Part 121 (Australian Air Transport Operations—Larger Aeroplanes) Amendment Manual of Standards 2021

I, PHILIPPA JILLIAN SPENCE, Director of Aviation Safety, on behalf of CASA, make the following Manual of Standards.

Dated 30 November 2021

[Signed P. Spence]
Pip Spence
Director of Aviation Safety

Contents

1 Name

This instrument is the *Part 121 (Australian Air Transport—Larger Aeroplanes) Amendment Manual of Standards 2021*.

2 Commencement

This instrument commences at the time it is registered.

3 Authority

This instrument is made under the *Civil Aviation Safety Regulations 1998*.

4 Schedules

Schedule 1 amends the *Part 121 (Australian Air Transport Operations—Larger Aeroplanes) Manual of Standards 2020*.

Schedule 1—Amendments

Part 121 (Australian Air Transport Operations—Larger Aeroplanes) Manual of Standards 2020

[1] Subsection 1.04(1)

insert

CAR means the *Civil Aviation Regulations 1988*.

[2] Subsection 1.04(1)

insert

cloud ceiling: see the CASR Dictionary.

Note: The CASR Dictionary defines ***cloud ceiling*** as having "the same meaning as ***ceiling*** in Annex 2 to the Chicago Convention". At the commencement of this instrument, Chapter 1 of the Annex included the following definition:

"***Ceiling***. The height above the ground or water of the base of the lowest layer of cloud below 6 000 metres (20 000 feet) covering more than half the sky."

[3] Subsection 1.04(1), definition of *landing distance available*, paragraph (a)

omit

at the aeroplane

insert

at the aerodrome

[4] Subsection 1.04(1), definition of *net flight path*

omit

9.04(4)(g)(i) to (iii).

insert

9.04(7)(e)(i) to (iii).

[5] Subsection 1.04(1)

insert

operative, for anything, means the thing is not inoperative.

Note: The term ***inoperative*** is defined in the CASR Dictionary.

[6] Subsection 1.04(1), definition of *precision approach procedure*

omit

SBAS

insert

SBAS CAT 1

[7] Subsection 1.04(1)

insert

SBAS CAT 1, in relation to an instrument approach procedure, means SBAS Category 1.

[8] Subsection 1.04(1)

insert

take-off run required, for an aeroplane, means the take-off run for the aeroplane calculated in accordance with the relevant requirements stated in the aeroplane's flight manual.

[9] Subsection 1.04(1), definition of *trip fuel*

omit

at a destination aerodrome

insert

at an aerodrome

[10] Section 2.16, heading

substitute

2.16 Flight planning limitations for all EDTO flights

[11] Section 2.16, note

omit

section 2.20

insert

section 2.17

[12] Section 2.17, heading

omit

Flight planning

insert

Additional flight planning

[13] Paragraph 2.18(5)(a)

omit

atmospheric

[14] Paragraph 2.18(5)(b)

omit

nominal

[15] Paragraph 2.18(5)(c)

before

data related to

insert

any available

[16] Paragraph 2.18(5)(c)

omit

at least the following

insert

the following conditions

[17] Subparagraph 2.18(5)(c)(ii)

omit

any of the following,

[18] Sub-subparagraph 2.18(5)(c)(ii)(A)

after

turbine deployment;

insert

and

[19] Subsection 2.20(3)

substitute

(3) If:

(a) a failure or degradation of an EDTO significant system occurs during an EDTO flight before the aeroplane reaches the EDTO entry point; and

(b) the pilot in command believes that assistance from the flight dispatcher is necessary;

then, all available means of communication must be used by the flight crew to ensure assistance by the flight dispatcher:

(c) to re-evaluate the aeroplane's capability to ensure that the flight can safely continue into the EDTO area of operation; and

(d) to update or revise the flight plan following the re-evaluation.

[20] Paragraph 2.24(4)(c)

omit

paragraphs (2)(a) to (i)

insert

subsection (2)

[21] Table 3.04, item 2, columns 1 and 2

omit

pyrotechnic

[22] Section 4.02

omit

[23] Section 4.04

omit

The following weather

insert

(1) In this Chapter, the following weather

[24] Paragraph 4.04(a)

omit

below the relevant minima

[25] Paragraph 4.04(b)

substitute

(b) visibility, including a probability indicator of at least 30% or greater of fog, mist, dust or any other phenomenon restricting visibility;

[26] At the end of section 4.04

add

Holding fuel—operationally limiting weather conditions

(2) Despite subsection (1), if relevant weather conditions would represent an operationally limiting condition, the weather is taken not to be present if, for the flight, the aeroplane carries the amount of holding fuel mentioned in subsection (3).

(3) For subsection (2), and subject to subsections 4.06(4) to (7), the amount of holding fuel must be at least equal to the number of minutes of the period of the overlap of:

(a) the estimated time of use; and

(b) the time at which the operationally limiting weather conditions would no longer apply to the flight.

Note: Section 4.06 includes rules relating to when intermittent, temporary or other pertinent weather conditions are taken to be present.

[27] Subsection 4.06(2)

omit

below the relevant minima for the flight

[28] Paragraph 4.06(2)(a)

omit

the relevant minima

insert

the cloud ceiling values relevant to a flight of an aeroplane or the landing minima (as the case may be)

[29] Subsection 4.06(4)

substitute

(4) When an authorised weather forecast includes weather conditions forecast to occur on an intermittent ("INTER") basis, those weather conditions are taken to be present for the entire time period that the forecast includes the change indicator of INTER, unless:

(a) 30 minutes of holding fuel is carried by the aeroplane for the flight; or

(b) both of the following apply:

(i) the period of overlap of the estimated time of use and the time period of the change indicator is less than 30 minutes;

(ii) holding fuel equal to the number of minutes of the overlap is carried by the aeroplane for the flight; or

(c) subsection (4B) applies.

