

Changes to Part 135 (Revision 6, 30/4/99)

This document shows the changes to Part 135 Revision 6 (30/4/99) compared with Part 135 Revision 5 (3/11/98).

Added text is underlined and deleted text is struckthrough.

The Flight Data Recorder Requirements have been removed from this comparison document to avoid any confusion Please check the separate documents to determine any changes to the Flight Data Recorder Requirements.

Subpart A — General

135.1 Applicability Purpose

~~(1) This Part prescribes rules, in addition to those prescribed in any other Part, governing the operation of—rules governing air transport operations and commercial transport operations using—~~

- ~~(1) aeroplanes having a passenger seating configuration of 309 seats or less, excluding any required crew member seat, or a payload capacity of 3410 kg or less, performing air transport operations; and a MCTOW of 5700 kg or less; and~~
- ~~(2) helicopters performing air transport operations. helicopters.~~

135.3 Definitions

In this Part—

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

- (1) an aeroplane having a seating configuration of 9 seats or less, excluding any required crew member seat, and a MCTOW of 5700 kg or less; or
- (2) a helicopter;

Air operator certificate means an airline air operator certificate or a general aviation air operator certificate;

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

Helicopter external sling load means the external carriage, lowering, or picking up, of a load, cargo, or passengers by a helicopter by means of a bucket, net, harness, sling, or stretcher, suspended beneath the helicopter;

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 ~~5%~~1:20 obstacle-free approach surface intersects the runway surface.

135.5 Laws, regulations, and procedures

Each holder of an air operator certificate ~~issued under Part 119 shall~~take reasonable care to ensure that all persons employed, engaged, or ~~contracted, by the~~contracted by the holder of an air operator certificate holder to perform aviation activities, are familiar with the appropriate sections of the Act, Civil Aviation Rules, and procedures specified in the certificate holder's exposition.

135.7 Procedure compliance

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

135.9 Carriage of firearms~~Reserved~~

135.11 Reserved

135.13 Passenger training

~~(a) Except as provided in paragraph (b),~~In addition to the requirements in 91.211, each person performing ~~an air~~a commercial transport operation shall ensure that ~~no person carries a firearm in an aircraft unless the firearm is~~each passenger receives additional briefing or training in safety and emergency procedures appropriate to the characteristics of the flight operation.

~~(1) disabled; and~~

~~(2) where possible, stowed in a place that is inaccessible to any person other than a crew member.~~

~~(b) Any person lawfully entitled to carry firearms on their person in the course of their duties may be in possession of a firearm in an aircraft if that person—~~

~~(1) is in the course of their lawful duties; and~~

~~(2) holds an authorisation issued by the Director in accordance with 19.301.~~

~~135.11 Exemptions~~

~~The Director may exempt the holder of an air operator certificate from any requirement in this Part in accordance with the procedures in Part 11 and with section 37 of the Act.~~

Subpart B — Flight Operations

135.51 Applicability

~~***This Subpart prescribes the rules governing air transport operations performed under this Part. Reserved***~~

135.53 Aircraft airworthiness

(a) ~~Each holder of an air operator certificate shall ensure that each aircraft operated by the holder~~ uses in conducting an air transport operation has a current standard category airworthiness certificate.

(b) ~~Each holder of an air operator certificate shall ensure that each aircraft it uses in conducting a commercial transport operation has—~~

~~(1) a current standard category airworthiness certificate; or~~

~~(2) a current restricted category airworthiness certificate provided that the aircraft flight manual allows such an operation.~~

135.55 Common language

Each holder of an air operator certificate shall 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.

135.57 Flight preparation and flight planning

~~(a) Each holder of an air operator certificate shall ensure that~~ Each holder of an air operator certificate shall ensure for each air operation that information is available to the pilot-in-command to complete the preparation for the intended operation.

~~(a)(b) an operational~~ Each holder of an air operator certificate shall ensure a flight plan is prepared for each—

(1) air transport operation; and

~~(b)(2) commercial transport operation and, if not prepared by the pilot in command, the pilot in command is advised of its contents before the intended operation. The holder transport sufficient where passengers or goods are carried from or to a remote aerodrome.~~

(c) Each holder of an air operator certificate shall ensure that prior to each air operation the flight plan required by paragraph (b) is submitted to an appropriate ATS unit or, if the air operation is a VFR operation outside controlled airspace—

- (1) an appropriate ATS unit; or
- (2) an alternative flight information service or alerting service organisation.

(d) Notwithstanding 91.307(a) and 91.407(a)(1), the pilot in command is not required to submit a flight plan where the holder of an

air operator certificate has submitted the flight plan and advised the pilot in command of its contents.

135.59 Emergency and survival equipment information

- (a) Each holder of an air operator certificate shall have available, for immediate communication to rescue coordination centres, information on the emergency and survival equipment carried on board each of its aircraft.
- (b) For air operations performed in excess of 10 nm from shore the information required by paragraph (a) shall 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.

135.61 Fuel

- (a) Each holder of an air operator certificate shall establish a fuel policy for the purpose of flight planning, and en-route replanning, to ensure that each aircraft carries sufficient fuel, including reserve fuel, for the planned flight.
- (b) The fuel policy shall 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 aircraft's type certificate; and
 - (2) the operating conditions under which the planned flight is to be conducted.

(c) Each holder of an air operator certificate shall ensure that the calculation of useable fuel required for a flight takes into account the following factors:

- (1) taxi fuel:
- (2) trip fuel:
- (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:
- (4) if applicable, fuel required for en-route re-planning.

(d) Each person flight planning or en-route replanning an air operation shall comply with the fuel policy required by paragraph (a).

135.63 Cockpit check

(a) Each holder of an air operator certificate shall, for each air operation, ensure that flight crew members have available for use a cockpit checklist covering the procedures, including emergency procedures, for the operation.

(b) Each person performing an air operation shall establish and use an appropriate practice for cockpit checks covering the procedures, including emergency procedures, for the operation of the aircraft in accordance with the aircraft flight manual.

