Australian Government

Civil Aviation Safety Authority

Part 131 (Balloons and Hot Air Airships) Manual of Standards 2021

I, PHILIPPA JILLIAN SPENCE, Director of Aviation Safety, on behalf of CASA, make this instrument under regulations 131.055 and 201.025 of the *Civil Aviation Safety Regulations 1998,* and section 4 of the *Acts Interpretation Act 1901*.

Consultation version only, as of 12 August 2021.
Pip Spence
Director of Aviation Safety

[DATE] 2021

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Note This Table of Contents is for guidance only. It is not a formal part of the *Part 131 (Balloons and Hot Air Airships) Manual of Standards 2020*. See subsection 1.05.

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Part 131 (Balloons and Hot Air Airships) Manual of Standards 2021

CHAPTER 1 PRELIMINARY AND DEFINITIONS

Division 1.1 Preliminary

1.01 Name of instrument

(1) This instrument is the *Part 131 (Balloons and Hot Air Airships) Manual of Standards 2021*.

(2) This instrument may be cited as the Part 131 MOS.

(3) Unless the contrary intention appears, references in this instrument to "the MOS" or "this MOS" are references to the Part 131 MOS.

1.02 Commencement

This instrument commences immediately after the commencement of Part 131 of CASR.

Note Part 131 of CASR is contained in Schedule 3 of the *Civil Aviation Legislation Amendment (Parts 103, 105 and 131) Regulations 2019* which commence on 2 December 2021.

1.03 Table of Contents

The Table of Contents for this MOS is not part of this instrument. It is for guidance only and may be modified or edited in any published version of this MOS.

Division 1.2 Definitions — general

1.04 References to instruments and documents

(1) In this MOS, unless a contrary intention appears, a reference to an instrument or any other document (however described) is a reference to the instrument or document, as in force or existing from time to time.

(2) In this MOS, unless a contrary intention appears, a reference to any legislative instrument is a reference to the instrument, as in force from time to time.

(3) If a provision of this MOS applies, adopts or incorporates any instrument or other document, then, unless a contrary intention appears, the instrument or other document, is taken to have been applied, adopted or incorporated as in force or existing from time to time.

Note 1 This section applies to an AFM (which includes an AFM Supplement) because it is also a document.

Note 2 A reference to an instrument or other document, which only occurs in a Note to a provision, does not have the effect that the instrument or document is taken to be applied, adopted or incorporated for this MOS, unless a contrary intention appears. Such references in Notes are to documents which may be used as guidance or background information.

1.05 References to TSOs, ETSOs, (E)TSOs

(1) In this MOS, unless a contrary intention appears, a reference to a particular TSO is a reference to that TSO or a later version of that TSO.

(2) In this MOS, unless a contrary intention appears, a reference to a particular ETSO is a reference to that ETSO or a later version of that ETSO.

(3) In this MOS, unless a contrary intention appears, a reference to a particular (E)TSO is a reference to the relevant ETSO or TSO, or a later version of the relevant ETSO or TSO.

Note 1 The first versions of a TSO may have been issued with or without the notation "(0)" at the end (for example only, citations of TSO-C129 and TSO-129(0) would refer to the same document. Thus, for first version TSOs, either form is an acceptable citation for the other.

Note 2 TSO later versions are identified by an alphabetical letter (for example only, TSO-C129 (or TSO-C129(0) versus TSO-C129a). Unless the contrary intention appears, a reference to (for example only) TSO-C129 (or TSO-C129(0)) means that version or a later version. A reference to TSO-C129a means that version or a later version, but not the earlier version — unless a contrary intention appears.

1.06 Definitions etc.

(1) Subject to subsection 1.06 (5), in this instrument words and phrases have the same meaning as in the CASR Dictionary, Part 131 of CASR or the Act, unless a contrary intention appears.

(2) In this MOS, a reference to a class of airspace means the volumes of airspace of that class, as determined by CASA in or under the *Determination of Airspace and Controlled Aerodromes Etc. (Designated Airspace Handbook) Instrument*, as in force from time to time.

Note The *Determination of Airspace and Controlled Aerodromes Etc. (Designated Airspace Handbook) Instrument* is a legislative instrument that is revised and reissued by CASA approximately every 6 months. Airspace details from the Determination in force at any particular time are also published by Airservices Australia in the Designated Airspace Handbook available free online at www.airservicesaustralia.com.

(3) In this MOS, any reference to a balloon tether or pilot restraint system is a reference to a balloon tether or pilot restraint system that is approved under Part 21 of CASR.

(4) In this MOS, unless a contrary intention appears:

(a) mention of a provision with the prefix "131." is a reference to that provision in Part 131 of CASR; and

(b) mention of a provision with the prefix "91." is a reference to that provision in Part 91 of CASR.

(5) In this MOS:

Note The following definitions are particularly useful for this MOS. Other relevant words and phrases not included below may have been defined in the CASR Dictionary.

Act means the *Civil Aviation Act 1988*.

adult has the meaning given by the CASR Dictionary.

Note ***Adult*** means a person who has turned 13.

aerodrome has the meaning given by the Act.

AFM (short for aircraft flight manual) means the flight manual for a Part 131 aircraft.

Note ***Flight manual*** is defined in the CASR Dictionary. It includes AFM supplements that may be supplied by the original aircraft manufacturer, or by another person, in accordance with Subpart 21.M of CASR.

AGL means above ground level.

AIP has the meaning given by the CASR Dictionary.

Note The AIP is available through www.airservicesaustralia.com.

air traffic service has the meaning given by the CASR Dictionary.

Note The phrase *air traffic service* includes one or more of the following: a flight information service, an alerting service, an air traffic advisory service, an ATC service, an area control service, an approach

control service or an aerodrome control service. ***Air Traffic Services*** has a different meaning – see under ***ATS***.

AMSL means above mean sea level.

ASAO is short for approved self-administering organisation, and has the meaning given by the CASR Dictionary.

Note See also Part 149 of CASR.

ATC means air traffic control.

ATS has the meaning given to ***Air Traffic Services*** in the CASR Dictionary.

authorised aeronautical information: see the CASR Dictionary.

authorised weather forecast has the meaning given by the CASR Dictionary.

authorised weather report has the meaning given by the CASR Dictionary.

ballast means fine sand carried by a gas balloon to facilitate altitude control through the release of the ballast.

balloon has the meaning given by the CASR Dictionary.

balloon class endorsement has the same meaning as in Part 5 of CAR.

balloon flying training means any training given to a person during flight time in a balloon for the purpose of increasing the person's skill in flying the balloon, including balloon flying training:

(a) for a prescribed purpose under paragraph 206 (a) of CAR, conducted in accordance with Part 5 of CAR; or

(b) that is a Part 131 recreational activity.

balloon recreational activity has the same meaning as in Part 131 of CASR.

balloon transport operation has the same meaning as in Part 131 of CASR.

balloon transport operator has the same meaning as in Part 131 of CASR.

CAO means Civil Aviation Order.

CAR means the *Civil Aviation Regulations 1988*.

CAR certificate of validation has the meaning given by the CASR Dictionary.

CASR means the *Civil Aviation Safety Regulations 1998*.

CASR Dictionary means the Dictionary under regulation 1.004 of CASR.

child has the meaning given by the CASR Dictionary.

Note ***Child*** means a person who has turned 2 but has not turned 13.

civil aviation legislation has the meaning given by section 3 of the *Civil Aviation Act 1988*.

class, for a balloon, has the same meaning as in Part 5 of CAR.

controlled aerodrome has the meaning given by the CASR Dictionary.

control area has the meaning given by the CASR Dictionary.

control zone has the meaning given by the CASR Dictionary.

Note Controlled aerodromes, control areas and control zones are determined by CASA under the *Airspace Regulations 2007*.

cost-sharing flight means a Part 131 recreational activity:

(a) conducted by not more than 6 persons including the pilot; and

(b) in which each person bears an equal share of the costs of the flight.

crown, for a Part 131 aircraft, means the highest point of the aircraft AGL when its envelope is fully inflated.

CTAF means common traffic advisory frequency, being a designated frequency on which pilots make positional broadcasts when operating in the vicinity of a non-controlled aerodrome.

EASA, is short for European Union Aviation Safety Agency, and has the meaning given by the CASR Dictionary.

ETSO means a Technical Standard Order of EASA: see the CASR Dictionary.

(E)TSO, followed by an identifying letter and number, is a shorthand reference to both the TSO and the ETSO, each of which has the same identifying letter and number.

exposition has the meaning given by the CASR Dictionary.

Note A provision of this MOS that prescribes exposition content is empowered by paragraph 131.195 (1) (n) of CASR as matter required to be included in the exposition under the regulations because the expression under the regulations is taken to include under the MOS: see *Seaview Lord Howe Pty Ltd and Civil Aviation Authority* (1995) 38 ALD 422; 21 AAR 506.

FAA means the Federal Aviation Administration of the United States.

final reserve fuel means the amount of usable fuel, expressed as a period of time, required to be remaining in the fuel tanks on completion of the final landing of a flight before ground handling.

FL, or ***flight level***, has the meaning given by the CASR Dictionary.

flight note has the same meaning as in Chapter 13 of this MOS.

forecast QNH means QNH obtained from an authorised weather forecast.

ft means feet.

flying in-company means that:

(a) a group of at least 2 aircraft occupy a specific 3-dimensional volume of airspace; and

(b) the aircraft within the group self-separate from each other while within that volume of airspace.

flying in formation has the meaning given in the CASR Dictionary.

gas balloon has the meaning given by the CASR Dictionary.

GNSS means the global navigation satellite system.

ground support personnel means one or more persons assigned by the operator of a Part 131 aircraft to perform duties on the ground related to the operation of the aircraft at any time during initial set up, inflation, take-off, flight, retrieval, landing and pack up.

Note 1 For example, a balloon transport operator may assign a ground support person for any duty specifically concerned with the safety of the passengers from arrival at the launch area to final departure from the landing area.

Note 2 See also ***operational safety-critical personnel***.

hot air airship has the meaning given by the CASR dictionary.

hot air balloon means a manned free balloon that derives its lift from heated air.

hPa means hectopascals.

infant has the meaning given by the CASR Dictionary.

Note ***Infant*** means a person who has not turned 2 years of age.

inoperative, for anything, has the meaning given by the CASR Dictionary.

in the vicinity of a non-controlled aerodrome has the meaning given by the CASR Dictionary.

JRCC means the Joint Rescue Coordination Centre of the Australian Maritime Safety Authority.

km means kilometres.

kts means knots.

light sport balloon has the meaning given by the CASR Dictionary.

lighter-than-air aircraft has the meaning given by the CASR Dictionary.

m, for a distance, means metres.

manned free balloon has the meaning given by the CASR Dictionary.

MEL (short for minimum equipment list) has the meaning given by the CASR Dictionary.

mixed balloon means a manned free balloon that derives its lift from a combination of heated air and non-flammable lighter than air gas.

MOS means Manual of Standards.

MTOW or ***maximum take-off weight***, has the meaning given by the CASR Dictionary.

NAA or ***national aviation authority***, has the meaning given by the CASR Dictionary.

NM means nautical miles.

NOTAM has the meaning given by the CASR Dictionary.

operational safety-critical personnel has the meaning given by the CASR Dictionary.

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

operator has the meaning given by the CASR Dictionary.

Part 131 aircraft has the same meaning as in regulation 131.005 of CASR.

Part 131 ASAO has the meaning given by the CASR Dictionary.

Part 131 pilot authorisation has the meaning given by the CASR Dictionary.

Part 131 recreational activity has the meaning given by the CASR Dictionary.

public gathering has the meaning given by the CASR Dictionary.

QNH is an atmospheric pressure adjusted to sea level and measured in hPa or millibars so that when QNH is set the altimeter will read elevation AMSL.

quick-donning mask means an oxygen mask that:

(a) is for a flight crew member's personal use; and

(b) within 5 seconds of it being deployed and ready for use, the flight crew member can, with 1 hand, place over the face, secure and seal.

recognised country: see the CASR Dictionary.

Note Recognised countries include:

(a) Canada;

(b) France;

(c) Germany;

(d) Netherlands;

(e) New Zealand;

(f) United Kingdom;

(g) United States of America.

SAR means search and rescue.

SARTIME means the time nominated by a pilot for the initiation of SAR action if a report has not been received by the nominated unit.

SARWATCH means the time for a SAR alert, based on:

(a) full position reporting procedures; or

(b) scheduled reporting times (SKEDS); or

(c) SARTIME.

special VFR has the meaning given in section 2.01.

specialised balloon operation: see section 1.07.

suitable landing area for a Part 131 aircraft means a place where, in the reasonable opinion of the pilot in command given the prevailing conditions, the aircraft can be safely landed without causing a hazard to persons or property on the ground or on the aircraft.

surveillance equipment: see Division 26.10 of this MOS.

tethered has the meaning given by the CASR Dictionary.

the Regulations means CAR and CASR.

TSO means Technical Standard Order of the FAA.

VFR means the visual flight rules.

VHF means very high frequency.

VMC, or ***visual meteorological conditions***, has the meaning given by the CASR Dictionary.

VMC criteria has the meaning given by the CASR Dictionary.

Note See Division 2.2 of this MOS.

CHAPTER 2 PRESCRIPTIONS FOR CERTAIN DEFINITIONS IN THE CASR DICTIONARY

Note Relevant definitions to which these provisions refer were inserted in the CASR Dictionary by the *Civil Aviation Safety Amendment (Operations Definitions) Regulations 2019*.

Division 2.1 Definition of special VFR

2.01 Special VFR

(1) This section is for paragraph (b) of the definition of ***special VFR*** in the CASR Dictionary.

(2) For the definition of ***special VFR***, the VFR in subsection (3) are prescribed.

(3) To operate under the special VFR, the pilot in command must:

(a) be authorised by ATC; and

(b) operate by day; and

(c) conduct the flight clear of cloud; and

(d) maintain flight visibility of at least:

(i) 1 600 m — for a height at or above 500 ft AGL; and

(ii) 100 m — for a height below 500 ft AGL.

Division 2.2 Definition of *VMC criteria*

2.02 VMC criteria

(1) This section is for paragraph (b) of the definition of ***VMC criteria*** in the CASR Dictionary.

(2) ***VMC criteria*** means meteorological conditions expressed in terms of the flight visibility and distance from cloud (horizontal and vertical) prescribed in this section.

(3) For Table 2.02 (3), for a class of airspace mentioned in column 1 of an item, at a height mentioned in column 2 of the same item, the VMC criteria are those mentioned in columns 3, 4 and 5 of the same item.

Table 2.02 (3)

	Column 1	Column 2	Column 3	Column 4	Column 5
Item	**Class of airspace**	**Height**	**Flight visibility**	**Distance from cloud**	**Operational requirements**
1	A, B, C, E or G	At or above 10 000 ft AMSL	8 000 m	1 500 m horizontal 1 000 ft vertical	
2	A, B, C, E or G	Below 10 000 ft AMSL	5 000 m	1 500 m horizontal 1 000 ft vertical	
3	D	All heights	5 000 m	600 m horizontal 1 000 ft vertical above cloud	

	Column 1	Column 2	Column 3	Column 4	Column 5
				500 ft vertical below cloud	
4	G	At or below whichever is the higher of: (a) 3 000 ft AMSL; or (b) 1 000 ft AGL	5 000 m	Clear of cloud	In sight of ground or water
5	G	Below 1 500 ft above ground or water	5 000 m	No vertical clearance from cloud below the Part 131 aircraft is required provided: the top of the cloud is at or below 500 ft above ground or water.	The Part 131 aircraft must be at least 10 NM from an aerodrome with an approved instrument approach procedure.
6	G	Below 500 ft above ground or water	100 m	Not applicable	Day operation only provided the Part 131 aircraft is at least 10 NM from an aerodrome with an approved instrument approach procedure

Note 1 Subject to ATC clearance, operation under the special VFR may be available within a control zone.

Note 2 Refer to regulation 91.285 for restrictions on VFR flight in Class A airspace.

CHAPTER 3 OTHER PRESCRIPTIONS FOR DEFINITIONS FOR PART 131 OF CASR

3.01 Specialised balloon operation

(1) For subparagraph 131.020 (c) (v), an operation is a ***specialised balloon operation*** if it:

(a) complies with paragraphs 131.020 (a) and (b); and

(b) involves an activity mentioned in this subsection (2).