(4A) When an authorised weather forecast includes weather conditions forecast to occur on a temporary ("TEMPO") basis, those weather conditions are taken to be present for the entire time period that the forecast includes the change indicator of TEMPO, unless:

(a) 60 minutes of holding fuel is carried by the aeroplane for the flight; or

(b) both of the following apply:

(i) the period of overlap of the estimated time of use and the time period of the change indicator is less than 60 minutes;

(ii) holding fuel equal to the number of minutes of the overlap is carried by the aeroplane for the flight; or

(c) subsection (4B) applies.

(4B) When an authorised weather forecast contains multiple change indicators of INTER or TEMPO, those weather conditions are taken to be present for a time period mentioned in subsection (4) or (4A) that is relevant to the most operationally limiting change indicator, other than in the case that holding fuel for the most operationally limiting change indicator is carried by the aeroplane for the flight.

(4C) For the purposes of a circumstance mentioned in subsection (4), (4A) or (4B) (the ***relevant provision***) regarding the carriage of holding fuel, if:

(a) the flight of the aeroplane is to a planned destination aerodrome that is an isolated destination aerodrome; and

(b) the destination alternate fuel required by subsection 7.02(4) is in excess of the final reserve fuel carried and required for the flight by at least the amount of holding fuel mentioned in the relevant provision;

then, the holding fuel is taken to be carried by the aeroplane.

[30] Subsection 4.06(5)

omit

that weather conditions will be below the relevant minima

insert

of relevant weather conditions

[31] Subsection 4.06(5), notes 1 and 2

substitute

Note: This section may also be affected by subsection 4.07(8) or 4.06(6).

[32] Subsection 4.06(7)

omit

to assess whether the weather conditions will be below the relevant minima

[33] Paragraph 4.06(7)(b)

substitute

(b) the time period associated with the probability indicator is within the first 3 hours of the period of validity of the forecast.

[34] At the end of subsection 4.06(6)

add

Note: The CASR Dictionary defines ***cloud ceiling*** as having "the same meaning as ***ceiling*** in Annex 2 to the Chicago Convention". At the commencement of this instrument, Chapter 1 of the Annex included the following definition:

"***Ceiling***. The height above the ground or water of the base of the lowest layer of cloud below 6 000 metres (20 000 feet) covering more than half the sky."

[35] Paragraph 4.07(1)(a)

omit

the relevant weather conditions

insert

relevant weather conditions

[36] Subsection 4.07(3), note 2

omit

in section 4.02

insert

in section 1.04

[37] Subsection 4.07(3), note 3

omit

subsections 9.12(1) and 9.20(1).

insert

subsection 9.12(1).

[38] Paragraph 4.09(1)(b)

after

forecast to exist below the

insert

cloud

[39] Paragraph 4.09(1)(c)

omit

no known Air Traffic Service delays at the aerodrome

insert

no Air Traffic Service delays at the aerodrome that would require carriage of holding fuel in addition to that which is already on board,

[40] Section 4.11, heading to table 4.11

after

minima for destination

insert

alternate aerodromes

[41] Table 4.11, item 2, column 2

substitute

	A height of 200 ft above the height required by the instrument approach procedure with the second lowest: (a) MDA or MDH, or (b) DA or DH

[42] Table 4.11, item 3, column 2

substitute

	A height of 400 ft above the higher of the following: (a) the height required by the instrument approach procedure with the second lowest: (i) MDA or MDH, or (ii) DA or DH; (b) the circling height

[43] Section 4.11, after table 4.11

insert

Note: A different runway is any runway at the aerodrome with a different runway number. Separate runways are runways at the same aerodrome that would be usable if they are configured in such a way that if one runway were closed, an operation to another runway is operationally available to the aeroplane. Separate runways cannot be at the opposite ends of the same runway.

[44] Paragraph 4.13(1)(b)

substitute

(b) the aerodrome is not an isolated aerodrome, take-off alternate aerodrome or en-route alternate aerodrome; and

[45] Subsection 4.13(1), note

omit

[46] Subsection 4.14(1), note

omit

[47] Paragraph 4.15(1)(b)

substitute

(b) the aerodrome is not an isolated aerodrome, take-off alternate aerodrome or en-route alternate aerodrome; and

[48] Subsection 4.15(1), note

omit

[49] Subsection 4.16(1), note

omit

[50] Paragraph 4.17(1)(b)

substitute

(b) the aerodrome is not an isolated aerodrome, take-off alternate aerodrome or en-route alternate aerodrome; and

[51] Subsection 4.17(1), note

omit

[52] Subsection 4.18(1), note

omit

[53] Subsection 4.19(1), subsection heading

substitute

Requirements for selection as EDTO en-route alternate aerodrome

[54] Paragraph 4.19(2)(c)

omit

[55] Paragraph 4.19(2)(d)

omit

in the case that

insert

on and from 2 December 2023, if

[56] Subparagraph 4.19(2)(d)(i)

omit

Part 139

insert

Part 139H

[57] Paragraph 4.19(2)(e)

substitute

(e) if the aerodrome is in Australian territory, the aerodrome must:

(i) have air traffic control or air traffic services available within 30 minutes' notice; and

(ii) be a controlled aerodrome, or an uncontrolled aerodrome for which radio carriage is required under regulation 91.400 of CASR;

[58] Paragraph 4.19(2)(f)

omit

it the aerodrome is

insert

if the aerodrome is

[59] Subparagraph 4.19(2)(f)

omit

Part 139

insert

Part 139H

[60] Subparagraphs 7.03(3)(a)(i) and (ii)

after

replanning

insert

to the planned destination aerodrome

[61] Paragraph 7.05(1)(b)

substitute

(b) trip fuel to the planned destination aerodrome;

[62] Paragraph 7.05(2)(a)

after

from that point

insert

to the destination aerodrome for the flight

[63] Paragraph 7.05(3)(a)

after

from that time

insert

to the destination aerodrome for the flight

[64] At the end of subsection 7.05(3)

add

Note: Subsection (3) is affected by subsections (5) and (6).