135.65 Passenger safety

(a) Each person performing an air operation shall ensure that—

- (1) 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 aircraft or its occupants is likely to be endangered, is refused embarkation or, where appropriate, removed from the aircraft; and

- (2) disabled passengers are appropriately cared for, including allocation of appropriate seating positions and handling assistance in the event of an emergency; and
- (3) escorted passengers do not constitute a safety hazard to other passengers or to the aircraft, and that prior arrangement for their carriage have been made in accordance with procedures in the certificate holder's exposition.

(b) Notwithstanding (a)(1), where an operation is conducted for the purpose of search and rescue or is an air ambulance operation, passengers may be carried who are under the influence of alcohol or drugs or exhibit behavioural characteristics to the extent where the safety of the aircraft or its occupants is likely to be endangered, provided that reasonable action is taken by the operator to minimise the risk to the aircraft and its occupants from such passengers.

135.67 *Reserved*

135.69 *Manipulation of controls*

(a) Except as provided in paragraph (a), no person shall manipulate the controls of an aircraft performing an air operation.

(b) Each holder of an air operator certificate shall take reasonable care to ensure that no person manipulates the flight controls of its aircraft 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.

135.71 Flight recorder requirements

(a) Each flight crew member shall ensure that, when a **cockpit-voice recorder** is required by 135.367—

- (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 helicopter 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 an erasure feature is used in the cockpit-voice recorder, only information recorded more than 30 minutes earlier than the last record is erased or otherwise obliterated.

(b) Each flight crew member shall ensure that, when a **flight data recorder** is required by 135.369—

- (1) it is operated continuously from the instant the helicopter begins the take-off until it has completed the landing; and
- (2) all recorded data is kept until the helicopter has been operated for at least 10 hours after each operating cycle; and
- (3) no more than 1 hour of recorded data is erased for the purpose of testing the flight recorder or the flight recorder system; and
- (4) any erasure made in accordance with paragraph (b)(3) is—
 - (i) of the oldest recorded data accumulated at the time of testing; and
 - (ii) recorded in the appropriate maintenance documentation.

135.73 Refuelling and defuelling operations

(a) No person performing an air operation shall permit an aircraft to be refuelled or defuelled with Class 3(a) fuel when passengers are

embarking, on board, or disembarking the aircraft, or when one or more propulsion engines are running.

(b) No person performing an air operation shall permit an aircraft to be refuelled or defuelled with Class 3(b) fuel when passengers are embarking, on board, or disembarking the aircraft, or when one or more propulsion engines are running, unless the person ensures that safety and aircraft evacuation precautions are taken in accordance with procedures specified in the exposition of the holder of an air operator certificate.

(c) Each holder of an air operator certificate shall take reasonable care to ensure that refuelling or defuelling does not take place where undue risk or hazard exists for any third party.

135.75 Fuel spillage

Each person performing an air operation shall ensure that while refuelling or defuelling, where fuel is spilled onto an impermeable surface and is likely to endanger persons or property—

- (1) refuelling or defuelling is stopped; and
- (2) immediate action is taken to cover the fuel with sand, sawdust, dry earth, or an agent such as foam or dry chemical extinguisher powder, to reduce the fire hazard.

135.77 Use of aerodromes

(a) Each holder of an air operator certificate shall ensure that any aerodrome to be used in its operations has physical characteristics, obstacle limitation surfaces, and visual aids that meet the requirements for—

- (1) the characteristics of the aeroplane being used; and
- (2) the lowest meteorological minima to be used.

(b) Each holder of an air operator certificate shall ensure that any heliport to be used in its air transport operations meets the requirements of Part 91.

(c) Each holder of an air operator certificate shall, where its aeroplanes use an aerodrome not promulgated in the NZAIP, maintain a register containing—

- (1) the aerodrome data; and
- (2) procedures for ensuring that the condition of the aerodrome is safe for that operation; and
- (3) procedures for ensuring that the condition of any required equipment, including safety equipment, is safe for that operation; and
- (4) any limitations on the use of the aerodrome.

(d) Each holder of an air operator certificate shall ensure that any aeroplane operating VFR by day does not use any place for the purpose of landing or taking-off unless—

- (1) the runway used—
 - (i) is at least twice the outer main gear span in width; and
 - (ii) has 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.

(e) Each holder of an air operator certificate shall ensure that each aeroplane it operates, that is not operating in accordance with paragraph (d), does not use any place for the purpose of landing or taking-off unless—

- (1) the aerodrome reference code of 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 for the runway used is determined by reference to Table 3 of Appendix C.
- (f) Notwithstanding paragraphs (d) and (e), the holder of an air operator certificate may use a lesser minimum runway width than that prescribed in paragraph (d) or (e) 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 was prescribed for the aeroplane in the certificate holder's air service certificate, issued under regulation 136 of the Civil Aviation Regulations 1953, before 6 January 1993; or
 - (3) a lesser minimum runway width is acceptable to the Director.

135.79 *Reserved*

135.81 *Operations of single engine aircraft – IFR*

No person shall perform an air operation carrying passengers with a single-engine aircraft under IFR.

135.83 *Restriction or suspension of operations*

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

135.85 *Minimum height for VFR flights*

- (a) Rule 91.311(c) shall not apply to a pilot-in-command performing an air transport operation.
- (b) Notwithstanding 91.311(c)(3), each pilot-in-command performing a commercial transport operation may, if necessary for the

proper accomplishment of the operation, conduct approaches, departures, and manoeuvres below a height of 500 feet above the surface within the horizontal radius of 500 feet of any person, vessel, vehicle, or structure provided the pilot-in-command—

- (1) prepares a plan for the operation in conjunction with all personnel and organisations involved in the operation; and
- (2) takes reasonable care to conduct the operation without creating a hazard to any person or property; and
- (3) briefs all personnel and organisations involved in the operation on the plan required by paragraph (b)(1).

135.87 Flights over water

(a) Each person performing an air operation shall not operate over water more than 10 nm beyond gliding or autorotational distance from shore unless—

- (1) life rafts are carried of sufficient capacity to carry all occupants; and
- (2) a life preserver is worn by each passenger; and
- (3) a flight plan is filed or a flight information service or alerting service is provided in accordance with 135.57.

(b) Each person performing an air operation in a single engine helicopter shall not operate over water more than 10 nm beyond autorotational distance from shore unless—

- (1) the helicopter is equipped with an operable flotation device;
or
- (2) the occupants are wearing immersion suits.

