Australian Government

Civil Aviation Safety Authority

Civil Aviation Order 100.5 (General requirements in respect of maintenance of Australian aircraft) 2011 (as amended)

made under subregulations 30B (1) and 42A (6), regulations 38 and 43, subregulation 50A (2), regulation 50B and subregulation 50C (1) of the *Civil Aviation Regulations 1988* and regulation 11.245 of the *Civil Aviation Safety Regulations 1998*.

This compilation was prepared on 2 December 2021 taking into account amendments up to *Civil Aviation Order (Flight Operations) Repeal and Amendment Instrument 2021 (No. 1)*. It is a compilation of *Civil Aviation Order 100.5 (General requirements in respect of maintenance of Australian aircraft) 2011* as amended and in force on 2 December 2021.

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Compilation No. 10

Contents

1A Name

1A.1 This instrument is *Civil Aviation Order 100.5 (General requirements in respect of maintenance of Australian aircraft) 2011*.

1A.2 This instrument may be cited as *Civil Aviation Order 100.5*.

1A.3 A reference in a CASA instrument to section 100.5 of the Civil Aviation Orders is taken to be a reference to this instrument.

1 Application

1.1 Subject to paragraph 1.2, this section applies to all Australian aircraft in respect of which an Australian certificate of airworthiness is in force, other than an aircraft to which Part 42 of CASR applies.

1.2 CASA may, in writing, determine that this section, or a specified provision of this section, does not apply to an Australian aircraft specified in the determination.

1.3 Before making a determination, CASA must take into account any relevant considerations relating to the interests of safety.

2 Definitions

In this section, unless the contrary intention appears:

aerial application operation or ***application operation*** has the same meaning as in regulation 137.010 of CASR.

AMD means approved maintenance data, which has the same meaning as in regulation 2A of CAR.

approved design has the same meaning as in Part 42 of CASR.

approved SOM means a system of maintenance approved under regulation 42M of CAR.

CAR 30 maintenance organisation means the holder of a certificate of approval.

CASA maintenance schedule means Schedule 5 of CAR.

CAO means Civil Aviation Order.

certificate of approval has the same meaning as in regulation 2 of CAR.

DOT means the United States Department of Transportation.

MSG means the maintenance methodology, standards and principles documented and published by Airlines for America for the maintenance of transport category aircraft.

NAA means national aviation authority.

PSEA means prescribed single-engine aeroplane: see subregulation 135.240 (3) of CASR.

recognised country means a country that is:

(a) mentioned in subregulation 21.010B (1) of CASR; or

(b) a Contracting State that is defined in subregulation 21.010B (2), (3) or (4) of CASR to be a recognised country for a Subpart of CASR.

STC means supplemental type certificate.

TAC means type acceptance certificate.

TC means type certificate.

time-in-service for an aircraft component, other than an aircraft engine or propeller, that is fitted to an aircraft means each period starting when the aircraft takes off for a flight and ending when the aircraft lands at the end of the flight.

work documentation package means a record of the stages and details of maintenance that is carried out on an aircraft, aircraft components or aircraft materials made by a person performing the maintenance**.**

2A Certain equipment not an aircraft component

2A.1 For a regulation mentioned in paragraph 2A.5, a headset used in an aircraft is not an aircraft component within the meaning of subregulation 2 (1) of CAR if the headset:

(a) is not mentioned in the AMD for the aircraft; and

(b) either:

(i) is maintained in accordance with the service instructions issued by the manufacturer of the headset (the ***service instructions***); or

(ii) if there are no service instructions — is at least subject to a visual check by the pilot in command before a flight in which the headset is used.

Note 1 See also paragraph 233 (1) (a) and subregulation 242 (1) of CAR under which the pilot in command of an aircraft has certain responsibilities regarding instruments, equipment and radio apparatus.

Note 2 Paragraph 2A.1 replaces instrument CASA 307/03 which is not in force.

2A.2 For a regulation mentioned in paragraph 2A.5, night vision goggles (***NVG***) used in an aircraft is not an aircraft component within the meaning of subregulation 2 (1) of CAR if the NVG is maintained:

(a) for a flight of an aircraft that is a Part 133 operation — in accordance with the requirements of section 11.63 of the Part 133 Manual of Standards;

(b) for a flight of an aircraft that is not a Part 133 operation — in accordance with the requirements of section 26.78 of the Part 91 Manual of Standards.

2A.4 To avoid doubt, for paragraph 2A.2, maintenance includes the routine scheduled servicing of NVG.

2A.5 For paragraphs 2A.1 and 2A.2, the regulations are as mentioned in Table 1.

Table 1

Item	CAR	Item	CAR
1	30	**6**	42W
2	39	**7**	42WA
3	41	**8**	42ZA
4	42A	**9**	42ZP
5	42L	**10**	305

Note The following regulations in CAR are not affected by subsection 2A: r. 47 (maintenance release endorsement); r. 52 (defect reporting); r. 52B (defective component preservation); r. 53 (defect investigation); and r. 242 (testing of radio apparatus).

3 Aircraft log books

3.1 For the purposes of subregulation 50A (2) of CAR, CASA's instructions in relation to aircraft log books are set out in paragraphs 3.2 and 3.3.

3.2 An aircraft log book must:

(a) identify the aircraft and the type and model of engine and propeller fitted to the aircraft and must state whether the aircraft is equipped for I.F.R. operations, V.F.R. (Day) operations or V.F.R. (Night) operations; and

(b) identify the aircraft's maintenance program (including details of maintenance release inspections); and

(c) identify any approved variations or exemptions to the aircraft's maintenance schedules; and

(d) have provision for the recording and certification of maintenance carried out on the aircraft; and

(e) have provision for the recording and certification of maintenance carried out on the aircraft's engine and, if applicable, the propeller; and

(f) contain a record of when the engine and, if applicable, the propeller, was installed or removed and a record of the date and aircraft time-in-service of the installation or removal; and

(g) contain a record of when any time-lifed components were installed or removed, including a record of the date and aircraft time-in-service of the installation or removal; and

(h) contain a record of compliance with all applicable airworthiness directives, including a record of the date and time-in-service of the compliance; and

(i) contain a summary of any changes to the empty weight of the aircraft; and

(j) have all log book sections incorporating certification pages sequentially numbered, and bound or held together in a way that protects each page from inadvertent misplacement, loss or removal.

3.3 An aircraft's log books must be made available to CASA and to persons engaged in maintenance on the aircraft.

Note If an aircraft log book fully complies with the requirements of paragraph 3.2, there is no requirement that it be submitted to CASA for approval. It must, however, under paragraph 3.3, be made available to CASA on request. It must also be made available to each person engaged in maintenance on the aircraft. If a document does not fully comply with the requirements of paragraphs 3.2 and 3.3, subsection 4 may apply to it.

4 Alternative to aircraft log book

4.1 The use, in relation to an Australian aircraft, of an alternative to an aircraft log book (***alternative aircraft log***) is approved, subject to the following conditions:

(a) the alternative aircraft log must comply with the conditions in paragraphs 4.2 and 4.3;

(b) the use must be the subject of a written confirmation of approval from CASA.

4.2 An alternative aircraft log must comply with the instructions set out in paragraph 3.2, including subparagraph 3.2 (j) but only as if subparagraph 3.2 (j) reads as follows:

(j) have all parts of the aircraft log book which incorporate certification pages or certification records managed in accordance with a secure system (which may be or include an electronic system), which sequentially or chronologically numbers or orders each page, and protects it from the following:

(i) any inadvertent misplacement, loss, or removal;

(ii) any inadvertent deletion, amendment, alteration or erasure;

(iii) any deletion, amendment, alteration or erasure:

(A) that is not immediately visible on the face of the document; or

(B) for an electronic system — that cannot be traced through the system to identify the user who made the deletion, amendment, alteration or erasure;

(iv) any deletion, amendment, alteration or erasure that renders the previous version illegible, or inaccessible in the system.

Note Under subregulation 50B (5) of CAR, it is a strict liability offence if a person engages in conduct that results in the alteration of any entry in an alternative to an aircraft log book (including electronic versions) if: (a) the alteration is not a single line through the words to be struck out; and (b) the words struck out do not remain visible.

4.3 Following written confirmation of approval from CASA, an approved alternative aircraft log must be made available in an easily accessible and usable form:

(a) to each person engaged in maintenance on the aircraft; and

(b) to CASA at any time on request.

4.4 In the application of paragraph 3.2 to an alternative aircraft log (including subparagraph 3.2 (j) as amended by paragraph 4.2), references in the paragraph to an aircraft log book are to be read as references to an alternative aircraft log.

4.5 In this subsection, references to an alternative aircraft log include references to an alternative section of an aircraft log book.

5 Retention of aircraft maintenance records by certificate of registration holder

5.1 For subregulation 50C (1) of CAR, CASA directs the holder of the certificate of registration for an aircraft to retain aircraft maintenance records for the aircraft in accordance with paragraph 5.2.

5.2 Aircraft maintenance records must be retained for the following periods:

(a) in the case of a log book for an aircraft or a maintenance release — at all times until the end of a period of 1 year after the aircraft has been permanently removed from the Australian Civil Aircraft Register;

(b) in the case of a log book for an aircraft engine or propeller — at all times until the end of a period of 1 year after the component has been permanently withdrawn from use;

(c) in the case of a Major Assembly History Card and Component History Card — as the case requires:

(i) from the date of the last overhaul of a component to which the Card relates until certification is made for the next overhaul; or

(ii) for a period of 1 year after the component has been permanently withdrawn from use;

(d) in the case of maintenance records containing data relating to a modification or repair — at all times until the end of a period of 1 year after the aircraft has been permanently removed from the Australian Civil Aircraft Register, unless the data is on public record or is otherwise publicly available;

(e) where certifications are made on documents other than aircraft log books:

(i) in the case of the record for certification for completion of a mandatory inspection, test or check which is required to be repeated at specified intervals — until a subsequent certification has been made for the completion of the inspection; and

(ii) in the case of the record for certification for completion of a mandatory inspection, test or check which is not required to be repeated and for completion of a modification, major repair or the installation of a major aircraft component — a period of 1 year commencing immediately after the certification;

(f) in the case of a copy of a maintenance release held by the authorised person who issued the maintenance release — a period of 1 year commencing immediately after the date of issue.

5.2A In the case of a work documentation package being cited in a final certification in lieu of providing some or all of the detail required by paragraph 4.4 of Part 4 of Schedule 6 to CAR — the holder of the certificate of registration must retain a copy of the relevant sections of the work documentation package with the aircraft log book at all times until the end of a period of 1 year after the aircraft has been permanently removed from the Australian Civil Aircraft Register.

5.3 If an Australian aircraft is exported from Australia, the holder of the certificate of registration must ensure that the aircraft's maintenance records accompany the aircraft.

5A Work documentation packages created by a CAR 30 maintenance organisation for maintenance of aircraft

A CAR 30 maintenance organisation must, in relation to maintenance in the form of an inspection or a repair for which the CAR 30 maintenance organisation is responsible for ensuring certification for completion of the maintenance in accordance with regulation 42ZE of CAR, retain work documentation packages for the maintenance for a period of 2 years commencing immediately after the date of final certification for the maintenance.

6 Maintenance releases for class A aircraft

6.1 For the purposes of subregulation 43 (1) of CAR, CASA directs that the maintenance release for a class A aircraft is the maintenance release that is identified in an operator's maintenance control manual.

6.2 Subject to regulation 47 of CAR, a maintenance release for a class A aircraft remains in force only for the period specified in the manual.

