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A low-angle, upward-looking photograph of a hot air balloon basket and its engine. The basket is made of woven wicker and has a large, polished metal burner pipe extending from the bottom. The engine is a complex, multi-cylinder unit with various pipes and valves. The balloon's envelope, with horizontal stripes of orange, red, and blue, is visible in the upper left. The background is a clear blue sky.

# CASA Recreational Ballooning Procedures Manual

December 2024



### Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and the places to which we travel for work. We also acknowledge the Traditional Custodians' continuing connection to land, water and community. We pay our respects to Elders, past and present.

Artwork: James Baban.

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This document contains guidance material intended to assist CASA officers, delegates and the aviation industry in understanding the operation of the aviation legislation. However, you should not rely on this document as a legal reference. Refer to the civil aviation legislation including the Civil Aviation Act 1988 (Cth), its related regulations and any other legislative instruments—to ascertain the requirements of, and the obligations imposed by or under, the law.

# Preface

As an Australian Government authority, CASA must ensure that the decisions we make, and the processes by which we make them, are effective, efficient, fair, timely, transparent, properly documented and otherwise comply with the requirements of the law. At the same time, we are committed to ensuring that all our actions are consistent with the principles reflected in our Regulatory Philosophy.

Most of the regulatory decisions CASA makes are such that conformity with authoritative policy and established procedures will lead to the achievement of these outcomes. Frequently, however, CASA decision-makers will encounter situations in which the strict application of policy may not be appropriate. In such cases, striking a proper balance between the need for consistency and a corresponding need for flexibility, the responsible exercise of discretion is required.

In conjunction with a clear understanding of the considerations mentioned above, and a thorough knowledge of the relevant provisions of the civil aviation legislation, adherence to the procedures described in this manual will help to guide and inform the decisions you make, with a view to better ensuring the achievement of optimal outcomes in the interest of safety and fairness alike.

Chief Executive Officer and  
Director of Aviation Safety

## Acknowledgement

This document is based on the original operations manual v3.0 published by the Australian Ballooning Federation (ABF) and reflects the ABF procedures and training syllabus. Amendments have been made by CASA.

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# Glossary

## Acronyms and abbreviations

The acronyms and abbreviations used in this document are listed in the table below. Further abbreviations are shown in AIP GEN.

**Note:** As regulations change, there may be some alterations to this list—these changes may not be included until the next review of the CRBPM. Current abbreviations and definitions may also be found in AIP GEN 2.2 on the [Airservices Australia website](#).

Acronym	Description
AAC	Airworthiness Advisory Circular
ABF	Australian Ballooning Federation Inc.
AC	Advisory Circular
AGL	Above Ground Level (Expressed in feet, unless stated otherwise)
AIP	Aeronautical Information Publication
AMSL	Above Mean Sea Level (Expressed in feet, unless stated otherwise)
AOC	Air Operator Certificate
AROC	Aeronautical Radio Operator Certificate
APF	Australian Parachute Federation Inc.
ARFOR	Area Forecast. (In aeronautical Meteorological Code)
ATC	Air Traffic Control
ATS	Air Traffic Services
ATSB	Australian Transport Safety Bureau
AUW	All up weight
BKN	Broken (cloud descriptor)
B050	Below 5,000 ft. AMSL
C	Degrees Celsius (Centigrade)
CAA	<i>Civil Aviation Act 1988</i>
CAAP	<i>Civil Aviation Advisory Publication</i>
CAO	<i>Civil Aviation Order</i>
CAR	<i>Civil Aviation Regulations 1988</i>
CASA	<i>Civil Aviation Safety Authority</i>
CASR	<i>Civil Aviation Safety Regulations 1998</i>
CAVOK	Visibility 10 km or more, no cloud below 5000 ft or below the highest minimum sector altitude, whichever is the greater, and no cumulonimbus; and no precipitation, thunderstorms, shallow fog, low drifting snow or dust devils.



Acronym	Description
CoA	Certificate of Airworthiness
CoR	Certificate of Registration
CP(B)L	Commercial Pilot (Balloon) Licence
CRBPM	CASA Recreational Ballooning Procedures Manual
CTAF	Common Traffic Advisory Frequency
CTR	Control Zone
D...	Danger Area (Followed by number) Listed in ERSA
ERC	En Route Chart
ERSA	En Route Supplement Australia
ETA	Estimated Time of Arrival
FEW	Few (cloud descriptor)
FPM	Feet per minute
FROL	CASA Flight Radiotelephone Operator Licence
FT	Feet
GS	Ground speed
H24	24-hour Continuous day and night service
HJ	Sunrise to sunset
HN	Sunset to sunrise
hPa	Hectopascal
ICAO	International Civil Aviation Organisation
IRM	Immediately Reportable Matter
JRCC	Joint Rescue Coordination Centre
KG	Kilograms
KM	Kilometres
KT	Knots
LAT	Latitude (Degrees North or South of the Equator)
LONG	Longitude (Degrees East or West of the Prime Meridian)
LSALT	Lowest safe altitude
...M	(Number) Bearing or Course Magnetic
M	Metres (preceded by figures)
MAX	Maximum
MTOW	Maximum Take-off Weight
NM	Nautical Miles

Acronym	Description
NOTAM	Notice to Airmen. A notice containing information concerning the establishment, condition or change in facility, service, procedure or hazard, which is essential to personnel, concerned with flight operations.
NVFR	Night VFR
OCTA	Outside Control Area/Outside Controlled Airspace
OVC	Overcast (cloud descriptor)
P...	Prohibited area. (followed by a number) Listed in ERSA
Part 131 pilot authorisation	<p>(a) a commercial pilot (balloon) licence; or</p> <p>(b) a CAR certificate of validation; or</p> <p>(c) an authorisation from a Part 131 ASAO that authorises the holder to operate a Part 131 aircraft; or</p> <p>(d) a flight radiotelephone operator licence.</p> <p><b>Note:</b> CAO 95.54 provides an exemption from holding an authorisation from a Part 131 ASAO if a relevant permit is held</p>
Part 131 recreational activity	<p><b>131.025 Definition of Part 131 recreational activity</b></p> <p>(1) A <b>Part 131 recreational activity</b> means operating a Part 131 aircraft other than for one of the following:</p> <p>(a) a balloon transport operation;</p> <p>(b) a specialised balloon operation;</p> <p>(c) balloon flying training (within the meaning of subregulation 5.01(1) of CAR) for the grant of a balloon flight crew licence (within the meaning of that subregulation) or a balloon flight crew rating (within the meaning of that subregulation).</p> <p><b>Note:</b> Balloon flying training for any of these purposes is a prescribed purpose under paragraph 206(a) of CAR which means an AOC is required to conduct this training. Balloon flying training conducted for other purposes is a Part 131 recreational activity.</p> <p>(2) Despite subsection (1), a <b>Part 131 recreational activity</b> does not include operating a Part 131 aircraft in any circumstances prescribed by the Part 131 Manual of Standards for the purposes of this subregulation.</p>
PAX	Passenger(s)
PIC	Pilot in command
PP(B)C	Private Pilot (Balloon) Certificate
PP(B)P	Private Pilot (Balloon) Permit
PUT	Pilot Under Training
PVT	Private (As in type of Operation)
QNH	Altimeter subscale setting to obtain altitude
R...	Restricted Area. (Followed by number) Listed in ERSA
RAD	Radius
RCC	Rescue Coordination Centre
RRM	Routinely Reportable Matter
SCT	Scattered (cloud descriptor)
SIGMET	Significant Meteorological information concerning Enroute Weather Phenomena which may affect the safety of aircraft operations.
SP(B)C	Student Pilot (Balloon) Certificate

Acronym	Description
SP(B)P	Student Pilot (Balloon) Permit
SPECI	Aviation Special Weather (in Aeronautical Meteorological Code)
SUP	Supplement. (AIP Supplement)
SZ	Sensitive Zone
...T	Bearing or Course (True)
TAF	Terminal Aerodrome Forecast
TR	Track
UHF	Ultra-High Frequency (300–3,000 MHz)
U/S	Unserviceable
UTC	Coordinated Universal Time (formerly GMT, also Z – Zulu)
VFRG	VFRG (Visual Flight Rules Guide) contains information VFR pilots need from the CAR's, CASRs, CAO's, AIP and CAAP's regarding procedures to be used when operating aircraft. It should be consulted for specific requirements and cross-checked against the parent documents for currency.
VFR	Visual Flight Rules
VHF	Very High Frequency (30–300 MHz)
VMC	Visual Meteorological Conditions
VTC	Visual Terminal Chart. Scale 1:250,000.
WAC	World Aeronautical Chart. ICAO 1:1,000,000.
WX	Weather
Z	Coordinated Universal Time (in Meteorological messages).

## Definitions

Terms that have specific meaning within this document are defined in the table below.

**Note:** Where definitions from the civil aviation legislation have been reproduced for ease of reference, these are identified by 'grey shading'. Should there be a discrepancy between a definition given in this document and the civil aviation legislation, the definition in the legislation prevails.

Term	Definition
Ab-initio Training	Training for the Private Pilot (Balloon) Permit.
Examiner	A person who holds a Private Pilot (Balloon) Examiner Permit with associated flight examiner endorsements or a person approved to conduct flight tests.
Instructor Grade 1	Person who holds an Instructor Private Pilot (Balloon) Permit Grade 1.
Instructor Grade 2	Person who holds an Instructor Private Pilot (Balloon) Permit Grade 2.
Aircraft flight manual	The manufacturer's aircraft flight manual.

Term	Definition
Authorised weather forecast	As defined in the CASR Dictionary.
Authorised weather report	As defined in the CASR Dictionary.
Approval or Approved	Approved by CASA.
Balloon	An unpowered lighter-than-air aircraft
Balloon greater than 120K Endorsement	An endorsement to operate a balloon that has an envelope capacity greater than 120 000 cubic feet but not more than 260 000 cubic feet
Balloon greater than 260K Endorsement	An endorsement to operate a balloon that has an envelope capacity greater than 260 000 cubic feet
Certified Aerodrome	An aerodrome in respect of which an aerodrome certificate is in force.
Direct Supervision by instructor	In the presence of the supervisor. The supervisor observes and checks the work being performed to ensure that it is being performed properly.
Flight instructor proficiency check	A flight for the renewal of an instructor rating
Flight test	A process that assesses the applicant's demonstration of knowledge, skills and attitudes for a permit, instructor rating or endorsement and includes ground and flight components.
Flight time	The total time from the moment at which the balloon first becomes airborne to when the balloon comes to rest at the end of the flight, excluding any time during which the balloon is at rest on the ground.
Free flight time	In relation to a balloon, means any part of the flight time during which it is not tethered.
Gas balloon	Means a balloon that sustains flight with lighter-than-air gas.
Hang glider	Means a glider with some rigid structure: (a) that has an empty weight of 70 kg or less; and (b) the free flight of which does not depend on an engine.
Hot air airship	Means a power driven lighter-than-air aircraft where the engine does not create any portion of lift.
In the vicinity	An aircraft is in the vicinity of a non-controlled aerodrome if it is within: uncontrolled airspace; and 10 nautical miles of the aerodrome; and a height above the aerodrome that could result in conflict with operations at the aerodrome.
Manned free balloon	free balloon that: (a) is equipped to carry 1 or more persons; and (b) is equipped with controls that enable the altitude of the balloon to be controlled
Medical Certificate	A Certificate of medical fitness issued under CASR Part 67.
night VFR balloon endorsement	An endorsement to operate a relevant aircraft at night under the visual flight rules.
non-controlled aerodrome endorsement	An endorsement to operate a relevant aircraft below 2 000 ft. above the elevation of a non-controlled aerodrome at, or within 3 NM of, the aerodrome.
Pilot in Command	in relation to a flight of an aircraft, means the pilot designated by the operator of the aircraft as being in command and charged with the safe conduct of the flight.

Term	Definition
Pilot logbook	A system that is used to keep an accurate record of a pilot's aeronautical experience.
Pilot Under Training flight time	Flight time logged while receiving flying training, including when acting as a student pilot, or as a PP(B)P holder receiving endorsement training.
Private airship	A generic term for any hot air airship as defined in CASR Part 131 that is operated in a recreational activity in accordance with this manual.
Private balloon	A generic term for any manned balloon as defined in CASR Part 131 that is operated in a recreational activity in accordance with this manual.
Procedures Manual	Means this CASA Recreational Ballooning Procedures Manual as in force from time to time.
Recreational balloon flight review	Means a review of the aeronautical skills and aeronautical knowledge of the person undertaking the review that is relevant to the safe flight of balloons in sport or recreational operations.
Relevant Aircraft	Means a Part 131 aircraft engaged in: (a) a Part 131 recreational activity; or (b) a specialised balloon operation.
Relevant endorsement	Means one of the following: <ul style="list-style-type: none"> <li>• Gas balloon endorsement</li> <li>• Hot air airship endorsement</li> <li>• Night VFR balloon endorsement</li> <li>• Non-controlled aerodrome endorsement</li> <li>• Endorsement to operate a balloon that has an envelope capacity greater than 120 000 cubic feet (or 3 400 cubic metres)</li> <li>• Endorsement to carry outside a Part 131 aircraft, and release, a hang glider</li> </ul> that has not expired, or been cancelled, or revoked by CASA; and was issued by CASA, or deemed to be a relevant endorsement, in accordance with CAO 95.54(2021), or was issued by the ABF prior to 2 December 2023, or issued by CASA in accordance with CAO 95.54 (2024)
Relevant permit to operate	Means one of the following: <ul style="list-style-type: none"> <li>• Student Pilot (balloon) permit</li> <li>• Private pilot (balloon) permit</li> <li>• Instructor private pilot (balloon) permit Grade 1 or 2</li> <li>• Examiner private pilot (balloon) permit</li> </ul> that has not expired, or been cancelled, or revoked by CASA; and was issued by CASA, or deemed to be a relevant endorsement, in accordance with CAO 95.54(2021), or was issued by the ABF prior to 2 December 2023, or issued by CASA in accordance with CAO 95.54 (2024)
Supervision by instructor	The regular surveillance, assessment and correction of pilot training operations and of persons engaged in those operations. Supervision may be 'direct' in the presence of the supervisor or 'indirect' by the supervisor monitoring the operations through other persons.
Tethered	in relation to a lighter-than-air aircraft, means attached to the ground, or an object on the ground, by flexible restraints that limit movement.
Tethered flight time	in relation to a balloon, means any part of the flight time in the balloon during which the balloon is tethered. This is recorded in the pilot's logbook under 'Tether'.
Time in service	The time from first lift off to final landing, prior to deflation, at the completion of the flight, whether free or tethered. For inflations where the balloon does not

Term	Definition
	leave the ground, then burner on to burner off time should be recorded as the time-in-service. This is recorded in the balloon logbook.

## Meaning of auxiliary verbs

Throughout this document, the following auxiliary verbs have the meanings defined below:

- 'must' means the application is mandatory.
- 'should' means the application is recommended.
- 'may' or 'need not' means the application is optional.
- 'will' means futurity, not a requirement for application.

Singular words include the plural and plural words include the singular unless a contrary intention is indicated by the context.

## Reference material

Document Type	Title
CAO 40.2.2	Balloon Grade of Night VFR Rating
CAO 40.7	Aircraft endorsements (balloons) and flight instructor (balloons) ratings
CAO 95.54 (2024)	Civil Aviation Order 95.54 (Part 131 Recreational Activity and Specialised Balloon Operations Instrument) 2024
Part 131 Regulations that apply to recreational balloon activities and specialised balloon operations	The following lists the regulations that apply to recreational balloon activities and specialised balloon operations.
131.005	Application of Part 131
131.025	Definition of Part 131 recreational activity
131.035	Approvals by CASA for Part 131
131.055	Issue of Manual of Standards for Part 131
131.245	Pilots must be authorised <b>Note:</b> CAO 95.54 provides that CASA can issue a relevant permit to operate
131.265	Electronic documents <b>Note:</b> See AC 131-02 for more detail.
131.275	Carriage of documents
131.285	Reporting and recording information <b>Note:</b> CAO 95.54 provides that a pilot must keep the information in a pilot personal logbook or in accordance with this procedures manual.
131.305	Flights over populous areas, public gatherings and other areas
131.310	Dropping things from aircraft
131.315	Subregulations (2) & (3) Flights at night <b>Note:</b> CAO 95.54 provides that CASA can issue an endorsement for flight at night.



Document Type	Title
131.320	Subregulations (2), (3) & (4) Use of supplemental oxygen equipment etc.
131.340	Flight preparation requirements
131.345	Balloon flight notification requirements
131.350	Matters to be checked before take-off
131.353	Air traffic services—prescribed requirements <b>Note:</b> CAO 95.54 permits flight in a controlled aerodrome, control area or control zone if a person who holds a permit to operate also holds a Part 61 licence that includes the privileges to operate at a controlled aerodrome, or in a controlled area or control zone and has a valid flight review and complies with radio and transponder requirements under Chapter 26 of the Part 131 MOS. See paragraph 10(3)(l), 11(2) and 12(4) of the CAO.
131.354	Use of radio broadcasts and reports.
131.355	Additional right of way rules <b>Note:</b> Subregulation 131.355 (3) is planned to be repealed at a future date.
131.360	Operations at non-controlled aerodromes <b>Note:</b> CAO 95.54 provides that CASA can issue a non-controlled aerodrome endorsement on a PP(B)P
131.365	Flights over water
131.367	VFR flights
131.375	Operation of a Part 131 aircraft while tethered
131.385	Subregulations (1), (3) & (4) Fuel and ballast requirements
131.390	Smoking not permitted during flight or within 15 m of Part 131 aircraft
131.405	Carriage of persons requiring assistance
131.410	Passengers - safety briefings and instructions
131.420	Passengers - compliance with safety directions
131.425	Restraint of cargo
131.445	Loading weights
131.455	Carriage of passengers
131.460	Requirements related to equipment
131.565	Subregulations (1), (2) & (3) Qualifications and training for pilots <b>Note:</b> CAO 95.54 provides that pilot authorisation means a CP(B)L, a Certificate of Validation issued under Part 5 of CAR, or a relevant permit to operate.
131.580	Part 131 recreational activities must be authorised <b>Note:</b> CAO 95.54 provides that pilot authorisation means a CP(B)L, a Certificate of Validation issued under Part 5 of CAR, or a relevant permit to operate.
131.585	Procedures for carrying hang gliders <b>Note:</b> CAO 95.54 provides that CASA can issue an endorsement to carry and release, a hang glider
Part 91 Regulations that apply to recreational balloon activities	

Document Type	Title
91.005	Application of Part 91—Australian aircraft in Australian territory
91.010	Application of Part 91—Australian aircraft in foreign countries
91.015	Application of Part 91—Australian aircraft over the high seas <b>Note:</b> This would only be applicable for a record attempt such as a flight from New Zealand to Australia.
91.020	Application of Part 91—foreign registered aircraft
91.030(3)	Application of Part 91—aircraft to which Part 101, 103 or 131 applies
91.040	Issue of Manual of Standards for Part 91
91.045	Approvals by CASA for Part 91
91.050	Approvals by authorised persons for Subpart 91.T
91.055	Aircraft not to be operated in manner that creates a hazard
91.060	Unauthorised travel or placing of cargo on aircraft
91.095	Compliance with flight manual etc
91.140	Operating an Australian aircraft outside Australia
91.145	Requirements to be met before Australian aircraft may fly
91.150	Operating aircraft with inoperative equipment—placarding
91.155	Manipulating flight controls <b>Note:</b> CAO 95.54 provides that pilot authorisation means a CP(B)L, a Certificate of Validation issued under Part 5 of CAR, or a relevant permit to operate.
91.160	Possessing firearm on aircraft
91.165	Discharging firearm on aircraft
91.170	Operation of portable electronic devices
91.175	Operation of portable electronic devices by crew members
91.180	Air displays in Australian territory
91.195	Picking up or setting down people or things during flight
91.200	Persons not to be carried in certain parts of aircraft
91.205	Flying in formation
91.215	Authority and responsibilities of pilot in command
91.220	Actions and directions by operator or pilot in command
91.225	Crew members—power of arrest
91.257	Air traffic control clearances and instructions
91.260	Unauthorised entry into prohibited or restricted areas
91.263	Air defence identification zone flights
91.270	Aircraft to be flown under VFR or IFR
91.325	Basic rule
91.330	Right of way rules