(c) The operator of a multi-engine aircraft may, instead of the requirement in paragraph (a)(2), have life preservers available for use in a position accessible to each passenger.

- (d) Each person performing an air transport operation over water—
- (1) to a point more than gliding or autorotational distance from shore shall file a flight plan with a suitable ATS unit; and
 - (2) beyond 100 nm from shore shall conduct the flight under IFR.

135.89 Reserved

135.91 Emergency situation action plans

- (a) Each holder of an air operator certificate shall 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 shall 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 aircraft likely to be involved.
- (c) The certificate holder's in-air emergency plan shall include the following—
- (1) if management personnel become aware of an emergency situation arising on an aircraft 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 shall ensure appropriate staff are trained and competent to perform their duties during emergencies in accordance with the emergency situation action plan.

135.93 Operations over congested areas

- (a) Notwithstanding 91.311(a)(2), a pilot-in-command of a helicopter may perform a commercial transport operation over a congested area of a city, town, or settlement at a height less than 1000 feet above the highest obstacle and within a horizontal radius from the helicopter of less than 2000 feet provided that—
- (1) a plan for the operation is prepared containing—
 - (i) a chart depicting flight areas and altitudes; and
 - (ii) procedures to ensure that reasonable care is taken to conduct the operation without creating a hazard to any person or property; and
 - (iii) details of any coordination necessary with any air traffic control service; and
 - (iv) a copy of the prior written notification given to the appropriate territorial authority and the requirements

of that territorial authority that must be complied with; and

- (2) all personnel and organisations involved in the operation are briefed on the plan required by subparagraph (1); and
 - (3) the plan required by subparagraph (1) is retained for a period of at least 12 months from the date of the operation.
- (b) Each pilot-in-command performing an operation in accordance with paragraph (a) shall comply with the applicable plan required by paragraph (a)(1).

135.95 Helicopter sling loads

- (a) Each pilot-in-command performing an air transport operation in a helicopter shall not carry a helicopter external sling load.
- (b) Notwithstanding 133.53, each pilot-in-command performing a commercial transport operation in a helicopter may carry goods in a helicopter external sling load if—
- (1) the goods in the sling load are associated with the passengers on board; and
 - (2) the flight complies with the remaining helicopter external load operation requirements in Part 133; and
 - (3) the flight is conducted under VFR by day; and
 - (4) the helicopter is operated with not less than a 10% power margin from maximum power available at the point of departure and landing.

Subpart C — Operating Limitations and Weather Requirements

135.151 Purpose

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

135.153 Meteorological information

- (a) Each person performing an air operation under VFR shall plan, perform, and control flights using meteorological information of a sufficient reliability and accuracy provided from a source considered acceptable to the operator and the pilot-in-command.
- (b) Each person performing an IFR air transport operation shall plan, perform, and control flights using meteorological information provided for aviation purposes by the holder of an aviation meteorological service organisation certificate issued under Part 174.
- (c) Each pilot-in-command may, for each IFR flight that originates and terminates within New Zealand, use a basic weather report that is provided in accordance with 174.6 to perform an approach and landing.

135.155 Meteorological conditions – VFR flight

- (a) Each person performing an air operation shall ensure a VFR flight is not commenced unless current meteorological information indicates VFR minima prescribed in Part 91 and in paragraphs (b), (c), (d), and (e) can be complied with along the route, or that part of the route to be flown under VFR.
- (b) Each pilot-in-command performing a VFR air operation in an aeroplane outside controlled airspace shall fly in meteorological conditions—
- (1) of not less than a ceiling of 1000 feet AGL and a flight visibility of not less than 5 km; and
 - (2) if the use is by night, of not less than a ceiling of 3000 feet AGL and a flight visibility of not less than 16 km.
- (c) Each pilot-in-command performing a VFR air transport operation in a helicopter outside controlled airspace shall fly in meteorological conditions—
- (1) of not less than a ceiling of 600 feet AGL and visibility of not less than 1500 metres; and

- (2) if the use is by night, of not less than a ceiling of 2000 feet AGL and visibility of not less than 5 km.
- (d) Each pilot-in-command performing a VFR commercial transport operation in a helicopter shall—
- (1) manoeuvre so as at all times to observe other traffic and any obstructions in time to avoid collision; and
 - (2) fly—
 - (i) for remote aerodrome access, in meteorological conditions of not less than a ceiling of 600 feet AGL and visibility of not less than 1500 metres; and
 - (ii) for other than remote aerodrome access, beneath the ceiling, remaining clear of cloud, and in continuous sight of the surface and above not more than scattered cloud; and
 - (iii) if the use is by night, in meteorological conditions of not less than a ceiling of 2000 feet AGL and a flight visibility of not less than 5 km.
- (e) A pilot-in-command shall not perform an air operation under VFR in an aircraft above more than scattered cloud unless—
- (1) the aircraft is authorised for IFR flight and the required minimum flight crew for IFR operation, holding current instrument rating qualifications, is performing the operation; and
 - (2) the instruments and equipment, including radio navigation equipment, required for IFR flight are operative; and
 - (3) the aircraft 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

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

(f) A pilot-in-command shall not perform an air operation carrying passengers, under VFR, in a single engine aircraft above more than scattered cloud.

135.157 Meteorological conditions – IFR flight

Each pilot-in-command performing an air transport operation shall not commence an IFR flight operation unless current meteorological reports, or a combination of current reports and forecasts, indicate that conditions will, at the estimated time of arrival, be at or above the minimum prescribed under Part 95 for the instrument procedure likely to be used at the applicable destination aerodrome.

[Until Part 95 comes into force, instrument approach procedures are prescribed under Part 19]

135.159 Aerodrome operating minima – IFR flight

(a) A pilot-in-command shall not continue an instrument approach to an aerodrome past the final approach fix or, where a final approach fix is not used, the final approach segment of the instrument approach procedure if, prior to passing the final approach fix or the final approach segment, current meteorological information indicates the visibility at the aerodrome is less than the visibility prescribed under Part 95 for the instrument approach procedure being used.

- (b) For the purpose of this rule, the final approach segment begins—
- (1) at the final approach fix or facility prescribed in the instrument approach procedure; or
 - (2) when a final approach fix is not prescribed for a procedure that 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 prescribed in the procedure.

