain task elements may be accomplished through "simulated" actions in the interest of safety and practicality, but when accomplished in an FTD or flight simulator, these same actions would not be "simulated." For example, when in an aircraft, a simulated engine fire may be addressed by retarding the throttle to idle, simulating the disconnection of associated electrics, hydraulics, pneumatics, etc. However, when the same emergency condition is addressed in an FTD or a flight simulator, all task elements must be accomplished as would be expected under actual circumstances. Similarly, safety of flight



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precautions taken in the aircraft for the accomplishment of a specific maneuver or procedure (such as limiting altitude in an approach to stall, setting maximum airspeed for a rejected takeoff) need not be taken when an FTD or a flight simulator is used. It is important to understand that whether accomplished in an FTD, a flight simulator, or the aircraft, all tasks and task elements for each maneuver or procedure will have the same performance criteria applied for determination of overall satisfactory performance.

8. EXAMINER RESPONSIBILITY

The examiner who conducts the practical test is responsible for determining that the applicant meets the standards outlined in the objective of each task within the Areas of Operation, in the practical test standard. The examiner shall meet this responsibility by determining that the applicant's knowledge and skill meet the objective in all required tasks. The equipment examination must be closely coordinated and related to the flight portion of the practical test, but must not be given during the flight portion of the practical test. The equipment examination should be administered prior (it may be the same day) to the flight portion of the practical test. The examiner may accept written evidence of the equipment exam if the exam is approved by the Minister and administered by an individual authorized by the Minister. The examiner shall use whatever means deemed suitable to determine that the applicant's equipment knowledge meets the standard. The Areas of Operation in Section 2 contain tasks which include both "knowledge" and "skill" Elements. The examiner shall ask the applicant to perform the skill elements. Knowledge elements not evident in the demonstrated skills may be tested by questioning, at anytime, during the flight event. Questioning in flight should be used judiciously so that safety is not jeopardized. Questions may be deferred until after the flight portion of the test is completed. For aircraft requiring only one pilot, the examiner may not assist the applicant in the management of the aircraft, radio communications, tuning and identifying navigational equipment, and using navigation charts. If the examiner, other than a DGCA Inspector, is qualified and current in the specific make and model aircraft that is certified for two or more crewmembers, he or she may occupy a duty position. If the examiner occupies a duty position on an aircraft that requires two or more crewmembers, the examiner must fulfill the duties of that position. Moreover, when occupying a required duty position, the examiner shall perform crew resource management functions as briefed and requested by the applicant. SAFETY OF FLIGHT shall be the prime consideration at all times. The examiner, applicant, and crew shall be constantly alert for other traffic

9. SATISFACTORY PERFORMANCE

The ability of an applicant to safely perform the required Tasks is based on:

- (a) performing the tasks specified in the Areas of Operation for the certificate or rating sought within the approved standards;
- (b) demonstrating mastery of the aircraft with the successful outcome of each task performed never seriously in doubt;
- (c) demonstrating sound judgment and crew resource management; and single-pilot competence if the aircraft is type certificated for single-pilot operations.

10. UNSATISFACTORY PERFORMANCE

Consistently exceeding tolerances stated in the Task Objective, or failure to take prompt, corrective action when tolerances are exceeded, is indicative of unsatisfactory performance. The tolerances represent the performance expected in good flying conditions. Any action, or lack thereof, by the applicant which requires corrective intervention by the examiner to maintain safe flight shall be disqualifying.



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Information Note: It is vitally important that the applicant, safety pilot, and examiner use proper and effective scanning techniques to observe all other traffic in the area to ensure the area is clear before performing any maneuvers.

If, in the judgment of the examiner, the applicant's performance of any task is unsatisfactory, the associated Area of Operation is failed and therefore the practical test is failed. Examiners shall not repeat tasks that have been attempted and failed. The examiner or applicant may discontinue the test at any time after the failure of a task which makes the applicant ineligible for the certificate or rating sought. The practical test will be continued only with the consent of the applicant. In such cases, it is usually better for the examiner to continue with the practical test to complete the other tasks. If the examiner determines that the entire practical test must be repeated, the practical test should not be continued but should be terminated immediately. If the practical test is either continued or discontinued, the applicant is entitled to credit for those Areas of Operation satisfactorily performed, if the remainder of the practical test is completed within 60 days of when the practical test was discontinued. However, during the retest and at the discretion of the examiner, any Area of Operation may be reevaluated including those previously passed. Whether the remaining parts of the practical test are continued or not after a failure, a notice of disapproval must be issued. When the examiner determines that a task is incomplete, or the outcome uncertain, the examiner may require the applicant to repeat that task, or portions of that task. This provision has been made in the interest of fairness and does not mean that instruction or practice is permitted during the certification process. When practical, the remaining tasks of the practical test phase should be completed before repeating the questionable task. If the second attempt to perform a questionable task is not clearly satisfactory, the examiner shall consider it unsatisfactory.

11. RECORDING UNSATISFACTORY PERFORMANCE

This practical test standard uses the terms "AREA OF OPERATION" and "TASK" to denote areas in which competency must be demonstrated. When a failure has occurred, the examiner must record the applicant's unsatisfactory performance in terms of "AREA OF OPERATION" appropriate to the practical test conducted in the airman's training record.

12. CREW RESOURCE MANAGEMENT (CRM)

(1) CRM refers to the effective use of all available resources; human resources, hardware, and information." Human resources includes all other groups routinely working with the cockpit crew (or pilot) who are involved in decisions that are required to operate a flight safely. These groups include, but are not limited to: dispatchers, cabin crewmembers, maintenance personnel, and air traffic controllers." CRM is not a single task. CRM is a set of competencies which must be evident in all tasks in this practical test standard as applied to the single pilot or the multicrew operation. CRM competencies, grouped into three clusters of observable behavior, are:

- (a) <u>Communications Processes and Decisions</u>
 - (i) briefing
 - (ii) inquiry/advocacy/assertiveness
 - (iii) self-critique
 - (iv) communication with available personnel resources
 - (v) decision making
- (b) Building and Maintenance of a Flight Team
 - (i) leadership/followership
 - (ii) interpersonal relationships
- (c) <u>Workload Management and Situational Awareness</u>
 - (i) preparation/planning



- (ii) vigilance
- (iii) workload distribution
- (iv) distraction avoidance
- (v) wake turbulence avoidance

(2) CRM deficiencies almost always contribute to the unsatisfactory performance of a task. Therefore, the competencies provide an extremely valuable vocabulary for debriefing. For debriefing purposes, an amplified list of these competencies, expressed as behavioral markers, may be found in Part VII, Subpart 5, Standards, Appendix IV, as amended. These markers consider the use of various levels of automation in flight management systems. CRM evaluations are still largely subjective. Certain CRM competencies are well-suited to objective evaluation. These are the CRM-related practices set forth in the aircraft manufacturer's or the operator's DGCA approved operating or training manuals as explicit, required procedures. Those procedures may be associated with one or more tasks in these practical test standards. Examples include required briefings, radio calls, and instrument approach callouts. The evaluator simply observes that the individual complies (or fails to comply) with requirements.

13. HOW THE EXAMINER APPLIES CRM

Examiners are required to exercise proper CRM competencies in conducting tests as well as expecting the same from applicants. Pass/Fail judgments based solely on CRM issues must be carefully chosen since they may be entirely subjective. Those Pass/Fail judgments which are not subjective apply to CRM-related procedures in DGCA approved operations manuals that must be accomplished, such as briefings to other crewmembers. In such cases, the operator (or the aircraft manufacturer) specifies what should be briefed and when the briefings should occur. The examiner may judge objectively whether the briefing requirement was or was not met. In those cases where the operator (or aircraft manufacturer) has not specified a briefing, the examiner shall require the applicant to brief the appropriate items from the following note. The examiner may then judge objectively whether the briefing requirement was or was not met.

Information Note: The majority of aviation accidents and incidents are due to resource management failures by the pilot/crew; fewer are due to technical failures. Each applicant shall give a crew briefing *before each takeoff/departure and approach/landing. If the* operator or aircraft manufacturer has not specified a briefing, the briefing shall cover the appropriate items, such as runway, *SID/STAR/IAP, power settings, speeds, abnormals or emergency* prior to or after V1, emergency return intentions, missed approach procedures, FAF, altitude at FAF, initial rate of descent. DH/MDA. time to missed approach. and what is expected of the other crewmembers during the takeoff/SID and approach/landing. If the first takeoff/departure and approach/landing briefings are satisfactory, the examiner may allow the applicant to brief only the changes, during the remainder of the flight.


14. APPLICANT'S USE OF CHECKLISTS

Throughout the practical test, the applicant is evaluated on the use of an appropriate checklist. Proper use is dependent on the specific task being evaluated. The situation may be such that the use of the checklist, while accomplishing elements of an objective, would be either unsafe or impractical, especially in a single-pilot operation. In this case, a review of the checklist after the elements have been accomplished would be appropriate. Use of a checklist should also consider visual scanning and division of attention at all times.

15. USE OF DISTRACTIONS DURING PRACTICAL TESTS

Numerous studies indicate that many accidents have occurred when the pilot has been distracted during critical phases of flight. To evaluate the pilot's ability to utilize proper control technique while dividing attention both inside and outside the cockpit, the examiner shall cause a realistic distraction during the flight portion of the practical test to evaluate the applicant's ability to divide attention while maintaining safe flight.



SECTION 1

Preflight Preparation

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AREA OF OPERATION

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I. AREA OF OPERATION: PREFLIGHT PREPARATION

A. TASK: EQUIPMENT EXAMINATION

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge appropriate to the airplane; its systems and components; its normal, abnormal, and emergency procedures; and uses the correct terminology with regard to the following items:

- (a) <u>Landing Gear</u>. Indicators, float devices, brakes, antiskid, tires, nose-wheel steering, and shock absorbers.
- (b) <u>Powerplant</u>. Controls and indications, induction system, carburetor and fuel injection, turbocharging, cooling, fire detection/protection, mounting points, turbine wheels, compressors, deicing, anti-icing, and other related components.
- (c) <u>Propellers</u>. Type, controls, feathering/unfeathering, autofeather, negative torque sensing, synchronizing, and synchrophasing.
- (d) <u>Fuel System</u>. Capacity; drains; pumps; controls; indicators; cross feeding; transferring; jettison; fuel grade, color and additives; fueling and defueling procedures; and substitutions, if applicable.
- (e) Oil System. Capacity, grade, quantities, and indicators.
- (f) <u>Hydraulic System</u>. Capacity, pumps, pressure, reservoirs, grade, and regulators.
- (g) <u>Electrical System</u>. Alternators, generators, battery, circuit breakers and protection devices, controls, indicators, and external and auxiliary power sources and ratings.
- (h) <u>Environmental Systems</u>. Heating, cooling, ventilation, oxygen and pressurization, controls, indicators, and regulating devices.
- (i) <u>Avionics and Communications</u>. Autopilot; flight director; Electronic Flight Indicating Systems (EFIS); Flight Management System(s) (FMS); Long Range Navigation (LORAN) systems; Doppler Radar; Inertial Navigation Systems (INS); Global Positioning System (GPS/DGPS/WGPS); VOR, NDB, ILS/MLS, RNAV systems and components; indicating devices; transponder; and emergency locator transmitter.
- (j) <u>Ice Protection</u>. Anti-ice, deice, pitot-static system protection, propeller, windshield, wing and tail surfaces.
- (k) <u>Crewmember and Passenger Equipment</u>. Oxygen system, survival gear, emergency exits, evacuation procedures and crew duties, and quick donning oxygen mask for crewmembers and passengers.
- (1) <u>Flight Controls</u>. Ailerons, elevator(s), rudder(s), winglets, canards, control tabs, balance tabs, stabilizer, flaps, spoilers, leading edge flaps/slats and trim systems.



(m) <u>Pitot-Static System</u>. With associated instruments and the power source for the flight instruments.

(2) Exhibits adequate knowledge of the contents of the Company Airplane Flight Manual or the Approved AFM with regard to the systems and components listed in paragraph 1 (above); the Minimum Equipment List (MEL), the CDL, the DDPG, if appropriate; and the Operations Specifications, if applicable.