6.3 A copy of the maintenance release must be retained by the person issuing it.

6.4 Before a maintenance release for a class A aircraft is issued, it is to be signed by:

(a) the person certifying for the co-ordination of the maintenance release inspection; or

(b) where the maintenance release inspection has been certified by 1 person, that person;

using the procedures specified in the CAR 30 maintenance organisation's procedures manual.

6.5 The person signing a maintenance release must ensure that the following information is recorded on the maintenance release at the time it is issued:

(a) the aircraft type, and the registration mark of the aircraft, to which the release relates;

(b) the name of the CAR 30 maintenance organisation issuing the maintenance release;

(c) the place, date and time, of issue of the release;

(d) the date on which, and the total aircraft time-in-service when, the maintenance release ceases to be in force;

(e) the total time-in-service of the aircraft at the time of issue of the release;

(f) all requirements and conditions relating to maintenance (other than daily inspections) required to be carried out on the aircraft by CAR and the CAOs during the period the maintenance release is to remain in force, including the total time-in-service or date, as applicable, at which that maintenance is due;

(g) any permissible unserviceabilities carried over from the previous maintenance release.

6.6 For paragraph 6.5, a printed copy of required maintenance produced by a computerised maintenance tracking and management system may be securely attached to the "Maintenance Required" section of the maintenance release.

6.7 Subparagraphs 6.5 (d), (e) and (f) are satisfied if:

(a) the required information is recorded and kept up-to-date in accordance with a procedure included in an operator's maintenance control manual for the aircraft that is the subject of the maintenance release; and

(b) the operator's maintenance control manual has been prepared in accordance with the requirements for maintenance control manuals prescribed under regulation 42ZY of CAR.

7 Maintenance releases for class B aircraft

7.1 For the purposes of subregulation 43 (1) of CAR, CASA directs that the maintenance release for a class B aircraft is 1 of the following:

(a) a maintenance release in the form set out at Attachment 1 to Appendix 3;

(b) the CAA or CASA Maintenance Release Form DA741, but only until stocks of this form, acquired or printed in bulk before 22 December 2015, have been exhausted;

(c) an alternative form approved in writing by CASA.

7.2 Subject to regulation 47 of CAR and paragraph 7.3, a maintenance release for a class B aircraft remains in force for whichever of the following periods ends first:

(a) a period not exceeding 1 year;

(b) the aircraft time-in-service that is identified by the certificate of registration holder in the aircraft's log book statement as the period for which the maintenance release is to remain in force.

7.3 Subparagraph 7.2 (b) does not apply to private class B aircraft being maintained to the CASA Maintenance Schedule.

7AA Maintenance releases to be completed in accordance with Appendix 3

7AA.1 For subsections 6 and 7, a maintenance release completed in the form set out at Attachment 1 to Appendix 3 must comply with the requirements set out in Appendix 3.

7AA.2 A form mentioned in paragraph 7.1 (b) must be completed in accordance with the requirements set out in Appendix 3 as if the form was a form mentioned in paragraph 7.1 (a).

Note The forms mentioned in paragraph 7.1 (b) are substantively identical to the form mentioned in paragraph 7.1 (a), with minor formatting differences.

7A Structural maintenance of composite structure aircraft

7A.1 In this subsection:

composite maintenance means maintenance of any of the following of a composite structure aircraft:

(a) primary structure;

(b) seat support structure;

(c) wings;

(d) empennage;

(e) flight control surfaces.

composite structure aircraft means an aircraft of fibre reinforced plastic composite construction.

Group 7 LAME means the holder of an aircraft maintenance engineer licence issued under regulation 31 of CAR and endorsed with a category airframes Group 7 rating as described in CAO 100.91.

specially qualified person means a person who:

(a) holds a category B1 licence issued under Part 66 of CASR; and

(b) is also 1 of the following:

(i) a person who at any time before 27 June 011 was a Group 7 LAME, provided that the person's licence had not been cancelled by CASA; or

Note The relevant rating may, or may not, have expired, and may, or may not, have been renewed as long as it had once been held and the licence has not been cancelled.

(ii) a person who holds at least 1 of the following:

(A) AQF qualification MEA405;

(B) a Transport Canada AME licence endorsed with an "S" rating;

(C) a New Zealand AME licence endorsed with an aeroplane Group 4 rating;

(D) another qualification approved in writing by CASA as an appropriate qualification for performing composite maintenance;

(E) an authorisation issued by CASA under subregulation 42ZC (6) of CAR to perform composite maintenance.

Note A category B1 licence holder is entitled to carry out an inspection of a composite structure aircraft to determine the airworthiness of that aircraft.

7A.2 Composite maintenance on a composite structure aircraft must be carried out by:

(a) a Part 145 organisation; or

(b) a CAR 30 maintenance organisation.

7A.3 If composite maintenance is carried out on a composite structure aircraft by a CAR 30 maintenance organisation, the organisation must ensure that only a specially qualified person, employed by the organisation, performs the maintenance.

Note Apart from the separate privileges of a Part 145 organisation, composite maintenance of a composite structure aircraft may only be performed by a qualified person employed by a CAR 30 maintenance organisation. Therefore, such maintenance may **not** be carried out by a person referred to in paragraph 42ZC (4) (b) of CAR, sometimes known as an independent LAME or a LAME employed by an independent LAME.

8 Inadequate maintenance schedules

8.1 For the purposes of subregulation 42A (6) of CAR, CASA declares that the manufacturers' maintenance schedules for the following aircraft are inadequate and must not be used as the maintenance schedules for the aircraft:

Aero 145;
Aero L40;
Aero L200A;
Aero Commander 500 (excluding the 500S model);
Auster, all aircraft;
Avro, all aircraft;
Beagle Airedale;
Beagle Terrier;
Beechcraft 17;
Beechcraft 18;
Beechcraft 50;
British Aircraft Manufacturing Co. Swallow;
Callair A9;
Chrislea CH 3-4;
De Havilland DH60 (Moth);
de Havilland DH82 (Tiger Moth);
de Havilland DH 84 (Dragon);
de Havilland DH87 (Hornet Moth);
de Havilland DH89 (Dragon Rapide);
de Havilland DH90 (Dragonfly);
Fairchild 24;
Junkers A50;
Klemm, all aircraft;
Lockheed L-12;
Percival Gull;
Percival Proctor;
Piaggio P166;
Piper J2;
Piper J3;
Piper PA11;
Piper Colt;
Piper Tripacer;
Piper PA23 Apache;
Piper PA25 Pawnee;
Porterfield, all aircraft;
SAAB 91;
Stinson, all aircraft;
WACO, all aircraft, other than WACO Classic Aircraft Corporation YMF-F5 and YMF-F5C series aircraft that have FAA supplemental type certificate SA1000GL incorporated at manufacture.

Note Acceptable alternatives for these aircraft are the CASA Maintenance Schedule or a schedule developed by the holder of the certificate of registration for an aircraft and approved by CASA under regulation 42M of CAR.

8A Maintenance of general aviation recovery device (*GARD*) equipment

8A.1 In this subsection:

airframe parachute means a parachute that is a component of GARD equipment.

approved course of training means a course of formal training, or a period of relevant practical experience, or both a course of formal training and a period of practical experience:

(a) designed to:

(i) convey detailed knowledge of GARD equipment (other than the airframe parachute), and the aircraft controls, systems and precautions for use of such equipment; and

(ii) in the light of such knowledge, enable the holder of a relevant category B1 licence to safely perform maintenance on GARD equipment; and

(b) approved in writing for the licence holder by his or her CAR 30 maintenance organisation.

general aviation recovery device (GARD) equipment means a recovery system that is installed on an aircraft and that, however it is activated and the parachute deployed, is designed to control the aircraft's descent in an emergency such as engine failure or loss of aerodynamic control.

specially qualified LAME means a licensed aircraft maintenance engineer who:

(a) holds a category B1 licence, issued under Part 66 of CASR in a subcategory relevant to the aircraft on which the person performs work; and

(b) has successfully completed an approved course of training in the operation and maintenance of GARD equipment.

8A.2 Maintenance of GARD equipment must be carried out by:

(a) a Part 145 organisation; or

(b) a CAR 30 maintenance organisation.

8A.3 For regulation 38 of CAR, CASA directs that if maintenance of GARD equipment or an airframe parachute is carried out by a CAR 30 maintenance organisation, the organisation must ensure that only the following persons, employed by or working under an arrangement with the organisation, may perform the maintenance:

(a) for maintenance of GARD equipment, other than the airframe parachute — a specially qualified LAME;

(b) for maintenance of the airframe parachute — a person who holds:

(i) a Packer B qualification granted by the Australian Parachute Federation (***APF***); or

(ii) a rigger qualification granted by the APF; or

(iii) a document evidencing successful completion of a parachute packer or rigger course of training approved in writing by CASA.

8A.4 A person mentioned in sub-subparagraph 8A.3 (b) (i) is limited to inspecting and packing parachutes.

8A.5 Following completion of maintenance of an airframe parachute, a person mentioned in paragraph 8A.3 must certify for the completion of maintenance by signing the relevant maintenance record in the CAR 30 maintenance organisation's work documentation package.

Note Apart from the separate privileges of a Part 145 organisation, maintenance of GARD equipment may only be carried out by a specially qualified LAME employed by a CAR 30 maintenance organisation. Therefore, such maintenance may not be carried out by a person referred to in paragraph 42ZC (4) (b) of CAR, sometimes known as an independent LAME or a LAME employed by an independent LAME.

9 Mandatory maintenance requirements

9.1 For regulation 38 of CAR, CASA directs the holder of a certificate of registration for an aircraft to comply with the mandatory maintenance requirements identified in the approved design of the aircraft, engine or propeller as the case requires, as 1 or both of the following:

(a) the CMR;

(b) airworthiness limitations (AWL).

Note Contravention of a CASA maintenance direction under this subsection is a strict liability offence under regulation 38 of CAR.

9.2 For paragraph 9.1:

Certification Maintenance Requirements or ***CMR*** means the required scheduled maintenance tasks which were established during the design certification of an aircraft as operating limitations of the aircraft's type certificate (TC) or supplemental type certificate (STC).

9.3 For regulation 38 of CAR, CASA directs that an aircraft must be maintained as if it were an aerial work aircraft if:

(a) Part 141 flight training or a Part 142 activity is conducted in the aircraft; and

(b) it is not a charter aircraft.

9A Electronic navigational databases

9A.1 The operator, the pilot in command and any other flight crew member of an aircraft may update the navigation system database of the Global Navigation Satellite System (***GNSS***) navigation equipment fitted to an aircraft if the update is carried out:

(a) without dismantling any part of the GNSS navigation equipment or removing any aircraft panels for access; and

(b) in accordance with the instructions of the manufacturer of the GNSS navigation equipment.

9A.2 For paragraph 9A.1, the operator of an aircraft may authorise a person, other than the pilot in command or a member of the flight crew, to perform the update if the person has met the requirements, if any, set out in the operator's operations manual for performing the update.

10 Prescribed single-engine aeroplanes (*PSEA*)

10.1 For regulation 11.245 of CASR, the operator of an aeroplane must not operate the aeroplane as a PSEA unless the aeroplane complies with each of the requirements mentioned in Appendix 2 and:

(a) is approved in writing by CASA as a PSEA in the STC, TAC or TC for the aeroplane; or

(b) immediately before 2 December 2021, was approved in writing by CASA as an approved single engine turbine-powered aeroplane (ASETPA) in the STC, TAC or TC for the aeroplane.