[Until Part 95 comes into force, instrument approach procedures are prescribed under Part 19]

135.161 IFR departure limitations

Each person performing an air transport operation shall ensure an IFR flight from an aerodrome is not commenced when meteorological conditions are at or above take-off minima requirements prescribed under 91.413 and are below authorised IFR landing minima requirements prescribed under 91.413, unless there is an appropriate aerodrome—

- (1) for a two engined aircraft, 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 aircraft 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.

135.163 Reduced take-off minima

(a) Each holder of an air operator certificate may operate an aircraft at lower take-off minima than that prescribed in 91.413(g) provided the certificate holder 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 shall ensure that—

- (1) each 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) Part 95 authorises reduced take-off minima on the runway to be used; and
- (4) if the aircraft is a two-engine propeller-driven aeroplane, the aircraft is equipped with an operative auto-feather or auto-course system; and

- (5) the runway visibility is established using RVR; and
- (6) the method for observing and confirming that the required visibility exists for that take-off is acceptable to the Director.

[Until Part 95 comes into force, instrument approach procedures are prescribed under Part 19]

135.165 IFR procedures

(a) Each pilot-in-command shall conduct IFR air transport operations on routes prescribed under Part 95 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, each pilot-in-command shall comply with any IFR departure and approach procedures prescribed under Part 95 for the appropriate aerodrome.

(c) In uncontrolled airspace each pilot-in-command shall comply with any IFR departure and approach procedures prescribed under Part 95 for the appropriate aerodrome.

[Until Part 95 comes into force, instrument approach procedures are prescribed under Part 19]

Subpart D — Performance

135.201 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 135.229 through to and including 135.235 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 135.209, 135.213, 135.223, and 135.225 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.

135.203 *Reserved*

135.205 *Part 121 Subpart D compliance*

Each holder of an air operator certificate shall 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.

135.207 *General aeroplane performance*

Each holder of an air operator certificate shall 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.

135.209 Take-off distance

- (a) Each holder of an air operator certificate shall 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 shall 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.

135.211 Runway surface and slope correction factors

Each holder of an air operator certificate shall ensure that, unless performance data is available that authorises an alternative, the take-off distance calculated for a runway surface type under 135.209(b)(5) or 135.229(c)(4) and the landing distance calculated under 135.223(c)(3) and 135.233(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

135.213 Net take-off flight path – aeroplanes under IFR

(a) Each holder of an air operator certificate shall 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 shall be 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 shall 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 135.215.

135.215 Engine inoperative – gradient and stall corrections

Each holder of an air operator certificate shall, unless performance data is available that authorises an alternative, for compliance with 135.213(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

135.217 En-route – critical engine inoperative

(a) Each holder of an air operator certificate shall 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 shall 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.

135.219 En-route – 90 minute limitation

- (a) Each holder of an air operator certificate shall 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 shall 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) Each holder of an air operator certificate may operate an aircraft 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 shall be 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), each holder of an air operator certificate shall 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.

135.221 Landing-climb – destination and alternate aerodromes

Each holder of an air operator certificate shall 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 135.213.

135.223 Landing distance – dry runway

(a) Each holder of an air operator certificate shall 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 shall 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 85% of landing distance available.

(c) When calculating the landing weight in accordance with paragraph (b), each holder of an air operator certificate shall 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 shall 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).

135.225 Landing distance – wet and contaminated runways

- (a) Each holder of an air operator certificate shall 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 135.223; 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 135.223, may be used if data specifies a shorter landing distance on wet runways.

135.227 Steep approach and short landing techniques

Each 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, providing—

- (1) the aeroplane flight manual states the maximum approved 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 IFR operations, an approach slope indicator system comprising of at least a visual approach slope indicating system is available at each aerodrome at which steep approach procedures are to be conducted; and
- (3) for IFR operations, weather minima are specified and approved for each runway to be used with a steep approach; and
- (4) for IFR operations, consideration is given to—
 - (i) obstacles; and

- (ii) the type of approach slope indicator reference and runway guidance such as visual aids, MLS, GPS, ILS, LLZ, VOR, or NDB; and
- (iii) the minimum visual reference to be required at DH and MDA; and
- (iv) useable airborne equipment; and
- (v) pilot qualification and special aerodrome familiarisation; and
- (vi) aeroplane flight manual limitation and procedures; and
- (vii) missed approach criteria.

135.228 FAR Part 23 commuter category and SFAR41 aeroplanes

Rules 135.229 to 135.235 inclusive apply to each holder of an air operator certificate conducting air operations using FAR Part 23 commuter category and SFAR41 aeroplanes.

135.229 Take-off distance

- (a) Each holder of an air operator certificate shall 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), each holder of an air operator certificate shall, 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 shall 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), each holder of an air operator certificate shall 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.

135.231 Net take-off flight path

- (a) Each holder of an air operator certificate shall 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 shall be 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), each holder of an air operator certificate shall 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 135.215.

135.233 Landing distance – dry runway

(a) Each holder of an air operator certificate shall 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 shall 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 70% of the landing distance available assuming that the aeroplane is landed.

(c) When calculating the landing weight in accordance with paragraph (b), each holder of an air operator certificate shall 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 shall 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).

135.235 Landing distance – wet and contaminated runway

Each holder of an air operator certificate shall 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 135.233.

Subpart E — Weight and Balance

135.301 Purpose

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

135.303 Goods, passenger, and baggage weights

(a) Each holder of an air operator certificate shall establish the actual weights of goods and baggage to be carried on each of their operations.

(b) Each holder of an air operator certificate shall establish the weights of passengers to be carried on each of their operations by using one of the following:

- (1) passenger actual weights:
- (2) passenger standard weights of—
 - (i) 77 kg for an adult male or female; and
 - (ii) 46 kg for a child aged 4 to 14 years; and
 - (iii) 15 kg for a child under 4 years:
- (3) passenger standard weights established in accordance with a programme specified in the certificate holder's exposition.

135.305 Aircraft load limitations

Each holder of an air operator certificate shall ensure that—

- (1) the limitations contained in the aircraft flight manual, or other approved document, relating to the weight and balance of an aircraft are complied with; and
- (2) maximum allowable weights are not exceeded for zero fuel, manoeuvre, take-off, and landing; and
- (3) the aircraft'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.