B. TASK: PERFORMANCE AND LIMITATIONS

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of performance and limitations, including a thorough knowledge of the adverse effects of exceeding any limitation.

(2) Demonstrates proficient use of (as appropriate to the airplane) performance charts, tables, graphs, or other data relating to items such as:

- (a) accelerate-stop distance.
- (b) accelerate-go distance.
- (c) takeoff performance—all engines, engine(s) inoperative.
- (d) climb performance including segmented climb performance; with all engines operating—with one or more engine(s) inoperative, and with other engine malfunctions as may be appropriate.
- (e) service ceiling—all engines, engines(s) inoperative, including drift down, if appropriate.
- (f) cruise performance.
- (g) fuel consumption, range, and endurance.
- (h) descent performance.
- (i) go-around from rejected landings.
- (j) other performance data (appropriate to the airplane).
- (3) Describes (as appropriate to the airplane) the airspeeds used during specific phases of flight.

(4) Describes the effects of meteorological conditions upon performance characteristics and correctly applies these factors to a specific chart, table, graph or other performance data.

(5) Computes the center-of-gravity location for a specific load condition (as specified by the examiner), including adding, removing, or shifting weight.

(6) Determines if the computed center of gravity is within the forward and aft center-of-gravity limits, and that lateral fuel balance is within limits for takeoff and landing.

(7) Demonstrates good planning and knowledge of procedures in applying operational factors affecting airplane performance.



SECTION 2

PREFLIGHT PROCEDURES, IN-FLIGHT MANEUVERS, AND POSTFLIGHT PROCEDURES

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APPENDIX 1: TASK VS. SIMULATION DEVICE CREDITTASK VS. SIMULATION DEVICE CREDIT1-1USE OF CHART1-1FLIGHT SIMULATION DEVICE LEVEL1-2



II. AREA OF OPERATION: PREFLIGHT PROCEDURES

A. TASK: PREFLIGHT INSPECTION

Information Note: If a flight engineer (FE) is a required crewmember for a particular type airplane, the actual visual inspection may be waived. The actual visual inspection may be replaced by using an approved pictorial means that realistically portrays the location and detail of inspection items. On airplanes requiring an FE, an applicant must demonstrate adequate knowledge of the FE functions for the safe completion of the flight if the FE becomes ill or incapacitated during a flight.

Objective. To determine that the applicant:

- (1) Exhibits adequate knowledge of the preflight inspection procedures, while explaining briefly:
 - (a) the purpose of inspecting the items which must be checked.
 - (b) how to detect possible defects.
 - (c) the corrective action to take.
- (2) Exhibits adequate knowledge of the operational status of the airplane by locating and explaining
- the significance and importance of related documents such as:
 - (a) airworthiness and registration certificates.
 - (b) operating limitations, handbooks, and manuals.
 - (c) minimum equipment list (MEL) (if appropriate).
 - (d) weight and balance data.
 - (e) maintenance requirements, tests, and appropriate records applicable to the proposed flight or operation; and maintenance that may be performed by the pilot or other designated crewmember.
- (3) Uses the approved checklist to inspect the airplane externally and internally.
- (4) Uses the challenge-and-response (or other approved) method with the other crewmember(s),
- where applicable, to accomplish the checklist procedures.

(5) Verifies the airplane is safe for flight by emphasizing (as appropriate) the need to look at and explain the purpose of inspecting items such as:

- (a) powerplant, including controls and indicators.
- (b) fuel quantity, grade, type, contamination safeguards, and servicing procedures.
- (c) oil quantity, grade, and type.
- (d) hydraulic fluid quantity, grade, type, and servicing procedures.
- (e) oxygen quantity, pressures, servicing procedures, and associated systems and equipment for crew and passengers.
- (f) hull, landing gear, float devices, brakes, and steering system.
- (g) tires for condition, inflation, and correct mounting, where applicable.
- (h) fire protection/detection systems for proper operation, servicing, pressures, and discharge indications.
- (i) pneumatic system pressures and servicing.
- (j) ground environmental systems for proper servicing and operation.
- (k) auxiliary power unit (APU) for servicing and operation.
- (l) flight control systems including trim, spoilers, and leading/trailing edge.
- (m) anti-ice, deice systems, servicing, and operation.

(6) Coordinates with ground crew and ensures adequate clearance prior to moving any devices such as door, hatches, and flight control surfaces.

(7) Complies with the provisions of the appropriate Operations Specifications, if applicable, as they pertain to the particular airplane and operation.



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(8) Demonstrates proper operation of all applicable airplane systems.

(9) Notes any discrepancies, determines if the airplane is airworthy and safe for flight, or takes the proper corrective action.

(10) Checks the general area around the airplane for hazards to the safety of the airplane and personnel.

B. TASK: POWERPLANT START

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of the correct Powerplant start procedures including the use of an auxiliary power unit (APU) or external power source, starting under various atmospheric conditions, normal and abnormal starting limitations, and the proper action required in the event of a malfunction.
 (2) Ensures the ground safety procedures are followed during the before-start, start, and after-start phases.

(3) Ensures the use of appropriate ground crew personnel during the start procedures.

(4) Performs all items of the start procedures by systematically following the approved checklist items for the before-start, start, and after-start phases.

(5) Demonstrates sound judgment and operating practices in those instances where specific instructions or checklist items are not published.

C. TASK: TAXIING

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of safe taxi procedures (as appropriate to the airplane including push-back or power-back, as may be applicable).

(2) Demonstrates proficiency by maintaining correct and positive airplane control. In airplanes equipped with float devices, this includes water taxiing, sailing, step taxi, approaching a buoy, and docking.

(3) Maintains proper spacing on other aircraft, obstructions, and persons.

(4) Accomplishes the applicable checklist items and performs recommended procedures.

(5) Maintains desired track and speed.

(6) Complies with instructions issued by ATC (or the examiner simulating ATC).

(7) Observes runway hold lines, localizer and glide slope critical areas, buoys, beacons, and other surface control markings and lighting.

(8) Maintains constant vigilance and airplane control during taxi operation.

D. TASK: PRETAKEOFF CHECKS

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of the pretakeoff checks by stating the reason for checking the items outlined on the approved checklist and explaining how to detect possible malfunctions.

(2) Divides attention properly inside and outside cockpit.

(3) Ensures that all systems are within their normal operating range prior to beginning, during the

performance of, and at the completion of those checks required by the approved checklist.

(4) Explains, as may be requested by the examiner, any normal or abnormal system operating

characteristic or limitation; and the corrective action for a specific malfunction.

(5) Determines if the airplane is safe for the proposed flight or requires maintenance.

(6) Determines the airplane's takeoff performance, considering such factors as wind, density altitude, weight, temperature, pressure altitude, and runway condition and length.

(7) Determines airspeeds/V-speeds and properly sets all instrument references, flight director and autopilot controls, and navigation and communications equipment.

(8) Reviews procedures for emergency and abnormal situations which may be encountered during takeoff, and states the corrective action required of the pilot in command and other concerned crewmembers.

(9) Obtains and correctly interprets the takeoff and departure clearance as issued by ATC.

III. AREA OF OPERATION: TAKEOFF AND DEPARTURE PHASE

A. TASK: NORMAL AND CROSSWIND TAKEOFF

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of normal and crosswind takeoffs and climbs including (as appropriate to the airplane) airspeeds, configurations, and emergency/abnormal procedures.

(2) Notes any surface conditions, obstructions or other hazards that might hinder a safe takeoff.

(3) Verifies and correctly applies correction for the existing wind component to the takeoff performance.

(4) Completes required checks prior to starting takeoff to verify the expected powerplant performance. Performs all required pretakeoff checks as required by the appropriate checklist items.

(5) Aligns the airplane on the runway centerline.

(6) Applies the controls correctly to maintain longitudinal alignment on the centerline of the runway prior to initiating and during the takeoff.

(7) Adjusts the powerplant controls as recommended by the DGCA approved guidance for the existing conditions.

(8) Monitors powerplant controls, settings, and instruments during takeoff to ensure all predetermined parameters are maintained.

(9) Adjusts the controls to attain the desired pitch attitude at the predetermined airspeed/V-speed to attain the desired performance for the particular takeoff segment.

(10) Performs the required pitch changes and, as appropriate, performs or calls for and verifies the accomplishment of, gear and flap retractions, power adjustments, and other required pilot-related activities at the required airspeed/V-speeds within the tolerances established in the Pilot's Operating Handbook or AFM.

(11) Uses the applicable noise abatement and wake turbulence avoidance procedures, as required.

(12) Accomplishes or calls for and verifies the accomplishment of the appropriate checklist items.

(13) Maintains the appropriate climb segment airspeed/V-speeds.

(14) Maintains the desired heading within $\pm 5^{\circ}$ and the desired airspeed/V-speed within ± 5 knots or the appropriate V-speed range.

B. TASK: INSTRUMENT TAKEOFF

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of an instrument takeoff with instrument meteorological conditions simulated at or before reaching an altitude of 100 feet (30 meters) AGL. If accomplished in a flight simulator, visibility should be no greater than one-quarter (1/4) mile, or as specified by operator specifications.

(2) Takes into account, prior to beginning the takeoff, operational factors which could affect the maneuver such as Takeoff Warning Inhibit Systems or other airplane characteristics, runway length, surface conditions, wind, wake turbulence, obstructions, and other related factors that could adversely affect safety.

(3) Accomplishes the appropriate checklist items to ensure that the airplane systems applicable to the instrument takeoff are operating properly.

(4) Sets the applicable radios/flight instruments to the desired setting prior to initiating the takeoff.

(5) Applies the controls correctly to maintain longitudinal alignment on the centerline of the runway prior to initiating and during the takeoff.

(6) Transitions smoothly and accurately from visual meteorological conditions to actual or simulated instrument meteorological conditions.

(7) Maintains the appropriate climb attitude.

(8) Complies with the appropriate airspeeds/V-speeds and climb segment airspeeds.

(9) Maintains desired heading within $\pm 5^{\circ}$ and desired airspeeds within ± 5 knots.

(10) Complies with ATC clearances and instructions issued by ATC (or the examiner simulating ATC).

C. TASK: POWERPLANT FAILURE DURING TAKEOFF

In a multiengine airplane with published V_1 , V_R , and/or V_2 speeds, the failure of the most critical powerplant should be simulated at a point:

(1) After V_1 and prior to V_2 , if in the opinion of the examiner, it is appropriate under the prevailing conditions; or

(2) As close as possible after V_1 when V_1 and V_2 or V_1 and V_R are identical. In a multiengine airplane for which no V_1 , V_R , or V_2 speeds are published, the failure of the most critical powerplant should be simulated at a point after reaching a minimum of VSSE and, if accomplished in the aircraft, at an altitude not lower than 500 feet AGL.

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of the procedures used during powerplant failure on takeoff, the appropriate reference airspeeds, and the specific pilot actions required.

(2) Takes into account, prior to beginning the takeoff, operational factors which could affect the maneuver such as Takeoff Warning Inhibit Systems or other airplane characteristics, runway length, surface conditions, wind, wake turbulence, obstructions, and other related factors that could adversely affect safety.

(3) Completes required checks prior to starting takeoff to verify the expected powerplant performance. Performs all required pretakeoff checks as required by the appropriate checklist items.

(4) Aligns the airplane on the runway.

(5) Applies the controls correctly to maintain longitudinal alignment on the centerline of the runway prior to initiating and during the takeoff.

(6) Adjusts the powerplant controls as recommended by the DGCA approved guidance for the existing conditions.

(7) Single-Engine Airplanes: Establishes a power-off descent approximately straight-ahead, if the powerplant failure occurs after becoming airborne.

(8) Continues the takeoff (in a multiengine airplane) if the (simulated) powerplant failure occurs at a point where the airplane can continue to a specified airspeed and altitude at the end of the runway commensurate with the airplane's performance capabilities and operating limitations.

(9) Maintains (in a multiengine airplane), after a simulated powerplant failure and after a climb has been established, the desired heading within $\pm 5^{\circ}$, desired airspeed within ± 5 knots, and, if appropriate for the airplane, establishes a bank of approximately 5°, or as recommended by the manufacturer, toward the operating powerplant.

(10) Maintains the airplane alignment with the heading appropriate for climb performance and terrain clearance when powerplant failure occurs.