10.2 The direction in paragraph 10.1 ceases to be in force at the end of 1 December 2031.

11 Additional maintenance requirements

11.1 This subsection applies to the holder of a certificate of registration for an aircraft that uses 1 of the following as the aircraft's system of maintenance or maintenance schedule:

(a) an approved SOM;

(b) the manufacturer's maintenance schedule;

(c) the CASA maintenance schedule.

11.2 For regulation 38 of CAR, the holder of the certificate of registration for an aircraft is directed to ensure that the following additional maintenance is carried out on the aircraft by a person permitted under regulation 42ZC of CAR:

(a) any maintenance action set out in Appendix 1 that is not already addressed by the aircraft's system of maintenance or a maintenance schedule referred to in paragraph 11.1;

(b) the maintenance set out in clause 17 of Appendix 1.

11.3 Unless stated otherwise in this section, a maintenance action required by the approved SOM or a maintenance schedule for an aircraft component or aircraft system will prevail over any maintenance action required in Appendix 1 for that aircraft component or aircraft system.

12 Compliance time extensions for additional maintenance

12.1 This subsection applies to the following clauses of Appendix 1:

(a) clause 3 (pitot-static systems);

(b) clause 4 (pressure altimeters and air data computers);

(c) clause 5 (airspeed indicators);

(d) clause 6 (fuel quantity gauges);

(e) clause 7 (propeller systems);

(f) clause 8 (feathering propellers);

(g) clause 9 (cockpit voice recording systems);

(h) clause 12 (towing release systems);

(i) clause 14 (ATC transponders);

(j) clause 18 (ADF systems);

(k) clause 19 (VOR systems);

(l) clause 20 (VOR systems in I.F.R.).

12.2 If a time interval is specified for an additional maintenance requirement, that time interval (***original time interval***) may be extended by up to 10% of the flight hours or calendar days specified (as the case requires), subject to the following:

(a) if the time interval is specified in flight hours — the interval may be extended by not more than 10 flight hours;

(b) if the time interval is specified in calendar days — the interval may be extended by not more than 60 days;

(c) a time interval may be extended once only (the ***extended time interval***);

(d) after the extended time interval, the next time interval for an additional maintenance requirement must be reduced by the difference in flight hours or calendar days (as the case requires) between the extended time interval and the original time interval.

14 Approval of certain maintenance data

14.1 Subject to paragraph 14.2 and for subregulation 2A (4) of CAR, instructions are approved for paragraph 2A (2) (e) of CAR if the instructions are:

(a) about how maintenance on an aircraft, an aircraft component or aircraft material is to be carried out; and

(b) in an advisory document, as it exists from time to time:

(i) compliance with which is not required by law; and

(ii) published by CASA, the European Aviation Safety Agency, or the NAA of a recognised country.

Note The approval under this paragraph of certain instructions in a relevant document as maintenance data under paragraph 2A (2) (e) of CAR does not constitute approval of a modification or repair for the purposes of regulation 42U of CAR. The approval under this paragraph only provides for the instructions in the relevant documents to be used to supplement the information in an approved modification or repair in relation to how that modification or repair may be carried out.

14.2 The approval under paragraph 14.1 of the instructions in a document is subject to the condition that the instructions may only be used if:

(a) the maintenance data mentioned in paragraph 2A (2) (a), (b), (c) or (d) of CAR for the aircraft, aircraft component or aircraft material does not provide sufficient detail on how the maintenance is to be carried out; and

(b) the person carrying out the maintenance on the aircraft, aircraft component or aircraft material first determines that the instructions are:

(i) appropriate to the aircraft, aircraft component or aircraft material to be maintained; and

(ii) directly applicable to the maintenance that is to be carried out; and

(iii) not inconsistent with:

(A) the manufacturer's data — in which case the manufacturer's data will prevail to the extent of the inconsistency; or

(B) any other applicable AMD mentioned in regulation 2A of CAR.

Appendix 1

Additional maintenance requirements

1 Definitions

For this Appendix:

tests, for an instrument or instrument system, means the procedures, in accordance with this Appendix, and used in conjunction with the relevant aircraft manufacturer's approved data, that are required to confirm the accuracy and correct functioning of the instrument or system.

Note The tests described in this Appendix are not comprehensive or exclusive test procedures and for this reason must be used in conjunction with the relevant aircraft manufacturer's approved data.

2 Balloon etc. intervals

Despite the interval mentioned in any other provision to this Appendix, where a provision to this Appendix applies for an aircraft that is a balloon or a thermal airship without an approved SOM, the interval is not to exceed 36 months.

Note Under civil aviation legislation and for this Appendix, a balloon or a thermal airship falls within the scope of the word "aircraft" unless specifically excluded.

3 Pitot-static systems

3.1 This clause applies to an aircraft's pitot-static systems.

3.2 Tests must be carried out on an aircraft for pitot-static system leaks.

3.3 For subclause 3.2, the tests must be carried out in accordance with each of the testing procedures set out in clause 1 of Attachment 1 to this Appendix.

3.4 The tests mentioned in subclause 3.2 must be performed:

(a) at intervals not exceeding every 24 months; or

(b) if any pitot-static system components, including instruments, are changed or modified — at the same time as the change or modification, and then at intervals not exceeding every 24 months after that time; or

(c) if maintenance is carried out on the pitot-static system that involves disconnection of any of the pitot-static lines — at the same time as the maintenance, and then at intervals not exceeding every 24 months after that time.

4 Testing pressure altimeters and air data computers

4.1 This clause applies to an aircraft's testing pressure altimeters and air data computers (if any).

4.2 Subject to subclause 4.3, the pressure altimeters installed in an aircraft must be tested in accordance with:

(a) each of the testing procedures set out in clause 2 of Attachment 1 to this Appendix; or

(b) each of the applicable testing procedures of the NAA of a recognised country that is the state of design for the aircraft.

4.3 For an aircraft certificated for single-pilot operations:

(a) the pilot's pressure altimeter must be tested under subclause 4.2; and

(b) any other pressure altimeter that is not tested must be appropriately placarded to that effect.

4.4 The pressure altimeter tests mentioned in subclause 4.2 must be carried out at intervals not exceeding every 24 months.

Note 1 Test errors must not exceed those specified for pressure altimeters in Attachment 1 to this Appendix.

Note 2 Appropriate test equipment may allow pressure altimeter tests to be carried out either while the altimeter is installed on the aircraft, or in a workshop.

4.5 Any air data computer installed in an aircraft must be tested in accordance with the manufacturer's maintenance manual.

Note Electronic displays do not require testing.

Automatic altitude reporting equipment correspondence checks

4.6 If any of the following devices are installed in an aircraft:

(a) an automatic pressure altitude encoder;

(b) an air data computer;

(c) any equivalent device reporting directly to air traffic control (***ATC***) via the aircraft's transponder;

the device must be tested in accordance with each of the testing procedures set out in clause 3 of Attachment 1 to this Appendix.

Note Test errors must not exceed those specified in Attachment 1 to this Appendix for the relevant encoders, computers or other devices.

4.7 Subject to subclause 4.8, the automatic pressure altitude encoders mentioned in subclause 4.6 must be tested in conjunction with the aircraft's pressure altimeter tests mentioned in subclause 4.2.

Note See subclause 4.4 for the interval.

4.8 If the following apply:

(a) an aircraft uses a separate direct reading altimeter for the primary control of altitude;

(b) the aircraft has an automatic altitude reporting system comprising a separate automatic pressure encoder, air data computer, or other equivalent device reporting directly to ATC via the aircraft's transponder;

then the reporting system must be tested in accordance with subclause 4.6 on each occasion of the removal or the installation of, or a change to, or a modification to:

(c) a system component; or

(d) the system interwiring.

5 Airspeed indicator

5.1 This clause applies to an aircraft's airspeed indicators.

5.2 The airspeed indicator tests, including determination of the scale error of the aircraft's installed airspeed indicator must be determined through testing in accordance with subclause 5.3.

5.3 For subclause 5.2, the scale errors at the major graduations of the scale must not exceed ± 4 knots up to the maximum speed of the aircraft, when tested first with the pressure increasing, and then with the pressure decreasing. During the test, operation of the airspeed indicator must be smooth and continuous.

5.4 Airspeed indicator tests, including determination of the scale error of the aircraft's installed airspeed indicator, must be performed at intervals not exceeding every 48 months.

6 Fuel quantity gauges

6.1 Subject to subclause 6.1A, this clause applies to an aircraft if the aircraft's fuel quantity indicating system:

(a) relies on float type devices to measure tank fuel levels; and

(b) does not have a self-test function that can verify that the system is working within the manufacturer's stated tolerances.

6.1A This clause does not apply to an aircraft that is maintained in accordance with a maintenance program that adheres to MSG-2 or MSG-3 principles, as in force from time to time.

6.2 The accuracy of an aircraft-installed system for measuring fuel (the ***system***) must be tested and determined.

6.3 For subclause 6.2, the determination must be made in accordance with the following test requirements:

(a) subject to the tolerances mentioned in this subclause — the indicated quantity of fuel must equal the actual fuel in the fuel tank less the unusable quantity of fuel;

(b) fuel quantity gauges must be checked for accuracy at all major graduations;

(c) subject to paragraph (d) — scale errors at empty must not exceed + 0.5% or – 5% of the nominal fuel tank capacity;

(d) for a system where it is impracticable to correct the empty reading — scale errors at empty must not exceed + 0.5% or – 8% of the nominal fuel tank capacity;

(e) if either of the following apply:

(i) scale errors or the ungaugeable quantity of fuel exceeds ± 5% of the nominal fuel tank capacity; or

(ii) the gauge is calibrated in fractions of fuel tank capacity;

then, a placard must be displayed adjacent to the fuel quantity gauge showing:

(iii) the corrected readings at all major graduations; and

(iv) the ungaugeable quantities of fuel;

(f) fuel quantity gauges must be checked with the aircraft positioned to simulate level flight attitude;

(g) for paragraph (f):

(i) electrically operated gauges must have normal system voltages applied; and

(ii) the fuel quantity at each calibration point must be made by:

(A) measurement of the fuel added to the fuel tank; or

(B) a dip or drip stick previously calibrated for the fuel tank;

(h) during the test, the motion of any fuel quantity gauge must be smooth and continuous.

6.4 Determination of the accuracy of the system must be performed:

(a) at intervals not exceeding every 48 months; and

(b) if any system component or system interwiring is changed or modified — at the same time as the change or modification, and then after that at intervals not exceeding every 48 months.

7 Propeller systems

Application

7.1 This clause applies to an aircraft's fixed-pitch wooden or composite propellers.

Checks

7.2 Within the intervals mentioned in subclause 7.3, the following checks must be performed:

(a) all propeller attachment bolts and hub retaining nuts must be checked to ensure they have the appropriate torque;

(b) the propeller track must be checked to ensure that the blades are rotating in the same plane of rotation;

(c) the propeller hubs and blades, including their surface finish, must be checked for breaks, scores, nicks, cracks, delamination, corrosion, and the security of the leading edge sheath, to confirm the continuing airworthiness of the propeller.

Note Where AMD for a specific propeller system is not available, the inspection, maintenance and field repair methods contained in FAA AC 20-37E, or subsequent revisions, should be used.

7.3 Each check mentioned in subclause 7.2 must be carried out as follows:

(a) after the first flight following a propeller fitment;

(b) when there has been significant change in the average ambient humidity, due to a seasonal change or a change in aircraft locality;

(c) before a first flight after the aircraft has been idle for an extended period.

Intervals

7.4 Each check mentioned in subclause 7.2 must be carried out at intervals not exceeding whichever of the following happens first:

(a) every 110 hours in service, or every 110 hours in service after a check for an event mentioned in paragraph 7.3 (a), (b) or (c);

(b) every 12 months after manufacture, or every 12 months after a check for an event mentioned in paragraph 7.3 (a), (b) or (c).

