Standard 724 - Commuter Operations: Aeroplanes - Canadian Aviation Regulations (CARs)

From: Transport Canada

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See also **Subpart 704**

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Foreword

These Commercial Air Services Standards outline the requirements for complying with the Commuter Operations Regulations Subpart 704 of the *Canadian Aviation Regulations*.

For ease of cross reference, the divisions and numbers of the standard are assigned to correspond to the regulations, therefore Standard 724.05 would reflect a standard required by section 704.05 of the Regulations.

Division I - General

The standards under this Subpart apply to every Canadian air operator engaged in commercial air services under Subpart 704 of the *Canadian Aviation Regulations*.

Definitions

The words and expressions used in these Standards have the same meaning as in the General Provisions Part I of the *Canadian Aviation Regulations* with the following additions:

"deplane" - means disembark; an aeroplane is deplaned when the passengers leave the aeroplane in the normal manner, as opposed to evacuating the aeroplane. (débarquement)

"designated evacuation exits during fuelling" - means exits that are available for immediate use should an evacuation be required. (issues désignées pour l’évacuation pendant l’avitaillement en carburant)

"evacuate" - means the egress from an aeroplane in an emergency situation using all available emergency exits and assist means such as ropes, wings, emergency evacuation slides, etc. (évacuation)

"fuelling" - means the act of transferring fuel into or out of an aeroplane fuel tank from or to an external supply. (avitaillement en carburant)

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

"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. (à la demande)

"take-off safety speed" - is the lowest speed at which the aeroplane complies with those handling criteria associated with the climb after take-off following an engine failure. (vitesse de sécurité au décollage)

Division II - Certification

724.07 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) form 26-0045 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 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) form 26-0046 Aircraft - information with respect to each aeroplane by registration;

(c) form 26-0047 Personnel - information on required personnel. These shall be supported by resumes and statements of qualification for each position;

(d) form 26-0048 - 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) form 26-0448 - Cabin Safety (if applicable); and

(k) aeroplane crash charts (if the type has not previously been operated in Canada).

(2) Qualifications and Responsibilities of Operational Personnel

(a) **Operations Manager**

(i) **Qualifications**

(A) Hold or have held the appropriate licence and ratings for which a pilot-in-command is required to hold for one of the aeroplanes 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 aeroplanes 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;

(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

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 aeroplane safety information, both internal and external;

(L) qualifications of flight crew; and

(M) maintenance of a current operations library.

Note:

In his or her absence all responsibilities for operational duties shall be delegated to another individual qualified in accordance with the *Canadian 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**
(amended 2003/06/01)

(A) if the Air Operator Certificate authorizes VFR only - hold a valid Airline Transport Pilot Licence-Aeroplane or a valid Commercial Pilot Licence -Aeroplane appropriate for an aeroplane subject to this Subpart;
(amended 2003/06/01)

(B) if the Air Operator Certificate authorizes Day and Night VFR - hold an Airline Transport Pilot Licence-Aeroplane or Commercial Pilot Licence-Aeroplane, valid for night, and a valid Instrument Rating appropriate for an aeroplane subject to this Subpart;
(amended 2003/06/01)

(C) if the Air Operator Certificate authorizes IFR - hold a valid Airline Transport Pilot Licence-Aeroplane and a valid Instrument Rating for an aeroplane subject to this Subpart;
(amended 2003/06/01)

(D) if applicable, hold a type rating for at least one of the types of aeroplanes operated;

(E) have at least 3 years experience as pilot-in-command of a commuter aeroplane (as defined in section 704.01 of the *Canadian 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;

(G) demonstrate knowledge to the Minister with respect to the content of the Company Operations Manual, Training Manuals, Standard Operating Procedures (if applicable), Approved Check Pilot Manual (if applicable), and the provisions of the Regulations

and Standards necessary to carry out the duties and responsibilities of the position; and

(H) the chief pilot's personal record in relation to aviation shall not include:
(amended 2003/06/01; no previous version)

(I) any conviction under subsection 7.3(1) of the *Aeronautics Act*; or

(II) two or more convictions, occurring during separate unrelated events, under the *Canadian Aviation Regulations*.

Note:

A Chief Pilot qualified under Subpart 705 of the *Canadian Aviation Regulations* may serve as the Chief Pilot for Subpart 704 of the *Canadian 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.

Note:

In his or her absence, all responsibilities for duties shall be delegated to another individual qualified in accordance with the *Canadian 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 726.03 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 aeroplanes 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 *Aeronautics Act*, applicable *Canadian 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) aeroplane servicing facilities and ground handling equipment.

724.08 Contents of Air Operator Certificate

(amended 1998/09/01; no previous version)

(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 5.3×10^{-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 paragraphs 724.08(2)(c) and (d) below, if a GPS receiver(s) provides the only means of long range navigation, then the requirements of FAA Document No. 8110.60, GPS as a Primary Means of Navigation in Oceanic/Remote Operations 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) aeroplanes 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 724.115(22).

(b) **Canadian Minimum Navigation Performance Specification (CMNPS) and RNPC Airspace**
The standard requirements for authorization to operate in Canadian Minimum Navigation Performance Specification (CMNPS) airspace, and 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) aeroplanes with navigation equipment as follows:

(A) for aeroplanes operating only in domestic airspace on high level airways equipment in accordance with paragraph 605.18(j) of the *Canadian Aviation Regulations*;

(B) for aeroplanes operating only in domestic airspace on company approved routes or direct routes that begin and end

within reception range of ground based navaids, at least two independent navigation systems, one of which being a long range area navigation system;

(C) for aeroplanes operating in CMNPS airspace other than on high level airways, company approved routes and direct routings that begin and end within the reception range of ground based navaids, two independent long range navigation systems;

(ii) flight crew training on operation of the long range area navigation system(s) in accordance with training requirements set out in subsection 724.115(22) of these Standards.

(c) **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 clauses (A) and (B) aeroplanes shall be equipped with at least two independent long range area navigation systems.

(A) aeroplanes 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 aeroplanes with one long range RNAV system; and

(B) aeroplanes 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 724.115(22) of these Standards.

(d) **Reduced Vertical Separation Minima (RVSM) Airspace**
(amended 2003/03/01)

The standards for authorization to operate in Reduced Vertical Separation Minima (RVSM) airspace are:
(amended 2003/03/01)

(i) the aircraft shall be certified in accordance with the ICAO/FAA Document 91-RVSM and meet the other applicable technical requirements of ICAO NAT DOC 001,
(amended 2003/03/01)

(ii) the air operator shall comply with the ICAO/FAA Document 91-RVSM and meet the other applicable requirements of ICAO NAT DOC 001, and
(amended 2003/03/01; no previous version)

(iii) the flight crew training shall be in accordance with the requirements of subsection 724.115(36).
(amended 2003/03/01; no previous version)

(e) **Pacific Required Navigation Performance 10 (RNP-10) Airspace**
(amended 2002/12/01; no previous version)
The requirements for authorization to operate in Pacific RNP-10 airspace are as follows:

(i) the aircraft is equipped with at least two independent long range

navigation systems capable of meeting a position accuracy of +/- 10 NM or better for 95% of the flight time in RNP-10 airspace,

(ii) an RNP-10 time limit is established for aircraft equipped with only Inertial Navigation Systems (INS) or Inertial Navigation Units (INU), in order to meet the Pacific RNP-10 accuracy requirements,

(iii) the aircraft meets the technical requirements of the navigation element of FAA Order 8400.12A, Required Navigation Performance 10 (RNP-10) Operational Approval,

(iv) flight crew training is provided on the operation of the long range area navigation systems in accordance with the training requirements set out in subsection 724.115(22), and

(v) flight crew training is provided on operations in Pacific RNP-10 airspace in accordance with the training requirements set out in subsection 724.115(35).