(2) **RESERVED**

Note No requirements are currently prescribed. This section has been reserved to preserve the MOS structure for any future provisions that would be appropriate following consultation.

3.02 Part 131 recreational activity

For subregulation 131.025 (2), a ***Part 131 recreational activity*** does not include operating a Part 131 aircraft in the following circumstances:

RESERVED

Note No requirements are currently prescribed. This section has been reserved to preserve the MOS structure for any future provisions that would be appropriate following consultation.

CHAPTER 4 PERSONNEL FATIGUE MANAGEMENT

4.01 Purpose

For regulation 131.190, this Chapter prescribes the requirements for a balloon transport operator's system for managing flight crew fatigue.

4.02 Personnel fatigue management

RESERVED

Note *Civil Aviation Order 48.1 Instrument 2019* applies to the holder of a balloon transport AOC. This section is reserved to provide for CASA to eventually move the requirements of the CAO into the MOS.

CHAPTER 5 FLIGHT RELATED DOCUMENTS

5.01 Carriage of documents – all flights

(1) For subregulation 131.275 (1), the following documents are prescribed for carriage on all flights of a Part 131 aircraft, whether or not the flight begins or ends inside or outside Australian territory:

(a) the aircraft flight manual instructions for the aircraft;

(b) the minimum equipment list (if any) for the aircraft;

Note There are no operations under Part 131 that are required to have a minimum equipment list. However, an operator does have the ability to have an MEL approved under Subpart 91.Y of CASR. If an MEL were to be approved for an operator then it would have to be carried on the aircraft.

(c) for each flight crew member, the following:

(i) if the member is required to hold a medical certificate — the certificate;

(ii) the member's Part 131 pilot authorisation;

(iii) either of the following:

(A) a photographic identification document issued by a Commonwealth, State or Territory authority or agency; or

Note Some examples of photographic identification documents include an Aviation Security Identification Card (ASIC), an Aviation Identification (AVID) or a driver's licence.

(B) the member's passport;

(d) suitable scale maps and aeronautical charts for the proposed area of operation, which show the following:

(i) certified aerodromes;

(ii) non-controlled aerodromes identified in the authorised aeronautical information;

(iii) the lateral and vertical limits of any of the following:

(A) controlled airspace;

(B) prohibited, restricted, and danger areas (if any);

(iv) topographical information to enable the pilot in command to navigate to a suitable landing area.

(2) Despite paragraph (1) (a), if:

(a) the information and instructions that are required under the relevant airworthiness standards for the Part 131 aircraft to be included in the aircraft's flight manual are contained in another document; and

(b) the other document is carried on board the aircraft; and

(c) that document does not alter, or contain anything that would conflict with, the information or instructions mentioned in paragraph (a);

then the document may be carried on board the aircraft in place of the aircraft flight manual.

Note An exposition that meets the requirements in subsection (2) could be carried on board instead of the flight manual.

(3) Also, despite paragraph (1) (a), if:

(a) a checklist of the Part 131 aircraft's normal, abnormal and emergency procedures mentioned in paragraph (b) of the definition of ***aircraft flight manual instructions*** in the CASR Dictionary is contained in another document; and

(b) the other document is carried on board the aircraft; and

(c) that document does not alter, or contain anything that would conflict with, the information or instructions in the checklist;

then the document may be carried on board the aircraft in place of the checklist.

5.02 Carriage of documents—flights that begin or end, or are conducted entirely, outside Australian territory

(1) For subregulation 131.275 (1), the additional documents mentioned in subsection (2) are prescribed for carriage on a flight of a Part 131 aircraft that:

(a) either:

(i) begins or ends outside Australian territory; or

(ii) is conducted entirely outside Australian territory; and

(b) is involved in:

(i) a Part 131 recreational activity; or

(ii) a specialised balloon operation.

(2) For subsection (1), the additional documents are the following:

(a) the aircraft's certificate of airworthiness and certificate of registration;

(b) if the aircraft has a radio station licence—a copy of the licence;

(c) a list including the name, place of embarkation and place of destination of each passenger on the aircraft;

(d) if the aircraft is carrying cargo (other than passenger baggage)— a manifest and detailed declaration of the cargo;

(e) the journey log for the flight containing the information required by subsection 5.03.

(f) if the operator or pilot in command of the aircraft holds an approval under regulation 131.035 or holds another civil aviation authorisation that is relevant to the flight — a copy of the approval or authorisation.

5.03 Journey logs

(1) For paragraphs 5.01 (1) (e), the information mentioned in subsection (2) must be recorded in the journey log before the flight begins.

(2) The information is the following:

(a) the aircraft registration mark and flight number (if any);

(b) the date of the flight;

(c) for each crew member assigned to the flight:

(i) the crew member's name or another means to identify the crew member; and

(ii) the duties assigned to the crew member for the flight;

(d) the place of departure for the flight.

(3) For paragraphs 5.01 (1) (e), the information mentioned in subsection (4) must be recorded in the journey log as soon as practicable after the flight ends.

(4) The information is the following:

(a) the place of arrival;

(b) the time the flight began;

(c) the time the flight ended;

(d) the duration of the flight;

(e) incidents and observations (if any) that may have been relevant in any way to the safety of the flight.

5.04 Documents kept with a person on the ground

For regulation 131.280, the following document is prescribed, namely, a passenger list that meets the requirements of section 6.02.

Note 1 Regulation 131.280 applies only to balloon transport operators.

Note 2 Documents that, for flights within Australian territory, must be carried on the flight or left with a person on the ground, may be electronic copies: see regulation 131.265.

Note 3 Whether carriage of required documents in electronic form is permitted for flights within foreign territory is a matter for the relevant foreign law.

Note 4 Chapter 13 of this MOS also requires that, during a flight, certain kinds of flight notifications must be kept by certain persons on the ground.

CHAPTER 6 REPORTING AND RECORDING INFORMATION

6.01 Purpose

For subregulation 131.285 (1), this Chapter prescribes the requirements relating to recording, retaining and reporting information for a Part 131 aircraft flight.

6.02 Passenger lists

(1) This section applies to a flight of a Part 131 aircraft that is any of the following:

(a) a balloon transport operation;

(b) training conducted as a prescribed activity under paragraph 206 (a) of CAR;

(c) a specialised balloon operation;

Note Paragraph 206 (a) of CAR requires certain balloon flying training activities to be conducted by the holder of an AOC.

(2) For a flight, a passenger list must be prepared before the flight that records the following information:

(a) the aircraft's registration mark or flight number;

(b) the name of each passenger;

(c) the date, the estimated time of departure, and the location, of the flight, such that the individual flight can be identified.

(3) Subsection (2) does not apply if, at the time it is required to be recorded, the information mentioned in the subsection is:

(a) recorded in another document kept by the operator; or

(b) readily available to the operator from another source.

(4) The information required under subsection (2) (and subsection (3) where applicable) must be kept by the operator of a flight for at least 3 months after the end of the flight.

6.03 Other information to be recorded or retained

(1) For a flight of a Part 131 aircraft, the following information must be recorded as soon as practicable after each flight:

(a) the flight time of the pilot in command;

(b) the flight time of any other pilot who is permitted under the civil aviation legislation to operate the aircraft during the flight;

(c) details of any incident relating to the flight that endangered, or could have endangered, the safe operation of the aircraft;

(d) for a flight that includes balloon flying training — the flight report of the training activity.

Note 1 See Part 4B of CAR for defect reporting.

Note 2 See also the AIP for Immediately and Routine Reportable Matters.

(2) The information mentioned in subsection (1) must be kept by the operator for the flight for at least 3 months after the end of the flight.

(3) For a flight of a Part 131 aircraft, the following information must be recorded in the document used by the operator of the aircraft to record the maintenance status of the aircraft, as soon as practicable after the flight but no later than before the aircraft is next operated for another flight:

(a) details of any defect that occurs during the operation of the aircraft for the flight, including:

(i) any abnormal instrument indication; and

(ii) any abnormal behaviour by the aircraft;

(b) any instance of an operating limit specified in the aircraft's flight manual being exceeded during the flight.

Note See regulation 51 of CAR, and Advisory Circular AC 131-01 version 2.0, for further guidance.

CHAPTER 7 EMERGENCY AND SURVIVAL EQUIPMENT INFORMATION

7.01 Information about emergency and survival equipment

For the purposes of subregulation 131.295 (1) of CASR, if equipment listed in column 1 of an item of table 7.01 is required, under the civil aviation legislation, to be carried on the flight, the information mentioned in column 2 of the item is prescribed for the equipment.

Note Regulation 131.295 only applies to balloon transport operations.

Table 7.01 — Emergency and survival equipment

Emergency and survival equipment and related information		
	Column 1	**Column 2**
Item	**Item of equipment**	**Information**
1	A life jacket	The number and colour of each type of life jacket carried on the flight
2	A pyrotechnic signalling device	The number, colour and type of each pyrotechnic signalling device carried on the flight
3	An emergency first-aid kit	Details of the emergency first-aid kit carried on the flight *Note* Details of the *contents* of an emergency first aid kit are not required.
4	A survival ELT	The type and frequency of each survival ELT carried on the flight
5	Water supplies carried as an item of survival equipment	Details of the water supplies carried on the flight

CHAPTER 8 FLIGHTS OVER POPULOUS AREAS, PUBLIC GATHERINGS AND OTHER AREAS

8.01 Purpose

For paragraph 131.305 (1) (b), this Chapter prescribes requirements for flight of a Part 131 aircraft over a populous area or a public gathering.

Note Whilst this Chapter does not presently prescribe requirements related to flights other than over populous areas or public gatherings, regulation 91.055 (aircraft not to be operated in manner that creates a hazard) applies at all times to a Part 131 aircraft.

8.02 Minimum height for Part 131 aircraft — populous area or public gathering

(1) Subject to subsection (2), for flight over a populous area or a public gathering, a Part 131 aircraft must be flown at a minimum height of at least 1 000 ft above the highest feature or obstacle within a horizontal radius of 100 m of the point on the ground or water immediately below the aircraft.

(2) The minimum height prescribed in subsection (1) does not apply if any of the following apply:

(a) the Part 131 aircraft is taking-off, or is conducting manoeuvres necessary to achieve a safe landing;

(b) the Part 131 aircraft is engaged in a missed approach;

(c) the pilot in command holds an approval for the purposes of regulation 91.180 (air displays in Australian territory);

(d) the Part 131 aircraft is engaged in a procedure to determine the suitability of a landing area for a landing.

CHAPTER 9 DROPPING THINGS FROM AIRCRAFT

9.01 Purpose

For subregulation 131.310 (2), this Chapter prescribes the kinds of things (including a parachutist) that may be dropped from a Part 131 aircraft.

Note Regulation 91.055 (aircraft not to be operated in manner that creates a hazard) applies to a Part 131 aircraft.

9.02 What may be dropped

(1) Subject to subsection (2), the following things may be dropped from a Part 131 aircraft:

(a) ballast in the form of fine sand or water;

(b) competition markers and wind indicators;

(c) a parachutist, when dropped in accordance with the requirements of Part 105 — Parachuting from aircraft, of CASR;

(d) substances or objects in accordance with subsection (2).

(2) For paragraph (1) (d), the substance or object to be dropped or released:

(a) must be carried:

(i) inside the aircraft; or

(ii) in a manner specified in the AFM; or

(iii) in a manner specified in an engineering order issued under Part 21 of CASR; or

(iv) in a manner set out in the operator's exposition or operations manual; and

(b) when dropped, must not:

(i) damage any part of the aircraft; or

(ii) affect the operation of any part of the aircraft; and

(c) for objects only — must be such that the size to weight ratio of each individual object to be dropped ensures that, when released, the object immediately drops away from the aircraft.

CHAPTER 10 USE OF SUPPLEMENTAL OXYGEN EQUIPMENT ETC.

10.01 Purpose

For subregulation 131.320 (3), this Chapter prescribes requirements about the use, by a person on board a Part 131 aircraft for a flight, of equipment to supply supplemental oxygen during the flight.

10.02 Requirements about the use of equipment to supply supplemental oxygen

(1) This section applies to the operator and the pilot in command of a Part 131 aircraft in a flight that is flown above 10 000 ft AMSL.

Note 1 Under subregulation 131.320 (1), the operator of a balloon transport operation that is flown above 10 000 ft AMSL must hold a CASA approval under regulation 131.035.

Note 2 See section 26.14 for requirements relating to the equipment that stores and supplies supplemental oxygen.

Note 3 Under regulation 91.285, CASA approval is required for VFR flights in Class A airspace.

(2) When the pressure altitude has been between 12 500 ft AMSL and 14 000 ft AMSL for longer than 30 minutes, each flight crew member engaged in performing duties essential to the safe operation of a Part 131 aircraft must use supplemental oxygen continuously.

(3) When the pressure altitude is above 14 000 ft AMSL:

(a) each flight crew member engaged in the operation of a Part 131 aircraft (***performing duties***) must use supplemental oxygen continuously; and

(b) supplemental oxygen must be available for the use of each flight crew member not performing duties.

(4) When the pressure altitude is above 12 500 ft AMSL, supplemental oxygen must be available for the use of each person on board a Part 131 aircraft.

(5) During the flight of a Part 131 aircraft that is conducting a balloon transport operation, when the pressure altitude is above 10 000 ft AMSL, a flight crew member must use supplemental oxygen continuously if the flight crew member considers that lack of oxygen may result in the impairment of the flight crew member's faculties.

Note Flight crew member includes the pilot in command.

(6) During the flight of a Part 131 aircraft that is conducting a balloon transport operation, when the pressure altitude is above 10 000 ft AMSL, supplemental oxygen must be available to each passenger on board a Part 131 aircraft if the lack of oxygen may result in the impairment of the passenger's faculties.

Note The following Table is a guide to some of section 10.02 but is not intended to alter the meaning of the section in any way.

Table 10.02 — Requirements for supplemental oxygen above 10 000 ft

Column 1	Column 2	Column 3	Column 4
Pressure altitude (AMSL):	**Above 10 000 ft (balloon transport operation only)**	**Between 12 500 and 14 000ft**	**Above 14 000 ft**
Each flight crew member	Must use supplemental oxygen continuously if	After 30 minutes, must use supplemental oxygen continuously	Must use supplemental oxygen continuously if engaged in essential

Column 1	Column 2	Column 3	Column 4
	impairment considered possible.	if engaged in essential duty.	duty. Otherwise, must have supplemental oxygen available.
Each passenger	Must have supplemental oxygen available if impairment considered possible.	Must have supplemental oxygen available	Must have supplemental oxygen available.

CHAPTER 11 ADDITIONAL REQUIREMENTS FOR SPECIALISED BALLOON OPERATIONS

11.01 Purpose

For subregulation 131.330 (1), this Chapter prescribes additional requirements about the use of equipment carried or installed on a Part 131 aircraft conducting a specialised balloon operation.

11.02 RESERVED

Note No requirements are currently prescribed. This section has been reserved to preserve the MOS structure for any future provisions that would be appropriate following consultation.

CHAPTER 12 FLIGHT PREPARATION

12.01 Purpose

For subregulation 131.340 (1), this Chapter prescribes requirements relating to flight preparation and weather assessments for a Part 131 aircraft (the ***flight preparation (weather assessments) requirements***).

12.02 Flight preparation (weather assessments) requirements

(1) At some time or times during the hour immediately before commencing a flight, the pilot in command must study the materials mentioned in subsection (2) as they apply to

(a) the planned flying area; and

(b) for a flight in controlled airspace — any relevant aerodrome within 10 NM of the planned flying area.

(2) For subsection (1) the materials are:

(a) authorised weather forecasts and authorised weather reports (including any expected changes to surface conditions and forecast winds) that apply for the planned flying period plus 2 hours; and

(b) any other reasonably available weather information that is relevant to the intended operation.

CHAPTER 13 FLIGHT NOTIFICATION REQUIREMENTS

13.01 Purpose

For subregulation 131.345 (1), this Chapter prescribes requirements relating to balloon flight notifications for flights of a Part 131 aircraft (the ***flight notification requirements***).

13.02 Flight notification requirements

(1) Subject to subsection (2), if the flight of a Part 131 aircraft is 1 of the following:

(a) a flight conducting a balloon transport operation;

(b) a flight over water where, in the event of an emergency, a landing or ditching in the water may occur;

(c) a flight in a designated remote area;

(d) a flight conducted in whole, or in part, at night;

then the pilot in command must do 1 of the following in accordance with procedures published in authorised aeronautical information:

(e) submit a flight plan;

(f) nominate a SARTIME for arrival;

(g) leave a flight note with a responsible person.