D. TASK: REJECTED TAKEOFF

Objective. To determine that the applicant understands when to reject or continue the takeoff and:

(1) Exhibits adequate knowledge of the technique and procedure for accomplishing a rejected takeoff after powerplant/system(s) failure/warnings, including related safety factors.

(2) Takes into account, prior to beginning the takeoff, operational factors which could affect the maneuver such as Takeoff Warning Inhibit Systems or other airplane characteristics, runway length, surface conditions, wind, obstructions, and other related factors that could affect takeoff performance and could adversely affect safety.

(3) Aligns the airplane on the runway centerline.

(4) Performs all required pretakeoff checks as required by the appropriate checklist items.

(5) Adjusts the powerplant controls as recommended by the DGCA approved guidance for the existing conditions.

(6) Applies the controls correctly to maintain longitudinal alignment on the centerline of the runway. (7) Aborts the takeoff if, in a single-engine airplane the powerplant failure occurs prior to becoming airborne, or in a multiengine airplane, the powerplant failure occurs at a point during the takeoff where the abort procedure can be initiated and the airplane can be safely stopped on the remaining runway/stopway. If a flight simulator is not used, the powerplant failure should be simulated before reaching 50 percent of VMC.

(8) Reduces the power smoothly and promptly, if appropriate to the airplane, when powerplant failure is recognized.

(9) Uses spoilers, prop reverse, thrust reverse, wheel brakes, and other drag/braking devices, as appropriate, maintaining positive control in such a manner as to bring the airplane to a safe stop. Accomplishes the appropriate Powerplant failure or other procedures and/or checklists as set forth in the Company Airplane Flight Manual or AFM.

E. TASK: INSTRUMENT DEPARTURE

Objective. To determine that the applicant:

(1) In actual or simulated instrument conditions, exhibits adequate knowledge of SIDs, En Route Low and High Altitude Charts, STARs, and related pilot/controller responsibilities.

(2) Uses the current and appropriate navigation publications for the proposed flight.

(3) Selects and uses the appropriate communications frequencies, and selects and identifies the navigation aids associated with the proposed flight.

(4) Performs the appropriate checklist items.

(5) Establishes communications with ATC, using proper phraseology.

(6) Complies, in a timely manner, with all instructions and airspace restrictions.

(7) Exhibits adequate knowledge of two-way radio communications failure procedures.

(8) Intercepts, in a timely manner, all courses, radials, and bearings appropriate to the procedure,

route, clearance, or as directed by the examiner.

(9) Maintains the appropriate airspeed within ± 10 knots, headings within $\pm 10^{\circ}$, altitude within ± 100 feet (30 meters); and accurately tracks a course, radial, or bearing.

(10) Conducts the departure phase to a point where, in the opinion of the examiner, the transition to the en route environment is complete.

IV. AREA OF OPERATION: IN-FLIGHT MANEUVERS

A. TASK: STEEP TURNS



(1) In actual or simulated instrument conditions, exhibits adequate knowledge of steep turns (if applicable to the airplane) and the factors associated with performance; and, if applicable, wing loading, angle of bank, stall speed, pitch, power requirements, and over-banking tendencies.
 (2) Selects an altitude recommended by the manufacturer, training syllabus, or other training directive, but in no case lower than 3,000 feet (900 meters) AGL.

(3) Establishes the recommended entry airspeed.

(4) Rolls into a coordinated turn of 180° or 360° with a bank of

at least 45°. Maintains the bank angle within \pm 5° while in

smooth, stabilized flight.

(5) Applies smooth coordinated pitch, bank, and power to maintain the specified altitude within ± 100 feet (30 meters) and the desired airspeed within ± 10 knots.

(6) Rolls out of the turn (at approximately the same rate as used to roll into the turn) within $\pm 10^{\circ}$ of the entry or specified heading, stabilizes the airplane in a straight-and-level attitude or, at the discretion of the examiner, reverses the direction of turn and repeats the maneuver in the opposite direction.

(7) Avoids any indication of an approaching stall, abnormal flight attitude, or exceeding any structural or operating limitation during any part of the maneuver.

B. TASK: APPROACHES TO STALLS

Three approaches to stall are required, as follows (unless otherwise specified by the FSB Report):

- (a) one in the takeoff configuration (except where the airplane uses only zero-flap takeoff configuration) or approach configuration.
- (b) one in a clean configuration.
- (c) one in a landing configuration. One of these approaches to a stall must be accomplished while in a turn using a bank angle of 15 to 30°.

Objective. To determine that the applicant:

(1) In actual or simulated instrument conditions exhibits adequate knowledge of the factors which influence stall characteristics, including the use of various drag configurations, power settings, pitch attitudes, weights, and bank angles. Also, exhibits adequate knowledge of the proper procedure for resuming normal flight.

(2) Selects an entry altitude that is in accordance with the AFM or Pilot's Operating Handbook, but in no case lower than an altitude that will allow recovery to be safely completed at a minimum of 3,000 feet (900 meters) AGL. When accomplished in an FTD or flight simulator, the entry altitude may be at low, intermediate, or high altitude as appropriate for the airplane and the configuration, at the discretion of the examiner.

(3) Observes the area is clear of other aircraft prior to accomplishing an approach to a stall.

(4) While maintaining altitude, slowly establishes the pitch attitude (using trim or elevator/stabilizer), bank angle, and power setting that will induce stall at the desired target airspeed.

(5) Announces the first indication of an impending stall (such as buffeting, stick shaker, decay of control effectiveness, and any other cues related to the specific airplane design characteristics) and initiates recovery or as directed by the examiner (using maximum power or as directed by the examiner).

(6) Recovers to a reference airspeed, altitude and heading, allowing only the acceptable altitude or airspeed loss, and heading deviation.

(7) Demonstrates smooth, positive control during entry, approach to a stall, and recovery.

C. TASK: POWERPLANT FAILURE—MULTIENGINE

AIRPLANE



When not in an FTD or a flight simulator, the feathering of one propeller must be demonstrated in any multiengine airplane equipped with propellers (includes turboprop) which can be safely feathered and unfeathered while airborne. In a multiengine jet airplane, one engine must be shut down and a restart must be demonstrated while airborne. Feathering or shutdown should be performed only under conditions, and at such altitudes (no lower than 3,000 feet [900 meters] AGL) and in a position where a safe landing can be made on an established airport in the event difficulty is encountered in unfeathering the propeller or restarting the engine. At an altitude lower than 3,000 feet (900 meters) AGL, simulated engine failure will be performed by setting the powerplant controls to simulate zero-thrust. In the event propeller cannot be unfeathered or engine air started during the test, it should be treated as an emergency. When authorized and conducted in a flight simulator, feathering or shutdown may be performed in conjunction with any procedure or maneuver and at locations and altitudes at the discretion of the examiner. However, when conducted in an FTD, authorizations shall be limited to shutdown, feathering, restart, and/or unfeathering procedures only. See appendix 1.

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of the flight characteristics and controllability associated with maneuvering with powerplant(s) inoperative (as appropriate to the airplane).

(2) Maintains positive airplane control. Establishes a bank of approximately 5°, if required, or as recommended by the manufacturer, to maintain coordinated flight, and properly trims for that condition.

(3) Sets powerplant controls, reduces drag as necessary, correctly identifies and verifies the inoperative powerplant(s) after the failure (or simulated failure).

(4) Maintains the operating powerplant(s) within acceptable operating limits.

(5) Follows the prescribed airplane checklist, and verifies the procedures for securing the inoperative powerplant(s).

(6) Determines the cause for the powerplant(s) failure and if a restart is a viable option.

(7) Maintains desired altitude within ± 100 feet (30 meters), when a constant altitude is specified and is within the capability of the airplane.

(8) Maintains the desired airspeed within ± 10 knots.

(9) Maintains the desired heading within $\pm 10^{\circ}$ of the specified heading.

(10) Demonstrates proper powerplant restart procedures (if appropriate) in accordance with DGCA approved procedure/checklist or the manufacturer's recommended procedures and pertinent checklist items.

D. TASK: POWERPLANT FAILURE—SINGLE-ENGINE AIRPLANE

No simulated powerplant failure shall be given by the examiner in an airplane when an actual touchdown could not be safely completed should it become necessary.



Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of the flight characteristics, approach and forced (emergency) landing procedures, and related procedures to use in the event of a Powerplant failure (as appropriate to the airplane).

(2) Maintains positive control throughout the maneuver.

(3) Establishes and maintains the recommended best glide airspeed, ± 5 knots, and configuration during a simulated powerplant failure.

(4) Selects a suitable airport or landing area which is within the performance capability of the airplane.

(5) Establishes a proper flight pattern to the selected airport or landing area, taking into account altitude, wind, terrain, obstructions, and other pertinent operational factors.

(6) Follows the emergency checklist items appropriate to the airplane.

(7) Determines the cause for the simulated powerplant failure (if altitude permits) and if a restart is a viable option.

(8) Uses configuration devices such as landing gear and flaps in a manner recommended by the manufacturer and/or approved by the DGCA.

E. TASK: SPECIFIC FLIGHT CHARACTERISTICS

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of specific flight characteristics appropriate to the specific airplane, as identified by the FSB Report, such as Dutch Rolls in a Boeing 727 or Lear Jet.

(2) Uses proper technique to enter into, operate within, and recover from specific flight situations.

V. AREA OF OPERATION : INSTRUMENT PROCEDURES

Information Note: Tasks B through F are not required if the applicant holds a private pilot or commercial pilot certificate and is seeking a type rating limited to VFR.

A. TASK: INSTRUMENT ARRIVAL

Objective. To determine that the applicant:

(1) In actual or simulated instrument conditions, exhibits adequate knowledge of En Route Low and High Altitude Charts, STARs, Instrument Approach Procedure Charts, and related pilot and controller responsibilities.

(2) Uses the current and appropriate navigation publications for the proposed flight.

(3) Selects and correctly identifies all instrument references, flight director and autopilot controls, and navigation and communications equipment associated with the arrival.

(4) Performs the airplane checklist items appropriate to the arrival.

(5) Establishes communications with ATC, using proper phraseology.

(6) Complies, in a timely manner, with all ATC clearances, instructions, and restrictions.

(7) Exhibits adequate knowledge of two-way communications failure procedures.

(8) Intercepts, in a timely manner, all courses, radials, and bearings appropriate to the procedure,

route, ATC clearance, or as directed by the examiner.

(9) Adheres to airspeed restrictions and adjustments required by regulations, ATC, the Pilot's Operating Handbook, the AFM, or the examiner.

(10) Establishes, where appropriate, a rate of descent consistent with the airplane operating characteristics and safety.



(11) Maintains the appropriate airspeed/V-speed within ± 10 knots, but not less than V_{REF}, if applicable; heading $\pm 10^{\circ}$; altitude within ± 100 feet (30 meters); and accurately tracks radials, courses, and bearings.

(12) Complies with the provisions of the Profile Descent, STAR, and other arrival procedures, as appropriate.

B. TASK: HOLDING

Objective. To determine that the applicant:

(1) In actual or simulated instrument conditions, exhibits adequate knowledge of holding procedures for standard and non-standard, published and non-published holding patterns. If appropriate, demonstrates adequate knowledge of holding endurance, including, but not necessarily limited to, fuel on board, fuel flow while holding, fuel required to alternate, etc.

(2) Changes to the recommended holding airspeed appropriate for the airplane and holding altitude, so as to cross the holding fix at or below maximum holding airspeed.

(3) Recognizes arrival at the clearance limit or holding fix.

(4) Follows appropriate entry procedures for a standard, non-standard, published, or non-published holding pattern.

(5) Complies with ATC reporting requirements.

(6) Uses the proper timing criteria required by the holding altitude and ATC or examiner's instructions.

(7) Complies with the holding pattern leg length when a DME distance is specified.

(8) Uses the proper wind-drift correction techniques to accurately maintain the desired radial, track, courses, or bearing.

(9) Arrives over the holding fix as close as possible to the "expect further clearance" time. (10) Maintains the appropriate airspeed/V-speed within ± 10 knots, altitude within ± 100 feet (30 meters), headings within $\pm 10^{\circ}$; and accurately tracks radials, courses, and bearings.