[65] Paragraph 7.05(6)(a)

substitute

(a) trip fuel to the planned destination alternate aerodrome;

[66] Section 7.06, after the heading

insert

EDTO critical fuel scenarios

[67] Before subsection 7.06(3)

insert

Effect of certain meteorological conditions

[68] Before subsection 7.06(6)

insert

Other factors to be compensated for

[69] Section 8.01, before subsection (1)

insert

(1A) This section:

(a) is made for paragraph 121.280(3)(a) of CASR; and

(b) prescribes information that must be included in the safety briefing card for an aeroplane and a flight.

[70] Subsection 8.01(1)

omit

For the purposes of paragraph 121.280(3)(a) of CASR, a safety

insert

A safety

[71] After subsection 8.01(2)

insert

(3) However, subsection (1) does not apply, if:

(a) the operator of the aeroplane for the flight held, immediately before the commencement of this instrument, an AOC authorising:

(i) regular public transport operations; or

(ii) charter operations; and

(b) the safety briefing card for the aeroplane and the flight includes the same information in relation to the aeroplane that the safety briefing card used by the operator for the aeroplane included for a flight of the aeroplane before the commencement of this instrument.

(4) Subsection (3), and this subsection, are repealed at the end of 1 December 2022.

[72] Division 1 of Chapter 9, heading

substitute

Division 1—Take-off performance requirements: jet-driven aeroplanes and certain propeller-driven aeroplanes

[73] Paragraph 9.01(b)

substitute

(b) prescribes requirements relating to take-off performance for a flight of an aeroplane mentioned in section 9.01A.

[74] After section 9.01

insert

9.01A Application of this Division

This Division applies to an aeroplane that:

(a) is a jet-driven aeroplane; or

(b) is a propeller-driven aeroplane with a maximum take-off weight of more than 5 700 kg.

[75] Paragraph 9.02(c)

omit

Division 3

insert

Division 2

[76] Section 9.02, note

omit

121.095

insert

121.055

[77] After paragraph 9.04(5)

insert

(5A) Despite subsection (2), an obstacle is deemed to be within the net take-off flight path for the purposes of subsection (1), if the lateral distance from the obstacle to the aeroplane's intended flight path does not exceed a distance calculated in accordance with subsection 12A of Civil Aviation Order 20.7.1B, as in force immediately before the commencement of this instrument.

[78] At the end of section 9.04

add

(8) In this section:

Civil Aviation Order 20.7.1B means *Civil Aviation Order 20.7.1B – Aeroplane weight and performance limitations—specified aeroplanes above 5 700 kg, or 2 722 kg if driven by 2 or more jet engines—all operations***.**

(9) Subsections (5A) and (8), and this subsection, are repealed at the end of 1 December 2022.

[79] Paragraph 9.08(2)(a)

omit

Division 3

insert

Division 2

[80] Subparagraph 9.08(2)(a)(i)

omit

1 500

insert

1 000

[81] Subsection 9.08(5)

omit

Division 3

insert

Division 2

[82] Paragraph 9.08(6)(a)

omit

Division 3

insert

Division 2

[83] After Division 1 of Chapter 9

insert

Division 1A—Take-off performance requirements: propeller-driven aeroplanes with maximum take-off weight not more than 5 700 kg

9.08A Scope of Division 1A, Chapter 9

This Division:

(a) is made for subregulation 121.395(1) of CASR; and

(b) prescribes requirements relating to take-off performance for a flight of an aeroplane mentioned in section 9.08B.

Note 1: Regulation 121.390 of CASR requires a calculation that relates to an aeroplane's performance to be made using performance data set out in the aircraft flight manual instructions for the aeroplane or approved by CASA. See the CASR Dictionary for the definition of ***aircraft flight manual instructions***.

Note 2: Regulation 91.055 of CASR makes it an offence if an aircraft is operated in a manner that creates a hazard to another aircraft, a person or property.

9.08B Application of this Division

This Division applies to an aeroplane that:

(a) is a propeller-driven aeroplane; and

(b) has a maximum take-off weight of not more than 5 700 kg.

9.08C Definitions for this Division

In this Division:

approved take-off factor, for an aeroplane, means the take-off factor for which the aeroplane operator holds an approval under regulation 121.010 of CASR.

factored take-off run: see section 9.08D.

standard take-off factor means:

(a) for an aeroplane with a maximum take-off weight of not more than 2 000 kg—1.15; and

(b) for an aeroplane with an maximum take-off weight of more than 2 000 kg, but less than 3 500 kg—a factor derived by linear interpolation between 1.15 and 1.25, according to the aeroplane's maximum take-off weight; and

(c) for an aeroplane with a maximum take-off weight of 3 500 kg or more—1.25.

