Civil Aviation Rules

CIVIL AVIATION AUTHORITY
OF NEW ZEALAND
Te Mana Rererangi Tūmatanui o Aotearoa

Part 125

Air Operations — Medium Aeroplanes

27 February 2026

CAA Consolidation

Published by the Civil Aviation Authority of New Zealand

Rule Objective

The objective of Part 125 is to maintain a safe aviation system through ensuring applicable ICAO safety standards related to air operations in medium aeroplanes are met and maintained. This Part applies to air operations conducted by a holder of an airline Air Operator Certificate issued in accordance with Part 119 using an aeroplane that has—

- a passenger seating configuration of 10 to 30 seats; or
- a payload capacity of 3410 kg or less and a MCTOW of greater than 5700 kg; or
- a single engine and is carrying passengers under IFR.

Part 125 prescribes rules applying to—

- a person performing an air operation
- a holder of an air operator certificate conducting an air operation
- a pilot-in-command performing an air operation
- the use of an aeroplane to perform a SEIFR passenger operation
- additional aircraft equipment, instrument, and certification requirements and specifications
- aircraft maintenance
- crew training and competency
- management of flight crew fatigue.

This document is the current consolidated version of Part 125 produced by the Civil Aviation Authority, and serves as a reference only. It is compiled from the rules that have been signed into law by the Minister of Transport. Copies of the rules as signed by the Minister of Transport may be obtained from the Civil Aviation Authority or may be downloaded from the official web site at: www.caa.govt.nz

Bulletin

This Part first came into force on 5 April 2025 and now incorporates the following amendments:

Amendment	Effective Date
Amendment 1	27 February 2026

Summary of amendments:

Amendment 1: (25/CAR/03)	The amendments of the rules in this Part are reflected by – revoking and replacing rule 125.361.

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Subpart A — General

125.1 Purpose

(a) Subject to paragraph (b), this Part prescribes rules governing air operations using an aeroplane—

(1) having a passenger seating configuration of 10 to 30 seats; or

(2) with a payload capacity of 3410 kg or less and a MCTOW greater than 5700 kg; or

(3) to perform a SEIFR passenger operation.

(b) If either the seat numbers or payload capacity of the aeroplane falls into the purpose for Part 121, then the operation must be conducted under Part 121.

125.3 Definitions

In this Part—

Air operation means an air transport or a commercial transport operation using—

(1) an aeroplane having a seating configuration of 10 to 30 seats, excluding any required flight crew member seat, or a payload capacity of 3410 kg or less and a MCTOW of greater than 5700 kg; or

(2) a single-engine aeroplane to perform an SEIFR passenger operation:

Air operator certificate means an airline air operator certificate:

Exposition, unless used with reference to another source, means a record of the information required by rule 119.81 or 119.125:

Holder of an air operator certificate means the holder of an air operator certificate issued under Part 119 that authorises the holder to conduct air operations:

Net take-off flight path, take-off flight path, take-off distance, and take-off run have the same meaning as prescribed in the rules under which the aeroplane was certificated:

Threshold means that point where a 1:20 obstacle-free approach surface intersects the runway surface.

125.5 Laws, regulations, and procedures

Each holder of an air operator certificate must ensure that all persons employed, engaged, or contracted by the holder of an air operator certificate are familiar with the appropriate sections of the Act, Civil Aviation Rules, and procedures specified in the certificate holder's exposition.

125.7 Procedure compliance

Each person performing an air operation must conform with the applicable procedures specified in the exposition of the holder of the air operator certificate that authorises the operation.

125.8 Crew member grace provisions

If a crew member completes a test, flight check, or assessment, that is required under Subparts I, J, or M within 60 days before the date on which the test, flight check, or assessment is required, the crew member is deemed to have completed the test, flight check, or assessment on the date that it is required to be completed.

125.9 Exemptions

The Director may not grant any exemption to the requirements in this Part concerning the AEDRS.

125.11 SEIFR passenger operations

A holder of an air operator certificate must not conduct an SEIFR passenger operation unless—

(1) the SEIFR passenger operation is specified in the certificate holder's operations specifications under rule 119.15(b)(5); and

(2) the operation is performed in accordance with the requirements of this Part; and

(3) the aeroplane used has a passenger seating configuration of 14 seats or less, excluding any required crew member's seat, and a payload capacity of 3410 kg or less.

Subpart B — Flight Operations

125.51 *Reserved*

125.53 Aeroplane airworthiness

(a) A holder of an air operator certificate must ensure that every aeroplane that is operated on an air operation under the authority of the certificate has a current standard category airworthiness certificate.

(b) A holder of an air operator certificate must ensure that—

(1) every aeroplane that is operated on a SEIFR passenger operation under the authority of the certificate is certificated by an ICAO Contracting State—

(i) as a turbine-powered aeroplane; and

(ii) for IFR flight; and

(iii) as complying with airworthiness standards that are equivalent to at least FAR 23, Amendment 28; and

(2) the propeller model, engine model, and those accessories necessary for the continued operation of the propeller and engine installed in an aeroplane that is operated under paragraph (b)(1) have—

(i) a minimum of 100,000 hours time-in-service in the same type of aeroplane; and

(ii) with the same combination of propeller, engine, and accessories as that aeroplane, a demonstrated mechanical IFSD rate of not more than 1 per 100,000 hours.

125.54 SEIFR proving flights

(a) Notwithstanding rule 119.57(a), each holder of an air operator certificate that intends to conduct an SEIFR passenger operation, where that

operation is not already specified in the certificate holder's operations specifications under rule 119.15(b)(5), must, upon applying for an amendment to the certificate to enable the certificate holder to conduct an SEIFR passenger operation, ensure proving flights and tests are performed to satisfy the Director that it can meet any relevant requirement prescribed in this or any other Part.

(b) The flights and tests required by paragraph (a) must be performed in a manner acceptable to the Director.

125.55 Common language

Each holder of an air operator certificate must ensure that—

(1) all crew members can communicate in a common language with at least one flight crew member being able to communicate in the English language; and

(2) all operations personnel are able to understand the language in which the applicable parts of the certificate holder's exposition are written.

125.57 Flight preparation

(a) A holder of an air operator certificate must ensure that for each air operation conducted under the authority of the certificate, appropriate information is available to the pilot-in-command to complete the preparation for the intended operation.

(b) A holder of an air operator certificate must ensure that before each air operation conducted under the authority of the certificate, a flight plan meeting the requirements of rule 91.307(c) or rule 91.407 as appropriate for the type of operation is prepared, and if the flight plan is not prepared by the pilot-in-command, the pilot-in-command is informed of the contents of the flight plan before the intended operation.

(c) A VFR flight plan prepared under paragraph (b) as required by rule 91.307(c) may incorporate multiple route segments provided that the SARTIME is amended for the next aerodrome of intended landing as the flight proceeds.

(d) Despite rule 91.307(a) and except as provided in paragraph (f), the holder of the air operator certificate must ensure that before any air

operation the flight plan required by paragraph (b) is submitted to an appropriate ATS unit.

(e) Despite rules 91.307(a) and 91.407(a)(1), the flight plan required to be submitted to an ATS unit under paragraph (d) may be submitted by the holder of the air operator certificate and the pilot-in-command must be informed of the contents of the flight plan.

(f) A flight plan is not required to be submitted to an ATS unit for an air operation conducted under VFR if the operation is a non-stop flight and —

(1) the flight departs and returns to the same aerodrome; and

(2) the flight remains within 25 NM of the aerodrome.

(g) Where a flight plan is not submitted to an ATS unit under paragraph (f) the flight must be covered by a flight following service under rule 119.73.

125.58 Search and rescue information

A holder of an air operator certificate must ensure that each aeroplane that is operated under the authority of the certificate carries on board relevant information concerning the search and rescue services in the area over which the aeroplane is to be flown.

125.59 Emergency and survival equipment information

(a) Each holder of an air operator certificate must have available, for immediate communication to rescue co-ordination centres, information on the emergency and survival equipment carried on board each of its aeroplanes.

(b) For air operations performed in excess of 50 NM from shore the information required by paragraph (a) must include—

(1) the number, colour, and type of life rafts; and

(2) whether pyrotechnics are carried; and

(3) details of emergency medical supplies and water supplies; and

(4) the type and operating frequencies of any emergency portable radio equipment.

125.61 Fuel

(a) Each holder of an air operator certificate must establish a fuel policy for the purpose of flight planning, and en-route replanning, to ensure that each aeroplane carries sufficient fuel for the planned flight, including reserves to cover deviations from the planned flight.

(b) The fuel policy must ensure that the planning of fuel requirements is based upon—

(1) procedures, tables, and graphs, that are contained in, or derived from, the manufacturer's manuals and that conform to the parameters contained in the aeroplane's type certificate; and

(2) the operating conditions under which the planned flight is to be conducted, including—

(i) normal aeroplane fuel consumption data; and

(ii) anticipated weights; and

(iii) expected meteorological conditions; and

(iv) ATS requirements and restrictions; and

(v) the geographic location of the destination aerodrome; and

(vi) the effect on fuel consumption of identified contingencies.

(c) Except as provided in paragraph (d) the holder of an air operator certificate must ensure that the calculation of usable fuel required for a flight takes into account the following factors—

(1) taxi fuel; and

(2) trip fuel; and

(3) reserve fuel, consisting of—

(i) contingency fuel; and

(ii) alternate fuel, if an alternate aerodrome is required; and

(iii) final reserve fuel; and

(iv) additional fuel, if required by the type of operation.

(d) The holder of an air operator certificate may vary the factors required to be taken into account in paragraph (c) to accommodate en-route re-planning procedures if the variation is provided for in the certificate holder's exposition.

125.63 Flight check system

(a) A holder of an air operator certificate must establish a flight check system for use by the flight crew members of each aeroplane that is operated under the authority of the certificate.

(b) When establishing the flight check system required by paragraph (a), the certificate holder must have regard to the principles of human factors and crew resource management to ensure that the flight crew members can make safe decisions for the management of the aeroplane.

(c) The flight check system required by paragraph (a) must—

(1) provide instructions and guidelines for the safe and efficient management of the flight deck; and

(2) specify methods to be used for ensuring the safe conduct of the flight; and

(3) include procedures and checklists for ensuring compliance with—

(i) the aeroplane flight manual; and

(ii) the manufacturer's technical and safety instructions; and

(4) include—

(i) expanded checklists in the operations manual; and

(ii) scan checks; and

(iii) abbreviated checklists for quick reference, including emergency procedures; and

(5) when used for a SEIFR passenger operation, include procedures for ensuring that when a person performing a pre-flight check removes a flight critical item during the pre-flight check, another person authorised by the certificate holder checks that the item has been replaced in accordance with the aeroplane flight manual before the flight commences.

(d) Each flight crew member performing an air operation must use a cockpit checklist in accordance with the flight check system required by paragraph (a)—

(1) before, during, and after every phase of the operation; and

(2) in non-normal, and emergency situations.

125.65 Passenger safety

Each person performing an air operation must ensure that—

(1) passengers are seated where, in the event of an emergency evacuation, they will not hinder evacuation from the aeroplane; and

(2) any passenger who appears to be under the influence of alcohol or drugs or exhibits behavioural characteristics, to the extent where the safety of the aeroplane or its occupants is likely to be endangered, is refused embarkation or, where appropriate, removed from the aeroplane; and

(3) disabled passengers are appropriately cared for, including allocation of appropriate seating positions and handling assistance in the event of an emergency; and

(4) escorted passengers do not constitute a safety hazard to other passengers or to the aeroplane, and that prior arrangements for their carriage have been made in accordance with procedures in the certificate holder's exposition; and

(5) the pilot-in-command is notified when a disabled or escorted person is to be carried on board the aeroplane.

125.67 Flight compartment admission

(a) Each person performing an air operation must ensure that no person, other than the flight crew members assigned to the flight, is admitted to, or carried in, the flight compartment, or occupies a pilot seat, unless that person is permitted by the pilot-in-command, and is—

(1) a crew member; or

(2) an authorised representative of the Director; or

(3) permitted by the holder of the air operator certificate in accordance with procedures specified in the certificate holder's exposition.

(b) Each person performing an air operation must ensure that all persons admitted to the flight compartment or occupying a pilot seat are familiarised with the appropriate safety procedures specified in the certificate holder's exposition.

125.69 Manipulation of controls

(a) Except as provided in paragraph (b) a person must not manipulate the controls of an aeroplane performing an air operation.

(b) Each holder of an air operator certificate must take reasonable care to ensure that no person manipulates the flight controls of its aeroplanes performing an air operation, unless the person is—

(1) a flight crew member; or

(2) an authorised representative of the Director who—

(i) has the permission of the certificate holder and the pilot-in-command; and

(ii) is performing a required duty.

125.71 Flight recorder requirements

(a) Each flight crew member must ensure that, when a cockpit voice recorder is required by rule 125.367—

(1) it is operated continuously from the start of the checklist commenced before engine start until the completion of the final checklist at the termination of flight; and

(2) if the aeroplane is equipped to record the uninterrupted audio signals received from a boom or a mask microphone, boom microphones are used below 10 000 feet altitude; and

(3) if the cockpit voice recorder has an erasure feature, that feature must not be used except for maintenance purposes or for a safety investigation.

(b) Each flight crew member must ensure that, when a flight data recorder is required by rule 125.369—

(1) it is operated continuously from the instant the aeroplane begins to move under its own power until it has come to a complete stop at the termination of the flight; and

(2) it records and stores at least the last 25 hours of its operation in digital form; and

(3) not more than 1 hour of recorded data is erased for the purpose of testing the flight recorder system, or following a safety investigation; and

(4) any erasure made under paragraph (b)(3) is –

(i) of the oldest recorded data accumulated at the time of testing or safety investigation; and

(ii) recorded in the appropriate maintenance documentation.

125.72 AEDRS operating requirements

A holder of an air operator certificate who operates an aeroplane that is required under rule 125.377 to be equipped with an AEDRS must not operate the aeroplane on a SEIFR passenger operation unless—

(1) baseline data for the engine has been established by the AEDRS in accordance with the procedure required under rule 125.407(a)(5); and

(2) for every operation of the engine—

(i) the AEDRS is serviceable; and

(ii) the AEDRS is operated continuously from the time every start cycle for the engine commences until the time that the engine is shut down.

125.73 Refuelling and defuelling operations

(a) Despite the requirements of rule 91.15(3), a person operating an aeroplane under the authority of an air operator certificate issued in accordance with Part 119 may refuel or defuel the aeroplane with a Class 3.1C or a Class 3.1D flammable liquid when a person is embarking, on board, or disembarking the aeroplane, provided the person operating the aeroplane ensures that safety and aeroplane evacuation precautions are taken in accordance with procedures specified in the certificate holder's exposition.

(b) A person operating an aeroplane under the authority of an air operator certificate issued in accordance with Part 119 may refuel or defuel the aeroplane with a Class 3.1C or a Class 3.1D flammable liquid with one or more propulsion engines running, provided that—

(1) every passenger is disembarked under supervision of a crew member and is clear of the immediate area before refuelling or defuelling commences; and

(2) the pilot-in-command is responsible for every aspect of the fuelling operation.

125.75 *Reserved*

125.77 Use of aerodromes

(a) A holder of an air operator certificate must ensure that an aeroplane performing an air operation under the authority of the holder's certificate does not use an aerodrome for landing or taking-off unless—

(1) the aerodrome has physical characteristics, obstacle limitation surfaces, and visual aids that meet the requirements of—

(i) the characteristics of the aeroplane being used; and

(ii) the lowest meteorological minima to be used; and

(2) if the operation is a regular air transport service operating to, from, or outside of New Zealand,—

(i) each runway at an aerodrome within New Zealand that is used for the operation has a RESA at each end of the runway in accordance with the requirements of Part 139 Appendix A.1; or

(ii) if the runway does not have a RESA as required in paragraph (a)(2)(i), the certificate holder ensures that the take-off and landing performance calculations for the aeroplane are based on a reduction of the appropriate declared distances for the runway to provide the equivalent of a 90m RESA at the overrun end of the runway strip; and

(iii) each runway at an aerodrome outside of New Zealand that is used for the operation has a RESA that extends to at least 150m from the overrun end of the runway, or an engineered equivalent that is acceptable to the Director; or

(iv) if the runway does not have a RESA or an engineered equivalent as required in paragraph (a)(2)(iii), the certificate holder ensures that the take-off and landing performance calculations for the aeroplane are based on a reduction of the appropriate declared distances for the

runway to provide the equivalent of the RESA required in paragraph (a)(2)(iii) at the overrun end of the runway.

(b) If an aeroplane operated under the authority of an air operator certificate uses an aerodrome not promulgated in the AIPNZ, the holder of the air operator certificate must maintain a register containing—

(1) the aerodrome data; and

(2) procedures to ensure that the condition of the aerodrome is safe for the operation of the aeroplane; and

(3) procedures to ensure that the condition of any required equipment, including safety equipment, is safe for the operation of the aeroplane; and

(4) details of any limitations on the use of the aerodrome.

(c) A holder of an air operator certificate must ensure that an aeroplane that has a MCTOW of 5700 kg or less that is operated VFR by day under the authority of the holder's certificate does not use any place for the purpose of landing or taking-off unless—

(1) the runway used has—

(i) a width that is at least twice the outer main gear wheel span of the aeroplane; and

(ii) a surface without irregularities and of sufficient strength for take-off and landing for the aeroplane being used; and

(2) the width of the runway strip surrounding the runway being used is at least two and a half times the wing span of the aeroplane, or 30 m, whichever is greater.

(d) A holder of an air operator certificate must ensure that none of its aeroplanes, that are not operated in accordance with paragraph (c), use any place for the purpose of landing or taking-off unless—

(1) the aerodrome reference code for the aeroplane being used is determined by reference to Table 1 of Appendix C; and

(2) the runway width is at least that width determined by reference to the aeroplane code number in Table 2 of Appendix C; and

(3) the minimum runway strip width surrounding the runway used is determined by reference to Table C-1 of Appendix C of Part 139.

(e) Notwithstanding paragraphs (c) and (d), a holder of an air operating certificate may use a lesser minimum runway width than that required under paragraph (c) or (d) for an aeroplane type if—

(1) a lesser minimum runway width determined by certificated flight testing is prescribed in the aeroplane's flight manual; or

(2) a lesser minimum runway width is acceptable to the Director; or

(3) a lesser minimum runway width was prescribed for the aeroplane in an air service certificate, issued to the holder of the air operator certificate under regulation 136 of the Civil Aviation Regulations 1953 before 6 January 1993.