8 Feathering propellers — functional check

Application

8.1 This clause applies to a piston engine aircraft fitted with 1 or more feathering propellers, other than a powered glider.

Checks

8.2 Within the intervals mentioned in subclause 8.3, the aircraft feathering propeller must be given a ground functional check in accordance with the manufacturer's procedures and instructions for feathering and unfeathering the propeller to

ensure that the propeller fully feathers within the time limits specified by the aircraft manufacturer.

Intervals

8.3 The check mentioned in subclause 8.2 must be carried out at intervals not exceeding whichever of the following happens first:

(a) every 110 hours in service;

(b) every 12 months after manufacture;

(c) the compliance times that have been published as AMD.

9 Cockpit voice recording systems

Application

9.1 This clause applies for a cockpit voice recording system (***CVRS***) installed on an aircraft for compliance with CAO 20.18 (Aircraft equipment — basic operational requirements).

Testing

9.2 Each voice channel of the CVRS must be tested in accordance with this subclause to ensure proper recording of each of the following audio inputs:

(a) for the first channel — from each microphone and headset used at the First Officer's position;

(b) for the second channel — from each microphone and headset used at the Captain's position;

(c) for the third channel — from the flight deck mounted area microphone;

(d) for the fourth channel — from each microphone and headset used at the station for the third and fourth crew positions;

(e) if the positions mentioned in paragraph (d) of this subclause are not required — from each microphone and headset used at other flight deck positions having audio selection and transmit facilities;

(f) if the positions mentioned in paragraphs (d) and (e) of this subclause are not required — from each microphone on the flight deck that is used with the passenger address system, if its signals are not recorded on another channel;

Note The CVRS may need to be removed post-flight and replayed to objectively analyse the quality of the audio recorded on each discrete channel, and where applicable, the correct recording of the ATM data-link messages and related functionality.

9.3 The bulk erase inhibit logic of the CVRS must be tested to ensure that it is functioning properly.

9.4 The CVRS underwater locating device (if fitted) must be tested and maintained in accordance with the manufacturer's requirements and recommendations.

9.5 Crash sensor switches incorporated into the CVRS power feed must be tested in accordance with the manufacturer's procedures to ensure they are operating properly.

Intervals

9.6 Each of the tests mentioned in this clause must occur at intervals not exceeding:

(a) for equipment utilising analogue technology (tape based):

(i) every 12 calendar months; or

(ii) 2 000 hours' time-in-service;

whichever happens first; or

(b) for equipment utilising digital technology (solid state based), every 24 calendar months.

10 Emergency exits

Application

10.1 This clause applies to an aircraft which has an emergency exit, except when the emergency exit:

(a) is a service door; or

(b) is a normal means of entering or exiting the aircraft; or

(c) would be destroyed when operated, for example, a window that is to be smashed open, or a fabric panel that is to be ripped aside.

Testing

10.2 With the aircraft in its normal operating configuration, including all trim and interior fittings installed, the emergency exit must be operated, and operable, in accordance with the placarded instructions.

10.3 If the emergency exit's operating mechanism is protected by a breakable cover, the cover may be removed before testing the exit.

10.4 In spite of any other provision in this clause, an emergency exit must be tested when role equipment or interior configuration is changed in a way that may inhibit operation of the exit.

11 Life rafts, life jackets and inflatable flotation devices

Application

11.1 This clause applies to each life raft, life jacket and inflatable flotation device that, for the purpose of complying with civil aviation legislation, is:

(a) installed or carried on an aircraft; or

(b) to be installed or carried on an aircraft.

Testing

11.2 The life raft, life jacket or inflatable flotation device must be inspected and tested in accordance with the manufacturer's requirements.

Intervals

11.3 Commencing from the date of manufacture, the life raft, life jacket or inflatable flotation device must be inspected and tested:

(a) at the periodicity specified by the manufacturer; or

(b) if the approved SOM or maintenance schedule specifies a lesser period — at that lesser period; or

(c) if a period is not specified by the manufacturer and not provided within the approved SOM or maintenance schedule — after 2 years, and then at intervals not exceeding 12 months.

12 Towing release systems

Application

12.1 This clause applies to an aircraft fitted with a towing release system that is not covered by a manufacturer's maintenance program.

Note A towing release system to which this clause applies may be supplied by the manufacturer of the aircraft, or a towing release system manufacturer.

Testing

12.2 Before commencement of the first flight on a day during which the aircraft is engaged in towing operations, the pilot in command or a holder of an aircraft maintenance engineer licence for the aircraft must:

(a) ensure that the cockpit control for the towing release system has full and free movement; and

(b) check that the release mechanism is clean; and

(c) check for visible signs of damage or wear of the release mechanism; and

(d) perform a functional check; and

(e) certify that the testing mentioned in paragraphs (a) to (d) have been satisfactorily completed in column 2 of Part 3 of the maintenance release.

12.3 Before a maintenance release may be issued for the aircraft, the person performing the maintenance release inspection must:

(a) clean and lubricate the hook mechanism; and

(b) check the beak and other parts for wear; and

(c) check the condition of operating levers, cables and pulleys; and

(d) test the ability of the system mechanism to return to a safe over-centre position with a return force, measured at the activating lever of the hook, of not less than 20 N (Newton) (2 kg force).

12.4 At intervals not exceeding the earlier of 1000 hours' time-in-service or 1 year, the holder of a Part 66 licence in the B1.1 or B1.2 subcategory authorising maintenance on the aircraft, or the holder of an authority to carry out maintenance on aircraft under regulation 33B of CAR, must:

(a) remove and service the release assembly in accordance with the manufacturer's data and instructions; and

(b) test that the pilot effort is less than 200 N (20.4 kg force) with a 4.5 kN (459 kg force) load applied to the release anywhere in a 30 degree cone.

Note Towing release mechanisms may be overhauled by a Gliding Federation of Australia (***GFA***)-approved Inspector in accordance with the requirements contained in the relevant Airworthiness Directives issued by the GFA from time to time. The overhaul status of the towing release assembly must be adequately documented.

13 Electrical hoist assembly — earth bonding testing

Application

13.1 This clause applies for an aircraft with an electrical hoist assembly that does not have specific bonding testing requirements.

Testing

13.2 The electrical bonding between each adjacent component part of the electrical hoist assembly must be tested:

(a) to a maximum resistance of 0.010 OHM; and

(b) using a bonding tester capable of resolving to 0.002 OHM.

13.3 For subclause 13.2, component parts of the electrical hoist assembly that must be considered adjacent to other parts include the control box, the electrical motor casing, the hoist body, the hoist arm and the attachment bracket.

Intervals

13.4 Testing of the electrical hoist assembly must be carried out:

(a) before it is installed in the aircraft; and

(b) after it is installed in the aircraft — at intervals not exceeding every 24 months.

14 Periodic checking and testing of ATC transponders

Definition

14.1 In this clause:

electron tube technology or ***ETT*** means technology that uses the physical and electrical characteristics of a physical body to oscillate and amplify a signal at its resonant frequency for subsequent broadcast, including through thermionic valves, klystrons or cavity oscillators.

Note 1 As the components age, the characteristics which provide the signal stability vary which affects the output signal.

Note 2 Transponders using ETT include, for example, Honeywell (Bendix-King) KT76A, Narco AT150 and ARC RT859.

Application

14.2 This clause applies to all air traffic control (***ATC***) transponders.

Testing

14.3 Before an ATC transponder is used for the first time in an aircraft, it must be system tested in accordance with the requirements of Appendix F of FAR 43, using Mode A code 2100.

14.4 After the test mentioned in subclause 14.3, and within the intervals mentioned in subclause 14.7, each ATC transponder must be system tested in accordance with the requirements of Appendix F of FAR 43, using Mode A code 2100.

Note Consideration should be given to aligning this test with that required under clauses 3, 4 and 5 of this Appendix 1.

14.5 After the test mentioned in subclause 14.3, without affecting the requirements under subclause 14.4, and within the intervals mentioned in subclause 14.8, each ATC transponder using ETT must also be tested in accordance with the requirements of Appendix F of FAR 43, using Mode A code 2100, to confirm that:

(a) the duration of all reply pulses (the pulse width) is at least 0.35, and not more than 0.55, microseconds; and

(b) the amplitude variation between 1 reply pulse and any other reply pulse is not more than 1 dB.

14.6 An ATC transponder which fails to comply with any requirement under subclause 14.3, 14.4 or 14.5, must not be used in an aircraft until it has been:

(a) repaired or replaced in accordance with the requirements of CAR and CASR; and

(b) system tested in accordance with subclause 14.3 or 14.4, and tested in accordance with subclause 14.5 (if applicable).

Intervals

14.7 For subclause 14.4, the interval is whichever of the following applies:

(a) within 24 months after the ATC transponder was first system tested in accordance with subclause 14.3, and at intervals not exceeding every 24 months after that;

(b) within 24 months after the date on which the same system test was last conducted under AD/Rad/47: Periodic Testing of ATC Transponders (as in force immediately before 22 December 2015), and at intervals not exceeding every 24 months after that;

(c) the intervals in accordance with the approved SOM for the aircraft under regulation 42M of CAR.

14.8 For subclause 14.5, an ATC transponder using ETT must be tested at the same time as the transponder is system tested in accordance with subclause 14.7.

Note Generic guidance on the testing of transponders is available in AWB 34-013 and AWB 34-09.

15 Compressed gas cylinders

Application

15.1 This clause applies for an aircraft (except a hot air balloon) which is installed with a compressed gas cylinder that:

(a) is rechargeable; and

(b) is not a fire extinguisher.

Testing

15.2 The cylinder must be emptied before inspection and testing.

15.3 Subject to subclause 15.4, the cylinder must:

(a) be hydrostatically tested in accordance with subclauses 15.5 to 15.9; and

(b) after each hydrostatic expansion test and hydrostatic proof test, have its markings updated on the cylinder to reflect the compliance status of the cylinder.

15.4 Paragraph 15.3 (a) does not apply to the following:

(a) a cylinder with a working pressure of less than 1 MPa;

(b) a cylinder, manufactured in the USA, with an outside diameter of less than 51 mm and a length of less than 610 mm.

15.5 Testing of the cylinder must include testing by interior hydrostatic pressure in a water jacket or other apparatus suitable to determine the expansion of the cylinder.

15.6 For subclause 15.5, permanent volumetric expansion of the cylinder must not exceed:

(a) 10% of total volumetric expansion at test pressure; or

(b) more than 1/5000th of the cylinder's original volume.

15.7 If a cylinder's specifications do not adequately define damage limits, 50% of the damage tolerances stated in Australian Standard AS2030 must be applied.

15.8 A cylinder manufactured in the USA and marked 3HT must be inspected and tested in accordance with the USA Compressed Gas Association Pamphlet C-8.

Note See FAR 49 180.209 (k) and FAR 180.213 (c).

15.9 A hydrostatic proof test of a cylinder is an acceptable alternative to a hydrostatic stretch test only if the hydrostatic proof test is permitted by the cylinder's specification.

15.10 Inspection of a cylinder must include the following:

(a) visual internal inspection;

(b) visual external inspection.

15.11 Subject to subclauses 15.12 and 15.13, inspection and testing of cylinders under this clause must be carried out at intervals not exceeding every 5 years after manufacture.

15.12 For 3HT cylinders, inspection and testing under this clause must be carried out at intervals not exceeding every 3 years after manufacture.