9.08D Meaning of *factored take-off run*

The ***factored take-off run***, for an aeroplane that is of the kind mentioned in column 1 of an item in table 9.08D, is the take-off run required, for the aeroplane, multiplied by the factor mentioned in column 2 of the item.

Table 9.08D—Factored take-off run		
Item	**Column 1** **Aeroplane**	**Column 2** **Factor**
1	An aeroplane for which: (a) there is a flight manual; and (b) there is no approved take-off factor	The standard take-off factor for the aeroplane
2	An aeroplane for which there is an approved take-off factor	The approved take-off factor for the aeroplane

Note: The term ***take-off run required*** is defined in subsection 1.04(1).

9.08E Approval of take-off factor for aeroplanes

CASA may, under regulation 121.010 of CASR, approve a take-off factor for an aeroplane, for operations at a particular aerodrome, which is less than the standard take-off factor for the aeroplane, only if the proposed take-off factor has been risk-assessed by the aeroplane's operator for operations at the aerodrome.

9.08F Maximum permitted take-off weight

The operator, and pilot in command, must each ensure that, at take-off, the aeroplane's weight does not exceed each of the following:

(a) a weight that would enable the aeroplane to meet the requirements stated in sections 9.08G to 9.08K;

(b) a weight that, taking account of the expected consumption of fuel and oil for the flight, will ensure a landing weight that does not exceed the maximum landing weight;

(c) a weight that will ensure a landing weight that, taking account of the expected consumption of fuel and oil for the flight, complies with Division 2.

Note: The weight at take-off for an aeroplane is also limited by the ***maximum take-off weight*** for the aeroplane, which in the Dictionary, for a type certificated aeroplane, is defined to mean the maximum take-off weight for the aeroplane permitted by its flight manual. It is an offence under regulation 91.095, or 121.055, of CASR if an aeroplane is not operated in accordance with the aeroplane's aircraft flight manual instructions.

9.08G Take-off requirements

(1) The operator, and pilot in command, must each ensure:

(a) the factored take-off run, for a take-off of the aeroplane from a runway at an aerodrome, does not exceed the take-off run available for the runway; and

(b) the take-off distance required for a take-off of the aeroplane from the runway does not exceed the take-off distance available for the runway; and

(c) any clearway forming part of the take-off distance available for the runway does not exceed half the length of the take-off run available for the runway.

(2) For the purposes of subsection (1), the following matters must be taken into account:

(a) the take-off configuration of the aeroplane;

(b) the pressure altitude, and presumed temperature, at the aerodrome;

(c) the type of runway surface, and runway surface condition;
(d) the runway slope in the direction of take-off;
(e) unless otherwise accounted for in the performance data set out in the aeroplane's aircraft flight manual instructions, not more than 50% of the headwind component, or not less than 150% of the tailwind component, for the runway.

(3) In this section:

take-off distance required, for the aeroplane, means the take-off distance to 50 ft AGL, for the aeroplane, calculated in accordance with the relevant requirements stated in the aeroplane's flight manual.

take-off run available, for a runway at an aerodrome, means the length of the runway available and suitable for the ground run of the aeroplane taking off at the aerodrome.

9.08H Initial climb performance and obstacle clearance

(1) The operator, and pilot in command, must each ensure that until the aeroplane reaches the minimum height (the ***relevant height***) for the flight in accordance with regulation 91.265, 91.267 or 91.305, of CASR, as applicable:
(a) for all flights—the aeroplane has the performance to clear all obstacles by a safe margin, as determined by the operator's exposition; and
(b) for flights not conducted in VMC by day—the aeroplane has the performance to reach, and maintain, the relevant height.

(2) For the purposes of subsection (1), the following matters must be taken into account:
(a) the take-off configuration of the aeroplane;
(b) the pressure altitude, and presumed temperature, at the aerodrome;
(c) the obstacles, if any, in the vicinity of the take-off path and en route;
(d) the forecast weather en route.

9.08J Take-off requirements—additional requirements for aeroplanes with maximum take-off weight more than 3 500 kg

(1) This section applies if an aeroplane has a maximum take-off weight of more than 3 500 kg.

(2) The operator, and the pilot in command, must each ensure that, at take-off, the weight of the aeroplane does not exceed a weight such that the gross gradient of climb with the critical engine inoperative is equal to, or greater than, the obstacle-free gradient specified in the authorised aeronautical information for the take-off distance available.

(3) Despite subsection (2), if the obstacle-free gradient specified in the authorised aeronautical information for the take-off distance available is less than 1.9%, the operator and the pilot in command must ensure the weight of the aeroplane does not exceed a weight that enables the aeroplane to achieve a gross gradient of climb of at least 1.9%.

(4) For the purposes of subsection (2):
(a) the gradient must be established for a distance of 3 000 m from the end of the take-off distance available; and
(b) the following matters must be taken into account:
(i) the pressure altitude at the aerodrome;
(ii) the presumed temperature at the aerodrome.

9.08K En route obstacle clearance for multi-engine aeroplane

(1) The operator and pilot in command of an aeroplane must each ensure that the aeroplane has the performance to conduct the flight in accordance with regulation 91.265, 91.267 or 91.305, of CASR, as applicable, if:
(a) an engine of the aeroplane becomes inoperative, during a flight, before the aeroplane reaches the planned cruising altitude, or cruising level, for the flight; and
(b) each remaining engine of the aeroplane is operating within the maximum continuous power limitations stated in the aeroplane's flight manual.

(2) Subsection (1) does not apply if the operator's exposition states procedures requiring the pilot in command to have a plan, in the circumstances mentioned in subsection (1), that enables the aeroplane to return to the departure aerodrome, or divert to a take-off alternate aerodrome, clear of all ground, water and obstacles.