(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 724.115(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.

(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 HSI**

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.

Division III - Flight Operations

724.14 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 Subpart 302 of the *Canadian Aviation Regulations*.

724.15 Operational Control Systems

Operations conducted under Subpart 704 of the *Canadian 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.

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 Transport Canada 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) **Centres**

The Flight Dispatch Centre shall be established so as to ensure operational control throughout the air operator's entire route structure or area of operations.

(d) **Communications**

(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 paragraph(1)(b) above, where direct communication is not practical.

(ii) **On-ground Communications**

A direct communications capability between the pilot-in-command 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 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-in-command 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 Centre

(a) Each centre 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 centre of significant changes in flight conditions and in conditions at stations significant to the company’s flights.

(b) Each centre shall be provided with:

(i) aeroplane 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 centre 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;

(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 Subpart 725, Division VIII of the 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.

(b) **Responsibility and Authority**

(i) The requirements are the same as for Type A, paragraph 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) **Centres**

The Flight Dispatch Centre 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) **On-ground Communications**

The requirements are the same as for Type A, paragraph 1(d)(ii).

(e) **Flight Dispatchers On Duty**

The requirements are the same as for Type A, paragraph 1(e).

(2) Flight Dispatch Centre

(a) The requirements are the same as for Type A, paragraph 2(a).

(b) The requirements are the same as for Type A, paragraph 2(b).

(c) Each centre shall be provided with communications equipment that ensures:

(i) 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 subparagraph 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) **Application**

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) aeroplanes with a seating configuration, excluding pilots, of 10 to 19; or

(ii) turbo-jet aeroplanes with a seating configuration, excluding pilots, of 19 or less.

(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) **Centres**

Current information on the location of the air operator's aeroplanes shall be maintained at the main base of operations or, where appropriate, at its sub-base of operations;

(d) **Communications**

Each aeroplane 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) **Personnel On Duty**

Refer to section 3 below.

(2) Dispatch Release

Flights operated under this system are self-dispatched and released by the pilot-in-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 A 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 subparagraph 3(b)(i) above; and

(iii) the pilot-in-command shall be responsible for passing messages concerning aeroplane landings and departures from point of origin,

enroute stops, and final destination to the person described in subparagraph 3(b)(i) above.

Type D

(1) General

(a) **Application**

A Type D classification shall apply to all commuter operations under day VFR, except for turbo-jet aeroplanes.

(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) **Centres**

Current information on the location of the air operator’s aeroplanes 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) **Communications**

Each aeroplane 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) **Personnel On Duty**

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:

(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 paragraph 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 aeroplane landings and departures from the point of origin, at enroute stops, and from the final destination in order to satisfy the requirements of paragraph 2(b) above.

724.17 Operational Flight Plan

In accordance with the classification of its operational control system (724.15), 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:

(1)* air Operator’s name;

(2)* date;

(3)* aeroplane registration;

(4)* aeroplane tail number (as applicable);

(5)* aeroplane type and model (as applicable);

(6)* flight number (as applicable);

(7) type of flight; Instrument Flight Rules or Visual Flight Rules at night unless all the air operator’s flights are the same;

(8)* pilot-in-command’s name;

(9)* flight dispatcher’s name (if applicable);

(10)* departure aerodrome;

(11)* destination aerodrome;

(12)* alternate aerodrome, as applicable, including enroute alternates where required;

(13) routing to destination by successive navigational way points and a method to obtain associated tasks for each;

(14) routing to alternate aerodrome;

(15) specification of any way points enroute to satisfy any special operations requirements;

(16)* planned cruise altitudes to destination and alternate (as applicable);

(17) planned cruise, True Air Speed;

(18) planned cruise, Indicated Air Speed, or mach number (as applicable);

(19) winds at planned cruise altitude: these may be expressed in terms of direction/velocity or as a component/drift angle;

(20) temperature at cruise altitude;

(21) ground speed or wind component during cruise;

(22)* estimated time enroute: if broken down into way point time components, a total shall be specified;

(23) time from destination to alternate (as applicable);

(24) distance to destination: if broken down into way point distance components, a total shall be specified;

(25) distance from destination to alternate;

(26)* fuel burn enroute and from destination to alternate;

(27)* fuel as applicable for the type of flight plan:

(a) taxi;

(b) destination;

(c) alternate;

(d) contingency (as applicable);

(e) holding reserve;

(28)* weights:

(a) total fuel on board;

(b) zero fuel weight (if applicable); and

(c) planned maximum take-off weight;

(29)* signature of pilot-in-command and as applicable the Flight Dispatcher, or alternate means of certifying acceptance;

(30)* 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.

724.26 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 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 aeroplane in IMC below the weather minima specified in the Canada Air Pilot or in an equivalent foreign publication, or in the route and approach inventory or the instrument approach procedures referred to in the air operator certificate is: (amended 2000/12/01)

(a) **Take-off Minima Reported Visibility RVR 1200 feet (1/4 mile) - Aeroplanes 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 724.26(1) shall be specified in the flight plan;

(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 centre-line lights or with runway centre-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 aeroplane 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 aeroplane 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 724.115(21) as applicable;

(vii) the chief pilot, or his or her delegate, has certified in the pilot's training file that the pilot-in-command is competent to conduct an RVR 1200 feet (1/4 mile) take-off; and
(amended 2000/12/01)

(viii) the pilot-in-command shall have at least 100 hours of pilot-in-command experience on the aeroplane type. A pilot-in-command converting onto an aeroplane 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 aeroplanes 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) - Aeroplanes 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 724.26(1) shall be specified in the flight plan; and

(iii) the takeoff weight of the aeroplane shall not exceed the weight determined from the Aeroplane Flight Manual that, considering the runway characteristics and ambient weather conditions, meets the following requirements:

(A) Aeroplanes carrying nine or fewer passengers:

(I) the required Accelerate-Stop Distance shall not exceed Accelerate-Stop Distance Available (ASDA); and

(II) the required engine-out take-off distance shall not exceed Take-off Distance Available (TODA); and

Note:

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

(B) Aeroplanes carrying 10 or more passengers:

(I) the required Accelerate-Stop Distance shall not exceed Accelerate-Stop Distance Available (ASDA);
(amended 1998/06/01)

(II) the required engine-out take-off distance shall not exceed Take-Off Distance Available (TODA); and
(amended 1998/06/01)

(III) 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 300feet horizontally outside those boundaries;
(amended 1998/06/01)

(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 centre line lights or with runway centre-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 aeroplane 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 aeroplane 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 724.115(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, or his or her delegate, has certified in the pilot's training file that the pilot-in-command is competent to conduct an

RVR 1200 feet (1/4 mile) visibility take-off; and
(amended 2000/12/01)

(ix) the pilot-in-command shall have at least 100 hours of pilot-in-command experience on the aeroplane type. A pilot-in-command converting onto an aeroplane 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 aeroplanes 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) a take-off alternate is selected in accordance with 724.26(1);
(amended 1999/09/01)

(iii) 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 centre-line lights and centre-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 ;

(iv) the pilot-in-command is satisfied that the required RVR 600 feet 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 aeroplane 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 aeroplane attitude. An approved failure warning system which will immediately detect essential instrument and equipment failures or malfunctions shall be installed and operative;
(amended 1999/09/01)

Information note:

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 subsection 724.115(21) as applicable;

(vii) 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 Transport Canada Inspector and shall be certified in their pilot

training files as competent to conduct an RVR 600 feet take-off; and (amended 2000/12/01)

(viii) the pilot-in-command shall have at least 100 hours of pilot-in-command experience on the aeroplane type. A pilot-in-command converting onto an aeroplane 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. (amended 1999/09/01)

Information note:

'Aeroplane types similar’ are considered as turbo-propeller to turbo-propeller or turbo-jet to turbo-jet.