C. TASK: PRECISION INSTRUMENT APPROACHES

Information Note: Two precision approaches, utilizing airplane NAVAID equipment for centerline and glideslope guidance, must be accomplished in simulated or actual instrument conditions to Decision Height (DH). At least one approach must be flown manually. The second approach may be flown via the autopilot, if appropriate, and if the DH altitude does not violate the authorized minimum altitude for autopilot operation. Manually flown precision approaches may use raw data displays or may be flight director assisted, at the discretion of the examiner.

> For multiengine airplanes at least one manually controlled precision approach must be accomplished with a simulated failure of one powerplant. The simulated powerplant failure should occur before initiating the final approach segment and must continue to touchdown or throughout the missed approach procedure. As the markings on localizer/glide slope indicators vary, a one-quarter scale deflection of either the localizer, or glide slope indicator is when it is displaced one-fourth of the distance that it may be deflected from the on glide slope or on localizer position.



(1) Exhibits adequate knowledge of the precision instrument approach procedures with all engines operating, and with one engine inoperative.

(2) Accomplishes the appropriate precision instrument approaches as selected by the examiner.

(3) Establishes two-way communications with ATC using the proper communications phraseology and techniques, either personally, or, if appropriate, directs co-pilot/safety pilot to do so, as required for the phase of flight or approach segment.

(4) Complies, in a timely manner, with all clearances, instructions, and procedures.

(5) Advises ATC anytime the applicant is unable to comply with a clearance.

(6) Establishes the appropriate airplane configuration and airspeed/V-speed considering turbulence, wind shear, microburst conditions, or other meteorological and operating conditions.

(7) Completes the airplane checklist items appropriate to the phase of flight or approach segment, including engine out approach and landing checklists, if appropriate.

(8) Prior to beginning the final approach segment, maintains the desired altitude ± 100 feet (30 meters), the desired airspeed within ± 10 knots, the desired heading within $\pm 5^{\circ}$; and accurately tracks radials, courses, and bearings.

(9) Selects, tunes, identifies, and monitors the operational status of ground and airplane navigation equipment used for the approach.

(10) Applies the necessary adjustments to the published Decision Height and visibility criteria for the airplane approach category as required, such as:

- (a) Notices to Airmen, including Flight Data Center Procedural NOTAMs.
- (b) Inoperative airplane and ground navigation equipment.
- (c) c. Inoperative visual aids associated with the landing environment.
- (d) d. National Weather Service (NWS) reporting factors and criteria.

(11) Establishes a predetermined rate of descent at the point where the electronic glide slope begins which approximates that required for the airplane to follow the glide slope.

(12) Maintains a stabilized final approach, from the Final Approach Fix to Decision Height allowing no more than one-quarter scale deflection of either the glide slope or localizer indications and maintains the desired airspeed within ± 5 knots.

(13) A missed approach or transition to a landing shall be initiated at Decision Height.

(14) Initiates immediately the missed approach when at the Decision Height, and the required visual references for the runway are not unmistakably visible and identifiable.

(15) Transitions to a normal landing approach (missed approach for seaplanes) only when the airplane is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering.

(16) Maintains localizer and glide slope within one-quarter scale deflection of the indicators during the visual descent from Decision Height to a point over the runway where glide slope must be abandoned to accomplish a normal landing.

D. TASK: NONPRECISION INSTRUMENT APPROACHES

Information Note:

The applicant must accomplish at least two nonprecision approaches (one of which must include a procedure turn) in simulated or actual weather conditions, using two different approach systems. At least one nonprecision approach must be flown manually without receiving radar vectors. The examiner will select nonprecision approaches that are representative of that which the applicant is likely to use. The choices must utilize two different systems; i.e., NDB and one of the following: VOR, LOC, LDA, GPS, or LORAN.



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(1) Exhibits adequate knowledge of nonprecision approach procedures representative of those the applicant is likely to use.

(2) Accomplishes the nonprecision instrument approaches selected by the examiner.

(3) Establishes two-way communications with ATC as appropriate to the phase of flight or approach segment and uses proper communications phraseology and techniques.

(4) Complies with all clearances issued by ATC.

(5) Advises ATC or the examiner any time the applicant is unable to comply with a clearance.

(6) Establishes the appropriate airplane configuration and airspeed, and completes all applicable checklist items.

(7) Maintains, prior to beginning the final approach segment, the desired altitude ± 100 feet (30 meters), the desired airspeed ± 10 knots, the desired heading $\pm 5^{\circ}$; and accurately tracks radials, courses, and bearings.

(8) Selects, tunes, identifies, and monitors the operational status of ground and airplane navigation equipment used for the approach.

(9) Applies the necessary adjustments to the published Minimum Descent Altitude (MDA) and visibility criteria for the airplane approach category when required, such as:

- (a) Notices to Airmen, including Flight Data Center Procedural NOTAMs.
- (b) Inoperative airplane and ground navigation equipment.
- (c) Inoperative visual aids associated with the landing environment.
- (d) National Weather Service (NWS) reporting factors and criteria.

(10) Establishes a rate of descent that will ensure arrival at the MDA (at, or prior to reaching, the visual descent point (VDP), if published) with the airplane in a position from which a descent from MDA to a landing on the intended runway can be made at a normal rate using normal maneuvering. (11) Allows, while on the final approach segment, not more than quarter-scale deflection of the Course Deviation Indicator (CDI) or $\pm 5^{\circ}$ in the case of the RMI or bearing pointer, and maintains airspeed within ± 5 knots of that desired.

(12) Maintains the MDA, when reached, within -0, +50 feet (-0, +15 meters) to the missed approach point.

(13) Executes the missed approach if the required visual references for the intended runway are not unmistakably visible and identifiable at the missed approach point.

(14) Executes a normal landing from a straight-in or circling approach when instructed by the examiner.

Information Note: If Task D, Nonprecision Instrument Approaches, is performed in a training device (other than an FTD or flight simulator) and the applicant has completed an approved training course for the airplane type involved, not more than one of the required instrument procedures may be observed by a person qualified to act as an instructor or check airman under that approved training program. The instrument approaches are considered to begin when the airplane is over the initial approach fix for the procedure being used and end when the airplane touches down on the runway or when transition to a missed approach configuration is completed. Instrument conditions need NOT be simulated below the minimum altitude for the approach being accomplished.

E. TASK: CIRCLING APPROACH

Refer to the note on page 2 of the Introduction.



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(1) Exhibits adequate knowledge of circling approach categories, speeds, and procedures to a specified runway.

(2) In simulated or actual instrument conditions to MDA, accomplishes the circling approach selected by the examiner.

(3) Demonstrates sound judgment and knowledge of the airplane maneuvering capabilities throughout the circling approach.

(4) Confirms the direction of traffic and adheres to all restrictions and instructions issued by ATC.

(5) Descends at a rate that ensures arrival at the MDA at, or prior to, a point from which a normal circle-to-land maneuver can be accomplished.

(6) Avoids descent below the appropriate circling MDA or exceeding the visibility criteria until in a position from which a descent to a normal landing can be made.

(7) Maneuvers the airplane, after reaching the authorized circling approach altitude, by visual references to maintain a flightpath that permits a normal landing on a runway at least 90° from the final approach course.

(8) Performs the procedure without excessive maneuvering and without exceeding the normal operating limits of the airplane (the angle of bank should not exceed 30°).

(9) Maintains the desired altitude within -0, +100 feet (-0, +30 meters), heading/track within $\pm 5^{\circ}$, the airspeed/V-speed within ± 5 knots, but not less than the airspeed as specified in the Pilot's Operating Handbook or the AFM.

(10) Uses the appropriate airplane configuration for normal and abnormal situations and procedures.

(11) Turns in the appropriate direction, when a missed approach is dictated during the circling approach, and uses the correct procedure and airplane configuration.

(12) Performs all procedures required for the circling approach and airplane control in a smooth, positive, and timely manner.

F. TASK: MISSED APPROACH

Information Note:

The applicant must perform two missed approaches with one being from a precision approach (ILS, MLS, or GPS). One complete published missed approach must be accomplished. Additionally, in multiengine airplanes, a missed approach must be accomplished with one engine inoperative (or simulated inoperative). The engine failure may be experienced anytime prior to the initiation of the approach, during the approach, or during the transition to the missed approach attitude and configuration. Going below the MDA or DH, as appropriate, prior to the initiation of the missed approach shall be considered unsatisfactory performance. However, satisfactory performance may be concluded if the missed approach is properly initiated at DH and the airplane descends below DH only because of the momentum of the airplane transitioning from a stabilized approach to a missed approach.



Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of missed approach procedures associated with standard instrument approaches.

(2) Initiates the missed approach procedure promptly by the timely application of power, establishes the proper climb attitude, and reduces drag in accordance with the approved procedures.

(3) Reports to ATC, beginning the missed approach procedure.

(4) Complies with the appropriate missed approach procedure or ATC clearance.

(5) Advises ATC any time the applicant is unable to maneuver the airplane to comply with a clearance.

(6) Follows the recommended airplane checklist items appropriate to the go-around procedure for the airplane used.

(7) Requests clearance, if appropriate, to the alternate airport, another approach, a holding fix, or as directed by the examiner.

(8) Maintains the desired altitudes ± 100 feet (30 meters), airspeed ± 5 knots, heading $\pm 5^{\circ}$; and accurately tracks courses, radials, and bearings.

VI. AREA OF OPERATION: LANDINGS AND APPROACHES TO LANDINGS

Information Note:

e: Notwithstanding the authorizations for the combining of maneuvers and for the waiver of maneuvers, the applicant must make at least three actual landings (one to a full stop). These landings must include the types listed in this AREA OF OPERATION; however, more than one type may be combined where appropriate (i.e., crosswind and landing from a precision approach or landing with simulated Powerplant failure, etc.). For all landings, touchdown should be 500 to 3,000 feet (150 to 900 meters) past the runway threshold, not to exceed one-third of the runway length, with the runway centerline between the main gear. An amphibian type rating shall bear the limitation "LIMITED TO LAND" or "LIMITED TO SEA," as appropriate, unless the applicant demonstrates proficiency in both land and sea operations.

A. TASK: NORMAL AND CROSSWIND APPROACHES AND LANDINGS

Information Note: In an airplane with a single powerplant, unless the applicant holds a commercial pilot certificate, he or she must accomplish accuracy approaches and spot landings from an altitude of 1,000 feet (300 meters) or less, with the engine power lever in idle and 180° of change in direction. The airplane must touch the ground in a normal landing attitude beyond and within 200 feet (60 meters) of a designated line or point on the runway. At least one landing must be from a forward slip. Although circular approaches are acceptable, 180° approaches using two 90° turns with a straight base leg are preferred.



Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of normal and crosswind approaches and landings including recommended approach angles, airspeeds, V-speeds, configurations, performance limitations, wake turbulence, and safety factors (as appropriate to the airplane).

(2) Establishes the approach and landing configuration appropriate for the runway and meteorological conditions, and adjusts the powerplant controls as required.

(3) Maintains a ground track that ensures the desired traffic pattern will be flown, taking into account any obstructions and ATC or examiner instructions.

(4) Verifies existing wind conditions, makes proper correction for drift, and maintains a precise ground track.

(5) Maintains a stabilized approach and the desired airspeed/V-speed within ± 5 knots.

(6) Accomplishes a smooth, positively controlled transition from final approach to touchdown.

(7) Maintains positive directional control and crosswind correction during the after-landing roll.

(8) Uses spoilers, prop reverse, thrust reverse, wheel brakes, and other drag/braking devices, as appropriate, in such a manner to bring the airplane to a safe stop.

(9) Completes the applicable after-landing checklist items in a timely manner and as recommended by the manufacturer.

B. TASK: LANDING FROM A PRECISION APPROACH

Information Note: If circumstances beyond the control of the applicant prevent an actual landing, the examiner may accept an approach to a point where, in his or her judgment, a safe landing and a full stop could have been made, and credit given for a missed approach. Where a simulator, approved for landing from a precision approach, is used, the approach may be continued through the landing and credit given for one of the landings required by this AREA OF OPERATION.

Objective. To determine that the applicant:

(1) Exhibits awareness of landing in sequence from a precision approach.

(2) Considers factors to be applied to the approach and landing such as displaced thresholds,

meteorological conditions, NOTAMs, and ATC or examiner instructions.