Document Type	Title
91.340	Right of way rules for take-off and landing
91.345	Compliance with International Regulations
91.350	Giving way to vessels
91.360	Meaning of in the vicinity of a non-controlled aerodrome
91.410	Use of aerodromes
91.420	Parked aircraft not to create hazard
91.465	Contaminated, degraded or inappropriate fuels
91.470	Fire hazards
91.475	Fueling aircraft—firefighting equipment
91.485	Equipment or electronic devices operating near aircraft
91.520	Crew members to be fit for duty
91.525	Offensive or disorderly behaviour on aircraft
91.600	Carriage of cargo - general
91.620	Carriage of animals
91.625	Use of radio—qualifications <b>Note:</b> CAO 95.54 provides that pilot authorisation means a radio operator (balloon) permit
91.635	Communication monitoring in controlled airspaces
91.640	Use of radio outside controlled airspaces—listening watch of radio transmissions <b>Note:</b> CAO 95.54 provides that pilot authorisation means a radio operator (balloon) permit
91.670	Standard visual signals
91.675	Pilot in command to report hazards to air navigation
91.680	Pilot in command to report emergencies
91.690	Pilot in command to report contraventions relating to emergencies
91.695	Interception of aircraft
91.700	Aviation distress signals
91.715	(1)(a)(iv) Causing or simulating failure of flight instruments <b>Note:</b> CAO 95.54 provides that pilot authorisation means a CP(B)L, a Certificate of Validation issued under Part 5 of CAR, or a relevant permit to operate.
91.780	Passengers—alcohol
91.785	Crew—provision of alcohol
91.790	Prohibiting person affected by psychoactive substances from boarding
91.875	Experimental aircraft—operating requirements
91.885	Experimental aircraft—maximum number of persons to be carried
91.895	Light sport aircraft—operators

Document Type	Title
91.900	Light sport aircraft—pilots
91.905	Flights under special flight permits
91.915	Aircraft with special certificates of airworthiness—maintenance release etc
91.920	Aircraft with special certificates of airworthiness—flight tests to be conducted in certain areas
91.965	Foreign registered aircraft—Chicago Convention
91.970	Foreign registered aircraft—special flight authorisations
91.980	Foreign registered aircraft—major defect—CASA direction
91.985	Foreign registered aircraft—CASA to notify Contracting State of direction
91.990	Foreign registered aircraft—CASA may revoke direction
91.995	Foreign registered aircraft—when direction or revocation takes effect
Part 105 Regulations that apply to parachute descents from a balloon	
105.075	Permission to undertake parachute descent
105.080	(1) General requirements for aircraft used for parachute descents
105.100	Additional requirements in relation to parachuting activities <b>Note:</b> CAO 95.54 provides that this subregulation only applies to the extent that section 5.57 of the Part 105 MOS requires compliance with an ASAO exposition for safe parachute descents. This procedures manual addresses the safety of relevant parachute descents
105.105	(1) Restraint of persons other than flight crew members <b>Note:</b> CAO 95.54 provides an exemption from this regulation as balloons are not ordinarily fitted with restraint devices
105.125	Loading of aircraft used for parachute descents
105.130	Requirements relating to radio equipment
105.155	Pilot requirements for parachute descents—manned free balloons <b>Note:</b> CAO 95.54 provides that pilot authorisation means a CP(B)L, a Certificate of Validation issued under Part 5 of CAR or a relevant permit to operate.
Part 131 MOS that apply to recreational balloon activities	
Chapter 1	Preliminary and definitions
Chapter 2 Division 2.1	Definition of special VFR
Chapter 2 Division 2.2	Definition of VMC criteria
Chapter 3	Other prescriptions for definitions for Part 131 of CASR
Chapter 5	Flight Related Documents, except for 5.04
Chapter 6	6.04 Reporting and recording information <b>Note:</b> CAO 95.54 provides that a pilot must keep the information in a pilot personal logbook or in accordance with this procedures manual.
Chapter 8	Flights over populous areas, public gatherings and other areas

Document Type	Title
Chapter 9	Dropping things from aircraft
Chapter 10	Use of supplemental oxygen equipment, etc.
Chapter 11	Additional requirements for specialised balloon operations
Chapter 12	Flight Preparation
Chapter 13	Flight notification requirements
Chapter 14	Matters to be checked before take-off
Chapter 15	<p>Air Traffic Services - Prescribed requirements</p> <p><b>Note:</b> CAO 95.54 allows flight in a controlled aerodrome, control area or control zone if a person who holds a permit to operate also holds a Part 61 licence that includes the privileges to operate at a controlled aerodrome, or in a controlled area or control zone, and has a valid flight review, and complies with radio and transponder requirements under Chapter 26 of the Part 131 MOS. See paragraph 10(3)(l), and subsections 11(2) and 12(4) of CAO 95.54 (2024).</p>
Chapter 16	Use of radio - broadcasts and reports
Chapter 17	<p>Operations at non-controlled aerodromes</p> <p><b>Note:</b> CAO 95.54 provides that CASA can issue a non-controlled aerodrome endorsement on a PP(B)P</p>
Chapter 18	Flights over water
Chapter 19	Visual flight rules
Chapter 20	Operation of a tethered Par 131 aircraft other than a subpart 131.Z tethered gas balloon
Chapter 21	Fuel and ballast requirements
Chapter 22	22.02 Carriage of persons requiring assistance
Chapter 23	Passengers - Safety briefings and instructors, except for 23.04
Chapter 24	Loading weights
Chapter 25	Carriage of passengers. except for 25.08
Chapter 26	Equipment
Chapter 27	<p>Section 27.02(3), 27.03, 27.06 Flight Crew - Qualifications and training</p> <p>The recency requirements in CAO 95.54 are:</p> <ul style="list-style-type: none"> <li>• A CP(B)L holder, or a Certificate of Validation holder must comply with the applicable training and checking requirements in this procedures manual.</li> <li>• A PP(B)P holder must comply with the applicable training and checking requirements in this procedures manual</li> <li>• For night VFR flight a PP(B)P holder must comply with the applicable day VFR recency requirements in this procedures manual</li> <li>• An instructor must hold a NVFR balloon endorsement to carry out a night VFR flight test for an endorsement</li> </ul>
Part 91 MOS that apply to recreational balloon activities	
Chapter 2 Division 2.3	Standard visual signals
Chapter 20 Division 20.4	Carriage of animals

Document Type	Title
Chapter 23	Interception of aircraft
Chapter 26 Division 26.15	Remote areas
Chapter 27	Placards for experimental aircraft
Advisory Circulars	
AC 131–01	Manned free balloons – Continuing airworthiness
AC 131–02	Manned free balloons – Operations
AC Multipart 105-03 and 131-05	Parachute descents from a hot air balloon
AC 91-03	Carriage of assistance animals
AC 91-10	Operations in the vicinity of non-controlled aerodromes
AC 91-14	Pilots' responsibility for collision avoidance
AC 91-21	Air displays
AC 91-23	ADS-B for enhancing situational awareness
AC 1-01	Understanding the legislative framework
AC 11-04	Approvals under CASR Parts (various including 131)
AC 21-2	Standard certificates of airworthiness
AC 21-3	Overview of special certificates of airworthiness
AC 21-10	Experimental certificates
AC 21-41	Light Sport Aircraft certificate of airworthiness

## Forms

CASA's forms are available at <http://www.casa.gov.au/forms>

Form number	Title
<a href="#">BF-001</a>	Student Pilot (Balloon) Permit
<a href="#">BF-002</a>	Private Pilot (Balloon) Permit
<a href="#">BF-003</a>	Private Pilot (Balloon) Permit English Language Proficiency and Medical
<a href="#">BF-004</a>	Private Pilot (Balloon) Flight Review
<a href="#">BF-005</a>	Instructor Private Pilot (Balloon) Permit
<a href="#">BF-006</a>	Examiner Private Pilot (Balloon) Permit



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Form number	Title
<a href="#">BF-007</a>	Temporary issue of Private Pilot (Balloon) Permit
BF-008	RESERVED for Private Pilot (Balloon) Overseas Conversion
BF-009	RESERVED for Ballooning Permit/Licence reprint
<a href="#">Part 131 Approvals – other than AOC holders</a>	

**Note:** Forms BF-002, BF-004 and BF-005 include a flight test or review checklist that must be completed by an examiner, flight instructor or a CASA approved person.

# Revision history

Revisions to this manual are recorded below in order of the most recent first.

Version Number	Date	Parts/Sections	Details
2.1	December 2024	Reference Material, 1.4, 1.7, 2.3.1, 2.3.3.5, 7.2, 7.2.1.3, 7.2.2.1)	<p>The following changes have been made:</p> <ul style="list-style-type: none"> <li>Added Multipart AC 105-03 and 131-05 to reference material</li> <li>Inserted note that a PP(B)P satisfies the requirements of CAR 5.138 for a person to qualify to hold a to a CP(B)L</li> <li>Changed information about when PP(B)P theory exams will be available in the CASA PEXO system</li> <li>Listed permitted material that may be taken into exams</li> <li>Issue of a PP(B)P based on overseas qualifications is no longer deemed to be an RBFR</li> <li>Removed the requirement to forward any CASA fees with applications for RO(B)P and endorsements</li> <li>Added item on dropping things from a Part 131 aircraft</li> <li>Additions to the meteorology syllabus Corrected minor errors and typos</li> </ul>
2.0	November 2024	All	<p>The following changes have been made:</p> <ul style="list-style-type: none"> <li>added endorsement for Night VFR flight - application process, operating procedures and syllabus of training</li> <li>added endorsement for Balloon over 120K - application process and syllabus of training</li> <li>added endorsement for Balloon over 260K - application process</li> <li>added endorsement to carry and release a hang glider - application process, operating procedures and syllabus of training</li> <li>removed references to old regulations that no longer apply after 12 Nov 2024</li> <li>added reference to CASR Part 131 regulations and Part 131 MOS that apply from 12 Nov 2024</li> <li>included references to Part 105 regulations that apply to parachute descents from a balloon</li> <li>consolidated four (4) private pilot permit exams into two (2)</li> <li>added procedure for overseas conversion of endorsements</li> <li>removed paragraphs from section 5. Operations Procedures due to Part 131 MOS now in force</li> <li>added information to Operations section on who can fly in control zones, control areas and at controlled aerodromes</li> <li>added information to Operations section on inflation fan operation procedures</li> <li>added requirement to Operations section to have pilot lights off before landing.</li> <li>removed the requirement for entries to be made in personal pilot logbooks after a successful Recreational Balloon Flight Review (RBFR) and flight instructor proficiency check</li> </ul>

Version Number	Date	Parts/Sections	Details
			<ul style="list-style-type: none"> <li>• Accident and incident reporting guidance updated to be consistent with AIP ENR 1.14</li> <li>• Removed requirement of direct &amp; indirect supervision of a Grade 2 instructor by a Grade 1 instructor. Removed redundant definition of "indirect supervision"</li> <li>• Added exam transition arrangements</li> <li>• Added that for a foreign registered balloon, an authorisation to pilot the balloon from the aircraft's state of registry is considered a Part 131 authorisation as per CASA EX62/24</li> <li>• New Appendix D for Flight Test Reports</li> <li>• Removed requirement for a flight test with an Examiner for overseas conversion, added note that RBFR is required.</li> <li>• Corrected minor errors and typos</li> </ul>
1.1	August 2024	All	<p>The following changes have been made:</p> <ul style="list-style-type: none"> <li>• corrected various errors and inconsistencies</li> <li>• added to the list of relevant CASA Advisory Circulars (AC)</li> <li>• inserted procedures for applying for non-controlled Aerodrome Endorsement, Gas Balloon Endorsement and Hot Air Airship Endorsement</li> <li>• added that SP(B)P and PP(B)P become invalid if self-declared medical requirements cannot be met</li> <li>• specified that the date for the next RBFR or Instructor Proficiency check is two years from the last day of the month in which the review was conducted to align with CASR 61.745 and CAO 40.7 paragraph 16.3</li> <li>• expanded information for instructors and examiners on keeping source documents</li> <li>• added information on equipment to be carried, fuel requirements, safety briefings and maximum loading weights procedure</li> <li>• added procedures for recognition of overseas balloon qualifications</li> <li>• modified existing syllabuses of training.</li> </ul>
1.0	December 2023	All	Initial issue. This CASA document replaces the Australian Ballooning Federation Operations Manual.

# 1 Introduction

## 1.1 Purpose

This CASA Recreational Ballooning Procedures Manual (CRBPM) provides detailed information to support *Civil Aviation Order* (CAO) 95.54 (2024) and is given legal force by being incorporated by reference in the CAO.

The CRBPM sets out the pilot authorisations for a Part 131 recreational activity that CASA may issue. It includes the privileges and limitations of each pilot authorisation and required syllabus of training. The operational requirements for a Part 131 recreational activity are detailed in Parts 91 and 131 of the *Civil Aviation Safety Regulations 1998* (CASR) and in CAO 95.54 (2024).

## 1.2 Audience

This CRBPM applies to operators, owners and pilots operating a manned free balloon or hot air airship (Part 131 aircraft) in a recreational activity or recreational specialised balloon operation

## 1.3 Scope

This CRBPM contains:

- the requirements, privileges and limitations of the following balloon permits and endorsements:
  - Student Pilot (Balloon) Permit
  - Private Pilot (Balloon) Permit
  - Instructor Private Pilot (Balloon) Permit
  - Examiner Private Pilot (Balloon) Permit
  - Non-controlled Aerodrome Endorsement
  - Gas Balloon Endorsement
  - Hot Air Airship Endorsement
  - Night VFR balloon Endorsement
  - Endorsement to operate a balloon that has an envelope capacity greater than 120 000 cubic feet but not more than 260 000 cubic feet
  - Endorsement to operate a balloon that has an envelope capacity greater than 260 000 cubic feet
  - Endorsement to carry and release a hang glider
- the syllabuses of training and endorsements for the following permits and endorsements:
  - Private Pilot (Balloon) Permit
  - Radio Operator (Balloon) Permit
  - Instructor Private Pilot (Balloon) Permit
  - Non-controlled Aerodrome Endorsement
  - Gas Balloon Endorsement
  - Hot Air Airship Endorsement
  - Night VFR balloon Endorsement
  - Endorsement to operate a balloon that has an envelope capacity greater than 120 000 cubic feet but not more than 260 000 cubic feet
  - Endorsement to carry outside a Part 131 aircraft, and release, a hang glider Endorsement
- operational procedures that are in addition to those in the CAR and CASRs
- continuing airworthiness requirements

- guidance on accident and incident reporting procedures
- appendices that contain additional advisory material.

## 1.4 Recreational flying activity

CASR Part 131 and CAO 95.54 (2024) require that persons acting as PIC or as a student pilot of a Part 131 aircraft engaged in a recreational flying activity, must be the holder of a current pilot authorisation issued by CASA.

A Part 131 aircraft is defined in regulation 131.005 as any of a:

- manned free balloon
- hot air airship.

A pilot authorisation to operate a Part 131 aircraft in a recreational flying activity is a:

- relevant permit to operate issued by CASA under CAO 95.54 including the relevant endorsements applicable for the activity.
- commercial pilot (balloon) licence or certificate of validation issued under Part 5 of CAR.
- for a foreign registered balloon, an authorisation to pilot the balloon from the aircraft's state of registry (see CASA EX62/24)

**Note:** [Exemption CASA EX 76/24](#) exempts an applicant for a CP(B)L from the requirement under regulation 5.138 of CAR to hold, and to have held for at least a year, a private pilot certificate (balloons) issued by the Australian Ballooning Federation if they hold, and have held for at least a year, a PP(B)P.

## 1.5 Pilot training

CASR Part 131 and CAO 95.54 (2024) require that a pilot undergo training and be subject to the privileges and limitations specified within the CRBPM. The Private Pilot (Balloon) Permit theory and practical training set out in this CRBPM is compliant with the ICAO requirements for a free balloon pilot licence listed in ICAO Annex 1 Personnel licensing.

This CRBPM provides information about the rules and regulations governing Part 131 recreational ballooning activities in Australia.

**Note:** CASA has adopted standards for operations, pilot authorisation and pilot training from the Australian Ballooning Federation (ABF). This CRBPM is based on the *ABF Operations Manual v3.0* redrafted and presented in a CASA document and style.

## 1.6 Student training record

This training document contains all the relevant material to assist and inform student pilots and provide guidance to instructors in carrying out their functions.

The student training record is the student's logbook and record of completed exams and exercises.

## 1.7 Exams for the Private Pilot (Balloon) Permit

Private Pilot Balloon Examiner Permit and Private Pilot Instructor Permit Grade 1 holders may supervise theory exams until the exams are available in the CASA PEXO system.

The pass mark for the exams is 75%

## 1.7.1 Permitted material

### 1.7.1.1 Flight Rules & Procedures and Aerostatics & Airmanship exams

The following list of permitted materials may be used in these exams. The student will need to provide these materials.

- CAR 1988 Schedule 7 Part 5 and Schedule 8 Part 2
- Part 131 of CASR
- Part 131 MOS
- AC 131-01 Airworthiness
- AC 131-02 Operations
- AIP Book
- ERSA
- Guide for Balloons and Hot Air Airships
- CASA Recreational Ballooning Procedures Manual
- A basic calculator

### 1.7.1.2 Meteorology and Navigation

The following list of permitted materials may be used in these exams. The student will need to provide these materials.

- AIP Book
- ERSA
- CASA Recreational Ballooning Procedures Manual
- A metric ruler, a protractor and a basic calculator

## 1.7.2 Future exam transition arrangements

CASA will migrate the private pilot (balloon) permit exams to the Pilot Examination Office (PEXO) system at a future date. Thirty days (30) notice will be provided before the transition.

There will be two exams:

- Balloon Flight Rules and Aerostatics (BFRA)
- Balloon Meteorology and Navigation (BMAN)

Successful completion of both ABF exams Flight Rules & Procedures and Aerostatics & Airmanship will be recognised as credit for the Balloon Flight Rules and Aerostatics (BFRA) exam. Completion of only one exam, either Flight Rules & Procedures or Aerostatics & Airmanship means the student must take the Balloon Flight Rules and Aerostatics (BFRA) exam.

Successful completion of both ABF exams Meteorology and Navigation will be recognised as credit for the Balloon Meteorology and Navigation (BMAN) exam. Completion of only one exam, either Meteorology or Navigation means the student must take the Balloon Meteorology and Navigation (BMAN) exam.

## 1.8 Compliance

Part 131 aircraft operators are required to comply with the requirements of the *Civil Aviation Act 1988* and subordinate CASA regulations, orders or instruments. The holder of a Part 131 recreational pilot authorisation issued by CASA is required to comply with the requirements of:

- this CRBPM
- relevant sections of CASR Part 91
- relevant sections of the Part 91 MOS



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- CASR Part 105 (for parachute descents from a balloon only)
- relevant sections of CASR Part 131
- relevant chapters of the Part 131 MOS
- CAO 95.54 (2024)
- any related CASA approvals
- any applicable CARs, CASRs and CAOs not exempted by CAO 95.54 or CASA instrument.