15.13 For DOT-E type cylinders, inspection and testing under this subclause must be carried out:

(a) at the intervals mentioned in the latest revision of the applicable DOT Special Permit; or

(b) at intervals not exceeding every 3 years after manufacture.

15.14 For the cylinder valve and regulator, inspection and testing under this subclause must be in accordance with the following:

(a) the manufacturer's specifications; or

(b) if there are no manufacturer's specifications — in accordance with Australian Standard AS2337.1-2004, paragraph 10.2.2.

Intervals

15.15 Inspection and testing of the cylinder valve and regulator under this clause must be carried out:

(a) in accordance with the intervals specified by the manufacturer; and

(b) concurrently with a cylinder inspection.

Unfitness and retirement

15.16 A rechargeable cylinder must be retired from service not later than as follows:

(a) in accordance with the manufacturer's specification; or

(b) for a 3HT cylinder:

(i) after 4 380 pressurisations (cycles); or

(ii) 24 years after its date of manufacture; or

(c) for a HOLASW 1** cylinder:

(i) after 5 000 pressurisations (cycles); or

(ii) 25 years after its date of manufacture;

(d) for a fibre-wrapped cylinder:

(i) at the limit specified in the applicable DOT-Exemption; or

(ii) 15 years after its date of manufacture.

15.17 Cylinders that no longer comply with inspection limits or test requirements must be rendered unfit for further use in accordance with AS 2030.

16 Replenishment of aircraft oxygen systems

Application

16.1 This clause applies to aircraft to which this section applies that are fitted with oxygen systems for the use of operating crew and passengers.

Oxygen standards

16.2 The following persons must replenish and maintain the oxygen dispensing units in an aircraft in accordance with the breathing oxygen standards specified in the approved design for the aircraft:

(a) a person who holds a subcategory B1.1 or B1.2 or category B2 aircraft maintenance engineer licence, with appropriate aircraft type rating (if applicable);

(b) a person who holds a maintenance authorisation for maintenance of aircraft oxygen systems.

16.3 If the approved design does not specify the breathing oxygen standards for the aircraft, the oxygen dispensing units in the aircraft must be replenished and maintained in accordance with 1 of the following standards as they exist from time to time:

(a) SAE AS8010D — Aviator's Breathing Oxygen Purity Standard, or a later version of SAE AS8010;

(b) MIL-PRF-27210 Revision J — Oxygen, Aviator's Breathing, Liquid and Gas, or a later version of MIL-PRF-27210;

(c) a standard approved by CASA.

17 Fire protection in toilet areas

Application

17.1 This clause applies to an aeroplane that has 1 or more toilets equipped with receptacles for paper waste or used linen (a ***receptacle***).

Testing and repair of receptacles for paper waste or used linen

17.2 The aeroplane operator (the ***operator***) must ensure that, before a receptacle is used for the first time on the aeroplane it is inspected and tested in accordance with subclause 17.3.

17.3 Within the intervals mentioned in subclause 17.5, the operator must ensure that the door, lid, flap or other device giving access to the inside of the receptacle (whether for depositing or removing waste or linen) is inspected and tested so that its proper operation, fit, sealing, and latching or locking will contain a possible fire within the receptacle.

17.4 The operator must ensure that a receptacle which fails an inspection and test under subclause 17.3 must not be used until it has been:

(a) repaired or replaced; and

(b) inspected in accordance with subclause 17.3.

Intervals

17.5 For subclause 17.3, the inspection and testing of each receptacle must be conducted at whichever of the following intervals is least restrictive:

(a) at intervals not exceeding every 1 000 hours after it was last inspected and tested in accordance with subclause 17.2; or

(b) within 100 hours of 22 December 2015, and at intervals not exceeding every 1 000 hours after that.

18 ADF systems — periodic checking

Application

18.1 This clause applies only for the ADF navigation systems of an Australian aircraft engaged in I.F.R. flight for which the holder of the certificate of registration has elected to use the CASA maintenance schedule.

Note The CASA maintenance schedule is set out in Schedule 5 — CASA maintenance schedule, of CAR.

Checks — quadrantal errors

18.2 Each ADF navigation system must be checked for accuracy and correct performance in all modes of operation for quadrantal errors.

18.3 The following must be done:

(a) apply corrections for any quadrantal errors detected;

(b) after the application of corrections for any quadrantal errors, ensure that the maximum permissible residual error mentioned in a row of column 2 of the following table, for a check mentioned in column 1 of the same row, are not exceeded:

Checks required at (in degrees) (Column 1)	**Maximum permissible residual error (Column 2)**
0° and ±15°	±5°
180° and ±15°	±5°
Any other bearing	±6°

Checks — dual ADF systems

18.4 Where there are any dual ADF systems — check and ensure that each system does not interfere with the operation of the other system.

Intervals

18.5 The checks mentioned in this clause must be carried out each time a periodic inspection is carried out in accordance with paragraphs 2.4 and 2.5 in Part 2 of Schedule 5 of CAR.

19 VOR systems — periodic checking

Application

19.1 This clause applies only for the following navigation systems (the ***relevant systems***) of an Australian aircraft engaged in I.F.R. flight for which the holder of the certificate of registration has elected to use the CASA maintenance schedule:

(a) all VOR systems;

(b) all localiser systems;

(c) all glideslope systems.

Note The CASA maintenance schedule is set out in Schedule 5 — CASA maintenance schedule, of CAR.

Checks

19.2 Check and ensure that the level of interference between the relevant systems, and any combination of other aircraft systems normally operated in flight, is not of a level sufficient to cause either of the following:

(a) a significant deflection of the flight path indicator when the flag is concealed;

(b) any degradation of the readability of the station identification.

19.3 For subclause 19.2, a level of interference which is merely intermittent or short-term may be ignored, but only if it does not cause the deflection or degradation mentioned in paragraphs 19.2 (a) and (b).

19.4 Check and ensure that the level of interference from any source, intermittent, short-term or otherwise, is not of a level sufficient to cause the flag to indicate usability in the absence of a usable signal.

Intervals

19.5 The checks mentioned in this clause must be carried out each time a periodic inspection is carried out in accordance with paragraphs 2.4 and 2.5 in Part 2 of Schedule 5 of CAR.

20 VOR in I.F.R. — periodic checking

Application

20.1 This clause applies only for the following navigation system of an Australian aircraft for which the holder of the certificate of registration has elected to use the CASA maintenance schedule: a VOR system installed in an aircraft equipped for flight under the I.F.R.

Note The CASA maintenance schedule is set out in Schedule 5 — CASA maintenance schedule, of CAR.

Checks

20.2 Check and ensure that each of the following requirements is the case:

(a) based on tests made on a representative number of radials, the deviation indicator must centre when the omni bearing selector (***OBS***) is within 3 degrees of the selected radial;

(b) the deflection sensitivity must be such that a 5 dot left and a 5 dot right deflection must be obtained when the OBS is varied 10 degrees ± 2 degrees from the on-course setting, and the indications must be of the correct sense;

(c) where installed, the radio magnetic indicator (RMI) reading must be within 4 degrees of the selected radial;

(d) the TO-FROM indicator must continue to show TO or FROM as originally selected when the OBS is rotated by ± 45 degrees from the selected radial;

(e) the flag must remain concealed during each of the tests mentioned in paragraphs (a) to (d), however, when the signal input level is reduced so as to cause the deviation indicator deflection to fall by 2 dots, the flag must be at least partly visible.

Note 1 A simulator may be used for the checking mentioned in paragraphs 20.2 (a) to (e).

Note 2 The sensitivities referred to in this subclause are related to a "standard" 5 dot-0-5 dot, 150 microamperes-0-150 microamperes indicator. Proportional deflections apply to other than "standard" indicators.

Intervals

20.3 The checks mentioned in this clause must be carried out each time a periodic inspection is carried out in accordance with paragraphs 2.4 and 2.5 in Part 2 of Schedule 5 of CAR.

21 Glidescope in I.F.R. — periodic checking

Application

21.1 This clause applies only for the following navigation system of an Australian aircraft for which the holder of the certificate of registration has elected to use the CASA maintenance schedule: a glidescope system installed in an I.F.R. aircraft.

Note The CASA maintenance schedule is set out in Schedule 5 — CASA maintenance schedule, of CAR.

Checks

21.2 Check and ensure that each of the following requirements is the case:

(a) the deviation indicator must centre within less than ½ (± 12 microamperes) when the tone ratio is 0 dB (ddm = 0);

(b) the sensitivity must be such that the deviation indicator deflection is 4.3 dots ± 0.7 dots (110 to 150 microamperes) for both up and down deflections when using a signal with 3.3 dB tone ratios or 2.7 dots ± 0.3 dot (68 to 93 microamperes), when using a 2 dB tone ratio, and the deflection must be in the correct sense;

(c) the flag must remain concealed during each of the tests mentioned in paragraphs (a) and (b), however, when the signal input level is reduced so as to cause the deviation indicator deflection to fall by 2 dots, the flag must be at least partly visible.

Note 1 A simulator may be used for the checking mentioned in paragraphs 21.2 (a) to (c).

Note 2 The sensitivities referred to in this subclause are related to a "standard" 5 dot-0-5 dot, 150 microamperes-0-150 microamperes indicator. Proportional deflections apply to other than "standard" indicators.

Intervals

21.3 The checks mentioned in this clause must be carried out each time a periodic inspection is carried out in accordance with paragraphs 2.4 and 2.5 in Part 2 of Schedule 5 of CAR.

Attachment 1 to Appendix 1

Note See subclauses 3.3, 4.2 and 4.6 in Appendix 1.

Testing procedures for:

Pitot-static systems
Pressure altimeter systems
Air data computers
Automatic pressure altitude encoders
Other transponder devices

Clause 1 Pitot-static system test

(1) **Static pressure systems**

Performance of the test procedures set out below, with all static instruments connected, must ensure that any leakage present is within the tolerance specified for the procedure.

(a) Visually inspect the ports, plumbing, accessories and instruments connected to the static system. Repair or replace those parts which are defective, for example, broken "B" nuts, cracked flare sleeves, deteriorated flexible tubing and quick disconnects, bad valves etc. If purging is necessary, use compressed air or nitrogen to remove foreign matter which may have accumulated in the tubing. Ensure that all static instruments are disconnected before commencing to purge.

(b) Ensure that no alterations or deformations of the airframe surface are present that would affect static air sensing. This is of particular importance for RVSM aircraft.

(c) Check any static port heaters to assure proper operation.

(d) If an aircraft has more than 1 static system, test each system separately to assure its independence and that the leak rate for each system is within tolerance.

(e) Connect the test equipment directly to the static ports, if practicable. If not practicable, connect to a static system drain or tee connection and seal off the static ports. If the test equipment is connected to the static system at any point other than the static port, it must be made at a point where the connection may be readily inspected for system integrity after the system is returned to its normal configuration.

(f) Determine that any leakage is within the tolerances mentioned in paragraph (g) or (h) (as the case requires).

(g) For unpressurised airplanes — evacuate the static pressure system to a pressure differential of approximately 33 hPa or to a reading on the altimeter that is 1 000 feet above the aircraft's elevation at the time of the test. Without additional pumping for a period of 1 minute, the loss of indicated altitude must not exceed 100 feet on the altimeter.

(h) For pressurised airplanes — evacuate the static pressure system until a pressure differential equivalent to the maximum cabin pressure differential for which the airplane is type certificated is achieved. Without additional

pumping for a period of 1 minute, the loss of indicated altitude must not exceed 2 per cent of the equivalent altitude of the maximum cabin differential pressure or 100 feet, whichever is greater.