(3) Uses the airplane configuration and airspeed/V-speeds, as appropriate.

(4) Maintains, during the final approach segment, glide slope and localizer indications within

applicable standards of deviation, and the recommended airspeed/V-speed ± 5 knots.

(5) Applies gust/wind factors as recommended by the manufacturer, and takes into account

meteorological phenomena such as wind shear, microburst, and other related safety of flight factors. (6) Accomplishes the appropriate checklist items.

(7) Transitions smoothly from simulated instrument meteorological conditions at a point designated by the examiner, maintaining positive airplane control.

(8) Accomplishes a smooth, positively controlled transition from final approach to touchdown.

(9) Maintains positive directional control and crosswind correction during the after-landing roll.

(10) Uses spoilers, prop reverse, thrust reverse, wheel brakes, and other drag/braking devices, as appropriate, in such a manner to bring the airplane to a safe stop after landing.

(11) Completes the applicable after-landing checklist items in a timely manner and as recommended by the manufacturer.



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C. TASK: APPROACH AND LANDING WITH (SIMULATED) POWERPLANT FAILURE—MULTIENGINE AIRPLANE

Information Note: In airplanes with three powerplants, the applicant shall follow a procedure (if approved) that approximates the loss of two powerplants, the center and one outboard powerplant. In other multiengine airplanes, the applicant shall follow a procedure which simulates the loss of 50 percent of available powerplants, the loss being simulated on one side of the airplane.

Objective. To determine that the applicant:

 (1) Exhibits adequate knowledge of the flight characteristics and controllability associated with maneuvering to a landing with (a) powerplant(s) inoperative (or simulated inoperative) including the controllability factors associated with maneuvering, and the applicable emergency procedures.
 (2) Maintains positive airplane control. Establishes a bank of approximately 5°, if required, or as recommended by the manufacturer, to maintain coordinated flight, and properly trims for that condition.

(3) Sets powerplant controls, reduces drag as necessary, correctly identifies and verifies the inoperative powerplant(s) after the failure (or simulated failure).

(4) Maintains the operating powerplant(s) within acceptable operating limits.

(5) Follows the prescribed airplane checklist, and verifies the procedures for securing the inoperative powerplant(s).

(6) Proceeds toward the nearest suitable airport.

(7) Maintains, prior to beginning the final approach segment, the desired altitude ± 100 feet (30 meters), the desired airspeed ± 10 knots, the desired heading $\pm 5^{\circ}$; and accurately tracks courses, radials, and bearings.

(8) Establishes the approach and landing configuration appropriate for the runway or landing area, and meteorological conditions; and adjusts the Powerplant controls as required.

(9) Maintains a stabilized approach and the desired airspeed/V-speed within ± 5 knots.

(10) Accomplishes a smooth, positively-controlled transition from final approach to touchdown.

(11) Maintains positive directional control and crosswind corrections during the after-landing roll.

(12) Uses spoilers, prop reverse, thrust reversers, wheel brakes, and other drag/braking devices, as appropriate, in such a manner to bring the airplane to a safe stop after landing.

(13) Completes the applicable after-landing checklist items in a timely manner, after clearing the runway, and as recommended by the manufacturer.

D. TASK: LANDING FROM A CIRCLING APPROACH

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of a landing from a circling approach.

(2) Selects, and complies with, a circling approach procedure to a specified runway.

(3) Considers the environmental, operational, and meteorological factors which affect a landing from a circling approach.

(4) Confirms the direction of traffic and adheres to all restrictions and instructions issued by ATC.

(5) Descends at a rate that ensures arrival at the MDA at, or prior to, a point from which a normal circle-to-land maneuver can be accomplished.

(6) Avoids descent below the appropriate circling MDA or exceeding the visibility criteria until in a position from which a descent to a normal landing can be made.

(7) Accomplishes the appropriate checklist items.



(8) Maneuvers the airplane, after reaching the authorized circling approach altitude, by visual references, to maintain a flightpath that permits a normal landing on a runway at least 90° from the final approach course.

(9) Performs the maneuver without excessive maneuvering and without exceeding the normal operating limits of the airplane. The angle of bank should not exceed 30°.

(10) Maintains the desired altitude within ± 100 , -0 feet (± 30 , -0 meters), heading within $\pm 5^{\circ}$, and approach airspeed/V-speed within ± 5 knots.

(11) Uses the appropriate airplane configuration for normal and abnormal situations and procedures.(12) Performs all procedures required for the circling approach and airplane control in a timely, smooth, and positive manner.

(13) Accomplishes a smooth, positively controlled transition to final approach and touchdown or to a point where in the opinion of the examiner that a safe full stop landing could be made.

(14) Maintains positive directional control and crosswind correction during the after-landing roll.

(15) Uses spoilers, prop reverse, thrust reverse, wheel brakes, and other drag/braking devices, as appropriate, in such a manner to bring the airplane to a safe stop.

(16) Completes the appropriate after-landing checklist items, after clearing the runway, in a timely manner and as recommended by the manufacturer.

E. TASK: REJECTED LANDING

Information Note: The maneuver may be combined with instrument, circling, or missed approach procedures, but instrument conditions need not be simulated below 100 feet (30 meters) above the runway. This maneuver should be initiated approximately 50 feet (15 meters) above the runway and approximately over the runway threshold or as recommended by the FSB Report. For those applicants seeking a VFR only type rating in an airplane not capable of instrument flight, and where this maneuver is accomplished with a simulated engine failure, it should not be initiated at speeds or altitudes below that recommended in the Pilot's Operating Handbook.

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of a rejected landing procedure, including the conditions that dictate a rejected landing, the importance of a timely decision, the recommended airspeed/V-speeds, and also the applicable "clean-up" procedure.

(2) Makes a timely decision to reject the landing for actual or simulated circumstances and makes appropriate notification when safety-of-flight is not an issue.

(3) Applies the appropriate power setting for the flight condition and establishes a pitch attitude necessary to obtain the desired performance.

(4) Retracts the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, establishes a positive rate of climb and the appropriate airspeed/V-speed within ± 5 knots.

(5) Trims the airplane as necessary, and maintains the proper ground track during the rejected landing procedure.

(6) Accomplishes the appropriate checklist items in a timely manner in accordance with approved procedures.



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F. TASK: LANDING FROM A NO FLAP OR A NONSTANDARD FLAP APPROACH

Information Note: This maneuver need not be accomplished for a particular airplane type if the Minister has determined that the probability of flap extension failure on that type airplane is extremely remote due to system design. The examiner must determine whether checking on slats only and partial-flap approaches are necessary for the practical test.

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of the factors which affect the flight characteristics of an airplane when full or partial flaps, leading edge flaps, and other similar devices become inoperative.

(2) Uses the correct airspeeds/V-speeds for the approach and landing.

(3) Maintains the proper airplane pitch attitude and flightpath for the configuration, gross weight,

surface winds, and other applicable operational considerations.

(4) Uses runway of sufficient length for the zero or nonstandard flap condition.

(5) Maneuvers the airplane to a point where a touchdown at an acceptable point on the runway and a safe landing to a full stop could be made.

(6) After landing, uses spoilers, prop reverse, thrust reverse, wheel brakes, and other drag/braking devices, as appropriate, in such a manner to bring the airplane to a safe stop.

VII. AREA OF OPERATION: NORMAL AND ABNORMAL PROCEDURES

Objective. To determine that the applicant:

(1) Possesses adequate knowledge of the normal and abnormal procedures of the systems, subsystems, and devices relative to the airplane type (as may be determined by the examiner); knows immediate action items to accomplish, if appropriate, and proper checklist to accomplish or to call for, if appropriate.

(2) Demonstrates the proper use of the airplane systems, subsystems, and devices (as may be determined by the examiner) appropriate to the airplane such as:

- (a) powerplant.
- (b) fuel system.
- (c) electrical system.
- (d) hydraulic system.
- (e) environmental and pressurization systems.
- (f) fire detection and extinguishing systems.
- (g) navigation and avionics systems.
- (h) automatic flight control system, electronic flight instrument system, and related subsystems.
- (i) flight control systems.
- (j) anti-ice and deice systems.
- (k) airplane and personal emergency equipment, other systems, subsystems, and devices specific to the type airplane, including make, model, and series.

VIII. AREA OF OPERATION: EMERGENCY PROCEDURES



(1) Possesses adequate knowledge of the emergency procedures (as may be determined by the examiner) relating to the particular airplane type.

(2) Demonstrates the proper emergency procedures (as must be determined by the examiner) relating to the particular airplane type, including:

- (a) emergency descent (maximum rate).
- (b) in-flight fire and smoke removal.
- (c) rapid decompression.
- (d) emergency evacuation.
- (e) others (as may be required by the AFM).

(3) Demonstrates the proper procedure for any other emergency outlined (as must be determined by the examiner) in the appropriate approved AFM.

IX. AREA OF OPERATION N: POSTFLIGHT PROCEDURES

A. TASK: AFTER-LANDING PROCEDURES

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of safe after-landing/ taxi/ramping/anchoring/docking and mooring procedures as appropriate.

(2) Demonstrates proficiency by maintaining correct and positive control. In airplanes equipped with float devices, this includes water taxiing, approaching a buoy, sailing, and docking.

(3) Maintains proper spacing on other aircraft, obstructions, and persons.

- (4) Accomplishes the applicable checklist items and performs the recommended procedures.
- (5) Maintains the desired track and speed.
- (6) Complies with instructions issued by ATC (or the examiner simulating ATC).

(7) Observes runway hold lines, localizer and glide slope critical areas, and other surface control markings and lighting.

(8) Maintains constant vigilance and airplane control during the taxi operation.

B. TASK: PARKING AND SECURING

Objective. To determine that the applicant:

(1) Exhibits adequate knowledge of the parking, mooring, docking, beaching, and the securing airplane procedures.

(2) Demonstrates adequate knowledge of the airplane forms/logs to record the flight time/discrepancies.



REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>*Part VII*</u> Commercial Air Services

<u>Subpart 6</u> Aircraft Maintenance Requirements for Air Operators

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier



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LEBANESE AVIATION REGULATIONS (LARs)

Part VII – Commercial Air Services

Subpart 6 – Aircraft Maintenance Requirements for Air Operators

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Subpart 6 - Aircraft Maintenance Requirements for Air Operators

706.01 Application

This Subpart applies to every person who operates an aircraft in a commercial air service under this Part.

706.02 Maintenance Control System

No person shall operate an aircraft unless the aircraft is maintained in accordance with a maintenance control system that:

- (a) meets the requirements of this Subpart; and
- (b) is described in the air operator's maintenance control manual (MCM) required by Section 706.08.

706.03 Person Responsible for Maintenance Control System

(1) An air operator shall:

- (a) appoint a senior manager of its staff to be responsible for its maintenance control system;
- (b) ensure that the person who is responsible for its maintenance control system demonstrates competence by complying with the Commercial Air Service Standards; and
- (c) authorize the person who is responsible for its maintenance control system to remove aircraft from operation because of non-compliance with the requirements of these Regulations or because the operation of the aircraft could have an adverse effect on the safety of the aircraft, other aircraft, persons, animals or property.

(2) Where an air operator is the holder of an approved maintenance organization (AMO) certificate issued pursuant to Section 545.02, the person appointed pursuant to Subsection (1)(a) shall be the person responsible for the maintenance control system of the AMO, appointed pursuant to Subsection 545.03(1)(a).

(3) The person who is responsible for a maintenance control system may assign to another person management functions for specific maintenance control activities if the assignment and the assigned functions are described in the air operator's maintenance control manual (MCM) in accordance with the Commercial Air Service Standards.

706.04 Maintenance Personnel and Facilities

An air operator shall provide the person who is responsible for its maintenance control system with the staff, facilities, technical and regulatory data, supplies and spare parts referred to in the Commercial Air Service Standards that are necessary to ensure compliance with this Subpart.

706.05 Defect Rectification and Control Procedures

An air operator shall include in its maintenance control system the procedures referred to in the Commercial Air Service Standards for:

- (a) recording aircraft defects;
- (b) ensuring that defects are rectified in accordance with the requirements of these Regulations;
- (c) detecting defects that recur and identifying those defects as recurring defects; and
- (d) subject to Sections 605.09 and 605.10, scheduling the rectification of defects whose repair has been deferred.