Subpart F — Instruments and Equipment**135.351 Purpose**

This Subpart prescribes the instruments and equipment required for aircraft.

135.353 General

- (a) Each holder of an air operator certificate shall ensure that an air operation does not commence unless—
 - (1) the aircraft is equipped—
 - (i) with the type of instruments and equipment required by 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 aircraft comply with the specifications and airworthiness design standards listed in—

- (i) Appendix B to this Part; or
 - (ii) Appendix B to Part 125; or
 - (iii) Appendix C to Part 21; or
 - (iv) Part 26; or
 - (v) alternative specifications or standards acceptable to the Director; and
- (3) the instruments and equipment have been installed in accordance with the aircraft manufacturer's instructions or other instructions acceptable to the Director; and
- (4) except as may be provided by a MEL approved under 91.539 for use for that aircraft, the instruments and equipment installed in the aircraft are in operable condition.

135.355 Seating and restraints

Each holder of an air operator certificate shall ensure that each of its aeroplanes is equipped with a shoulder harness or single diagonal shoulder belt for each flight crew seat.

135.357 Additional instruments

Each holder of an air operator certificate shall ensure that each of its aircraft 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.

135.359 Night flight

Each holder of an air operator certificate shall ensure that each of its aircraft operated at night is equipped with—

- (1) a landing light; and
- (2) a light in each passenger compartment.

135.361 Instrument flight rules

(a) Each holder of an air operator certificate shall ensure that each of its aircraft operated under IFR is equipped with—

- (1) additional, and independent, means of indicating—
 - (i) airspeed, calibrated in knots, with a means of preventing malfunctioning due to either condensation or icing; and
 - (ii) sensitive pressure altitude, calibrated in feet; and
- (2) spare bulbs for cockpit instrument illumination; and
- (3) spare fuses.

(b) Notwithstanding paragraph (a)(1)(i), each holder of an air operator certificate may fit an additional attitude indicator powered by a separate power source.

135.363 Emergency equipment

Each holder of an air operator certificate shall ensure that—

- (1) notwithstanding the seat breaks in 91.523(a) and (b), each of its aircraft is equipped with the emergency equipment referred to in 91.523; and
- (2) the requirements in 91.523(d) and (e) are met for the equipment required by subparagraph (1).

135.365 Reserved

135.367 Cockpit-voice recorder

(a) Each holder of an air operator certificate shall ensure each of its helicopters is equipped with a cockpit voice recorder if that—

- (1) helicopter's flight manual requires two or more flight crew members; and
 - (2) helicopter has a certificated seating capacity of 10 seats or more excluding any required pilot seat.
- (b) The commencement of paragraph (a) is suspended until it is applied by notice in the Gazette, such application being no sooner than 1 April 1999.

135.369 Flight data recorder

- (a) Each holder of an air operator certificate shall ensure each of its helicopters with a certificated seating capacity of 10 seats or more excluding any crew member seat is equipped with a flight data recorder in accordance with B.4 of Appendix B.
- (b) The commencement of paragraph (a) is suspended until it is applied by notice in the Gazette, such application being no sooner than 1 April 1999.

135.371 Additional attitude indicator

Each holder of an air operator certificate shall ensure that each of its turbojet or turboprop powered aircraft is equipped with a third presentation of attitude.

Subpart G — Maintenance

135.401 Purpose

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

135.402 Option for maintenance

Each holder of an air operator certificate that performs air operations shall, in respect of maintenance of its aircraft, comply with —

- (1) the requirements of 135.403; or
- (2) all the requirements contained in 135.403 to 135.415.

135.403 Responsibility for airworthiness

- (a) Each holder of an air operator certificate is responsible for the airworthiness of its aircraft, including airframes, aircraft engines, propellers, rotors, appliances, emergency equipment, and parts.
- (b) Each holder of an air operator certificate shall have a maintenance programme for each aircraft, aircraft engine, propeller, rotor, appliance, emergency equipment item, and part.
- (c) Each maintenance programme required by paragraph (b) shall contain standards at least equivalent to Part 91, Subpart G and the manufacturer's maintenance programme.
- (d) Each holder of an air operator certificate shall ensure that any maintenance that is performed by the certificate holder, or by any other organisation with whom the certificate holder arranges for the performance of that maintenance, is performed in accordance with its maintenance programme.

135.405 Maintenance organisation

Each holder of an air operator certificate shall—

- (1) be certificated under Part 145 and perform the maintenance of its aircraft, including airframe, aircraft engines, propellers, rotors, appliances, emergency equipment, and parts in accordance with the Part 145 exposition and this Part; or
- (2) contract with another person certificated under Part 145 for the performance of maintenance.

135.407 Training and information programme

Each holder of an air operator certificate that performs any of its own maintenance, and each other person with whom each certificate holder arranges for the performance of that maintenance, shall have a training and information programme that ensures each person who certifies a release to service—

- (1) is fully informed about procedures, techniques, and new equipment in use; and
- (2) is competent to perform that certification.

135.409 Persons certifying maintenance

Each holder of an air operator certificate shall only use a person appropriately trained, qualified, and authorised to certify a release to service.

135.411 Supervising personnel

Each holder of an air operator certificate that performs any of its own maintenance, and each other organisation with whom each certificate holder arranges for the performance of that maintenance, shall ensure that each person who is supervising maintenance, or making decisions on rectification action, is authorised by the maintenance organisation certificate holder in accordance with the Part 145 exposition.

135.413 Maintenance personnel duty time limitations

Each holder of an air operator certificate that performs any of its own maintenance, and each other organisation with whom each certificate holder arranges for the performance of that maintenance, shall relieve each person certifying releases to service from duty for—

- (1) if the person certifying the release to service is scheduled for more than 16 hours of duty in 24 consecutive hours, a period of at least 8 hours at or before the end of the 16 hours of duty; and

- (2) a period of at least 24 consecutive hours during any seven consecutive days or the equivalent thereof within any one calendar month.