Note See section 13.05 for ***responsible person***.

(2) If the flight of a Part 131 aircraft is a flight in Class C or Class D airspace then the pilot in command must submit a flight plan or nominate a SARTIME for arrival, in accordance with procedures published in the authorised aeronautical information.

Note The authorised aeronautical information describes the circumstances under which ATS may accept the submission of a flight plan or a SARTIME for arrival via radio.

13.03 Changes to flight plans and SARTIME nominations

(1) A pilot in command who has submitted a flight plan must notify ATS of any changes to the following, before the flight begins:

(a) the aircraft callsign or registration;

(b) the serviceability of the equipment that, as stated in the flight plan, is carried on board;

(c) the ETD (but only if changed by more than 30 minutes);

(d) the planned maximum altitude of the flight.

(2) A pilot in command who has submitted a flight plan must notify ATS if, before or during the flight, a change is made to:

(a) the route and landing areas; or

(b) the number of POB.

(3) A pilot in command who nominates a SARTIME must notify ATS of changes in any of the following:

(a) the aircraft callsign or registration;

(b) the ETD (but only if changed by more than 30 minutes);

(c) the route and landing points;

(d) the SARTIME.

13.04 Cancelling SARTIME

A pilot in command who nominates a SARTIME must cancel the SARTIME no later than the time nominated.

13.05 Responsible persons for receipt of a flight note

(1) In this Chapter, a responsible person for the receipt of a flight note must meet the requirements mentioned in subsection (2).

(2) For subsection (1), the responsible person must:

(a) be over the age of 18 years; and

(b) have access to at least 2 operative and appropriate means of communicating with a search and rescue service; and

Note For example, 2 telephones or a telephone and a radio transmitter etc.

(c) satisfy the pilot in command that the person:

(i) knows how to contact JRCC Australia; and

(ii) will immediately do so in the event that the pilot in command's flight is overdue.

CHAPTER 14 MATTERS TO BE CHECKED BEFORE TAKE-OFF

14.01 Purpose

For subregulation 131.350 (1), this Chapter prescribes the checks to be carried out before take-off.

14.02 Pre-flight checks

Before take-off for a flight, the pilot in command of a Part 131 aircraft must complete the following checks:

(a) a check of the NOTAMs relevant to the flight;

Note Amongst Head Office, FIR and location specific NOTAMs, this would also include NOTAMs relating to airspace activation and any anticipated military low flying.

(b) a check to confirm that:

(i) equipment required to be fitted to, or carried on, the aircraft by Part 131 or this MOS is fitted or carried, and functioning properly; and

(ii) the emergency and survival equipment carried on the aircraft is readily accessible;

(c) a check to confirm that each flight crew member and each other operational support person (if any) required for the flight by Part 131 or this MOS is fit to perform his or her duties;

(d) if the aircraft is an Australian aircraft — a check to confirm that there is:

(i) a certificate of release to service for the most recent maintenance carried out on the aircraft; or

(ii) no defects have been recorded in the document used by the operator to record the maintenance status of the aircraft that would affect the airworthiness of the aircraft;

(e) a check to confirm that the aircraft's flight controls have been tested and are functioning correctly;

(f) for each system fitted to, or carried on, the aircraft for measuring and displaying pressure altitude, a check of the system's accuracy in accordance with the procedures mentioned in this Chapter;

(g) if carriage of supplemental oxygen is required for a flight in accordance with Part 131 and this MOS — checks to ensure that:

(i) the required amount of supplemental oxygen is carried; and

(ii) the approved oxygen delivery system is functioning properly; and

(iii) quick-donning masks are available if required by the approved oxygen delivery system; and

(iv) if the oxygen masks are adjustable — the masks fit each flight crew member, and any other person for whom supplementary oxygen must be available.

14.03 Checking systems for measuring and displaying pressure altitude — general

(1) For paragraph 14.02 (f), this section sets out the requirements for checking aircraft systems for measuring and displaying pressure altitude (***pressure altitude systems***).

(2) If:

(a) an aircraft is at a known elevation (the site elevation); and

(b) an accurate QNH is available;

then, before take-off, the pilot in command of the aircraft must check the accuracy of each of the aircraft's pressure altitude systems in accordance with this section.

Note For accurate QNH and site elevation — see section 14.05.

(3) A pressure altitude system with an accurate QNH is operative for a VFR flight only if the system reads site elevation to within:

(a) 100 ft; or

(b) at test sites above 3 300 ft — 110 ft.

14.04 Accurate QNH and site elevation

(1) In this Chapter, a QNH is to be considered accurate only if it is provided by 1 of the following:

(a) AAIS;

(b) ATC;

(c) ATIS;

(d) AWIS;

(e) CA/GRS;

(f) WATIR.

(2) QNH contained in an authorised weather forecast must not be used for checking the accuracy of a pressure altitude system.

(3) Site elevation must be derived from aerodrome survey data that is:

(a) authorised in writing (as the case requires):

(i) by CASA; or

(ii) by an NAA; or

(b) supplied in writing by the relevant aerodrome operator.

CHAPTER 15 AIR TRAFFIC SERVICES — PRESCRIBED REQUIREMENTS

Division 15.1 Use of a class of airspace

15.01 Purpose

For subregulation 131.353 (1), this Division prescribes requirements in relation to the use by a Part 131 aircraft of a class of airspace or a portion of a class of airspace.

15.02 Transition altitude, transition layer and transition level

(1) This section applies to a flight using any class of airspace, whether controlled or uncontrolled, that is within an Australian FIR.

(2) The transition altitude is 10 000 ft.

(3) The transition level is as set out in Table 15.02 (3), so that for an area QNH mentioned in an item of column 1, the transition level is that mentioned in the same item of column 2.

Table 15.02 (3) — Transition level

	Column 1	**Column 2**
Item	**Area QNH**	**Transition level**
1	Equal to, or greater than, 1 013.2 hPa	FL 110
2	At least 997 hPa but less than 1 013.2 hPa	FL 115
3	At least 980 hPa but less than 997 hPa	FL 120
4	At least 963 hPa but less than 980 hPa	FL 125

Note The intention is to retain a minimum buffer of 1 000 ft above the transition altitude.

(4) The pilot in command must not cruise or drift within the transition layer.

(5) For an operation at or below the transition altitude, the pilot in command must use the following altimeter setting:

(a) the current local QNH (either an accurate QNH as defined in section 14.04 or a forecast QNH) of a station along the route within 100 NM of the aircraft; or

(b) if the current local QNH is not known — the current area forecast QNH.

(6) For an operation above the transition altitude, the pilot in command must use an altimeter setting of 1 013.2 hPa.

(7) On climb, the pilot in command must change between QNH and 1 013.2 hPa after passing 10 000 ft and before levelling off.

(8) On descent, the pilot in command must change between 1 013.2 hPa and the QNH before entering the transition layer.

15.03 Australian domestic airspace — inoperative radio requirements

(1) This section applies to a flight of a Part 131 aircraft within any class of airspace, whether controlled or uncontrolled, that is within an Australian FIR and is not specified in the AIP as an oceanic control area.

Note At the commencement of this instrument, the AIP document specifying the geographic boundaries of oceanic control areas is the Designated Airspace Handbook.

(2) If the radiocommunication system becomes inoperative during an operation in any Australia domestic airspace, the pilot in command must do the following:

(a) if operating under the VFR in Class A, E or Class G airspace:

(i) remain outside controlled airspace; and

(ii) assume the radiocommunication system is broadcasting and broadcast position and intentions on the frequency appropriate to the area of operation; and

(iii) as soon as practicable, descend below 5 000 ft to continue flight under the VFR;

(b) if operating under the VFR in Class C or D airspace or in a restricted area:

(i) assume the radiocommunication system is functioning and broadcast position and intentions on the frequency prescribed in the authorised aeronautical information; and

(ii) attempt to contact ATS by telephone; and

(iii) commence descent in preparation for landing; and

(iv) land as soon as practicable.

Note See subsection 26.23 (8) for requirements relating to Mode A transponder emergency codes.

Division 15.2 Control zones, control areas, controlled aerodromes and classes of airspace

15.04 Purpose

For subregulation 131.353 (1), this Division prescribes requirements in relation to the use by a Part 131 aircraft of a control zone, a control area, a controlled aerodrome or a class of airspace.

15.05 Controlled aerodromes

(1) A Part 131 aircraft must not be operated at a controlled aerodrome unless the pilot in command holds one of the following:

(a) a current commercial pilot (balloon) licence;

(b) a current CAR certificate of validation;

(c) an authorisation (however described) that is issued by a relevant Part 131 ASAO to the pilot in command to operate a Part 131 aircraft at a controlled aerodrome.

Note Under the Part 149 MOS, a relevant ASAO must have the approved aviation administration function of issuing pilot authorisations that include the privileges of operating in controlled airspace or at controlled aerodromes.

(2) Part 131 aircraft operations at a controlled aerodrome must be conducted in accordance with the authorised aeronautical information.

(3) Subject to subsection (5), the pilot in command of a Part 131 aircraft operating at a controlled aerodrome must obtain ATC clearance to take-off or land.

(4) Subject to subsection (5), the pilot in command of a Part 131 aircraft that is, or is about to become, part of aerodrome traffic at a controlled aerodrome must:

(a) maintain a watch for instructions given visually by the ATC service for the aerodrome using standard visual signals; and

Note Standard visual signals are described in Division 2.3 of the Part 91 Manual of Standards.

(b) if a continuous listening watch for communications with ATS for the aerodrome can be maintained on the frequency specified in the authorised aeronautical information for the flight — maintain such a watch.

(5) Subsections (3) and (4) do not apply when an ATC service is not in operation for the aerodrome.

15.06 Control zones and areas — entry into Class A, B, C, D or E airspace

(1) Subject to subsections (2) and (3), a pilot in command of a Part 131 aircraft must not enter a control zone or a control area that is Class A, B, C, D or E airspace without ATC clearance (a ***clearance***).

(2) Despite subsection (1), VFR flights do not require clearance to enter Class E airspace.

(3) Subsection (1) does not apply when an ATC service is not in operation for a control zone or a control area.

15.07 Control zones and control areas — operating within

(1) A Part 131 aircraft must not be operated within a control zone or a control area unless the pilot in command holds one of the following:

(a) a current commercial pilot (balloon) licence;

(b) a current CAR certificate of validation;

(c) an authorisation (however described) that is issued by a relevant Part 131 ASAO to the pilot in command to operate a Part 131 aircraft at a controlled aerodrome.

Note Under the Part 149 MOS, a relevant ASAO must have the approved aviation administration function of issuing pilot authorisations that include the privileges of operating in controlled airspace or at controlled aerodromes.

(2) Part 131 aircraft operations in a control zone or a control area must be conducted in accordance with the authorised aeronautical information.

(3) The pilot in command of a Part 131 aircraft operating in a control zone or a control area must:

(a) notify ATC of any deviation from an ATC clearance (a clearance) given under section 15.06; and

(b) take positive action to comply with the clearance as soon as a deviation is recognised.

Note Regulation 91.257 also applies to a Part 131 aircraft.

15.08 Readback of ATC clearances and instructions

(1) This section applies to the pilot in command of a Part 131 aircraft in relation to the use by the aircraft of a control zone, a control area, or a controlled aerodrome.

(2) The pilot in command must ensure that he or she, or another member of the flight crew (if any) reads back to an air traffic controller the safety-related parts of any ATC clearance or instruction which the controller has transmitted by voice (a ***relevant ATC clearance or instruction***).

(3) Without affecting subsection (2), the following parts of a relevant ATC clearance or instruction must always be read back to the air traffic controller:

(a) ATC route clearances, including any amendments;

Note ATC route clearances include departure, en-route, arrival and approach clearances.

(b) clearances, conditional clearances and instructions to wait, take off from, or land; and

(c) the assigned altimeter settings, Mode A transponder codes, altitude instructions, operating area instructions;

(d) radio frequency instructions.

Division 15.3 Prohibited, restricted and danger areas

15.09 Purpose

For paragraphs 131.353 (1) (a), (b) and (c) respectively, this Division prescribes requirements in relation to the use by an aircraft of a prohibited area, a restricted area or a danger area.

15.10 Prohibited areas

Note For prohibited areas, see CASA's OAR 6-monthly *Designation of Prohibited, Restricted and Danger Areas – Declaration and Determination (Permanent PRDs) Instruments* and the relevant Designated Airspace Handbooks, as each exists, or is in force, from time to time. Entry or flight in a prohibited area is an offence under regulations 6, 15 and 16 of the *Airspace Regulations 2007* and regulation 91.260 of Part 91 of CASR.

15.11 Restricted areas

Note For restricted areas, see CASA's OAR 6-monthly *Designation of Prohibited, Restricted and Danger Areas – Declaration and Determination (Permanent PRDs) Instruments* and the relevant Designated Airspace Handbooks, as each exists, or is in force, from time to time. Unauthorised entry or flight in an active restricted area is an offence under regulations 6, 15 and 16 of the *Airspace Regulations 2007* and regulation 91.260 of Part 91 of CASR.

15.12 Danger areas

The pilot in command of a Part 131 aircraft may fly within or across a danger area provided that:

(a) before the flight, the pilot in command is demonstrably aware of the specific activity which causes the area to be a danger area; and

(b) before and during the flight, the pilot in command takes appropriate precautions against any safety risks that could arise from the flight.

Note For danger areas, see CASA's OAR 6-monthly *Designation of Prohibited, Restricted and Danger Areas – Declaration and Determination (Permanent PRDs) Instruments* and the relevant Designated Airspace Handbooks, as each exists, or is in force, from time to time. It is an offence under subregulation 131.353 (2) to not comply with the section 15.10 requirements for a danger area.

CHAPTER 16 USE OF RADIO — BROADCASTS AND REPORTS

16.01 Purpose

For paragraph 131.354 (1) (b), this Chapter prescribes broadcasts and reports relating to a flight that the pilot in command of a Part 131 aircraft must ensure are made during the flight.

Note Regulation 91.675 (Pilot in command to report hazards to air navigation) also requires the pilot in command to make certain reports to different persons (ATS or aerodrome operators) including, for example, meteorological conditions that are hazardous to flight or defects in airways facilities or at aerodromes.

16.02 Prescribed broadcasts and reports — general

The broadcasts and reports required under this Chapter must be made on the relevant published radio frequency, unless the air traffic service agrees to the use of a different frequency for special flight circumstances.

Note For example, descent from controlled to uncontrolled airspace, formation flights, SAR operations, and police and security operations. The pilot in command may initiate a request for an air traffic service to agree to a changed radio frequency for special flight circumstances.

16.03 Non-controlled aerodromes — prescribed broadcasts

(1) The pilot in command of a Part 131 aircraft must ensure that broadcasts on the CTAF are made for a non-controlled aerodrome in accordance with Table 16.03 (1) if:

(a) the pilot is operating at or in the vicinity of a non-controlled aerodrome (including a certified or military aerodrome when non-controlled); and

(b) the aircraft is equipped with an operative VHF radio; and

(c) the pilot is qualified to use the radio.

Note 1 For the definition of **in the vicinity of a non-controlled aerodrome —** see section 1.03.

Note 2 For a pilot to be authorised and qualified to use the radio — see regulation 91.625.

Note 3 For an aircraft that must be equipped with an operative VHF radio — see Chapter 26.

(2) For Table 16.03 (1), for an item in the Table, the pilot in command in the situation mentioned for the item in column 1 must ensure that the broadcast mentioned for the item in column 2 is made.

Table 16.03 – Non-controlled aerodromes – broadcasts

	Column 1	**Column 2**
Item	**Situation**	**Broadcast**
1	When the pilot in command considers it reasonably necessary to broadcast to avoid the risk of a collision with another aircraft	Broadcast

16.04 Controlled aerodromes and controlled airspace — prescribed reports

(1) The pilot in command of any:

(a) a Part 131 aircraft on the ground at a controlled aerodrome; or

(b) a Part 131 aircraft in Class A, B, C or D airspace:

must ensure that:

(c) reports to the ATC service are made in accordance with Table 16.04 (1); and

(d) reports and broadcasts are made in accordance with the other applicable provisions of this Chapter.

(2) For Table 16.04 (1), for an item in the Table, the pilot in command in the situation mentioned for the item in column 1 must make the report mentioned for the item in column 2.