Operational requirements may also be published in the Aeronautical Information Publication, or other publications.

## 1.9 Further information

For further information, contact CASA's Flight Standards Branch (Tel 131 757) or [fsbcorro@casa.gov.au](mailto:fsbcorro@casa.gov.au).

## 2 Pilot authorisations – Permits and endorsements

### 2.1 The permit system

CASA issues private balloon pilot authorisations as a paper-based permit similar to a Part 61 licence. Each permit will include all the pilot's authorisations and a dynamic table where successful flight tests, flight reviews and flight instructor proficiency checks are recorded by the person conducting the test, review, or proficiency check.

CASA systems will be updated when the conductor of, or the applicant for, the flight test, proficiency check or review submits the results to CASA.

Pilots receiving a new authorisation may request a new print-out of the permit incorporating the new details.

#### 2.1.1 Private pilot (balloon) permits that may be issued

##### 2.1.1.1 Student Pilot (Balloon) Permit (SP(B)P)

This is a permit authorising the holder to:

- receive practical flight instruction in a balloon, which has an envelope capacity of not more than 120 000 cubic feet (3 400 cubic metres); and
- increase the standard of flying skill to that required for the issue of:
  - a Private Pilot (Balloon) Permit, or
  - engage in flying practice for the re-issue of a balloon pilot permit.

##### 2.1.1.2 Private Pilot (Balloon) Permit (PP(B)P)

This is a permit authorising the holder to act as PIC of a balloon engaged in a recreational activity. This permit complies with the ICAO training requirements for the issue of a free balloon pilot licence set out in ICAO Annex 1 Personnel Licensing. ICAO requires the holder of a free balloon pilot licence to hold a current Class 2 Medical Assessment. Refer to the information in [Annex 1 to the Convention on International Civil Aviation – Personnel licensing](#).

A PP(B)P authorises the holder to act as PIC of a balloon engaged in a recreational activity in Australia with a self-declared medical declaration. Overseas requirements may vary.

##### 2.1.1.3 Radio Operator (Balloon) Permit (RO(B)P)

This is a permit authorising the holder to operate a VHF radio for communication with other aircraft and air traffic services.

#### 2.1.2 Balloon Flight Instructor and Examiner Permits that may be issued

##### 2.1.2.1 Private Pilot (Balloon) Flight Instructor Permit Grade 2

This is a permit authorising the holder to conduct a recreational balloon flight review and training in accordance with the pilot training syllabus, except for:

- solo flights;
- advanced training flights;
- recommendation for a flight test.

### 2.1.2.2 Private Pilot (Balloon) Flight Instructor Permit Grade 1

This is a permit authorising the holder to conduct a recreational balloon flight review, training for the PP(B)P in accordance with the pilot training syllabus, issue an endorsement, if similarly endorsed, for Night VFR flight, non-controlled aerodrome and carry and release a hang glider. Also conduct a flight test and flight instructor proficiency check for an instructor Grade 2 .

### 2.1.2.3 Private Pilot (Balloon) Examiner Permit

This is a permit authorising the holder to:

- conduct written and oral radio examinations and recommend issue of a Radio Operator (Balloon) Permit
- issue an endorsement, if similarly endorsed, for balloon greater than 120K
- conduct flight tests, flight instructor proficiency checks and recreational balloon flight reviews.

## 2.1.3 Endorsements to permits that may be issued

A Private Pilot (Balloon) Permit may be endorsed for:

- non-controlled aerodrome operations to allow flight lower than 2 000 feet above the aerodrome elevation while flying within 3 nautical miles of any certified non-controlled aerodrome, and operations at a non-controlled aerodrome
- gas balloon – based on overseas qualifications
- hot air airship – based on overseas qualifications
- night VFR balloon flight in accordance with Part 131 Manual of Standards section 27.06
- operate a balloon that has an envelope capacity greater than 120 000 cubic feet but not more than 260 000 cubic feet - "Balloon greater than 120K Endorsement"
- operate a balloon that has an envelope capacity greater than 260 000 cubic feet - "Balloon greater than 260K Endorsement"
- carry and release a hang glider.

## 2.2 Student Pilot (Balloon) Permit

### 2.2.1 Issue of permit

An applicant for a Student Pilot (Balloon) Permit must:

- be able to read, speak and understand the English language; and
- have attained the age of 15 years; and
- forward to CASA, a completed application form and English language proficiency/medical declaration form (Forms BF-001 and BF-003) and such fee as determined by CASA.

### 2.2.2 Flight privileges and limitations

The holder of a Student Pilot (Balloon) Permit may exercise the privileges specified in paragraph 2.1.1.1 subject to the following limitations:

- A student pilot must not manipulate the controls of a balloon unless under the direct supervision of a current Instructor Private Pilot (Balloon) Grade 1 or 2.
- The holder of a Student Pilot (Balloon) Permit may manipulate the controls of a balloon carrying passengers provided that:
  - the student is under the direct supervision of a current balloon pilot instructor on board the balloon; and
  - the flight training exercise requires the presence of passengers for loading or passenger management considerations; and

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- emergency procedures involving disruption of the fuel supply or intentionally heavy landings are not practiced; and
- the passengers do not contribute in any way to the cost of the flight.

**Note:** The holder of a SP(B)P or PP(B)P on board a training flight for the purpose of giving or receiving instruction, or being assessed for the issue of a permit, are not considered to be passengers.

- a student pilot may conduct solo flight training exercises provided that:
  - the flight is under the observation of an Instructor Private Pilot (Balloon) Grade 1; and
  - the theory exam Balloon Flight Rules and Aerostatics has been satisfactorily completed; and
  - the student holds a Radio Operator (Balloon) Permit, an Aeronautical Radio Operator Certificate or a CASA issued radiotelephone licence (if required for the airspace in which the flight is to be conducted), and
  - no passengers are carried.

### 2.2.3 Logging of flight time and exercises

The holder of a Student Pilot (Balloon) Permit must:

- record:
  - all flight time in a pilot's personal logbook; and
  - every flight conducted in the course of instruction in the appropriate logbook columns, using one line for every flight; and
- ensure that:
  - flight time is not logged as instructional flight time unless physically operating the controls of the balloon under the supervision of a current balloon pilot instructor or demonstration of flight exercises by the instructor (Instructor demonstration time should be limited), and
  - at the satisfactory completion of each flight training exercise as specified in Section 7.2 - *Syllabus for the Private Pilot (Balloon) Permit practical flight exercises*, that the instructor supervising the exercise, also signs and enters details of exercises completed in the *Student Training Record* and completes the debrief page; and
  - the '*Flight Training Exercises Completed to a Competent Standard*' sheet is signed by both student and instructor when both are satisfied that exercises are completed to a competent standard.

### 2.2.4 Validity

A Student Pilot (Balloon) Permit remains in force unless the permit is varied, suspended or cancelled by CASA or unless the holder can no longer meet the self-declared medical requirements.

If your medical status changes you must contact CASA via the [Aviation medical enquiries web form](#).

## 2.3 Private Pilot (Balloon) Permit

### 2.3.1 Issue of a permit

A student applicant for a Private Pilot (Balloon) Permit must:

- hold a:
  - valid Student Pilot (Balloon) Permit, and
  - a Radio Operators (Balloon) Permit or have completed the requirements for the issue of a Radio Operators (Balloon) Permit, or
  - an Aviation Radio Operators Certificate (AROC) or

- be authorised under CASR Part 61 or Part 64 to operate aircraft radio; and
- have:
  - attained the age of 16 years; and
  - completed the theory examinations in Flight Rules and Procedures, Aerostatics and Airmanship, Meteorology and Navigation (the syllabuses of which are specified at *Section 7 – Syllabuses*, of this manual.); and
  - passed all examinations within 2 years and one month prior to successfully completing a PP(B)P flight test; and
  - completed the Sport Aviation human factors course available through [AviationWorx](#)
  - completed the Flight Training Exercises to a competent standard as listed in *Section–7 - Syllabuses* of this manual; and
- complete a minimum of 16 hours instructional flight time under either the direct supervision (dual flight) or observation (solo flight) of an appropriate instructor before submitting to a flight test with an examiner. The 16 hours must consist of at least 8 flights with each flight including an inflation and deflation by the student and include the following:
  - a minimum of 9 hours instructional flight time (instructional or solo flight time excludes any time during which the balloon is at rest on the ground); and
  - a tethered balloon flight of between 15 minutes (minimum) and one hour (maximum); and
  - a minimum of 2 hours solo flight consisting of 3 flights, 2 of which must occur on separate days; and
- in the 12 months immediately prior to making the application, have completed at least 3 flights with each flight including an inflation and deflation; and
- have successfully completed a dual flight test of at least 30 minutes duration with an examiner, and a solo flight test of at least 20 minutes duration under the observation of an examiner. The order in which these flights are conducted is at the discretion of the examiner; and
- forward to CASA:
  - completed application form, available from the CASA website (form BF-002) ensuring the flight test report (Appendix D.1) is completed and signed by an examiner certifying that all the requirements for the issue of the permit have been met; and
  - payment for any fee determined by CASA.

Applicants who hold an Australian Commercial Pilot (Balloon) Licence are deemed to be eligible to be issued with a Private Pilot (Balloon) Permit.

### 2.3.2 Flight privileges and limitations

A Private Pilot (Balloon) Permit authorises the holder to act as PIC of a balloon, subject to the following:

- The holder of a PP(B)P:
  - must maintain a log providing a record (date, balloon registration, flight time and route) of all flights in a pilot logbook.
  - must not engage in Australian balloon transport unless holding an Australian Commercial Pilot (Balloon) Licence (CP(B)L) or a CAR Certificate of Validation and engaged by the holder of a Balloon Air Operator Certificate (AOC).
- must not engage in an endorsement activity listed in 2.1.3 of this manual unless the relevant endorsement is held

### 2.3.3 Private balloon pilot: recreational balloon flight review required

A recreational balloon flight review (RBFR) is a review of the aeronautical skills and aeronautical knowledge of the person being reviewed that is relevant to the safe flight of balloons in recreational operations.

**Note:**

- A RBFR is a review.
- A flight for an instructor renewal is a flight instructor proficiency check.
- A flight for the initial issue of a Private Pilot (Balloon) Permit or a Private Pilot (Balloon) Flight Instructor Grade 1 Permit is a flight test conducted by an Examiner.
- An assessment flight for an endorsement on a PP(B)P is a flight test that may be conducted by a similarly endorsed Grade 1 Instructor or Examiner.

### 2.3.3.1 Private balloon pilot: regular balloon flight review required

The holder of a Private Pilot (Balloon) Permit must not fly a balloon as PIC if the pilot has not, within the period of 2 years immediately before the day of the proposed flight, satisfactorily completed a recreational balloon flight review.

### 2.3.3.2 A recreational balloon flight review

A recreational balloon flight review must be conducted:

- only by an approved person whose balloon pilot certifications are current and valid, and
- with the approved person on board
  - except where the balloon the pilot has flown the most time during the last 10 flights, is a single person balloon, the review may be conducted by the approved person by observation from the ground or another balloon, and
  - in a balloon that has an envelope capacity not greater than 120 000 cubic feet, unless endorsed to act as PIC for a balloon of greater capacity and the approved person is similarly endorsed; and
- and must include at least 1 inflation of the balloon envelope, 30 minutes of flight time and 1 landing and deflation of the balloon envelope.

**Note:**

Approved person means:

- an examiner
- an Instructor Grade 1 or 2; or
- a person approved in writing by CASA.

### 2.3.3.3 Recreational balloon flight review requirements not satisfied

If the holder of a Private Pilot (Balloon) Permit undertakes a recreational balloon flight review and the requirements of Section 2.3.3.2 – *a recreational balloon flight review* are not satisfied, the pilot is taken not to have satisfactorily completed the review.

### 2.3.3.4 Recreational balloon flight review requirements satisfied

If the holder of a Private Pilot (Balloon) Permit satisfactorily completes a recreational balloon flight review, the approved person conducting the review must complete CASA Form BF-004, make an entry in the table of pilot's permit to the effect that the pilot has satisfactorily completed.

A balloon flight review remains valid for two years from the last day of the month in which the review was conducted.

If the review is passed up to 90 days prior to the end of the two-year validity period, it is considered to have been completed on the final day of the validity period.

Form BF-004 must be submitted to CASA by the applicant.



### 2.3.3.5 Recreational balloon flight review requirements deemed to be satisfied

A holder of a Private Pilot (Balloon) Permit who, within the period of 2 years immediately before the day of the proposed flight, has:

- passed a flight test or proficiency check conducted for the purpose of:
  - the issue of a Private (Balloon) Pilot Permit; or
  - the issue of a Commercial Pilot (Balloon) Licence; or
  - the issue or renewal of an Instructor Private Pilot (Balloon) Permit; or
  - the issue or renewal of a Flight Instructor (Balloon) Rating on a CP(B)L; or
  - the issue of a Night VFR balloon Endorsement; or
  - the issue of a Balloon greater than 120K Endorsement
- has satisfactorily completed a Commercial Pilot (Balloon) flight review; or
- passed a flight review or proficiency check for the purpose of:
  - maintaining the currency of a Private (Balloon) Pilot Permit; or
  - regaining the currency of a Private (Balloon) Pilot Permit; or
- submits evidence of the above with form BF-004 to CASA.

is deemed to have satisfactorily completed a recreational balloon flight review.

### 2.3.4 Examination credit

Credits for theory examinations may be granted to:

- persons who hold an Australian flight crew licence (PPL or higher) are exempted from the requirement to pass the Balloon Meteorology and Navigation exam, and radio operator exams.
- overseas pilots (Refer to Section 3 – Credit for overseas ballooning qualifications of this CRBPM).

**Note:** Persons seeking to obtain theory examination credits should notify CASA providing proof of qualifications.

### 2.3.5 Validity

A Private Pilot (Balloon) Permit will remain in force unless the permit expires or is varied, suspended or cancelled by CASA or unless the holder can no longer meet the self-declared medical requirements.

If your medical status changes you must contact CASA via the [Aviation medical enquiries web form](#).

### 2.3.6 Currency - recent experience requirements

#### 2.3.6.1 Flight recency

The holder of a Private Pilot (Balloon) Permit must not act as PIC of a hot air balloon and will become non-current unless they have within the period of 12 months immediately before the day of the flight:

- undertaken at least 3 flights of at least 30 minutes each of flight time as PIC with each flight including an inflation and deflation; or
- if non-current, satisfactorily completed a flight test, or a balloon flight review with a current Instructor Grade 1 or Examiner, and submitted to CASA a completed flight review record and supporting documents.

#### 2.3.6.2 No flight recency for between one and three years

If the period of non-currency, is greater than one year but less than 3 years, the holder of a Private Pilot (Balloon) Permit must not operate a balloon unless they have:

- provided evidence of previous Part 131 aircraft experience; and
- satisfactorily completed a balloon flight review with a current Instructor Grade 1; and
- demonstrated knowledge of Section 7.2 - Syllabus of training for the Private Pilot (Balloon) Permit of this CRBPM; and
- the completed flight review record Form BF-004 submitted to CASA with supporting documents by the holder of the Private Pilot (Balloon) Permit.

### 2.3.6.3 No flight recency for three years or more

If the period of non-currency, is greater than 3 years the holder of a Private Pilot (Balloon) Permit must not operate a hot air balloon unless they have:

- provided evidence of previous Part 131 aircraft experience; and
- satisfactorily completed a balloon flight review with a current examiner; and
- demonstrated knowledge of Section 7.2 - Syllabus of training for Private Pilot (Balloon) Permit of this CRBPM; and
- the completed flight review record Form BF-004 with supporting documents must be submitted to CASA by the holder of the Private Pilot (Balloon) Permit.

## 2.4 Radio Operator (Balloon) Permit

### 2.4.1 Issue of permit

There are two methods for the issue of a Radio Operator (Balloon) Permit.

#### 2.4.1.1 First method: Demonstration and examination

The applicant for a Radio Operator (Balloon) Permit must:

- demonstrate to an examiner the required standard in both the written and oral radio examinations
- submit to CASA a completed application form (BF-002).

**Note:** Refer to Section 7.3 - Syllabus of training for Radio Operator (Balloon) Permit of this CRBPM for study notes.

#### 2.4.1.2 Second method: Recognition of prior learning (RPL)

The applicant for a Radio Operator (Balloon) Permit based on RPL must:

- be the holder of a Flight Radiotelephone Operator Licence; or
- be authorised under CASR Part 61 or Part 64 to operate aircraft radio; or
- have an RAAus radio endorsement and current RAAus membership; or
- hold an equivalent radio operator certificate issued by another sport aviation body; and
- submit to CASA a completed application form, and proof of the licence, certificate or endorsement.

## 2.5 Instructor Private Pilot (Balloon) Permit

### 2.5.1 Private Pilot (Balloon) Flight Instructor Permit Grade 1 and 2

An instructor permit authorises the holder to conduct training in accordance with the pilot training syllabus. There are 2 levels of Instructor Private Pilot (Balloon) permit which may be issued.

### 2.5.1.1 Privileges of an Instructor Grade 2 Permit

The Instructor Private Pilot (Balloon) Permit Grade 2 authorises the holder to:

- Conduct a Recreational Balloon Flight Review.
- conduct practical flight instruction in accordance with the syllabus of knowledge and flight training exercises specified in *Section 7.2.2 - Syllabus for the Private Pilot (Balloon) Permit practical flight exercises* of this CRBPM limited to the following flight exercises:
  - preliminary familiarisation with balloon and equipment
  - pre-flight planning and preparations
  - flying operations and procedures (normal conditions) excluding solo flights
  - emergency procedures.
- certify that the holder of a Student Pilot (Balloon) Permit has satisfactorily completed the flight training exercises attempted.

#### Notes:

- A Grade 2 Instructor may recommend a student for solo flight but must not supervise a student solo flight.
- This Grade 2 level is intended to give experienced pilots exposure to instructional experience and increase access to basic flying training for students.

### 2.5.1.2 Privileges of an Instructor Grade 1 Permit

The Instructor Private Pilot (Balloon) Permit Grade 1 authorises the holder to:

- Conduct a Recreational Balloon Flight Review
- conduct both theory and flight instruction in accordance with the syllabus of knowledge and flight training exercises specified in *Section 7.2. - Syllabus for Private Pilot (Balloon) Permit* of this CRBPM; and
- certify that the holder of a Student Pilot (Balloon) Permit has satisfactorily completed a flight training exercise; and
- recommend to an examiner that the holder of a Student Pilot (Balloon) Permit is of a standard to attempt a flight test; and
- conduct a flight test for the issue of an Instructor Grade 2 Permit; and
- conduct an flight instructor proficiency check for an Instructor Grade 2; and
- provided the instructor is similarly endorsed, conduct ground and flight instruction for a Balloon greater than 120K Endorsement and recommend to an examiner that the applicant is of a standard to attempt a test for issue of the endorsement; and
- provided the instructor is similarly endorsed, or holds a current balloon grade of night VFR rating issued under CAR 5.14 and CAO 40.2.2, conduct ground and flight instruction for a Night VFR balloon endorsement, and conduct the test for the issue of the endorsement
- provided the instructor is similarly endorsed, conduct the ground instruction and test for a non-controlled aerodrome endorsement and issue the endorsement
- provided the instructor is similarly endorsed, conduct ground and flight instruction and test for a carry and release a hang glider endorsement.

**Note:** When an instructor is providing flight instruction or conducting a flight test for issue of a Night VFR endorsement, the instructor must log time as PIC and the PP(B)P holder undergoing endorsement training or checking must log time as Pilot Under Training (PUT).

**Note:** An Instructor Grade 1 must not supervise a solo flight, while acting as PIC in another balloon or aircraft. If the solo flight is supervised from the air, the instructor must always be flying in close formation with the student. Solo flight may be supervised by following as a passenger in a vehicle on the ground.