135.415 Maintenance review

- (a) Each holder of an air operator certificate shall ensure that—
 - (1) it does not operate an aircraft unless a maintenance review of the aircraft has been carried out within the previous 12 months; and
 - (2) each maintenance review that is carried out is certified as having been carried out.
- (b) Each holder of an air operator certificate shall, before certifying that a maintenance review for an aircraft has been carried out, ensure—
 - (1) all maintenance specified in the maintenance programme for the aircraft has been completed within the time periods specified; and
 - (2) all applicable airworthiness directives have been complied with; and
 - (3) all defects entered in the maintenance records required by Part 43 have been rectified or properly deferred in accordance with the procedures in the certificate holder's exposition; and
 - (4) all certifications of release to service required by Part 43.103 have been made in accordance with Part 43.
- (c) Each holder of an air operator certificate may certify a maintenance review on the basis of continuing compliance with an internal quality assurance programme acceptable to the Director provided—
 - (1) the programme samples all the requirements of paragraph (b) during the review period; and

- (2) the maintenance review is individually certified for each of the certificate holder's aircraft.
- (d) Each holder of an air operator certificate shall ensure that the maintenance review—
 - (1) is certified by an authorised person with experience in respect of that type of aircraft, that is at least equal to the experience required for the grant of an aircraft maintenance engineer licence rating; and
 - (2) contains the certifying person's signature, licence or approval number, and the date of entry; and
 - (3) contains the following statement:

The maintenance review of this aircraft and such of its equipment as is necessary for its continued airworthiness has been carried out in accordance with the requirements of the Civil Aviation Rules for the time being in force.

Subpart H — Crew Member Requirements

135.501 Purpose

This Subpart prescribes the rules governing the use of flight crew.

135.503 Assignment of flight crew duties

- (a) Each holder of an air operator certificate shall ensure that any person carrying out functions as a flight crew member on an air operation—
 - (1) holds a current licence and rating appropriate to the tasks assigned; and
 - (2) holds a current medical certificate appropriate to the licence held; and
 - (3) meets all requirements for the assigned flight-crew duty; and

- (4) meets all route and aerodrome qualification requirements for the operation intended.
- (b) Each holder of an air operator certificate shall designate, for each period of an air operation—
- (1) a pilot-in-command; and
 - (2) a second-in-command when two or more pilots are required; and
 - (3) any other flight crew member that may be required by the type of operation to be performed.

135.505 *Pilot-in-command type experience requirements*

- (a) Each holder of an air operator certificate shall ensure that any person acting as a pilot-in-command of an aircraft on an air operation has completed, prior to designation as pilot-in-command, on that make and basic model aircraft, the following operating experience—
- (1) for single engine aircraft, 5 hours and 5 take-offs and landings;
 - (2) for multi-engine aircraft, reciprocating or turbine engine powered, 10 hours and 8 take-offs and landings;
 - (3) for turbojet or turboprop aeroplanes, 15 hours and 10 take-offs and landings.
- (b) The experience required by paragraph (a) shall be acquired as follows:
- (1) in flight during air operations performed, except that flight time and take-off and landing experience may be accrued in a flight simulator approved for this purpose; and
 - (2) in the case of an aircraft not previously used by the holder of an air operator certificate in air operations performed, during proving flights or ferry flights in the aircraft type; and

- (3) while performing the duties of a pilot-in-command under the supervision of a designated pilot-in-command.

135.507 Reserved

135.509 Reserved

135.511 Minimum flight crew – IFR

Each holder of an air operator certificate shall not operate an aircraft under IFR with one pilot unless—

- (1) the aircraft flight manual permits the aircraft to be operated by one pilot under IFR; and
- (2) the aircraft is equipped with an operative autopilot or stabilisation system capable of operating the aircraft controls to maintain flight and manoeuvre the aircraft about the roll and pitch axes with an automatic heading and altitude hold; and
- (3) the aircraft 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 other applicable requirements of this Part.

Subpart I — Training

135.551 Purpose

This Subpart prescribes rules governing the establishment and operation of a training programme for crew members.

135.553 General

- (a) Each holder of an air operator certificate shall establish a training programme to ensure that each of its crew members are trained and competent to perform their assigned duties.

- (b) Each holder of an air operator certificate shall ensure that each crew member is trained in accordance with the training programme contained in the certificate holder's exposition.
- (c) The holder of an air operator certificate shall ensure that its training programme is controlled by the certificate holder.
- (d) The holder of an air operator certificate may—
- (1) conduct the training programme; or
 - (2) contract with the holder of an aviation training organisation certificate issued under Part 141, to conduct the training programme where the Part 141 certificate authorises the holder to conduct that training; or
 - (3) for a training programme conducted outside New Zealand, contract with an organisation that meets an equivalent standard specified by Part 141.

135.555 Training records

Each holder of an air operator certificate shall maintain accurate records of all required training undertaken by its crew members.

135.557 Initial training for crew members

- (a) Each holder of an air operator certificate shall ensure that each of its crew members, who has not qualified and served as a crew member on an aircraft, complete initial training conducted—
- (1) in a structured manner; and
 - (2) in accordance with a syllabus that includes training applicable to—
 - (i) the aeroplane type to be used, including special equipment fitted for the intended operation; and
 - (ii) the routes and aerodromes appropriate to the intended operation; and

- (iii) crew member assignments, functions, and responsibilities; and
 - (iv) location and operation of emergency equipment available for use by crew members; and
 - (v) location and use of oxygen equipment; and
 - (vi) location and use of all normal and emergency exits, including evacuation slides and escape ropes; and
 - (vii) the certificate holder's policies and procedures appropriate to its air operations.
- (b) The holder of an air operator certificate may vary the syllabus for individual crew members if—
- (1) the variation is recorded in the crew member's record of training; and
 - (2) the certificate holder certifies the variation made and the reasons for such variation in the crew member's record of training.

135.559 Transition training for crew members

- (a) Each holder of an air operator certificate shall ensure that each of its crew members already qualified and serving as a crew member on an air operation authorised by the certificate holder's certificate, completes appropriate transition training if—
- (1) the crew member is changing from one aircraft type or variant to another type or variant; or
 - (2) new procedures or equipment are introduced on an existing aircraft type or variant.
- (b) The transition training shall address—
- (1) the use of all safety and emergency equipment and procedures applicable to the aircraft type or variant; and

- (2) new procedures or equipment introduced on the existing aircraft type or variant.