(3) Despite paragraph (1) (c) and subsection (2), for item 8 of Table 16.04 (1), the required report must be made to the air traffic service for the Class G airspace volume that the Part 131 aircraft will descend into after the controlled airspace.

Note This is to ensure that separation with any aircraft operating near the base of controlled airspace is not compromised.

Table 16.04 (1) – Class A, B, C or D airspace – reports

	Column 1	**Column 2**
Item	**Situation**	**Report**
1	Ready to launch	Report the situation
2	Airborne	Report the situation
3	Position report when required by the ATC service, or by the route reporting requirements of the authorised aeronautical information	Report the situation
4	Previously reported position estimate is more than 2 minutes in error	Corrected position estimate
5	Aircraft performance degraded below: (a) the level required for the airspace in which it is operating; or (b) the capability of the aircraft reported in the aircraft's flight notification	Report the situation
6	Leaving a level or reaching an assigned level	Report the situation
7	Unable to comply with ATC clearances or instructions	Report the situation
8	Before leaving controlled airspace on descent	Report the situation
9	Landed	If cancelling SARWATCH – report cancellation

Note Item 5 pertains to degradation of aircraft performance as a result of failure or degradation of navigation, communications, altimetry (including transponders), flight control or other systems.

16.05 Class E or G airspace — prescribed reports

(1) The pilot in command of a Part 131 aircraft in Class E or G airspace must ensure that:

(a) a report is made to the air traffic service for the airspace in accordance with Table 16.05 (1); and

(b) reports and broadcasts are made in accordance with the other applicable provisions of this Chapter.

(2) For Table 16.05 (1), for an item of the Table, the pilot in command in the situation mentioned for the item in column 1 must ensure that the report mentioned for the item in column 2 is made.

Table 16.05 (1) – Classes E and G airspace – reports

	Column 1	**Column 2**
Item	**Situation**	**Report**
1	Requiring clearance into controlled airspace	Report the situation
2	Before, and on completion of, over-water stage	Report in accordance with SAR reporting schedules if arranged before the over-water stage

CHAPTER 17 OPERATIONS AT NON-CONTROLLED AERODROMES

17.01 Purpose

For subregulation 131.360 (1), this Chapter prescribes requirements in relation to the operation of a Part 131 aircraft at, or in the vicinity of, a non-controlled aerodrome.

Note For the meaning of ***in the vicinity of a non-controlled aerodrome,*** the CASR Dictionary references regulation 91.360 which indicates that such vicinity is in uncontrolled airspace, within 10 NM of the aerodrome and at a height above the aerodrome that could result in conflicting operations.

17.02 Giving way on take-off, landing or in flight

(1) The pilot in command of the Part 131 aircraft that is taking off or landing at, or within 3 NM of, a non-controlled aerodrome must give way an aircraft that is landing at the aerodrome or on final approach to land.

Note For example, The pilot in command gives way by delaying the take-off.

(2) The pilot in command of the Part 131 aircraft that is flying within 3 NM of a non-controlled aerodrome at a height above the aerodrome that could result in conflict with operations at the aerodrome must give way to another aircraft operating in the aerodrome traffic pattern for the runway in use.

Note For example, by climbing or descending to remain clear of the other aircraft's flight path.

17.03 Operating at, or in the vicinity of, a non-controlled aerodrome

(1) The pilot in command of a Part 131 aircraft, when operating on the manoeuvring area of, or in the vicinity of, a non-controlled aerodrome, must:

(a) keep a lookout for other aircraft that are being operated on the manoeuvring area, or in the vicinity of the aerodrome, to avoid a collision; and

(b) ensure that the aircraft does not cause a danger to other aircraft on the manoeuvring area, or in the vicinity of the aerodrome.

(2) When within 3 NM of a non-controlled aerodrome, the pilot in command of a Part 131 aircraft who does not hold a qualification mentioned in subsection (4):

(a) must not land or take off; and

(b) if overflying the aerodrome must maintain at a height of at least 2 000 ft AGL.

(3) When within 3 NM of a non-controlled aerodrome, the pilot in command of a Part 131 aircraft who holds a qualification mentioned in subsection (4):

(a) may take off, or conduct manoeuvres necessary to achieve a safe landing; and

(b) on take-off, must climb to, and maintain, a height of at least 1 500 ft AGL; and

(c) if overflying the aerodrome must maintain at a height of at least 1 500 ft AGL.

(4) For subsections (2) and (3), the qualification is one of the following:

(a) a current commercial pilot (balloon) licence (CP(B)L); or

(b) a current CAR certificate of validation; or

(c) a current pilot certificate issued by a Part 131 ASAO that is endorsed for flight within 3 NM of a non-controlled aerodrome.

CHAPTER 18 FLIGHTS OVER WATER

18.01 Purpose

For subregulations 131.365 (1) and (2), this Chapter prescribes the requirements for the flight of a Part 131 aircraft over water.

18.02 Definition

In this section:

risk considerations means the following considerations:

(a) the potential for exposure of any crew member for the flight, or passenger on the flight, to injury because of the operation;

Note The potential for exposure to injury includes the chances of survival in the water of the persons on board the aircraft in the event of the aircraft descending, or ditching, into the water.

(b) the surface condition of the area of water, including the wave height, wind conditions and swell;

(c) the water temperature and air temperatures;

(d) the distance the Part 131 aircraft would be, at any time while over the water, from land that was suitable for a landing;

(e) the availability of search and rescue facilities, and the time it would likely take for a successful search and rescue operation to be completed;

(f) the emergency and survival equipment carried on the aircraft.

18.03 Requirements for Part 131 aircraft flights over water

(1) This section applies to the flight of a Part 131 aircraft:

(a) if it is planned to fly the aircraft over water where, in the event of an emergency, a landing or ditching in the water may occur; or

(b) if the planned flight is in an area, or under circumstances, in which:

(i) there is a reasonable possibility that the aircraft may unintentionally fly over water; and

(ii) in the event of an emergency, a landing or ditching in the water may occur.

Note Water would include, for example, the sea, a lake, a bay or an estuary.

(2) Before take-off, the pilot in command of a Part 131 aircraft must identify, consider, and plan to take into account the risks of the operation, having regard to the risk considerations.

(3) Based on the risks identified under subsection (2), the pilot in command of a Part 131 aircraft must decide whether to carry all or some of the following;

(a) a life jacket or equivalent flotation device for each person on board the aircraft;

(b) an emergency locator transmitter;

(c) signalling equipment for making distress signals;

(d) other emergency equipment.

Note 1 Examples of other emergency equipment include personal locator transmitters, warm or waterproof clothing, food and drink, lighting equipment.

Note 2 Division 26.7 contains requirements that apply to emergency locator transmitters, and Division 26.9 contains requirements that apply to life jackets.

(4) Any obligation that is imposed by this section on the pilot in command of a balloon transport operation is equally imposed on the relevant balloon transport operator to

the extent of ensuring that the obligation imposed on the pilot in command is complied with.

(5) In determining the following:

(a) the risks to the aircraft of a flight over water;

(b) the chances of survival in the water of persons on the aircraft in the event of the aircraft descending or ditching into the water;

the operator and the pilot in command assume responsibility for the lives of the persons on board the aircraft.

CHAPTER 19 VISUAL FLIGHT RULES

19.01 Purpose

For subregulation 131.367 (1), this Chapter prescribes requirements relating to the operation of a Part 131 aircraft for a VFR flight.

19.02 VFR flight requirements

(1) The pilot in command of a Part 131 aircraft must ensure that during VFR flight the aircraft is flown in accordance with:

(a) the VMC criteria for the airspace in which the flight is conducted; or

(b) the special VFR — but only if ATC has authorised the pilot in command to so conduct the flight.

(2) When navigating by visual reference to the ground or water, the pilot in command must, at intervals of not more than 30 minutes, positively fix the aircraft's position by visual reference to features marked on topographical maps or charts.

(3) For subsection (2), when navigating by visual reference over the sea, visual reference features may include rocks, reefs and fixed man-made objects that are:

(a) marked on topographical charts appropriate for the flight; and

(b) readily identifiable from the air.

(4) The pilot in command of a Part 131 aircraft conducting a flight at night under the VFR must:

(a) for a Part 131 aircraft that is a hot air balloon or a hot air airship:

(i) not take off more than 1 hour before first light; and

(ii) plan to land the aircraft after first light; and

(iii) ensure that the aircraft does not land at night other than in an emergency;

(b) for a Part 131 aircraft that is a gas balloon or a mixed balloon — not land the aircraft at night other than in an emergency or as a precautionary manoeuvre.

CHAPTER 20 OPERATION OF TETHERED PART 131 AIRCRAFT OTHER THAN A SUBPART 131.Z TETHERED GAS BALLOON

20.01 Purpose

For subregulation 131.375 (1), this Chapter prescribes requirements relating to the flight of a Part 131 aircraft (other than a Subpart 131.Z tethered gas balloon) that is tethered to the ground for the flight (***tethered flight***).

20.02 Requirements

(1) Subject to subsection (2), a person must not operate a Part 131 aircraft in tethered flight:

(a) on the movement area or on a runway of an aerodrome; or

(b) within 4 000 metres of the aerodrome.

(2) Subsection (1) does not apply if the person has permission or approval in writing for the operation:

(a) for a controlled aerodrome when the ATC service is operating — from the ATC service for the aerodrome; or

(b) in the case of any other certified aerodrome — from CASA under regulation 131.035 for this section.

(3) A person must not operate a Part 131 aircraft in tethered flight in such a manner as to create an obstruction to an aircraft taking off from, or approaching for landing at, the following areas of an aerodrome:

(a) a marked rotorcraft landing area;

(b) a rotorcraft landing area identified as such in the authorised aeronautical information;

(b) a runway.

(4) A person must not operate a Part 131 aircraft in tethered flight in such a manner that the crown of the aircraft exceeds 300 feet AGL, unless the person has the written approval of CASA under regulation 131.035.

(5) A person must not operate a Part 131 aircraft in tethered flight in other than VMC.

CHAPTER 21 FUEL AND BALLAST REQUIREMENTS

21.01 Purpose

For subregulation 131.385 (1), this Division prescribes requirements relating to fuel and ballast for a Part 131 aircraft, whether or not it is conducting a balloon transport operation.

Note Fuel, in the form of liquid petroleum gas, is used in hot air balloons, hot air airships and mixed balloons to control altitude by heating the air inside the envelope. Ballast (as defined in subsection 1.06 (5)) is used in a gas balloon to control altitude by initiating ascent and controlling descent through the progressive release of the ballast. A gas balloon flight must terminate when the ballast is exhausted.

21.02 Definitions for this Chapter

In this Chapter:

final reserve fuel means the calculated amount of usable fuel, expressed as a period of time, required to be remaining in the fuel tanks on completion of at the final landing of a flight before ground handling.

night operations fuel for a hot air balloon or hot air airship means the amount of fuel required to enable an aircraft, that is conducting a flight under the VFR at night, to remain airborne until conducting a landing by day.

trip fuel means the amount of fuel required to enable a hot air balloon or hot air airship to fly from any point along a route until landing at a suitable landing area.

unforeseen factors means factors that could have an influence on an aircraft's fuel consumption to a suitable landing area, including the following:

(a) the aircraft's deviation from the expected fuel consumption data for the aircraft;

(b) extended deviations from planned routings or altitudes.

21.03 General requirements

Gas balloon

(1) For a gas balloon that exclusively uses ballast to control the altitude of the aircraft, the pilot in command for the flight of an aircraft must, after taking into account the matters required by this Chapter to be considered in relation to amounts of fuel, ensure that the aircraft is carrying on board at least the amount of ballast that would achieve an equivalent outcome to the fuel requirements specified by this Chapter.

Mixed balloon

(2) For a mixed balloon, the pilot in command for the flight of an aircraft must, after taking into account the matters required by this Chapter to be considered in relation to amounts of fuel, ensure that the aircraft is carrying on board at least the amount of fuel that would achieve an equivalent outcome to the fuel requirements specified by this Chapter.

Fuel consumption data

(3) When determining the amount of usable fuel required under this Chapter for a flight of a hot air balloon or hot air airship, the pilot in command must use 1 of the following fuel consumption data sources:

(a) the most recent aircraft specific fuel consumption data derived from the fuel consumption monitoring system used by the operator of the aircraft (if available);

(b) the aircraft manufacturer's data for the aircraft.

Operational requirements etc.

(4) In determining the amount of usable fuel required under this Chapter, the pilot in command must take the following matters into account:

(a) the operating conditions for the proposed flight, including the following:

(i) the total loaded weight of the aircraft at take-off;

(ii) relevant NOTAMs;

(iii) relevant authorised weather forecasts and authorised weather reports;

(iv) relevant air traffic service procedures, restrictions and possible delays;

(v) the terrain to be flown over, and the suitable landing area opportunities it presents;

(vi) the planned duration of the flight;

(b) the potential for deviations from the planned flight because of unforeseen factors.

21.04 Amount of fuel that must be carried for a flight

(1) The pilot in command of an aircraft must ensure that, when a flight of the aircraft commences, the aircraft is carrying on board at least the following amounts of usable fuel:

(a) trip fuel;

(b) night operations fuel (if applicable);

(c) for a flight that is a balloon transport operation —final reserve fuel of 20 minutes.

(2) Without affecting subsection (1), the pilot in command of an aircraft must not commence a flight unless the aircraft is carrying on board at least the following amounts of usable fuel:

(a) subject to paragraph (b) — an amount equivalent to at least 30 minutes of flight time;

(b) for a hot air balloon that is equipped with only a single fuel tank, and that is not conducting a balloon transport operation — an amount equivalent to at least 15 minutes of flight time.

(3) The pilot in command must ensure that the aircraft is carrying on board at least the following amounts of usable fuel, required at any time (***that time***) to safely continue the flight:

(a) trip fuel from that time;

(b) night operations fuel from that time (if applicable);

(c) for a flight that is a balloon transport operation – a final reserve fuel of 20 minutes.

(4) If, after commencement of the flight, fuel is used for a purpose other than that originally intended during pre-flight planning, the pilot in command must reanalyse the planned use of fuel for the remainder of the flight, and adjust the parameters of the flight in so far as is necessary to remain in compliance with the requirements of this Chapter.

21.05 Procedures for determining fuel before flight and fuel monitoring during a flight

(1) The pilot in command of an aircraft for a flight must ensure that the amount of usable fuel on board the aircraft is determined before the flight commences.

(2) The pilot in command must ensure that the amount of fuel is checked at regular intervals throughout the flight, and that the usable fuel remaining is evaluated to:

(a) compare planned fuel or ballast consumption with actual fuel or ballast consumption (as applicable); and

(b) determine the amount of usable fuel remaining; and

(c) determine whether the remaining usable fuel is sufficient to satisfy the requirements of subsection 21.04 (3); and

(d) determine the amount of usable fuel expected to be remaining when the aircraft lands at a suitable landing area.

21.06 Procedures if fuel reaches specified amounts

If, at any time during a flight, the amount of usable fuel remaining in the aircraft on landing at a suitable landing area will be, or is likely to be, less than the fuel required under subsection 21.04 (3), then the pilot in command must:

(a) take into account the likely operational conditions on arrival at a suitable final landing area; and

(b) be prepared to make a precautionary landing at another suitable landing area that enables the pilot in command to continue to meet the requirements in section 21.04.

21.07 Operational variations — procedures and requirements

(1) Despite section 21.04, a balloon transport operator may use an operational variation, specified in the operator's exposition for the purpose of this section, that relates to the calculation of any of the following, if the requirements in subsections (2) and (4) are met:

(a) trip fuel;

(b) night operations fuel.

(2) At least 28 days before using an operational variation, a balloon transport operator must submit to CASA:

(a) evidence of at least 1 of the following, that demonstrates how the operational variation will maintain or improve aviation safety:

(i) documented in-service experience;

(ii) the results of a specific safety risk assessment conducted by the relevant operator that meets the requirements of subsection (3); and

(b) a copy of the relevant operator's procedures proposed for inclusion in the exposition, in relation to using the operational variation.

Note Under regulation 131.115 of CASR (as applicable), CASA may direct a balloon transport operator to remove or revise an operational variation, if CASA were to find there was insufficient evidence that it would maintain or improve aviation safety.

(3) For subparagraph (2) (a) (ii), a specific safety risk assessment must include at least the following:

(a) flight fuel calculations;

(b) the capabilities of the relevant operator, including:

(i) a data-driven method that includes a fuel consumption monitoring program; and

(ii) the use of sophisticated techniques for determining the suitability of alternate landing areas; and

(iii) specific risk mitigating measures.

(iv) the quality and reliability of meteorological information;

(4) For the purposes of subsection (1), the balloon transport operator's exposition must include procedures in relation to the use of the operational variation.

CHAPTER 22 CARRIAGE OF PERSONS REQUIRING ASSISTANCE

22.01 Purpose

For paragraph 131.405 (1) (a), this Chapter prescribes requirements relating to carriage on a flight of a Part 131 aircraft of a person who is likely to require assistance.

22.02 Requirements – persons requiring assistance – any Part 131 aircraft

(1) A Part 131 aircraft must not carry on a flight a person who requires assistance due to sickness, injury or disability (***the passenger***) unless the requirements of this section are complied with.

(2) The pilot in command must be satisfied that the passenger can be safely accommodated on the flight without causing a hazard to any other passenger or person on the aircraft.

(3) The passenger must be positioned in the basket or gondola of the aircraft so as to not impede the exit of any other passenger or person on board the aircraft in the event of an emergency.

(4) A person who requires the use of a wheelchair, may only be carried:

(a) in a basket that is constructed and equipped, in accordance it the AFM, for the safe carriage of such a person (a suitable basket); and

(b) in accordance with the procedures for carriage of such a person specified in the AFM.

(5) If the suitable basket has been constructed with a door to allow passenger ingress and egress, the pilot in command must operate and secure the door in accordance with the procedures in the AFM.

Note Subsection 23.02 (6) also contains safety briefing requirements for persons requiring assistance.

22.03 Requirements — balloon transport operators

(1) Without affecting section 22.02, the exposition of a balloon transport operator must contain procedures for the following:

(a) the risk assessment and management of a passenger who requires assistance due to sickness, injury or disability (***the passenger***);

(b) the carriage of a passenger who requires the use of a wheelchair, in a basket of a kind mentioned in paragraph 22.02 (4) (a);

(c) the operation and securing of a door mentioned in subsection (6);

(d) the assessment of flight weather conditions;

(e) the assessment of any other flight conditions that may affect the safety of the balloon transport operation.

CHAPTER 23 PASSENGERS — SAFETY BRIEFINGS AND INSTRUCTIONS

23.01 Purpose

(1) For subregulation 131.410 (1), this Chapter prescribes the matters that must be included in the safety briefing and instructions for a passenger **before** a Part 131 aircraft takes off for a flight.

(2) For subregulation 131.410 (2), this Chapter prescribes:

(a) the circumstances during the flight in which a safety briefing and instructions must be given to a passenger; and

(b) the matters that must be included in the safety briefing and instructions for the circumstances.

23.02 Safety briefing and instructions before take-off

(1) For paragraph 131.410 (2) (a), a safety briefing or instruction mentioned in this section must be given to a passenger before the Part 131 aircraft takes off for a flight.

(2) The safety briefing or instructions must:

(a) take the form of a verbal briefing and related demonstration about safety matters for the flight; and

(b) be given in a way that ensures the information is easily retained and applied during the stage of the flight relevant to each aspect of the safety briefing or instruction.

Note Stages of flight in the context of this paragraph would include take-off, cruise, landing and emergencies.

(3) For passengers who may not speak English, the briefing must be supplemented by any relevant video, pictorial, or graphic, material or instructions, in the passengers' language, unless the verbal briefing is given in that language.

(4) Subject to subsection (5), the safety briefing and related demonstration must be given by the pilot in command, unless exceptional circumstances require the briefing and demonstration to be given by another person who is:

(a) nominated by the pilot in command; and

(b) equally familiar with the requirements.

Note Exceptional requirements include, for example, a matter concerning the safety of the balloon flight which requires the immediate attention of the pilot in command.

(5) For a balloon transport operation, the safety briefing and related demonstration must be conducted by:

(a) the pilot in command; or

(b) by another person who is:

(i) designated by the operator to deliver passenger safety briefings and instructions.; and

(ii) qualified for the purpose in accordance with the operator's exposition.

(6) A specific safety briefing must be provided directly to any passenger requiring assistance on the flight, and any person accompanying or assisting the passenger (the ***accompanying person***), and the safety briefing must:

(a) include what to do if an emergency landing of the aircraft is necessary; and

(b) be given in a form appropriate to the passenger and an accompanying person.

(7) A specific safety briefing must:

(a) be provided directly to any passenger responsible for an infant on the flight; and

(b) explain how the infant must be restrained in normal operations and in an emergency.

Note Regulation 131.400 requires a balloon transport operator to hold an approval under regulation 131.035 to carry an infant on a flight.

(8) If life jackets are carried on the aircraft, the safety briefing must include a demonstration of the method of donning and inflating a life jacket.

(9) The safety briefing and instructions must cover at least each of the following matters:

(a) safety in relation to ground equipment, including any envelope inflation fans;

(b) safety in relation to any restricted access areas in the launch area;

(c) the role and authority of ground support personnel and the pilot in preserving safety, including through giving instructions;

Note For example, passengers must stow personal belongings and baggage, and assume the landing position, on the pilot's instructions.

(d) the wearing of suitable clothing (with an indication of what is unsuitable);

(e) smoking prohibitions around, and on board, the aircraft, including in relation to the use of e-cigarettes;

(f) procedures for boarding the aircraft;

(g) the in-flight use and stowage of personal belongings and baggage;

(h) instructions that the aircraft controls and equipment must not be interfered with;

(i) the timing and posture for the landing position to be adopted for landing, as appropriate to the aircraft type design;

(j) the landing position for an emergency;

(j) a practice session for each passenger in adopting the correct landing position and the brace position;

(k) the importance of remaining on board the aircraft until instructed otherwise, particularly after landing;

(l) instructions on the location and use of any emergency equipment (including life jackets and oxygen equipment) that is provided for individual passenger use;

(m) general instructions on any possibility of emergency situations and how to respond.

23.03 Safety briefing and instructions before landing

(1) For paragraph 131.410 (2) (a), a prescribed circumstance is a time, before the landing of the Part 131 aircraft, at which the passenger could be reasonably expected to remember, before the flight ends, the safety briefing and instructions contained in this section.

(2) The pilot in command must give a safety briefing that reminds the passengers of the landing position.

(3) The pilot in command must give the passengers a safety instruction that:

(a) they must stow personal belongings and baggage; and

(b) they must assume the landing position; and

(c) they must remain on board the aircraft until instructed to disembark.

23.04 Operator's exposition

A balloon transport operator's exposition must contain:

(a) the procedures and requirements for passenger safety briefings and instructions; and

(b) details of when safety briefings and instructions must be given; and

(c) the role and qualifications of the persons, other than the pilot in command, who may give them.

CHAPTER 24 LOADING WEIGHTS

Division 24.1 Maximum loading weights

24.01 Purpose

For subregulation 131.445 (2), this Division prescribes the circumstances and the method for calculating the maximum weight of a Part 131 aircraft for a flight.

24.02 Circumstances and methods for calculating maximum weight

(1) For paragraph 131.445 (2) (a), the circumstances are before the Part 131 aircraft takes off for the flight.

Note Under regulation 131.450, a balloon transport operator's exposition must include procedures for loading a Part 131 aircraft for a flight.

(2) For paragraph 131.445 (2) (b), the method used by the pilot in command to calculate the maximum weight of the Part 131 aircraft for the flight is this: the maximum weight is calculated by considering, and then taking into account, the following factors in order to arrive at the maximum weight:

(a) any aircraft loading system specified by the manufacturer;

(b) the ambient temperature and altitude at the launch site;

(c) the planned maximum altitude for the flight;

(d) the combined weight of all persons on board;

(e) the weight of fuel or ballast on board;

(f) the weight of any equipment or cargo carried on board.

Note CAO 100.96 places requirements on pilots and operators relating to the initial and subsequent establishment of the empty weight of certain Part 131 aircraft.

(3) For paragraph (2) (d), the combined weight of all persons on board may be determined by using one of the following:

(a) actual clothed-body weights measured or declared by the passenger;

(b) the standard weights prescribed by section 10.01 of the Part 121 Manual of Standards;

(c) for a flight that is a balloon transport operation — an exposition-derived weight, being the passenger weight calculated using procedures described in the balloon transport operator's exposition as in force or existing from time to time.

Note For guidance on the use of exposition-derived weight see Advisory Circular (AC) AC 121-05, 133-04, 135-08, as existing from time to time and freely available on the CASA website.

Division 24.2 Minimum loading weights

24.03 Purpose

(1) For subregulation 131.445 (4), this Division prescribes the method for calculating the minimum loading weight of a Part 131 aircraft for a flight.

24.04 Circumstances and methods for calculating minimum loading weight

(1) For paragraph 131.445 (4) (a), the circumstances before the Part 131 aircraft takes off for the flight.

(2) For paragraph 131.445 (4) (b), the method used by the pilot in command to calculate the minimum weight of the Part 131 aircraft for the flight is this: the minimum weight

is calculated by considering, and then taking into account, the following factors in order to arrive at the minimum weight:

(a) any aircraft loading system specified by the manufacturer;

(b) the ambient temperature and altitude at the launch site and planned landing sites;

(c) the planned maximum altitude for the flight;

(d) the combined weight of all persons on board, including any changes to the combined weight that might arise due to planned reductions in the persons on board during the flight (for example the dropping of one or more parachutists from the aircraft in flight);

(e) the weight of fuel or ballast on board, including any expected reductions in the weight of fuel or ballast during a flight;

(f) the weight of any equipment or cargo carried on board, including any changes to the weight that might arise due to planned reductions in this weight during a flight (for example the dropping of equipment or cargo from the aircraft in flight).

Note CAO 100.96 places requirements on pilots and operators relating to the initial and subsequent establishment of the empty weight of certain Part 131 aircraft.

(3) For paragraph (2) (d), the combined weight of all persons on board may be determined by using one of the following:

(a) actual clothed-body weights measured or declared by the passenger;

(b) the standard weights prescribed by section 10.01 of the Part 121 Manual of Standards;

(c) for a flight that is a balloon transport operation — an exposition-derived weight, being the passenger weight calculated using procedures described in the balloon transport operator's exposition as in force or existing from time to time.

Note For guidance on the use of exposition-derived weight see Advisory Circular (AC) AC 121-05, 133-04, 135-08, as existing from time to time and freely available on the CASA website.

CHAPTER 25 CARRIAGE OF PASSENGERS

25.01 Purpose

(1) For subregulation 131.455 (1), this Chapter prescribes requirements relating to the carriage of passengers on a flight of a Part 131 aircraft, including:

(a) the maximum number of passengers that may be carried for the flight of a Part 131 aircraft; and

(b) the location of passengers on the Part 131 aircraft for the flight.

25.02 Application

(1) This Chapter applies to the carriage of passengers on a Part 131 aircraft engaged in one of the following (a ***passenger operation***):

(a) balloon transport operations;

(b) specialised balloon operations;

(c) a Part 131 recreational activity;

(d) balloon flying training.

25.03 Maximum number of passengers

The maximum number of passengers that may be carried is as follows:

(a) for a balloon transport operation or a Part 131 recreational activity — 24;

(b) for a Part 131 recreational activity that is a cost-sharing flight — 5;

(c) for balloon flying training conducted under Part 5 of CAR — 6;

(d) if the operator of a specialised balloon operation holds an approval for the operation under regulation 131.035 for subregulation 131.325 (2) — the number or passengers specified by CASA in the approval.

25.04 Pilot in command communications with passengers

If the Part 131 aircraft has more than 2 passenger compartments, the pilot in command must be able to effectively communicate with all passenger compartments from the control position for the aircraft.

25.05 Location of passengers

(1) Each passenger must be located in a position from which it is possible to hear any instructions given by the pilot in command.

(2) If the Part 131 aircraft has multiple passenger compartments:

(a) an approximately equal weight of passengers must be located in each passenger compartment; but

(b) not more than 6 passengers may be located in any single passenger compartment.

25.06 Carriage of children as passengers

(1) A child must be accompanied by an adult.

(2) On the grounds of aviation safety, the pilot in command of the Part 131 aircraft may decline to carry a child accompanied by an adult on a flight if the child is:

(a) smaller in height than the inner height of the basket; or

(b) unable to understand any part of the passenger safety briefing and instructions; or

(c) unable to take the landing position.

Note In the CASR Dictionary, ***child*** means a person who has turned 2 but has not turned 13; and ***infant*** means a person who has not turned 2. Under regulation 131.400, an infant must not be carried on a Part 131 aircraft if the operator does not hold a CASA approval under regulation 131.035 to carry the infant.

25.07 On board equipment for passengers

(1) Each passenger in a Part 131 aircraft that has a basket must have his or her own handhold.

(2) Each passenger in a Part 131 aircraft that is a hot air airship must:

(a) have his or her own seat; and

(b) if the airship is fitted with seat belts or safety harnesses — wear the seat belt or safety harness.

25.08 Exposition requirements

A balloon transport operator's exposition must contain procedures to be followed to ensure that the requirements of this Chapter are complied with, including:

(a) a description of the duties and responsibilities of the pilot in command in communicating with, and controlling, passengers in normal and emergency situations during an operation; and

(b) a description of the duties and the responsibilities of ground crew members:

(i) in assisting with the safe launching of the Part 131 balloon; and

(ii) in ensuring that passengers are loaded and unloaded safely, and are not exposed to unnecessary hazards on the ground or in during normal or emergency situations.

CHAPTER 26 EQUIPMENT

Division 26.1 General

26.01 Purpose

(1) For subregulation 131.460 (1), this Chapter prescribes requirements relating to:

(a) the fitment and non-fitment of equipment to a Part 131 aircraft; and

(b) the carrying of equipment on a Part 131 aircraft; and

(c) equipment that is fitted to, or carried on, a Part 131 aircraft.

Note Regulations 91.875 and 91.900 of CASR apply to Part 131 experimental and light sport aircraft. The placard requirements in Chapter 27 of the Part 91 MOS apply to Part 131 aircraft that are experimental aircraft or light sport aircraft.

(2) For subregulation 131.460 (1), unless the contrary intention appears in or for a particular provision, the pilot in command of a Part 131 aircraft, and, if the flight is a balloon transport operation, the balloon transport operator, are subject to each of the requirements set out in the provisions of this Chapter.

(3) In this Chapter, unless the contrary intention appears in or for a particular provision:

(a) a reference to a pilot seeing or viewing anything from a pilot's position is taken to mean that the thing is seen or viewed from the pilot's normal control position in the aircraft; and

(b) any mention of feet (or ft) in the context of an altitude is taken to mean feet above mean sea level (AMSL), unless otherwise stated.

Division 26.2 Approvals and visibility

26.02 Approval of aircraft equipment

(1) In this section:

relevant aircraft means a Part 131 aircraft that is any of the following:

(a) a light sport aircraft for which a special certificate of airworthiness has been issued and is in force under regulation 21.186 of CASR;

(b) any other Part 131 aircraft for which an experimental certificate has been issued and is in force under paragraph 21.191 (g) of CASR.

(2) Before a Part 131 aircraft begins a flight, any equipment that is required to be fitted to, or carried on, the aircraft under this Chapter (other than surveillance equipment required under Division 26.10) must be compliant with the requirements of, or approved under, Part 21 or Part 31 of CASR.

Note Division 26.10 contains requirements for mandatory or optional carriage of surveillance equipment which, usually, requires TSO or ETSO authorisation. However, Division 26.10 provides conditional alleviation from such authorisation. A requirement for CASR Part 21 approval would interfere with this conditional alleviation.

(3) Subsection (2) does not apply to the following:

(a) an item of equipment used to display the time;

(b) an item of equipment used to display vertical speed;

(c) an item of equipment used to display magnetic heading;

(d) an item of equipment used to indicate envelope temperature;

(e) an item of equipment used to determine free air temperature;

(f) radiocommunications equipment;

(g) a drop or handling line;

(h) a pilot restraint harness;

(i) a trail rope;

(j) an independent portable light, for example, a torch or landing light;

(k) a headset;

(l) a first-aid kit or medical kit;

(m) survival equipment, including signalling equipment.

(4) Subsection (2) does not apply to a relevant aircraft in respect of any required transponders and surveillance equipment if the aircraft is fitted with, or carries, transponders and surveillance equipment which provide the pilot and ATC with the same transponder and surveillance capability as would be provided if the equipment had complied with subsection (2).

(5) Before a foreign-registered Part 131 aircraft begins a flight in Australian airspace, the equipment fitted to, or carried on, the aircraft must have been approved as required by the NAA of the aircraft's State of registry.

(6) If equipment is carried on an aircraft although not required by this Chapter to be fitted or carried, then:

(a) the equipment need not be compliant with the requirements of, or approved under, Part 21 of CASR; and

(b) for a foreign-registered aircraft — the equipment need not have been approved by the NAA of the aircraft's State of registry; and

(c) any information, or data, provided by the equipment must not be used by any flight crew member for a flight to comply with any requirement of the civil aviation legislation in relation to communications or navigation; and

(d) the equipment, whether functional or otherwise, must not at any time affect the airworthiness of the aircraft.

Note The fitment or carriage of optional surveillance equipment must be in accordance with section 26.21, and must meet any other requirements under Division 26.10 for the specific kind of equipment.

26.03 Visibility and accessibility — pilot-operated equipment

(1) This section applies in relation to equipment that is required under this Chapter to be fitted to, or carried on, an aircraft for a flight.

(2) Any equipment that is for a pilot's manual or visual use in, or from, the pilot's control position must be visible to, and usable by, the pilot from the pilot's position in the aircraft.

(3) Emergency equipment that is required under this Chapter to be fitted to, or carried on, an aircraft for a flight must be easily accessible for immediate use in the event of an emergency.

26.04 Serviceability of equipment

(1) Equipment that is required by this Chapter to be fitted to, or carried on, an aircraft for a flight (***relevant equipment***) must be operative.

(2) Despite subsection (1), relevant equipment may be inoperative:

(a) in accordance with a minimum equipment list (MEL) (if any) for the aircraft for the flight — provided that the MEL does not contradict an express requirement otherwise prescribed in this Chapter for the relevant equipment; or

Note For approval of a MEL, see regulation 91.935.

(b) because of a defect that has been approved as a permissible unserviceability (PUS) for the aircraft for the flight — provided that the aircraft is operated in accordance with the permissible unserviceability.

Note For approval of a PUS, see regulation 21.007.

Division 26.3 Flight instruments

26.05 Part 131 aircraft VFR flight by day

(1) Subject to subsection (2), a Part 131 aircraft for a VFR flight by day must be fitted with, or carry, equipment for measuring and displaying the following flight information:

(a) pressure altitude;

(b) for a hot air airship — magnetic heading;

(c) for a manned free balloon — the direction of balloon drift;

(d) time;

(e) vertical speed;

(f) except for a gas balloon — free air temperature;

(2) For subsection (1), the equipment for measuring and displaying the flight information mentioned in column 1 of an item in Table 26.05 (2) must meet the requirements mentioned in column 2 of the same item.

Table 26.05 (2) – Requirements for equipment – Part 131 aircraft VFR flight by day

	Column 1	**Column 2**
Item	**Flight information**	**Requirements**
1	Pressure altitude	The equipment must: (a) have an adjustable datum scale calibrated in millibars or hPa; and (b) be calibrated in feet, except that, if a flight is conducted in a foreign country which measures FLs or altitudes in metres, the equipment must be calibrated in metres or fitted with a conversion placard or device.
2	Magnetic heading	The equipment must be a direct reading magnetic compass.
3	Time	1. The equipment must display accurate time in hours, minutes and seconds. 2. The equipment must be: (a) fitted to, or carried on, the aircraft; or (b) worn by, or be immediately accessible to, the pilot for the duration of the flight.

26.06 Hot air airship flight – VFR flight – additional requirements

(1) For a VFR flight, a Part 131 aircraft that is a hot air airship must meet the requirements in this section.

(2) A hot air airship that has a maximum permissible forward airspeed less than that attainable with the engine(s) operating at full power must have equipment capable of indicating when the maximum permissible airspeed is reached.

(3) A pressurised hot air airship must have an internal pressure indicator for use by the pilot in command.

Division 26.4 Operational equipment

26.07 Radiocommunication systems

(1) Subject to subsection (2), a Part 131 aircraft for a flight, in any class of airspace, whether controlled or uncontrolled, must be fitted with, or carry, radiocommunication systems capable of:

(a) collectively communicating on all frequencies necessary to meet the reporting, broadcast and listening watch requirements under regulations 131.354, 91.635, 91.640 and 91.675, from any point on the route of the flight, including in the event of any diversions; and

(b) 2-way voice communications; and

(c) communicating on the aeronautical emergency frequency 121.5 MHz.

Note Certain experimental aircraft do not have to comply with the requirement for this equipment to be approved under Part 21 of CASR: see subsection 26.02 (4).

(2) Subject to subsection (3), an aircraft for a flight under the VFR by day in Class G airspace at or below 5 000 ft AMSL (a ***relevant aircraft***) is not required to comply with subsection (1).

(3) Subsection (2) does not apply if a relevant aircraft is operating in accordance with the VMC criteria at item 5 or 6 of Table 2.02 (3).

26.08 When aircraft may begin a flight with inoperative radiocommunications

(1) This section applies to a flight of a Part 131 aircraft that is not a balloon transport operation.

(2) A Part 131 aircraft for which a radiocommunication system is required may begin a flight in controlled airspace with an inoperative radiocommunication system only if:

(a) before the flight begins, the ATC service for the airspace is informed of the inoperative radiocommunication system; and

(b) clearance for the flight is obtained from the ATC service.

Note For continuation of a flight with an inoperative radiocommunication system, see section 15.03.

26.09 Fuel and burner equipment

Except for a gas balloon, a Part 131 aircraft for a flight must be fitted with, or carry, the following equipment:

(a) equipment for measuring and indicating fuel quantity;

(b) at least two items of equipment for igniting the burner;

(c) for flight at night, at least 2 independent fuel systems.

26.10 Lines and ropes

(1) Except for a gas balloon, a Part 131 aircraft for a flight must be fitted with, or carry, a drop or handling line that is at least 25m in length.

(2) For a flight of a Part 131 aircraft that is a free balloon and a gas balloon, the aircraft must be fitted with, or carry, a trail rope that is at least 20 m in length and made of natural fibre or electrostatic conductive material.

26.11 Pilot restraint harness

(1) This section applies to the flight of a Part 131 aircraft (the ***aircraft***) that is a balloon transport operation.

(2) The aircraft must be equipped with a pilot restraint harness that meets the requirements of EASA Certification Specifications for Hot Air Balloons CS31HB, or British Civil Airworthiness Requirements BCAR Part 31 issue 2, or later versions of either of these as existing or in force from time to time.

(3) The pilot who is operating the controls of the Part 131 aircraft must wear the pilot restraint harness:

(a) during take-off; and

(b) during landing or any landing phase, until the aircraft is finally secured on the ground.

Note It is recommended that the pilot operating the controls of the balloon, whether the pilot in command or the pilot in command under supervision, should wear the pilot restraint harness throughout the flight. A pilot restraint harness may significantly reduce the severity of injuries to the pilot and passengers in the event of an accident where the pilot may be ejected from the basket.

(4) Despite subsections (2) and (3), a pilot restraint harness is not required for a balloon basket where the design of the basket is such that the harness cannot be safely fitted.

26.12 Remote area survival equipment

A flight of a Part 131 aircraft that will be conducted in or through a remote area (within the meaning given by section 26.63 of the Part 91 MOS) must carry survival equipment that is suitable for sustaining life as appropriate for the remote area to be overflown.

Division 26.5 Lighting systems

26.13 Lights for VFR flight at night

A Part 131 aircraft for a VFR flight at night must be fitted with, or carry, the following lighting systems:

(a) at least 2 portable battery-operated lights, for example, torches or flashlights, capable of illuminating for the pilot in command any equipment whose information, data or display is essential for the safe operation of the aircraft;

(b) a light capable of lighting a sufficient area of the surface for the aircraft to be landed at night in an emergency;

(c) an anti-collision light that:

(i) meets the requirements of EASA Certification Specifications for Hot Air Balloons CS31HB, CS-31GB or British Civil Airworthiness Requirements BCAR Part 31 issue 2, or later versions as existing or in force from time to time; or

(ii) meets requirements that are equivalent to those mentioned in subparagraph (i) and that have been approved under Part 21 of CASR.

Division 26.6 Oxygen equipment and oxygen supplies

26.14 Supplemental oxygen equipment and supplies

(1) A Part 131 aircraft must carry, and make available to persons on board the aircraft during flight, sufficient supplemental oxygen to meet the requirements set out in Chapter 10 of this MOS.

(2) If a supply of supplemental oxygen (the ***oxygen***) is required to be carried on a Part 131 aircraft, the oxygen must be stored and supplied by an oxygen delivery system that is:

(a) compliant with the requirements of, or approved under, Part 21 of CASR; or

(b) for a Part 131 recreational activity — approved in writing by a Part 131 ASAO.

Division 26.7 Emergency locator transmitters

26.15 ELT requirements

If an emergency locator transmitter (an ***ELT***), whether an automatic ELT or a survival ELT, is fitted to or carried on a Part 131 aircraft, it must comply with the requirements set out in Division 26.12 of the Part 91 MOS.

Division 26.8 Portable emergency equipment

26.16 Hand-held fire extinguishers

A Part 131 aircraft must carry at least one portable fire extinguisher that is:

(a) readily accessible to the pilot in command; and

(b) compliant with:

(i) any Airworthiness Directive (AD) issued by CASA, as in force from time to time; or

(iii) if there is no applicable AD — a dry powder type extinguisher of at least 1 kg capacity.

26.17 First aid kits

A Part 131 aircraft for a flight that is a balloon transport operation must be equipped with a first-aid kit that is:

(a) suitable for the nature of the planned operation and the number of passengers carried; and

(b) readily accessible for use; and

(c) kept up to date; and

(d) inspected periodically to confirm that the contents are complete and in good condition for the intended use.

Division 26.9 Equipment for flights over water

26.18 Life jackets and flotation devices

(1) If a life jacket or equivalent flotation device is fitted to, or carried on, a Part 131 aircraft, it must comply with the requirements set out in this section.

(2) The life jacket or flotation device must be:

(a) equipped with a whistle; and

(b) if the flight is to be conducted at night — equipped with an electric light to facilitate the location of the person.

(3) The life jacket or flotation device must be:

(a) for a flight described in section 18.03 — worn during the flight over water by the person for whose use it is provided; and

(b) when the flight is not actually over water — stowed in a position from which it is readily retrievable by that person given the position on the aircraft which the person occupies during the flight.

Division 26.10 Surveillance equipment

26.19 Exceptions to (E)TSO or NAA requirements

(1) A requirement under this Division that an item of equipment that is to be fitted to, or carried on, an aircraft, must be authorised in accordance with a particular TSO or ETSO, does not apply to a Part 131 aircraft for surveillance equipment if:

(a) the configuration of the surveillance equipment provides the pilot, other aircraft, and ATS with the same surveillance capability as would be provided if the equipment had complied with the particular TSO or ETSO; and

(b) the pilot in command or the operator has a statement of conformance (however described) from the equipment manufacturer stating the particular standard or standards of the TSO or ETSO with which the equipment conforms.

(2) The requirement in subsection 26.28 (4) that an approved integrated TABS device (the ***equipment***) that is to be fitted to, or carried on, an aircraft, must be authorised by the relevant NAA of the equipment manufacturer, does not apply to a Part 131 aircraft if:

(a) the configuration of the equipment that is fitted to, or carried on, the aircraft provides the pilot, other aircraft, and ATS with the same surveillance capability as would be provided if the equipment had been expressly authorised by the relevant NAA; and

(b) the pilot on command or the operator has a statement of conformance (however described) from the equipment manufacturer stating that the equipment meets the requirements of this Division for the equipment.

26.20 Definitions

In this Division:

14 CFR 91.225 means regulation 91.225 of the United States Title 14 Code of Federal Regulations (CFR) titled *Automatic Dependent Surveillance-Broadcast (ADS-B) Out equipment and use*.

ADS-B means automatic dependent surveillance – broadcast.

ADS-B OUT means the functional capability of an aircraft or vehicle to periodically broadcast its state vector (position and velocity) and other information derived from on-board systems in a format suitable for ADS-B IN capable receivers.

ADS-B test flight means a flight to prove ADS-B transmitting equipment that is newly installed on the aircraft undertaking the flight.

aircraft address means a unique combination of 24 bits available for assignment to an aircraft for the purpose of air-ground communications, navigation and surveillance.

alternate ADS-B OUT equipment configuration: see paragraph (b) of the definition of ***approved ADS-B OUT equipment configuration***.

approved ADS-B OUT equipment configuration means an equipment configuration capable of ADS-B OUT operation on the ground and in flight, and that is 1 of the following:

(a) an approved Mode S transponder with ADS-B capability connected to an approved GNSS position source;

(b) an alternate ADS-B OUT equipment configuration meeting the requirements mentioned in section 26.26;

(c) another system approved under Part 21 of CASR as having a level of performance equivalent to a system mentioned in paragraph (a) or (b).

approved EC device configuration means an equipment configuration meeting the requirements mentioned in section 26.28.

approved GNSS position source means a GNSS position source that is:

(a) authorised by the FAA or EASA in accordance with 1 of the following:

(i) (E)TSO-C145a;

(ii) (E)TSO-C146a;

(iii) (E)TSO-C196a; or

(b) an alternate GNSS position source meeting the requirements mentioned in section 26.24; or

(c) another system approved under Part 21 of CASR as having a level of performance equivalent to performance in accordance with paragraph (a) or (b).

approved integrated TABS device means an equipment configuration meeting the requirements mentioned in section 26.28.

approved Mode A/C transponder means a Mode A transponder or a Mode C transponder that is authorised:

(a) by CASA or the NAA of a recognised country in accordance with TSO-C74c or ETSO-C74d; or

(b) by CASA in accordance with ATSO-1C74c.

approved Mode S transponder means a Mode S transponder that is:

(a) authorised by CASA or the NAA of a recognised country in accordance with TSO-C112 or ETSO-2C112a; or

(b) another system approved under Part 21 of CASR as having a level of performance equivalent to a system mentioned in paragraph (a).

approved Mode S transponder with ADS-B capability means an approved Mode S transponder that is:

(a) authorised by CASA or the NAA of a recognised country in accordance with (E)TSO-C166; or

(b) another system approved under Part 21 of CASR as having a level of performance equivalent to a system mentioned in paragraph (a).

approved Mode S transponder with Class B TABS position source device configuration means an equipment configuration meeting the requirements mentioned in section 26.27.

approved transponder means an approved Mode A/C transponder or an approved Mode S transponder.

assigned aircraft address means an aircraft address that is assigned to an aircraft by:

(a) for an aircraft registered on the Australian Civil Aircraft Register — CASA; or

(b) for an aircraft that is a foreign-registered aircraft — the relevant NAA.

Class A TABS means TABS functionality relating to transponder function, altitude source function, and ADS-B OUT function, in accordance with (E)TSO-C199.

Class B TABS means TABS functionality relating to position source function, in accordance with (E)TSO-C199.

Class B TABS position source device means a device with a Class B TABS functionality.

DAPs means Mode S EHS downlink aircraft parameters.

EASA AMC 20-24 means Annex II to ED Decision 2008/004/R titled *Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHz Extended Squitter*, dated 2 May 2008, or later version as in force or existing from time to time.

EASA CS-ACNS means Annex I to ED Decision 2013/031/R titled *Certification Specifications and Acceptable Means of Compliance for Airborne Communications, Navigation and Surveillance CS-ACNS*, dated 17 December 2013, of EASA, or later version as in force or existing from time to time.

EC device means an electronic conspicuity device.

FDE is short for fault detection and exclusion, and means a GNSS receiver's ability to exclude faulty satellites from position computation.

GPS means Global Positioning System.

HPL means the horizontal protection level of the GNSS position of an aircraft as an output of the GNSS receiver or system.

IFR, or ***instrument flight rules***, has the meaning given by the CASR Dictionary.

integrated TABS device means a device with integrated Class A TABS and Class B TABS functionality.

Mode A is a transponder function that transmits a 4-digit octal identification code for an aircraft's identity when interrogated by an SSR.

Mode A code is the 4-digit octal identification code transmitted by a Mode A transponder function.

Mode C is a transponder function that transmits a 4-digit octal identification code for an aircraft's pressure altitude when interrogated by an SSR.

Mode S is a transponder function that uses a unique aircraft address to selectively call individual aircraft and support advanced surveillance using Mode S EHS, Mode S ELS, or Mode S ES capabilities.

Mode S EHS means Mode S enhanced surveillance, which is a data transmission capability of a Mode S transponder.

Mode S ELS means Mode S elementary surveillance, which is a data transmission capability of a Mode S transponder.

Mode S ES means Mode S extended squitter, which is a data transmission capability of a Mode S transponder used to transmit ADS-B OUT information.

NACp means Navigation Accuracy Category – Position as specified in paragraph 2.2.3.2.7.1.3.8 of RTCA/DO-260B.

NIC means Navigation Integrity Category as specified in paragraph 2.2.8.1.16 of RTCA/DO-260B.

NUCp means Navigation Uncertainty Category – Position as specified in paragraph 2.2.8.1.5 of RTCA/DO-260.

RTCA/DO-229D means document RTCA/DO-229D titled *Minimum Operational Performance Standards for Global Positioning System/Wide Area Augmentation System Airborne Equipment*, dated 13 December 2006, of the RTCA Inc. of Washington D.C. USA (***RTCA Inc.***).

RTCA/DO-260 means RTCA Inc. document RTCA/DO-260 titled *Minimum Operational Performance Standards for 1090 MHz Automatic Dependent Surveillance – Broadcast (ADS-B)*, dated 13 September 2000.

RTCA/DO-260B means RTCA Inc. document RTCA/DO-260B titled *Minimum Operational Performance Standards for 1090 MHz Extended Squitter Automatic Dependent Surveillance – Broadcast (ADS-B) and Traffic Information Services – Broadcast (TIS-B)*, dated 2 December 2009, unless a later version is expressly referred to.

SA means Selective Availability, and is a function of the GPS that has the effect of degrading the accuracy of the computed GPS position of a GNSS-equipped aircraft.

SDA means System Design Assurance as specified in section 2.2.3.2.7.2.4.6 of RTCA/DO-260B.

SIL means Source Integrity Level as specified in paragraph 2.2.3.2.7.1.3.10 of RTCA/DO-260B.

SSR, *or* ***secondary surveillance radar***, means a surveillance radar system which uses transmitters/receivers (interrogators) and transponders.

surveillance equipment means equipment that broadcasts data as a means to identify an aircraft, determine its three-dimensional position or obtain other information (such as, but not limited to, velocity and selected altitude or flight level).

surveillance radar means radar equipment used to determine the position of an aircraft in range and azimuth.

TABS means traffic awareness beacon system.

transponder means an aircraft's SSR transponder.

UK CAP 1391 means Civil Aviation Authority of the United Kingdom document number CAP 1391 titled *Electronic conspicuity devices*, 2nd edition, dated April 2018, or a later edition as in force from time to time.

26.21 Required surveillance equipment

(1) A Part 131 aircraft for a flight for which surveillance equipment is required under this section must be fitted with, or carry, surveillance equipment that meets the requirements relevant to the intended operation and class of airspace.

Note Certain light sport aircraft and experimental aircraft do not have to comply with the requirement for this equipment to be approved under Part 21 of CASR: see subsection 26.02 (5) of the Part 91 MOS. See also section 26.66 of the Part 91 MOS regarding certain aircraft that can be fitted with, or carry, surveillance equipment that is not in accordance with a TSO or ETSO provided certain conditions are met.

(2) A Part 131 aircraft operating at Brisbane, Sydney, Melbourne or Perth aerodrome must be fitted with, or carry, at least 1 approved Mode S transponder with ADS-B capability.

Note An approved Mode S transponder with ADS-B capability is not required to transmit ADS-B OUT for a VFR flight.

(3) For subsection (1), a Part 131 aircraft in an operation mentioned in column 1 of an item in Table 26.21 (3), in the class of airspace mentioned in column 2 of the item, must be fitted with, or carry, an approved transponder meeting the requirements mentioned in column 3 of the item.

Table 26.21 (3) – Surveillance equipment – requirements

	Column 1	**Column 2**	**Column 3**
Item	**Operation**	**Class of airspace**	**Requirements**
1	Any operation by a Part 131 aircraft	Any — from FL290 and above	At least 1 approved ADS-B OUT equipment configuration.
2	Any operation by a Part 131 aircraft	Classes A, B, or C (below FL290)	At least 1: (a) approved ADS-B OUT configuration; or (b) approved Mode S transponder with Class B TABS position source device configuration; or (c) approved transponder. *Note* An approved Mode S transponder with ADS-B capability is not required to transmit ADS-B OUT for a VFR flight.
3	An operation by a Part 131 aircraft with engine-driven electrical power generation capacity	Class E (not above FL290) Class G — from 10 000 ft to not above FL290	At least 1: (a) approved ADS-B OUT configuration; or (b) approved Mode S transponder with Class B TABS position source device; or (c) approved transponder; or (d) an approved integrated TABS device. *Note* An approved Mode S transponder with ADS-B capability is not required to transmit ADS-B OUT for a VFR flight.

26.22 Requirements for other surveillance equipment for VFR aircraft

(1) A Part 131 aircraft may be fitted with, or carry, surveillance equipment in addition to the surveillance equipment required by section 26.21, but only if the requirements of this section are met.

(2) A Part 131 aircraft may be fitted with, or carry, surveillance equipment in circumstances where surveillance equipment is not required by section 26.21, but only if the requirements of this section are met.

(3) For subsections (1) and (2), a Part 131 aircraft in an operation mentioned in column 1 of Table 26.22 (3), in the class of airspace mentioned in column 2 of the item, may be fitted with, or carry, surveillance equipment provided that it meets the requirements mentioned in column 3 of the item.

Table 26.22 (3) – Optional surveillance equipment – requirements

Item	Operation Column 1	Class of airspace Column 2	Capability and Requirements Column 3
1	Any operation	Classes A, B, C or E — below FL290 Class G — from 10 000 ft but not above FL290.	An approved EC device configuration. *Note* An EC device may be operated concurrently with a Mode A/C, or a Mode S transponder (other than one that is transmitting ADS-B – see section 26.76).
2	Any operation	Class G — below 10 000 ft	Any of the following: (a) approved ADS-B OUT configuration; or (b) approved equipment configuration of a Mode S transponder with Class B TABS position source device; or (c) approved transponder; or (d) an approved integrated TABS device. (e) an approved EC device. *Note 1* An approved Mode S transponder with ADS-B capability is not required to transmit ADS-B OUT for a VFR flight. *Note 2* An EC device may be operated concurrently with a Mode A/C, or a Mode S transponder (other than one that is transmitting ADS-B).

26.23 Operation of surveillance equipment— general requirements

(1) Surveillance equipment required to be fitted to, or carried on, a Part 131 aircraft by section 26.21 must be continuously operated during the circumstances mentioned in section 26.21.

Note Continuous operation for a transponder implies that the equipment must be operated in a mode that enables an SSR response to be transmitted and, where an altitude reporting capability is available, that this capability is also activated.

(2) Surveillance equipment (other than approved transponders) fitted to, or carried on, a Part 131 aircraft for section 26.22 must be continuously operated during the circumstances mentioned in that section for the specific kind of equipment.

(3) Subsections (1) and (2) do not apply if ATC has issued an instruction that the surveillance equipment is not to be operated.

(4) Unless otherwise required by ATC, a Part 131 aircraft that is flying in formation with, or flying in-company with, 1 or more other Part 131 aircraft, is not required to operate surveillance equipment if serviceable surveillance equipment is operated by the other, or one of the other, Part 131 aircraft at all times while the aircraft are flying in the formation or flying in-company.

(5) If a Part 131 aircraft for a flight is fitted with, or carries, more than 1 approved transponder, only 1 of the transponders may be operated at any time.

(7) If a Part 131 aircraft is fitted with, or carries, an approved transponder for a flight, the Mode A code must be set:

(a) to the transponder code assigned by ATC for the flight; or

(b) if no transponder code is so assigned — to the relevant standard code mentioned in Table 26.23 (8).

(8) For paragraph (7) (b), for a situation mentioned in column 1 of an item in Table 26.23 (8), the Mode A code is the number mentioned in column 2 for the same item.

(9) Subject to subsection (10), if an emergency situation described in an item of column 1 of Table 26.23 (9) occurs during a flight, a pilot of the aircraft for the flight must set the Mode A code mentioned in column 2 of the same item.

(10) Despite subsection (9), a pilot of an aircraft for a flight does not have to set if a Mode A code mentioned in column 2 of Table 26.23 (9) if the pilot reasonably believes that maintaining an existing Mode A code would result in a safer outcome.

(11) Pressure altitude information reported by an approved transponder or approved ADS-B OUT equipment configuration must be determined by:

(a) a barometric encoder of a type authorised in writing by CASA or the NAA of a recognised country, in accordance with ETSO-C88a; or

(b) another system approved under Part 21 of CASR as having a level of performance equivalent to a system mentioned in paragraph (a).

Table 26.23 (8) – Transponders – Mode A standard codes

	Column 1	**Column 2**
Item	**Situation**	**Mode A Code**
1	Flights in Class A, B, C, or D airspace	3000
2	VFR flights in Class E or Class G airspace	1200
3	Flights in Class G over water at a distance greater than 15 NM from shore	4000
4	Ground testing by aircraft maintenance staff	2100

Table 26.23 (9) – Transponders – Mode A emergency codes

	Column 1	**Column 2**
Item	**Situation**	**Mode A Code**
1	Unlawful interference.	7500
2	Loss of radiocommunication.	7600

	Column 1	Column 2
Item	**Situation**	**Mode A Code**
3	In-flight emergency (unless otherwise instructed by ATC).	7700

26.24 Mode S transponders, ADS-B OUT and electronic conspicuity equipment — specific requirements

(1) An approved Mode S transponder fitted to, or carried on, a Part 131 aircraft for a flight must have the following details entered into the equipment:

(a) the assigned aircraft address;

(b) as far as practicable for the equipment —1 of the following forms of aircraft flight identification:

(i) if a flight plan is filed with ATC for the flight — the aircraft identification mentioned on the flight plan;

(ii) if no flight plan is filed with ATC for the flight — the aircraft registration mark or other approved identifier, as applicable.

(2) An approved ADS-B OUT equipment configuration, an approved integrated TABS device, or an approved EC device configuration, fitted to, or carried on, an aircraft for a flight must have the following items entered into the equipment:

(a) the assigned aircraft address;

(b) 1 of the following forms of aircraft flight identification:

(i) if a flight plan is filed with ATS for the flight — the aircraft identification mentioned on the flight plan;

(ii) if no flight plan is filed with ATS for the flight — the aircraft registration mark or other approved identifier, as applicable.

(3) An approved Mode S transponder must transmit each of the following when interrogated on the manoeuvring area of an aerodrome or in flight:

(a) the assigned aircraft address;

(b) the Mode A code;

(c) the Mode C code;

(d) subject to subsection (4) — the aircraft flight identification.

(4) Transmission of the aircraft flight identification by an approved Mode S transponder is optional for an aircraft that was first issued with a certificate of airworthiness before 9 February 2012 (an ***older aircraft***). However, an older aircraft that is equipped to do so may transmit its aircraft flight identification.

(5) If an approved Mode S transponder transmits any Mode S EHS DAPs, the transmitted DAPs must comply with the standards set out in paragraph 3.1.2.10.5.2.3 and Table 3-10 of *Volume IV, Surveillance and Collision Avoidance Systems*, of ICAO Annex 10.

Note 1 Paragraph 3.1.2.10.5.2.3 includes paragraphs 3.1.2.10.5.2.3.1 and 3.1.2.10.5.2.3.2 and 3.1.2.10.5.2.3.3.

Note 2 Australian Mode S SSR supports EHS DAPs. Transmission of Mode S EHS DAPs that are not in accordance with the ICAO standards may provide misleading information to ATC. Operators need to ensure that EHS DAPs are being transmitted.

(6) Subject to subsection (7), an aircraft fitted with, or carrying, ADS-B OUT equipment that is not an approved ADS-B OUT equipment configuration, approved EC device, approved integrated TABS device, or approved Mode S transponder with Class B TABS position source device configuration, must not fly in Australian territory, unless the equipment is:

(a) deactivated; or

(b) set to transmit only a value of zero for the NUCp, NACp, NIC or SIL.

Note It is considered equivalent to deactivation if NUCp, NACp, NIC or SIL is set to continually transmit only a value of zero.

(7) Subsection (6) does not apply to a Part 131 aircraft if it is undertaking an ADS-B test flight in VMC in airspace below FL 290.

26.25 Alternate GNSS position source for ADS-B OUT — requirements

(1) For a Part 131 aircraft first issued with a certificate of airworthiness on or after 8 December 2016, an alternate GNSS position source is acceptable if the source:

(a) is certified by the NAA of a recognised country for use in IFR flight; and

(b) has included in its specification and operation the following:

(i) GNSS FDE, computed in accordance with the definition at paragraph 1.7.3 of RTCA/DO-229D;

(ii) the output function HPL, computed in accordance with the definition at paragraph 1.7.2 of RTCA/DO-229D;

(iii) functionality that, for the purpose of HPL computation, accounts for the absence of the SA of the GPS in accordance with paragraph 1.8.1.1 of RTCA/DO-229D.

(2) For a Part 131 aircraft first issued with a certificate of airworthiness before 8 December 2016, an alternate GNSS position source is acceptable if it meets the requirements of subsection (1), other than subparagraph (1) (b) (iii) which is optional.

26.26 Alternate ADS-B OUT equipment configuration — requirements

An alternate ADS-B OUT equipment configuration must meet the following requirements:

(a) it must have been approved or accepted by:

(i) the NAA of a recognised country, as meeting the standards of EASA AMC 20-24 or EASA CS-ACNS; or

(ii) the FAA, as meeting the standards of 14 CFR 91.225 for 1090 Megahertz (MHz) Extended Squitter ADS-B; and

(b) the AFM or flight manual supplement must attest to the approval or acceptance; and

(c) the GNSS system must meet the relevant performance requirements mentioned in section 26.25.

26.27 Approved Mode S transponder with Class B TABS position source device equipment configuration — requirements

(1) The transponder component of an approved Mode S transponder with Class B TABS position source device configuration (the ***relevant transponder component***) must be of a type that is:

(a) authorised in accordance with (E)TSO-C166B; or

(b) approved under Part 21 of CASR as having a level of performance equivalent to the standard mentioned in paragraph (a).

(2) When required to be operated, the relevant transponder component must transmit NACp, NIC, SIL and SDA values in accordance with the authorised capability of the GNSS position source.

(3) The geographical position transmitted by the Mode S transponder must be determined by:

(a) a Class B TABS position source device that is authorised in accordance with (E)TSO-C199; or

(b) another source approved under Part 21 of CASR as having a level of performance equivalent to the standard mentioned in paragraph (a).

(4) If a Mode S transponder with Class B TABS position source device transmits a SIL value of less than 2, the aircraft must not enter controlled airspace if, for such airspace, the aircraft must be fitted with, or carry, equipment that is of an approved ADS-B OUT equipment configuration.

26.28 Approved integrated TABS device — requirements

(1) An approved integrated TABS device (the ***device***) may only be operated in transmitting mode if the flight is conducted:

(a) below FL290; and

(b) in Class D, E or G airspace.

(2) The device must meet the technical specifications in (E)TSO-C199 that are for a device with integrated Class A TABS and Class B TABS functionality.

(3) The device must transmit a SIL value of 1.

(4) The device must be authorised by the relevant NAA of the equipment manufacturer as meeting the standards mentioned in subsections (2) and (3).

Note Section 26.19 provides for an exception to the relevant NAA authorisation requirement for certain kinds of light sport, experimental and other aircraft.

26.29 Approved EC device — requirements

(1) An EC device (the ***device***) may only be operated in transmitting mode if the flight is conducted below FL290.

(2) The device must not be operated in transmitting mode concurrently with a Mode S transponder that is also transmitting ADS-B.

Note An EC device may be operated concurrently with a Mode A/C, or a Mode S transponder (other than one that is transmitting ADS-B) but it is not a substitute for mandatory carriage of a transponder in relevant airspace.

(3) Subject to subsections (5), (6) and (7), the device must meet the technical specifications in UK CAP 1391.

(4) The device must use a Class B TABS position source that complies with the performance standards specified in (E)TSO-C199.

(5) The device must:

(a) be capable of transmitting a SIL value of 1, in accordance with the standards in UK CAP 1391 for an EC device that uses a Class B TABS position source; and

(b) transmit that SIL value of 1.

(6) Despite the standards in UK CAP 1391, an EC device must:

(a) meet the requirements described in paragraph 2.2.3.2.7.2.4.6 of RTCA/DO-260B for transmitting an SDA of 1; and

(b) transmit an SDA value of 1.

(7) The device must use a barometric encoder for altitude information.

(8) The device must be mounted in accordance with the manufacturer's instructions.

(9) The device, when mounted in accordance with the manufacturer's instructions, must not:

(a) interfere with aircraft controls; or

(b) otherwise affect the safe operation of the aircraft.

(10) The following administrative standards for a device must be complied with:

(a) the device must have a statement of compliance (however described) from the EC device manufacturer certifying that the device meets the following requirements (***a declaration of capability and conformance*** or ***declaration***):

(i) if the declaration was made before 2 December 2021 — clauses 1 to 5 of Part B of Appendix XIV of CAO 20.18 as in force immediately before 2 December 2021;

(ii) otherwise — subsections (3) to (7) of this section;

(b) the pilot in command of an aircraft that uses the device must carry the declaration, or a copy of it, on board the aircraft;

(c) an EC device model must not be operated in a transmit mode anywhere in Australia unless it is listed on the CASA website as an EC device model for which the manufacturer has made a valid declaration;

(d) the manufacturer of an EC device model may apply in writing to CASA:

(i) for a statement that CASA considers that the manufacturer has made a valid declaration of capability and conformance to subsections (3) to (7) of this section; and

(ii) for inclusion of the EC device model on the CASA website.

(e) CASA may remove an EC device model from the CASA website if:

(i) the manufacturer requests its removal in writing; or

(ii) if CASA is satisfied that removal is required in the interests of aviation safety.

26.30 Aircraft flown with inoperative surveillance equipment

Surveillance equipment that is any of the following:

(a) required by section 26.21;

(b) in accordance with section 26.22;

may be inoperative at the beginning of a flight but only if:

(c) the flight begins from a place at which there is no facility for the approved transponder to be repaired or replaced; and

(d) the flight ends not more than 72 hours after the time the approved transponder was found to be inoperative; and

(e) before the flight commences, the pilot in command informs ATC about the unserviceability.

Note See also section 26.04 for additional requirements related to flight with inoperative equipment. For a flight with inoperative surveillance equipment, within controlled airspace or at a controlled

aerodrome, see Division 15.2 concerning ATC clearance requirements. Whether, or when, an ATC clearance is issued could be affected by a flight's inoperative equipment.

CHAPTER 27 FLIGHT CREW — QUALIFICATIONS AND TRAINING

Division 27.1 Training and checking

27.01 Purpose

For paragraph 131.565 (2) (b), this Division prescribes the training and checking requirements for the pilot in command of a Part 131 aircraft in flight.

27.02 Commercial pilot (balloon) licence or CAR certificate of validation

(1) This section applies to a person (the ***holder***) who holds a commercial pilot (balloon) licence (a ***licence***) or a CAR certificate of validation, to pilot a Part 131 aircraft, issued by CASA.

(2) Before commencing a flight that is to be conducted for hire or reward, the holder must meet the requirements of regulation 5.143 of CAR.

27.03 Recreational pilot authorisation

(1) This section applies to a person (the ***holder***) who holds a Part 131 pilot authorisation (an ***authorisation***) to undertake a Part 131 recreational activity.

(2) Before commencing a flight, the holder must meet any training and checking requirements prescribed by the Part 131 ASAO to enable the holder to continue to exercise the privileges of the authorisation.

Division 27.2 Other qualifications or experience — general

27.04 Purpose

For paragraph 131.565 (2) (c), this Division prescribes the other qualification and experience requirements for the pilot in command of any Part 131 aircraft in flight.

27.05 Balloon class endorsement

Before commencing any flight as pilot in command of a Part 131 aircraft that is a manned free balloon, the pilot must hold the balloon class endorsement for the class of balloon, in accordance with Table 5.01 in regulation 5.01 of CAR, and CAO 40.7.

27.06 Night VFR flight

(1) Before commencing a flight under the VFR by night as pilot in command of a Part 131 aircraft, a pilot must comply with the requirements of this section.

(2) The pilot must successfully complete:

(a) a check that demonstrates that the pilot has sufficient knowledge of the equipment, systems and operational requirements for safe night VFR flight; and

(b) a check flight of at least one hour carried out at night.

(3) The pilot also must meet:

(a) before a flight that is not a Part 131 recreational activity — the recent experience requirements of regulation 5.144 of CAR as if they applied to the pilot; or

(b) before a flight that is a Part 131 recreational activity — the day VFR recency requirements of the Part 131 ASAO.

(4) For subsection (2), the check and the check flight must be conducted by an instructor who holds:

(a) a balloon grade of night VFR rating; or

(b) a night rating or endorsement issued by a Part 131 ASAO.

Division 27.3 Other qualifications or experience — balloon transport operations

27.07 Purpose

(1) This Division only applies to a balloon transport operation.

(2) In this Division:

relevant operation means a balloon transport operation.

(3) For paragraph 131.565 (2) (c), this Division prescribes the other qualification and experience requirements for the pilot in command of a Part 131 aircraft involved in a relevant operation.

Note Paragraph 131.195 (h) requires balloon transport AOC holders to include in their operations manuals the details of each plan, process, procedure, program and system implemented by the holder to safely conduct and manage operations in compliance with the civil aviation legislation.

27.08 Balloon transport operations — induction training and area familiarisation

(1) Before commencing a flight as pilot in command of a relevant operation, the pilot must satisfactorily complete the induction training and area familiarisation required by the balloon transport operator's exposition.

(2) In addition to the training and familiarisation mentioned in subsection (1), before commencing a flight as pilot in command of a relevant operation that is to be conducted in an area with which the pilot is not familiar, the pilot's experience and competence must be:

(a) assessed in accordance with the procedures detailed in the operator's exposition; and

(b) further developed through any additional induction training and area familiarisation as required by the operator's exposition.

27.09 Balloon transport operations — general emergency training and competency

(1) The requirements of this section must be met before a person acts as a pilot for a relevant flight.

(2) The pilot must complete general emergency training that includes the following:

(a) general emergency and survival procedures;

(b) procedures for dealing with the specific emergency situations specified in subsection (3);

(c) locating, accessing, and using the emergency equipment and survival equipment on the aircraft;

(d) for a flight that requires life jackets to be carried or worn — in-water practical training in the use of life jackets.

(3) For paragraph (2) (b), the specific emergency situations are the following:

(a) fire in the air or on the ground, including how to use any fire extinguishers carried on the Part 131 aircraft and on any support vehicles;

(b) a flammable gas leak while the aircraft is in the air or on the ground;

(c) contact between the aircraft and a powerline;

(d) emergency evacuation from the launch field or the balloon basket;

(e) ditching in water if operations are planned or likely to traverse any body of water, such as a lake, a bay or an estuary, at a horizontal distance of more than 1 km from the shore for longer than 5 minutes before being again over land;

(f) the aircraft landing in trees;

(g) preparation for, and the handling of, a hard landing;

(h) safe operation of the inflation fan;

(i) emergency landing, whether with or without ground support personnel;

(j) search and rescue procedures.

(4) The pilot must successfully complete a general emergency check of competency for the operator that covers at least all of the matters mentioned in subsection (2) (as applicable).

27.10 Recurrent training and checking requirements

A general emergency check of competency for the general emergency training matters mentioned in subsection 27.09 (2) (a ***new competency check***) may be undertaken within the period of 90 days immediately before the expiry of the competency check then in force (the ***current competency check***) and, if successfully completed, the new competency check will expire 24 months after the expiry of the current competency check.

27.11 Balloon transport operations — transition training

(1) The requirements of this section must be met before a person acts as a pilot for a relevant flight without the direct supervision of a person who meets the requirements of subsection 27.12.

(2) The pilot must complete transition training that includes the following:

(a) training in the duties and responsibilities of a pilot for the operator;

(b) training in the procedures relating to the operator's operations;

(c) training in the normal and emergency procedures for the aircraft used for the flight;

(d) training in the conduct of a passenger briefing and safety demonstration for the aircraft being used for the flight.

(3) The pilot must successfully complete, for the operator, a check of their competency in relation to the matters mentioned in subsection (2).

27.12 Requirements for individuals conducting training and checking

(1) This section applies to the following training and checking events (the ***relevant training and checking***):

(a) the general emergency training required by subsection 27.09 (2);

(b) the general emergency check of competency required by subsection 27.09 (4) and section 27.10;

(c) the transition training required by subsection 27.11 (2);

(d) the check of competency required by subsection 27.11 (3).

(2) The relevant training and checking must be conducted and assessed by one of the following:

(a) the operator's head of flying operations — provided that person satisfies the operator's requirements to perform a training or a competency assessment role; or

(b) an individual who is authorised by Part 5 of CAR to conduct a balloon flight review; or

(c) an individual who is engaged by the operator (whether by contract or other arrangement) to conduct the relevant training and checking and who:

(i) meets the minimum experience and entry control requirements to perform a training or a competency assessment role (as the case may be, hereafter ***training and check person***); and

(ii) completes the training program for a training and check person; and

(iii) meets the relevant recency or proficiency requirements for the balloon transport operation that is the subject of the training and checking, as set out in the operator's exposition and in CAR and CASR; and

(iv) subject to subsection 27.13 (6) — is nominated in writing by the operator to be a training and check person for the operator (a ***nominated individual***).

(3) For subparagraph (2) (c) (iv), the nomination must be in the operator's exposition and state that the individual meets the requirements set out in subparagraphs (2) (c) (i), (ii) and (iii) (as applicable).

27.13 CASA may test nominated individuals

(1) This section is for subparagraph 27.12 (2) (c) (iv).

(2) CASA may, at any reasonable time, test a nominated individual in order to be satisfied of the individual's competency to perform the role of a training and checking person (the ***nominated role***).

(3) For subsection (2), CASA must give the nominated individual a written notice if CASA requires that the individual must undertake a test of knowledge, skill or competence relevant to the nominated role.

(4) The time and location of the test specified in a notice under subsection (3) must be reasonable in the circumstances.

(5) CASA must give the nominated individual a copy of the record of any test, including the testing officer's assessment of individual's competence during the test.

(6) If the nominated individual is assessed by CASA to be not competent in relation to one or more of the matters mentioned in paragraphs 27.12 (1) (a) to (d), the person must not carry out training and checking for section 27.12 until the person is assessed by CASA to be competent.

Note 1 The subsequent assessment may be limited to the matters with respect to which the nominated individual was assessed as not competent.

Note 2 If CASA conducts an assessment of an individual and is not satisfied that the individual is competent to conduct training or checking, then CASA may also, under Subpart 11.G of CASR, direct the individual to undertake further training before commencing or continuing in the training and checking role.

CHAPTER 28 GROUND SUPPORT PERSONNEL

Division 28.1 Training and checking for ground support personnel of balloon transport operators

28.01 Purpose

For regulation 131.055 and subregulation 131.570 (2), this Division prescribes the training and checking requirements that must be met by each member of a balloon transport operator's ground support personnel who is operational safety-critical personnel (***the person***) for a flight.

Note Paragraph 131.195 (h) requires balloon transport AOC holders to include in their expositions the details of each plan, process, procedure, program and system implemented by the holder to safely conduct and manage operations in compliance with the civil aviation legislation.

28.02 Training and checking requirements

(1) The requirements of this section must be met before a person carries out ground support for a balloon without the direct supervision of a person who meets the requirements of subsection 28.03.

(2) For section 28.01, the person must have successfully completed:

(a) induction training required by the operator's exposition; and

(b) within the preceding 24 months — a check of competency in the execution of normal and emergency procedures that are set out in the operator's exposition, conducted by a person who meets the requirements in section 28.03.

(3) Subject to subsection (4), as soon as practicable after the person has successfully completed a check of competency, the balloon transport operator must give the person a certificate of competency which states the date on which it expires, being the date that is 24 months after the day the check was conducted.

(4) A check of competency successfully completed within the period of 90 days before the expiry date of the previous certificate of competency will expire 24 months after the expiry date of the previous certificate.

(5) An operator must retain a record of the names of the ground support personnel who have undertaken the check of competency (the ***check***), and the dates and results of all checks so undertaken. These records must be retained by the operator while the person is employed and for 12 months after the person's employment ceases.

28.03 Requirements for individuals conducting training and checking

(1) This section applies to the following training and checking events (the ***relevant training and checking***):

(a) the induction training required by paragraph 28.02 (2) (a);

(b) the check of competency required by paragraph 28.02 (2) (b) and subsection 28.02 (4).

(2) The relevant training and checking must be conducted and assessed by one of the following:

(a) the operator's head of flying operations — provided that person satisfies the operator's requirements to perform a training or a competency assessment role; or

(b) an individual who is authorised by Part 5 of CAR to conduct a balloon flight review; or

(c) an individual who is engaged by the operator (whether by contract or other arrangement) to conduct the relevant training and checking and who:

(i) meets the minimum experience and entry control requirements to perform a training or a competency assessment role (as the case may be, hereafter ***training and check person***); and

(ii) completes the training program for a training and check person; and

(iii) meets the relevant recency or proficiency requirements for the balloon transport operation that is the subject of the training and checking, as set out in the operator's exposition and in CAR and CASR; and

(iv) is nominated in writing by the operator to be a training and check person for the operator (a ***nominated individual***).

(3) For subparagraph (2) (c) (iv), the nomination must be in the operator's exposition and state that the individual meets the requirements set out in subparagraphs (2) (c) (i), (ii) and (iii) (as applicable).

28.04 CASA may test nominated individuals

(1) This section is for subparagraph 28.03 (2) (c) (iv).

(2) CASA may, at any reasonable time, test a nominated individual in order to be satisfied of the individual's competency to perform the role of a training and checking person (the ***nominated role***).

(3) For subsection (2), CASA must give the nominated individual a written notice if CASA requires that the individual must undertake a test of knowledge, skill or competence relevant to the nominated role.

Note If CASA conducts an assessment of an individual and determines that the individual should not be permitted to conduct training or checks, then CASA has the ability under Subpart 11.G of CASR to direct an individual to undertake further training before commencing or continuing in the training or checking role.

(4) The time and location of the test specified in a notice under subsection (3) must be reasonable in the circumstances.

(5) CASA must give the nominated individual a copy of the record of any test, including the testing officer's assessment of individual's competence during the test.

28.05 Exposition requirements

A balloon transport operator's exposition must contain procedures to be followed to ensure that the requirements of this Chapter are complied with, including;

(a) the content and duration of the training provided by the balloon transport operator to ensure that each ground crew member is trained to be competent to discharge his or her duties and responsibilities; and

(b) the normal and emergency procedures for ground support personnel that are required to be assessed; and

(c) the operator's system for recording when and how each ground crew member became a trained ground crew member.

Division 28.2 Numbers of ground support personnel of balloon transport operators

28.06 Purpose

For subregulation 131.570 (3), this Division prescribes the minimum number of ground support personnel required for a balloon transport operation.

28.07 Numbers of ground support personnel

(1) For section 28.06, during passenger loading and launching operations, and, as far as possible, during landing and passenger unloading operations, at least the minimum number of ground support personnel, each with a current certificate of proficiency, must be available to ensure that passengers:

(a) are loaded and unloaded safely; and

(b) are not exposed to unnecessary hazards during normal and emergency situations.

(2) For subsection (1), the following minimum number of ground support personnel are required:

(a) if there are not more than 16 passengers —at least 1; and

(b) if there are more than 16 passengers —at least 2.

(3) For paragraph (2) (b), the ground support personnel must be positioned at either end of the basket or as directed by the pilot in command.

CHAPTER 29 TETHERED GAS BALLOONS

29.01 Purpose

For subregulation 131.690 (1), this Chapter prescribes the requirements that must be met for a person to operate a tethered gas balloon.

29.02 Requirements — tethered gas balloon

(1) A tethered gas balloon may only be operated in accordance with:

(a) the AFM; and

(b) the operator's instruction manual (if any) however described.

(2) A tethered gas balloon may only be operated by a person who has been trained in accordance with:

(a) the AFM; and

(b) the operator's instruction manual (if any) however described.

(3) Subject to subsection (4), a tethered gas balloon may only be flown in the following circumstances:

(a) if the crown of the balloon is at a height not greater than 300 ft AGL;

(b) if the balloon is more than 4 000 metres from the perimeter of a certified or military aerodrome.

(4) Subsection (3) does not apply if the pilot in command of the tethered gas balloon holds an approval under regulation 131.035 for this subsection.