## 2.5.2 Issue of permit

### 2.5.2.1 Application for Instructor Private Pilot (Balloon) Grade 2 Permit

An applicant for an Instructor Private Pilot (Balloon) Grade 2 must:

- have been the current holder of a valid Private Pilot (Balloon) Permit or overseas equivalent, for a period of at least 2 years; and
- have a minimum of 50 hours PIC; and
- demonstrate to an Instructor Grade 1, basic instructional skills and show evidence of good airmanship via a flight test, comprising the following:
  - flight test of at least 30 minutes duration, instructing a student (simulated or actual student), incorporating pre-exercise briefing and follow-up debriefing analysis of the students' performance; and
  - flight test of at least 30 minutes duration demonstrating a high degree of skill, airmanship, flight management, situational awareness, and an ability to recover from unusual situations; and

**Note:** These flights tests can be done in **one** flight.

- attain a level of competency to be able to:
  - give ground lessons, pre-flight and post flight briefings on any or all parts of *Section 7.2.2 - Syllabus for Private Pilot (Balloon) Permit practical flight exercises* of this CRBPM; and
  - accurately present all aspects of the syllabus with explanations adjusted to suit the individual; and
  - demonstrate an ability to assess a student's understanding of syllabus topics; and
- submit an application form to CASA (Form BF-005), certified by the Instructor Grade 1.

### 2.5.2.2 Application for Instructor Private Pilot (Balloon) Grade 1 Permit

An applicant for an Instructor Private pilot (Balloon) Grade 1 must:

- have:
  - been the current holder of a valid Private Pilot (Balloon) Permit or overseas equivalent, for a period of at least 2 years; and
  - a minimum of:
    - » 30 hours instruction time logged as a Grade 2 Instructor; or
    - » hold a current overseas equivalent instructor rating; and
    - » have 75 hours aeronautical experience in balloons as PIC; and
- satisfactorily demonstrate to an examiner the ability to impart the theory specified in *Section 7.2.2 - Syllabus for Private Pilot (Balloon) Permit practical flight exercises* of this CRBPM; and
- have satisfactorily completed flight tests with an examiner, comprising the following:
  - flight test of at least 30 minutes duration, instructing a student (simulated or actual student), incorporating pre-exercise briefing and follow-up debriefing analysis of the students' performance; and
  - flight test of at least 30 minutes duration demonstrating a high degree of skill, airmanship, flight management, situational awareness, and an ability to recover from unusual situations.

**Note:** These flight tests can be done in **one** flight.

- submit an application form to CASA (Form BF-005), certified by the examiner.

**Note:** The level of competency required is to be able to give instruction on all flying exercises as listed in the student training record. The Instructor Grade 1 Permit applicant must satisfy an examiner that they can impart knowledge, assess and correct student faults and display a high level of airmanship. The applicant must be able to fly any of the exercises in a skilled manner. The relevant standard is set out in the instructor assessment Form. Each segment of the flight is assessed by the examiner to achieve a competent result for all exercises.

### 2.5.2.3 CASA Flight Instructor (Balloon) Rating

The holder of a CP(B)L with a Flight Instructor Balloon Rating is deemed to be qualified to hold an Instructor Private Pilot (Balloon) Permit Grade 1 and may apply to CASA for an Instructor Private Pilot (Balloon) Permit Grade 1 using form BF-005.

## 2.5.3 Validity

Unless suspended, cancelled or otherwise varied by CASA, an Instructor Private Pilot (Balloon) Permit remains in force while the holder is authorised to exercise the privileges of the Permit.

### 2.5.3.1 Instructor Private Pilot (Balloon) Permit Grade 2

The holder of an Instructor Private Pilot (Balloon) Permit Grade 2 must not exercise the privileges of the Permit unless:

- within the preceding 24 months they have demonstrated to an Instructor Grade 1 their ability to impart the:
  - theoretical knowledge required;
  - practical skills specified in Section 7.2.2 - *Syllabus for the Private Pilot (Balloon) Permit practical flight exercises* by way of a flight test or flight instructor proficiency check of not less than 30 minutes; and
- the flight test or flight instructor proficiency check has been carried out in a balloon of 120 000 cubic feet or less; and
- the flight test or flight instructor proficiency check has been recorded on their permit; and
- a completed flight test or flight instructor proficiency check (Form BF-005) has been forwarded to CASA within 14 days of the flight test or proficiency check.

**Note:**

A flight instructor proficiency check may be carried out up to 90 days prior to expiry of the 24 months to avoid loss of continuity.

If the flight instructor proficiency check is passed up to 90 days prior to the end of the two-year validity period, it is considered to have been completed on the final day of the validity period.

A flight instructor (balloon) permit remains in force for 2 years from the last day of the month in which the Permit was renewed.

The holder of a Flight Instructor Permit to which this section applies must not give flight instruction unless they have within the period of 12 months immediately before the planned instruction flight:

- have flown as a PIC at least three hours and made at least three flights including an inflation and deflation; or

- have satisfactorily completed a flight test or a flight instructor proficiency check with an Instructor Grade 1 and submitted to CASA the completed flight review record.

### 2.5.3.2 Instructor Private Pilot (Balloon) Permit Grade 1

The holder of an Instructor Private Pilot (Balloon) Permit Grade 1 must not exercise the privileges of the permit unless:

- within the preceding 24 months they have demonstrated to an Examiner Private Pilot (Balloon) the ability to successfully impart the:
  - theoretical knowledge required
  - practical skills specified in *Section 7.2.2 – Syllabus for the Private Pilot (Balloon) Permit practical flight exercises* by way of a flight test or flight instructor proficiency check of not less than 30 minutes; and
- the flight test or flight instructor proficiency check has been:
  - carried out in a balloon of 120 000 cubic feet or less; and
  - recorded and signed by the examiner on their permit; and
- a completed flight test or flight instructor proficiency check (Form BF005) has been forwarded to CASA within 14 days of the flight test or proficiency check.

**Note:**

A flight instructor proficiency check may be carried out up to 90 days prior to expiry of the 24 months to avoid loss of continuity.

If the flight instructor proficiency check is passed up to 90 days prior to the end of the two-year validity period, it is considered to have been completed on the final day of the validity period.

A flight instructor (balloon) permit remains in force for 2 years from the last day of the month in which the Permit was renewed.

The holder of a Flight Instructor Permit to which this section applies must not give flight instruction unless they have within the period of 12 months immediately before the planned instruction flight:

- have flown as PIC at least three hours and made at least three flights including an inflation and deflation; or
- have satisfactorily completed a flight test or a flight instructor proficiency check with an Examiner Private Pilot (Balloon) and submitted to CASA a completed flight review record.

### 2.5.3.3 Commercial Flight Instructor Balloon test flight

Successful completion of a Commercial Flight Instructor Balloon Rating test flight will be deemed as successful completion of an Instructor Private Pilot (Balloon) test flight or flight instructor proficiency check in *Section 2.5.3.2 - Instructor Private Pilot (Balloon) Grade 1* of this CRBPM.

**Note:** CASA will update the validity for both ratings on acceptance of a Form 971 Application for flight instructor rating - balloons.

## 2.5.4 Record Keeping requirements

The holder of a Grade 1 and 2 Instructor Private Pilot (Balloon) Permit and a CASA Approved Person is required to make and retain a copy of the record of training, or any proficiency review conducted when undertaking a flight review or a session of flight training.

These records must be retained for at least 7 years after the record has been made.

An example of a record of a flight training session would be a scan or photograph of the relevant pages in the student training logbook.

The Instructor must also retain a copy of records that have been relied on to demonstrate that an applicant has satisfied the requirements of the CAO 95.54 and this manual for the issue of a permit or endorsement (e.g. a copy of the applicant's logbook should be retained to demonstrate that the minimum hours have been completed for issue of an Instructor Private Pilot (Balloon) permit.

**Note:** Under the *Electronic Transactions Act 1999*, a requirement in the Commonwealth law to give information, provide a signature, produce or retain a document or to record information, may be met in electronic form.

## 2.6 Examiner Private Pilot (Balloon) Permit

### 2.6.1 Privileges of an Examiner Private Pilot (Balloon) Permit holder

An Examiner Private Pilot (Balloon) permit authorises the holder to conduct:

- a flight test or proficiency check for:
  - initial issue or renewal of a Private Pilot (Balloon) Permit;
  - initial issue or renewal of an Instructor Private Pilot (Balloon) Permit;
  - an endorsement on a PP(B)P if similarly endorsed.
- conduct written and oral radio examinations for issue of the Radio Operator (Balloon) Permit

### 2.6.2 Issue of permit

#### 2.6.2.1 Application for Examiner Private Pilot (Balloon) Permit

A candidate for an Examiner Private Pilot (Balloon) Permit must be:

- the holder of a valid Instructor Private Pilot (Balloon) Permit Grade 1 who has logged;
  - a minimum of 40 hours flight instructional experience as the holder of an Instructor Private Pilot Permit Grade 1; or
  - more than 200 hours flight instructional experience as PIC of an aircraft, of which at least 20 hours must be instructional experience as PIC of a free balloon; and
  - apply to CASA using Form BF-006
  - successfully complete an interview and flight test with a CASA approved person.
- CASA will grant an Examiner Private Pilot (Balloon) Permit where the need for such a permit is recognised.

### 2.6.3 Duration of Examiner Private Pilot (Balloon) Permit

Unless suspended, cancelled or varied, a Private Pilot (Balloon) Examiner Permit shall remain in force for the period the holder continues to hold a current Instructor Private Pilot (Balloon) Permit.

### 2.6.4 Record keeping requirements

The holder of an Examiner Private Pilot (Balloon) Permit or CASA approved person is required to make and retain a record of any flight test conducted for the issue of a private pilot (balloon) permit or flight instructor (balloon) permit. The Examiner must also retain a copy of records that have been relied on to demonstrate that an applicant has satisfied the requirements of CAO 95.54 and this manual for the issue of a permit or endorsement (e.g. the student training record and any other relevant documentation).

An example of a record of a flight test is a copy of forms BF-002 and BF-005. Records must be retained for at least 7 years after the record has been made.



## 2.7 Non-Controlled Aerodrome Endorsement

### 2.7.1 Privileges of the Non-Controlled Aerodrome Endorsement

The Endorsement allows for aerodrome operations to allow flights below 2 000 feet above the aerodrome elevation while flying within 3 nautical miles of a non-controlled certified aerodrome, and operations at a non-controlled aerodrome.

### 2.7.2 Issue of Endorsement

An applicant for a Non-Controlled Aerodrome Endorsement must:

- hold a valid Private Pilot (Balloon) Permit; and
- hold a valid Radio Operators (Balloon) Permit; and
- successfully demonstrate to an Instructor Grade 1 knowledge of Section 7.5.4 – Syllabus of training for the non-controlled aerodrome endorsement; and
- have an Instructor Grade 1 who holds the endorsement make an entry in the pilots' logbook to the effect that the pilot has successfully completed the requirements for issue of the Endorsement; and
- forward to CASA, a complete application form (BF-002).

**Note:** The entry in the pilots' logbook must be in the following form: "[Name of pilot and ARN] has received training in accordance with CAO 95.54 and the CRBPM and is qualified to operate below 2 000 ft AGL at or within 3NM of a non-controlled aerodrome [Signature of Instructor], [Printed name of instructor and ARN], [Qualifications of Instructor] [Date]"

### 2.7.3 Validity

A Balloon Non-controlled Aerodrome Endorsement remains in force unless the endorsement is varied, suspended or cancelled by CASA.

## 2.8 Gas Balloon Endorsement

### 2.8.1 Privileges of the Gas Balloon Endorsement

The Endorsement authorises the holder to act as PIC of a Gas Balloon in a recreational activity.

### 2.8.2 Issue of Endorsement

An applicant for a Gas Balloon Endorsement must write to CASA seeking this endorsement and provide evidence of overseas gas ballooning pilot qualifications.

### 2.8.3 Validity

A Gas Balloon Endorsement remains in force unless the endorsement is varied, suspended or cancelled by CASA.

## 2.9 Hot Air Airship Endorsement

### 2.9.1 Privileges of the Hot Air Airship Endorsement

The Endorsement authorises the holder to act as PIC of a Hot Air Airship in a recreational activity.



## 2.9.2 Issue of Endorsement

An applicant for a Hot Air Airship Endorsement must write to CASA seeking this endorsement and provide evidence of overseas Hot Air Airship pilot qualifications.

## 2.9.3 Validity

A Hot Air Airship Endorsement remains in force unless the endorsement is varied, suspended or cancelled by CASA.

# 2.10 Night VFR balloon Endorsement

## 2.10.1 Privileges of the Night VFR balloon Endorsement

This endorsement authorises the holder to act as PIC of a manned free balloon at night under the VFR.

## 2.10.2 Issue of Endorsement

An applicant for a Night VFR balloon Endorsement must:

- hold a valid Private Pilot (Balloon) Permit; and
- successfully demonstrate to a NVFR balloon endorsed Instructor Grade 1 knowledge of Section 7.5.3.1 – Syllabus of training for endorsement to a permit for night VFR balloon flight - Theory; and
- complete a minimum of 2 hours instructional flight time of flight at night, including two inflations and two deflations, with landing planned to be by day, under the direct supervision of a NVFR balloon endorsed Instructor Grade 1; and
- during the instructional flight time, successfully demonstrate competency in undertaking the actions set out in the flight sections of 7.5.3.2 – Syllabus of training for endorsement to a permit for night VFR balloon flight – Flight test; and
- have the Instructor Grade 1 make an entry in the pilot's logbook to the effect that the pilot has successfully completed the requirements for issue of the Endorsement; and
- forward to CASA, a complete application form (BF-002) and attach the flight test report (Appendix D.2) signed by the Instructor Grade 1.

**Note:** The entry in the pilots' logbook must be in the following form: "[Name of pilot and ARN] has received training in accordance with CAO 95.54 and the CRBPM and is qualified to operate a balloon under the VFR at night [Signature of Instructor], [Printed name of instructor and ARN], [Qualifications of Instructor] [Date]"

A holder of a current balloon grade of night VFR rating issued under CAR 5.14 and CAO 40.2.2 is deemed to be qualified to hold a Night VFR balloon Endorsement and may apply to CASA for a Night VFR balloon Endorsement.

## 2.10.3 Validity

A Night VFR Endorsement remains in force unless the endorsement is varied, suspended or cancelled by CASA or the holder of the endorsement no longer holds a Private Pilot (Balloon) Permit.

# 2.11 Balloon greater than 120K Endorsement

## 2.11.1 Privileges of the Balloon greater than 120K Endorsement

This endorsement authorises the holder to act as PIC of a manned free balloon that has an envelope capacity greater than 120 000 cubic feet but not more than 260 000 cubic feet.

## 2.11.2 Issue of Endorsement

An applicant for a Balloon greater than 120K Endorsement must:

- hold a valid Private Pilot (Balloon) Permit; and
- have at least 200 hours experience as PIC of a manned free balloon; and
- complete a minimum of 2 hours instructional flight time (including two inflations and two deflations) in a balloon that has capacity of greater than 120 000 cubic feet but not more than 260 000 cubic feet, with an Instructor Grade 1 who is similarly endorsed; and then;
- successfully demonstrate to an Examiner, who is similarly endorsed, understanding of the knowledge areas set out in Section 7.5.7.1 – Syllabus of training for endorsement to a permit for certification of competency to operate a balloon that has capacity greater than 120 000 cubic feet but not more than 260 000 cubic feet – Oral Exam; and
- successfully demonstrate to an Examiner, who is similarly endorsed, in a flight of at least 60 minutes duration undertaking the requirements set out in Section 7.5.7.2 – Syllabus of training for endorsement to a permit for certification of competency to operate a balloon that has capacity greater than 120 000 cubic feet but not more than 260 000 cubic feet – Flight test; and
- have an Examiner, who is similarly endorsed, make an entry in the pilots' logbook to the effect that the pilot has successfully completed the requirements for issue of the Endorsement; and
- forward to CASA, a complete application form (BF-002) and attach the flight test report (Appendix C.3) signed by the Examiner.

**Note:** The entry in the pilots' logbook must be in the following form: "[Name of pilot and ARN] has received training in accordance with CAO 95.54 and the CRBPM and is qualified to operate a hot air balloon with an envelope capacity up to 260 000 cubic feet [Signature of Instructor], [Printed name of instructor and ARN], [Qualifications of Instructor] [Date]"

### Caution:

Balloons of certain size may have a Minimum Landing Mass (MLM) or Minimum Landing Weight (MLW) requirement. Passengers may be carried for loading requirements but emergency procedures involving disruption of the fuel supply or intentional heavy landings must not be practiced. Passengers must be informed that this is a training flight, that they are being carried at their own risk and must not contribute in any way to the cost of the flight. Sandbags may be carried instead of passengers as long as the requirements of CASR 131.425 Restraint of cargo and CASR 91.600 Carriage of cargo – general are complied with.

## 2.11.3 Validity

A Balloon greater than 120K Endorsement remains in force unless the endorsement is varied, suspended or cancelled by CASA, or the holder of the endorsement no longer holds a Private Pilot (Balloon) Permit.

## 2.11.4 Recognition of ABF Balloon greater than 120K Endorsement

From 12 November 2024 a person who held a capacity greater than 120 000 cubic feet Endorsement issued by the ABF before 2 December 2023 is deemed qualified to hold a Balloon greater than 120K Endorsement. However, they are not deemed to be qualified to hold a Balloon greater than 260K endorsement unless they hold a CP(B)L with a restricted Class 2 (R) endorsement or an unrestricted Class 2 (U) endorsement.

**Note:** The holder of a restricted Class 2 (R) endorsement on a CP(B)L is limited to operating a balloon with an envelope capacity not greater than 400 000 cubic feet.

## 2.12 Balloon greater than 260K Endorsement

### 2.12.1 Privileges of the Balloon greater than 260K Endorsement

This endorsement authorises the holder to act as PIC of a manned free balloon that has an envelope capacity greater than 260 000 cubic feet.

### 2.12.2 Issue of Endorsement

An applicant for a Balloon greater than 260K Endorsement must:

- hold a valid Private Pilot (Balloon) Permit; and
  - hold a CP(B)L with a restricted Class 2 (R) endorsement; or
  - hold a CP(B)L with an unrestricted Class 2 (U) endorsement
- forward to CASA, a complete application form (BF-002).

**Note:** A Class 2 (R) endorsement means a restricted Class 2 balloon endorsement. A Class 2 (U) endorsement means an unrestricted Class 2 balloon endorsement. See paragraph 2.2 of Civil Aviation Order 40.7, and section 27.05 of the Part 131 (Balloons and Hot Air Airships) Manual of Standards 2024.

### 2.12.3 Validity

A Balloon greater than 260K Endorsement remains in force unless the endorsement is varied, suspended or cancelled by CASA or the holder of the endorsement no longer holds a Private Pilot (Balloon) Permit.

## 2.13 Carry and release a hang glider Endorsement

### 2.13.1 Privileges of the Carry and release a hang glider Endorsement

This endorsement authorises the holder to carry a hang glider outside a balloon, and subsequently release the hang glider.

### 2.13.2 Issue of Endorsement

An applicant for a Carry and release a hang glider Endorsement must:

- hold a valid Private Pilot (Balloon) Permit; and
- successfully demonstrate to an Instructor Grade 1, who holds the endorsement, knowledge of Section 7.5.6 – Syllabus of training for endorsement to carry and release a hang glider from a Part 131 aircraft – Oral Test, and
- have an Instructor Grade 1, who holds the endorsement, make an entry in the pilot's logbook to the effect that the pilot has successfully completed the requirements for issue of the Endorsement; and
- forward to CASA, a completed application form (BF-002).