724.27 No Alternate Aerodrome - IFR Flight

For an air operator of aeroplanes to qualify to conduct a flight under IFR without naming an alternate aerodrome on the flight plan the following standard shall be met:

(1) Area of Operations

(a) take-off aerodrome shall be:

(i) situated within the North American continent, the Caribbean islands and Bermuda; and

(ii) 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) below; and

(c) provided the requirements of subsections (2), (3), (4), (5) and (6) are met, the pilot-in-command may refile "No Alternate IFR" on flights to a destination aerodrome in Canada, regardless of the location of the departure aerodrome, when within six hours of the scheduled destination aerodrome.

(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 fog or other restrictions to visibility, including precipitation, whether forecast or reported, below 3 miles;
(amended 1998/06/01)

(b) no thunderstorms, whether isolated or otherwise forecast or reported;
(amended 1998/06/01)

(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 freezing precipitation whether forecast or reported;
(amended 1998/06/01)

(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 aeroplane type, taking into consideration the approved operational limitations; and

Note:

The reciprocal of one runway is not acceptable as the second runway.

(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 aeroplane, whether such landing be by day or by night;

(4) Flight Dispatch Requirements

The Operation Control System shall be Type A or Type B as applicable;

(5) Fuel Requirements

The minimum fuel required for a no alternate IFR flight plan must meet the requirements of section 704.20 of the *Canadian Aviation Regulations* and shall include the following:

(a) taxi fuel;

(b) fuel to destination;

(c) contingency fuel;

(d) holding reserve fuel; and

(e) fuel for flights in International and Northern Airspace shall be additional contingency fuel or enroute reserve fuel, whichever is the greater; and

(6) 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.

724.28 VFR OTT Flight

(amended 2007/06/30; no previous version)

The standard for operating VFR OTT is:

(1) the flights shall be conducted in accordance with the requirements of section 602.116 of the *Canadian Aviation Regulations*, and

(2) the flights shall be operated under conditions allowing for descent under VMC, or continuation of the flight under VMC if its critical engine fails.

724.29 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 aeronautical charts and the Canada 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 centre 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 centre 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 x 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.

Note:

Pilot training for area navigation systems is contained in section 724.115 of the Commercial Air Services Standards.

724.32 Weight and Balance Control

The weight and balance system required by section 704.32 of the *Canadian Aviation Regulations* shall specify for each flight how the air operator will establish and be responsible for the accuracy of:
(amended 2003/06/01)

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

(2) aeroplane operational empty weight and centre of gravity. The aeroplane operational empty weight is the actual weight of the aeroplane before loading for dispatch consisting of the aeroplane 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) aeroplane 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 centre of gravity limits;

(6) aeroplane zero fuel weight (if applicable);

(7) location of the centre 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.

724.33 Passenger and Cabin Safety Procedures

(amended 1998/06/01)

(1) Safe Movement of Passengers to and From the Aeroplane

The procedures for the safe movement of passengers to and from the aeroplane shall include:

(a) wherever possible, aeroplanes 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 aeroplane;

(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 aeroplane 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 aeroplane 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) personal headsets that are used with personal entertainment systems that decrease awareness of other traffic or limit reception of

audible direction or warning signals, are not worn;
(amended 1999/09/01)

(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
(amended 1998/06/01; no previous version)

(j) passengers on float planes are alerted to hazards unique to emplaning and deplaning this type of aircraft.
(amended 1998/06/01; no previous version)

The procedures shall not preclude the safe embarkment and disembarkment of all passengers.

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 aeroplane.

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

Aeroplanes 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 aeroplane so that the aeroplane can be disembarked or evacuated as necessary;

(b) a means of communication among the qualified personnel on board the aeroplane, ground/maintenance crews and fuelling agencies is determined and established and the procedures are provided to the appropriate personnel;

(c) the aeroplane 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) aeroplane ground power generators or other electrical ground power supplies are not being connected or disconnected;

(ii) combustion heaters installed on the aeroplane (e.g. wing and tail surface heaters, integral cabin heaters) are not operated;

(iii) other combustion heaters used in the vicinity of the aeroplane are manufactured to CSA or ULC standards and approved in accordance with the Fire Commissioner of Canada for use in hazardous atmosphere;

(iv) known high energy equipment such as High Frequency (HF) radios are not operated, unless in accordance with the aeroplane 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 aeroplane is not operated unless in accordance with the manufacturer’s approved aeroplane flight manual where the manual contains procedures for use during fuelling;

(vi) aeroplane batteries are not being removed or installed;

(vii) external battery chargers are not being connected, operated or disconnected;

(viii) aeroplane-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 aeroplane 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 aeroplane fuel systems;

(e) fuelling is immediately suspended when there are lightning discharges within 8 km of the aerodrome;

(f) the aeroplane is fuelled in accordance with manufacturer's procedures for that type of aeroplane;

(g) the aeroplane emergency lighting system is armed or on, (if applicable);

(h) "No Smoking" signs on board the aeroplane are illuminated, as applicable;

(i) procedures are established to ensure that passengers do not smoke or otherwise produce sources of ignition;
(effective 2019/08/16)

(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 aeroplane 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;

(l) 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 aeroplane door used for the embarking and disembarking of passengers and is free of obstruction and available for immediate use by the aeroplane 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 aeroplane 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) (deleted 2019/08/16)

(4) (deleted 2019/11/24)

(5) (deleted 2019/11/24)

(6) (deleted 2019/11/24)

(7) (deleted 2019/11/24)

724.34 Briefing of Passengers

(1) Standard Safety Briefing

The standard safety briefing shall consist of an oral briefing provided by a flight crew member, a person authorized by the air operator, by audio or audiovisual means which includes the following information as applicable

to the aeroplane, equipment, and operation:

(effective 2020/12/09)

(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 portable electronic devices that may be used, and when they may be used;
(effective 2019/11/24)

(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 aeroplane following disembarkment, and any dangers associated with the aeroplane 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.

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:

(I) seat belt instructions;

(II) method of holding infant for take-off and landing;

(III) instructions pertaining to the use of a child restraint

system;

(IV) oxygen mask donning instructions;

(V) recommended brace position;

(VI) location and use of life preservers, as required; and

(B) in the case of any other person:

(I) oxygen mask donning instructions;

(II) instructions pertaining to the use of a child restraint system; and

(III) evacuation responsibilities; and

(viii) for an unaccompanied minor, instructions to pay close attention to the normal safety briefing and to follow all instructions.