125.79 SEIFR passenger operations

(a) Each holder of an air operator certificate conducting a SEIFR passenger operation must—

(1) for each aerodrome to be used for the operation, provide a route guide to the pilot-in-command with details of contingency options available to assist with obstacle clearance in the event of an engine power loss occurring during the instrument departure or approach, including—

(i) any alternative routes available to the intended runway; and

(ii) the minimum height and glide profile necessary to enable the aeroplane to reach the runway; and

(2) ensure that a programme is established to ensure the early identification and prevention of SEIFR related problems that includes—

(i) the recording of any event that is a potential risk to the safety of a SEIFR passenger operation; and

(ii) the recording of occasions when an aeroplane was not dispatched on a SEIFR passenger operation due to weather below planning minima at the available alternate aerodromes; and

(iii) for each aeroplane, the maintenance of a database designed to assess the reliability of the aeroplane and its systems; and

(iv) compliance with the engine manufacturer's extended maintenance programme; and

(3) ensure that the database required in paragraph (2)(iii) includes—

(i) the recording of the number of SEIFR passenger flights operated each month; and

(ii) details of any diversion from a planned SEIFR passenger operation; and

(iii) the number of occasions when an aeroplane was not dispatched on a SEIFR passenger operation due to aeroplane unserviceability; and

(4) ensure that the information required by paragraphs (2) and (3) is reviewed each calendar month in accordance with the quality assurance programme that is required under rule 100.3(a)(3)(iii) and that any corrective or preventive actions are recorded; and

(5) ensure that the information required by paragraphs (2) and (3), and the records required by paragraph (4), are provided to the Director each calendar month except that after six months the provision of that information may be extended to once every three calendar months if the extension is approved by the Director under paragraph (b); and

(6) ensure that each training syllabus required by Subpart I incorporates additional training—

(i) to integrate any IFR experience gained by a flight crew member in a multi-engine aeroplane and any VFR experience gained by a flight crew member in a single-engine aeroplane into the SEIFR passenger operation; and

(ii) necessary to conduct or avoid, as appropriate, SEIFR passenger operations in icing conditions; and

(iii) if operations are to be conducted at night, necessary to conduct SEIFR passenger operations at night; and

(iv) necessary to enable flight crew members to take appropriate action in the event of any non-normal warning or indication.

(b) The Director may approve an extension to the provision of information and records under paragraph (a)(5) if the Director is satisfied that such an extension will not compromise aviation safety.

125.81 Operations of single-engine aeroplanes – IFR

A person must not perform a commercial transport operation carrying passengers with a single-engine aeroplane under IFR.

125.83 Restriction or suspension of operations

Each holder of an air operator certificate must, on becoming aware of any condition that is a hazard to safe operations, restrict or suspend operations as necessary until the hazard is removed.

125.85 Minimum height for VFR flights

Rule 91.311(c) does not apply to a pilot-in-command performing air operations under this Part.

125.87 Flights over water

A holder of an air operator certificate must ensure that an aeroplane that is operated under the authority of the certificate is not operated on an extended over-water operation unless—

(1) the operation is conducted under IFR; and

(2) the crew members are trained in ditching procedures for the aeroplane; and

(3) a risk assessment has been made to determine the risks to the survival of the occupants of the aeroplane in the event of a ditching taking into account the operating environment and the climatic conditions.

125.89 Night operations

(a) A pilot-in-command of an aeroplane performing an air operation at night must perform the operation under IFR.

(b) Despite paragraph (a), a pilot-in-command may perform an air operation at night under VFR if—

(1) the holder of the air operator certificate has established procedures for flight at night under VFR; and

(2) the certificate holder's operations specifications authorises flight at night under VFR; and

(3) the flight departs from and arrives at the same aerodrome; and

(4) the operation is performed—

(i) within 25 NM of the aerodrome; and

(ii) at a height not less than 3,000 feet AGL; and

(5) the meteorological conditions are not less than a ceiling of 3,000 feet AGL and a flight visibility of not less than 16 km; and

(6) the pilot-in-command holds a current ATPL; and

(7) each flight crew member holds a current instrument rating; and

(8) the aircraft is equipped in accordance with the requirements of rules 91.511, 91.517, and 91.519; and

(9) the operation is performed in accordance with the procedures required by paragraph (1).

125.91 Emergency situation action plans

(a) Each holder of an air operator certificate must ensure action plans are developed for handling in-air and on-ground emergency situations and minimising risk of injury to persons.

(b) The certificate holder's emergency situation action plan must be based upon data including but not restricted to—

(1) type and length of routes over which operations are carried out; and

(2) aerodrome ground facilities; and

(3) local emergency services; and

(4) ATC facilities; and

(5) type, seating configuration, and payload of the aeroplane likely to be involved.

(c) The certificate holder's in-air emergency plan must include the following—

(1) if management personnel become aware of an emergency situation arising on an aeroplane during flight that requires immediate decision and action, procedures to be followed by those personnel to ensure that—

(i) the pilot-in-command is advised of the emergency; and

(ii) the decision of the pilot-in-command is ascertained; and

(iii) the decision is recorded; and

(2) if management personnel are unable to communicate with the pilot-in-command in accordance with paragraph (c)(1), procedures to be followed by those personnel to ensure that—

(i) an emergency is declared; and

(ii) any action considered necessary under the circumstances is taken.

(d) Each holder of an air operator certificate must ensure appropriate staff are trained and competent to perform their duties during emergencies in accordance with the emergency situation action plan.

125.93 SEIFR – immediate actions for non-normal AEDRS or engine indications

(a) A holder of an air operator certificate who operates an aeroplane that is required under rule 125.377 to be equipped with an AEDRS must not operate the aeroplane on a SEIFR passenger operation if, prior to take-off,—

(1) the AEDRS indicates an AEDRS failure; or

(2) the AEDRS indicates an exceedance in an engine parameter; or

(3) the engine instruments indicate a non-normal engine condition.

(b) A pilot-in-command of an aeroplane performing a SEIFR passenger operation must, if a non-normal engine indication occurs in flight,—

(1) report the situation to the appropriate ATS unit as soon as practicable; and

(2) proceed to the nearest suitable aerodrome, in point of time, at which a safe landing can be made.

(c) A pilot-in-command of an aeroplane performing a SEIFR passenger operation must, as soon as practicable, record in the technical log the time and date of every AEDRS failure if the failure is indicated in the cockpit.

125.95 SEIFR – area navigation system requirements

Each holder of an air operator certificate must ensure that for each aeroplane it uses in conducting an SEIFR passenger operation, the area navigation system required by rule 125.361(d)(3)—

(1) is programmed with the position of all aerodromes available for use on routes authorised in the certificate holder's route guide; and

(2) uses the current navigation database, recommended by the navigation system manufacturer, for each SEIFR passenger operation.

Subpart C — Operating Limitations and Weather Requirements

125.151 Purpose

This Subpart prescribes the rules governing VFR and IFR operations, and associated weather requirements.

125.153 Meteorological information

(a) A person performing an air operation must plan, perform, and control a flight using meteorological information provided for aviation purposes by—

(1) subject to paragraph (b), for a flight sector originating within New Zealand, the holder of an aviation meteorological service organisation certificate issued in accordance with Part 174; or

(2) for a sector originating from an aerodrome outside New Zealand, an aviation meteorological service organisation that–

(i) meets a standard equivalent to that specified by Part 174; and

(ii) is authorised by an ICAO Contracting State to provide aviation meteorological information.

(b) A pilot-in-command of an aeroplane may, for a flight that originates and terminates within New Zealand, use the meteorological information provided in a basic weather report to perform an instrument approach procedure if the holder of the air operator certificate under which the flight is operated is satisfied that the basic weather report is provided in accordance with the requirements of rule 174.6.

125.155 Meteorological conditions — VFR flight

(a) A pilot-in-command of an aeroplane performing an air operation must not commence a flight under VFR unless current meteorological reports, or a combination of current reports and forecasts, indicate that VFR minima

prescribed in Part 91 and in paragraph (b) can be complied with along the route, or that part of the route to be flown under VFR.

(b) A pilot-in-command of an aeroplane performing an air operation outside controlled airspace under VFR must—

(1) fly in meteorological conditions of not less than a ceiling of 1000 feet AGL and a flight visibility of not less than 5 km; and

(2) fly beneath the ceiling, remaining clear of cloud, and in continuous sight of the ground or water; and

(3) except as provided in paragraph (c), not fly above more than scattered cloud.

(c) A pilot-in-command of an aeroplane must not perform an air operation under VFR above more than scattered cloud unless the aeroplane—

(1) meets the requirements for flight under IFR and the minimum number of flight crew members required for operating the aeroplane under IFR, holding current instrument rating qualifications, are at the controls; and

(2) is equipped with operative instruments and equipment, including radio navigation equipment, that are required for flight under IFR; and

(3) is capable, with one engine inoperative, of maintaining a net flight path that has a positive slope at 1000 feet above the cloud; and

(4) carries radio navigation equipment enabling it to be navigated by IFR to an aerodrome where an instrument approach procedure may be carried out for landing; and

(5) carries sufficient fuel and fuel reserves to proceed by IFR to an aerodrome where an instrument approach procedure may be carried out for landing.

125.157 Meteorological conditions — IFR flight

(a) A pilot-in-command of an aeroplane performing an air operation must not commence an operation under IFR unless current meteorological reports, or a combination of current meteorological reports and forecasts, indicate that—

(1) the meteorological conditions at the applicable destination aerodrome at the estimated time of arrival will be at or above the minima published in the applicable AIP for the instrument procedure likely to be used at that aerodrome; or

(2) if only 1 alternate aerodrome is listed in the flight plan, the ceiling and visibility requirements prescribed in rule 91.405(a)(2) will be met; or

(3) if 2 or more alternate aerodromes are listed in the flight plan, the ceiling and visibility requirements prescribed in rule 91.405(b) will be met at the alternate aerodromes at the estimated time of arrival.

(b) A pilot-in-command of an aeroplane performing an air operation must not commence an operation under IFR unless at least 1 alternate aerodrome is listed in the flight plan where the ceiling and visibility requirements prescribed in rule 91.405(b) will be met at that alternate aerodrome at the estimated time of arrival if—

(1) the departure or destination aerodrome for the operation is outside of the New Zealand FIR; and

(2) the destination aerodrome does not have 2 or more physically separate runways that are suitable in accordance with the flight manual for use by the aeroplane being used.

125.159 Aerodrome operating minima – IFR flight

(a) A pilot-in-command of an aeroplane must not continue an instrument approach to an aerodrome past the final approach fix or, if a final approach fix is not used, must not commence the final approach segment of the instrument approach procedure if, before passing the final approach fix or before commencing the final approach segment, current meteorological information indicates that the visibility at the aerodrome is less than the

visibility published in the applicable AIP for the instrument approach procedure being used.

(b) For the purpose of paragraph (a), the final approach segment begins—

(1) at the final approach fix or facility specified in the instrument approach procedure; or

(2) if a final approach fix is not specified in the instrument approach procedure and the procedure includes a procedure turn, at the point where the procedure turn is completed and the aeroplane is established on the final approach course within the distance specified in the instrument approach procedure.

125.159A Aerodrome operating minima to be used for each aerodrome

(a) A holder of an air operator certificate must ensure that a pilot-in-command performing an air operation complies with the aerodrome operating minima that apply to the aerodrome, as published in the applicable AIP.

(b) The holder of an air operator certificate may increase the aerodrome operating minima by including the increased aerodrome operating minima in the certificate holder's exposition.

(c) A pilot-in-command who operates under increased aerodrome operating minima in accordance with paragraph (b) must comply with any requirements specified in the certificate holder's exposition in relation to the increased aerodrome operating minima.

125.161 IFR departure limitations

Each person performing an air transport operation must ensure an IFR flight from an aerodrome is not commenced when weather conditions are at or above take-off minima requirements prescribed under rule 91.413 and are below authorised IFR landing minima requirements prescribed under rule 91.413, unless the aeroplane is a multi-engine aeroplane and there is an appropriate aerodrome—

(1) for a two-engine aeroplane, within a maximum of one hour flying time, in still air at one engine inoperative cruising speed, of the aerodrome of departure; or

(2) for an aeroplane having three or more engines, within a maximum of two hours flying time, in still air at one engine inoperative cruising speed, of the aerodrome of departure.

125.163 Reduced take-off minima

(a) A holder of an air operator certificate may operate a multi-engine aeroplane at lower take-off minima than those prescribed in rule 91.413(g) if the holder of the air operator certificate ensures that the operation is conducted in accordance with the reduced minima take-off procedure specified in the certificate holder's exposition.

(b) The reduced take-off minima procedure must require that—

(1) every flight crew member is qualified for reduced minima take-offs; and

(2) the runway to be used has centre-line marking or centre-line lighting; and

(3) reduced take-off minima on the runway to be used are published in the applicable AIP; and

(4) if the aeroplane is a two-engine propeller-driven aeroplane, the aeroplane is equipped with an operative auto-feather or auto-coarse system; and

(5) the runway visibility is established using RVR; and

(6) the method for observing and confirming that the required visibility exists for take-off is acceptable to the Director.

125.165 IFR procedures

(a) A pilot-in-command of an aeroplane performing an air operation under IFR must conduct the operation on a route published in the applicable AIP except when—

(1) it is necessary to avoid potentially hazardous conditions; or

(2) operating under radar control from an ATS; or

(3) operating under an off-route clearance obtained from an ATC unit; or

(4) otherwise specified in the exposition of the holder of the air operator certificate that authorises the operation.

(b) Unless a clearance has been obtained from the appropriate ATC unit, in controlled airspace, a pilot-in-command must comply with any IFR departure and approach procedure published in the applicable AIP for the aerodrome being used.

(c) In uncontrolled airspace a pilot-in-command must comply with any IFR departure and approach procedures published in the applicable AIP for the aerodrome being used.

(d) A holder of an air operator certificate must ensure that a SEIFR passenger operation does not operate further than 45 minutes flying time for the aeroplane being used, in still air at normal cruising speed, from a suitable aerodrome.

(e) For the purpose of paragraph (d), a suitable aerodrome means an aerodrome that—

(1) will, at the possible time of use, be at or above the approved weather minima specified for that aerodrome when used as an alternate; and

(2) has suitable facilities and services available for the aeroplane type concerned that include—

(i) a meteorological reporting service; and

(ii) at least one instrument approach procedure published in the applicable AIP.

Subpart D — Performance

125.201 Purpose

(a) Except as provided in paragraphs (b), (c), and (d), this Subpart prescribes aeroplane performance operating limitations applicable to aeroplanes used in performing air operations.

(b) Rules 125.229 through to and including 125.235 do not apply to propeller-powered aeroplanes, certificated to—

(1) FAR Part 23 normal category or equivalent airworthiness standards; or

(2) SFAR 23 airworthiness standards or equivalent standards.

(c) Rules 125.209, 125.213, 125.223, and 125.225 do not apply to propeller-powered aeroplanes, certificated to—

(1) SFAR 41 standards or equivalent airworthiness standards; or

(2) FAR Part 23 commuter category airworthiness standards or equivalent airworthiness standards; or

(3) FAR Part 135 Appendix A airworthiness standards.

(d) Aeroplanes that cannot fully comply with the requirements of this Subpart may be approved to operate under alternative performance operating limitations.

125.203 *Reserved*

125.205 Part 121 Subpart D compliance

Each holder of an air operator certificate must ensure that each aeroplane it operates that is certificated to FAR Part 25 airworthiness standards or equivalent airworthiness standards, complies with the aeroplane performance operating limitations prescribed in Subpart D of Part 121.

125.207 General aeroplane performance

Each holder of an air operator certificate must ensure that, for each aeroplane it operates—

(1) the take-off weight at the start of its take-off is not greater than the weight permitted under this Subpart for the flight to be undertaken allowing for the expected reductions in weight as the flight proceeds; and

(2) the performance data used to determine compliance with the performance requirements of this Subpart is—

(i) contained in the aeroplane flight manual; or

(ii) in the case of contaminated landing distance data, provided by the aeroplane manufacturer and acceptable to the Director.

125.209 Take-off distance

(a) Each holder of an air operator certificate must ensure that, for each aeroplane it operates—

(1) the take-off weight does not exceed the maximum take-off weight specified in the flight manual; and

(2) the take-off distance required does not exceed 85% of the take-off run available.

(b) When calculating the take-off weight and distance to determine compliance with paragraph (a), the holder of an air operator certificate must take account of—

(1) the take-off run available; and

(2) the weight of the aeroplane at the commencement of the take-off run; and

(3) the pressure altitude of the aerodrome; and

(4) ambient temperature at the aerodrome; and

(5) the type of runway surface and the runway surface condition; and

(6) the runway slope in the direction of take-off; and

(7) not more than 50% of the reported headwind component or not less than 150% of the reported tailwind component.

125.211 Runway surface and slope correction factors

Each holder of an air operator certificate must ensure that, unless performance data is available that authorises an alternative, the take-off distance calculated for a runway surface type under rule 125.209(b)(5) or rule 125.229(c)(4) and the landing distance calculated under rule 125.223(c)(3) and rule 125.233(c)(3)—

(1) are corrected for use of other runway surface types by applying the factors in Table 1; and

(2) are corrected for runway slope by—

(i) increasing the take-off distance by 5% for each 1% of uphill slope up to a maximum of 3% upslope; or

(ii) decreasing the landing distance by 5% for each 1% of uphill slope up to a maximum of 3% upslope; or

(iii) decreasing the take-off distance by 5% for each 1% downslope up to a maximum of 3% downslope; or

(iv) increasing the landing distance by 5% for each 1% downslope up to a maximum of 3% downslope.

Table 1

Surface Type	Take-off Distance Factor	Accelerate Stop Distance Factor	Landing Distance Factor
Paved	x 1.00	x 1.00	x 1.00
Coral	x 1.00	x 1.03	x 1.05
Metal	x 1.05	x 1.06	x 1.08
Rolled earth	x 1.08	x 1.14	x 1.16
Grass	x 1.14	x 1.20	x 1.18

125.213 Net take-off flight path – aeroplanes under IFR

(a) Each holder of an air operator certificate must ensure that, for each aeroplane it operates under IFR and, in the case of an aeroplane with two or more engines, assuming that the critical engine is inoperative, all obstacles within the net take-off flight path are cleared vertically by at least 50 feet.