706.06 Technical Dispatch Procedures

(1) An air operator shall include in its maintenance control system technical dispatch procedures to ensure that aircraft are not operated unless they are:

- (a) airworthy;
- (b) appropriately equipped, configured and maintained for their intended use; and
- (c) maintained in accordance with the air operator's maintenance control manual (MCM).

(2) Where an additional flight authority has been issued in respect of an aircraft pursuant to Section 507.08, the technical dispatch procedures required by this Section shall include procedures to control the use of that additional flight authority.

(3) Where an air operator has a fleet empty weight and balance control program approved in accordance with the Commercial Air Service Standards, the technical dispatch procedures required by this Section shall include specific procedures that

- (a) ensure the quality of the program by meeting the applicable requirements of the Commercial Air Service Standards; and
- (b) ensure that accurate empty weight and balance data for each aircraft to which the program applies is provided to the flight crew of the aircraft, or is input into the program, prior to each flight.

706.07 Evaluation Program

(1) An air operator shall, in order to ensure that its maintenance control system and all of the included maintenance schedules continue to be effective and to comply with these Regulations, establish an evaluation program that meets the applicable requirements of the Commercial Air Service Standards.
 (2) The person appointed pursuant to Section 706.03 shall ensure that the records relating to the findings resulting from an evaluation program are efficiently distributed and controlled in accordance with the Commercial Air Service Standards.

706.08 Maintenance Control Manual (MCM)

(1) An air operator shall establish, maintain and authorize the use of a maintenance control manual (MCM) that contains information to ensure the efficiency of the maintenance control system, as set out in the Commercial Air Service Standards.

(2) The Minister may authorize the incorporation by reference in an MCM of detailed procedures manuals prepared by the air operator, where:

- (a) the policies affecting the detailed procedures remain in the MCM;
- (b) the incorporation is clearly indicated in the MCM;
- (c) the air operator ensures that the incorporated manuals meet the requirements of this Section; and
- (d) the person responsible for the air operator's maintenance control system, or the person to whom the management function has been assigned pursuant to Subsection 706.03(3), has certified in writing that the incorporated manuals meet the requirements of this Section.

(3) Except where otherwise authorized by the Minister in writing where it is demonstrated that the granting of the authorization will not jeopardize the safety of the product or service, an air operator shall comply with the policies and procedures contained in its MCM.

(4) An air operator shall submit each page of its MCM to the Minister for approval, either individually or in accordance with an equivalent procedure that meets the applicable requirements of the Commercial Air Service Standards.

(5) An air operator shall amend its MCM when instructed to do so by the Minister where:

- (a) the MCM does not meet the requirements of this Subpart; or
- (b) the MCM contains policies or procedures, or a lack thereof, such that the air operator's maintenance control system no longer meets the requirements of these Regulations.

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(6) An air operator shall provide the means to ensure that a current copy of its MCM, or of the relevant portions of its MCM, is made available to each person who performs or certifies a function that is dealt with in the MCM or in any manual that is incorporated in the MCM in accordance with Subsection (2).

(7) An air operator shall amend each copy of its MCM within 30 days after the approval of an amendment pursuant to subsection (4).

706.09 Maintenance Arrangements

(1) No air operator shall permit a person or organization to perform maintenance on the air operator's aircraft unless the person or organization has adequate facilities, equipment, spare parts and personnel available at the site where the maintenance is to be performed and

- (a) the person or organization holds an approved maintenance organization (AMO) certificate issued pursuant to Section 545.02 with a rating in a category applicable to the maintenance to be performed;
- (b) where the maintenance is to be performed outside Lebanon by a person or organization that does not hold an AMO certificate issued pursuant to Section 545.02, the person or organization has been approved under the laws of a state that is party to an agreement with Lebanon that provides for recognition of the work performed; or
- (c) in cases other than those described in Subsections (a) and (b), the performance of the maintenance by the person or organization has been approved by the Minister as being in conformity with these Regulations.

(2) An air operator shall ensure that a maintenance arrangement made with a person or organization pursuant to Subsection (1)

- (a) specifies the maintenance required and clearly defines the tasks to be performed; and
- (b) is made in accordance with the procedures governing maintenance arrangements included in the MCM or is approved by the Minister as being in conformity with these Regulations.

(3) Where an air operator makes a maintenance arrangement to have maintenance performed outside Lebanon by a person or organization that does not hold an AMO certificate issued pursuant to Section 545.02, the Minister shall, in the following cases, authorize the arrangement by issuing a maintenance specification to indicate that the maintenance control procedures set out in the arrangement conform to the Commercial Air Service Standards:

- (a) the maintenance is performed by a person or organization that has been approved in accordance with Subsection (1)(b) and the issuance of a maintenance specification is either required by the agreement or requested by the foreign state; or
- (b) the maintenance is performed in a state that is not party to an agreement with Lebanon that provides for recognition of the work performed.

(4) An air operator shall ensure the completion of all of the tasks defined in a maintenance arrangement in accordance with Subsection (2).

706.10 Elementary Work

No air operator shall authorize a person to perform, without supervision, a task that is elementary work set out in the Aircraft Equipment and Maintenance Standards unless the person

- (a) has satisfactorily completed training for the task under a training program required by Section 706.12; and
- (b) has previously performed that task under the direct supervision of the holder of an aircraft maintenance engineer (AME) license or a training organization approved pursuant to Subpart 3 of Part IV.



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706.11 Servicing

An air operator shall ensure that each person who performs or requests the performance of servicing has satisfactorily completed training, under a training program required by Section 706.12, for the servicing to be performed.

706.12 Training Program

An air operator shall implement a training program to ensure that persons who are authorized to perform a function under this Subpart are trained in respect of the regulations, standards and air operator procedures applicable to that function, as specified in the Commercial Air Service Standards.

706.13 Personnel Records

(1) An air operator shall establish, maintain and retain for at least two years after an entry is made, for each affected person, a record of:

- (a) all personal qualifications in respect of any appointment made pursuant to Section 706.03;
- (b) any authorization to perform elementary work given in accordance with Section 706.10 and incorporated in the maintenance control manual (MCM) in accordance with the Commercial Air Service Standards; and
- (c) all training conducted pursuant to Section 706.12.

(2) The air operator shall provide a copy of each record required by subsection (1) to the person to whom the record refers on the completion of any training or the giving of an authorization referred to in Subsection (1)(b).

706.14 Service Difficulty Reporting

An air operator shall report to the Minister any service difficulties related to the aircraft that it operates, in accordance with the Commercial Air Service Standards and with the requirements specified in Subpart 585 of Part V.



REPUBLIC OF LEBANON MINISTRY OF TRANSPORT DIRECTORATE GENERAL OF CIVIL AVIATION

LARs

LEBANESE AVIATION REGULATIONS

<u>*Part VII*</u> Commercial Air Services

<u>Subpart 6</u> Aircraft Maintenance Requirements for Air Operators

> <u>Standards</u> s706.01 to s706.14

***** Revision No. 1 ***** International Civil Aviation Organization Richard B. Fauquier



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LEBANESE AVIATION REGULATIONS (LARs)

Part VII – Commercial Air Services Standards Subpart 6 – Aircraft Maintenance Requirements for Air Operators

Standards s706.01 to s706.14

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Appendix A - Fleet Empty Weight and Balance Control Program (TBD)



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COMMERCIAL AIR SERVICES STANDARDS

Subpart 6 – Aircraft Maintenance Requirements for Air Operators \$706.01 to \$706.14

Foreword

This Commercial Air Service Standard outlines the requirements for complying with Subpart 6 of the Lebanese Aviation Regulations (LARs).

For ease of cross reference the divisions and numbers of the standard are assigned to correspond to the regulations, therefore Standard s706.05 would reflect a standard required by Section 706.05 of the LARs.

The standards under this Subpart apply to every Lebanese air operator engaged in commercial air services under Subpart 6 of the Lebanese Aviation Regulations (LARs).

 separate manual can be provided with respect to each separate approval. (3) Where the certificate holder chooses to combine these separate manuals, it can be done provided that each division of the manual identifies the part of its source regulation (e.g. a combined AMO-Air Operator manual can be divided into Division I for the AMO, and Division II for the Air Operator requirements). (4) Conversely, a combined AMO-Air Operator manual can also be fully integrated, providing that a statement is included for each section of the manual to indicate whether that particular section is intended as a means of compliance with Subpart 545 or Part VII, Subpart 6 of the Lebanese Aviation Regulations. (5) In addition, a combined manual can also be fully integrated with no reference to applicable source regulations. However, in such a case, should the Minister be required to take action against a certificate in respect of which a combined manual is in effect, the Minister will have to take action against both certificates if a clear distinction within the affected sections cannot be made. 		 This terminology is used only to identify that the regulation governing this manual is Part VII, Subpart 6 of the Lebanese Aviation Regulations. (2) Where the holder of an Air Operator Certificate also holds any other certificate which requires an approved manual, a separate manual can be provided with respect to each separate approval. (3) Where the certificate holder chooses to combine these separate manuals, it can be done provided that each division of the manual identifies the part of its source regulation (e.g. a combined AMO-Air Operator manual can be divided into Division I for the AMO, and Division II for the Air Operator requirements). (4) Conversely, a combined AMO-Air Operator manual can also be fully integrated, providing that a statement is included for each section of the manual to indicate whether that particular section is intended as a means of compliance with Subpart 545 o Part VII, Subpart 6 of the Lebanese Aviation Regulations. (5) In addition, a combined manual can also be fully integrated with no reference to applicable source regulations. However, in such a case, should the Minister be required to take action against a certificate in respect of which a combined manual is in
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s706.01 Application

Information Note: These standards are applicable to the control of maintenance and the performance of elementary work and servicing in respect of aircraft operated for commercial purposes under Part VII of the Lebanese Aviation Regulations.

s706.02 Maintenance Control System

Information Note: (1) Part VII, Subpart 6 of the Lebanese Aviation Regulations provides the requirements for the maintenance of air operator aircraft. When procedures are developed as required by those regulations, the total of those procedures is referred to as the maintenance control system. The air operator shall not permit any person to perform maintenance or elementary work unless that maintenance or elementary work is conducted in conformity with the requirements of that maintenance control system. (2) Persons performing work on the air operator aircraft shall be made aware of the maintenance control procedures in effect for any air operator's aircraft. For this reason those procedures shall be contained in the Maintenance Control Manual required by Section 706.08 of the Lebanese Aviation Regulations. This manual represents a descriptive disclosure to the Directorate General of Civil Aviation (DGCA), of the methods the air operator has chosen to achieve compliance with the Lebanese Aviation Regulations respecting maintenance. (3) It is intended that the maintenance control system describe what work is required to maintain the air operator's aircraft in conformity to the applicable type design and any additional operational requirements. This system is not intended to provide information on how to perform maintenance.

s706.03 Person Responsible for Maintenance Control System

(1) Subject to (2), persons appointed pursuant to Section 706.03 of the Lebanese Aviation Regulations shall meet the following standards of competence:

- (a) they shall achieve a grade of not less than 70% in a DGCA multiple choice examination on the Lebanese Aviation Regulations applicable to a Person Responsible for Maintenance Control System; and
- (b) their personal record in relation to aviation shall not include:
 - (i) any conviction under the Lebanese Civil Aviation Safety Act; or
 - (ii) any combination of two or more convictions on separate occasions, under the Lebanese Aviation Regulations.

(2) Persons who held the position on January 1, 2001 may continue in that position without the need to comply with (1)(a), but must comply with (1)(b).

(3) The examination required by (1)(a) shall be an open book examination. Holders of current AME licenses shall be exempt from this examination.

(4) The applicant for the "Person Responsible for Maintenance Control System" position within an Air Operator shall demonstrate, during an interview conducted by the DGCA, he is knowledgeable in respect of the air operator's approved policies and on the topics listed below:

- (a) duties and responsibilities of the appointed position;
- (b) duties of persons who have been assigned functional responsibilities;



- (c) responsibilities of the Operator in relation to those of the AMO;
- (d) identification of acceptable reference data for maintenance schedules;
- (e) use of fleet sampling techniques;
- (f) control of repetitive inspections;
- (g) reliability programs;
- (h) types and methods of control of mandatory maintenance tasks;
- (i) defect control;
- (j) technical dispatch requirements;
- (k) maintenance release requirements;
- (l) control of elementary work and servicing;
- (m) responsibility for record keeping; and
- (n) the function of quality assurance.