(3) The procedures mentioned in subsection (2) may include drift-down procedures, provided that the procedures enable the aeroplane to descend, and land, at an aerodrome with at least 2 000 ft vertical separation from all ground, water and obstacles within 5 nautical miles on either side, or ahead, of the aeroplane's track until established within the aerodrome's circuit area.

[84] Paragraph 9.12(2)(b)

omit

section 9.06

insert

section 9.04 or 9.08J

[85] Subsection 9.13(10)

omit

paragraph (6)(c)

insert

paragraph (5)(c)

[86] Paragraph 11.03(2)(d)

substitute

(d) subsections 11.42(2) and (3);

[87] Paragraph 11.03(2)(e)

omit

[88] Paragraph 11.04(4)(d)

omit

aeroplane.

insert

aeroplane; and

[89] After paragraph 11.04(4)(d)

insert

(e) if the equipment is surveillance equipment—the equipment, whether functional or otherwise, must not at any time affect the safety of other aircraft or interfere with the proper functioning of an air traffic service.

[90] At the end of section 11.04

add

Note: An example of surveillance equipment that could affect the safety of other aircraft is equipment that transmits a signal on a frequency used by ADS-B but does not provide the proper information. Similarly, equipment could transmit improper information to an air traffic service surveillance system.

[91] Section 11.06

substitute

11.06 Serviceability of equipment

Any equipment required by this Chapter to be fitted to, or carried on, an aeroplane for a flight must be operative unless:

(a) another section of this Chapter provides otherwise; or

(b) the equipment:

(i) is inoperative because of a defect that has been approved as a permissible unserviceability for the aeroplane for the flight; and

(ii) is fitted or carried in accordance with the permissible unserviceability.

Note: For paragraph (a), a minimum equipment list (a MEL) can only permit equipment that is required to be fitted to, or carried on, an aircraft by this Chapter, to be unserviceable within the limits of the requirements contained in this Chapter. For example, section 11.20 contains an allowable time period of 72 hours related to flights with inoperative altitude alerting equipment. A MEL would not be approved if it contained a maximum time period for altitude alerting equipment to be inoperative, that was greater than the time period specified by either a master minimum equipment list (MMEL) or the legislation.

MELs are approved under regulation 91.935 of CASR.

[92] At the end of section 11.09

add

Note: Section 11.03 of the Part 91 Manual of Standards prescribes, under regulation 91.255 (which is applicable generally) requirements relating to oceanic airspace. When entering oceanic airspace that requires the use of RNP 2, RNP 4 or RNP 10 navigation specification, the crew must check whether at least 2 long range navigation systems (LRNS) are operable. If less than 2 LRNSs are operable, then air traffic control must be informed of the situation.

[93] At the end of section 11.10

add

Note: Subsection 11.07(2) of the Part 91 Manual of Standards requires RVSM operations to be conducted in accordance with the requirements of the authorised aeronautical information. For an aeroplane that does not have an automatic pilot with the altitude hold function serviceable, operations in RVSM airspace may be restricted as a result of these requirements.

[94] Subsection 11.18(1)

omit

or in poor visibility

[95] At the end of section 11.20

add

Note: For a flight of an aeroplane fitted with inoperative altitude alerting equipment, section 11.07 of the Part 91 Manual of Standards states requirements in relation to air traffic control clearances.

[96] After section 11.21

insert

11.21A Transitional—ACAS

(1) Despite section 11.21, an aeroplane is not required to be fitted with an approved ACAS under that section if subsection (2) or (3) applies.

(2) This subsection applies if:
  (a) paragraph 262AD(1)(a), as in force immediately before the commencement of this instrument, applies to the aeroplane; and
  (b) the aeroplane is fitted with:
    (i) an approved TCAS II Version 7.1; or
    (ii) an approved TCAS II that was fitted before 1 January 2014.

(3) This subsection applies if:
  (a) paragraph 262AE(1)(a), as in force immediately before the commencement of this instrument, applies to the aeroplane; and
  (b) the aeroplane is fitted with an approved TCAS II Version 7.1.

(4) The following words and phrases used in this section have the meaning given by regulation 262AA of CAR, as in force immediately before the commencement of this instrument:
  (a) ***approved TCAS***;
  (b) ***approved TCAS II***;
  (c) ***approved TCAS II Version 7.1***;
  (d) ***TCAS***.

(5) This section is repealed at the end of 1 December 2023.

[97] Subsection 11.22(1)

after

section 11.21

insert

, or a TCAS fitted to an aeroplane as mentioned in section 11.21A,

[98] Section 11.23

substitute

11.23 Flight with inoperative ACAS or TCAS

(1) An approved ACAS, or a TCAS mentioned in section 11.21A, may be inoperative at the beginning of a flight only if:

(a) the flight:

(i) begins from an aerodrome at which there is no facility for the ACAS or TCAS to be replaced, within 72 hours of the time the ACAS or TCAS was found to be inoperative; or

(ii) is to an aerodrome at which there is a facility for the ACAS or TCAS to be repaired or replaced; and

(b) if the aeroplane is required to be fitted with an altitude alerting system—that system is not also inoperative.

[99] Subsections 11.24(2), (3) and (4)

substitute

(2) On and from 2 December 2023, a turbine-engine aeroplane must be fitted with a TAWS-Class A.

(3) On and from 2 December 2023, a piston-engine aeroplane must be fitted with a TAWS-Class A or a TAWS-Class B.