**Note:** The entry in the pilot's logbook must be in the following form: "[Name of pilot and ARN] has received training in accordance with CAO 95.54 and the CRBPM and is qualified to carry and release a hang glider from a balloon [Signature of Instructor], [Printed name of instructor and ARN], [Qualifications of Instructor], [Date]"

**Note:** It is recommended, providing the maximum weight loading will not be exceeded, that the instructor present on board during the first carry and release a hang glider flight.

### 2.13.3 Validity

A Carry and release a hang glider Endorsement remains in force unless the endorsement is varied, suspended or cancelled by CASA or the holder of the endorsement no longer holds a Private Pilot (Balloon) Permit.

### 2.13.4 Recognition of previous experience

A pilot who can demonstrate they have previously conducted this activity may apply to CASA for issue of the Endorsement including a certified copy of the logbook entry.

## 3 Credits for overseas ballooning qualifications

### 3.1 Permits for holders of overseas qualifications

Persons seeking credits and recognition for ballooning qualifications issued in countries other than Australia must submit a written application to CASA providing evidence of their qualifications and experience (e.g. hot air balloons, gas balloon or hot air airship).

#### 3.1.1 Issue of a Private Pilot (Balloon) Permit based on overseas authorisations

A Private Pilot (Balloon) Permit and Radio Operators (Balloon) Permit may be issued by CASA to an applicant who holds balloon pilot qualifications issued by an ICAO contracting state, if they have:

- completed the theory examinations in *Balloon Flight rules and Aerostatics* (the syllabus of which is specified at Section 7 – Syllabuses, of this manual); and
- provided an English language proficiency/medical declaration form (Form BF-003); and
- provided evidence of their overseas ballooning qualifications; and
- provided certified logbook evidence of training and subsequent flying; and
- forwarded to CASA:
  - the above evidence; and
  - a completed application form BF-002, available from [CASA website](#) ; and
  - payment of any fee determined by CASA.

**Note:** The PP(B)P holder must first successfully complete a Recreational Balloon Flight Review as described in paragraph 2.3.3 of this manual before conducting a flight as PIC

#### 3.1.2 Issue of a Private Pilot (Balloon) Endorsements based on overseas authorisations

Endorsements may be issued by CASA to an applicant who holds the equivalent qualifications issued by an ICAO contracting state, if they have

- provided evidence of their overseas ballooning qualifications; and
- provided certified logbook evidence of training and subsequent flying (if applicable); and
- forwarded to CASA:
  - the above evidence; and
  - a completed application form, form BF-002 and
  - payment of any fee determined by CASA.

#### 3.1.3 Temporary issue of Private Pilot (Balloon) Permit and Endorsements

A temporary Private Pilot (Balloon) Permit, including any appropriate endorsements and Radio Operator (Balloon) Permit may be issued by CASA., A successful applicant will:

- hold an overseas balloon pilot qualification;

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- have at least 100 hours (or 50 hours if the applicant is participating in an FAI-sanctioned competition event) experience as PIC; and
- hold a recognised overseas radio qualification.

If an applicant does not hold a recognised overseas radio qualification, they can apply for a Radio Operator (Balloon) Permit by completing the theory and practical Radio Operator (Balloon) exams.

The Permit will usually be valid for 30 days and is restricted to a single issue on any visit. Applicants must present certified proof of qualifications and currency and submit to CASA Form BF-007 available from [CASA website](#).

## 4 Certification and airworthiness

### 4.1 Standard Certificate of Airworthiness

A Standard Certificate of Airworthiness (CoA) is issued to individual Australian aircraft which:

meet the requirements of an applicable comprehensive airworthiness code as required by Part II, Section 2.2 Chapter 3 of the International Civil Aviation Organisation (ICAO) Annex 8, *Airworthiness of Aircraft*, and have been issued with a type certificate.

**Note:** Further information can be found in Advisory Circular AC 21–02.

### 4.2 Special Certificate of Airworthiness

Any aircraft which does not have a standard CoA cannot be operated unless it has been issued a special CoA. In the case of balloons, special CoA applies to both experimental and Light Sport Aircraft (LSA) classes of aircraft.

**Note:** Further information can be found in Advisory Circular AC 21–03.

### 4.3 Experimental Certificate of Airworthiness

CASR 21.191 allows an authorised person or CASA to issue an experimental certificate to allow specific operations of aircraft which are not type certificated.

**Note:** Further information can be found in Advisory Circular AC 21–10.

### 4.4 Light Sport Aircraft Certificate of Airworthiness

CASR 21.186 allows an authorised person or CASA to issue Light Sport Aircraft (LSA) CoA in one of 2 categories:

- Special Certificate of Airworthiness for LSA
- Experimental Certificates for LSA.

**Note:** Further information can be found in Advisory Circulars AC 21–41.

### 4.5 Maintenance

Balloons with a standard Certificate of Airworthiness must be maintained in accordance with CAR 37A, 38, 41, 42A, 42E, 42U, 42V, 42W, 42X, 42ZC, 42ZE and 50A.

**Note:** Permissible pilot maintenance items are contained in Part 2 of Schedule 8 of CAR.

Balloons with an Experimental Certificate of Airworthiness must be maintained in accordance with CAR 42CB which states:

“The holder of the certificate of registration for a class B aircraft that is an experimental aircraft must maintain the aircraft in accordance with any conditions to which the certificate is subject under regulation 21.195A of CASR.”

Balloons with a Special Certificate of Airworthiness for LSA must be maintained in accordance with the manufacturer's maintenance procedures.

### **4.5.1 Pilot permitted maintenance**

As described in CAR 42ZC(4)(db) a holder of a Commercial Pilot (Balloon) Licence or a Private Pilot (Balloon) Permit that is valid for the balloon is permitted to undertake maintenance that is specified in Part 2 of Schedule 8, as long as the maintenance is carried out in accordance with any conditions prescribed by legislative instrument issued by CASA.

### **4.5.2 Minor repairs and inspections**

A holder of an Airworthiness Authority – Maintenance issued under CAR 33B may carry out inspection, maintenance and repair of manned, free hot air balloons that is not listed in Schedule 7, Part 5.

### **4.5.3 Major repairs**

As per part 5 Schedule 7 of CAR, major repairs may only be performed under the control of an appropriate certificate of approval (COA) holder, issued under regulation 30 of CAR.

Maintenance records for all aircraft must be kept in a CASA approved aircraft logbook.

- The operator of a balloon may use the aircraft logbook to record all details that would otherwise be required by Part 4 of CAR to be recorded in a maintenance release; and
  - must make the flight and maintenance records available to the PIC prior to a flight; and
  - must ensure that the aircraft logbook is not carried on board the balloon during a flight.



# 5 Operational procedures

## 5.1 Introduction

Type certified Part 131 aircraft conducting recreational activities must be operated in compliance with all the applicable requirements specified in the:

- Civil Aviation Regulations 1988 (CAR)
- Civil Aviation Orders (CAO)
- CAO 95.54 (2024)
- Civil Aviation Safety Regulations 1998 (CASR)
- the relevant aircraft flight and maintenance manual
- this CRBPM.

Experimental aircraft must also be operated in accordance with CASR 91.875 and any conditions in the Experimental Certificate of Airworthiness for the aircraft.

Light Sport Aircraft (LSA) balloons must also be operated in accordance with CASR 91.900 and the relevant Aircraft flight manual and this manual.

## 5.2 Equipment

The equipment requirements are specified in Chapter 26 of the Part 131 MOS.

A launch rope and quick release approved by the balloon manufacturer must be used to secure the balloon during pre-flight set up and until take-off,

A basic first aid kit is recommended.

## 5.3 Sensitive zones (SZs)

Pilots are reminded of the requirement to not operate an aircraft in a manner which creates a hazard to a person or property (CASR 91.055). Outside of a populous area, balloon pilots do not need to maintain a minimum height AGL. However, this does not absolve pilots from any responsibility not to cause a hazard to landholders, stock, persons or property. Pilots should consider sensitive areas where landholders have requested that pilots either do not land, or alternatively, observe a minimum overfly height. Information on sensitive zones or areas should be obtained from local balloon operators. (See Section 7 of AC 131-02 Manned free balloons - Operations)

## 5.4 Night flights

If the Aircraft Flight Manual (AFM) includes any requirements for flight at night these must be complied with.

A knife is recommended equipment for night flights. It may be required if the anti-collision light becomes entangled in a tree or obstacle.

A GPS moving map display with an external battery pack is strongly recommended to display drift direction and provide navigation position. OzRunways, OziExplorer, Hot Air, Google or Apple maps are all suitable applications. A backup moving map display is recommended.

NVFR operating conditions can vary. There may be times when there is bright moonlight or extensive ground lighting available, making a night operation only a little more difficult than flying in daylight. However, there may be dark night conditions (i.e. without moonlight or significant ground lighting) that can make it very difficult to discern the natural horizon and maintain control of the aircraft by reference to external visual references.

An important aspect of navigation at night is terrain awareness. Pilots should maintain:

- awareness of the intended flight path laterally and vertically in relation to terrain
- an altitude at least 1,000 ft above all obstacles within a 5 NM radius of the aircraft LSALT.

Flight under VFR—by day or night—must be conducted in visual meteorological conditions (VMC) and in compliance with minimum inflight visibility standards and prescribed vertical and horizontal distances from cloud.

Weather forecasts including moon phase should be carefully studied during pre-flight planning to ensure that the flight can be conducted and completed in VMC. The pilot must ascertain from the forecast (and other information) that they will be able take-off and descend in VMC, as they need to be confident that descent in VMC will be possible.

The pilot should take into consideration that:

- light winds, low temperatures and moisture are conducive to the formation of fog which usually develops around sunrise
- dry and wet bulb temperatures that are close together on the aerodrome forecast may indicate the probability of fog.

It is important to understand that the flight visibility given in aviation weather forecasts relates only to the transparency of the atmosphere, not to the visibility of obstructions or terrain at the distances specified. To be visible from an aircraft at night, an object must generally be lit by moonlight or artificial lighting, otherwise objects outside the aircraft cannot be seen, no matter how good the visibility.

NVFR procedures depend on maintaining a safe height above terrain rather than the pilot's ability to visually avoid terrain, as visual assessment alone is unreliable and hazardous. The pilot should:

- maintain height above LSALT or 1,000 ft above the highest terrain within a 5 nautical mile (NM) radius. Information on calculation of LSALT can be found in AIR GEN 3.3. Plan take-off to clear terrain laterally and vertically until above LSALT
- maintain situational awareness
- be aware of the critical terrain and obstacles for the flight
- be aware of the direction that is being flown and LSALT in relation to terrain by reference to a moving map display.
- if navigation position is lost, maintain an altitude 1 000 feet above LSALT until position certainty is regained
- prepare a 'mud map' as it is particularly useful to aid situational awareness which would generally show items such as: tracks and distances; LSALT and high terrain or obstacles; controlled airspace boundaries; and prominent visual features.

Situational awareness at night involves an awareness of:

- external lighting—effect of ambient lighting conditions, including possible illusions
- aircraft position—visual navigation, using moving map display
- the intended flight path—heading, distance, time and terrain clearance
- weather—pre-flight and inflight forecasts, reports and observations
- aircraft systems serviceability—burner
- fuel state.

## **5.5 Parachute descents from a balloon**

Guidance material for pilots wishing to conduct dropping of parachutists from a balloon can be found in multi-Part AC 105-03 and AC 131-05.

## **5.6 Search and rescue procedures**

The information below should be read in conjunction with AIP GEN 3.6 SEARCH AND RESCUE.

The primary response to an emergency or uncertainty over the safety of a balloon and crew should come from the balloon retrieve crew.

**Note:** Should a lost balloon situation become overdue, Joint Rescue Coordination Centre (JRCC) Australia should be contacted on **1800 815 257** within Australia.

JRCC Australia operates a 24-hour Rescue Coordination Centre (RCC) in Canberra and is responsible for the national coordination of both maritime and aviation search and rescue. On receiving a distress signal or being notified of a missing civil aircraft or seagoing vessel, the RCC will take action to establish the safety of the aircraft, vessel or source of the signal. This action may include:

- coordinating a search and rescue with assistance from organisations as appropriate such as:
- the defence forces
- trained aviation organisations (Civil SAR Units)
- emergency medical helicopters
- state police services
- state emergency services
- airlines and the general aviation industry, or
- passing the coordination onto the appropriate regional police organisation to conduct search and rescue operations within their jurisdiction.

## 5.7 Accident and incident reporting

Accidents and incidents (refer to Section 6 for definitions) must be reported to CASA and the Australian Transport Safety Bureau (ATSB).

**Note:** Reports will be used to improve safety and education in ballooning. They will be treated in confidence and will not be used as a basis for disciplinary action.

## 5.8 Carrying outside a balloon, and releasing, a hang glider

The following outlines the procedures for carrying a hang glider:

### 5.8.1 General

- Pilots must consult with the manufacturer's Aircraft Flight Manual for the hot air balloon that is being used, and if any information from the Flight Manual conflicts with the following procedures, the Flight Manual takes precedence
- CASR Part 131.585 provides for carrying of hang gliders outside a hot air balloon
- CAO 95.54 states that it is a condition that PP(B)P holder must hold an endorsement before carrying a hang glider outside a Part 131 aircraft, and releasing the hang glider.

**Note:** The following is based on an adaption of the Cameron Balloons Flight Manual supplement HABFM i10-8.27 (18 May 2022) regarding Launching Hang Gliders and Paragliders, used with permission.

### IMPORTANT NOTE:

Personal Parachutes - The hang glider pilot must be equipped with a parachute.

**Note:** These procedures are not suitable for a topless hang glider.

### 5.8.2 Load carrying ability

The weight of the hang glider and the hang glider pilot must be obtained and included in weight calculations to ensure the maximum loading weight permitted by the flight manual is not exceeded – as required by CASR paragraph 131.445(1)(a).

### 5.8.3 Suspension

- The hang glider suspension line should be connected to a V-bridle connected to two adjacent corners of the burner frame. Forged Cameron tether rings or minimum 4 tonne karabiners must be used to attach the V-bridles to the balloon. Burner frame restraint lugs must not be used; and
- The hang glider suspension should be cord or tape made of nylon or polyester with a minimum breaking strength of 1800kg (4000 lbs). The suspension should be attached to a suitable strong point on the glider allowing it to be suspended in a level or slightly nose- down attitude; and
- It is recommended to keep the suspension line short so there is less sway in the line, easier to communicate between pilots and less line to drag over the ground which could potentially become snagged on something when the glider is landing
- A bowline knot is suggested for the knot to secure the suspension line to the hang glider and a bowline knot to secure the suspension line to the balloon
- The line should be long enough to allow the balloon to be inflated on the ground alongside the hang glider. Never use a second suspension line; and
- It is the responsibility of the hang glider pilot to establish the suitability of the hang glider for dropping, and for determining a suitable suspension point on the glider. This should be determined with reference to the hang glider manufacturer.

### 5.8.4 Release Mechanism

- The simplest and most reliable release method is to cut the suspension tape or cord with a knife at the balloon basket. The occupants of the basket must stand back at the moment of release, to avoid injury in case the taut line springs back
- A spare knife must be available in the basket.

### 5.8.5 Take Off

- To carry out a smooth take off the weather must be close to ideal from the balloonist's point of view.
- Tether lines should be used to stabilise the balloon over the glider. Sufficient lift should be built up to lift the glider off the ground before the tether lines are released. Avoid damaging or snagging the glider with the tether lines.
- It is suggested that one ground crew member be located on the nose of the hang glider and relay the position of the balloon as the basket ascends above the glider, so the hang glider pilot can position themselves under the balloon
- It is the balloonist's responsibility to ensure a clean climb out as the glider is very vulnerable to any collision with obstacles.

### 5.8.6 Climb

- During the climb the glider pilot cannot see the balloon but can hear conversation in the basket. It is important to maintain clear communication during the climb.
- Climb rate depends on the stability of the glider (rapid rates of climb can cause the glider to rotate or sway). A climb rate of 500 ft/min (2.5 m/sec) is usually satisfactory.

### 5.8.7 Release

- It is important that the balloon slows its rate of climb and descends before releasing the weight of the glider, otherwise a dangerously fast rate of climb could occur. This is particularly important for Velcro rip balloons. A descent rate of 400 ft/min (2 m/ sec) should be used for a standard hang glider, and a rate of 700 ft/min (3.5 m/sec) should be used for a two-seater.
- The height above the ground for the release should be agreed with the hang glider pilot but should be at least 2 000 feet AGL.

## 5.9 NOTAMS

Subregulation 131.350(1) prescribes the checks to be carried out before take-off and 14.02(a) of the Part 131 MOS prescribes that one of the checks must be of the NOTAMs relevant to the flight.

NOTAMs relevant to the flight must be checked via the National Aeronautical Information Processing System (NAIPS). NAIPS provides a central database of meteorological, NOTAM and chart information. The system is used by the Airservices Australia to provide pre-flight and in-flight briefings and to accept and distribute flight notifications.

Information available from NAIPS includes:

- Australian and international NOTAM
- status of Restricted Areas
- meteorological information:
- Graphical Area Forecasts
  - AREA QNH
  - METAR/SPECI
  - TAF
  - AIRMET
  - SIGMET
- ATIS
- GPS RAIM availability
- First-light/Last-light
- meteorological charts.

MET and NOTAM information is available on all Australian locations and selected locations outside Australia.

Flight notification details can be submitted through NAIPS in ICAO, Domestic or SARTIME format.

NOTAM request details can also be submitted for those users who are Authorised NOTAM Originators.

**Note:** Among Head Office, FIR and location-specific NOTAMs are NOTAMs relating to airspace activation and any anticipated military low flying.

## 5.10 Access to Control zones, control areas and controlled aerodromes

A Part 131 aircraft must not be operated at a controlled aerodrome or operate within a control zone or control area (Class A, B, C or D airspace) unless the pilot in command holds 1 of the following:

- a current commercial pilot (balloon) licence; or
- a current CAR certificate of validation; or

- c. a private pilot (balloon) permit and a current pilot licence with an aircraft category rating, under Part 61 of CASR, with privileges that include operating at a controlled aerodrome or in a controlled area or control zone and a valid flight review for the aircraft's class rating under Part 61 of CASR.

To operate a Part 131 aircraft at a controlled aerodrome, or in a controlled area or control zone, the operator and the pilot in command must comply with the applicable radio and transponder requirements in Chapter 26 of the Part 131 MOS,

All requirements in Part 91 and Part 131 regarding operating at a controlled aerodrome, or in a controlled area or control zone must be complied with including obtaining appropriate clearance from ATC.

## **5.11 Inflation fan operating procedures**

Safe operating procedures for inflation fans to be followed when using portable power inflation fans are described in AC 131-02 in paragraph 5.3.1 of Section 5.

## **5.12 Pilot lights off before landing**

Pilot lights must be extinguished prior to contact with the ground.

## 6 Accident and incident reporting

### 6.1 Australian Transport Safety Bureau (ATSB)

#### 6.1.1 ATSB responsibility

The Australian Transport Safety Bureau (ATSB) is established by the the *Transport Safety Investigation Act 2003* (TSI Act) and conducts its investigations in accordance with the provisions of the Act.

ATSB operates with complete independence from any other body; its role being to investigate all accidents and incidents reported to it, and upon delivering its findings, recommend where necessary, a course of corrective action. Under the TSI Act, it is not a function of the ATSB to apportion blame or provide means for determining liability. The ATSB does not investigate for the purpose of taking administrative, regulatory or criminal action.

#### 6.1.2 Accidents and incidents

Accidents and incidents are categorised into Immediately Reportable Matter (IRM) or Routinely Reportable Matter (RRM), depending on their nature.