(b) For the purpose of paragraph (a), an obstacle is deemed to be within the net take-off flight path if the lateral distance from the obstacle to the intended line of flight does not exceed—

(1) where the intended flight path does not require a track change exceeding 15°—

(i) 45 m plus 0.10D, to a maximum of 600 m or, if the holder of an air operator certificate has established visual or radio navigation track guidance procedures for the pilot, to a maximum of 300 m; or

(ii) for day operations in VMC, 30 m plus 0.10D to a maximum of 600 m or, if the holder of an air operator certificate has established visual or radio navigation track guidance procedures for the pilot, to a maximum of 300 m.

(2) where the intended flight path requires a track change exceeding 15◦—

(i) 45 m plus 0.10D, to a maximum of 900 m or, if the holder of an air operator certificate has established visual or radio navigation track guidance procedures for the pilot, to a maximum of 600 m; or

(ii) for day operations in VMC, 30 m plus 0.10D to a maximum of 600 m or, if the holder of an air operator certificate has established visual or radio navigation track guidance procedures for the pilot, to a maximum of 300 m.

(c) For the purpose of paragraph (b), D is the horizontal distance the aeroplane will travel from the end of the take-off distance available.

(d) When calculating the net take-off flight path in accordance with paragraph (a), the holder of an air operator certificate must ensure that—

(1) the following factors are taken into account—

(i) take-off weight at the commencement of the take-off run; and

(ii) aerodrome elevation; and

(iii) pressure altitude at the aerodrome when the atmospheric pressure varies by more than 1% from the International Standard Atmosphere; and

(iv) ambient temperature at the aerodrome; and

(v) not more than 50% of the reported headwind component or not less than 150% of the reported tailwind component; and

(2) a track change is not made before a height of 50 feet above the take-off surface has been achieved; and

(3) unless otherwise authorised by the Director—

(i) a bank angle exceeding 15° is not made before a height of 50 feet above the take-off surface has been achieved; and

(ii) the bank angle up to and including a height of 400 feet above the take-off surface does not exceed 20°; and

(iii) the bank angle above a height of 400 feet above the take-off surface does not exceed 25°; and

(4) allowance is made for—

(i) the effect of the bank angle on operating speeds and flight path; and

(ii) distance increments resulting from increased operating speeds; and

(iii) retention of stall margin and loss of climb gradient in accordance with rule 125.215.

125.215 Engine inoperative – gradient and stall corrections

Each holder of an air operator certificate must, unless performance data is available that authorises an alternative, for compliance with rule 125.213(d)(4)(iii), retain stall margin and calculate loss of climb gradient by applying the factors in Table 2.

Table 2

Bank angle	Speed correction	Gradient correction
15° to 19°	V_2	1 x Aeroplane flight manual 15° gradient loss
20° to 24°	V_2 + 5 knots	2 x Aeroplane flight manual 15° gradient loss
25°	V_2 + 19 knots	3 x Aeroplane flight manual 15° gradient loss

125.217 En-route – critical engine inoperative

(a) Each holder of an air operator certificate must ensure that, for each aeroplane it operates having two or more engines, the aeroplane is capable of continuing flight at a positive slope at or above the relevant minimum safe altitudes, to a point 1000 feet above an aerodrome at which the performance requirements can be met under the following conditions—

(1) in the forecasted meteorological conditions expected for the flight; and

(2) with the critical engine inoperative; and

(3) with the remaining engines operating within the maximum continuous power conditions specified.

(b) When calculating the en-route limitations in accordance with paragraph (a), the holder of an air operator certificate must ensure—

(1) the aeroplane is not assumed to be flying at an altitude exceeding that at which the rate of climb is not less than 300 feet per minute with all engines operating within the maximum

continuous power conditions specified in the aeroplane flight manual; and

(2) the assumed en-route gradient with one engine inoperative is the gross-gradient-minus-0.5% gradient.

125.219 En-route – 90 minute limitation

(a) Each holder of an air operator certificate must ensure that each aeroplane it operates with two engines is not more than 90 minutes away from an aerodrome at which the performance requirements specified in the aeroplane flight manual applicable at the expected landing weight are met.

(b) Except as provided in paragraph (c), the holder of an air operator certificate must ensure that each aeroplane it operates with three or more engines is not more than 90 minutes away from an aerodrome at which the performance requirements specified in the aeroplane flight manual applicable at the expected landing weight are met.

(c) A holder of an air operator certificate may operate an aeroplane with three or more engines more than 90 minutes away from an aerodrome at which the performance requirements specified in the aeroplane flight manual applicable at the expected landing weight are met, provided that—

(1) the two engine inoperative en-route flight path data permits the aeroplane to continue the flight, in the expected meteorological conditions, from the point where two engines are assumed to fail simultaneously, to an aerodrome at which it is possible to land using the prescribed procedure for a landing with two engines inoperative; and

(2) the net flight path, taking into account the effect of icing protection systems if the meteorological conditions require their operation—

(i) has a positive slope at the minimum safe altitude of the route to be flown; or

(ii) based on the gross-gradient-minus-0.5% gradient and failure of the two engines at the most critical en-route point, clears all terrain and obstructions within, except as

otherwise provided in paragraph (d), 10 NM of the intended track by at least 2000 feet vertically; and

(3) the net flight path has a positive slope at an altitude of 1500 feet above the aerodrome where the landing is assumed to be made after the failure of two engines; and

(4) the expected weight of the aeroplane at the point where the two engines are assumed to fail is not less than that which would include sufficient fuel to proceed to an aerodrome where the landing is assumed to be made, and to arrive there at an altitude of at least 1500 feet directly over the aerodrome and thereafter to fly level for at least 15 minutes.

(d) If the pilot is able, by the use of radio navigation aids, to maintain the intended track by a margin of 5 NM the distance of 10 NM required by paragraph (c)(2)(ii) may be reduced to 5 NM.

(e) When calculating compliance with paragraph (c), the holder of an air operator certificate must assume the two engines fail at the most critical point of that portion of the route where the aeroplane is more than 90 minutes, at the all engines long range cruising speed at standard temperature and still air, away from an aerodrome at which the performance requirements applicable at the expected landing weight are met.

125.221 Landing-climb – destination and alternate aerodromes

Each holder of an air operator certificate must ensure that, for each aeroplane it operates—

(1) the landing weight of the aeroplane does not exceed the maximum approach and landing-climb weight, taking into account the altitude and the ambient temperature expected for the estimated time of landing at a destination and alternate aerodrome; and

(2) for instrument approaches with decision heights below 200 feet, the approach weight of the aeroplane, taking into account the take-off weight and the fuel expected to be consumed in flight,

allows a missed approach net-climb-gradient, assuming that the critical engine is inoperative in the approach configuration, of—

(i) at least 2.5%; or

(ii) at least the net-climb gradient required to clear any obstacles in the missed approach flight path in accordance with rule 125.213.

125.223 Landing distance – dry runway

(a) Each holder of an air operator certificate must ensure that, for each aeroplane it operates, the landing weight for the estimated time of landing will not exceed the landing weight specified in the aeroplane flight manual.

(b) Each holder of an air operator certificate must ensure that, for each aeroplane it operates, the landing weight of the aeroplane for the estimated time of landing at the destination aerodrome and at any alternate aerodrome allows a full-stop landing from 50 feet above the threshold within—

(1) for aeroplanes at or below 5700 kg MCTOW, 85% of landing distance available; and

(2) for aeroplanes above 5700 kg MCTOW, 70% of the landing distance available.

(c) When calculating the landing weight in accordance with paragraph (b), the holder of an air operator certificate must take account of—

(1) aerodrome elevation; and

(2) ambient temperature at the aerodrome; and

(3) the type of runway surface and the runway surface condition ; and

(4) the runway slope in the direction of landing; and

(5) not more than 50% of the reported headwind component or not less than 150% of the reported tailwind component.

(d) For dispatch of an aeroplane to land in accordance with paragraphs (b) and (c), it must be assumed that the aeroplane will land on the most favourable runway taking into account—

(1) the forecast meteorological conditions; and

(2) surrounding terrain; and

(3) approach and landing aids; and

(4) obstacles within the missed approach flight path.

(e) If the holder of an air operator certificate is unable to comply with paragraph (d) for the destination aerodrome, the aeroplane may be dispatched if an alternate aerodrome is designated that permits compliance with paragraphs (a), (b), and (c).

125.225 Landing distance – wet and contaminated runways

(a) Each holder of an air operator certificate must ensure that, for each aeroplane it operates—

(1) when the appropriate weather reports or forecasts, or a combination of them, indicate that the runway at the estimated time of arrival of the aeroplane may be wet, the landing distance available is at least 115% of the landing distance required by rule 125.223; and

(2) when the appropriate weather reports or forecasts, or a combination of them, indicate that the runway at the estimated time of arrival of the aeroplane may be contaminated, the landing distance available is at least—

(i) the landing distance required by paragraph (a)(1); or

(ii) the landing distance determined in accordance with contaminated landing distance data.

(b) A landing distance on a wet runway shorter than that required by paragraph (a)(1), but not less than that required by rule 125.223, may be used if data specifies a shorter landing distance on wet runways.

125.227 Steep approach and short landing techniques

A holder of an air operator certificate may perform steep approach procedures using approach slope angles of 4.5°, or more, and with screen heights of less than 50 feet but not less than 35 feet, if—

(1) the aeroplane flight manual states the maximum authorised approach slope angle, any other limitations, procedures, including emergency procedures, for the steep approach, as well as amendments for the field length data when using steep approach criteria; and

(2) for air operations performed under IFR, an approach slope indicator system comprising of at least a visual approach slope indicating system is available for the runway to be used at the aerodrome at which steep approach procedures are to be conducted; and

(3) for air operations performed under IFR, weather minima are specified and approved for each runway to be used with a steep approach; and

(4) for air operations performed under IFR, consideration is given to—

(i) obstacles; and

(ii) the type of approach slope indicator reference and runway guidance such as visual aids, MLS, GNSS, ILS, LOC, VOR, or NDB; and

(iii) the minimum visual reference to be required at DH and MDA; and

(iv) usable airborne equipment; and

(v) pilot qualification and special aerodrome familiarisation; and

(vi) aeroplane flight manual limitation and procedures; and

(vii) missed approach criteria.

125.228 FAR Part 23 commuter category and SFAR41 aeroplanes

Rules 125.229 to 125.235 inclusive apply to each holder of an air operator certificate conducting air operations using FAR Part 23 commuter category and SFAR41 aeroplanes.

125.229 Take-off distance

(a) Each holder of an air operator certificate must ensure that the take-off weight does not exceed the maximum take-off weight specified in the aeroplane flight manual.

(b) When calculating the maximum take-off weight to determine compliance with paragraph (a), the holder of an air operator certificate must, assuming that the critical engine fails at V_{EF} and using a single V_1, ensure that—

(1) the required accelerate-stop distance does not exceed the accelerate-stop or accelerate slow distance available; and

(2) the take-off distance required does not exceed the take-off distance available; and

(3) any clearway forming part of the take-off distance available does not exceed half the length of the take-off run available; and

(4) the take-off run does not exceed the take-off run available, using V_1 for the rejected and continued take-off.

(c) When calculating the maximum take-off weight in accordance with paragraph (b), the holder of an air operator certificate must take account of—

(1) aerodrome elevation; and

(2) pressure altitude of the aerodrome when the atmospheric pressure varies by more than 1% from the International Standard Atmosphere; and

(3) ambient temperature at the aerodrome; and

(4) the type of runway surface and the runway surface condition; and

(5) the runway slope in the direction of take-off; and

(6) not more than 50% of the reported headwind component or not less than 150% of the reported tailwind component.

125.231 Net take-off flight path

(a) Each holder of an air operator certificate must ensure that, for each aeroplane it operates assuming that the critical engine is inoperative, all obstacles within the net take-off flight path are cleared vertically by at least—

(1) 35 feet in the case of a take-off performed by an aeroplane that is intended to use a bank angle not exceeding 15°; and

(2) 50 feet in the case of a take-off performed by an aeroplane that is intended to use a bank angle exceeding 15°.

(b) For the purpose of paragraph (a), an obstacle is deemed to be within the net take-off flight path if the lateral distance from the obstacle to the intended line of flight does not exceed—

(1) where the intended flight path does not require a track change exceeding 15°—

(i) 45 m plus 0.10D, to a maximum of 600 m or, if the holder of an air operator certificate has established visual or radio navigation track guidance procedures for the pilot, to a maximum of 300 m; or

(ii) for day operations in VMC, 30 m plus 0.10D to a maximum of 600 m or, if the holder of an air operator certificate has established visual or radio navigation track guidance procedures for the pilot, to a maximum of 300 m.

(2) where the intended flight path requires a track change exceeding 15°—

(i) 45 m plus 0.10D, to a maximum of 900 m or, if the holder of an air operator certificate has established visual or radio navigation track guidance procedures for the pilot, to a maximum of 600 m; or

(ii) for day operations in VMC, 30 m plus 0.10D to a maximum of 600 m or, if the holder of an air operator certificate has established visual or radio navigation track guidance procedures for the pilot, to a maximum of 300 m.

(c) For the purpose of paragraph (b), D is the horizontal distance the aeroplane will travel from the end of the take-off distance available.

(d) When calculating the net take-off flight path in accordance with paragraph (a), the holder of an air operator certificate must ensure—

(1) the following factors are taken into account—

(i) take-off weight at the commencement of the take-off run; and

(ii) aerodrome elevation; and

(iii) pressure altitude at the aerodrome when the atmospheric pressure varies by more than 1% from the International Standard Atmosphere; and

(iv) ambient temperature at the aerodrome; and

(v) not more than 50% of the reported headwind component or not less than 150% of the reported tailwind component; and

(2) a track change is not made before a height of 50 feet above the take-off surface has been achieved; and

(3) unless otherwise authorised by the Director—

(i) a bank angle exceeding 15° is not made before a height of 50 feet above the take-off surface has been achieved; and

(ii) the bank angle up to and including a height of 400 feet above the take-off surface does not exceed 20°; and

(iii) the bank angle above a height of 400 feet above the take-off surface does not exceed 25°; and

(4) adequate allowance is made for—

(i) the effect of the bank angle on operating speeds and flight path; and

(ii) distance increments resulting from increased operating speeds; and

(iii) retention of stall margin and loss of climb gradient in accordance with 125.215.

125.233 Landing distance – runways

(a) A holder of an air operator certificate must ensure that, for each aeroplane it operates, the landing weight for the estimated time of landing will not exceed the landing weight specified in the aeroplane flight manual.

(b) A holder of an air operator certificate must use the following procedures for calculating the landing distance for an aeroplane on a runway–

(1) that have been approved under paragraph (c); or

(2) as provided in Appendix D.

(c) The Director may approve an application by a holder of an air operator certificate for procedures referred to in paragraph (b)(1) if satisfied of the following matters –

(1) whether or not the aeroplane proposed has performance data issued by the manufacturer supporting the procedures that is available for use by the pilot or flight crew members; and

(2) whether the operator has reliable access to either –

(i) accurate reporting on runway conditions that is appropriate for the procedures to be used; or

(ii) data that enables the operator to identify equivalent conditions; and

(3) the margin of error that should be applied when calculating landing distance using the procedures which must take into account the following –

(i) the implications of pilot technique on landing distance;

(ii) the implications of unexpected environmental conditions at the destination aerodrome;

(iii) whether the calculation is being undertaken at the dispatch stage or en-route;

(iv) whether the margin of error is supported by the reporting of the runway conditions; and

(4) whether all personnel involved in the reporting of runway conditions, calculation of data and operation of the flight have had appropriate training in the use of the procedures.

Subpart E — Weight and Balance

125.301 Purpose

This Subpart prescribes the rules governing the control of loading and weight and balance on an aeroplane.

125.303 Goods, passenger, and baggage weights

(a) Subject to paragraphs (b), (c), and (d), a holder of an air operator certificate must ensure that for every air operation conducted under the authority of the certificate the weights of the following items that are carried on the aeroplane are established:

(1) the total actual weight of goods, excluding baggage:

(2) the total weight of passengers and their carry-on baggage:

(3) the total weight of crew members and their carry-on baggage:

(4) the total weight of checked baggage.

(b) The total weight of passengers and their carry-on baggage must be established by using only 1 of the following:

(1) the actual weight of every passenger and their carry-on baggage:

(2) a standard weight for every passenger and their carry-on baggage that is established by the certificate holder and detailed in the certificate holder's exposition:

(3) the following applicable standard weight for every passenger and their carry-on baggage:

(i) 15 kg for a child under 2 years of age:

(ii) 46 kg for a child of the age of 2 years and under the age of 13 years:

(iii) 86 kg for a person of or over the age of 13 years.

(c) The total weight of crew members and their carry-on baggage must be established by using only 1 of the following:

(1) the actual weight of every crew member and their carry-on baggage:

(2) a standard weight for every crew member and their carry-on baggage that is established by the certificate holder and detailed in the certificate holder's exposition:

(3) a standard weight of 86 kg for every crew member and their carry-on baggage.

(d) The weight of checked baggage must be established by using the actual weight of the baggage.

(e) A certificate holder who intends to establish a standard weight to be detailed in the certificate holder's exposition for use under paragraphs (b)(2) or (c)(2) must establish the respective standard weight in accordance with a survey programme that is acceptable to the Director.

(f) A certificate holder who intends to use a standard weight for passengers under paragraphs (b)(2) or (b)(3), or for crew members under paragraphs (c)(2) or (c)(3), must establish procedures that are acceptable to the Director to ensure that, if the weight of a passenger or crew member with their carry-on baggage is clearly greater than the applicable standard weight being used, a weight that is more representative of the actual weight of the person and their carry-on baggage is used.

125.305 Aeroplane load limitations

Each holder of an air operator certificate must ensure that—

(1) the limitations contained in the aeroplane flight manual, or other approved document, relating to the weight and balance of an aeroplane are complied with; and

(2) maximum allowable weights are not exceeded for zero fuel, manoeuvre, take-off, and landing; and

(3) the aeroplane's centre of gravity is within the limits referred to in subparagraph (1) at departure, and will remain within those limits throughout the air operation.