[100] After section 11.24

insert

11.24A Transitional TAWS/GPWS provision—CAO 20.18

(1) In this section:

CAO 20.18 means *Civil Aviation Order 20.18*, as in force immediately before the commencement of this instrument.

predictive terrain hazard warning function has the same meaning as in subparagraph 9.1D(a) of CAO 20.18.

TAWS-B+ system has the meaning given by paragraph 2.1 of CAO 20.18.

(2) This section applies to a turbine-engine aeroplane, conducting a passenger transport operation or cargo transport operation, which:

(a) has a maximum take-off weight of more than 15 000 kg; or

(b) is carrying 10 or more passengers.

(3) Subsection (4) applies if the aeroplane:
   (a) has a maximum take-off weight of more than 5 700 kg; and
   (b) immediately before the commencement of this instrument, would have been required to be fitted with a GPWS under subparagraph 9.1C(c) of CAO 20.18.

(4) Until immediately before 2 December 2023, the aeroplane must be fitted with one of the following:
   (a) a GPWS that has a predictive terrain hazard warning function, which meets the requirements stated in subparagraph 9.1D(b) and paragraph 9.2 of CAO 20.18;
   (b) a TAWS-Class A.

(5) Subsection (6) applies if the aeroplane:
   (a) has a maximum take-off weight of 5 700 kg or less; and
   (b) immediately before the commencement of this instrument, would have been required to be fitted with:
      (i) a GPWS under subparagraph 9.1C(c) of CAO 20.18; or
      (ii) a TAWS-B+ system under subparagraph 9.1C(e) of CAO 20.18.

(6) Until immediately before 2 December 2023, the aeroplane must be fitted with one of the following:
   (a) a GPWS that has a predictive terrain hazard warning function, which meets the requirements stated in subparagraph 9.1D(b) and paragraph 9.2 of CAO 20.18;
   (b) a TAWS-B+ system;
   (c) a TAWS-Class A.

(7) This section applies subject to section 11.26.

(8) This section is repealed at the end of 1 December 2023.

[101] Section 11.25

omit

subsection 1124(2), (3) or (4)

insert

section 11.24 or 11.24A

[102] Section 11.26

before

An aeroplane

insert

(1)

[103] After subsection 11.26(1)

insert

(2) Subsection (1) does not apply to an aeroplane that:

(a) is not used to conduct scheduled air transport operations and is originally type certificated to be operated by a single pilot; or

(b) is an unpressurised turbine-engine aeroplane that has maximum take-off weight of not more than 5 700 kg; or

(c) is an unpressurised piston-engine aeroplane.

(3) Subsection (2), and this subsection, are repealed at the end of 1 December 2023.

[104] Section 11.29

substitute

11.29 Flight data recorder

One FDR must be fitted to an aeroplane that has a maximum take-off weight of more than 5 700 kg and is:

(a) turbine-powered; or

(b) of a type first certificated in its country of manufacture on, or after, 1 July 1965.

[105] Subparagraph 11.30(a)(i)

omit

and

insert

or

[106] Subparagraph 11.30(a)(ii)

substitute

(ii) is of a type first certificated in its country of manufacture on. or after, 1 July 1965.

[107] Section 11.39

insert

required cabin crew member means a cabin crew member required for the flight of an aeroplane under regulation 121.635 of CASR.

[108] Subsection 11.40(2)

omit

A relevant

insert

Subject to subsection (2A), a relevant

[109] After subsection 11.40(2)

insert

(2A) If:

(a) the relevant aeroplane is certified to fly with a pressure altitude of only 25 000 ft or below; and

(b) the aeroplane is able to safely descend within 4 minutes to a cabin pressure altitude of 13 000 ft;

then the supplemental oxygen supply requirements in table 11.40 may be reduced as mentioned in subsection (2B).

(2B) For subsection (2A):

(a) for a person mentioned in column 1 of item 2 of the table (required cabin crew members)—to a supply for each required cabin crew member for the entire period when the cabin pressure altitude is between 10 000 ft and 13 000 ft; and

(b) for a person mentioned in column 1 of item 3 of the table (passengers and crew not covered by item 1 or 2 of the table)—to a supply for 10% of the passengers and those crew, for the entire period when the cabin pressure altitude is between 10 000 ft and 13 000 ft.

[110] Table 11.40, item 1, paragraph 2.(b) of column 2

substitute

(b) Without otherwise affecting paragraph (a):
(i) there must be a minimum of at least 30 minutes supply for each flight crew member and for each assisting crew member even if ***the entire period*** may be less than 30 minutes; and
(ii) the supply mentioned in subparagraph (i) must encompass the quantity of oxygen necessary for the aeroplane descending at a constant rate:
(A) from the lesser of the aeroplane's maximum certified operating altitude and a pressure altitude of 25 000 ft; and
(B) to a pressure altitude of 10 000 ft in 10 minutes; followed by 20 minutes at a pressure altitude of 10 000 ft.

[111] Table 11.40, item 1, paragraph 3.(b) of column 2

substitute

(b) Without otherwise affecting paragraph (a):
(i) there must be at least 2 hours supply for each flight crew member and for each assisting crew member even if ***the entire period*** may be less than 2 hours; and
(ii) the supply mentioned in subparagraph (i) must encompass the quantity of oxygen necessary for the aeroplane descending at a constant rate:

(A) from the aeroplane's maximum certified operating altitude; and
(B) to a pressure altitude of 10 000 ft in 10 minutes;
followed by a time period of 110 minutes at a pressure altitude of 10 000 ft.