Notes:

(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); and

(g) if applicable, evacuation procedures for an occupant of a child restraint system.
(amended 1999/09/01; no previous version)

724.35 Safety Features Card

(amended 1998/06/01)

(1) The safety features card shall contain the following information as applicable to the aeroplane and equipment carried:
(amended 1998/06/01)

(a) general safety information including:

(i) smoking is prohibited on board the aeroplane;

(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 aeroplane; 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 aeroplane, including identification of those emergency exits known to be rendered unusable in a ditching or because of aeroplane configuration such as a combi configuration;

(viii) the safest direction and most hazard-free escape route for passenger movement away from the aeroplane following evacuation;

(ix) the attitude of the aeroplane while floating;

(x) 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, colour and location of any Floor Proximity Emergency Escape Path lighting system that is installed; and

(c) the name of the air operator and the aeroplane type.
(amended 1998/06/01)

(2) The safety features card shall contain only safety information.
(amended 1998/06/01)

(3) The safety information provided by the card shall:
(amended 1998/06/01)

(a) be accurate for the aeroplane type and configuration in which it is carried and in respect of the equipment carried;
(amended 1998/06/01)

(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
(amended 1998/06/01)

(c) be depicted in a clear and distinct manner.
(amended 1998/06/01)

724.37 Instrument Approach Procedures

(amended 2006/12/01; no previous version)

Stabilized Constant-Descent-Angle (SCDA) Non-Precision Approach

In order to conduct a stabilized constant descent angle (SCDA) non-precision approach, the following requirements shall be met:

(a) the air operator's flight crew training and qualifications program includes SCDA non-precision approach in accordance with section 704.115 of the *Canadian Aviation Regulations*;

(b) the air operator's standard operating procedures incorporate SCDA non-precision approach in accordance with section 704.124 of the *Canadian Aviation Regulations*, and the procedures include a specified amount to be added to the MDA to compensate for the additional height loss during the missed approach initiation during approaches where

(i) there is a failure of an aircraft system,

(ii) the aircraft is above normal maximum landing weight,

(iii) the aircraft landing weight is limited by aborted landing climb performance, or

(iv) height loss could be expected to be larger than normal;

(c) the final approach course does not differ from the runway centreline direction by more than 15 degrees; and

(d) the descent angle from the planned final approach fix (FAF) crossing altitude to the target touchdown point on the runway is not less than 2.9 degrees and not more than 3.5 degrees.

Division IV (deleted 2019/06/28)

724.44 (deleted 2019/06/28)

724.46 (deleted 2019/06/28)

724.47 (deleted 2019/06/28)

Division V - Aeroplane Performance Operating Limitations

There are no associated Standards for this division

Division VI - Emergency Equipment

There are currently no standards published for this Division.

(effective 2020/12/09)

Division VII - Personnel Requirements

724.108 Flight Crew Member Qualifications

(1) Pilot Proficiency Check

(a) The pilot proficiency check (PPC) in an aeroplane 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 aeroplane, its systems and components;

(ii) proper control of airspeed, direction, altitude, attitude and configuration of the aeroplane, in accordance with normal, abnormal and emergency procedures and limitations set out in the aeroplane flight manual, aeroplane operating manual (where applicable), the air operator’s standard operating procedures, the check list, and any other information relating to the operation of the aeroplane 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 Aeroplane and Rotorcraft Simulator Manual to Level 4 or higher and a full flight simulator; or, a combination of a flight training device certified to level 6 or higher and the aeroplane. Where a synthetic flight training device is not available in North America the required training may be conducted in the aeroplane.

(d) 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 aeroplane.

(e) The synthetic flight training device level of training and checking credits shall be approved by Transport Canada in the training program approval process for each aeroplane type. Training and checking procedures not approved for the synthetic flight training device shall be completed in the aeroplane. The configuration of the flight training device shall closely resemble that of the aeroplane 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 manoeuvre or procedure from the appropriate Schedule, necessary to determine the proficiency of the crew and to confirm that the crew can operate the aeroplane 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 aeroplane 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) Aeroplane Grouping for PPC Purposes

Where an air operator has been authorized aeroplane grouping for PPCs (renewal only) the following standard shall apply.

(a) for a pilot to commence participating in an air operator’s authorized aeroplane grouping that pilot shall have passed within the preceding 24 months, in each type of aeroplane in which that pilot will act as a flight crew member, the PPC set out in Schedule I or Schedule II of this section;
(amended 2006/06/30)

(b) the pilot must complete initial and annual recurrent ground and flight training, including written examinations on systems and

limitations, for each type of aeroplane in which he/she will serve as a crew member;

(c) the annual PPC shall be conducted by an approved check pilot or a Department of Transport Inspector and passed on one of the aeroplane types from the authorized group. A different type of aeroplane 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 aeroplane type shall be considered to be a failure on all the aeroplane group types flown by that pilot; and

(e) the document certifying qualifications and proficiency shall be endorsed for each aeroplane type.

Note:

Grouping of PPC's (renewal 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 to demonstrate competency to the air operators training pilot. Initial training and a PPC are required for any type on which the pilot is not current or has not previously served (see section 724.111 - Validity Period).

(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 aeroplane type.

The pilot shall:

(a) provide a resume, proof of background on the type of aeroplane, and recent experience appropriate to the training to be given; and

(b) hold the appropriate licence, ratings and endorsements. Where the pilot holds a foreign pilot licence the licence and (as applicable) the instrument rating shall be validated by Transport Canada.

The pilot may be authorized to conduct pilot checks provided the requirements of the Approved 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 Canadian licensed pilot is not available.

During revenue flights foreign licensed pilots shall not replace Canadian flight crew members, they can only be supplemental flight crew for required training.

Schedule I - Pilot Proficiency Check (PPC) - Synthetic Flight Training Device

Schedule II - Pilot Proficiency Check (PPC) - Aeroplane

Schedule III - Authorized Grouping for PPC Purposes - Aeroplanes having a MCTOW over 7000 lbs

724.109 Qualifications of Operational Control Personnel

A person shall successfully complete the training program outlined in subsection 724.115(17) Flight Follower Training to qualify for a position in Type C or D operational control system.
(amended 2006/06/30)

Where an air operator chooses to use a Dispatch Release, the flight dispatcher preparing the release shall be fully qualified in accordance with Type A or B Operational Control, section 724.15 Operational Control Systems and subsection 725.124(21) Flight Dispatcher Training of the Commercial Air Services Standards - Airline Operations - Aeroplanes. (amended 2006/06/30)

724.111 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 aeroplane.

(2) 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 aeroplane ground and flight training, successfully complete the initial pilot proficiency check on the type of aeroplane.

Division VIII - Training

724.115 Training Programs

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 Subpart 704 of the *Canadian 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, aeroplane 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 aeroplane type training has successfully completed the ground school for the type of aeroplane.