125.307 Load manifest

A holder of an air operator certificate must ensure that—

(1) a load manifest is completed before every air operation; and

(2) the load manifest is certified by the pilot-in-command; and

(3) the following details are accurately recorded on the load manifest:

(i) the name of the pilot-in-command, except where this is recorded by the certificate holder in another document:

(ii) the date of the operation:

(iii) the aeroplane type and registration mark:

(iv) the name or identification of the departure and destination aerodromes:

(v) the flight number or estimated time of departure:

(vi) the surname and initial of every crew member and passenger, except where these details are recorded by the certificate holder in another document:

(vii) the total of, the aeroplane's empty weight, the weight of any removable equipment, the weight of consumables, and the weight of crew members:

(viii) the total weight of passengers and their carry-on baggage, the total weight of goods, the total weight of checked baggage, and the total weight of usable fuel:

(ix) the take-off weight of the aeroplane:

(x) evidence that the centre of gravity of the aeroplane is within the limits specified in the flight manual except where this is recorded by the certificate holder in another document:

(xi) the maximum allowable weight for the operation including zero fuel weight, take-off weight, and landing weight:

(xii) the total of any weight adjustments made under rule 125.303(f).

Subpart F — Instruments and Equipment

125.351 Purpose

This Subpart prescribes the instruments and equipment required for aeroplanes.

125.353 General

A holder of an air operator certificate must ensure that an aeroplane is not used to conduct an air operation under the authority of the certificate unless—

(1) the aeroplane is equipped—

(i) with the type of instruments and equipment required by Subpart F of Part 91 and this Subpart; and

(ii) with the number of instruments and equipment to ensure that the failure of any independent system required for either communication or navigation purposes, or both, will not result in the inability to communicate and navigate safely as required for the route being flown; and

(2) the instruments and equipment installed in the aeroplane comply with—

(i) the applicable specifications and airworthiness design standards listed in the following—

(A) Appendix B to this Part:

(B) Appendix C to Part 21:

(C) Part 26; or

(ii) an alternative specification or design standard acceptable to the Director; and

(3) the instruments and equipment have been installed in accordance with the aeroplane manufacturer's instructions or other instructions acceptable to the Director; and

(4) except as may be provided by a MEL approved under rule 91.539 for use for that aeroplane, the instruments and equipment installed in the aeroplane are in an operable condition.

125.355 Seating and restraints

(a) Each holder of an air operator certificate must ensure that each of its aeroplanes is equipped with a shoulder harness for each crew seat.

(b) Each holder of an air operator certificate must ensure that each aeroplane it uses in conducting an SEIFR passenger operation is equipped with seats, for all passengers, that—

(1) are fitted with an approved shoulder harness or a safety belt with a diagonal shoulder strap; and

(2) have been dynamically tested for that aeroplane, by the manufacturer; and

(3) certificated by an ICAO contracting State; and

(4) comply with standards equivalent to at least FAR 23, Amendment 36.

125.357 Additional instruments

Each holder of an air operator certificate must ensure that each of its aeroplanes is equipped with—

(1) the powerplant instruments required by the airworthiness design standards in paragraph (a)(1)(i) or (iv) of Appendix C of Part 21; and

(2) a means of indicating for each reversible pitch propeller, actuated by the propeller blade angle or directly responsive to it, that the propeller is in beta range or reverse pitch.

125.359 Night flight

A holder of an air operator certificate must ensure that an aeroplane operated at night is equipped with—

(1) two landing lights; and

(2) a light in each passenger compartment; and

(3) a means of displaying charts that enables them to be readable in all ambient light conditions.

125.361 Instrument flight rules

(a) Except as provided in paragraph (b), a holder of an air operator certificate must ensure that an aeroplane operated under IFR is equipped with—

(1) the following that must be in addition to, and independent of, the instruments and equipment required under Subpart F of Part 91:

(i) a means of indicating airspeed, calibrated in knots, with a means of preventing malfunctioning due to either condensation or icing:

(ii) a means of indicating sensitive pressure altitude calibrated in feet; and

(2) spare bulbs for flight compartment instrument illumination; and

(3) spare fuses.

(b) An additional means of indicating aeroplane attitude, powered by a power source that is separate from the power source for the attitude indication required under Subpart F of Part 91, may be installed instead of the additional means of indicating air speed required by paragraph (a)(1)(i).

(c) A holder of an air operator certificate must ensure that an aeroplane used to conduct a SEIFR passenger operation is equipped with an emergency electrical supply system with sufficient capacity for the following in the event that all engine-powered electrical generating systems fail:

(1) the extension of landing gear, if appropriate:

(2) the extension of flaps:

(3) the operation of those aeroplane systems essential for continued safe IFR flight and landing, including those required by paragraphs (d)(3), (d)(4), and (d)(5):

(4) either of the following whichever requires the higher electrical load—

(i) the descent of the aeroplane from maximum operating altitude to sea level, assuming the aeroplane is configured in the optimum gliding configuration and operated at the optimum still air range gliding speed for the descent, plus one attempt at engine restart; or

(ii) the continuation of flight for a minimum of one hour.

(d) A holder of an air operator certificate must ensure that an aeroplane used to conduct a SEIFR passenger operation is equipped with—

(1) an additional independent engine-powered electrical generating system capable of supplying adequate electrical power for all the required electrically operated instruments and systems; and

(2) an additional attitude indicator, powered by an independent source; and

(3) an area navigation system capable of being programmed with the positions of aerodromes and emergency landing sites en-route that is—

(i) certified for IFR by the navigation system manufacturer; and

(ii) permanently installed in the aeroplane; and

(iii) powered by the aeroplane's emergency electrical supply system; and

(4) a radar altimeter or radio altimeter that is powered by the aeroplane's emergency electrical supply system; and

(5) a landing light that is powered by the aeroplane's emergency electrical supply system; and

(6) for a pressurised aeroplane, sufficient additional oxygen for every occupant for the period that is required for the aeroplane to descend safely from its cruising level to a cabin altitude of 14,000 feet following engine failure assuming—

(i) the maximum cabin leak rate; and

(ii) the best range gliding speed for the aeroplane; and

(iii) the best gliding configuration for the aeroplane; and

(7) a powerplant installation that has been certificated by an ICAO Contracting State to FAR 33, or equivalent airworthiness standards, and is equipped with—

(i) an ignition system that activates automatically, or is capable of being operated manually, for take-off and landing, and during flight in visible moisture and is designed to be capable of operation for the full duration of any flight; and

(ii) a magnetic particle detector system that monitors the engine and reduction gearbox lubrication systems, and includes a flight deck caution indicator; and

(iii) an engine control system that permits continued operation of the engine through a power range sufficient to allow diversion to a suitable aerodrome and landing in the event the fuel control unit fails or malfunctions; and

(iv) an engine fire warning system; and

(8) a means of displaying charts that enables them to be readable in all ambient light conditions.

(e) If the magnetic particle detector system required by paragraph (d)(7)(ii) incorporates a method to remove detected particles without the removal of the particle detector from the engine or without examining the particles, the holder of the air operator certificate must ensure that each particle detection occurrence indicated by the particle detection system is recorded in the technical log as soon as practicable after the indication.

125.363 Emergency equipment

A holder of an air operator certificate must ensure that an aeroplane is not used to conduct an air operation under the authority of the certificate unless—

(1) despite the seat breaks specified in rules 91.523(a) and (b), the aeroplane is equipped in accordance with the requirements of rule 91.523; and

(2) despite the distance from shore specified in rules 91.525(b) to (d), for an extended over-water operation, the aeroplane is equipped in accordance with—

(i) the requirements of rule 91.525(b); and

(ii) if the aeroplane exceeds 5700 kg MCTOW, the requirements of rule 91.525(d); and

(3) based upon the risk assessment required by rule 125.87(a)(3), the life-rafts required by rule 91.525(b)(1) for an extended over-water operation are equipped with such lifesaving equipment, including means for sustaining life, as is appropriate to the operation.

125.364 Protective breathing equipment

A holder of an air operator certificate must ensure that every aeroplane with a seating configuration of 20 or more seats, excluding any required crew member seat, that is operated under the authority of the certificate, is equipped with protective breathing equipment that—

(1) is conveniently located and easily accessible to each—

(i) flight crew member at their normally seated position; and

(ii) crew member; and

(2) is installed—

(i) on the flight deck; and

(ii) in each passenger compartment within 1 metre of each required hand held fire extinguisher or some other distance from the fire extinguisher that is acceptable to the Director; and

(iii) in a galley that contains a hand held fire extinguisher; and

(3) is accessible to crew outside each Class A, B, and E cargo compartment.

125.365 Public address and crew-member intercom systems

A holder of an air operator certificate must ensure that each of the certificate holder's aeroplanes having a certificated seating capacity, excluding any pilot seat, of 10 seats or more is equipped with—

(1) a public address system; and

(2) a crew-member intercom system.

125.367 Cockpit voice recorder

A holder of an air operator certificate must ensure that an aeroplane is equipped with a cockpit voice recorder as specified in Appendix B.3, if the aeroplane's flight manual requires 2 or more flight crew members.

125.369 Flight data recorder

(a) Except as provided in paragraph (b), a holder of an air operator certificate must ensure that a multi-engine turbine powered aeroplane is equipped with a flight data recorder as specified in Appendix B.4.

(b) Paragraph (a) does not apply to the holder of an air operator certificate in respect of the following:

(1) a de Havilland Canada DHC - 6 aeroplanes:

(2) an aeroplane registered on or before 31 March 1997 with a MCTOW of less than 5 700 kg:

(3) an aeroplane with a passenger seating configuration of less than 10 seats.

125.371 Additional attitude indicator

Each holder of an air operator certificate must ensure that each of its turbojet or turbofan powered aeroplanes is equipped with a third presentation of attitude.

125.373 Weather radar

Each holder of an air operator certificate must ensure that each of its turbine-powered aeroplanes in excess of 5700 kg MCTOW operating under IFR is equipped with a weather radar.

125.375 Ground proximity warning system

(a) Except as provided in paragraph (b), a holder of an air operator certificate must ensure that each turbine powered aeroplane with a MCTOW greater than 5700 kg, being operated under that certificate under IFR, is equipped with a GPWS.

(b) A holder of an air operator certificate is not required to comply with paragraph (a) if—

(1) the aeroplane is equipped with a TAWS Class A; or

(2) the aeroplane is an Embraer EMB-110P1 that has a MCTOW greater than 5700 kg and the details specified under rule 47.55(b) in respect to that aeroplane already appear in the New Zealand Register of Aircraft on 25 March 2004.

125.377 AEDRS

A holder of an air operator certificate must ensure that every aeroplane that is used to conduct a SEIFR passenger operation under the authority of the certificate is equipped with an AEDRS.

125.379 Terrain awareness and warning system (TAWS)

(a) A holder of an air operator certificate must ensure that each turbine powered aeroplane manufactured on or after 1 April 2002 with a MCTOW greater than 5700 kg and being operated under that certificate under IFR is equipped with a TAWS Class A.

(b) Except as provided in paragraph (c), a holder of an air operator certificate must ensure that each turbine powered aeroplane manufactured

before 1 April 2002 with a MCTOW greater than 5700 kg and being operated under that certificate under IFR is equipped with a TAWS Class A.

(c) A holder of an air operator certificate is not required to comply with paragraph (b) if—

(1) *Reserved*

(2) the aeroplane was already being operated by the holder under that certificate on 25 March 2004; and

(3) the aeroplane is configured to carry less than 10 passengers; and

(4) the aeroplane is equipped with a GPWS; and

(5) the operation of that aeroplane is conducted in accordance with a terrain collision risk assessment and mitigation programme that is acceptable to the Director.

(d) A holder of an air operator certificate must ensure that—

(1) each turbine powered aeroplane with a MCTOW of 5700 kg or less and with a passenger seating configuration of more than 5 seats being operated under that certificate under IFR is equipped with a TAWS Class B; and

(2) each piston powered aeroplane with a MCTOW greater than 5700 kg or with a passenger seating configuration of more than 9 seats being operated under that certificate under IFR is equipped with a TAWS Class B.

125.381 Airborne collision avoidance system (ACAS II)

(a) A holder of an air operator certificate must ensure that each turbine powered aeroplane being operated under that certificate is equipped with ACAS II if—

(1) the aeroplane has a MCTOW greater than 5700 kg or a passenger seating configuration of 20 to 30 seats; and

(2) the details specified under rule 47.55(b) in respect of that aeroplane first appear in the New Zealand Register of Aircraft after 25 March 2004.

(b) A holder of an air operator certificate must ensure that each turbine powered aeroplane with a MCTOW greater than 5700 kg or a passenger seating configuration of 20 to 30 seats being operated under that certificate remains equipped with ACAS or ACAS II if that aeroplane was already equipped with ACAS or ACAS II on 25 March 2004.

Subpart G — Maintenance

125.401 Purpose

This Subpart prescribes rules for maintenance for each aeroplane operated under this Part.

125.403 Responsibility for airworthiness

(a) A holder of an air operator certificate is responsible for the airworthiness of—

(1) every aeroplane that is operated under the authority of the certificate; and

(2) any equipment installed in or attached to the aeroplane.

(b) A holder of an air operator certificate must ensure that—

(1) every aeroplane that is operated under the authority of the certificate is maintained in accordance with the maintenance programme required under rule 119.63; and

(2) the maintenance is performed by—

(i) a maintenance organisation certificated in accordance with Part 145; or

(ii) for maintenance that is performed in another State that is party to a technical arrangement, a maintenance organisation that is certificated or appropriately authorised by the State to perform maintenance on the aircraft type in

accordance with the conditions specified in the technical arrangement.

125.405 Condition monitoring maintenance programmes

A holder of an air operator certificate who utilises condition monitoring as part of a maintenance programme for an aeroplane must provide the Director, each month, with a maintenance reliability report that contains details of—

(1) aeroplane utilisation; and

(2) a pilot report regarding aeroplane airworthiness; and

(3) aeroplane mechanical delay and flight cancellation; and

(4) unscheduled engine shutdown; and

(5) unscheduled engine removal; and

(6) unscheduled component removal; and

(7) confirmed component failure; and

(8) an incident regarding aeroplane airworthiness; and

(9) MEL usage.

125.407 Maintenance programme — additional requirements for aeroplanes with AEDRS

(a) A holder of an air operator certificate who operates an aeroplane that is required under rule 125.377 to be equipped with an AEDRS must ensure that the maintenance programme required under rule 119.63 for the aeroplane includes—

(1) a trend monitoring programme for the engine; and

(2) a procedure for the AEDRS data to be entered into the trend monitoring programme at the lesser of—

(i) the interval recommended by the engine manufacturer or other appropriate organisation acceptable to the Director; or

(ii) every 10 hours of engine operating time; or

(iii) before a further SEIFR passenger operation if the AEDRS indicates that an engine parameter has been exceeded or there has been an AEDRS failure; and

(3) a procedure for analysing the AEDRS data entered into the trend monitoring programme under paragraph (a)(2) to identify—

(i) any unacceptable trend in the engine performance; and

(ii) any tolerance exceedance in the AEDRS data; and

(iii) any failure of the AEDRS; and

(4) details of the maintenance actions to be taken before the aeroplane is used for a SEIFR passenger operation following—

(i) the identification of any of the conditions specified under paragraph (a)(3); or

(ii) any maintenance on the engine or associated control systems where the engine manufacturer or other appropriate organisation acceptable to the Director recommends that engine baseline data be established following the maintenance; and

(5) a procedure for baseline data to be established by the AEDRS for the engine—

(i) before the aeroplane is used on a SEIFR passenger operation; and

(ii) following any operation of the engine without the AEDRS operating; and

(iii) when the maintenance actions required under paragraph (a)(4)(ii) require the AEDRS baseline data to be re-established.

(b) The baseline data required under paragraph (a)(5) must be established by operating the aeroplane, engine, and propeller combination on air operations performed under VFR or SEIFR cargo only operations for—

(1) one complete maintenance cycle for the engine; or

(2) 100 hours time-in-service for the engine; or

(3) a period that is specified for establishing baseline data in the engine trend monitoring programme that is recommended by the engine manufacturer or other appropriate organisation provided that the engine trend monitoring programme is acceptable to the Director.

(c) For the purpose of paragraphs (a)(2)(i), (a)(4)(ii), and (b)(3), an appropriate organisation is an organisation that has design and maintenance knowledge of the engine type concerned.

125.409 *Reserved*

125.411 *Reserved*

125.413 *Reserved*

125.415 Maintenance review

(a) A holder of an air operator certificate must ensure that—

(1) an aeroplane is not operated under the authority of the certificate unless a maintenance review for the aeroplane has been carried out within the previous 12 months; and

(2) each maintenance review that is carried out is certified in accordance with paragraph (d).

(b) Except as provided in paragraph (c), the holder of an air operator certificate must ensure that a maintenance review for an aeroplane is not certified as having been carried out unless, since the last maintenance review—

(1) due maintenance specified in the applicable maintenance programme for the aeroplane has been completed within the time period specified; and

(2) every applicable airworthiness directive has been complied with in accordance with the requirements prescribed in Part 39; and

(3) every defect entered in the technical log has been rectified or properly deferred in accordance with the procedures in the certificate holder's exposition; and

(4) every applicable certification for release-to-service has been made in accordance with subpart C of Part 43.

(c) The certificate holder may certify a maintenance review for an aeroplane on the basis of continuing compliance with a programme acceptable to the Director if—

(1) the programme samples every requirement of paragraph (b) during the review period; and

(2) the maintenance review is individually certified for each of the certificate holder's aeroplanes.

(d) The certificate holder must ensure that the person who carries out the maintenance review for an aeroplane—

(1) is authorised by the certificate holder and has experience that is at least equivalent to the experience required for the grant of an appropriate aircraft maintenance engineer licence rating, for the type of aeroplane; and

(2) carries out the review in accordance with the applicable paragraph (b) or (c); and

(3) certifies that the maintenance review has been carried out by entering the following statement in the appropriate maintenance logbook with the person's signature, authorisation number, and the date of entry:

The maintenance review for this aeroplane and such of its equipment as is necessary for its continued airworthiness has

been carried out in accordance with the requirements of Civil Aviation Rule 125.415.

Subpart H — Crew Member Requirements

125.501 Purpose

This Subpart prescribes the rules governing the assignment of crew members conducting an air operation in an aeroplane under the authority of an air operator certificate.

125.503 Assignment of crew members

(a) A holder of an air operator certificate must, for each aeroplane type operated under the authority of the certificate, assign in writing to each crew member, the operational and safety functions that each crew member is to perform during an air operation.

(b) The certificate holder must ensure that a person is not assigned to perform the function of a crew member on an aeroplane operating under the authority of the certificate unless that person—

(1) has completed the applicable training programme under Subpart I and is assessed as competent for the crew member position under Subpart J; or

(2) is a pilot completing the pilot line training under rule 125.567—

(i) has completed the applicable segments of the training programme under Subpart I; and

(ii) is assessed as competent for the flight crew member position under Subpart J.