[112] Table 11.40, item 2, column 1

substitute

Required crew members

[113] Table 11.40, item 2, paragraph 1.(b) of column 2

substitute

(b) at least 30 minutes supply for each required cabin crew member, even if the entire period may be less than 30 minutes; and
(c) the supply mentioned in paragraph (b) must encompass the quantity of oxygen necessary for the aeroplane descending at a constant rate:
(i) from the aeroplane's maximum certified operating altitude; and
(ii) to a pressure altitude of 10 000 ft in 10 minutes;
followed by a time period of 20 minutes at a pressure altitude of 10 000 ft.

[114] Table 11.40, item 2, paragraph 2 of column 2

omit

each cabin crew

insert

each required cabin crew

[115] Table 11.40, item 3, column 1

substitute

Passengers, and crew members not covered by item 1 or 2 of this table

[116] Table 11.40, item 3, paragraph 1.(a) of column 2

omit

each passenger

insert

each of the persons

[117] Table 11.40, item 3, paragraph 1.(b) of column 2

substitute

(b) Without otherwise affecting paragraph (a):
(i) there must be at least 10 minutes supply for each of the persons even if ***the entire period*** is less than 10 minutes; and
(ii) the supply mentioned in subparagraph (i) must encompass the quantity of oxygen necessary for the aeroplane descending at a constant rate:
(A) from the aeroplane's maximum certified operating altitude; and
(B) to a pressure altitude of 15 000 ft in 10 minutes.

[118] Table 11.40, item 3, paragraphs 2 and 3 of column 2

omit

passengers

insert

persons mentioned in column 1

[119] Table 11.41, item 1

omit

[120] Table 11.41, item 2, column 1

substitute

Flight crew members, assisting crew members and required cabin crew members

[121] Table 11.41, item 2, paragraphs 1 and 2 of column 2

omit

cabin crew member

insert

of the persons

[122] Table 11.41, item 3, column 1

substitute

Passengers and crew members not covered by item 2 of this table

[123] Table 11.41, item 3, paragraph 1 of column 2

omit

passenger

insert

of the persons

[124] Table 11.41, item 3, paragraph 2 of column 2

omit

passengers

insert

the persons mentioned in column 1

[125] Paragraph 11.43(1)(a)

substitute

(a) is of a type that was first issued with either of the following, on or after 9 November 1998:

(i) a certificate of airworthiness

(ii) an authorisation (however described) equivalent to a certificate of airworthiness issued by the national aviation authority of a Contracting State;

[126] Subsections 11.44(4) and 11.45(4)

omit

, megaphone

[127] Paragraph 11.52(2)(b)

omit

galley in not

insert

galley is not

[128] Paragraph 11.52(2)(d)

omit

passenger seating capacity

insert

maximum operational passenger seat configuration

[129] Table 11.52, column 1, heading

omit

Passenger seating capacity

insert

Maximum operational passenger seat configuration

[130] Paragraphs 11.52(2)(e) and (f)

omit

passenger seating capacity

insert

maximum operational passenger seat configuration

[131] Subsection 11.53(1)

substitute

(1) This section applies on and after 2 December 2023.

[132] Subsection 11.53(2)

omit

the aeroplane must

insert

an aeroplane for a flight must

[133] After subsection 11.53(3)

insert

(4) For the purposes of subsection (2), a first-aid kit must:

(a) contain sufficient supplies for the number of persons to be carried on a flight of the aeroplane; and

(b) be readily recognisable as a first-aid kit; and

(c) be readily accessible by each crew member for a flight when the aeroplane is on the ground or water and not in operation.

[134] After subsection 11.55(2)

insert

(3) Subsection (2) does not apply if an aeroplane takes off from an aerodrome at which no facility exists for universal precaution kits to be replenished or replaced, provided that the aeroplane carries a sufficient number of universal precaution kits, taking into consideration the number of passengers on board for, and the duration of, the flight.

[135] Paragraphs 11.59(1)(b) and (c)

substitute

(b) for an aeroplane that is not a seaplane or an amphibian—if during the flight the aeroplane is flown more than 50 NM from an area of land that is suitable for a forced landing.

[136] Section 11.61

omit

[137] Section 11.65, definition of *EASA AMC 20-24*

omit

, as in force or existing from time to time

[138] Section 11.65, definition of *EASA CS-ACNS*

omit

as in force or existing from time to time

insert

or any later version

[139] Section 11.65, definition of *NIC*

omit

paragraph 2.2.3.2.7.2.6

insert

paragraph 2.2.8.1.16

[140] Section 11.66

substitute

11.66 Carriage of transponders and surveillance equipment

An aeroplane in an operation mentioned in column 1 of an item in table 11.66, in the class of airspace mentioned in column 2 of the item, must be fitted with surveillance equipment that meets the requirements mentioned in column 3 of the item.

Table 11.66—Surveillance equipment requirements

Item	Column 1 Class of airspace	Column 2 Requirements
1	Any (Classes A, B, C, D, E, and G)	At least 1 approved ADS-OUT equipment configuration.
2	Class B or C – at certain aerodromes	For an aeroplane operating at one of the following aerodromes: (a) Brisbane (YBBN); (b) Sydney (YSSY); (c) Melbourne (YMML); (d) Perth (YPPH); at least 1 approved Mode S transponder.

[141] Paragraph 11.67(5)(b)

omit

table 11.67

insert

table 11.67(5)

[142] Subsection 11.67(5), heading in table 11.67

omit

Table 11.67

insert

Table 11.67(5)

[143] Table 11.67, items 7, 8, and 9

omit

[144] After subsection (6)

insert

(6A) Subject to subsection (6B), if an emergency situation described in an item of column 1 of table 11.67(6A) occurs during a flight, a pilot of the aircraft for the flight must set the Mode A code mentioned in column 2 for the item.