(i) On completion of the static pressure system test, ensure that all static port seals are removed.

(2) **Pitot-systems**

(a) The pitot system is tested for leaks by applying a pressure at the pitot head sufficient to cause the airspeed indicator to read 120 knots, or the maximum indicated speed, whichever is the greater.

(b) There must be no discernible lag in the movement of the airspeed indicator pointer with the application of the pressure, as such a lag indicates restrictions in the piping.

(c) There must be no decrease in the reading when the system is sealed for at least 10 seconds.

Clause 2 Tests for altimeters and air data computers

Note For testing of air data computers, see subclause 2 (8) below.

(1) **Environmental conditions test**

(a) Vibration (intended to minimise the effects of friction). If suitable test equipment is available, each test for performance may be conducted with the instrument installed in the aircraft. If suitable test equipment for an installed test is not available, or if the instrument fails the installed test, the instrument must be removed from the aircraft and tested or retested with vibration applied.

(b) Temperature. When tests are conducted with the temperature substantially different from ambient temperature of approximately 25°C, allowance must be made for that temperature difference.

(2) **Scale error test**

(a) With the barometric pressure scale at 1 013 hPa, the altimeter must be successively subjected to pressures corresponding to the altitude specified in Table 1 up to the maximum, normally expected, operating altitude of the aircraft in which the altimeter is, or is to be, installed.

(b) The reduction in pressure must be made at a rate not in excess of 20 000 feet per minute to within approximately 2 000 feet of the test point.

(c) The test point must be approached at a rate compatible with the test equipment.

(d) The altimeter must be kept at the pressure corresponding to each test point for at least 1 minute, but not more than 10 minutes, before a reading is taken.

(e) The error at all test points must not exceed the tolerances specified in Table 1.

Table 1 Scale error

Altitude	Equivalent pressure	Tolerance
	Hectopascals	**± (feet)**
-1 000	1050	20
0	1013	20
500	995	20
1 000	977	20
1 500	960	25
2 000	942	30
3 000	908	30
4 000	875	35
6 000	812	40
8 000	753	60
10 000	697	80
12 000	644	90
14 000	595	100
16 000	549	110
18 000	506	120
20 000	466	130
22 000	428	140
25 000	376	155
30 000	301	180
35 000	238	205
40 000	188	230
45 000	147	255
50 000	116	280

(3) **Hysteresis test**

(a) The hysteresis test must begin within 15 minutes of the altimeter's initial exposure to the pressure corresponding to the upper limit of the scale error test in subclause (2). While the altimeter is at this pressure, the hysteresis test is to commence.

(b) Pressure must be increased at a rate simulating a descent in altitude at the rate of 5 000 to 20 000 feet per minute until within 3 000 feet of the first test point (50 per cent of maximum altitude).

(c) The test point is then to be approached at a rate of approximately 3 000 feet per minute. The altimeter must be kept at this pressure for at least 5 minutes, but not more than 15 minutes, before the test reading is taken.

(d) After the reading has been taken, the pressure must be increased further, in the same manner as before, until the pressure corresponding to the second test point (40 per cent of maximum altitude) is reached. The altimeter must be kept at this pressure for at least 1 minute, but not more than 10 minutes, before the test reading is taken.

(e) After the reading has been taken, the pressure must be increased further, in the same manner as before, until atmospheric pressure is reached.

(f) The reading of the altimeter at either of the 2 test points must not differ by more than the tolerance specified in Table 2 in subclause 2 (4) from the reading of the altimeter for the corresponding altitude recorded during the scale error test prescribed in subclause (2).

(4) **After effect test**

Within 5 minutes following the completion of the hysteresis test set out in subclause (3), the reading of the altimeter (corrected for any change in atmospheric pressure) must not differ from the original atmospheric pressure reading by more than the tolerance specified in Table 2.

Table 2 Test tolerances

Test	**Tolerance (feet)**
Case leak test	±100
Hysteresis test: First test point (50 per cent of maximum altitude) Second test point (40 per cent of maximum altitude)	 75 75
After effect test	30

(5) **Friction test**

(a) The altimeter is to be subjected to a steady rate of decrease of pressure approximating 750 feet per minute.

(b) At each altitude listed in Table 3, the change in reading of the pointers after vibration (using a light tapping of the instrument panel adjacent to the altimeter if the altimeter does not have an integral vibrator) must not exceed the corresponding tolerance listed in Table 3.

(c) If the altimeter fails the friction test while installed on the aircraft, the altimeter must be removed and retested.

Table 3 Friction

Altitude (feet)	Tolerance (feet)
1 000 -	±70
2 000 -	70
3 000	70
5 000	70
10 000	80
15 000	90
20 000	100
25 000	120
30 000	140
35 000	160
40 000	180
50 000	250

(6) **Case leak test**

The leakage of the altimeter case, when the pressure within it corresponds to an altitude of 18 000 feet, must not change the altimeter reading by more than the tolerance shown in Table 2 in subclause 2 (4) during an interval of 1 minute.

(7) **Barometric scale error test**

At constant atmospheric pressure, the barometric pressure scale must be set at each of the pressures (falling within its range of adjustment) that are listed in Table 4, and this must cause the pointer to indicate the equivalent altitude difference shown in Table 4 within a tolerance of plus or minus 25 feet.

Table 4 Pressure-altitude difference

Pressure (hectopascal)	Altitude difference (feet)
952	-1 727
965	-1 340
982	-863
999	-392
1013	0
1033	+531
1046	+893
1049	+974

(8) **Air data computers test**

(a) The tests set out in subclauses (1) to (7) do not apply for air data computers or for systems similar to air data computers (a ***similar type***).

(b) Paragraph (c) sets out the tests for the following altimeters:

(i) an altimeter that is an air data computer or similar type with associated computing systems;

(ii) an altimeter that incorporates air data correction internally.

(c) An altimeter mentioned in paragraph (b), must be tested as follows:

(i) in the manner, and to the specifications, provided by the manufacturer of the equipment or aircraft in which the altimeter is installed;

(ii) in accordance with the instructions for continuing airworthiness incorporated in a modification approval for the equipment or aircraft in which the altimeter is installed.

Clause 3 Automatic pressure altitude encoders and ATC transponder system integration test

Automatic pressure altitude encoder test and other transponder devices

Measure the automatic pressure altitude value at the output of the installed ATC transponder when interrogated on Mode C at a sufficient number of test points to ensure that the altitude reporting equipment, altimeters, and ATC transponders perform their intended functions as installed in the aircraft. The difference between the automatic reporting output and the altitude displayed at each altimeter must not exceed 125 feet.

Appendix 2

Prescribed single-engine aeroplanes (*PSEA*)

Note Paragraph 10.1 of this CAO requires an aeroplane operated as a PSEA to comply with each of the following requirements. Aircraft systems and equipment mentioned within these requirements must be approved under regulation 21.305 of CASR.

Part 1 Compliance requirements

Note 1 See paragraph 10.1 of this CAO.

Note 2 The aeroplane must comply with each of the following requirements and **be approved by** CASA. (See subsection 10 above.) Aircraft systems and equipment mentioned within these requirements must be approved under regulation 21.305 of CASR.

1 Aeroplane

The aeroplane type must have been originally certificated as a turbine-powered aeroplane under the certification requirements set under Part 23 of CASR that are equivalent to FAR 23 amendment 28 or a subsequent amendment.

Note Thus, a turbine conversion of an originally certificated piston-powered aeroplane cannot comply.

2 Engine

2.1 The aeroplane engine type (the ***engine type***) must have documented evidence of an acceptable world fleet reliability rate (***WFRR***) in accordance with this clause.

2.2 The WFRR must be calculated as a 6 month rolling average, and consist of:

(a) an in-flight shutdown (***IFSD***) rate of not more than 0.01 per 1 000 hours based on a minimum experience history of 100 000 hours' time-in-service; or

(b) an IFSD rate for individual engine components gained in the same engine types, or in equivalent engine types as determined by CASA, that collectively meet the standard of paragraph (a).

2.3 For paragraphs 2.2 (a) and (b), where the accumulated history is less than the requirement, the history of individual components which have demonstrated time in service in similar engine types, may be taken into account.

3 Engine control system

3.1 The engine control system must meet the requirements of FAR 23.1141 Amendment 29 or a later amendment.

3.2 If use of an emergency/secondary power lever is available, the necessary procedures for its use must be documented in the Aircraft Flight Manual (***AFM***) or approved equivalent.

4 Engine ignition system

The aeroplane type must be equipped with 1 of the following engine ignition systems:

(a) an automatic ignition system which activates in the event of a loss of an engine parameter, for example, engine speed, turbine temperature or engine torque;

(b) an ignition system which can be selected "ON" and has a duty cycle greater than 1 hour.

5 Engine fire warning system

The aeroplane type must be equipped with an engine compartment fire detection and in-flight warning system.

6 Engine monitoring system

6.1 The aeroplane type must be equipped with an automatically activated electronic engine trend monitoring recording system, approved by or under Part 21 of CASR, which records the following:

(a) engine parameters referenced in the engine manufacturer's published engine trend monitoring procedures; and

(b) any other engine performance parameters, mentioned in the approval, that are critical to the engine's safe continuing airworthiness.

6.2 The engine oil consumption must be monitored in accordance with the engine manufacturer's recommendations.

6.3 Any anomalies detected by the monitoring mentioned in subclause 6.1 or 6.2 must be checked against the manufacturer's data to determine appropriate and timely corrective action.

7 Engine oil metal contamination detection system

The aeroplane must be equipped with an approved electronic engine oil metal contamination detection system which provides the pilot with an in-flight, visual, caution/warning indication of possible contamination of the engine oil, including as applicable the following:

(a) engine reduction gearbox oil system;

(b) engine accessory gearbox oil system.

8 Electrical power sources

The aeroplane must be equipped with the following:

(a) a primary electrical generator and 1 or more primary electrical storage batteries;

(b) an alternative source of electrical power, capable of supplying sufficient continuous power to each of the following:

(i) flight instruments;

(ii) navigation systems;

(iii) lighting systems;

(iv) icing protection systems;

(c) any other aeroplane system required under CAO 20.18 for the endurance of the aeroplane for flight at night under the I.F.R.

9 Battery capacity

9.1 There must be an electrical load analysis (***ELA***) for the aeroplane.

Note The ELA is provided to CASA at the time of an application for PSEA inclusion on the TC, STC or TAC.

9.2 The ELA is to certify that the electrical storage capacity of the aeroplane's prime battery is capable of providing the following:

(a) full operation of essential flight and navigation instruments, lighting and associated icing protection systems during an engine failed glide from the

maximum operating altitude, or an elected limiting altitude, to sea level at best range glide speed;

(b) sufficient capacity remaining during a glide mentioned in paragraph (a) to conduct 2 engine start attempts, and lower the flaps and undercarriage.

9.3 The requirement for sufficient battery capacity for the 2 engine starts mentioned in paragraph 9.2 (b) may be reduced to capacity for 1 engine start, provided:

(a) the aeroplane's engine fuel feed system from the aeroplane's fuel tank to the engine fuel control unit is automatic; and

(b) the engine compressor air intake incorporates continuous anti-icing while the engine is operating; and

(c) the aeroplane incorporates an automatic engine ignition system which activates in the event of a loss of an engine parameter such as engine speed, turbine temperature or engine torque.

9.4 Where the aircraft avionics and electrical configuration:

(a) differs from the approved configuration; or

(b) is altered after approval of the configuration;

a revised ELA must be provided to CASA for approval.

10 Electrical load shedding

10.1 Subject to subclause 10.2, the AFM or approved equivalent must provide the pilot with a procedure for shedding non-essential electrical systems during a maximum range glide descent following an engine failure in flight.