(c) The certificate holder must not require a crew member to perform any duty during a critical phase of a flight that is not required for the safe operation of the aeroplane.

(d) For the purpose of paragraph (c), a critical phase of a flight includes—

(1) for flight crew members, all operations involving push back, taxi, take-off, approach and landing, and any other period when

the aeroplane is operated below a height of 10 000 feet above ground level except when in cruise flight; and

(2) for other crew members, all ground operations after leaving the apron area to join a main taxiway, take-off until passing a height of 1000 feet above ground level on climb, and the approach and landing phase of flight after the aeroplane has descended below a height of 5000 feet above ground level.

125.505 Pilot-in-command type experience requirements

A holder of an air operator certificate must, for an air operation conducted under the authority of the certificate, assign in writing—

(1) a pilot who meets the requirements referred to in rule 125.507 as the designated pilot-in-command under VFR, or rule 125.509 as the designated pilot-in-command under IFR; and

(2) a pilot designated as a co-pilot who is required by the flight manual for the operation of the aeroplane, and who meets the requirements referred to in rule 125.503(b)(2); and

(3) any additional pilot who is required by the flight manual for the operation of the aeroplane and who meets the requirements referred to in rules 125.507 or 125.509.

125.507 Pilot-in-command VFR experience requirements

A holder of an air operator certificate must not designate a pilot to act as pilot-in-command of an aeroplane conducting an air operation performed under VFR unless the pilot—

(1) holds at least a current commercial pilot licence or airline transport pilot licence (aeroplane) with an applicable aircraft type rating; and

(2) has successfully completed the applicable training and competency requirements specified under Subparts I and J; and

(3) has at least 500 hours of flight time experience as a pilot, including—

(i) at least 100 hours of cross-country flight time; and

(ii) 100 hours fight time experience in multi-engine operation if the operation is to be conducted in a multi-engine aircraft; and

(4) for night operations, has at least 25 hours of night flight time experience.

125.509 Pilot-in-command IFR experience requirements

A holder of an air operator certificate must not designate a pilot to act as pilot-in-command of an aeroplane conducting an air operation performed under IFR unless the pilot—

(1) holds at least a current commercial pilot licence or airline pilot licence (aeroplane) with an applicable aircraft type rating; and

(2) holds a current instrument rating; and

(3) has successfully completed the applicable training and competency requirements specified under Subparts I and J; and

(4) has at least 1200 hours of flight time experience as a pilot, including—

(i) 500 hours of cross country flight time; and

(ii) at least 250 hours flight time experience in a multi-engine operation if the operation is to be conducted in a multi-engine aircraft; and

(5) has at least 75 hours of actual or simulated instrument time of which 25 hours can be in a flight simulator approved for this purpose; and

(6) for night operations, the pilot has acquired at least 50 hours of night flight time experience.

125.511 Pilot instructor experience requirements

A holder of an air operator certificate must not designate a pilot to perform the function of a pilot instructor in the flight crew member training programme required by this Part unless that pilot—

(1) is qualified to act as pilot-in-command of the aeroplane type performing the air operation; and

(2) holds a Category A, B, or D flight instructor rating, or an airline flight instructor rating, referred to in Part 61; and

(3) has acquired at least 1500 hours of flight time experience as a pilot including—

(i) 250 hours line-operating flight time experience as pilot-in-command; or

(ii) 100 hours of flight time experience as pilot-in-command for the particular aeroplane type involved; and

(4) has successfully completed a training course in the methods for assessing crew member competency in the technical and non-technical aspects of aircraft operation including human factors and crew resource management.

125.513 Flight examiner experience requirements

A holder of an air operator certificate must not designate a pilot to perform the function of a flight examiner in a route check required by rule 125.607(b) or in a competency assessment programme required by rule 125.605 unless that pilot—

(1) holds a current airline flight examiner rating referred to in Part 61; and

(2) is qualified to act as pilot-in-command of the aeroplane type performing an air operation in accordance with rule 125.507 or rule 125.509 or has flight instruction experience that is acceptable to the Director; and

(3) has acquired—

(i) 250 hours of line-operating flight time experience as pilot-in-command for the particular aeroplane type involved; or

(ii) 100 hours flight time as a pilot instructor to which this Part or Part 121 applies; or

(iii) other equivalent experience applicable to this Part or Part 121 that is acceptable to the Director, to act as a flight examiner for the purpose of conducting a competency assessment; and

(4) has completed a training course in the methods for assessing crew member competency in the technical and non-technical aspects of aircraft operation including human factors and crew resource management.

125.515 Flight attendant experience requirements

A holder of an air operator certificate must not designate a person to perform the functions of a flight attendant in an aeroplane conducting an air operation unless the person has satisfactorily completed the appropriate segments of the crew member training programme required by rule 125.553 for the aeroplane type and the assigned crew member position.

125.517 Simulator instructor and examiner experience requirements

(a) Except as provided in paragraphs (b) and (c), a holder of an air operator certificate must not designate a pilot to perform the function of a pilot instructor, or flight examiner, for the purpose of giving flight instruction or conducting a flight crew member competency assessment in a flight simulator unless the pilot—

(1) meets the appropriate requirements referred to in rule 125.511 or 125.513, or as approved by the Director to conduct specific flight tests; and

(2) demonstrates competency as pilot-in-command in the flight simulator to the standard required by Subpart J; and

(3) has received proficiency training in the operation of the flight simulator; and

(4) has completed a training course in the methods for assessing crew member competency in the technical and non-technical

aspects of aircraft operation including human factors and crew resource management.

(b) A pilot who has previously met the requirements referred to in paragraph (a) but who no longer holds a current medical certificate may act as a pilot instructor or flight examiner in a flight simulator if the pilot maintains competency by—

(1) undergoing training as a flight crew member in a flight simulator in accordance with the training programme required by rule 125.553; and

(2) completing a competency assessment under Subpart J; and

(3) completing the applicable training requirements which are otherwise necessary to maintain the currency of an airline instructor rating, or flight examiner rating, under Part 61 and this Part.

(c) Despite paragraph (a), if the certificate holder applies to the Director in writing, the Director may approve a pilot, who does not hold a current medical certificate and who has not previously met the requirements referred to in rules 125.511 or 125.513, to exercise the functions of a pilot instructor or flight examiner in a flight simulator if the pilot—

(1) has at least 1500 hours flight time experience as—

(i) pilot-in-command or co-pilot in air operations conducted under this Part; or

(ii) pilot-in-command or second-in-command in air operations conducted under Part 121; and

(2) satisfactorily completes the training and competency requirements of Subpart I and J in a flight simulator of the aeroplane type; and

(3) satisfactorily completes a course in flight instruction or flight examination that is acceptable to the Director; and

(4) receives proficiency training in the operation of the flight simulator; and

(5) continues to maintain competency as specified in paragraph (b).

125.519 Flight attendant trainer experience requirements

A holder of an air operator certificate must not designate a flight attendant to perform the function of a flight attendant trainer in the flight crew member training programme required by this Part unless that flight attendant—

(1) has completed the flight attendant training in the segments of the crew member training programme specified in rule 125.553; and

(2) has completed a training course acceptable to the Director in the methods for assessing flight attendant competency in the technical and non-technical aspects of aircraft operation including human factors and crew resource management.

125.521 Flight attendant assessor experience requirements

A holder of an air operator certificate must not designate a flight attendant to perform the function of a flight attendant assessor for the purpose of rule 125.611 unless that flight attendant—

(1) has completed the training segments and course referred to in rule 125.519; and

(2) has met the requirements referred to in rule 125.571.

125.523 Ground instructor experience requirements

A holder of an air operator certificate must not designate a person to perform the functions of a ground instructor in its crew member training programme required by rule 125.553, unless that person has completed—

(1) an instructional techniques course acceptable to the Director; and

(2) a human factors course acceptable to the Director; and

(3) a comprehensive training course in the subject matter area in which instruction is being provided, and the course is acceptable to the Director.

125.525 Minimum flight crew – IFR

(a) Except as provided in paragraph (b), a holder of an air operator certificate must ensure that an aeroplane operated under IFR is operated with 2 pilots.

(b) The certificate holder may operate an aeroplane with a seating configuration, excluding pilot seats, of 14 seats or less under IFR with one pilot if—

(1) the aeroplane flight manual permits the aeroplane to be operated by one pilot; and

(2) the aeroplane is equipped with an operative autopilot or stabilisation system capable of operating the aeroplane controls to maintain flight and manoeuvre the aeroplane about the roll and pitch axes with an automatic heading and altitude hold; and

(3) the aeroplane is fitted with a headset that includes a boom microphone and facility for control column transmit-receive switching at the pilot-in-command station; and

(4) the pilot-in-command has met the requirements referred to in rule 125.509; and

(5) where the aeroplane is used in conducting a SEIFR passenger operation, the autopilot or stabilization system required by paragraph (2) is capable of remaining fully functional after an engine failure.

125.527 Flight crew member pairing limitations

(a) Except if authorised under paragraph (b), a holder of an air operator certificate must ensure that an air operation is not conducted unless at least one of the flight crew members has accumulated the following flight time experience after completing the training requirements of Subpart I:

(1) 50 hours in the aeroplane type that is being operated; or

(2) 20 operating cycles in the aeroplane type that is being operated.

(b) If a certificate holder applies to the Director in writing, the Director may authorise the certificate holder to deviate from the requirements of

paragraph (a) by amending the operations specifications as appropriate in any of the following circumstances:

(1) a new certificate holder who cannot meet the minimum requirements prescribed in paragraph (a); or

(2) an existing certificate holder acquires an aeroplane type not previously authorised by the Director for use in its operations.

125.529 Flight crew operating multiple aeroplane types or variants

(a) If a holder of an air operator certificate assigns a flight crew member to operate more than one aeroplane type or more than one variant of an aeroplane type, the certificate holder must—

(1) ensure that the flight crew member is trained and qualified to operate each aeroplane type or variant; and

(2) establish training and competency assessment procedures acceptable to the Director.

(b) The procedures required by paragraph (a)(2) must ensure that—

(1) before a flight crew member is assigned to operate more than one aeroplane type or variant, the flight crew member has the relevant experience for operating the aeroplane type or variant, taking into account the aircraft manufacturer's recommendations; and

(2) a flight crew member has sufficient experience required on one aeroplane type or variant before beginning training for another aeroplane type or variant, taking into account the manufacturer's recommendations; and

(3) a flight crew member who is qualified on one aeroplane type or variant is trained and qualified on another aeroplane type or variant; and

(4) a flight crew member—

(i) has the applicable competency and recent flight experience requirements for each aeroplane type or variant; or

(ii) satisfactorily completes a competency assessment on one specified aeroplane type or variant that is deemed to meet the competency standard on another specified aeroplane type or variant; and

(iii) for the purpose of paragraph (ii), the specified aeroplane types or variants must be recommended by the aeroplane manufacturer.

(c) The relevant experience referred to in paragraph (b)(1) must include the minimum flight time experience or operating cycles a flight crew member must complete in air operations to which this Part applies.

(d) The experience referred to in paragraph (b)(2) must include—

(1) the minimum flight time experience or operating cycles a flight crew member must complete in the aeroplane type already flown to which this Part applies; and

(2) the minimum number of hours a flight crew member must complete exclusively on the new aeroplane type or variant after commencing training for the new aeroplane type or variant.

(e) The training and competency assessment procedures referred to in paragraph (a)(2) for a flight crew member to operate more than one aeroplane type or variant, must take into account the differences between aeroplane types or variants including at least the following:

(1) the aeroplane operating procedures; and

(2) the aeroplane systems; and

(3) the aeroplane performance limitations; and

(4) the aeroplane handling characteristics.

(f) Despite rule 61.37, a holder of an air operator certificate must ensure that a flight crew member assigned to act as a flight crew member on multiple aeroplane types or variants, meets—

(1) the recent flight experience required by Part 61 for each aeroplane type or variant; or

(2) the recent flight experience requirements for each aeroplane type or variant as specified in the procedures referred to in paragraph (b)(4).

125.531 Flight crew conducting Category II or III approaches and reduced take-off minima

(a) A holder of an air operator certificate must ensure that the pilots of an aeroplane conducting an air operation under the authority of the certificate do not perform a Category II or III precision approach procedure, or a departure with reduced take-off minima, unless both the pilot-in-command and the pilot acting as co-pilot are qualified to perform the particular approach procedure or departure.

(b) For the purposes of paragraph (a)—

(1) if the pilot-in-command is qualified only as pilot flying for the Category II or III precision approach and reduced take-off minima, the pilot-in-command must conduct the particular approach procedure and reduced take-off minima departure as pilot flying; and

(2) if the co-pilot is qualified only as the pilot non-flying for the Category II or III precision approach and reduced take-off minima, the pilot-in-command must conduct the particular approach procedure and reduced take-off minima departure as pilot flying.

(c) Despite paragraph (b), the pilot of an aeroplane may perform a Category II or III precision approach procedure or a departure with reduced take-off minima as pilot flying or pilot non-flying for the particular approach and take-off if—

(1) the pilot-in-command and the co-pilot are qualified as specified in paragraphs (a); and

(2) the pilot-in-command is—

(i) a pilot instructor qualified as specified in rule 125.511; or

(ii) a flight examiner qualified as specified in rule 125.513.

Subpart I — Training

125.551 Purpose

This Subpart prescribes rules governing the establishment and implementation of training programmes specified in this Subpart for crew members.

125.553 Crew member training programme

(a) A holder of an air operator certificate must establish a crew member training programme under this Subpart for ensuring that each flight crew member, and each flight attendant if applicable, assigned to act as a crew member on an aeroplane conducting an air operation is trained to perform their assigned functions.

(b) The certificate holder must ensure that the training programme required by paragraph (a)—

(1) is conducted safely, in a structured manner, and without unacceptable risk to the personnel, third parties, or equipment; and

(2) includes for multi-crew operation, human factors as an integral component in every training segment referred to in paragraph (c).

(c) The certificate holder must ensure that the training programme required by paragraph (a) contains the following segments—

(1) introduction training:

(2) transition training:

(3) upgrade training for flight crew members:

(4) recurrent training.

(d) The certificate holder must ensure that a pilot who completes an introduction training segment, a transition training segment, or an upgrade

training segment also completes the pilot line training requirements specified in rule 125.567.

(e) The certificate holder must ensure that the person responsible for its crew member training programme holds a current flight examiner rating.

(f) The certificate holder must ensure that the person responsible for its flight attendant training programme—

(1) meets the requirements referred to in rules 125.519 or 125.521; or

(2) has appropriate qualifications and experience that are acceptable to the Director, and are included in the certificate holder's exposition.

(g) The certificate holder is responsible for controlling the training programme required by paragraph (a).

(h) The certificate holder may—

(1) conduct the training in accordance with the training programme required by paragraph (a); or

(2) contract with the holder of an aviation training organisation certificate issued under Part 141, to conduct the training in accordance with the training programme required by paragraph (a) if the Part 141 certificate authorises the holder to conduct that type of training; or

(3) for a training conducted outside New Zealand, contract with an organisation that meets a standard equivalent to that specified in Part 141 to conduct the training in accordance with the training programme required by paragraph (a) for flight crew members.

(i) The certificate holder must ensure that when a crew member completes a training segment of the training programme—

(1) the training record for that crew member is updated with the details of the qualification acquired; and

(2) the training record and details of the qualification referred to in paragraph (1) are kept in accordance with the procedures referred to in rule 119.67; and

(3) the crew member is informed of the qualification.

125.555 Syllabus for crew member training programme

(a) A holder of an air operator certificate must ensure that each segment of the training programme for flight crew members, and flight attendants if applicable, includes a syllabus that is applicable to the certificate holder's operations and is acceptable to the Director.

(b) Each syllabus required by paragraph (a) must include at least the following training elements as applicable to—

(1) the aeroplane type to be used, including special equipment fitted for the intended operation:

(2) the routes and aerodromes appropriate to the intended operation:

(3) the crew member assignments, functions, responsibilities, and the relationship of these to the assignments, functions, and responsibilities of other crew members, particularly in regard to abnormal or emergency procedures:

(4) training in all types of emergency and abnormal situations or procedures caused by power plant, airframe or system malfunctions, fire, or other abnormalities:

(5) the location and operation of emergency equipment available for use by crew members:

(6) the location and use of oxygen equipment:

(7) the location and use of all normal and emergency exits, including evacuation slides and escape ropes:

(8) training on human factors and crew resource management:

(9) training in strategies to manage risks including threat and error management:

(10) the requirements of Part 92 regarding the carriage of dangerous goods:

(11) security training in accordance with the air operator security programme required by rule 119.75:

(12) the certificate holder's policies and procedures appropriate to its air operations.

125.557 Initial training for crew members

(a) Subject to paragraphs (b), (c), and (d), a holder of an air operator certificate must ensure that a pilot or flight attendant if applicable, who is not qualified and currently serving as a crew member in an air operation under the authority of the certificate, completes the introduction segment of the training programme required by rule 125.553, and in accordance with the syllabus required by rule 125.555.

(b) The certificate holder may, with prior acceptance of the Director, vary the syllabus of the introduction segment of the training programme in the holder's exposition for a crew member if details of the variation and the reasons for the variation are recorded and certified in the crew member's training record.

(c) The certificate holder must ensure that the introduction segment of the training programme includes training on human factors and crew resource management.

(d) A pilot may not commence an introduction segment of the training programme under paragraph (a) unless the pilot—

(1) if the pilot will be required to perform an air operation under IFR, holds a current instrument rating; and

(2) has acquired at least 250 hours of flight time experience as pilot.

125.559 Crew member transition segment

(a) Subject to paragraph (b), a holder of an air operator certificate must ensure that a pilot or flight attendant if applicable who is qualified and currently acting as a crew member on an air operation completes the transition segment of the training programme required by rule 125.553 if—

(1) the crew member is changing from one aeroplane type or variant to another type or variant; or

(2) there is a change to the nature of an operation, or new equipment is introduced, which affects the operation of the aeroplane type or variant.

(b) The transition segment of the training programme referred to in paragraph (a) must address at least the following—

(1) the use of all safety and emergency equipment and procedures applicable to the aeroplane type or variant; and

(2) new procedures or equipment introduced on the existing aeroplane type or variant; and

(3) any required human factors and crew resource management training brought about by the different aeroplane, equipment, or procedures.