Table 11.67(6A)—Transponders: Mode A emergency codes

Item	Column 1 Situation	Column 2 Mode A code
1	Unlawful interference	7500
2	Loss of radiocommunication	7600
3	In flight emergency (unless otherwise instructed by air traffic control)	7700

(6B) Despite subsection (6A), a pilot of an aircraft for a flight does not have to set a Mode A code mentioned in column 2 of table 11.67(6A) if the pilot reasonably believes that maintaining an existing Mode A code would result in a safer outcome.

[145] Subsection 11.68(7), note

omit

section 11.02A

insert

subsection 11.03(2)

[146] After subsection 11.69(2)

insert

Note: The following GNSS receivers meet the requirements of this section, namely, those certified to (E)TSO-C145a or (E)TSO-C146a, or later versions; or those manufactured to comply with (E)TSO-C196a. Some later versions of GNSS receivers certified to (E)TSO-C129 may also meet the requirements, i.e. those having FDE and HPL features incorporated.

[147] Section 11.71, heading

omit

inoperative

insert

no operative

[148] Section 11.71

omit

An approved transponder may be

insert

Where this Chapter requires an approved transponder to be fitted to an aeroplane, the transponder may be

[149] At the end of section 11.71

add

Note: See also section 11.06 for additional requirements related to flight in inoperative equipment. For a flight with no operative transponder, within controlled airspace or at a controlled aerodrome, Division 11.2 of the Part 91 Manual of Standards has requirements related to air traffic control clearances. Whether a clearance is issued, or whether a clearance may be issued, could be affected by the flight being conducted without an operative transponder.

[150] Paragraph 12.06(1)(f)

omit

practical training in firefighting that includes correctly donning and

insert

the visual restrictions associated with

[151] At the end of subsection 12.06(2)

add

Note 1: The practical training mentioned in paragraph (2)(a) is a live firefighting exercise and therefore must meet the requirements in subsections 13.09(2) and (3).

Note 2: The practical training mentioned in paragraph (2)(b) must meet the requirements in subsection 13.09(1).

Note 3: Subsection (2) does not require the firefighting equipment to be specific to a particular aeroplane type, since the requirement to use aeroplane-specific type equipment is covered by conversion training and the 3-yearly training requirements.

[152] Paragraph 12.10(1)(b)

omit

carried on the aeroplane for the flight.

insert

carried on the aeroplane for the flight; and

[153] After paragraph 12.10(1)(b)

insert

(c) a cabin crew member is not assigned to duty on the aeroplane for the flight.

Note: The requirements of Division 121.P.7 of CASR apply in relation to cabin crew members who are carried on a flight, but are not required to be carried under regulation 121.630. The requirements cover competency, minimum age, and annual emergency and safety equipment checks.

[154] Paragraph 12.11(1)(b)

omit

carried on the aeroplane for the flight.

insert

carried on the aeroplane for the flight; and

[155] After paragraph 12.11(1)(b)

insert

(c) a cabin crew member is not assigned to duty on the aeroplane for the flight.

Note: The requirements of Division 121.P.7 of CASR apply in relation to cabin crew members who are carried on a flight, but are not required to be carried under regulation 121.630. The requirements cover competency, minimum age, and annual emergency and safety equipment checks.

[156] Subsection 12.23(1)

substitute

(1) This section applies to a pilot who:

(a) holds a cruise-relief co-pilot rating for an aeroplane of that kind; and

(b) is assigned by the operator to carry out duties only within the scope of the privileges of the pilot's cruise-relief co-pilot rating.

[157] Paragraph 12.28(5)(a)

omit

life rafts

insert

first-aid kits, emergency medical kits, universal precaution kits, crash axes, crowbars, life rafts

[158] Paragraph 12.32(1)(e)

omit

12.29(6)(a)

insert

12.29(5)(a)

[159] Subsections 12.32(2) and (3)

omit

not theoretical

insert

not solely theoretical

[160] Section 12.32, note 2

omit

section 13.09

insert

subsection 13.09(1)

[161] Section 13.06, note 2

omit

121.620(2)(c)

insert

121.620(2)(b)

[162] Subsection 13.09(3)

after

simulate a fire

insert

for live firefighting exercises

[163] Paragraph 13.17(1)(f)

omit

practical training in firefighting that includes correctly donning and

insert

the visual restrictions associated with

[164] At the end of section 13.17

add

Note 1: The practical training mentioned in paragraph (2)(a) is a live firefighting exercise and therefore must meet the requirements in subsections 13.09(2) and (3).

Note 2: The practical training mentioned in paragraph (2)(b) must meet the requirements in subsection 13.09(1).

Note 3: Subsection (2) does not require the firefighting equipment to be specific to a particular aeroplane type, since the requirement to use aeroplane-specific type equipment is covered by conversion training and the 3-yearly training requirements.

[165] Section 13.24, note 2

omit

section 13.09

insert

subsection 13.09(1)

[166] Section 13.29, heading

after

normal

insert

, abnormal

[167] Subsection 13.29(1)

after

normal

insert

, abnormal

[168] Section 13.34, heading

before

emergency

insert

abnormal,

[169] Subsection 13.34(1)

before

emergency

insert

abnormal,

[170] Paragraph 13.35(2)(g)

after

complete a

insert

simulated

[171] Subsection 13.35, note

omit

section 13.09

insert

subsection 13.09(1)