10.2 In the case of an automatic shedding procedure that will commence to operate following an engine failure in flight, the AFM or an approved equivalent is not required to include a procedure in accordance with subclause 10.1 but must state, for the information of the pilot, how the automatic shedding procedure will operate.

11 Flight instrument systems

11.1 The aeroplane must be equipped with flight and navigation instruments and instrument power sources complying with the regulatory requirements for air transport I.F.R. operations.

11.2 Aeroplanes incorporating an electronic display flight instrument system must incorporate secondary attitude and gyroscopic heading instruments located on the pilot's flight instrument panel and powered independently of the primary flight display.

11.3 In aeroplanes approved for flight in icing conditions, the AFM or approved equivalent must provide the pilot with a procedure for ensuring essential flight instruments are protected from icing during a maximum range glide descent through icing conditions following an engine failure in flight.

12 Autopilot system

For single pilot operations, the aeroplane must be equipped with an automatic pilot providing a capability to:

(a) operate the flight controls to maintain flight and manoeuvre the aeroplane about the roll and pitch axis; and

(b) fly to an automatic heading; and

(c) provide altitude hold.

14. Radar altimeter

The aeroplane must be equipped with a radar altimeter.

15. Weather radar

The aeroplane must be equipped with a weather radar system.

16. Passenger seats

16.1 The aeroplane must be equipped with passenger seats identified by:

(a) the part number or model number meeting the requirements of FAR 23.562 and 23.785 to amendment 36 or later amendment; or

(b) for Cessna 208 and 208B aircraft — the following part numbers:

(i) 2614028-();

(ii) 2614029-();

(iii) 2614076-();

(iv) 2614077-();

(v) 2619019-();

(vi) 2619020-().

Note For Cessna 208 and 208B, 2 or 3 place Rear Bench Seats (2614045-() or 2619017-(), IPC Ref 25-21-01), Stowable Seats (2614041-(), ATFS1-01, IPC Ref. 25-21-02) and non-factory seats not meeting FAR 23.562 (AMDT. 23-36), TSO-C127 or TSO-C127a, are not approved for ASETPA operations.

16.2 Each passenger seat must be equipped with a shoulder harness.

Part 2 Operator and aircraft maintenance organisation requirements

1 Training

The maintenance organisation must provide maintenance personnel with training on the concept of ASETPA standards and application of its requirements.

2 Maintenance

The aeroplane must be maintained in accordance with an approved SOM and a reliability program designed in accordance with AC 42-3(0), as existing on 18 June 2018.

Appendix 3

Directions for the issue and completion of maintenance releases

Part 1 Compliance requirements

1 Application

This Appendix applies to each of the following persons:

(a) a person authorised to issue maintenance releases in accordance with regulation 43 of CAR;

(b) a person entering an endorsement on the maintenance release in accordance with regulation 47 of CAR;

(c) a person making a certification in accordance with regulation 48 of CAR in respect of an endorsement;

(d) a person making a daily inspection certification or a pilot making the last flight of the day;

(e) any other person who is not covered in paragraphs (a) to (d), who is responsible for completing Part 1 of the maintenance release.

Note 1 For paragraph (c), entering a clearing endorsement in the maintenance release for a corresponding endorsement will be treated as making a certification for that endorsement.

Note 2 For paragraph (c), a pilot may only make a clearing endorsement in the maintenance release if the rectification action required to clear the endorsement is maintenance that the pilot is permitted to carry out under paragraph 42ZC (3) (d), or subregulation 42ZC (4) and Schedule 8 of CAR.

2 Definitions

In this Appendix:

MR means the maintenance release form approved by CASA at Attachment 1 to this Appendix, which is identifiable by a unique 6-digit serial number prefixed by a capitalised letter, and comprising of Parts 1, 2 and 3, including any supplementary pages attached in accordance with clause 8 of this Appendix.

3 Directions

3.1 The person mentioned in paragraph 1 (a) is directed to comply with:

(a) clause 4 of this Appendix before signing and issuing an MR for an aircraft; and

(b) clause 5 of this Appendix when completing Part 1 of an MR for an aircraft; and

(c) clause 6 of this Appendix when completing Part 2 of an MR for an aircraft.

3.2 The person mentioned in paragraph 1 (b) is directed to comply with:

(a) clause 5 of this Appendix when completing Part 1 of an MR for an aircraft; and

(b) clause 6 of this Appendix when completing Part 2 of an MR for an aircraft.

3.3 The person mentioned in paragraph 1 (c) is directed to comply with clause 6 of this Appendix when completing Part 2 of an MR for an aircraft.

3.4 The person mentioned in paragraph 1 (d) is directed to comply with clause 7 of this Appendix when making a daily inspection certification or recording aircraft time-in-service for Part 3 of an MR for an aircraft.

3.5 The person mentioned in paragraph 1 (e) is directed to comply with clause 5 of this Appendix when completing Part 1 of an MR for an aircraft.

Part 2 Maintenance release requirements

4 Issue of a maintenance release

4.1 Before signing and issuing an MR, the person must ensure that:

(a) immediately after the completion of the nominated maintenance release inspection:

(i) all data related to aircraft component changes, which have been certified on the expired maintenance release, have been transferred to the appropriate maintenance record pages in the aircraft log book; and

(ii) any Major Assembly History Cards (CASA Form 956 or subsequent issue) and Component History Cards (CASA Form 946 or subsequent issue) relating to components that were replaced during the period that the expired maintenance release was in force have been transferred to the aircraft log book; and

(b) each of the following entries, endorsements or ticks are entered on Part 1 of the MR:

(i) the aircraft type and registration;

(ii) the date, and total time-in-service of the aircraft, at which the MR expires;

(iii) the name and certificate number of the authorised person issuing the MR;

(iv) the total time-in-service of the aircraft at the time of issue of the MR;

(v) the time, date and place of issue of the MR;

(vi) the signature and licence/maintenance authority number of the authorised person signing the maintenance release;

(vii) if the aircraft is:

(A) equipped and is approved in the flight manual for I.F.R. flight — tick the "IFR" check box; and

(B) not equipped and is not approved in the flight manual for I.F.R. flight — tick the "VFR Night" check box, or the "VFR Day" check box, as appropriate;

(viii) if an aircraft is an aeroplane that is intended to be operated in an aerial application operation conducted at night and the aeroplane is not equipped and certificated under Part 21 of CASR for night V.F.R. flight:

(A) strike through or crosshatch out the box containing the "IFR", "VFR Night" and "VFR Day" check boxes; and

(B) enter the following words in the "operational category" box: "Application Operation – Night";

(ix) the highest operational category of the aircraft of the following, where the category in (A) is the lowest category and the category in (D) is the highest category:

(A) private;

(B) flight training under Part 141 or Part 142 of CASR;

(C) aerial work;

(D) charter;

(x) if an aircraft is approved for I.F.R. flight in the aircraft's flight manual and, at the time of the issue of the maintenance release, the aircraft has not been maintained to the I.F.R.-specific periodic inspection requirements set out in Schedule 5 of CAR, the manufacturer's maintenance schedule or the approved SOM (as the case requires) — state: "Aircraft limited to V.F.R. flight until I.F.R. inspections certified" in Part 1 as a condition of the MR;

(xi) if the aircraft referred to in subparagraph (x) is subsequently restored to the I.F.R. maintenance standard and the maintenance inspection is entered and certified in the aircraft log book — a clearing endorsement in Part 1 after the maintenance inspection is entered and certified for in the aircraft log book;

(xii) in the "Maintenance required" column — other than daily and line inspections and maintenance release inspections, all requirements and conditions under CAR and the CAOs that will require maintenance to be carried out on the aircraft during the period that the maintenance release is to remain in force, including the total time-in-service of the aircraft or the date (as applicable) by which the maintenance or inspection must be carried out;

(xiii) in the "Maintenance required" column — permissible unserviceabilities (MEL item) or conditions carried forward from the previous maintenance release.

4.2 For subparagraphs 4.1 (b) (xii) and (xiii), the person may use a computer printout to detail the required maintenance for the period during which the maintenance release is to remain in force, but must ensure that:

(a) the computer printout is securely attached to the MR; and

(b) the computer printout is updated in a timely manner so that a pilot is aware of whether any maintenance is due before commencing a flight or will become due during a flight.

5 Part 1 of the maintenance release

When completing Part 1 of an MR, the person must:

(a) enter each of the following in the column titled "Maintenance required":

(i) other than daily inspections and maintenance release inspections, all scheduled maintenance required under CAR to be carried out on the aircraft before the maintenance release expiry date or before a specified total time-in-service for the aircraft, whichever is the earlier;

(ii) endorsements related to permissible unserviceabilities (refer to subregulation 43 (10) and regulation 49 of CAR);

(iii) endorsements related to conditions, including maintenance flight tests (refer to subregulation 43 (9) and regulations 44 and 49 of CAR); and

(b) enter clearing endorsements and certify, in the column titled "Complied with, entered & certified in Log Book or Part 2 of MR", for the completion of, or compliance with, each of the following:

(i) any scheduled maintenance entered in Part 1 of the MR;

(ii) any maintenance to clear a permissible unserviceability entered in Part 1 of the MR;

(iii) any maintenance to clear a condition entered in Part 1 of the MR;

(iv) any Airworthiness Directives entered as maintenance required in Part 1 of the MR.

Note 1 For subparagraph (a) (i), a computer printout of required maintenance may be attached to Part 1.

Note 2 Subparagraphs (a) (ii) and (a) (iii) are requirements if a new maintenance requirement becomes applicable after the maintenance release has been issued.

6 Part 2 of the maintenance release

When completing Part 2 of an MR, the person must:

(a) in the column titled "Endorsements" — enter any endorsements required to be entered under the regulations, including the following:

(i) defects and major damage for regulation 50 of CAR;

(ii) a statement that the aircraft is unairworthy for regulation 47 of CAR;

(iii) any requirement for a maintenance flight test of the aircraft, aircraft component or item of equipment fitted to the aircraft, the serviceability of which can only be established by a flight test; and

Note Subparagraph (a) (iii) refers only to circumstances where certification has been made for the completion of maintenance which may have adversely affected the flight or operating characteristics of the aircraft.

(b) sign and date each endorsement entered by the person; and

(c) when clearing an endorsement:

(i) in the column titled "Clearing endorsements" — record brief details of the maintenance, or record a reference to a log book entry or approved maintenance document; and

(ii) in the column titled "Clearing signature, licence/authority no. and date" — certify clearance of the endorsement by entering the person's signature, date of the clearance and either the person's pilot licence number, AME licence number or airworthiness authority number.

Note 1 For paragraph (c), a signature in the column titled "Clearing signature, licence/authority no. and date" indicates that all the aircraft maintenance records and certifications for the completion of maintenance have been completed and will be taken to constitute certification for regulation 42ZE of CAR.

Note 2 For paragraph (c), maintenance release inspections and all other maintenance that requires a co-ordination certification must be entered and certified in the aircraft log book — refer to Part 3 (Certification of co-ordination of maintenance) and Part 4 (Final certification) of Schedule 6 of CAR.