125.561 Crew member upgrade segment

(a) Subject to paragraph (b), a holder of an air operator certificate must ensure that a pilot or a flight attendant if applicable, who is qualified and currently acting as a crew member on an air operation conducted under the authority of the certificate, completes the upgrade segment of the training programme required by rule 125.553 on the same aeroplane type if—

(1) the pilot is changing from one crew member position to a more responsible crew member position on the same aeroplane type; or

(2) the flight attendant is upgrading to a role of increased responsibility.

(b) The upgrade training must address the use of all safety and emergency equipment and procedures applicable to the new flight crew position for pilots, or the more responsible role for flight attendants on the aeroplane for which the upgrade is sought and must—

(1) include training on human factors and crew resource management, with particular emphasis on the changes brought

about by the different crew member position and new responsibilities; and

(2) include training in supervisory skills.

125.563 Crew member recurrent segment

(a) A holder of an air operator certificate must ensure that a pilot, or flight attendant of an aeroplane operating under the authority of the certificate, completes the recurrent segment of the training programme required by rule 125.553 in order for the crew member to be current, and proficient on the aeroplane type, crew member position, and type of operation in which the crew member serves.

(b) The certificate holder must ensure that the recurrent segment includes flight training for flight crew members—

(1) every 6 months for an air operation conducted under IFR; and

(2) every 12 months for an air operation conducted under VFR.

(c) The certificate holder must ensure that the pilot completes a recurrent segment of the training programme using the training equipment specified in rule 125.565.

(d) The holder of an air operator certificate must ensure that the recurrent segment of the training programme addresses training on human factors and crew resource management.

125.565 Flight crew training equipment

(a) Except as provided in paragraphs (d) and (e), a holder of an air operator certificate must ensure that the crew member training programme required by rule 125.553 for flight crew members includes ground and flight instruction using—

(1) training devices; and

(2) a flight simulator for the aeroplane type being used.

(b) The certificate holder must ensure that the training for a flight crew member operating turbojet, turbofan, and multi-engine turboprop powered

aeroplanes includes ground and flight instruction using a flight simulator of the same aeroplane type—

(1) for introduction, transition, and upgrade segments of the training programme; and

(2) for recurrent training at least every 12 months.

(c) Despite paragraph (b), the certificate holder may conduct the training in an aeroplane if—

(1) a flight simulator is not available in New Zealand or Australia; and

(2) the aeroplane is of the same type as the aeroplane used for performing air operations.

(d) In the case of a single-engine, or multi-engine reciprocating powered aeroplane, or a single-engine turboprop aeroplane, the certificate holder may conduct the training in an aeroplane of the same type as the aeroplane used for performing air operations.

(e) The training referred to in paragraphs (c) and (d) must be conducted in accordance with a safe flight practice guide acceptable to the Director.

(f) The certificate holder must ensure that each flight simulator or training device used for flight training in the training programme—

(1) maintains the performance, functional, and other characteristics that are required for approval; and

(2) is modified to conform with any modification to the aeroplane being simulated that results in changes to performance, functional, or other characteristics required for approval; and

(3) is given a functional pre-flight check before being used, and any discrepancy detected during use is logged by the appropriate pilot instructor or flight examiner at the end of each training or flight assessment.

125.567 Pilot line training

(a) A holder of an air operator certificate must ensure that a pilot, who under rule 125.557 completes the introduction segment, or under rule 125.559 completes the transition segment, or under rule 125.561 completes the upgrade segment of the training programme required by rule 125.553—

(1) completes a competency assessment under Subpart J before commencing the pilot line training specified in paragraph (b); and

(2) completes the pilot line training specified in paragraph (b).

(b) The pilot line training required by paragraph (a)(2) must comprise of—

(1) following the introduction segment—

(i) for single-engine reciprocating aeroplanes, 5 hours including 5 take-offs and landings; and

(ii) for single-engine turboprop, and multi-engine reciprocating powered aeroplanes, 10 hours including 10 take-offs and landings of which at least 6 take-offs and landings must be as pilot flying; and

(iii) for multi-engine turboprop powered aeroplanes – 20 hours including 10 take-offs and landings of which at least 6 take-offs and landings must be as pilot flying; and

(iv) for turbojet and turbofan powered aeroplanes – 25 hours including 10 take-offs and landings of which at least 6 take-offs and landings must be as pilot flying; and

(v) for all aeroplanes, including those referred to in paragraphs(i) to (iv) – 4 operating cycles of which at least 2 must be as pilot flying:

(2) following the transition or upgrade segment—

(i) for single-engine reciprocating aeroplanes, 5 hours including 5 take-offs and landings; and

(ii) for multi-engine reciprocating or turboprop aeroplanes, 10 hours and 8 take-offs and landings; and

(iii) for turbojet and turbofan powered aeroplanes, 15 hours and 10 take-offs and landings; and

(iv) for all aeroplanes, including those referred to in paragraphs (i), (ii) and (iii) – 4 operating cycles of which at least 2 must be as the pilot flying.

(c) The pilot line training required by paragraph (b) must be—

(1) acquired in an aeroplane conducting an air operation; and

(2) conducted under the supervision of an instructor who—

(i) meets the requirements referred to in rule 125.511; or

(ii) is approved by the Director to conduct specific training for the introduction of a new aeroplane type.

(d) For the purpose of paragraph (c)(1), the instructor required by paragraph (c)(2)—

(1) must act as a pilot-in-command at all times; and

(2) must occupy a pilot station when supervising a pilot acquiring the experience necessary for a pilot-in-command position, until the pilot acquiring the experience has—

(i) performed at least 5 take-offs and 5 landings as pilot flying in the aeroplane type for which the pilot-in-command qualification is required; and

(ii) demonstrated to the pilot instructor the ability to perform the duties of a pilot-in-command for that aeroplane type.

125.569 Flight attendant training programme

A holder of an air operator certificate who operates an aeroplane that carries a flight attendant must ensure that the crew member training programme required by rule 125.553 for flight attendants addresses at least the following:

(1) the authority structure of crew members:

(2) training on human factors, and crew resource management as may be applicable to the tasks assigned to the flight attendant position:

(3) crew member assignments, functions, and responsibilities during emergency situations:

(4) procedures for passenger handling, including emergency procedures and procedures to be followed in dealing with special classes of passengers according to the certificate holder's exposition:

(5) the briefing of passengers:

(6) location and operation of emergency equipment available for use by flight attendants or other crew members:

(7) the correct use of cabin equipment and controls:

(8) the location and use of oxygen equipment:

(9) location and use of all normal and emergency exits, including evacuation slides and escape ropes:

(10) cabin health and first aid in accordance with ICAO Doc 10002 *Cabin Crew Safety Training Manual*, Chapter 9:

(11) the certificate holder's documentation and procedures:

(12) applicable civil aviation rules and supporting documentation.

125.571 Flight attendant operating experience

(a) If a flight attendant is required, a holder of an air operator certificate must ensure that a person is not designated to perform the functions of a flight attendant on an aeroplane conducting an air operation unless that person—

(1) has completed the applicable segment of the crew member training programme as required by rule 125.553; and

(2) immediately following the completion of an introduction segment required by rule 125.557, or a transition segment required by rule 125.559, of the training programme specified in rule 125.553—

(i) completes 5 hours line operating flight time experience, including at least 2 operating cycles on the aeroplane type, and in the crew member position that the person is assigned to serve in; or

(ii) has appropriate flight attendant operating experience that is acceptable to the Director on another aeroplane type operating under this Part, and in the crew member position that the person is assigned to serve in.

(b) The line operating flight time experience required by paragraph (a)(2)(i)—

(1) must be accumulated under the supervision of a flight attendant trainer who meets the requirements referred to in rule 125.519, or a flight attendant assessor who meets the requirements referred to in rule 125.521; and

(2) may include not more than 2.5 hours flight time experience conducted in a full scale, type specific, cabin training device that is acceptable to the Director.

125.573 Crew member training records

A holder of an air operator certificate must maintain a record of all training required by this Subpart that each of its crew members undertakes as specified in rule 119.67.

Subpart J — Crew Member Competency Requirements

125.601 Purpose

This Subpart prescribes the rules governing the competency assessment of crew members who are trained under Subpart I.

125.603 General

(a) A holder of an air operator certificate must establish a competency assessment programme under this Subpart to ensure that each person who is assigned to perform the function of a crew member on an aeroplane conducting an air operation is competent to perform the assigned crew member function.

(b) The competency assessment programme required by paragraph (a) must be—

(1) acceptable to the Director; and

(2) controlled by the certificate holder; and

(3) specific to each aeroplane type or variant; and

(4) for single-engine and multi-engine reciprocating powered or single-engine turboprop aeroplanes, conducted in—

(i) an aeroplane of the same type as the aeroplane used for performing air operations; or

(ii) a flight simulator of the same aeroplane type when completing flight crew competency assessments required by rules 125.607(c) and (d); or

(5) for turbojet, turbofan, and multi-engine turboprop aeroplanes, conducted in a flight simulator when completing competency assessments required by rules 125.607(c) and (d), except that in the case of rule 125.607(d), every second assessment may be conducted in an aeroplane of the same type as the aeroplane used for performing air operations.

(c) Despite paragraph (b)(5), the certificate holder may conduct the competency assessment in an aeroplane if—

(1) a flight simulator is not available in New Zealand or Australia; and

(2) the aeroplane is of the same type as the aeroplane used for performing air operations.

(d) The certificate holder may—

(1) implement the competency assessment programme required by paragraph (a) under the authority of the certificate; or

(2) contract with the holder of an aviation training organisation certificate issued under the Act and Part 141, to conduct the competency assessments in accordance with the competency assessment programme required by paragraph (a), if the aviation training organisation certificate authorises the holder to conduct the competency assessments; or

(3) for a competency assessment conducted outside New Zealand, contract with an organisation that meets an equivalent standard specified by Part 141 to conduct the assessment in accordance with the applicable requirements specified in the competency assessment programme required by paragraph (a).

(e) The certificate holder must ensure that the person responsible for the competency assessment programme holds a current flight examiner rating.

(f) The competency assessments referred to in paragraphs (c) and (d) must be conducted in accordance with the safe flight practice guide that is acceptable to the Director.

(g) The certificate holder must ensure that each flight simulator or training device used for the competency assessment referred to in paragraphs (b)(4)(ii) and (b)(5)—

(1) maintains the performance, functional, and other characteristics that are required for approval; and

(2) is modified to conform with any modification to the aeroplane being simulated that results in changes to performance, functional, or other characteristics required for approval; and

(3) is given a functional pre-flight check before being used, and any discrepancy detected during use is logged by the appropriate pilot instructor or flight examiner at the end of each training or flight assessment.

125.605 Competency assessment programme responsibilities

(a) A holder of an air operator certificate is responsible for the adequacy and implementation of the competency assessment programme required by rule 125.603.

(b) The certificate holder must ensure that each crew member who is subject to a competency assessment is assessed in accordance with the programme.

125.607 Flight crew competency assessments

(a) A holder of an air operator certificate must ensure that each pilot acting as pilot-in-command of an aeroplane conducting an air operation under the authority of the certificate has, within the immediately preceding 12 months, passed a route check that is administered by a flight examiner.

(b) The certificate holder must ensure that the route check referred to in paragraph (a)—

(1) includes an aerodrome proficiency check consisting of at least 1 flight over 1 route segment and 1 or more landings at aerodromes representative of the operations to be flown; and

(2) establishes that the pilot can satisfactorily perform the duties and responsibilities of a pilot-in-command of an aeroplane performing an air operation appropriate to the type of air operations authorised by the certificate holder's operations specifications.

(c) The certificate holder must ensure that each pilot acting as a flight crew member of an aeroplane conducting an air operation under VFR has, within the immediately preceding 12 months, successfully completed a competency assessment administered by a flight examiner that covers—

(1) procedures, including emergency procedures, and the pilot's flying skills in an aeroplane type normally used by the pilot in an air operation; and

(2) human factors and crew resource management.

(d) The certificate holder must ensure that each pilot acting as a flight crew member of an aeroplane conducting an air operation under IFR has, within

the immediately preceding 6 months, successfully completed a competency assessment administered by a flight examiner that—

(1) covers procedures, including emergency procedures, appropriate to the equipment fitted to the aeroplane and to the type of operations to which the pilot is assigned by the certificate holder; and

(2) includes human factors and crew resource management.

(e) The certificate holder must ensure that each pilot acting as a flight crew member of an aeroplane conducting an air operation has, within the immediately preceding 12 months, successfully completed a written or oral test of the pilot's knowledge of the following—

(1) the relevant Civil Aviation Rules:

(2) the certificate holder's operations specifications and exposition:

(3) the aeroplane systems, performance, operating procedures, and the content of the flight manual for each aeroplane type normally flown by the pilot:

(4) navigation, ATS, and meteorology:

(5) special flight operations as appropriate to the type of operation normally conducted by the pilot:

(6) new equipment, procedures, and techniques:

(7) location and operation of emergency equipment fitted to an aeroplane of the type normally flown by the pilot.

125.609 Pilot instructor, Simulator instructor and Flight examiner competency assessments

A holder of an air operator certificate must ensure that a pilot performing the function of a pilot instructor, simulator instructor, or flight examiner in the training or competency assessment programmes receives instruction and maintains proficiency as appropriate in—

(1) the methods of imparting instruction on how to operate, and how to ensure the safe operation of a particular aeroplane type, or variant; and

(2) the methods for evaluating and assessing flight crew competency in the technical and non-technical aspects of aircraft operation including human factors and crew resource management; and

(3) the methods of recovery from mishandled, non-normal, and emergency manoeuvres; and

(4) the operation of the aeroplane used, or flight simulator approved by the Director, and its equipment, including operational flight, procedures, and manoeuvres under normal, non-normal, and emergency conditions.

125.611 Flight attendant competency assessments

If a flight attendant is required as a crew member in an aeroplane conducting an air operation, a holder of an air operator certificate must ensure that the flight attendant has, within the immediately preceding 12 months, successfully completed a competency assessment, including a flight assessment administered by a flight attendant assessor who meets the requirements referred to in rule 125.521, which includes at least the following areas appropriate to the flight attendant's assigned duties and responsibilities—

(1) the authority of the pilot-in-command:

(2) passenger handling, including procedures to be followed in handling persons whose conduct might jeopardise safety:

(3) crew member assignments, functions, and responsibilities during emergencies, including evacuation of persons who may need assistance:

(4) human factors and crew resource management:

(5) the briefing of passengers:

(6) the use of cabin equipment and controls:

(7) the location and operation of items of emergency equipment:

(8) the location and operation of oxygen equipment:

(9) the location and operation of every normal and emergency exit, including evacuation chutes and escape ropes:

(10) the seating of a person who may need assistance:

(11) cabin health and first aid in accordance with ICAO Doc 10002 *Cabin Crew Safety Training Manual,* Chapter 9.

125.613 Competency and testing records

A holder of an air operator certificate must maintain an accurate record of all the competency assessments, route checks, and tests undertaken by each of its crew members in accordance with the procedures established under rule 119.67.

Subpart K — Fatigue of Flight Crew

125.801 Purpose

This Subpart prescribes flight time limitations and other rules to minimise fatigue in flight crew members of aeroplanes engaged in air operations.

125.803 Operator responsibilities

(a) The operator of an aeroplane must not cause or permit an air operation to be performed with the aeroplane unless—

(1) a scheme has been established for the regulation of flight and duty times for every person flying as a flight crew member in the aeroplane; and

(2) the scheme addresses the following factors if appropriate to the operator's type of operation:

(i) rest periods before flight:

(ii) acclimatisation:

(iii) time zones:

(iv) night operations:

(v) maximum number of sectors:

(vi) single pilot operations:

(vii) two pilot operations:

(viii) two pilots plus additional flight crew members:

(ix) flight crew members' qualifications:

(x) mixed duties:

(xi) dead-head transportation:

(xii) reserve or standby period:

(xiii) flight duty period:

(xiv) in-flight relief:

(xv) type of operation:

(xvi) cumulative duty time:

(xvii) cumulative flight time:

(xviii) discretionary increases in flight time limitations or flight duty limitations or both:

(xix) circadian rhythm:

(xx) days off:

(xxi) record-keeping; and

(3) the scheme is acceptable to the Director.

(b) The operator of an aeroplane performing an air operation must not cause or permit any person to fly in the aeroplane as a flight crew member if the operator knows or has reason to believe that the person is suffering from, or, having regard to the circumstances of the flight to be undertaken,

is likely to suffer from, such fatigue while the person is flying as may endanger the safety of the aeroplane or its occupants.

(c) The operator of an aeroplane performing air operations must—

(1) keep an accurate record of the flight time and duty time of each flight crew member flying in the aeroplane; and

(2) retain the flight time and duty time record required by paragraph (c)(1) for a period of 12 months from the date on which it was made.

(d) Notwithstanding rule 125.805(c), the flight and duty time scheme limitations do not apply if the flight is one which ought to be made in the interests of safety or health of any person; in such cases it is the responsibility of the pilot-in-command to be satisfied that the safety of the flight is not endangered by reason of any flight crew member exceeding the applicable flight time limitations.

125.805 Flight crew responsibilities

(a) A person must not act as a flight crew member of an aeroplane performing an air operation if that person knows or suspects that they are suffering from, or, having regard to the circumstances of the flight to be undertaken, are likely to suffer from, such fatigue as may endanger the safety of the aeroplane or its occupants.

(b) A flight crew member must not perform other hire or reward flight duties while employed, engaged, or contracted by an air operator when such duties and flying in addition to that in air operations will exceed the flight or duty time limitations prescribed in the scheme required by rule 125.803(a)(1) relating to that flight crew member.

(c) A person must not act as a flight crew member of an aeroplane performing an air operation unless that person has ensured that the limitations prescribed in the scheme required by rule 125.803(a)(1) relating to that person are not exceeded.

(d) A person must not act as a flight crew member of an aeroplane performing an air operation if, at the beginning of the flight, the aggregate of all that person's previous and planned flight times on air operations—

(1) during the period of 28 consecutive days expiring at the end of the day on which the flight begins — exceeds 100 hours; or

(2) during the period of 365 consecutive days expiring at the end of the day on which the flight begins — exceeds 1000 hours.

Subpart L — Manuals, Logs, and Records

125.851 Purpose

This Subpart prescribes the rules governing the use and retention of the manuals, logs, and records required for air operations performed.