(b) **Qualifications and Responsibilities of a Training Pilot (Flight)**

(i) **Qualifications**

(A) The training pilot shall:
(amended 2006/06/30)

(I) where VFR only is authorized by the air operator certificate, hold a valid Airline Transport Pilot Licence (Aeroplane) or a valid Commercial Pilot Licence (Aeroplane) appropriate for the aeroplane on which training will be given;
(amended 2006/06/30)

(II) where Night VFR is authorized by the air operator certificate, hold a valid Airline Transport Pilot Licence (Aeroplane) or a Commercial Pilot Licence (Aeroplane), valid for night, and a valid Instrument Rating appropriate for the aeroplane on which training will be given; or

(amended 2006/06/30; no previous version)

(III) where IFR is authorized by the air operator certificate, hold a valid Airline Transport Pilot Licence (Aeroplane) and a valid Instrument Rating appropriate for the aeroplane on which training will be given.
(amended 2006/06/30; no previous version)

(B) In addition to the items set out in clause A, the training pilot shall also:
(amended 2006/06/30)

(I) if applicable, hold a type rating for the type of aeroplane on which training will be given;
(amended 2006/06/30; no previous version)

(II) be qualified in accordance with the air operator's training program to act as pilot-in-command on the type of aeroplane on which training will be given; and
(amended 2006/06/30; no previous version)

(III) know the content of the Aircraft Flight Manual, Aircraft Operating Manual (if applicable), Approved Check Pilot Manual, Company Operations and Training Manuals and the operator's Standard Operating Procedures for the aeroplane type, and the provisions of the regulations and standards.
(amended 2006/06/30)

(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 aeroplane 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 Licence-Aeroplane or equivalent and an Instrument Rating appropriate for the class of aeroplane;

(B) have completed the air operator’s ground school and synthetic flight training device program for the type of aeroplane;

(C) have successfully completed within the past 24 months a pilot proficiency check in the synthetic flight training device or aeroplane for that type;

(amended 2006/06/30)

(D) know the content of the Aeroplane Operating Manual (if applicable), Aeroplane Flight Manual, Operations and Training Manuals and as applicable the Approved Check Pilot Manual and the air operator Standard Operating Procedures for the aeroplane 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.

(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 aeroplane 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.

Notes:

(1) Requirements for the use of other than an air operator employee pilot for training and checking are in section 724.108.

(2) The standard for air operator check pilots are those contained in the Approved 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 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 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 fulfil their assigned duties related to flight operations. Company indoctrination training shall include as applicable:

(a) *Canadian Aviation Regulations* and commuter 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 aeroplane;

(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, aeroplane 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 aeroplane systems and all normal, abnormal and emergency procedures. The following subjects shall be included:

(a) aeroplane systems operation and limitations as contained in the aeroplane flight manual and aeroplane operating manual, and standard operating procedures;

(b) operation of all equipment that is installed in all aeroplanes of the same type operated by the air operator;

(c) differences in equipment that is installed in all aeroplanes 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 aeroplane;

(e) aeroplane 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).

(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 4 or higher and a full flight simulator or, a combination of a

flight training device certified to Level 6 or higher and the aeroplane. Where a synthetic flight training device is not available in North America the required training may be conducted in the aeroplane.

(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 aeroplane.

(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 aeroplane must be carried out for general handling and landing manoeuvres for initial and upgrade training.

(a) The following training in standard operating procedures for normal, abnormal and emergency operation of the aeroplane systems and components shall be carried out in the FFS:

(i) use of aeroplane checklists;

(ii) flight and cabin crew co-operation, command and co-ordination;

(iii) aeroplane 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 aeroplanes 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) 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) aeroplane 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; and

(xx) FMCS, GPWS, TCAS and other specialized aeroplane equipment (where available); and

(xxi) inadvertent encounters with moderate or severe in flight icing conditions.
(amended 1999/09/01; no previous version)

(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 aeroplane type shall be carried out:

(i) interior and exterior aeroplane 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 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 aeroplane, 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 aeroplane must be carried out for general handling and landing manoeuvres for initial and upgrade training.

(a) The following training in standard operating procedures for normal, abnormal and emergency operation of the aeroplane systems and components shall be carried out in the FFS:

(i) use of aeroplane checklists;

(ii) flight and cabin crew co-operation, command and co-ordination;

(iii) aeroplane 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 aeroplanes inflight procedures including approach and landing with 2 engines inoperative (applies to P-I-C 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) aeroplane 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 aeroplane equipment (as applicable); and

(xxii) inadvertent encounters with moderate or severe in flight icing conditions.
(amended 1999/09/01; no previous version)

(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 aeroplane 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 aeroplane additional training on these differences shall be provided.

(10.1) Level C Training Program (if applicable)

(amended 2000/12/01; no previous version)

(a) For the purpose of this provision, "similar aeroplane" means both aeroplanes are subject to Subpart 704 and are

(i) turbo-jet to turbo-jet - provided both are certified as Transport Category Aeroplanes,

(ii) turbo-prop to turbo-prop - provided both aeroplanes are certified as Transport Category Aeroplanes, or both aeroplanes are certified

under FAR 23 Commuter or SFAR 41C or equivalent, or

(iii) reciprocating to reciprocating - provided both are certified for operations under Subpart 704;

(b) An air operator with an approved Level C training program using a Level C FFS approved in accordance with the Aeroplane and Rotorcraft Simulator Manual is permitted zero flight time training for candidates on initial training who have at least second-in-command experience on a similar aeroplane with the same operator or who have verifiable line currency as a second-in-command on a similar aeroplane within the previous two years. Candidates who do not qualify shall undergo aeroplane flight training in accordance with those items listed in subparagraphs 724.115(9)(c)(i-vii) above;

(c) In addition to those items of training required in paragraphs 724.115(9)(a) and (b), the training in an approved Level C flight simulator shall include

(i) manoeuvring of the aeroplane on the ground,

(ii) crosswind take-offs and landings to 100% of the published crosswind component,

(iii) a visual training program in the flight simulator to ensure VFR flight skills, covering scenarios of dusk and night with variable weather and visibilities. This program shall include

(A) normal and crosswind take-offs, visual circuits and landings with variable wind, runway illusion and surface conditions,

(B) engine inoperative approach and landing,

(C) engine failure procedures during take-off and missed

approach,

(D) no electronic glideslope approach and landing, and

(E) approaches and landings with flight control failures and abnormalities;

(iv) a simulated line flight comprising at least 2 sectors (one as pilot flying and another as pilot not flying);

(d) If a Level C flight simulator has differences in performance, systems, or cockpit layout and configuration from the air operator's aeroplane, additional training on these differences shall be provided.

(10.2) Level D Training Program (if applicable)

(amended 2000/12/01; no previous version)

(a) An air operator with an approved Level D training program using a Level D FFS approved in accordance with the Aeroplane and Rotorcraft Simulator Manual is permitted zero flight time training;

(b) In addition to the training required for a Level C program, the following FFS training shall be carried out:

(i) A VFR training program in the Level D flight simulator of at least 4 hours per crew (2 hours as pilot flying and 2 hours of pilot not flying) is required, to ensure visual flight skills to cover either day or dusk and night with variable weather and visibility scenarios. This program shall include the following:

(A) normal and crosswind take-offs, and visual circuits and landings, with variable wind, runway illusion and surface conditions,

(B) engine inoperative approach and landing,

(C) engine failure procedures during take-off and missed approach,

(D) no visual aids approaches and landings, and

(E) approaches and landings with flight control failures and abnormalities;

Note:

Where a pilot demonstrates a satisfactory level of performance in visual manoeuvres, the operator may use the time specified in subparagraph 724.115(10.2)(b)(i) as additional training to that required by any of the Level C requirements.

(ii) Simulated line flights of at least 2 sessions (2 sectors as pilot flying and 2 sectors as pilot not flying) are required. Pilot flying duties shall be carried out from the appropriate seat.

(c) If a Level D flight simulator has differences in performance, systems, or cockpit layout and configuration from the air operator's aeroplane, additional training on these differences shall be provided.

(11) Aeroplane Only Flight Training Program

Any simulated failures of aeroplane 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 aeroplane systems and components including:

(i) use of aeroplane checklists including interior and exterior pre-flight checks;

(ii) manoeuvring of the aeroplane 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 aeroplane 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 aeroplanes 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 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) aeroplane 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 aeroplane 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

(amended 1998/06/01; no previous version)

(iv) where the operator is approved for circling approaches, a night circling approach to landing may be conducted in lieu of a visual circuit.
(amended 1998/06/01; no previous version)

(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 aeroplanes, 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;

(j) passenger on board medical emergency; and

(k) special emergency procedures when the aeroplane 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 aeroplane, the following must be completed for all pilots who have not maintained their recency qualifications in accordance with paragraph 704.108 (1)(b) of the *Canadian Aviation Regulations* for a period between 90 days and 12 months.

(a) a briefing on changes that have occurred to the aeroplane 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 paragraph (14)(a) above; and

(ii) a technical ground training course consisting of an aeroplane

system review and FTD training (where applicable).

(c) Where the PPC has expired for a period greater than 24 months a complete initial aeroplane 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 aeroplane type shall include the following:

(i) successfully complete training as a pilot-in-command in all areas of aeroplane 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 aeroplane the initial pilot proficiency check outlined in Schedule I or Schedule II to section 724.108, conducted by a Transport Canada 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 aeroplane type has expired within the previous 24 months shall consist of completion of all regaining qualifications requirements specified in paragraphs 14(a) or (b), as applicable, as well as the requirements of paragraph (15)(a) above.

(c) Pilots who have not held a valid PPC on that aeroplane type as second-in-command for a period greater than 24 months shall be given a complete initial aeroplane type training course as well as the

requirements of paragraph (15)(a) above.

(16) Right Seat Conversion Training

(a) For a left seat-qualified pilot to operate an aeroplane from the right seat, the pilot shall
(amended 2000/12/01)

(i) be qualified as captain or pilot-in-command, and be current on the aeroplane type for left seat duties,
(amended 2000/12/01)

(ii) receive sufficient technical ground training on right seat duties,
(amended 2000/12/01)

(iii) have, for initial training received after January 1, 2001, sufficient flight or FFS training to enable a Company Check Pilot, air operator aeroplane type Chief Pilot or aeroplane type Training Pilot to certify the competency of the pilot to carry out pilot duties from the right seat, and
(amended 2000/12/01)

(iv) every 12 months, complete two segments in the right seat, one as the pilot-flying and one as the pilot-not-flying;
(amended 2000/12/01; no previous version)

(b) The initial training specified in subparagraph 724.115(16)(a)(iii) shall include at least the following elements:
(amended 2000/12/01; no previous version)

(i) a normal take-off,

(ii) an instrument approach and landing, and

(iii) a take-off with an engine failure above V1 for FFS training or a

simulated engine failure at a safe altitude for flight training;

(c) If the currency requirements specified in subparagraph 724.115(16)(a)(iv) lapse, the initial training specified in paragraph 724.115(16)(b) shall be completed in order to regain right seat currency;
(amended 2000/12/01; no previous version)

(d) A first officer, current on the aeroplane type, who is upgrading to captain on the same aircraft type will be considered to have completed the initial right seat training requirement specified in paragraph 724.115(16)(b).
(amended 2000/12/01; no previous version)

(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) Aeroplane 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 a Minimum Equipment List (MEL) has been approved for use on an aeroplane type, the air operator shall provide the following training to flight crew members, maintenance personnel, and to persons exercising operational control, as applicable:
(amended 2004/12/01)

(a) training for maintenance personnel shall include instruction on those sections of the Maintenance Control Manual which address the MEL, placarding of inoperative equipment, maintenance release, and any other MEL related procedures;
(amended 2004/12/01)

(b) training for flight crew members and operational control personnel shall include instruction on the purpose and use of an MEL, air operator MEL procedures, elementary work as applicable, and responsibility of

the pilot in command;
(amended 2004/12/01)

(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 *Canadian 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)

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**

This training shall include
(amended 2000/12/01)

(i) take-off alternate requirements,

(ii) pilot-in-command minimum experience,

(iii) pilot-in-command responsibility for visibility and obstacle clearance requirements,

(iv) minimum aeroplane and runway equipment requirements, and

(v) procedures to ensure compliance with performance limitations;

(b) **Synthetic Flight Training Device (SFTD) Training**

(amended 2000/12/01)

(i) Training in an SFTD is required for all operators using an RVR 600 feet authorization and the operators using an RVR 1200 feet authorization in aircraft without certified take-off performance. (amended 2000/12/01)

(ii) The initial and recurrent training on an SFTD shall include (amended 2000/12/01)

(A) for RVR 600 feet :

(I) a minimum of one completed take-off at RVR 600 feet with a failure of the critical engine at V1, and

(II) one rejected take-off at RVR 600 feet immediately prior to V1;

(B) for RVR 1200 feet :

(I) a minimum of one completed take-off at RVR 1200 feet with a failure of the critical engine at V1, and

(II) one rejected take-off at RVR 1200 feet immediately prior to V1;

(22) Area Navigation Systems (RNAV)

(a) **General Training**
(amended 1998/09/01)

(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;

(I) time keeping procedures; and
(amended 2003/03/01)

(J) post-flight.
(amended 2003/03/01)

(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)**

(amended 1998/09/01)

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:

(I) GPS system components and aircraft equipment;

(II) the composition of satellite constellation;

(III) the minimum number of satellites required for 2-D and 3-D navigation;

(IV) the basic concept of satellite ranging;

(V) factors affecting the accuracy of GPS signals;

(VI) 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".

(c) **Ground Training - Integrated Receivers (Flight Management Systems)**

(amended 1998/09/01)

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:

(I) GPS system components and aircraft equipment;

(II) the composition of satellite constellation;

(III) the minimum number of satellites required for 2-D and 3-D navigation;

(IV) the basic concept of satellite ranging;

(V) factors affecting the accuracy of GPS signals;

(VI) 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**
(amended 1998/09/01; no previous version)

(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) to an approved check pilot.
(amended 2006/06/30)

(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 aeroplane 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 aeroplanes above 13,000 feet ASL before first assignment on a pressurized aeroplane 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) Aeroplane Servicing and Ground Handling Training for Pilots

(a) fuelling procedures:

(i) types of fuel, oil and fluids used in the aeroplane;

(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 aeroplane; and

(e) procedures for operating in cold weather such as:

(i) moving the aeroplane out of a warm hangar when precipitation is present;

(ii) procedures for applying de-icing and anti-icing fluids for the aeroplane 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 aeroplane:

(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) Aeroplane and Equipment:

(i) MEL policy and procedures;

(ii) C of A and other aeroplane 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) Aeroplane Servicing and Ramp Safety:

(i) fuelling procedures;

(ii) load security;

(iii) ground equipment & handling;

(iv) air operator’s aeroplane deicing policy and procedures; and

(v) aeroplane parking;

(e) Reporting for Duty,

(f) License Requirements;

(g) Aeroplane 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) aeroplane 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 aeroplane 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 aeroplanes shall complete Initial Line Indoctrination;

(B) crew members who have qualified and served in the same capacity on the same group of aeroplanes 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-in-command shall perform the duties of the position;

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 aeroplanes shall be as follows:

(A) each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating manoeuvres and procedures as detailed in subsection 724.115(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 aeroplanes shall be as follows:

(A) each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating manoeuvres and procedures as detailed in subsection 724.115(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 aeroplanes shall be as follows:

(A) each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating manoeuvres and procedures as detailed in subsection 724.115(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 aeroplanes shall be as follows:

(A) each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating manoeuvres and procedures as detailed in subsection 724.115(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 aeroplanes shall be as follows:

(A) Each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating manoeuvres and procedures as detailed in subsection 724.115(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 aeroplanes shall be as follows:

(A) each pilot shall perform or show knowledge of, as applicable, a mandatory list of operating manoeuvres and procedures as detailed in subsection 724.115(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) **Initial and Recurrent Ground Training**
(amended 2011/06/30; previous version)

The air operator’s initial and annual recurrent ground training program shall provide training for pilots-in-command (as pilot-flying), seconds-in-command (as pilot-not-flyig) and, where applicable, second officers in the following subjects:

(i) the characteristics, capabilities and limitations of the ILS, including the effect on system performance of interference from other airborne or taxiing aircraft and ground vehicles;

(ii) the characteristics of the visual aids and the limitations on their use as visual cues in reduced visibilities with various glide path angles and cockpit cut-off angles, and the height at which various cues may be expected to become visible in actual operations;

(iii) the operation, capabilities and limitations of the airborne systems;

(iv) approach, missed approach and rejected landing procedures and techniques including the description of the factors affecting the height loss during a missed approach in normal and abnormal aircraft configurations;

(v) the use and limitations of RVR, including the applicability of RVR readings from different positions along the runway;

(vi) a basic understanding of obstacle limitation and the obstacle-free zone, including missed approach design criteria, obstacle clearance for CAT II/III operations and obstacle clearance during a go-around and rejected landing;

(vii) the effects of low level windshear, turbulence and precipitation;

(viii) procedures and techniques for transition from instrument to visual flight in low RVR conditions, including the geometry of eye,

wheel and antenna positions with reference to ILS reference datum height;

(ix) the action to be taken if the visual reference becomes inadequate when the aircraft is below decision height, and the technique to be adopted for transition from visual to instrument flight should a go-around become necessary at these low heights;

(x) the action to be taken in the event of failure of approach and landing equipment above and below decision height or alert height;

(xi) the recognition of, and action to be taken in the event of failure of ground equipment;

(xii) significant factors in the determination of decision height or alert height;

(xiii) the effect of specific aircraft malfunctions (e.g. engine failure) on auto-throttle and auto-pilot performance;

(xiv) procedures and precautions to be followed while taxiing during limited visibility conditions; and

(xv) standard operating procedures to be followed by crew members during normal, abnormal and emergency situations.

The air operator’s annual recurrent ground training program shall cover the above subjects over a definite period of time (through a cycle).

(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 manoeuvre;

(ii) a missed approach from the lowest minima approved for the air

operator, or a rejected landing, as applicable;
(amended 2011/06/30; previous version)

(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 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) authority of the pilot-in-command;

(b) means of communication;

(c) a general description of the aeroplane 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 aeroplane and safe movement to and from the aeroplane;

(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.

(31) Training Program - Minimum Training Times - Aeroplanes
(amended 1998/06/01; no previous version)

(a) In this subsection, table 1 provides the minimum initial training times for aeroplanes equipped with engines as described therein and table 2 provides the minimum annual recurrent training for aeroplanes equipped with engines as described therein.
(amended 2006/06/30)

(b) Flight training time in these tables is "flight time".
(amended 2006/06/30)

(c) Pilots will receive some PNF time in the simulator in addition to the PF times given in the tables.
(amended 2006/06/30)

(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.

Table 1

(per paragraph 724.115(31)(a))

(amended 2000/12/01)

Minimum Amount of Hours of Initial Training	**Ground Training**			**Flight Training Simulator and Aircraft (PF - Pilot Flying)**					**Aircraft Only**
	Basic	**Pressurized**	**Turbine**	**Lvl A[1]**	**Lvl B[1]**	**Lvl C**	**Lvl D**	**A/C[2]**	
Multi - engine 10* to 19*	16.0	4.0	4.0	8.0	8.0	10.0	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	12.0	2.0	8.0
Citation 500 Series	35.0			10.0	10.0	12.0	12.0	2.0	8.0
Other Turbo-jet	40.0			12.0	12.0	14.0	14.0	2.0	8.0

++ Included since certain aeroplanes certificated for 20+ passengers are regulated by CAR 704 (e.g., Twin Otter)

[1] Training on aircraft required.

[2] The minimum aircraft training required.

Table 2

(per paragraph 724.115(31)(a))

(amended 2000/12/01)

Minimum Amount of Hours of Recurrent Training (Annual)	**Ground Training**			**Flight Training Simulator and Aircraft (PF - Pilot Flying)**					**Aircraft Only**
	Basic	**Pressurized**	**Turbine**	**Lvl A**	**Lvl B**	**Lvl C**	**Lvl D**	**A/C[1]**	
Multi-engine 10*to 19*	7.0	0.5	0.5	4.0	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	4.0	1.0	3.0
Citation 500 Series	12.0			4.0	4.0	4.0	4.0	1.0	3.0
Other Turbo-jet	15+			4.0	4.0	4.0	4.0	1.0	3.0

* Denotes the number of passenger seats for which the aircraft was certificated.
++ Included since certain aeroplanes certificated for 20+ passengers are regulated by CAR 704 (e.g., Twin Otter)
[1] Amount of hours of additional training required on aircraft if the operator does not have an approved Level A or higher Training Program authorizing recurrent training only on a full flight simulator.
(amended 2000/12/01)

(32) Controlled Flight into Terrain (CFIT) Avoidance Training
(amended 2000/06/01; no previous version)

Subject to paragraph (d), air operators shall provide the following CFIT avoidance training to all flight crew members operating aeroplanes approved for flight under instrument meteorological conditions:

(a) initial and biennial ground training:

(i) factors that may lead to CFIT accidents and incidents,

(ii) operational characteristics, capabilities, and limitations of GPWS (if applicable),

(iii) CFIT prevention strategies,

(iv) methods of improving situational awareness, and

(v) escape manoeuvre techniques and profiles applicable to the aeroplane type;

(b) air operators with GPWS equipment using synthetic training devices in their approved initial training program shall conduct CFIT avoidance training as follows:

(i) one escape manoeuvre performed in VMC in response to a GPWS

warning, and

(ii) one escape manoeuvre performed in IMC in response to a GPWS warning;

(c) air operators with GPWS equipment using synthetic training devices in their approved recurrent training program shall conduct CFIT avoidance training biennially as follows:

(i) one escape manoeuvre performed in VMC in response to a GPWS warning where the air operator is approved for VFR only operations, or

(ii) one escape manoeuvre performed in IMC in response to a GPWS warning where the air operator is approved for IFR operations; and

(d) where the flight crew members operate aircraft equipped with a Terrain Awareness and Warning System (TAWS), the training received on TAWS is considered to have met the requirements of paragraphs (a), (b) and (c).

(33) Airborne Icing Training

(amended 2000/06/01)

Approved initial and recurrent training programs for all flight crew shall include airborne icing training to ensure they are fully aware of the hazards presented by airborne icing and the operating procedures to avoid and exit hazardous icing conditions. The training program shall include:

(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(s) 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.

(34) Low-Energy Awareness Training

(amended 2000/12/01; no previous version)

(a) Initial and recurrent ground and flight training is required for all flight crew members operating turbo-jet aeroplanes;

(b) Ground training shall include:

(i) low-energy landing regime for the aircraft type,

(ii) aircraft and engine handling and performance characteristics in the low-energy regime, and

(iii) aircraft balked landing procedures;

(c) Where flight training is conducted in a synthetic training device, this training shall include one balked landing initiated in the low-energy regime.

(35) Pacific RNP-10 Training

(amended 2002/12/01; no previous version)

For a flight crew member to qualify for operations in Pacific RNP-10 airspace, an air operator shall have initial and recurrent approved training programs that ensure that each flight crew member is proficient in the following areas:

(a) flight planning for RNP-10 airspace;

(b) navigation performance requirements for RNP-10 airspace;

(c) en route procedures for RNP-10 airspace; and

(d) contingency procedures for RNP-10 airspace.

(36) Reduced Vertical Separation Minima (RVSM) Training
(amended 2002/12/01; no previous version)

For a flight crew member to qualify for operations in RVSM airspace, an air operator shall have initial and recurrent approved training programs that ensure that each flight crew member is proficient in the following areas:

(a) knowledge of the floor, ceiling and horizontal boundaries of the RVSM airspace to be operated in;

(b) rules on exclusion of non-RVSM compliant aircraft;

(c) pilot procedures with respect to:

(i) pre-flight and in-flight altimeter checks,

(ii) use of the automatic altitude control system,

(iii) Minimum Equipment List (MEL) items applicable to RVSM operations,

(iv) special procedures for in-flight contingencies,

(v) weather deviation procedures,

(vi) track offset procedures for wake turbulence and inconsequential collision avoidance systems alerts, and

(vii) pilot level-off call;

(d) procedures for flight of non-RVSM compliant aircraft for

maintenance, humanitarian or delivery flights; and

(e) use of ACAS/TCAS.

(37) Stabilized Constant-Descent-Angle (SCDA) Non-Precision Approach Training

(amended 2006/12/01; no previous version)

The air operator shall ensure that the pilot-in-command and the second-in-command, in order to conduct a stabilized constant-descent-angle (SCDA) non-precision approach, receive ground and simulator or flight training that addresses the following subjects within their initial and recurrent training programs:

(a) factors that affect altitude loss during the initiation of a missed approach;

(b) the relationship between the published missed approach point (MAP) and the position where a missed approach is commenced following a stabilized final approach descent to minimum descent altitude (MDA);

Information note:

The missed approach climb from a stabilized final approach descent will normally occur some distance before reaching the published MAP.

(c) the requirement to initiate a missed approach if the required visual reference necessary to continue to land has not been established, at the latest on reaching the earlier of:

(i) the minimum descent altitude, and

(ii) the MAP;

(d) the requirement to commence the horizontal (lateral) navigation portion of the published missed approach procedure at the MAP;

Information note:

It may be essential for obstacle clearance to delay any turns stated in the published missed approach procedure until the aircraft crosses the MAP.

(e) the requirement to ensure that any altitudes at step-down fixes between the final approach fix (FAF) and the MAP are respected;

(f) the operation of any aircraft computer-generated approach slope systems or other methods of computing stable approach paths to the target touchdown point;

Information note:

The effects of horizontal position error and temperature on the vertical path, whether it is derived from an inertial, barometric vertical navigation (Baro VNAV), or altimeter reference, shall be addressed.

(g) the requirement to verify any altitude and waypoint information from a navigation database against an independent source;

(h) crew coordination upon reaching MDA and during the execution of a missed approach; and

(i) utilization of temperature corrections to MDA and other published

altitudes and remote altimeter correction factors, when required.

(38) Crew Resource Management Training

(effective 2019/01/31)

An air operator shall provide Crew Resource Management Training (CRM) to flight crew, flight attendants, dispatchers/flight followers, ground crew and maintenance personnel, as applicable, in accordance with paragraphs (a) and (b) of this subsection.

Information note:

> The training described in this subsection will be tailored to the needs and size of the organization. CRM training should cover the operator's safety culture, its company culture, the type of operations and the associated procedures of the operator. This should include areas of operations that may lead to particular difficulties or involve unusual hazards.

(effective 2020/12/09)

(a) Initial training is to be conducted every three years and shall cover the following items :

(i) threat and error management;

(ii) communications;

(iii) situational awareness;

(iv) pressures and stress;

(v) fatigue;

(vi) workload management;

(vii) decision making;

(viii) leadership and team building;

(ix) automation and technology management; and

(x) relevant case study.

(b) Annual training in safety and emergency procedures shall comprise of a joint participation of flight crew, flight attendants, dispatchers/flight followers, ground crew and maintenance personnel, as applicable, and shall cover the following items:

(i) threat and error management;

(ii) an in-depth review of a minimum of three additional core elements as found in subparagraphs (a)(ii) through (a)(ix);

(iii) relevant case study;

(iv) a review and discussion of current safety trends within the operator’s specific operation(s) and industry; and

(v) crew member evacuation drills, including debriefing.

Division IX - Manuals

724.121 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 aeroplane 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) aeroplane 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) aeroplane 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 *Canadian Aviation Regulations*; and

(iv) fuelling with passengers on board;

(w) list of emergency survival equipment carried on the aeroplane 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

(iv) unlawful interference;

(y) minimum flight crew members required and flight crew member qualifications;

(z) flight duty time limitations and rest requirements;

(a-a) training programs including copy of company training and qualification record form(s);

(b-b) use of oxygen;

(c-c) operational support services and equipment;

(d-d) passenger and cabin safety procedures for emplaning and deplaning passengers when engines are running;
(amended 1998/06/01; no previous version)

(e-e) float operators shall include passenger and cabin safety procedures unique to their environment;

(f-f) inspection details and frequency of inspection of emergency equipment carried on board the aeroplanes;

(g-g) policy regarding GPWS and TCAS (if applicable);

(h-h) procedures for MNPS, CMNPS and reclear flights, including log keeping, (if applicable);

(i-i) policy on occupation of observer seat (if applicable);

(j-j) requirement for responsibility for preparing runway analysis charts;

(k-k) procedures for reduced VFR limits in uncontrolled airspace (if applicable);

(l-l) copies of all forms utilized including sufficient instruction on form completion;

(m-m) for dedicated or contracted MEDEVAC operations, operational procedures. These shall include procedures which will ensure, to the maximum extent possible, that decisions affecting safety of flight are not influenced by the condition of the patient; and
(amended 2003/06/01)

(n-n) other information related to safety.
(amended 2003/06/01)

724.123 Aeroplane Operating Manual

An aeroplane 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 aeroplane by the type and registration it is applicable to; and

(f) aeroplane operating procedures and limitations that are not less restrictive than those contained in the aeroplane flight manual and *Canadian Aviation Regulations* (as amended).

724.124 Aeroplane Standard Operating Procedures (SOPs)

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

Required information, if contained in another publication carried on board the aeroplane 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) inadvertent encounter with moderate to severe in flight icing; and (amended 1999/09/01)

(l) other abnormal and emergency procedures that are specific to the type of aeroplane;

(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.

Transport Canada is closely monitoring the COVID-19 situation. In response, we have issued some **transportation-related measures and guidance**. Please check if any of these measures apply to you.

You may experience longer than usual wait times or partial service interruptions. If you cannot get through, please **contact us by email**.

For information on COVID-19 updates, please visit **Canada.ca/coronavirus**.

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