7 Part 3 of the maintenance release

When completing Part 3 of an MR, the person must:

(a) if signing for completion of the daily inspection:

(i) enter the person's signature in the column titled "Signature" and enter their pilot licence or AME licence number in the column titled "Licence no."; and

(ii) make the signature and entry before the aircraft is first flown on a day; and

(b) if making the last flight of a day in an aircraft:

(i) enter in the column titled "Flight time" the number of hours flown during that day; and

(ii) enter in the column titled "Progressive total" the aircraft total time-in-service as the number of hours in the previous entry of the column plus the number of hours entered for subparagraph (i); and

(iii) if any of the 3 subcolumns under the column titled "Cycle Totals, e.g. Landing/Start Pressurisation" are being used to record aircraft or aircraft component cycles (such as pressurisation/landings etc.), hours of aerial application operations or hours of aerobatic operations — make an entry updating the total in the subcolumns as applicable having regard to the flights of the aircraft on the day; and

(iv) make the entries after the last flight of a day and before the aircraft is next flown.

8 Supplementary pages of maintenance release

If there is insufficient space to record entries in Part 1, 2 or 3 of an MR, any Part of the MR may be extended by attaching supplementary pages if:

(a) the supplementary pages are either a photocopy of the relevant Part or a blank page drawn up to replicate the columns and headings of the Part; and

(b) a notation is made at the bottom of each extended Part and each supplementary page of that Part stating that a supplementary page is attached; and

(c) each supplementary page is identified with the unique serial number for the MR mentioned in Part 1 of the MR; and

(d) each supplementary page is securely attached to the MR.

Attachment 1 to Appendix 3

Note 1 See clause 5 of Appendix 3 for instructions on completing Part 1 of this maintenance release.

Note 2 A computer printout of required maintenance may be securely attached to Part 1 of this maintenance release.

Note 3 See clause 8 of Appendix 3 on attaching supplementary pages if there is insufficient space.

Australian Government
Civil Aviation Safety Authority

Maintenance Release A
Civil Aviation Regulation 43

Part 1

EXPIRES
____/____/____ (Date) OR _____ (Aircraft TTIS)

Aircraft Type _____ VH- _____

This Maintenance Release has been issued by virtue of Regulation 43(1) of the Civil Aviation Regulations and except where it ceases to be in force by virtue of Regulation 45 or Regulation 47 of the Civil Aviation Regulations shall remain in force until the expiry date or aircraft time in service shown **whichever is the earlier.**

Issued by	Aircraft total time in service at issue	Time	Date	Place

Signed	AME licence/authority no.		Operational Category
		☐ IFR ☐ VFR Night ☐ VFR Day	

Maintenance requirements - The following maintenance, in addition to daily inspections, is required to be carried out on the aircraft during the period for which this Maintenance Release is expressed to remain in force, in order to comply with requirements or conditions imposed under the Civil Aviation Regulations.

Schedules/System of Maintenance applicable to this aircraft: _____

Item no.	Maintenance required	Due at date/ Aircraft TTIS	Complied with, entered & certified in Log Book or Part 2 of MR	Date

Item no.	Maintenance required	Due at date/ Aircraft TTIS	Complied with, entered & certified in Log Book or Part 2 of MR	Date

Authorised Version F2021C01280 registered 14/12/2021

Attachment 1 to Appendix 3

Note 1 See clause 6 of Appendix 3 for instructions on completing Part 2 of this maintenance release.

Note 2 See clause 8 of Appendix 3 on attaching supplementary pages if there is insufficient space.

Part 2

Item no.	Endorsements	Date, signature and licence no.	Item no.	Clearing endorsements	Clearing signature, licence/authority no. and date

A signature in Part 2 of this Maintenance Release certifying for the completion of maintenance shall constitute a certification required by Civil Aviation Regulation 42ZE.

Attachment 1 to Appendix 3

Note 1 See clause 7 of Appendix 3 for instructions on completing Part 3 of this maintenance release.

Note 2 See clause 8 of Appendix 3 on attaching supplementary pages if there is insufficient space.

DAILY INSPECTION CERTIFICATIONS AND AIRCRAFT TIME-IN-SERVICE Part 3

Date	Daily Inspection Certification (Pilot, LAME, MA)		Aircraft Time in Service				Cycle Totals, e.g. Landing/Start Pressurisation		
			Flight Time		Progressive Total				
	Signature	Licence no.	Hrs	Min	Hrs	Min	L		
		Brought Forward:							

Date	Daily Inspection Certification (Pilot, LAME, MA)		Aircraft Time in Service				Cycle Totals, e.g. Landing/Start Pressurisation		
			Flight Time		Progressive Total				
	Signature	Licence no.	Hrs	Min	Hrs	Min	L		
		Brought Forward:							

A signature in Part 3 of this Maintenance Release certifying for the completion of maintenance shall constitute a certification required by Civil Aviation Regulation 42ZE

Notes to *Civil Aviation Order 100.5 (General requirements in respect of maintenance of Australian aircraft) 2011*

Note 1

The Civil Aviation Order (in force under the *Civil Aviation Regulations 1988*) as shown in this compilation comprises Civil Aviation Order 100.5 amended as indicated in the Tables below.

Table of Orders

Year and number	Date of notification in *Gazette*/ registration on FRLI	Date of commencement	Application, saving or transitional provisions
CAO 2004 No. R83	23 December 2004	23 December 2004 (s. 2)	
CAO 100.5 2008 No. 1	FRLI 27 March 2008 (F2008L00598)	28 March 2008 (s. 2)	
CAO 100.5 2011 No. 1	FRLI 22 June 2011 (F2011L01193)	27 June 2011 (s. 2)	
CAO 100.5 2012 No. 1	FRLI 6 February 2012 (F2012L00171)	7 February 2012 (s. 2 and *Gazette* 2012, No. S14)	
CAO 100.5 2012 No. 2	FRLI 6 February 2012 (F2012L00175)	7 February 2012 (s. 2 and *Gazette* 2012, No. S15)	
CAO 100.5 2012 No. 3	FRLI 14 September 2012 (F2012L01872)	15 September 2012 (s. 2)	
CAO 100.5 2013 No. 1	FRLI 8 July 2013 (F2013L01330)	1 August 2013 (s. 2 and *Gazette* notice C2013G01042)	
as amended by			
CAO 100.5 2013 No. 2[	FRLI 31 July 2013 (F2013L01486)	1 August 2013, immediately before the commencement of CAO 100.5 Amdt. Instrument 2013 (No. 1) (s. 2 and *Gazette* notice C2013G01180)	
CAO 100.5 2013 No. 3	FRLI 10 December 2013 (F2013L02068)	10 December 2013 (s. 2)	
CAO (Flight Crew Licensing) Repeal and Amendment Instrument 2014 (No. 1)	29 August 2014 (F2014L01177)	1 September 2014 (s. 2)	Sections 3 and 31 (Table A)
CAO 100.5 2015 No. 1	FRLI 22 December 2015 (F2015L02102)	22 December 2015 (s. 2)	
CAO 100.5 2018 No. 1	FRLI 17 October 2018 (F2018L01436)	18 October 2018 (s. 2)	
Civil Aviation Order (Flight Operations) Repeal and Amendment Instrument 2021 (No. 1)	FRL 1 December 2021 (F2021L01680)	2 December 2021 (s. 2)	

Table of Amendments

ad. = added or inserted am. = amended rep. = repealed rs.= repealed and substituted

Provision affected	How affected
s. 100.5	rs. CAO 2004 No. R83
Enacting words	am. F2021L01680
s. 1	rep. CAO 100.5 2011 No. 1
s. 1A	ad. CAO 100.5 2011 No. 1 rs. CAO 100.5 2018 No. 1
s. 2 (renumbered s. 1B)	CAO 100.5 2011 No. 1, rep. CAO 100.5 2018 No. 1
s. 3	rep. CAO 100.5 2011 No. 1
Schedule heading	rep. CAO 100.5 2011 No. 1
CAO title	rep. CAO 100.5 2011 No. 1
subs. 1	am. CAO 100.5 2013 No. 1, CAO 100.5 2018 No. 1
subs. 2	am. CAO 100.5 2015 No. 1 rs. CAO 100.5 2018 No. 1 am. F2021L01680
subs. 2A	ad. CAO 100.5 2015 No. 1 am. CAO 100.5 2018 No. 1, F2021L01680
subs. 3	am. CAO 100.5 2012 No. 3, CAO 100.5 2018 No. 1
subs. 4	rs. CAO 100.5 2012 No. 3 am. CAO 100.5 2018 No. 1
subs. 5	am. CAO 100.5 2018 No. 1
subs. 5A	ad. CAO 100.5 2018 No. 1
subs. 6	am. CAO 100.5 2018 No. 1
subs. 7	am. CAO 100.5 2015 No. 1, CAO 100.5 2018 No. 1
subs. 7AA	ad. CAO 100.5 2018 No. 1
subs. 7A	ad. CAO 100.5 2011 No. 1 rs. CAO 100.5 2012 No. 1 am. CAO 100.5 2018 No. 1
subs. 8	am. CAO 100.5 2013 No. 3, CAO 100.5 2018 No. 1
subs. 8A	ad. CAO 100.5 2012 No. 2 am. CAO 100.5 2018 No. 1
subs. 9	am. CAO 100.5 2013 No. 1 (as rs. by CAO 100.5 2013 No. 2), CAO 100.5 2018 No. 1
subs. 9A	ad. CAO 100.5 2008 No. 1 am. CAO (Flight Crew Licensing) Repeal and Amendment Instrument 2014 (No. 1) rs. CAO 100.5 2018 No. 1
subs. 10	rs. CAO 100.5 2012 No. 3; CAO 100.5 2015 No. 1 am. CAO 100.5 2018 No. 1 rs. F2021L01680
subs. 11	ad. CAO 100.5 2013 No. 1 am. CAO 100.5 2015 No. 1 rs. CAO 100.5 2018 No. 1
subs. 12	ad. CAO 100.5 2013 No. 1 (as am. by CAO 100.5 2013 No. 2) rs. CAO 100.5 2018 No. 1
subs. 13	ad. CAO 100.5 2015 No. 1 rep. CAO 100.5 2018 No. 1
subs. 14	ad. CAO 100.5 2015 No. 1 am. CAO 100.5 2018 No. 1

Table of Amendments

ad. = added or inserted am. = amended rep. = repealed rs.= repealed and substituted

Provision affected	How affected
Appendix 1	ad. CAO 100.5 2013 No. 1 am. CAO 100.5 2015 No. 1, CAO 100.5 2018 No. 1
Attachment 1 to Appendix 1	ad. CAO 100.5 2013 No. 1
Appendix 2	ad. CAO 100.5 2015 No. 1 am. CAO 100.5 2018 No. 1, F2021L01680
Appendix 3	ad. CAO 100.5 2018 No. 1
Attachment 1 to Appendix 3	ad. CAO 100.5 2018 No. 1

Table A Application, saving or transitional provisions

Sections 3 and 31 of Civil Aviation Order (Flight Crew Licensing) Repeal and Amendment Instrument 2014 (No. 1) read as follows:

3 Definitions

(1) In this instrument:

continued authorisation has the meaning given by regulation 202.261 of the *Civil Aviation Safety Regulations 1998* (***CASR 1998***).

new authorisation has the meaning given by regulation 202.261 of CASR 1998.

(2) A reference in this instrument to a Civil Aviation Order identified by a specified number is taken to include a reference to the section of the Civil Aviation Orders with that number.

Note Some existing legislative instruments are referred to as a Civil Aviation Order followed by a number. Other instruments are referred to as a section of the Civil Aviation Orders. For consistency, in this instrument, all such instruments are referred to as a Civil Aviation Order followed by a number. For example, a reference to Civil Aviation Order 40.2.2 is taken to include a reference to section 40.2.2 of the Civil Aviation Orders.

31 Transitional — application of Civil Aviation Orders

The Civil Aviation Orders apply to a continued authorisation as if it were the equivalent new authorisation.