The TSI regulations refer to four aircraft operation categories, each with different reporting obligations. Category C (non-commercial) aircraft operations include recreational and sport ballooning.

The following information should be read in conjunction with AIP ENR 1.14.

### 6.2 Definitions of IRM and RRM

The information below outlines the types of safety occurrences that are either immediately reportable matters or routine reportable matters for Category C.

#### 6.2.1 Immediately reportable matters (IRM).

IRM are:

- subject to the exclusions in the note below, the death of, or a serious injury to a person on board the aircraft, or in contact with the aircraft, or anything attached to the aircraft, or anything that has become detached from the aircraft;

**Note:**

'The death of, or a serious injury to, a person' does not include:

- death or serious injury resulting from natural causes (except to a flight crew member); or
- death or serious injury that is intentionally self-inflicted; or
- death or serious injury that is intentionally caused by another person; or
- death occurring more than 30 days after the occurrence that caused the death, unless the death was caused by an injury that required admission to hospital within 30 days after the occurrence.

- the aircraft:
  - believed 'missing'
  - suffering serious damage or the existence of reasonable grounds for believing that the aircraft has suffered serious damage
  - being inaccessible and the existence of reasonable grounds for believing that the aircraft has been seriously damaged
- breakdown of separation standards, being a failure to maintain a recognised separation standard (vertical, lateral or longitudinal) between aircraft that are being provided with an ATC separation service

- serious property damage incident (external) where there is damage to property outside the aircraft that would cost at least \$25,000 to repair or replace that is caused by contact with any part of the aircraft, including anything that is attached to the aircraft or that has become detached from the aircraft.

### 6.2.2 Routinely reportable matters (RRM)

RRM include:

- an injury, other than a serious injury, to a person on board the aircraft
- aircraft accident, where the aircraft has sustained damage or structural failure
- the aircraft is completely inaccessible
- a collision with anything other than an animal or bird
- a flight crew member becoming incapacitated while operating the aircraft
- an occurrence in which flight into terrain is narrowly avoided
- a declaration by a flight crew member of the aircraft, of an alert phase (PAN PAN) or a distress phase (MAYDAY)
- an occurrence that results in difficulty controlling the aircraft, including any of the following occurrences:
  - an aircraft system failure
  - a weather phenomenon
  - operation outside the aircraft's approved flight envelope
- fuel exhaustion
- the aircraft's supply of useable fuel becoming so low (whether or not as a result of fuel starvation) that the safety of the aircraft is compromised
- a collision with an animal or a bird.

## 6.3 Notification of IRM and RRM

IRM must be reported as soon as reasonably practicable by telephone on **1800 011 034**, and then a follow-up written report must be made within 72 hours.

RRM requires only a written report to ATSB within 72 hours. The notification must contain the same details as for an IRM. A link to the occurrence notification online form can be found in 7.8 below.

## 6.4 Particulars to be reported

### 6.4.1 Telephone notification for IRM

The TSI Regulations outline details of immediately reportable matters that are required to be reported to the ATSB. The details below should be reported when they are known to the reporter:

- The type, model, nationality, registration marks and flight number (if any) of the aircraft the subject of the immediately reportable matter
- The kind of aircraft operation (with reference to the CASR Part number), and aircraft activity, that the aircraft was engaged in at the time of the immediately reportable matter
- The name and contact details of the operator of the aircraft
- As much detail as is known about the nature of the immediately reportable matter
- A description of any damage to the aircraft or any other property
- A description of any dangerous goods on board the aircraft.
- Whether a person died, or was seriously injured



- Where the immediately reportable matter occurred (including a description of the location, or the geographical coordinates)
- The aircraft's place of departure and destination
- The day and local time when the immediately reportable matter occurred
- A description of the following, in as much detail as is known
  - what happened
  - how and why it happened
- In relation to the responsible person reporting the matter, their name and a method of contacting the person that will enable the person to be promptly contacted for ATSB to conduct further enquiries into the matter.

#### 6.4.2 Written report for IRM and RRM (excluding bird/animal strikes)

The TSI Regulations outline details of immediately and routine reportable matters that are required to be reported to the ATSB in writing. The details below should be reported when they are known to the reporter:

- name and contact details of the person making the report
- person's role in relation to the aircraft concerned
- type, model, nationality, registration marks and flight number (if any) of the aircraft
- name of the owner of the aircraft
- name and contact details of the operator of the aircraft
- if the aircraft was under hire when the reportable matter occurred, the name of the hirer
- name and nationality of the pilot and the type and licence/certificate number of the licence/certificate held by the pilot
- name and nationality of each other flight crew member (if any), and the type and licence/certificate number of the licence/certificate held by each member
- day and local time when the reportable matter occurred
- if, when the reportable matter occurred, the aircraft was inflight, the:
  - place where the flight started; and
  - place where the flight ended, or was intended to end; and
  - purpose of the flight.
- unless the reportable matter occurred at an airport, the location of the aircraft immediately after the occurrence of the reportable matter, including the geographical coordinates of that location
- number of persons on board the aircraft when the reportable matter occurred (separately for crew and passengers)
- nature of the reportable matter, including:
  - its outcome or effect on the flight of the aircraft
  - the phase of the aircraft's flight when the matter occurred
  - the weather conditions
  - the airspace designation
  - the altitude at which the matter occurred
  - if the matter occurred at, or in relation to, an airport, the name of the airport, and, if it occurred on, or in relation to, a runway, the runway number
- the causes of the occurrence (if known), including any human performance issues
  - any safety action carried out to prevent a recurrence of the matter; and
  - the nature and extent of any damage to the aircraft.

- physical characteristics of the area where the reportable matter occurred (e.g. the terrain, vegetation cover, and existence and location of any buildings, runways or aerodromes)
- flight rules under which the aircraft was operating at the time of the reportable matter
- kind of aircraft operation the aircraft was engaged in at the time of the reportable matter
- if the matter resulted in a fatality or serious injury, and the aircraft carried an emergency locator transmitter:
  - the manufacturer and model of the emergency locator transmitter
  - whether it was fixed or portable
  - its location in the aircraft; and
  - whether it was activated.
- if the aircraft's pilot has died, the pilot's:
  - date of birth; and
  - total flying hours on all aircraft and flying hours on the same type of aircraft.
- if any:
  - crew members have died or been seriously injured as a result of the reportable matter, how many, and their names and nationalities
  - passengers have died or been seriously injured as a result of the reportable matter, how many, and their names and nationalities; and
  - other persons have died or been seriously injured as a result of the reportable matter, how many, and their names and nationalities.

### 6.4.3 Collision with an animal or bird only

For a reportable matter that is a collision with an animal or bird, only the written report must contain as much of the following information as is within the knowledge of the person making the report:

- name and contact details of the person making the report
- day and local time when the reportable matter occurred
- nature of the reportable matter, including:
  - if the matter occurred at, or in relation to, an airport, the name of the airport, and if it occurred on, or in relation to, a runway, the runway number; and
  - the nature and extent of any damage to the aircraft; and
  - any other information that the person making the report considers appropriate.

### 6.4.4 Aviation Self-Reporting Scheme

Under the Aviation Self Reporting Scheme (ASRS), the holder of a civil aviation authorisation may report a contravention of the Civil Aviation Regulations 1988 and the Civil Aviation Safety Regulations 1998 committed by the holder. Reporters submitting eligible reports can claim protection from administrative action by CASA, in accordance with section 30DO of the Civil Aviation Act 1988.

More information can be found at the [Aviation Self-Reporting Scheme page](#) on the ATSB website

To be eligible for acceptance under ASRS, the report must be about the reporter's own contravention. The report must be submitted to the ATSB, in writing, no later than 10 days following the contravention. The reporting form can be accessed by following the link provided below.

- Complete an [online form](#)
- Download PDF [form](#)

## 6.5 Custody and removal of aircraft

The TSI Act provides powers to ATSB transport safety investigators to obtain information necessary to conduct investigations into reportable matters. However, investigations always seek, where possible, to obtain information in cooperation with the owner.

It is an offence if a person engages in reckless conduct that adversely affects an investigation that is either being conducted at the time or could be later conducted into an immediately reportable manner.

**Note:** When an IRM occurs, the aircraft immediately comes into the custody of the Air Transport Safety Bureau (ATSB), and it must not be removed or otherwise interfered with except with the permission of a responsible officer of the ATSB.

However, the above provision is waived temporarily when it is necessary to:

- remove persons from the aircraft or
- protect the aircraft from further damage, or
- remove the aircraft if it presents an obstruction or danger to other aircraft, other transport or to the public.

An ATSB officer will release the aircraft from custody upon completion of the aircraft examination or in some cases of minor accidents, upon receipt of the accident notification message.

## 6.6 Accident and incident investigation

### 6.6.1 Actions in the event of an accident

#### 6.6.1.1 Site

1. Contact the local police, ATSB investigating officer and advise them of your appointment and your willingness to assist.
2. If police are not in attendance, secure the area.
3. Take photos of aircraft and any significant damage at scene.
4. Measure distance from initial landing contact to final position (if a landing event).
5. Sketch map of location.
6. Ascertain direction of travel (compass heading).
7. Determine local weather conditions at time of flight.

#### 6.6.1.2 Aircraft checks

Check the following:

1. fuel system (tanks in use) - isolate after noting status
  - a. quantity of fuel in tanks
  - b. integrity of fuel system.
2. cables, flying wires
  - a. integrity
  - b. wear
  - c. breaks
  - d. swages
  - e. carabiners.
3. control lines, venting systems

- a. integrity of systems
- b. pulleys.
- 4. basket
  - a. condition
  - b. breakages.
- 5. burner
  - a. operating at impact?
  - b. general condition
  - c. reason for stoppage?

### 6.6.1.3 Witness statements

Confirm:

- 1. contact details.
- 2. status (passenger, ground crew, bystander).

## 6.7 Media comments

**Note:**

- Carefully consider any engagement with the media - whatever you say may not be reported accurately.
- Consider what you discuss over insecure communications (radios etc.). Mobile phones may be considered secure.

## 6.8 ATSB contact details

To contact the Australian Transport Safety Bureau (ATSB):

Canberra Central Office 12 Moore Street Canberra ACT 2601  
GPO Box 321 Canberra ACT 2601

Tel: 1800 011 034 (24 hours)

International: +61 2 6230 4470

[Occurrence Notification - Aviation | ATSB](#)

Email: [atsbinfo@atsb.gov.au](mailto:atsbinfo@atsb.gov.au) ([General enquiries](#))

# 7 Syllabuses

Syllabuses of training for balloon permits, ratings, and endorsements.

## 7.1 Syllabus of training for Student Pilot (Balloon) Permit

**Note:** There is no syllabus of training required for the issue of a Student Pilot (Balloon) Permit.

## 7.2 Syllabus of training for Private Pilot (Balloon) Permit

The syllabus of training for the Private Pilot (Balloon) Permit includes theory exams and practical flight exercises.

### 7.2.1 Syllabus for Balloon Flight Rules & Procedures and Aerostatics & Airmanship exam

#### Flight Rules and Procedures

#### 7.2.1.1 Pilot (Balloon) Permit

Determine whether a balloon flight can be legally conducted in accordance with the privileges and limitations of a Private Pilot (Balloon) Permit given various operational situations.

#### 7.2.1.2 Aviation documents

- List the documents that must be carried in a balloon in Australia. Know that the aircraft logbook must not be carried in the balloon.
- Be familiar with the use of and where to find:
  - Civil Aviation Regulations and Orders
  - Civil Aviation Safety Regulations
  - Advisory Circulars
  - Aeronautical Information Publication (AIP Book) including SUP, AIC, NOTAMs and charts
  - En Route Supplement Australia (ERSA)
  - CASA Recreational Ballooning Procedures Manual (CRBPM)
  - Manufacturer's Aircraft Flight and Maintenance Manuals
  - Aircraft (Balloon) Logbook
  - Pilot Logbook.
- Understand which documents take precedence in a given situation. Know the procedure to follow in the case of conflict or ambiguity between applicable documents.
- Be familiar with how to fill out a logbook for a pilot and for a balloon taking special care in relation to ensuring that pilot flight hours are correctly logged.

#### 7.2.1.3 Flight rules

- Know the rules for the prevention of collision between a balloon and other balloons and aircraft in the air and on the ground including the requirement to give way to balloons below.

- Know the requirements for a suitable landing area
- Know the visual meteorological conditions (VMC) and VFR for balloons.
- Know the minimum heights at which, under normal circumstances, a balloon may be flown (over a city, town or populous area and over any other area).
- Match prohibited area, danger area and restricted area with their appropriate definitions. Know how and when you can and cannot fly in these areas.
- Know the approval required to fly at an event advertised to the public
- Know the requirements to fly in Controlled Airspace, flights over water.
- Know the rules for tethered balloon operations.
- Know what can be dropped from a Part 131 aircraft.

#### **7.2.1.4 Aviation Authorities**

- Understand the role and responsibility of aviation authorities:
  - Civil Aviation Safety Authority
  - Airservices Australia
  - Australian Transport Safety Bureau
  - Bureau of Meteorology (BOM)
  - Australian Maritime Safety Authority (AMSA)
  - Department of Infrastructure, Transport, Regional Development and Communications (Infrastructure).
- Understand the functional difference between Flight Information Services and Air Traffic Control services.
- Understand how and when Search and Rescue (SAR) services should be engaged.

#### **7.2.1.5 Airspace classification**

- Understand the terms controlled airspace, control area, control zone, military airspace, non-controlled aerodrome, flight information area and flight information region. Be familiar with airspace classes.
- Be able to correctly identify different air space classes on a map or chart.
- Be able to correctly identify where balloon pilots can fly and where non-controlled aerodrome endorsed balloon pilots can fly.

#### **7.2.1.6 Aircraft equipment**

- Know the altitude above which it is mandatory for the pilot of a balloon to use oxygen and when it is mandatory for oxygen to be available to all passengers in a balloon.
- Know the situations in which VHF Airband radio must be carried and used in a balloon and the minimum required qualification to operate the radio.

#### **7.2.1.7 Carriage of passengers and cargo**

- Know the minimum information which must be included in a passenger pre-flight briefing in respect of passenger safety and comfort during flight, during landing and stowage of equipment.

#### **7.2.1.8 Reportable matters (accidents and incidents)**

- Know the responsibilities of aircraft owners, operators and pilots regarding the notification of reportable matters (accidents and incidents) to ATSB.

#### **7.2.1.9 Consumption of alcohol or drugs**

- Know the rules relating to the consumption of alcohol or drugs:
  - by operating crew and other persons on board a balloon

- persons engaged in safety sensitive activities.

#### 7.2.1.10 Maintenance

- Know the responsibilities of the registered operator and pilot of a balloon with respect to:
  - reporting unservicabilities
  - ensuring required maintenance is carried out by an appropriate person
  - maintaining balloon maintenance records
- Know how to determine whether a maintenance item may be carried out by a:
  - balloon pilot
  - balloon Maintenance Authority holder
  - Certificate of Approval holder
- Match the terms Airworthiness Directive and Service Bulletin with the appropriate definitions
- Know how to determine flight time and enter it in a pilot and balloon logbook.

### Aerostatics and airmanship

#### 7.2.1.11 Airmanship

- Identify typical actions and personal attributes which contribute to good airmanship.
- Identify typical actions and personal attributes which contribute to good situational awareness (Human factors).

#### 7.2.1.12 Principles of flight

- Names and functions of balloon components (envelope, basket, fuel systems and accessories).
- Definitions of buoyancy, false lift, terminal descent, ballast, overheat, vent, differential temperature, kinetic energy, momentum, inertia.
- Relationship between buoyancy and atmospheric factors (ambient temperature, altitude, humidity).
- Importance of atmospheric stability to balloon flight (safety considerations in relation to atmospheric instability).

#### 7.2.1.13 Balloon operations

- Be familiar with typical flight limitations, including damage limits to preclude flight, as found in an Aircraft flight manual.
- Be familiar with emergency procedures detailed in a typical Aircraft flight manual and emergencies in general.
- Given a typical load chart, launch field elevation and ambient temperature, calculate the load limit for a specific balloon size at a particular altitude (or the maximum safe altitude given the balloon size and all up weight). Understand the limitation of maximum all up weight.
- Recognise elements of a typical fuel system in a schematic drawing.
- Principles of fuel management, including fixed and variable fuel reserves.
- Refueling (correct procedures and safety requirements).
- Properties and hazards of liquefied petroleum gas (LPG) and emergency procedures.
- Typical balloon controls, control reaction time (delay) and the importance of anticipating this.
- False lift and how to counteract it.
- Tethered balloon operations (safety procedures and use of ropes).

- Launch rope and quick release (requirements for use and safety procedures).
- Inflation fan safety procedures (including the correct positioning of the fan in relation to the basket and the location of barriers to keep members of the public or passengers away from the fan)
- Be able to conduct pre-flight planning in the days before, the night before and the morning of a flight
- Relationship of burner output to fuel pressure and importance of the fuel pressure gauge.
- Minimum checklists and briefings which must be carried out before take-off, during flight, before and after landing.
- Procedures for landing with higher-than-normal wind speed and/or descent rate.
- Positive deflation systems (advantages and safety considerations).
- Be aware of potential emergencies and most appropriate responses.

#### 7.2.1.14 Balloon performance

- Use of instruments to measure flight parameters (altimeter, variometer (rate of climb indicator), temperature gauge (ambient and envelope), pressure gauge, fuel contents gauge and clock).
- Variation in control reaction time in relation to burner power, total mass or inertia of the system and other factors.
- Differing kinetic energy levels with fast and slow landings and with different size balloons and loads.
- Rates of climb and descent in reference to obstacle clearance.
- Factors affecting flight duration (high envelope temperature, altitude and load, heat loss from venting, climbs, rain, fabric porosity, solar heat input, radiant, conductive and convective heat output).

### 7.2.2 Syllabus for Balloon Meteorology and Navigation exam

#### Meteorology

##### 7.2.2.1 General Meteorology

- Be familiar with the different ways to obtain public and aviation forecasts and reports
- Given the AIP and details of a particular operational situation, identify the types of aviation weather forecasts and weather reports that are available for the flight. Be able to decode/understand a written Area Forecast, TAF, TTF, METAR and SPECI.
- Match the terms isobar, inversion, lapse rate, dew point, pressure gradient, air temperature, relative humidity, fog and geostrophic wind, backing and veering with their appropriate definitions.
- On a mean sea level synoptic chart of Australia showing typical synoptic situations for given seasons, identify and match each of these features with a description of the associated general weather characteristics:
  - high and low-pressure systems
  - warm and cold fronts
  - a ridge of high pressure
  - a trough of low pressure
  - a tropical revolving storm
  - a col
  - wind directions associated with the pressure systems (Coriolis force, frictional force and wind flow above the frictional layer).
- Recognise from a series of photographs the various cloud types. Describe the flying conditions associated with each type and the levels at which they may be found.
- Be able to describe what planning is required in regard to weather in preparing for a balloon flight, in the days leading up to a flight, the night before and the morning / afternoon of the flight.



### 7.2.2.2 Forecast weather conditions.

- Identify the conditions under which the following weather phenomena may occur and the actions required to avoid or counteract the related effects and hazards on ballooning operations:
  - thunderstorms
  - low-level temperature inversions and fog
  - mountain waves (standing waves and rotors)
  - low-level wind shear especially in relation to balloons taking off and landing
  - sea breezes and vertical thermal convection currents.
  - snow

### 7.2.2.3 Micro Meteorology.

- Identify the conditions under which the following micro meteorological weather phenomena may occur and the actions required to avoid or counteract the related effects and hazards on ballooning operations:
  - anabatic and katabatic winds and drainage flow
  - strengthening of winds up slopes and over ridges
  - curl-over in lee of ridges and escarpments
  - down drafts and rotors on lee slopes in lee wave conditions
  - curl-over and wind shelter in the lee of tree belts and woods
  - cool air down drafts and microbursts (from showers and beneath virga associated with convection clouds)
  - thermals and dust devils.