(5) The interview is designed to further establish the applicant's knowledge and competence. The applicant will be informed of any mistakes, and the correct answers will be discussed. Questions and responses will be recorded. Should the interview be unsuccessful, the applicant will be informed immediately and the decision will be confirmed by a written notification to the applicant and the Air Operator within 10 days.

Information Note: The person responsible for maintenance is required by Section 706.03 of the Lebanese Aviation Regulations to be a member of the Air Operator's staff. This is to ensure that the person appointed is free of any conflict of interest, and is primarily responsible to the Air Operator in regard to any dealings with the maintenance organization. Employees of a contracting maintenance organization therefore, do not qualify for this position. The requirement is not intended to imply that the person appointed must be a full-time employee. Persons may be appointed on a part-time basis, provided they are available for such periods as are necessary to effectively control the maintenance system, having regard to the type and frequency of flight operations.

(6) Where a certificate holder appoints himself as the person responsible for the maintenance control system, the standards of competence outlined in Subsection (1) remain applicable.(7) Where the certificate holder assigns another person to be responsible for the maintenance control system, that assignment shall include the transfer of the responsibility to remove aircraft from service. This obligation is not only applicable to the airworthiness of the aircraft, but also its fitness for flight under the applicable operating rules, having regard to the safety of the aircraft, its occupants, or persons or property on the ground.

Information Note: Pursuant to Section 706.03 of the Lebanese Aviation Regulations, where an air operator also holds an AMO Certificate issued pursuant to Section 545.02 of the Lebanese Aviation Regulations with a category for a type of aircraft operated by the air operator, the person responsible for the maintenance control system of the air operator shall also be the person responsible for all maintenance activities of the AMO.

(8) A person responsible for the maintenance control system of the air operator and the maintenance activities of its AMO shall meet the standards of competence required under both Section 706.03 and Section 545.03 of the Lebanese Aviation Regulations.

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Information Note: This provision is required to avoid ambiguity or duplication of responsibilities between the air operator and the AMO, where the same person is the holder of both certificates. It also negates the need for extensive documented communication between the air operation and maintenance arms of the organization.

s706.04 Maintenance Personnel and Facilities

(1) Subsection 706.04(1) of the Lebanese Aviation Regulations requires that the certificate holder provide the person responsible for maintenance with a sufficient number of personnel to ensure the control of all required maintenance. This control includes, but is not limited to:

- (a) the initial development of the maintenance schedule as required by Section 605.86 of the Lebanese Aviation Regulations;
- (b) scheduling maintenance, elementary work and servicing to be performed within the time constraints specified in the approved maintenance schedule;
- (c) scheduling the accomplishment of any Airworthiness Directives;
- (d) operation of the evaluation program required by Section 706.07 of the Lebanese Aviation Regulations, to ensure that the procedures, and in particular the maintenance schedule required by Section 605.86 of the Lebanese Aviation Regulations continue to be effective and remain in compliance with the regulations;
- (e) the proper dispatch of aircraft, in regards to:
 - (i) the availability of spare parts and the control of defects;
 - (ii) conformity with the type design; and
 - (iii) the requirements of other applicable operating rules;
- (f) manage the issuance of authorizations to personnel who are assigned to perform elementary work and servicing;
- (g) liaison with approved organizations for the performance of maintenance; and
- (h) the initial development and the updating of the company maintenance control manual.

(2) Subsection 706.04(1) of the Lebanese Aviation Regulations also requires that facilities, data, equipment, supplies and spares be provided to ensure the control of all required maintenance. This requirement includes but is not limited to:

- (a) a place of business, with a fixed address;
- (b) communications equipment (such as telephones, facsimile machines, Telex, Selective Calling [Selcal] or ARINC Communicating, Addressing and Reporting System [ACARS]);
- (c) any devices used to establish when a particular aircraft requires maintenance. This may include planning bulletin boards, card files, or a computer system;
- (d) where the air operator performs elementary work or servicing, the equipment and tools necessary to comply with the performance rules of Section 575.02 of the Lebanese Aviation Regulations;
- (e) sufficient supplies and spare parts to ensure timely rectification of defects in regard to the MEL provisions; and
- (f) a secure, dry storage area to retain aircraft technical records.

s706.05 Defect Recording and Control

(1) The defect recording system shall include a method to highlight defects that recur, so that they are readily identifiable by flight crews and the maintenance organization at all bases where the aircraft is operated. The air operator is responsible for identifying defects as recurring defects to maintenance personnel in order to avoid the duplication of unsuccessful attempts at rectification.

(2) The defect control system shall ensure that the rectification of a defect identified as a recurring defect will take into account the methodology used in previous repair attempts.

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(3) For the purposes of these standards, defects are recurring defects where a failure mode is repeated three times, on a particular aircraft, within 15 flight segments of a previous repair made in respect of that failure mode.

s706.06 Technical Dispatch Procedures

Information Note:	on Note: <i>An aircraft is considered to be airworthy where a Certificate of</i>	
	Airworthiness has been issued and the aircraft conforms to the	
	conditions of issue for that certificate. A further confirmation of	
	certification attesting to the airworthiness of an aircraft is not	
	required.	

(1) The purpose of the technical dispatch procedures is to ensure that only those aircraft that conform to applicable airworthiness, operational, and corporate requirements are dispatched into service. This system also forms the basis upon which the pilot-in-command will determine aircraft serviceability in respect of airworthiness directives, maintenance, weight and balance control, operational, or corporate requirements.

(2) Where an air operator deploys an aircraft to a location that is outside of its main area of operation, it is incumbent on the air operator to ensure that the technical dispatch system required by Section 706.06 of the Lebanese Aviation Regulations remains effective.

s706.07 Air Operator Maintenance - Evaluation program

(1) Pursuant to Section 706.07 of the Lebanese Aviation Regulations, each Air Operator must establish and maintain a program to ensure that the maintenance control system, including maintenance schedules, continue to comply with the regulations. It is not intended that this program be based on a system of end product inspection, but rather upon periodic verifications of all aspects of the systems and practices used for the control of maintenance, to ensure compliance with regulations and with the Air Operator's approved procedures. The program should provide an unbiased picture of the Air Operator's performance, to verify that activities comply with the MCM and confirm that the systems and procedures described in the MCM remain effective and are achieving the Air Operator's requirements.

(2) The program must be under the sole control of either the person responsible for the maintenance control system, or a person to whom, pursuant to Subsection 706.03(3) of the Lebanese Aviation Regulations, the management function for the program has been assigned. It must, as a minimum, cover all functions defined within the MCM. It must include all elements necessary to confirm that the Air Operator is in compliance with the applicable regulations and with the MCM. It must ensure that all referenced procedures remain applicable and effective.

(3) The program must address the Air Operator's requirements, the operational and environmental conditions, organizational structure, maintenance schedules, record keeping system, etc.

(4) The program must be responsive to any changes and must address the need for amendments to the MCM or Maintenance Schedules. The MCM and Maintenance Schedules must be reviewed periodically to ensure compliance with current requirements. The program must include the use of checklists that are sufficiently detailed to ensure that all maintenance functions are evaluated. Specifically, the program must include the following elements:

- (a) an initial evaluation, using the checklists, that covers all aspects of the Air Operator's technical activities, conducted within 12 months following the date on which the Air Operating certificate is issued;
- (b) recurring evaluations, conducted at intervals established in the approved MCM;
- (c) records of findings of compliance and non compliance resulting from the evaluations required by (a) and (b);



(d) procedures to ensure that the findings of the evaluations are communicated to the person appointed pursuant to Section 706.03 of the Lebanese Aviation Regulations and made available to the Air Operator.

Information Note: In the context of Subsection (4)(d) the term "Air Operator" means the holder of the Air Operator Certificate.

- (e) where appropriate, immediate and long term actions to correct the root cause of each noncompliance noted;
- (f) follow up procedures, to ensure that necessary corrective actions (both immediate and long term) instituted by the Air Operator are effective; and
- (g) a record keeping system to ensure that details of evaluation findings, corrective actions, and follow-up is recorded, and that the records are retained for two complete evaluation cycles.

(5) Functions related to the evaluation program may be performed by persons within the Air Operator or by external agents.

s706.08 Maintenance Control Manual

(1) Except where information is otherwise incorporated by reference pursuant to Subsection 706.08(2) of the Lebanese Aviation Regulations, the maintenance control manual (MCM) of an air operator shall contain at least the following information:

- (a) a table of contents;
- (b) the legal name of the air operator and, where that name is not the name under which the air operator does business, its trade name;
- (c) a brief description of the organization which includes the following information:
 - (i) the approximate size of the organization;
 - (ii) the geographic location of the office facilities and/or their operation's base when not co-located;
 - (iii) the type and number of aircraft operated; and
 - (iv) the nature of the operation;
- (d) a statement signed by the air operator confirming that the MCM, and any incorporated documents identified therein, reflect the air operator's means of compliance with the Regulations, as required by Section 706.08 of the Lebanese Aviation Regulations;
- (e) a description of the MCM amendment control procedure, to ensure compliance with the requirements of Subsections 706.08(4) and 706.08(7) of the Lebanese Aviation Regulations;
- (f) a means of identifying each page of the MCM as required by Subsection 706.08(4) of the Lebanese Aviation Regulations. This shall be in the form of a List of Effective Pages, with each page numbered and either dated or marked with a revision number;

Information Note: The amendment control pages in use prior to the publication of the Airworthiness Manual shall no longer be acceptable as the sole means of control for amendments to MCMs. Each page of an MCM shall be linked, by a page number and either a date or a revision number, to a list that identifies the most recent date of issue for that page.

- (g) a description of the system used to distribute the manual, including the name or title of each person who holds a copy of the manual, to ensure compliance with the requirements of Subsection 706.08(6) of the Lebanese Aviation Regulations;
- Information Note: Current copies of the air operator's MCM, or the relevant portions thereof, must be made available to all personnel performing



maintenance, elementary work or servicing on the air operator's aircraft.

- (h) where functions have been assigned pursuant to subsection 706.03(3) of the Lebanese Aviation Regulations:
 - (i) the name and title of the person to whom the functions have been assigned;
 - (ii) a description of the functions that have been assigned to each person; and
 - (iii) where necessary to ensure comprehension, a chart depicting the distribution of the functions.
- (i) where the organization uses, pursuant to Subsection 575.02(1) of the Lebanese Aviation Regulations, standards for the performance of elementary work or servicing that are other than those recommended by the manufacturer, the identification of those standards;
- (j) procedures to ensure that regulatory information and technical data appropriate to the work performed are used in respect of elementary work and servicing, as required by Section 575.02 of the Lebanese Aviation Regulations;
- (k) details of the methods used to record the maintenance, elementary work or servicing performed, and ensure that any defects are recorded in the technical record established pursuant to Section 605.92 of the Lebanese Aviation Regulations;

Information Note: Although an air operator certificate does not entitle the certificate holder to perform maintenance, it is the air operator who shall establish the record system that will be used to record the maintenance of his/her aircraft. Therefore, the air operator's MCM must be made available to all persons performing maintenance.

(l) the identification of any maintenance schedule approved in respect of any of the air operator's aircraft;

Information Note: It is not intended that the complete maintenance schedule be included in the MCM. Although an operator can append a maintenance schedule to his manual, the maintenance schedule shall be controlled under its own List of Effective Pages as required by Part VI, Subpart 5 - Aircraft Equipment and Maintenance Standards.

- (m) a detailed description of the procedure used to ensure that any maintenance tasks required by the maintenance schedule, an airworthiness directive, or any task required for the rectification of a defect is completed within the time constraints specified in Part VI, Subpart 5 of the Lebanese Aviation Regulations;
- (n) a description of the evaluation program required by Section 706.07 of the Lebanese Aviation Regulations;
- (o) a description of the defect rectification and control procedures required by Section 706.05 of the Lebanese Aviation Regulations, including details of:
 - (i) the methods used to detect and report recurring defects (see Section 726.05); and
 - (ii) unless incorporated into the MEL preamble, the procedures for scheduling the rectification of defects whose repair has been deferred;
- (p) the procedures used to report service difficulties in accordance with Section 706.14 of the Lebanese Aviation Regulations;

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- (q) a description of the technical dispatch procedures, including procedures for ferry-flight authorizations, extended twin operations (ETOPS), all weather operation, or any other special operation, as required by Section 706.06 of the Lebanese Aviation Regulations;
- (r) procedures to ensure that only parts and materials that meet the requirements of Subpart 575 of the Lebanese Aviation Regulations are used in the performance of elementary work or servicing, including any details respecting part pooling arrangements that have been entered into;

Information Note: *This may include any stores procedures which may be used by an air operator, including those procedures used for the control of petroleum, oil and other lubricants, as required by national regulations.*

- (s) a description of the methods used to ensure that the persons authorized to perform elementary work or servicing are trained as required by Section 706.12 of the Lebanese Aviation Regulations and qualified in accordance with the requirements of Section 706.10 or 706.11 of the Lebanese Aviation Regulations, as applicable;
- (t) a description of the kinds of personnel records to be retained as required pursuant to Section 706.13 of the Lebanese Aviation Regulations;
- (u) a description of the procedure used to ensure that the empty weight and balance of an aircraft is recorded in accordance with the requirements of Standard 575, Appendix C or 605.92 of the Lebanese Aviation Regulations;
- Information Note: (1) Standards applicable to weight and balance reports, including the use of reports made in respect of multiple-configurations are contained in Appendix C of Standard 575.
 (2) Notwithstanding the provisions of a load control system used by the air operator, an air operator may also use a fleet empty weight and balance control program. Appendix A of these standards, currently held in abeyance, will formulate the requirements of the fleet empty weight and balance control program.
 - (v) details of the procedures governing maintenance arrangements entered into pursuant to Section 706.09 of the Lebanese Aviation Regulations, and a list of all such arrangements. This shall include the procedure used to communicate to an approved maintenance organization the maintenance requirements with regard to planned and unforeseen maintenance activities as well as those mandated by airworthiness directives; and
 - (w) the identification of any person eligible to apply for flight authorities in respect of the Air Operator's aircraft.

Information Note: (1) Some activities of the organization which are subject to frequent change can more effectively be addressed in manuals separate from the MCM thereby avoiding the necessity for frequent amendments for routine changes in the organization. The incorporation by reference provisions of Subsection 706.08(2) of the Lebanese Aviation Regulations are intended to provide a means for this. Under these provisions the person designated in accordance with the assignment of management functions provisions is required to ensure that the incorporated manuals, documents or lists continue to comply with the requirements established in the policy contained in the MCM.





manual meets the requirements of the MCM policies established with respect to that reference. This shall take the form of a certification statement in the front of the incorporated document or list. This certification shall be made on initial incorporation of the incorporated document, and on each amendment thereof.

(2) Approval of the Minister shall be linked to each page of the MCM pursuant to Subsection 706.08(4) of the Lebanese Aviation Regulations. This will normally be done by approving a list of effective pages. Alternatively in the case of manuals containing a small number of pages, approval can be shown on each page. Acceptance of the procedure for maintaining the referenced manual shall be indicated by approval of the MCM.

Information Note: (1) For emergency situations, the provisions of Subsection 706.08(3) of the Lebanese Aviation Regulations provide a means to authorize an air operator to control maintenance outside the policies and procedures contained in the MCM. This can occur for any number of reasons; however, approval shall not be granted unless the applicant can supply evidence to demonstrate that safety of the product will not be adversely affected. (2) Pursuant to Subsection 706.08(5) of the Lebanese Aviation Regulations requirements, where an MCM is not found to meet the requirements of this Part, whether through a change in the requirements, a change in the organization or its activities, or through an inadequacy shown to exist by verification inspections conducted under the quality assurance program, or any other reason that affects the manual's conformity to requirements, the certificate holder is responsible to promulgate and seek approval forthwith for an amendment to the MCM. (3) Pursuant to the requirements of Subsection 706.08(6) of the Lebanese Aviation Regulations, an air operator shall provide a current copy of the MCM, or relevant portions thereof, to each person who performs or certifies work. In the case where only a portion of the manual is provided, it shall be sufficiently comprehensive that the person performing the tasks has all relevant information. For non-scheduled work, temporary copies of the relevant portions of the MCM, or any incorporated reference, can be sent via facsimile transmission.

s706.09 Maintenance Arrangements

Republic of Lebanon

Ministry of Transport

Information Notes: (1) Section 706.09 of the Lebanese Aviation Regulations requires that an air operator develop specific procedures governing maintenance arrangements entered into by the air operator, and that the procedures be detailed in its MCM.
(2) Nothing in the regulation prevents an air operator from dealing with more than one AMO or from changing established arrangements, provided the new arrangement also meets the requirements of Section 706.09 of the Lebanese Aviation Regulations.



(3) Section 706.09 of the Lebanese Aviation Regulations also provides that, where an air operator chooses not to include in its MCM approval procedures in respect of maintenance arrangements, each specific maintenance arrangement entered into by the air operator shall be individually submitted for approval by the Minister.

(1) Where an air operator is the holder of an AMO Certificate that is appropriate to the maintenance of the type of aircraft being operated, a statement to that effect shall be included in the general scope of work statement in its MCM.

Information Note: (1) In such a case as stated in Subsection (1), the only maintenance arrangements requiring description will be those to purchase services from other AMOs to cover those unforeseen circumstances, i.e. in an emergency, where maintenance is required outside of existing arrangements.
(2) Procedures to provide for emergency maintenance services will normally be in the form of recognizing a company purchase order, including on that purchase order the requirement to perform work in accordance with Lebanese Aviation Regulation requirements, along with an indication, usually by check box, to denote when a maintenance release is required.
(3) Pursuant to Subsection 706.09(3) of the Lebanese Aviation Regulations, Maintenance Specifications will be issued by the Minister, in the following circumstances:

- (a) a Lebanese air operator has maintenance performed in a State with which Lebanon has an airworthiness agreement, and the agreement specifically requires that the Minister issues a Maintenance Specification to the air operator or upon request from the foreign state; or
- (b) a Lebanese air operator has maintenance performed in a State with which Lebanon has no airworthiness agreement.
- (2) Maintenance Specifications issued by the Minister will:
 - (a) confirm that the air operator's maintenance arrangement approval procedures contained in its MCM meet the requirements of the commercial air service standards; or
 - (b) approve a specific and singular maintenance arrangement in a foreign state with which Lebanon has no airworthiness agreement, where all conditions, necessary to ensure that maintenance conforms with the requirements of Part V of the Lebanese Aviation Regulations, are met.

s706.10 Elementary Work for Air Operators

Information Note: (1) Appendix A of Part VI, Subpart 5, Aircraft Equipment and Maintenance Standards lists the tasks which constitute elementary work for an air operator.
(2) Under the provisions of the Lebanese Civil Aviation Safety Act, elementary work is a form of maintenance. However, for the purpose of the Lebanese Aviation Regulations, elementary work has been identified as a classification of specific tasks that are not subject to a maintenance release. Because these tasks are not subject to a maintenance release, they need not be performed by the holder of an AME license, nor by persons working under an AMO Certificate. For these reasons, the air operator is



responsible to control authorizations to persons who can perform elementary work.

(3) Pursuant to Section 706.10 of the Lebanese Aviation Regulations requirements, an air operator can authorize any person to perform elementary work provided that person has been trained to perform the specific task and has completed the task at least once under the supervision of the holder of an AME license or an organization holding an Approved Training Organization's certificate issued pursuant to Subpart 403 of the Lebanese Aviation Regulations. There is no requirement for the AME to hold any special rating. The training and records requirements applicable to these provisions are detailed respectively in Sections s706.12 and s706.13 of these standards.

s706.11 Servicing

Republic of Lebanon

Ministry of Transport

Information Note: (1) Any person can perform, or request the performance of servicing on behalf of an air operator, providing that person has been trained in accordance with the requirements detailed in Section s706.12 of these standards. (2) The definition for servicing is provided in Part I, Subpart 1 of the Lebanese Aviation Regulations.

(3) The provisions of Section 706.11 of the Lebanese Aviation *Regulations do not require that individual authorizations be* issued to persons performing servicing, or persons who request the performance of servicing. The regulations only require that an air operator develop a system to ensure that those persons are trained as required by Standard s706.12 of these standards. (4) Where an air operator does not service aircraft himself, he is responsible to ensure that any persons who request the performance of servicing be trained. This includes flight crew members of the air operator's staff.

For example:

In the case of aircraft refueling, it is often the responsibility of the flight crew, as the persons requesting the servicing, to specify the type and quantity of fuel to be uploaded, and in doing so also specify any special precautions, such as aircraft balance considerations, during the fuelling process. These provisions are equivalent to the requirement for the air operator to specify maintenance task requirements to AMOs.

s706.12 Training Program

(1) The training program required by Section 706.12 of the Lebanese Aviation Regulations shall ensure that personnel trained are familiar with the regulations, standards, and air operator procedures associated with certain work for which they will be responsible.

(2) The training program shall include:

(a) initial training to ensure that persons performing elementary work or servicing are aware of the regulations, standards and air operator procedures associated with that work;



- (b) update training to ensure that personnel remain competent and are made aware of any changes to those regulations, standards and air operator procedures; and
- (c) additional training where it is shown to be necessary by a finding made under the evaluation program.

(3) Training made in respect of the regulations shall ensure that personnel are aware of their responsibilities in regards to the Performance Rules defined in Section 575.02 of the Lebanese Aviation Regulations, and in regards to technical records pursuant to Sections 575.03 and 605.92 of the Lebanese Aviation Regulations.

Information Note: It is advisable that the air operator also incorporate any training requirements stemming from other national or provincial codes; this might include the handling of fuels and other dangerous goods, etc.

(4) The standards applicable to servicing are normally limited to the procedures contained in those publications produced in respect of Section 575.02 of the Lebanese Aviation Regulations performance rules. These will typically include manufacturer's maintenance publications, servicing manuals, etc. Where the standards used are not the standards specified by the manufacturer, they shall be listed in the MCM as required by Section 706.08 of the Lebanese Aviation Regulations.

Information Note: For administrative reasons, an air operator can establish many company procedures related to maintenance. The intent of the training requirements under this section is to address only those company procedures established in respect of the Lebanese Aviation Regulations. As an example, an MEL will often contain special provisions for refueling an aircraft when systems are inoperative. Where a flight crew is appropriately trained, they can perform the (M) procedure contained in the MEL, as long as there is no disassembly and subsequent re-assembly of components that would otherwise require a maintenance release.

(5) Until such time as it is revised through an assessment made in respect of the evaluation program, the update cycle for continuation training is three years.

(6) Where an air operator is the holder of an AMO certificate issued pursuant to Section 545.02, the training required by Section 706.12 of the Lebanese Aviation Regulations can be managed by means of its AMO training program provided that:

- (a) there is a mention made to that effect in its MCM; and
- (b) all the requirements specified in this section are covered in its AMO Maintenance Policy Manual.

s706.13 Personnel Records

Information Note: (1) Pursuant to Section 706.13 of the Lebanese Aviation Regulations the personnel records shall be retained for a period of not less than 2 years after an entry is made.
(2) A list of authorizations issued pursuant to Part VII, Subpart 6 of the Lebanese Aviation Regulations requirements can be kept as a separate list from the MCM.

> In the case where the list of authorizations is kept as a separate list from the MCM, the list shall be incorporated by reference in



the MCM.

s706.14 Service Difficulty Reporting

Information Note: Each air operator is required to report service difficulties. These reports shall be submitted in the form and manner prescribed in Subpart 585 of the Lebanese Aviation Regulations.

Defect reporting shall include defects detected during aircraft operation, or during the performance of elementary work or servicing, and their recording.



Republic of Lebanon Ministry of Transport Directorate General of Civil Aviation Lebanese Aviation Regulations Part VII / Subpart 6 / Standards s706.01 to s706.14

Appendix A Fleet Empty Weight and Balance Control Program

TO BE DEVELOPED



Republic of Lebanon Ministry of Transport Directorate General of Civil Aviation

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