125.853 Operating information

Each holder of an air operator certificate, must ensure that the parts of the certificate holder's exposition relevant to the duties of each crew member are current and are accessible to the crew member.

125.855 Documents to be carried

(a) A holder of an air operator certificate must ensure that the following documents are carried on each individual flight—

(1) details of the operational flight plan; and

(2) NOTAM and aeronautical information service briefing documentation appropriate to the operation; and

(3) meteorological information appropriate to the operation; and

(4) a copy of the load manifest; and

(5) notification of dangerous goods; and

(6) copies of the relevant aeronautical charts; and

(7) for a regular air transport service, a route guide covering each route flown and alternate aerodromes that may be used.

(b) The certificate holder must ensure that separate copies of the documents referred to in paragraph (a)(6) are available for each pilot performing flight crew duties on the flight.

125.857 Operation record

(a) Each holder of an air operator certificate must, for each air operation that it conducts, accurately record—

(1) the planned aspects of the operation; and

(2) the actual accomplishment of the operation.

(b) The record must be of a permanent nature.

125.859 Retention period

(a) Each holder of an air operator certificate must ensure that the following information is retained for 12 months from the date it was completed:

(1) operation record:

(2) load manifest:

(3) notification of dangerous goods.

(b) Each holder of an air operator certificate must ensure that its flight crew records of flight and duty time is retained for 12 months from the date of entry of the record.

(c) Each holder of an air operator certificate must ensure that its records of training, checking, and qualifications of each crew member is retained until 12 months after the crew member has left the certificate holder's employment.

125.861 AEDRS records

(a) A holder of an air operator certificate who operates an aeroplane that is required under rule 125.377 to be equipped with an AEDRS must keep a record of the analysis information derived from the AEDRS data as part of the maintenance record for the aeroplane.

(b) The records that are required to be kept under paragraph (a) must be legible, accurate, permanent, and retrievable.

Appendix A — *Reserved*

Appendix B — Instruments and Equipment Airworthiness Design Standards

Instruments and equipment required by Subpart F must meet the following specifications and requirements:

B.1 Public address system

(a) A public address system must—

(1) except for handsets, headsets, microphones, selector switches, and signalling devices, be capable of operation independent of the crew member intercom system required by rule 125.365(2); and

(2) be accessible for immediate use from each of two flight crew member stations in the cockpit; and

(3) for each required floor-level passenger emergency exit that has an adjacent flight attendant seat, have a microphone which is readily accessible to the seated flight attendant; and

(4) be capable of operation within 10 seconds by a flight attendant at each of those stations in the passenger compartment from which its use is accessible; and

(5) be understandably audible at all times at all passenger seats, lavatories, flight attendant seats, and work stations.

(b) Notwithstanding paragraph (a)(3) one microphone may serve more than one exit, provided the proximity of the exits allows unassisted verbal communication between seated flight attendants.

B.2 Crew member intercom system

A crew-member intercom system must—

(1) except for handsets, headsets, microphones, selector switches, and signalling devices, be capable of operation independent of the public address system required by rule 125.365(1); and

(2) provide a means of two-way communication between all members of the flight crew; and

(3) provide a means of two-way communication between the cockpit and each passenger compartment; and

(4) be accessible for immediate use from each of two flight crew member stations in the cockpit; and

(5) be accessible for use from at least one normal flight-attendant station in each passenger compartment; and

(6) be capable of operation within 10 seconds by a flight attendant at each of those stations in each passenger compartment from which its use is accessible; and

(7) be accessible for use at enough flight attendant stations so that all floor-level emergency exits in each passenger compartment are observable from a station so equipped; and

(8) have an alerting system that—

(i) incorporates aural or visual signals for use by any crew member; and

(ii) has a means for the recipient of a call to determine whether it is a normal call or an emergency call; and

(9) provide a means of two-way communication between ground personnel and any two flight crew members in the cockpit—

(i) when the aeroplane is on the ground; and

(ii) from a location that avoids visible detection from within the aeroplane during the operation of the ground personnel interphone system station.

B.3 Cockpit voice recorder

A cockpit voice recorder must —

(1) meet the requirements of the TSO C123 series; and

(2) be fitted with an underwater locating device that meets the requirements of the TSO C121 series; and

(3) be capable of recording and storing at least the last 2 hours of its operation; and

(4) have an alternate power source that is separate from the power source that normally provides power to the recorder and complies with standard 6.3.2.4.1 of ICAO Annex 6.

B.4 Flight data recorder

A flight data recorder must—

(1) meet the requirements of the TSO C124 series; and

(2) be fitted with an underwater locating device that meets the requirements of the TSO C121 series; and

(3) be of a non-ejectable type and capable of recording and storing at least the last 25 hours of its operation in a digital form; and

(4) except as provided in an MEL, record the parameters as detailed in—

(i) Figure 1; and

(ii) as applicable, Table 1 and Table 2—

of Appendix B.

B.5 Additional attitude indicator

The third presentation of attitude must be—

(1) operated independently of any other attitude indicating system; and

(2) powered from a source independent of the electrical generating system; and

(3) capable of continuous reliable operation for 30 minutes after total failure of the electrical generating system; and

(4) operative without selection after total failure of the electrical generating system; and

(5) appropriately lighted during all phases of operation.

B.6 Weather radar

Weather radar must meet the requirements of the TSO C63 series.

B.7 Ground proximity warning system

GPWS must meet the requirements of the TSO C92 series.

B.8 AEDRS

(a) An AEDRS must electronically record—

(1) the period of time that the engine is running at operating RPM; and

(2) engine parameter data for those engine parameters that are critical to engine performance and condition, as recommended by the engine manufacturer or another organisation acceptable to the Director that has design and maintenance knowledge of the engine type; and

(3) the engine running time during any AEDRS sensing device failure; and

(4) every exceedance of the operating limit associated with each of the parameters recorded under paragraph (a)(2); and

(5) as far as practicable, any occurrence of tampering with any component of the AEDRS.

(b) An AEDRS must—

(1) have sufficient electronic memory to record, between maintenance checks, all the data and occurrences required under paragraph (a); and

(2) store data in a manner that enables trends over time to be electronically established for the engine parameters recorded under paragraph (a)(2); and

(3) include a cockpit caution indication of—

(i) any exceedance of the tolerances on the parameters recorded under paragraph (a)(2); and

(ii) as far as practicable, an AEDRS failure including tampering; and

(4) automatically activate the data recording at the commencement of a start cycle for the engine; and

(5) comply with the environmental conditions specified in RTCA Inc. document number RTCA/DO-160C; and

(6) comply with the software conditions specified in RTCA Inc. document number RTCA/DO-178B; and

(7) identify, as recommended by the AEDRS manufacturer, any components of the propulsion and airframe system it is monitoring; and

(8) be capable of downloading its data to a separate ground based data storage unit.

B.9 Terrain awareness and warning system (TAWS)

(a) TAWS Class A must meet the requirements of TSO C151a or TSO C151b for Class A equipment.

(b) TAWS Class B must meet the requirements of TSO C151a or TSO C151b for Class B equipment.

B.10 Airborne collision avoidance system (ACAS II)

(a) ACAS II must meet the requirements of TSO C119b or TSO C119c.

(b) ACAS is equipment that meets the requirements of TSO C118 or TSO C119a.

B.11 Protective breathing equipment

(a) Protective breathing equipment must—

(1) meet the requirements of the TSO C99 series or the TSO C116 series; and

(2) provide a breathing gas system that is free from hazards in—

(i) itself; and

(ii) its method of operation; and

(iii) its effect upon other components; and

(3) provide protection for the eyes without unduly restricting vision; and

(4) allow any crew member to—

(i) determine during flight the quantity of breathing gas available in each source of supply unless the gas system uses chemical oxygen generators; and

(ii) use corrective glasses without undue impairment of vision, or loss of protection; and

(iii) communicate using the crew member intercom system; and

(5) allow a flight crew member to communicate using the aeroplane radio; and

(6) supply breathing gas, if necessary, for 15 minutes at a pressure altitude of 8 000 feet.

(b) Protective breathing equipment may also be used to meet the supplemental oxygen requirements of Part 91 provided it meets the oxygen equipment standards.

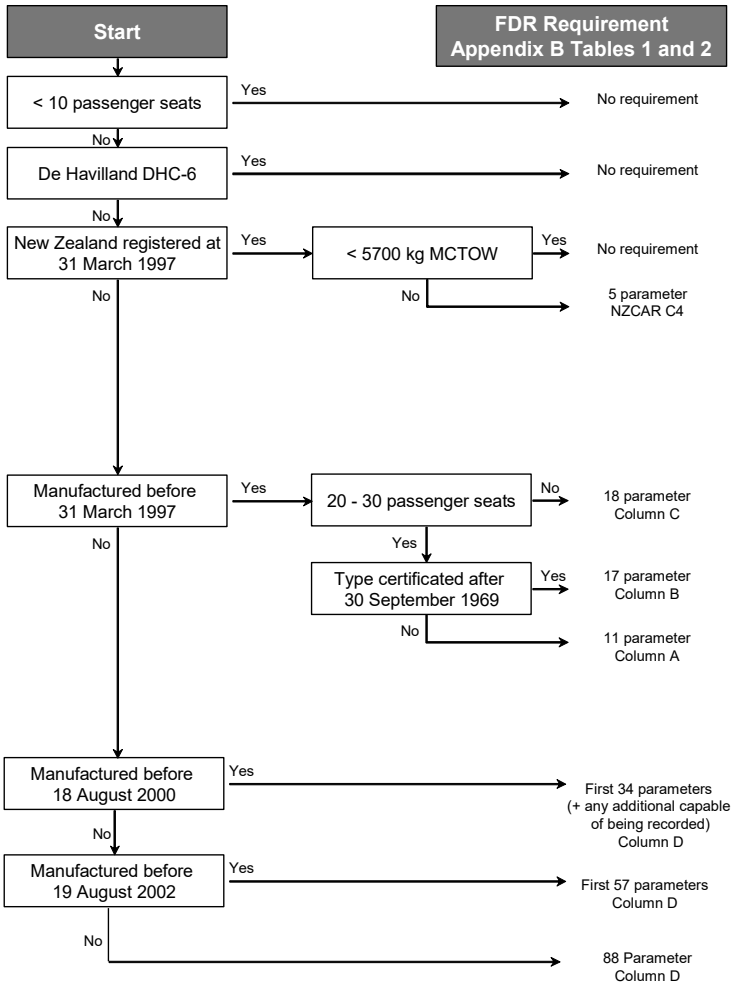

Figure 1. Flight Data Recorder Decision Chart

Table 1. Part 125 - Flight Data Recorder Parameter Requirements

When reading the parameter specifications from Table 2 the corresponding shaded specification should be chosen for each parameter. *This table refers to the FDR requirements of rule 125.369.*

	(A)	(B)	(C)	(D)
Parameter * if sensor installed	11 Parameter	17 Parameter	18 Parameter	88 Parameter
1	Time	Time	Time	Time or Relative time counts
2	Altitude	Altitude	Airspeed	Pressure Altitude
3	Airspeed	Airspeed	Altitude	Indicated airspeed or Calibrated airspeed
4	Vertical acceleration	Vertical acceleration	Heading	Heading (primary flight crew reference)
5	Heading	Heading	Vertical acceleration	Normal acceleration (vertical)
6	Time of radio transmission to/from ATC	Time of radio transmission to/from ATC	Longitudinal acceleration	Pitch attitude
7	Pitch attitude	Pitch attitude	Pitch attitude	Roll attitude
8	Roll attitude	Roll attitude	Roll attitude	Manual radio transmitter keying or CVR/DFDR synchronisation reference
9	Longitudinal acceleration	Longitudinal acceleration	Stabiliser trim position OR pitch control position	Thrust/power on each engine (primary flight crew reference)
10	Control column OR pitch control surface position	Pitch trim position	Fan/N1 speed/ EPR/cockpit indications used for aircraft certification OR prop speed and torque	Autopilot engagement

Table 1. Part 125 - Flight Data Recorder Parameter Requirements

When reading the parameter specifications from Table 2 the corresponding shaded specification should be chosen for each parameter. *This table refers to the FDR requirements of rule 125.369.*

	(A)	(B)	(C)	(D)
Parameter * if sensor installed	11 Parameter	17 Parameter	18 Parameter	88 Parameter
11	Thrust of each engine	Control column OR pitch control surface position	Altitude rate [1]	Longitudinal acceleration
12		Control wheel OR lateral control surface position	Angle of attack[1]	Pitch control(s) position (non fly-by-wire systems)
				Pitch control(s) position (fly-by-wire systems)
13		Rudder pedal OR yaw control surface position	Radio transmitter keying	Lateral control(s) position (non fly-by-wire systems)
				Lateral control(s) position (fly-by-wire systems)
14		Thrust of each engine	Trailing edge flaps	Yaw control(s) position (non fly-by-wire systems)
				Yaw control(s) position (fly-by-wire systems)
15		Position of each thrust reverser	Leading edge flaps	Pitch control surface(s) position
16		Trailing edge flap OR cockpit flap control position	Thrust reverser, each engine	Lateral control surface(s) position

Table 1. Part 125 - Flight Data Recorder Parameter Requirements

When reading the parameter specifications from Table 2 the corresponding shaded specification should be chosen for each parameter. *This table refers to the FDR requirements of rule 125.369.*

	(A)	(B)	(C)	(D)
Parameter * if sensor installed	11 Parameter	17 Parameter	18 Parameter	88 Parameter
17		Leading edge flap OR cockpit flap control position	Spoiler/ speedbrake	Yaw control surface(s) position
18			Autopilot engaged	Lateral acceleration
19				Pitch trim surface position
20				Trailing edge flap or cockpit control position
21				Leading edge flap or cockpit control position
22				Each thrust reverser position or equivalent for propeller aeroplane
23				Ground spoiler position or speed brake position
24				Outside air temperature or total air temperature
25				Autopilot/ autothrottle/AFCS mode and engagement status
26 *				Radio altitude
27				Localiser deviation or

Table 1. Part 125 - Flight Data Recorder Parameter Requirements

When reading the parameter specifications from Table 2 the corresponding shaded specification should be chosen for each parameter. *This table refers to the FDR requirements of rule 125.369.*

	(A)	(B)	(C)	(D)
Parameter * if sensor installed	11 Parameter	17 Parameter	18 Parameter	88 Parameter
				MLS azimuth
28				Glideslope deviation or MLS elevation
29				Marker beacon passage
30				Master warning
31				Air/ground sensor (primary aeroplane sensor, nose, or main gear)
32 *				Angle of attack (if measure directly)
33				Hydraulic pressure low, each system
34 *				Groundspeed
35				GPWS
36				Landing gear position or landing gear cockpit control selection
37 *				Drift angle
38 *				Wind speed and direction
39 *				Latitude and longitude

Table 1. Part 125 - Flight Data Recorder Parameter Requirements

When reading the parameter specifications from Table 2 the corresponding shaded specification should be chosen for each parameter. *This table refers to the FDR requirements of rule 125.369.*

	(A)	(B)	(C)	(D)
Parameter * if sensor installed	11 Parameter	17 Parameter	18 Parameter	88 Parameter
40 *				Stick shaker and pusher activation
41 *				Windshear detection
42				Throttle/power lever position
43				Additional engine parameters
44				TCAS
45				DME 1 and 2 distances
46				Nav 1 and 2 selected frequency
47 *				Selected barometric setting
48 *				Selected altitude
49 *				Selected speed
50 *				Selected Mach
51 *				Selected vertical speed
52 *				Selected heading
53 *				Selected flight path
54 *				Selected decision height
55				EFIS display format
56				Multi-function/engine alerts display format

Table 1. Part 125 - Flight Data Recorder Parameter Requirements

When reading the parameter specifications from Table 2 the corresponding shaded specification should be chosen for each parameter. *This table refers to the FDR requirements of rule 125.369.*

	(A)	(B)	(C)	(D)
Parameter * if sensor installed	11 Parameter	17 Parameter	18 Parameter	88 Parameter
57 *				Thrust command
58 *				Thrust target
59 *				Fuel quantity in CG trim tank
60				Primary navigation system reference
61 *				Ice detection
62 *				Engine warning each engine - vibration
63 *				Engine warning each engine - over temp
64 *				Engine warning each engine - oil pressure low
65 *				Engine warning each engine - over speed
66				Yaw trim surface position
67				Roll trim surface position
68				Brake pressure - left and right

Table 1. Part 125 - Flight Data Recorder Parameter Requirements

When reading the parameter specifications from Table 2 the corresponding shaded specification should be chosen for each parameter. *This table refers to the FDR requirements of rule 125.369.*

	(A)	(B)	(C)	(D)
Parameter * if sensor installed	11 Parameter	17 Parameter	18 Parameter	88 Parameter
69				Brake pedal application - left and right
70 *				Yaw and side-slip angle
71 *				Engine bleed valve position
72 *				De-icing or anti-icing system selection
73				Computed centre of gravity
74				AC electrical bus status
75				DC electrical bus status
76 *				APU bleed valve position
77				Hydraulic pressure each system
78				Loss of cabin pressure
79				Computer failure - critical flight and engine control systems
80 *				HUD
81 *				Para-visual display

Table 1. Part 125 - Flight Data Recorder Parameter Requirements

When reading the parameter specifications from Table 2 the corresponding shaded specification should be chosen for each parameter. *This table refers to the FDR requirements of rule 125.369.*

	(A)	(B)	(C)	(D)
Parameter * if sensor installed	11 Parameter	17 Parameter	18 Parameter	88 Parameter
82				Cockpit trim control input position - pitch
83				Cockpit trim control input position - roll
84				Cockpit trim control input position - yaw
85				Trailing edge flap and cockpit flap control position
86				Leading edge flap and cockpit flap control position
87				Ground spoiler position and speed brake selection
88				All cockpit flight control input forces - control wheel, control column, rudder pedal

Notes:

1. If data from the altitude encoding altimeter (100' resolution) is used then either of these parameters should also be recorded. If, however, altitude is recorded at a minimum of 25' resolution then these two parameters may be omitted.