## Navigation

### 7.2.2.4 General Navigation

- Know the units of measurement used in air navigation for speed, distance, direction, height and wind velocity.
- Understand the terms magnetic deviation, magnetic variation and isogonal.
- Be familiar with World Aeronautical Charts (WAC), En Route Charts, Visual Terminal Charts (VTC), Visual Navigation Charts (VNC), Planning Chart Australia (PCA) and Topographic Survey Maps.
- Know conventional signs on Visual Terminal Charts (VTC), Visual Navigation Charts (VNC) and Topographic Survey Maps.
- On a Visual Terminal Chart or Topographic Survey Map:
  - know how to measure a nominated position to an accuracy of one minute of arc of latitude and longitude.
  - be able to mark a position for which latitude and longitude is given.
- On a Topographic Survey Map:
  - know how to give a 6 or 8 figure grid reference for a nominated position.
  - be able to mark a position for which a grid reference is given.
- Convert a true bearing to a magnetic bearing and understand the terms heading, course, track, fix and dead reckoning position.
- Be able to express time and date as a 6, 8 or 10 figure group.
- Convert Australian Standard Times to UTC and UTC to Australian Standard Times.
- Be able to calculate ground speed, fuel used, fuel required and fuel remaining.

- Given conversion factors, convert:
  - IMP Gallons/US Gallons/Litres
  - Pound/Kilograms
  - Nautical miles/Kilometres
  - Statute miles Degree F/Degree C
  - Feet/Metres.
- Calculate rate of descent given total descent and either estimated time interval or distance to run and ground speed.
- Match the terms QNH, Area QNH, AGL, AMSL, standard pressure, height, elevation, altitude, transition altitude, transition layer and transition height with their definitions. Select appropriate altimeter subscale settings for specified operational conditions.
- Identify the different classes of airspace in Australia and be able to locate them on a VTC map.
- Know the common symbols on aviation charts and topographical maps and be able to identify them on a map or chart.

### 7.2.2.5 Flight planning pre-flight

- With forecast wind at various flight levels and specified flight altitude plan, predict average tracks and position after specified periods (ignore time taken to change levels).
- With forecast wind and specified maximum distance, specify maximum flight duration.
- Given usable fuel, consumption in litres or kilograms per hour and wind velocity, plot probable landing position and from maps state if projected area is suitable. Give reason and fuel reserve.

### 7.2.2.6 Flight planning in-flight

- Use protractor to calculate course given take-off position and present position.
- Calculate ground speed from present position, take-off position and flight time and predict position after further specified flight time.

## 7.2.3 Syllabus for Private Pilot (Balloon) Permit practical flight exercises

### 7.2.3.1 Preliminary

- Familiarisation with balloon equipment, controls and terminology.
- Obtaining land holder permission.
- Familiarisation with refueling techniques, procedures and safety measures.

### 7.2.3.2 Pre-flight

- Obtaining meteorological forecast and appreciation of conditions.
- Appreciation of downwind airspace, terrain and power line systems.
- Passenger and crew briefings.
- Choice of suitable launch site.
- Rigging the balloon for flight and pre-flight inspection.
- Inflation.
- Pre-take-off checks.
- Use of launch rope also hands on/hands off the basket exercise.

### 7.2.3.3 Flight operations (normal conditions)

- Take-off (slow climb out in light wind condition).
- Level flight (effect of burner).
- Climb and descent (effect of burner and vent).
- Approach and overshoot from low level (awareness of power lines).
- Intermediate landing using vent.
- Final landing using rip panel.
- Flight to 4,000 feet AGL.
- Experience terminal velocity descent.
- Tethered flight (appreciation of hazards and precautions).

**Note:** Up to 1 hour of tether may be logged in the total 16 hours of flight time required for Private Pilot (Balloon) Permit issue.

- Appreciation of the effect of variations in loading on balloon operations.
- First solo flight.

### 7.2.3.4 In-flight procedures

- Use of maps and instruments (appreciation of position and movement of balloon).
- Fuel management.
- Considerations when operating in company with other balloons.
- Observation of weather developments.
- Detection of power line systems.

### 7.2.3.5 Emergency procedures

**Note:** These situations are to be simulated where they cannot be put into practice safely. The student pilot to demonstrate reactions in theory as required.

- Pilot light failure and fuel supply problems.
- Power lines and use of handling line.
- Considerations of landing in difficult conditions (trees, water and confined spaces).
- Emergency landing procedures and briefing for passengers.
- Considerations of fuel leaks and fire in air and on ground.

### 7.2.3.6 Optional flight operations (Advanced conditions – not mandatory)

- Take-off (fast climb-out from shelter in moderate wind).
- Fast (or vehicle assisted) take-off in moderate wind and fast climb-out.
- Approach and overshoot from high level.
- Landing at high descent rates.
- Flight in mild thermal conditions.
- Landing in moderate wind.

## 7.3 Syllabus of training for Radio Operator (Balloon) Permit

The syllabus of training for the Radio Operator (Balloon) Permit includes theory and practical examinations.

### 7.3.1 Syllabus for Radio Operator (Balloon) Permit theory examination

#### 7.3.1.1 Regulations and organisation

- Understand the AIP regarding:
  - safety of life and priority of emergency transmissions
  - requirement to assist persons in distress
  - distress frequencies
  - prohibited transmissions
- Know the VHF aeronautical communication band and the qualifications which permit operations on this band.
- Know the privileges and limitations of the Radio Operator (Balloon) Permit.
- Know pilot responsibilities to limit transmissions to:
  - aircraft operational needs
- Aviation English language and what to avoid:
  - unauthorised, false or deceptive transmissions
  - improper use of call signs
  - profane or obscene language.

#### 7.3.1.2 Operational situations

- Know the operational requirements, appropriate frequency type and standard phrases to be used in the following situations. Demonstrate examples of the appropriate calls in practice.

#### General

- Difference between reports and broadcasts
- Format for a position report
- Requirements for maintaining a listening watch
- Frequency change procedures.

#### Uncontrolled airspace

- Awareness of aerodrome traffic patterns and typical calls
- CTAF procedures at non-controlled aerodromes
- Instrument Approach aerodromes
- Operations above 5000ft AMSL.

#### Controlled airspace (for information only)

- Obtain ATIS broadcast
- Request or amend airways clearance
- SSR transponder use

- Read back requirements
- Advise operations complete
- Procedures when tower is not operating.

### Emergency procedures

- Difference between distress and urgency situations
- Distress message format
- Urgency message format
- Procedure on intercepting a distress or urgency message
- Procedure for relaying a distress or urgency message
- Communication failure procedures
- Reporting of others in emergency.

### Remote area operations

- Use of emergency locator transmitter.

### Transponder operations

- Requirement to use transponder in controlled airspace unless specifically exempted
- Mode A/C and mode S
- Controls and settings
- Procedure to set and squawk IDENT
- Emergency codes.

## 7.3.2 Syllabus for Radio Operator (Balloon) Permit practical examination

### 7.3.2.1 Practical operations (VHF Airband transceiver)

- Be familiar with functions and controls:
  - Identify and select appropriate frequency
  - Establishment of listening watch prior to transmitting
  - Routine pre-flight test procedure
  - Fault finding procedures and correction of faults
  - Voice procedures and communications check.
- Prepare the transceiver for use:
  - Power supply including master switches where fitted
  - Replacement of batteries or fuses and resetting of circuit breakers
  - Visual indicators of battery level and other functions
  - Function selectors and microphone/headphone/speaker selection
  - Antennas and antenna systems
  - Placement of transceiver for most effective operation
- Demonstrate practical knowledge of radio operations and procedure:
  - Ability to transmit and receive correctly

- Microphone technique
- International phonetic alphabet
- Transmission of numerals
- Procedural words and phrases
- Know the propagation properties of VHF signals, the importance of effective line of sight and typical reception range at various altitudes.

## **7.4 Syllabus of training for Private Pilot (Balloon) Flight Instructor Permit**

The syllabus of training for the Private Pilot (Balloon) Flight Instructor Permit Grade 2 and Grade 1 is based on a demonstration of flying and instructing ability.

Instructor Grade 2 and Grade 1 syllabus includes revision of PP(B)P theory, training theory and practical flight training.

### **7.4.1 Private Pilot (Balloon) Flight Instructor Permit Grade 2**

#### **7.4.1.1 Syllabus for Instructor Private Pilot (Balloon) Flight Instructor Permit Grade 2 practical flight training**

- Demonstrable skills in ground training
- An ability to review student experience and explain objectives of flight
- Evaluate relevant operational and meteorological information
- Justify or assess flight planning, route, landing options, airspace, etc
- Demonstrate or supervise passenger control and briefing
- Understand and critique inflation and launch site safety
- Demonstrable flying skills and airmanship
- An ability to critique own performance and manage any weaknesses.

### **7.4.2 Private Pilot (Balloon) Flight Instructor Permit Grade 1.**

#### **7.4.2.1 Syllabus for Private Pilot (Balloon) Flight Instructor Permit Grade 1 practical flight training**

- Demonstrable skills in ground training
- An ability to review student experience and explain objectives of flight
- Evaluate relevant operational and meteorological information
- Justify or assess flight planning, route, landing options, airspace, etc
- Demonstrate or supervise passenger control and briefing
- Understand and critique inflation and launch site safety
- Demonstrable flying skills and airmanship
- An ability to critique own performance and manage any weaknesses.

## 7.5 Syllabus of training for endorsements to permits

### 7.5.1 Syllabus of training for endorsement to a permit for gas balloons

**Note:** There is currently no Australian syllabus of training for an endorsement on a private pilot (balloon) permit for gas balloons. However, an endorsement may be issued based on recognition of overseas qualifications.

### 7.5.2 Syllabus of training for endorsement to a permit for hot air airships

**Note:** There is currently no Australian syllabus of training for an endorsement on a private pilot (balloon) permit for hot air airships. However, an endorsement may be issued based on recognition of overseas qualifications.

### 7.5.3 Syllabus of training for endorsement to a permit for night VFR flight

This syllabus of training is for an endorsement on the PP(B)P for VFR flight at night. The endorsement is issued after successful completion of an assessment of theoretical knowledge and a flight test.

#### 7.5.3.1 Theory

##### Flight Rules / Legislation

- Describe the privileges and limitations of the endorsement
- Describe the flight notification requirements
- Describe the minimum NVFR aircraft equipment requirements (including lighting and night operations fuel)
- Know the minimum height requirements

##### Operational Requirements

- Describe the flight planning requirements (including weather assessment and fuel requirements)
- Describe the equipment to be carried and used
- Describe the flight notification requirements
- Describe the requirements for safe flight at night
- Describe emergency possibilities and procedures
- Describe the radio procedures relevant to flight at night

##### Human Factors

- Describe the human factors and physiological limitations for the conduct of operations at night including:
  - Night Vision
  - Effect on vision of using the burner at night
  - Dark Adaption
  - Visual Illusions

### 7.5.3.2 Flight test

An applicant for a night VFR balloon flight endorsement must satisfy an Instructor Private Pilot (Balloon) Permit Grade 1 that the following can be carried out safely:

#### Pre-flight

- Plan a night VFR flight including consideration of airspace, weather and landing options
- Determine lowest safe altitude for planned route
- Plan to maintain VMC criteria for flight
- Ensure a suitable retrieve vehicle is available and equipped with maps and communications equipment.
- Know the phase of the moon and moonset time

#### Prepare flight, take-off and climb out at night

- Lodge an appropriate flight notification
- Flight note left with ground crew
- Assembly of balloon, layout and inflation in the dark
- Emergency landing light and battery – check operational and stow
- Anti-collision light – install and confirm working
- Pre-flight inspection
- Instruments and gauges working – spare batteries
- Fuel system – understand if manifold or tank changes required – ensure all tanks functioning
- Set appropriate VHF radio frequencies
- Brief ground crew on normal and emergency procedures
- Confirm UHF radio and phone comms with ground crew
- Pre-flight checklist - includes night VFR items
- Passenger briefing
- Night take-off procedure – clearing obstacles, scanning for hazards especially overhead powerlines
- Switching on and deploying the anti-collision light

#### Conduct flight

- Use of variometer and audio warning
- Use of the instrument (altimeter/navigation equipment) backlit lights
- Navigation principles and techniques at night – maps and charts - use of moving maps and GPS
- Monitor fuel consumption
- Maintain an effective lookout
- Use correct radio procedures
- Demonstrate ability to maintain level flight in NVFR
- Demonstrate the ability to climb and descend safely in NVFR
- Carry out necessary fuel management during night flight
- Maintain communication with ground crew

#### Emergency Procedures

- Emergency procedures at night – landing at night (discussion only).



- Use of the light– scanning for hazards especially powerlines

### Landing

- Retract and stow anti-collision light
- Pre-landing passenger briefing
- Land balloon by day

### Post-flight

- De-brief lessons learnt
- Completion of aircraft and pilot's logbook

**Note:** Appendix D.2. includes a Flight Test Report which must be used for the assessment

## 7.5.4 Syllabus of training for a non-controlled aerodrome endorsement

This endorsement permits recreational balloon operations at a non-controlled aerodrome, and flight lower than 2000 feet above the aerodrome elevation while flying within 3 nautical miles of a non-controlled aerodrome. The endorsement is granted after an assessment of theoretical knowledge.

### 7.5.4.1 General

- Be able to correctly identify locations an endorsement for balloon flights in the vicinity of non-controlled aerodromes applies to.
- Understand and be able to explain the following terms:
  - Certified aerodrome
  - Class G airspace
  - Other classes of airspace A, C, D and E
  - Towered (or controlled) aerodrome
- Identify what is meant by “risk of collision” and what steps can be taken to avoid the risk of collision.

### 7.5.4.2 Pre-flight planning

- What pre-flight planning is required for a flight in the vicinity of a non-controlled aerodrome.
  - Charts
  - ERSA
  - Weather assessment
  - Flight direction with the wind.

### 7.5.4.3 Aerodrome radio procedure

- Identify and be able to use typical radio calls and operational procedures for operating in the vicinity of powered aircraft
- Know the mandatory radio requirements
- Identify specific responsibilities of the PIC in relation to aircraft collision avoidance
- Know what is required when flying in the company of other balloons
- Know the CTAF and mandatory broadcast area procedures for broadcasts and reports – Part 131 MOS Chapter 18

- Know the standard broadcast format for communicating with powered aircraft - for radio procedures in the vicinity of non-controlled aerodromes (refer to CASA Advisory Circular AC91–10).

#### 7.5.4.4 Aerodrome layout and terminology

- Be able to identify and name various parts of an aerodrome
- Know when a runway is occupied
- Know how to look up and interpret runway details in ERSA
- Identify common runway signals and where they are most likely to be located
- Be able to correctly identify a runway using appropriate terminology, including which runway is active.

#### 7.5.4.5 Aerodrome circuit operations, rules and airmanship

- Be able to identify examples of good airmanship in the vicinity of non-controlled aerodrome including take-off, flying and landing considerations
- Know what is required to conduct ground operations at an aerodrome
- Be able to identify the parts of a fixed wing circuit, and what operational requirements powered aircraft have in the different parts of a circuit
- Identify the right of way priorities in relation to aerodrome operations
- Know how to avoid conflict with powered aircraft when flying in the vicinity of an aerodrome

#### 7.5.4.6 Aerodrome permission and security

- Identify when restricted access to aerodromes will apply and what measures must be taken to ensure that these requirements are met
- Know when flashing lights on the roof of a vehicle or the use of standard hazard lights are required when driving at an aerodrome
- Be able to identify what radio actions are required when entering a movement area of an aerodrome
- Be able to identify the most appropriate way to interact with fixed wing aviators and balloonists

### 7.5.5 Syllabus of training for CTR/CTA endorsement for flight in controlled airspace

**Note:** Reserved. The syllabus of training for flight in controlled airspace has not yet been developed.

### 7.5.6 Syllabus of training for a permit to carry and release a hang glider

This syllabus of training is for an endorsement on the PP(B)P to carry outside a Part 131 aircraft, and subsequently release, a hang glider. The endorsement is an assessment of theoretical knowledge.

#### 7.5.6.1 Theory

- Flight Rules / Legislation
- Carry, and release, of a hang glider is a Part 131 recreational activity
- PP(B)P holders may obtain an endorsement to carry, and release, a hang glider – CAO 95.54.
- A paraglider or powered paraglide is not a hang glider – CASR definitions.
- Hang gliders operate under CAO 95.8 with Self Administration by SAFA

- Operational Requirements
- Refer to the operational requirements in this Procedures Manual.

## **7.5.7 Syllabus of training for endorsement to a permit for certification of competency to fly a balloon that has a capacity greater than 120 000 cubic feet**

This syllabus of training is for an endorsement on the PP(B)P for certification of competency to fly a balloon that has an envelope capacity greater than 120 000 cubic feet. The endorsement is an assessment of theoretical knowledge and a flight test.

### **7.5.7.1 Oral Exam**

The oral examination will be based on the knowledge areas specified in this section.

Candidates must know the information listed below for the balloon which they are to fly. The data for the actual balloon used for the flight test will be used as the basis of the oral part of the proficiency check.

#### **Flight Rules & Procedures**

- Understand that no payment can be taken, including cost sharing, for Part 131 recreational flights if more than 5 passengers are carried (Part 131 MOS 25.03)
- Communication with passengers – compliance with Part 131 MOS 25.04, MOS 25.05(1)
- Passenger location (multiple passenger compartments) – compliance with Part 131 MOS 25.05(2)

#### **Balloon performance and operations**

- List and explain the factors which may affect fuel consumption
- Understand how inertia and momentum changes with larger balloons – effects of mass
- List and explain the factors to be considered in preparation for, and the execution of, a landing:
  - Basket orientation – use of rotation vents
  - Passenger control in a divided basket
  - Using a handling line
- Be able to calculate the fuel and passenger loading of a hot air balloon.

#### **Flight Manual**

- Demonstrate use of the load system specified in the flight manual and determine the maximum & minimum payload for a given pressure height and outside air temperature (OAT).

#### **Burner systems & fuel**

- For the fuel systems and burners:
  - nominate main components, describing the purpose of each component (multiple burners, cross flow valves, manifolded and non-manifolded fuel systems)
  - describe the safety features of the system
  - state the principles of operating the system
  - explain and demonstrate the operation of the fuel system in normal and emergency situations
  - explain the care and maintenance of the system
  - explain burner rating
- State the symptoms of fuel exhaustion and describe the use of an emergency (or back up) system, if fitted
- State the reason for, and the correct method of, heating or pressurising tanks

- List the precautions to be observed for the prevention of fire
- Recall the action required in the event of a propane leak or fire.

### Deflation systems

- Explain the deflation system and list the main advantages and disadvantages of that system compared with other common deflation systems in use in larger balloons.