135.561 Recurrent training for crew members

Each holder of an air operator certificate shall ensure that each of its crew members are adequately trained, current, and proficient for each aircraft, crew member position, and type of operation, in which the crew member serves.

135.563 Reserved

135.565 Flight crew training programme

- (a) Each holder of an air operator certificate shall establish a flight crew training programme.
- (b) Each holder of an air operator certificate shall ensure that its flight crew training programme includes initial, transition, and recurrent training requirements applicable to—
 - (1) the aircraft type to be used, including special equipment fitted for the intended operation; and
 - (2) the routes and aerodromes appropriate to the intended operation; and
 - (3) the certificate holder's policies and procedures appropriate to its operations.
- (c) The training programme shall include, where appropriate, both ground and flight instruction utilising aircraft or an approved flight simulator.
- (d) The training shall be conducted by a flight crew member instructor who meets the requirements of 135.567.
- (e) Each holder of an air operator certificate shall accurately record each separate qualification of each flight crew member and inform the crew member involved in writing of the qualification gained.

135.567 Flight crew member instructor qualifications

Each holder of an air operator certificate shall ensure that any person carrying out functions as an instructor in its flight crew member training programme established under this Part—

- (1) has satisfactorily completed the training required by this Subpart to serve as pilot-in-command in operations ; and
- (2) holds a Category A, B, or D flight instructor rating; and
- (3) completes initial and recurrent training requirements applicable to the instruction carried out.

Subpart J — Crew Member Competency Requirements**135.601 Purpose**

This Subpart prescribes the rules governing the operational competency assessment of flight crew members and crew members.

135.603 General

- (a) Each holder of an air operator certificate shall establish and control an operational competency assessment programme in accordance with this Subpart.
- (b) The holder of an air operator certificate may—
 - (1) conduct the operational competency assessment programme; or
 - (2) contract with an organisation that holds a certificate issued under Part 141, to provide the operational competency assessment programme where the certificate authorises the holder to conduct that programme; or
 - (3) for an operational competency assessment programme conducted outside New Zealand, contract with an organisation that meets an equivalent standard specified by Part 141 to provide the operational competency assessment programme.

135.605 Flight examiner qualifications

(a) Except as provided in paragraph (b), each holder of an air operator certificate shall ensure that each person performing the functions of a flight examiner in its operational competency assessment programme established under this Part—

- (1) is type rated in the aircraft used to conduct the operation; and
- (2) is familiar with the types of operations conducted by the certificate holder; and
- (3) has an appropriate current flight examiner rating; and
- (4) completes initial and recurrent training requirements applicable to the testing carried out.

(b) Where the operational competency assessment referred to in paragraph (a) is carried out in a flight simulator, the person who is performing the functions of a flight examiner shall—

- (1) have satisfactorily completed a competency check as pilot-in-command in a type of operation to which this Part applies; and
- (2) have an appropriate flight examiner rating; and
- (3) complete initial and recurrent training requirements applicable to the testing carried out.

135.607 Flight crew competency checks

Each holder of an air operator certificate shall ensure—

- (1) **for each pilot acting as pilot-in-command**, within the immediately preceding 12 months, the pilot has passed a check of route and aerodrome proficiency, conducted by a flight examiner, that—
 - (i) consists of a ground-based procedure check over one route segment, and a flight check with one or more

- landings at an aerodrome representative of the operations to be flown; and
- (ii) establishes that the pilot can satisfactorily perform the duties and responsibilities of a pilot-in-command in operations appropriate to this Part; and
- (2) **for each pilot conducting VFR operations**, within the immediately preceding 12 months, the pilot has successfully completed a competency check, conducted by a flight examiner, that shall cover procedures, including emergency procedures, in an aircraft type of similar operating characteristics to that normally used by the pilot in the operation; and
- (3) **for each pilot crew member of an aircraft conducting IFR operations**, within the immediately preceding 6 months, the pilot has passed a check conducted by a flight examiner, that—
- (i) covers procedures, including emergency procedures, appropriate to the equipment fitted to the aircraft and to the type of operations to which the pilot is assigned by the certificate holder; and
 - (ii) is conducted in each aircraft type flown by the pilot in the operations unless the aircraft has a seating configuration, of 9 seats or less, excluding any required pilot seat, in which case the check may be taken by rotation in each aircraft type with one in each six-month period; and
- (4) **for each pilot**, within the immediately preceding 12 months, the pilot has successfully completed a written or oral test of the pilot's knowledge in—
- (i) the provisions of the appropriate Civil Aviation Rules and the certificate holder's operations specifications and exposition; and

- (ii) for each aircraft type normally flown by the flight crew member, the aircraft systems, performance, and operating procedures, and the content of the approved flight manual; and
 - (iii) navigation, ATC, and meteorology; and
 - (iv) special flight operations as appropriate to the type of operation; and
 - (v) new equipment, procedures, and techniques; and
 - (vi) location and operation of items of emergency equipment; and
- (5) an entry is made, and certified, by the flight examiner in the pilot training record for each check carried out, whether satisfactorily or otherwise; and
- (6) flight crew competency checks are carried out in an aircraft or flight simulator approved for this purpose.

135.609 *Reserved*

135.611 *Crew member – grace provisions*

If a crew member who is required to take a test or a flight check completes the test or flight check within one calendar month of the day on which it is required, that crew member shall be deemed to have completed the test or check on the date it is required to be completed.

135.613 *Competency and testing records*

Each holder of an air operator certificate shall maintain accurate records of all competency assessments and testing of its crew members.

Subpart K — Fatigue of Flight Crew

135.801 *Purpose*

This Subpart prescribes flight time limitations and other rules to minimise fatigue in flight crew members of aircraft engaged in air operations.

135.803 Operator responsibilities

(a) Each holder of an air operator certificate shall not cause or permit an aircraft to perform an air operation unless—

- (1) a scheme has been established for the regulation of flight and duty times for every person flying in that aircraft as a flight crew member; and
- (2) the scheme addresses the following factors for air transport operations where appropriate to the operator's type of operation:
 - (i) rest periods prior to 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 periods:
 - (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 for commercial transport operations, complies with the following:
- (i) flight crew shall not fly in excess of 160 hours in any 30 consecutive days:
 - (ii) flight crew shall have not less than two days free of duty in any 14 day period:
 - (iii) flight crew shall have not less than two consecutive days free of duty in any 30 day period; and
- (4) the scheme is acceptable to the Director.
- (b) The operator of an aircraft performing an air operation shall not cause or permit any person to fly in the aircraft 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 they are so flying as may endanger the safety of the aircraft or its occupants.
- (c) The operator of an aircraft performing an air operation shall—
- (1) keep an accurate record of the flight times of each flight crew member; and
 - (2) retain the flight time record required by paragraph (d)(1) for a period of 12 months from the date on which it was made.

135.805 Flight crew responsibilities

(a) A person shall not act as a flight crew member of an aircraft 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 aircraft or its occupants.

(b) A flight crew member shall 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 and duty time limitations prescribed in the scheme required by 135.803(a)(1) relating to that flight crew member.

(c) A person shall not act as a flight crew member of an aircraft performing an air operation unless that person has ensured that the limitations prescribed in the scheme required by 135.803(a)(1) relating to that person are not exceeded.

(d) Notwithstanding paragraph (c), the flight and duty time scheme limitations shall not apply where 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 will not be endangered by reason of any flight crew member exceeding the applicable flight time limitations.

Subpart L — Manuals, Logs, and Records**135.851 Purpose**

This Subpart prescribes the rules governing the use and retention of the manuals, logs, and records required for air operations performed.

135.853 Operating information

Each holder of an air operator certificate shall 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.

135.855 Documents to be carried

Each holder of an air operator certificate shall ensure that the following documents where appropriate are carried on each individual flight—

- (1) NOTAM and aeronautical information service briefing documentation appropriate to the operation; and
- (2) meteorological information appropriate to the operation; and
- (3) notification of dangerous goods; and
- (4) copies of the relevant flight guide charts and plates.

135.857 Daily flight record

(a) Each holder of an air operator certificate shall keep accurate daily flight records in accordance with paragraph (b).

(b) Each daily flight record shall contain for each flight—

- (1) the date of the flight; and
- (2) the name of the operator; and
- (3) the name of the pilot-in-command; and
- (4) the registration markings of the aircraft; and
- (5) the total flight time; and
- (6) the number of passengers; and
- (7) the type of air operation.

135.859 Retention period

(a) Each holder of an air operator certificate shall ensure that flight plan information including notification of dangerous goods is retained for 12 months from the date of the flight.

(b) Each holder of an air operator certificate shall ensure that each of its flight crew records of flight and duty time is retained for 12 months from the date of the records entry.

(c) Each holder of an air operator certificate shall 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.

(d) Each holder of an air operator certificate shall ensure that its daily flight record is retained for a period of not less than 12 months after the date of the flight.

Appendix A — Reserved

Appendix B — Instruments and Equipment Airworthiness Design Standards

B.1 *Reserved*

B.2 *Reserved*

B.3 *Cockpit voice recorder*

Cockpit voice recorders shall—

- (1) meet the requirements of the TSO C84 series or the TSO C123 series; and
- (2) be fitted with an underwater locating device that meets the requirements of the TSO C121 series; and
- (3) have a minimum capacity of 30 minutes continuous recording time before any erasure.

B.4 *Flight data recorder*

Flight data recorders shall—

- (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 8 hours of data 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.

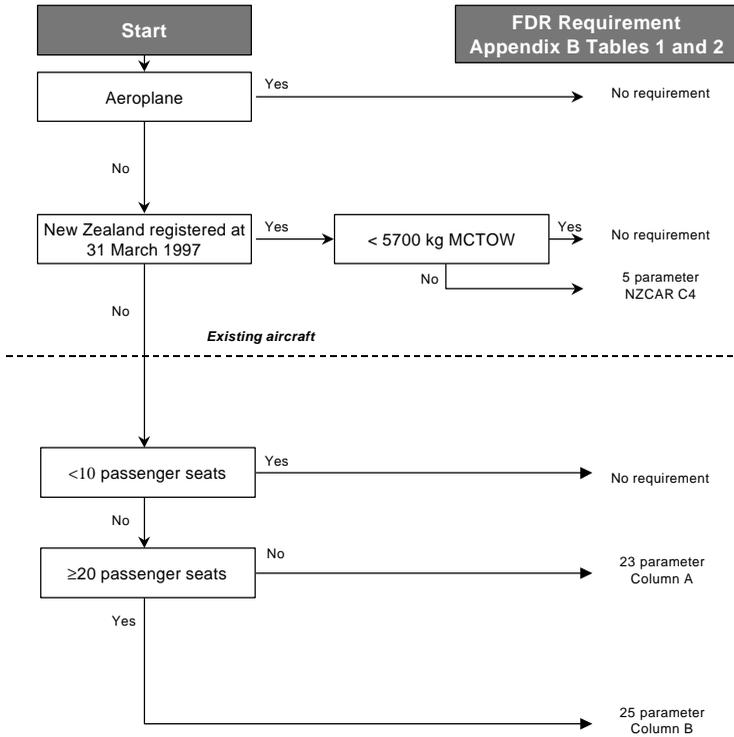


Figure 1. Flight Data Recorder Decision Chart

**The Flight Data Recorder Requirements have been removed from this comparison document to avoid any confusion. Please check the separate documents to determine any changes.
(See Note at beginning of document)**

Appendix C — Runways

This Appendix is referred to in 135.77.

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 aircraft 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 Number	Code Letter				
	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

C.1.3 Determining Minimum runway strip widths

The minimum runway strip width for a particular aeroplane type should be determined by reference to Table 3 below.

Table 3 Minimum Runway Strip Width

Code Number	Runway Type	Strip Width
3 or 4	Precision instrument approach runway at an International aerodrome	300 m
3 or 4	Precision instrument approach runway	220 m
1 or 2	Precision instrument approach runway	150 m
3 and 4	Non-precision instrument approach or non-instrument approach runway	150 m
3 and 4	Non-instrument approach day only applicable to aircraft at or below 22700 kg MCTOW	90 m
1 and 2	Non-precision instrument approach runway	150 m
2	Non-instrument approach runway	80 m
1	Non-instrument approach runway	60 m