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Time or Relative time counts	8 hours minimum 24 hours 0 to 4095	±0.125% per hour	1 4	1s	UTC time preferred when available. Counter increments each four seconds of system operation
Pressure Altitude	-1000' to maximum certificated altitude -1000' to maximum certificated altitude -1000' to maximum certificated altitude +5000'	±100' to ±700' (refer TSO C124a, C51a)	1	25' to 150' 5' to 35'	Data should be obtained from the air data computer when practicable
Indicated airspeed or Calibrated airspeed	V_{so} to V_D (KIAS) 50 KIAS or minimum value to Max V_{so}, and V_{so} to $1.2V_D$	±5% or ±10kts whichever is the greater. Resolution 2kts below 175KIAS ±5% and ±3%	1	1% 1kt	Data should be obtained from the air data computer when practicable

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Heading (primary flight crew reference)	360° 0 - 360° and discrete 'true' or 'mag'	±5° ±2°	1	1° 0.5°	When true or magnetic heading can be selected as the primary heading reference, a discrete indicating selection must be recorded
Normal acceleration (vertical)	-3g to +6g	±0.2g in addition to ±0.3g maximum datum ±1% maximum range excluding datum error of ±5%	0.25 0.125	0.03g 0.004g	
Pitch attitude	100% of usable ±75°	±2°	1 or 0.25 for aeroplanes manufactured after 2002	0.8° 0.5°	A sampling rate of 0.25 is recommended
Roll attitude	±60° or 100% of usable range, whichever is the greater ±180°	±2°	1 or 0.5 for aeroplanes manufactured after 2002	08° 0.5°	A sampling rate of 0.5 is recommended

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Manual radio transmitter keying or CVR/DFDR synchronisation reference	Discrete - 'on' or 'off'		1		Preferably each crew member but one discrete acceptable for all transmission provided the CVR/DFDR system complies with TSO C124a CVR synchronisation requirements
Fan N_1 speed or EPR or cockpit indications used for aircraft certification or Propeller speed and torque (sample once/sec as close together as practicable) Thrust/power on each engine (primary flight crew reference)	Maximum range Full range forward	±5% ±2%	1 per engine	1% 0.3% of full range	Sufficient parameters (e.g. EPR, N_1 or Torque, N_P) as appropriate to the particular engine be recorded to determine power in forward and reverse thrust, including potential overspeed conditions
Autopilot engagement	Discrete - 'on' or 'off'		1		
Longitudinal acceleration	±1g	±1.5% maximum range excluding datum error of ±5%	0.25	0.004g	

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Stabiliser trim position or Pitch control(s) position (non fly-by-wire systems)[2]	Full range	±3% unless higher uniquely required ±2°	1 1 0.5 or 0.25 for aeroplanes manufactured after 2002	1% 0.5% of full range	For aeroplanes that have a flight control break away capability that allows either pilot to operate the controls independently, record both control inputs. The control inputs may be sampled alternately once per second to produce the sampling interval of 0.5 or 0.25, as applicable
Pitch control(s) position (fly-by-wire systems)	Full range	±2°	1 0.5 or 0.25 for aeroplanes manufactured after 2002	0.2% of full range	

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Lateral control(s) position (non fly-by-wire systems)[2]	Full range	±2°	1 0.5 or 0.25 for aeroplanes manufactured after 2002	0.2% of full range	For aeroplanes that have a flight control break away capability that allows either pilot to operate the controls independently, record both control inputs. The control inputs may be sampled alternately once per second to produce the sampling interval of 0.5 or 0.25, as applicable
Lateral control(s) position (fly-by-wire systems)	Full range	±2°	1 0.5 or 0.25 for aeroplanes manufactured after 2002	0.2% of full range	

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Yaw control(s) position (non fly-by-wire systems)[2]	Full range	±2°	1 0.5	0.3% of full range	For aeroplanes that have a flight control break away capability that allows either pilot to operate the controls independently, record both control inputs. The control inputs may be sampled alternately once per second to produce the sampling interval of 0.5
Yaw control(s) position (fly-by-wire systems)	Full range	±2°	1 0.5	0.2% of full range	

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Pitch control surface(s) position[2]	Full range	±2°	1 0.5 or 0.25 for aeroplanes manufactured after 2002	0.2% of full range	For aeroplanes fitted with multiple or split surfaces, a suitable combination of inputs is acceptable in lieu of recording each surface separately. The control surfaces may be sampled alternately to produce the sampling interval of 0.5 or 0.25
Lateral control surface(s) position[2]	Full range	±2°	1 0.5 or 0.25 for aeroplanes manufactured after 2002	0.3% of full range	A suitable combination of surface position sensors is acceptable in lieu of recording each surface separately. The control surfaces may be sampled alternately to produce the sampling interval of 0.5 or 0.25

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Yaw control surface(s) position[2]	Full range	±2º	1 0.5	0.2% of full range	A suitable combination of surface position sensors is acceptable in lieu of recording each surface separately. The control surfaces may be sampled alternately to produce the sampling interval of 0.5
Lateral acceleration	±1g	±1.5% maximum range excluding datum error of ±5%	0.25	0.004g	Twin engine aircraft only
Pitch trim surface position	Full range	±3%	1	0.6% of full range	
Trailing edge flap or cockpit control position	Full range or discrete each position	±3º ±3º or pilot's indicator	1 2	1% 0.5% of full range	Flap position and cockpit control may each be sampled alternately at four second intervals, to give a data point every two seconds

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Leading edge flap or cockpit control position	Full range or discrete each position	±3º ±3º or pilot's indicator	1 2	1% 0.5% of full range	Left and right sides, or flap position and cockpit control may each be sampled at four second intervals, so as to give a data point each two seconds
Each thrust reverser position or equivalent for propeller aeroplane	Discrete - 'stowed' or 'full reverse' Discrete - 'stowed', 'in transit', 'reverse'		1 per engine		Turbojet - two discretes enable the three states to be determined Turboprop - one discrete
Ground spoiler position or speed brake position	Full range or discrete each position	±2º	1 or 0.5 for aeroplanes manufactured after 2002	0.5% of full range	
Outside air temperature or total air temperature	-50ºC to +90ºC	±2º C	2	0.3º C	
Autopilot/autothrottle/AFCS mode and engagement status	Discretes - suitable combination		1		Discretes should show which systems are engaged and which primary modes are controlling the flight path and speed of the aircraft

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Altitude rate Radio altitude	±800o fpm -20' to +2 500'	±10%. Resolution 250fom below 12,000ft indicated ±2' or ±3% whichever is the greater below 500' and ±5% above 500'	1	250fpm below 12,000ft 1' ±5% above 500'	For autoland/ category III operations, each radio altimeter should be recorded, but arranged so that at least one is recorded each second.
Localiser deviation, MLS azimuth, or GNSS latitude deviation.	±400 microamps or available sensor range as installed ±62º	As installed - ±3% recommended	1	0.3% of full range	For autoland/ category III operations, each radio altimeter should be recorded, but arranged so that at least one is recorded each second. It is not necessary to record ILS and MLS at the same time, only the approach aid in use need be recorded

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Glideslope deviation, MLS elevation, or GNSS vertical deviation.	±400 microamps or available sensor range as installed +0.9º to +30º	As installed - ±3% recommended	1	0.3% of full range	For autoland/category III operations, each radio altimeter should be recorded, but arranged so that at least one is recorded each second. It is not necessary to record ILS and MLS at the same time, only the approach aid in use need be recorded
Marker beacon passage	Discrete - 'on' or 'off'		1		A single discrete is acceptable for all markers
Master warning	Discrete		1		Record the master warning and record each 'red' warning that cannot be determined from other parameters or from the cockpit voice recorder

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Air/ground sensor (primary aeroplane sensor, nose, or main gear)	Discrete - 'air' or 'ground'		1 (0.25 recommended)		
Angle of attack (need depends on altitude resolution)[3] Angle of attack (if measure directly)[3]	-20° to 40° or of usable range As installed	±2° As installed	1 2 or 0.5 for aeroplanes manufactured after 2002	0.8% 0.3% of full range	If left and right sensors are available, each may be recorded at four second intervals so as to give a data point each 0.5 second
Hydraulic pressure low, each system	Discrete - 'low' or 'normal' or available sensor range	±5%	2	0.5% of full range	
Groundspeed	As installed	Most accurate system installed	1	0.2% of full range	
GPWS	Discrete - 'warning' or 'off'		1		A suitable combination of discretes unless recorder capacity is limited in which case a single discrete for all modes is acceptable
Landing gear position or landing gear cockpit control selection	Discrete		4		A suitable combination of discretes should be recorded
Drift angle	As installed	As installed	4	0.1°	
Wind speed and direction	As installed	As installed	4	1kt and 1°	

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Latitude and longitude	As installed	As installed	4	0.002º	Provided by the Primary Navigation System Reference. Where capacity permits latitude/longitude resolution should be 0.0002º
Stick shaker and pusher activation	Discrete - 'on' or 'off'		1		A suitable combination of discretes to determine activation
Windshear detection	Discrete - 'warning' or 'off'		1		
Throttle/power lever position	Full range	±2%	1 per lever	2% of full range	For aeroplanes with non-mechanically linked cockpit engine controls
Additional engine parameters	As installed	As installed	Each engine each second	2% of full range	Where capacity permits, the preferred priority is - indicated vibration level, N_2, EGT, Fuel Flow, Fuel Cut-off lever position, and N_3, unless the engine manufacturer recommends otherwise

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
TCAS	Discretes	As installed	1		A suitable combination of discretes should be recorded to determine the status of - Combined Control, Vertical Control, Up Advisory, and Down Advisory. (refer ARINC Characteristic 735 - Attachment 6E, TCAS VERTICAL RA DATA OUTPUT WORD)
DME 1 and 2 distances	0 - 200NM	As installed	4	1NM	1 mile
Nav 1 and 2 selected frequency	Full range	As installed	4		Sufficient to determine selected frequency
Selected barometric setting	Full range	±5%	1 per 64 seconds	0.2% of full range	
Selected altitude	Full range	±5%	1	100’	
Selected speed	Full range	±5%	1	1kt	
Selected Mach	Full range	±5%	1	0.01	
Selected vertical speed	Full range	±5%	1	100ft/min	
Selected heading	Full range	±5%	1	1°	
Selected flight path	Full range	±5%	1	1°	

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Selected decision height	Full range	±5%	64	1'	
EFIS display format	Discretes		4		Discretes should show the display system status (off, normal, fail, composite, sector, plan, navigation aids, weather radar, range, copy)
Multi-function/engine alerts display format	Discretes		4		Discretes should show the display system status (off, normal, fail) and the identity of display pages for emergency procedures need not be recorded
Thrust command	Full range	±2%	2	2% of full range	
Thrust target	Full range	±2%	4	2% of full range	
Fuel quantity in CG trim tank	Full range	±5%	1 per 64 seconds	1% of full range	
Primary navigation system reference	Discretes - 'GNSS', 'INS', 'VOR/DME', 'MLS', 'Loran C', 'Omega', 'Localiser Glideslope'		4		A suitable combination of discretes to determine the Primary Navigation System reference
Ice detection	Discrete - 'ice' or 'no ice'		4		

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Engine warning each engine - vibration	Discrete		1		
Engine warning each engine - over temp	Discrete		1		
Engine warning each engine - oil pressure low	Discrete		1		
Engine warning each engine - over speed	Discrete		1		
Yaw trim surface position	Full range	±3%	2	0.3% of full range	
Roll trim surface position	Full range	±3%	2	0.3% of full range	
Brake pressure - left and right	As installed	±5%	1		To determine braking effort applied by pilots or by autobrakes
Brake pedal application - left and right	Discrete or analogue - 'applied' or 'off'	±5%	1		To determine braking applied by pilots
Yaw and side-slip angle	Full range	±5%	1	0.5º	
Engine bleed valve position	Discrete - 'open' or 'closed'		4		
De-icing or anti-icing system selection	Discrete - 'on' or 'off'		4		
Computed centre of gravity	Full range	±5%	1 per 64 seconds	1% of full range	
AC electrical bus status	Discrete - 'power' or 'off'		4		Each bus

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
DC electrical bus status	Discrete - 'power' or 'off'		4		Each bus
APU bleed valve position	Discrete - 'open' or 'closed'		4		
Hydraulic pressure each system	Full range	±5%	2	100psi	
Loss of cabin pressure	Discrete - 'loss' or 'normal'		1		
Computer failure - critical flight and engine control systems	Discrete - 'fail' or 'normal'		4		
HUD	Discrete - 'on' or 'off'		4		
Para-visual display	Discrete - 'on' or 'off'		1		
Cockpit trim control input position - pitch	Full range	±5%	1	0.2% of full range	Where mechanical means for control inputs are not available, cockpit display trim positions should be recorded.
Cockpit trim control input position - roll	Full range	±5%	1	0.7% of full range	Where mechanical means for control inputs are not available, cockpit display trim positions should be recorded.

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
Cockpit trim control input position - yaw	Full range	±5%	1	0.3% of full range	Where mechanical means for control inputs are not available, cockpit display trim positions should be recorded.
Trailing edge flap and cockpit flap control position	Full range or discrete each position	±5%	2	0.5% of full range	Trailing edge flaps and cockpit flap control position may each be sampled alternately at four second intervals to provide a sample each 0.5 second
Leading edge flap and cockpit flap control position	Full range or discrete each position	±5%	1	0.5% of full range	
Ground spoiler position and speed brake selection	Full range or discrete each position	±5%	0.5	0.3% of full range	
All cockpit flight control input forces - control wheel, control column, rudder pedal	Full range – control wheel- ±70lbs, control column ±85lbs, rudder pedals, ±165lbs.	±5%	1	0.3% of full range	For fly-by-wire flight control systems, where flight control surface position is a function of the displacement of the control input device only, it is not necessary to

Table 2. Part 125 - Flight Data Recorder Parameter Specifications

This table refers to the FDR requirements of rule 125.369.

Parameters	Range	Sensor input accuracy[1]	Seconds per sampling interval	Resolution	Remarks
					record this parameter

Notes:

1. When data sources are aircraft instruments (except altimeters) of acceptable quality to fly the aircraft the recording system excluding these sensors (but including all other characteristics of the recording system) must contribute no more than half of the values in this column.

2. For aeroplanes that can demonstrate the capability of deriving either the control input or control movement (one from the other) for all modes of operation and flight regimes only the surface position OR the control position need be sensed. For aeroplanes with non-mechanical control systems (fly-by-wire) both surface and control position must be recorded.

3. If data from the altitude encoding altimeter (100' resolution) is used then either of these parameters should also be recorded. If, however, altitude is recorded at a minimum of 25' resolution then these two parameters may be omitted.

Appendix C — Runways

This Appendix is referred to in rule 125.77.

C.1 Minimum runway widths

To determine the minimum runway width it is necessary to ascertain the aerodrome reference code (ARC) appropriate to the aeroplane type by using Table 1. The code is composed of two elements which are related to the aeroplane performance, characteristics, and dimensions. Element 1 is a number based on the aerodrome reference field length (ARFL) and element 2 is a letter based on the aeroplane wing span and outer main gear wheel span.

C.1.1 Determining the ARC using Table 1

(a) **Firstly:** Determine the ARFL of the aeroplane to be operated. The ARFL is the minimum field length for take-off at maximum certificated take-off weight, at sea level, in standard atmospheric conditions, in still air, and with zero runway slope, as derived from the aeroplane flight manual;

(b) **Secondly:** Determine the code number for element 1 applying the aeroplane's aerodrome reference field length; and

(c) **Thirdly:** Determine the code letter of element 2 corresponding to the dimensions of the aeroplane's wing and outer main gear span. The code letter for element 2 is the code letter which corresponds to the wing span, or the outer main gear span, whichever gives the most demanding code letter. For instance, if code letter C corresponds to the aeroplane's wing span and code letter D corresponds to the aeroplane's outer main gear span, the code letter selected would be D for that aeroplane type.

Table 1. Aerodrome Reference Code (ARC)

Code Element 1		Code Element 2		
Code Number	**Aeroplane Reference Field Length**	**Code Letter**	**Wing Span**	**Outer Main Gear Wheel Span**
1	Less than 800 m	A	Up to but not including 15 m	Up to but not including 4.5 m
2	800 m up to but not including 1200 m	B	15 m up to but not including 24 m	4.5 m up to but not including 6 m
3	1200 m up to but not including 1800 m	C	24 m up to but not including 36 m	6 m up to but not including 9 m
4	1800 m and over	D	36 m up to but not including 52 m	9 m up to but not including 14 m
		E	52 m up to but not including 65 m	9 m up to but not including 14 m

C.1.2 Determining the minimum runway width using Table 2

Having determined the aeroplane's ARC, the runway widths are determined by entering at the applicable code number and then moving across to the value under the applicable code letter. For instance, if the aeroplane ARC is 2C, the required runway width is 30 m.

Table 2. Runway widths

	Code Letter				
Code Number	A	B	C	D	E
1	18 m	18 m	23 m	-	-
2	23 m	23 m	30 m	-	-
3	30 m	30 m	30 m	45 m	-
4	-	-	45 m	45 m	45 m

Appendix D — Landing Distance Assessments for Runways

D.1 Permitted landing distance assessments – Dry runway

A holder of an air operator certificate must carry out the following procedures under rule 125.233(b)(2) for calculating the landing distance where a runway is dry:

(a) A holder of an air operator certificate must ensure that, for each aeroplane it operates, the landing weight for the estimated time of landing allows a full-stop landing from 50 feet above the threshold within 70% of the landing distance available assuming that the aeroplane is landed.

(b) When calculating the landing weight in under paragraph (a), the holder of an air operator certificate must take account of—

(1) aerodrome elevation; and

(2) ambient temperature at the aerodrome; and

(3) the type of runway surface and the runway surface condition; and

(4) the runway slope in the direction of landing; and

(5) not more than 50% of the reported headwind component or not less than 150% of the reported tailwind component.

(c) For an aeroplane to land as specified in paragraphs (b) and (c), it is assumed that the aeroplane will land on the most favourable runway taking into account—

(1) the forecast meteorological conditions; and

(2) surrounding terrain; and

(3) approach and landing aids; and

(4) obstacles within the missed approach flight path.

(d) If the holder of an air operator certificate is unable to comply with paragraph (c) for the destination aerodrome, the aeroplane may be dispatched if an alternate aerodrome is designated that permits compliance with paragraphs (a), (b), and (c).

D.2 Permitted landing distance assessments – Wet or contaminated runway

A holder of an air operator certificate must carry out the following procedure under rule 125.233(b)(2) for calculating the landing distance where a runway is wet or contaminated –

ensure that, for each aeroplane it operates, when the appropriate weather reports or forecasts or a combination of them, indicate that the runway at the estimated time of arrival of its aeroplane may be wet or contaminated, the landing distance available is at least 115% of the landing distance required by paragraph D.1.