### 7.5.7.2 Flight test

A flight test using the Syllabus for Private Pilot (Balloon) Permit practical flight exercises in 7.2.3 with the following additional requirements:

- 1.3 Minimum hours - check minimum hours PIC required for endorsement
- 3.1 Sufficient crew – ensure sufficient crew for size of balloon
- 4.3 Load calculation – check of knowledge of reasons for minimum load requirements
- 4.5 Passengers briefing
  - Passenger loading [to comply with Part 131 MOS 25.05(2)]
  - Passenger location [to comply with Part 131 MOS 25.04, MOS 25.05(1)]
  - Pre-flight briefing
  - Pre-landing briefing
- 5.6 Familiarisation – check knowledge of vent system operation (i.e. lite vent if fitted)
- 7.2 Take off (downwind obstacles) – assess understanding of physical size and clearances
- 9.4 Climbing/descending – assess understanding of accelerations due to increased mass and momentum.
- 12.4 Fuel Management - Burner - understand & use of multiple burners, cross flow valves, manifolded and non-manifolded fuel systems.
  - 12.5 Fuel Management - fuel burn rate - endurance
- 13.6 Approach & overshoot - Basket orientation - use of rotation vents, divided basket and passenger control
- 14.3 Landing (controlled descent) – assess understanding of physical size and clearances
- 14.5 Landing - Basket orientation - use of rotation vents, divided basket and passenger control
- 18. Solo flight not required

**Note:** Appendix D.3. includes a Flight Test Report which must be used for the assessment

# Appendix A Units of measurement and conversion factors

## A.1 Units of measurement

Units of measurement to be used in airways operations and air-to-ground communication are:

Measurement	Unit
Distances used in navigation. (Generally in excess of 2NM)	Nautical miles and 1/10ths.
Short distances	Metres
Altitudes, elevations & heights	Feet
Horizontal speed, inc. wind speed	Knots
Vertical speed	Feet per minute
Wind direction for take-off and landing, used in TAFs	Degrees magnetic
Wind direction, excluding above, used in ARFORs	Degrees true
Visibility	Kilometres or metres
Altimeter setting	Hectopascals
Temperature	Degrees Celsius
Time (UTC)	Hours and minutes, 24-hour clock
Weight (Mass) Metric	Tonnes or kilograms

**Note:** For further reference, consult AIP GEN.

## A.2 Conversion factors

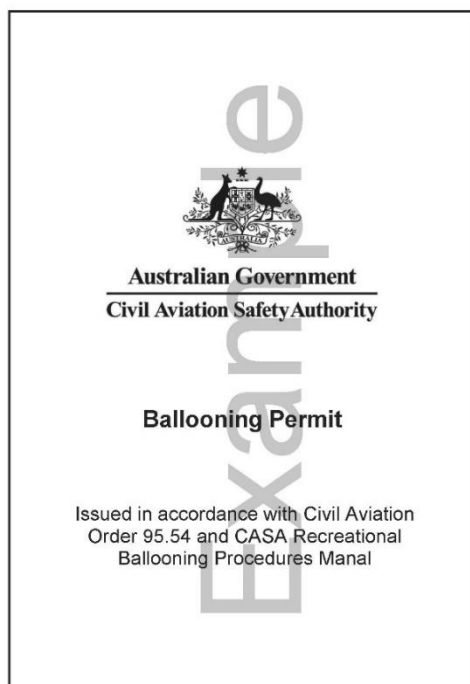
Multiply	By	To obtain
Pound (lb)	0.4535924	Kilogram (kg)
Pound Force per sq. in. (lbf/in <sup>2</sup> )	6.8947	Kilopascal (kPa)
Inch (in)	25.400	Millimetre (mm)
Foot (ft)	0.3048	Metre (m)
Mile	1.60934	Kilometre (km)
Nautical Mile (n m)	1.852	Kilometre (km)
Gallon, US liquid	3.785415	Litre (l)
Gallon, Imp. (gal)	4.54609	Litre (l)

**Note:** All conversions should be rounded to one decimal place (except millimetres, to the nearest whole number) which remains within that limitation.

# Appendix B The Permit

ARN: 12xx34 SURNAME F.

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**I COMMONWEALTH OF AUSTRALIA**  
CIVIL AVIATION SAFETY AUTHORITY

**II Ballooning Permit**

**III** Licence No: 12xx34

**IV** Name: First Name  
SURNAME

**IVa** Date of Birth: 01 January 1800

**VI** Nationality: Australian


**VII** Signature of Holder: .....

**VIII** Granted in accordance with the *Civil Aviation Regulations* and is subject to any conditions and limitations expressed herein. Limitations expressed therein and to the conditions at item XIII.

**IX** This licence shall remain in force for the holder's lifetime unless revoked, suspended or varied.

**X**

Delegate SURNAME 10 Oct 2023  
Delegate of the Civil Aviation Safety Authority

**XI** Stamp: 

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## XII Permits and Endorsements

### Balloon Permit

	Issue Date
PRIVATE PILOT (BALLOON)	13 May 2022
STUDENT PILOT (BALLOON)	13 May 2022
RADIO OPERATOR (BALLOON)	13 May 2022

### Endorsements

	Issue Date
AERODROME	13 May 2022
GAS	13 May 2022
NIGHT VFR	13 May 2022
GREATER THAN 120K	13 May 2022
HOT AIR AIRSHIP	13 May 2022
CANBERRA CTA/CTR	13 May 2022

### Examiner Permits

	Issue Date
PP(B)P EXAMINER	13 May 2022

### Instructor Permits

	Issue Date
PP(B)P INSTRUCTOR GRADE 1	13 May 2022
PP(B)P INSTRUCTOR GRADE 2	13 May 2022

End of Permits and Endorsements

ARN: 12xx34 SURNAME F.

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This table sets out all valid flight reviews and proficiency checks for the permit holder at time of permit print. Future revalidation of the permit holder's qualifications may be found at the back of this permit in the tables provided.

XII Hot Air Balloon - Flight Review and Proficiency Check		
Issue Date	Hot Air Balloon	Valid to
16 Jan 2023	INSTRUCTOR PROFICIENCY CHECK	31 Jan 2025
16 Jan 2023	FLIGHT REVIEW	31 Jan 2025

End of Flight Review and Proficiency Check

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### XIII Permits Conditions/Remarks

**English Language Proficiency**

The holder must have sufficient verbal and written proficiency in the English language to communicate as required in Australia including operating a radio to send and receive audio messages, reading weather and NOTAM information and reading maps as may be required for ballooning.

Aviation ELP Level 4 valid until 31 Oct 2014

### Medical Declaration

The holder must not perform a duty authorised by the certificate unless they hold a current medical certificate that is appropriate to the certificate. The conditions of the holder's medical certificate must also be observed.

## Radio Operator Licence

The holder must hold a Radio Operator Certificate or a CASA Aeronautical Radio Operators Certificate where the carriage and use of aeronautical VHF radio is required. Any transmissions made must be in accordance with the requirements of the AIP.

End of Permit Conditions/Remarks

ARN: 12xx34 SURNAME F

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#### XIV List of Abbreviations

ARN	Aviation Reference Number
CAO	Civil Aviation Order
CASA	Civil Aviation Safety Authority
CASR	Civil Aviation Safety Regulations
ELP	English Language Proficiency
NOTAM	Notice to Airman
ROP	Radio Operator Permit
PP(B)P	Private Pilot (Balloons) Permit
SP(B)P	Student Pilot (Balloons) Permit
VFR	Visual Flight Rules
VMC	Visual Meteorology Conditions
CTA	Controlled Airspace
CTR	Controlled Zones

End of abbreviations list

ARN: 12xx34 SURNAME F

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## Appendix C

# Obligation of examiners, flight instructors or CASA approved persons when successfully completing a Flight Test, Flight Review or Proficiency Check

The examiner, instructor or CASA approved person who conducts a successful flight test, flight review or proficiency check for a balloon pilot permit holder must endorse the pilot's permit by completing the table as soon as possible after the flight is completed.

The examiner, instructor or CASA approved person who conducts a successful flight test, flight review or proficiency check for a balloon pilot permit holder must also endorse the pilot's logbook that a flight test, flight review or proficiency check has been successfully completed as soon as practical after the flight is completed.

The examiner, instructor or CASA approved person who conducts a successful flight test, flight review or proficiency check for a balloon pilot permit holder should ensure that the applicant submits the relevant completed form to CASA within 14 days.

The examiner, instructor or CASA approved person who conducts a successful flight test, flight review or proficiency check for a balloon pilot permit holder must retain a copy of the relevant form. See record keeping requirements under section 2.5.4 and 2.6.4.

# Appendix D

## Flight Test Reports

### D.1 Private Pilot (Balloon Permit) - Initial issue

The testing officer is to complete the flight test report and retain a copy of the report and send a copy with the BF-002 form to the Civil Aviation Safety Authority.

The flight test report must be completed in the following manner: Tick either S= Satisfactory, U = Unsatisfactory or N = Not tested.

#### Personal information

First name:

Last name:

ARN:

1.	Documentation	S	U	N
1.1	Signed recommendation from an instructor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Completed Training Record.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Logbook showing minimum number of hours under instruction as set out in the CRBPM.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Balloon logbook.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.	Equipment	S	U	NA
2.1	Airworthy balloon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Retrieve vehicle.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Maps with any SZs marked, VTC and ERC as appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Balloon load chart.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Personal equipment, compass, strikers, tools, timepiece.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.	Personnel	S	U	N
3.1	Sufficient crew for launch and retrieve.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.	Preparation for Flight	S	U	NA
4.1	Explain MET forecast/prevaling weather conditions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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4.	Preparation for Flight	S	U	NA
4.2	Select a launch site (obtain permission).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Load calculation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	Carry out flight planning, noting navigational and airspace features on the probable path.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.5	Passenger briefing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.6	Crew briefing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.	Familiarisation	S	U	NA
5.1	Unload balloon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Rig the burner, basket and fuel system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Carry out leak and burner test.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Rig the envelope from the unrigged state.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	Check all other required equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Only if stages 1 to 5 are completed satisfactorily will the test continue.**

6.	Inflation	S	U	NA
6.1	Inflate safely and in a controlled manner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Operate the burner safely and competently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	Give correct, audible and precise instructions to crew.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7.	Take off	S	U	NA
7.1	Carry out pre-take off checks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	Assess wind and distance to downwind obstacles, make a go/no go decision.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8.	Straight and level flight	S	U	NA
8.1	Climb to a requested height (1 000 - 2 000 ft AGL).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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8.	Straight and level flight	S	U	NA
8.2	Maintain controlled level flight for a minimum of 5 minutes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9.	Climbing/descending	S	U	NA
9.1	Know the maximum climb/descent rate for balloon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2	Know maximum envelope temperature for balloon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.3	Demonstrate climb/descent at rates requested by examiner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10.	Navigation	S	U	NA
10.1	Keep track of position on map.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.2	Identify features.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.3	Assess wind speed and direction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11.	Emergencies	S	U	NA
11.1	Make a fast ascent/descent for a simulated emergency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.2	Carry out pilot light failure drill (actually or verbally or on the ground).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.3	Describe the actions to be taken in the event of a fire in the air/on the ground.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.4	Describe the actions to be taken in the event of a propane leak in the air/on the ground.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12.	Fuel Management	S	U	NA
12.1	Explain burner system and cylinder arrangement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2	During flight indicate fuel state, usage, requirements and carry out hose transfer as required.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.3	Explain/demonstrate refuelling of flight cylinders and the necessary safety measures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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13.	Approach & overshoot (4 or more times demonstrating good control)	S	U	NA
13.1	Explain choice of field for approach.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.2	Perform pre-landing checks (must mention power lines).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.3	Perform descent from high/low level for a landing approach without undue delay.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.4	Show positive control in low level flight (50 ft or less).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.5	Carry out an overshoot and climb out safely.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14.	Landing	S	U	NA
14.1	Explain choice of field for approach.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.2	Perform pre-landing checks (must mention power lines).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.3	Make a controlled descent for the landing approach.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.4	Control the balloon during final approach to give low vertical speed on touchdown.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15.	Action after flight	S	U	NA
15.1	Ensure burner and fuel system is made safe and all the instruments are turned off.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.2	Pack envelope and de-rig burner/basket.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16.	Landowner relations	S	U	N
16.1	Conduct the launch and retrieve in accordance with maintaining good landowner relations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17.	Airmanship	S	U	NA
17.1	Show proper care for well-being of passenger during the flight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.2	Demonstrate regard for animals, crop, property and people on the ground during the entire flight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.3	Position the balloon at appropriate heights/altitudes in relation to hazards, persons, major roads, towns, SZs and airspace.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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17.	Airmanship	S	U	NA
17.4	Maintain an adequate lookout and awareness of changing weather conditions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18.	Solo Flight	S	U	NA
18.1	Pre-take off checks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.2	Carrying out of set tasks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.3	Choice of final landing site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Examiner details

First Name:

Last Name:

ARN:

Date:

## D.2 Night VFR Balloon Endorsement

The testing officer is to complete the flight test report and retain a copy of the report and send a copy with the BF-002 form to the Civil Aviation Safety Authority.

The flight test report must be completed in the following manner: Tick either S= Satisfactory, U = Unsatisfactory or N = Not tested.

### Personal information

First name:

Last name:

ARN:

1.	Pre-flight	S	U	N
1.1	Plan a night VFR flight including consideration of airspace, weather and landing options.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Determine lowest safe altitude for planned route.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Plan to maintain VMC criteria for flight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Ensure a suitable retrieve vehicle is available and equipped with maps and communications equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	Know the phase of the moon and moonset time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.	Pre-flight	S	U	N
2.1	Lodge an appropriate flight notification.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Flight note left with ground crew.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Assembly of balloon, layout and inflation in the dark.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Emergency landing light and battery - check operational and stow.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Anti-collision light - install and confirm working.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6	Pre-flight inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.7	Instruments and gauges working - spare batteries.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.8	Fuel system – understand if manifold or tank changes required – ensure all tanks functioning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.9	Set appropriate VHF radio frequencies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.10	Brief ground crew on normal and emergency procedures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.11	Confirm UHF radio and phone comms with ground crew.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.12	Pre-flight checklist - includes night VFR items.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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2.	Pre-flight	S	U	N
2.13	Passenger briefing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.14	Night take-off procedure – clearing obstacles, scanning for hazards especially overhead powerlines.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.15	Switching on and deploying the anti-collision light.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.	Pre-flight	S	U	N
3.1	Use of variometer and audio warning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Use of the instrument (altimeter/navigation equipment) backlit lights.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Navigation principles and techniques at night – maps and charts - use of moving maps and GPS.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Monitor fuel consumption.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Maintain an effective lookout.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	Use correct radio procedures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	Demonstrate ability to maintain level flight in NVFR.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8	Demonstrate the ability to climb and descend safely in NVFR.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.9	Carry out necessary fuel management during night flight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10	Maintain communication with ground crew.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.	Emergency Procedures	S	U	N
4.1	Use of variometer and audio warning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Use of the instrument (altimeter/navigation equipment) backlit lights.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.	Pre-flight	S	U	N
5.1	Retract and stow anti-collision light.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Pre-landing passenger briefing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Land balloon by day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6.	Post-flight	S	U	N
6.1	De-brief lessons learnt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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6.	Post-flight	S	U	N
6.2	Completion of aircraft and pilot's logbook.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Instructor Grade 1 details

First Name:

Last Name:

ARN:

Date:

## D.3 Balloon over 120K Endorsement

The testing officer is to complete the flight test report and retain a copy of the report and send a copy with the BF-002 form to the Civil Aviation Safety Authority.

The flight test report must be completed in the following manner: Tick either S= Satisfactory, U = Unsatisfactory or N = Not tested.

### Personal information

First name:

Last name:

ARN:

1.	Documentation	S	U	N
1.1	Signed recommendation from an instructor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Completed Training Record.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Check personal pilot logbook for minimum hours of 200 PIC or more.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Balloon logbook.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.	Equipment	S	U	NA
2.1	Airworthy balloon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Retrieve vehicle.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Maps with any SZs marked, VTC and ERC as appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Balloon load chart.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Personal equipment, compass, strikers, tools, timepiece.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.	Personnel	S	U	N
3.1	Sufficient crew for launch and retrieve - ensure sufficient crew for size of balloon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.	Preparation for Flight	S	U	NA
4.1	Explain MET forecast/prevailing weather conditions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Select a launch site (obtain permission).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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4.	Preparation for Flight	S	U	NA
4.3	Load calculation - including check of knowledge of reasons for minimum load requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	Carry out flight planning, noting navigational and airspace features on the probable path.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.5	Passenger briefing, including: <ul style="list-style-type: none"> <li>• Passenger loading [to comply with Part 131 MOS 25.05(2)]</li> <li>• Passenger location [to comply with Part 131 MOS 25.04, MOS 25.05(1)]</li> <li>• Pre-flight briefing</li> <li>• Pre-landing briefing</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.6	Crew briefing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.	Familiarisation	S	U	NA
5.1	Unload balloon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Rig the burner, basket and fuel system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Carry out leak and burner test.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Rig the envelope from the unrigged state.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	Check all other required equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	Knowledge of vent systems operations (i.e. lite vent if fitted).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Only if stages 1 to 5 are completed satisfactorily will the test continue.**

6.	Inflation	S	U	NA
6.1	Inflate safely and in a controlled manner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Operate the burner safely and competently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	Give correct, audible and precise instructions to crew.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7.	Take off	S	U	NA
7.1	Carry out pre-take off checks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	Assess wind and distance to downwind obstacles - assess understanding of physical size and clearances - make a go/no go decision.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**OFFICIAL**

8.	Straight and level flight	S	U	NA
8.1	Climb to a requested height (1 000 - 2 000 ft AGL).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2	Maintain controlled level flight for a minimum of 5 minutes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9.	Climbing/descending	S	U	NA
9.1	Know the maximum climb/descent rate for balloon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2	Know maximum envelope temperature for balloon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.3	Demonstrate climb/descent at rates requested by examiner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.4	Climbing/descending - assess understanding of accelerations due to increased mass and momentum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10.	Navigation	S	U	NA
10.1	Keep track of position on map.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.2	Identify features.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.3	Assess wind speed and direction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11.	Emergencies	S	U	NA
11.1	Make a fast ascent/descent for a simulated emergency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.2	Carry out pilot light failure drill (actually or verbally or on the ground).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.3	Describe the actions to be taken in the event of a fire in the air/on the ground.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.4	Describe the actions to be taken in the event of a propane leak in the air/on the ground.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12.	Fuel Management	S	U	NA
12.1	Explain burner system and cylinder arrangement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2	During flight indicate fuel state, usage, requirements and carry out hose transfer as required.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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12.	Fuel Management	S	U	NA
12.3	Explain/demonstrate refuelling of flight cylinders and the necessary safety measures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.4	Burner – understand and use of multiple burners, cross flow valves, manifolded and non-manifolded fuel systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.5	Fuel burn rate - endurance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13.	Approach & overshoot (4 or more times demonstrating good control)	S	U	NA
13.1	Explain choice of field for approach.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.2	Perform pre-landing checks (must mention power lines).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.3	Perform descent from high/low level for a landing approach without undue delay.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.4	Show positive control in low level flight (50 ft or less).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.5	Carry out an overshoot and climb out safely.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.6	Basket orientation - use of rotation vents, divided basket and passenger control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14.	Landing	S	U	NA
14.1	Explain choice of field for approach.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.2	Perform pre-landing checks (must mention power lines).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.3	Make a controlled descent for the landing approach - including assess understanding of physical size and clearances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.4	Control the balloon during final approach to give low vertical speed on touchdown.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.5	Basket orientation - use of rotation vents, divided basket and passenger control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15.	Action after flight	S	U	NA
15.1	Ensure burner and fuel system is made safe and all the instruments are turned off.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.2	Pack envelope and de-rig burner/basket.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**OFFICIAL**

16.	Landowner relations	S	U	N
16.1	Conduct the launch and retrieve in accordance with maintaining good landowner relations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17.	Airmanship	S	U	NA
17.1	Show proper care for well-being of passenger during the flight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.2	Demonstrate regard for animals, crop, property and people on the ground during the entire flight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.3	Position the balloon at appropriate heights/altitudes in relation to hazards, persons, major roads, towns, SZs and airspace.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.4	Maintain an adequate lookout and awareness of changing weather conditions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Examiner details

First Name:

Last Name:

ARN: