



# 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*.

This compilation was prepared on 21 November 2011 taking into account amendments up to *Civil Aviation Order 100.5 Amendment Instrument 2011 (No. 1)*.

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#### **1A Name of instrument**

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

#### **1B Commencement**

This Order commences on gazettal.

#### **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.
- 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 Interpretation

2.1 In this section, unless the contrary intention appears:

***time-in-service***, in relation to an aircraft, means the time from when the aircraft leaves the ground on a flight until it touches the ground for the purpose of landing at the end of the flight.

***time-in-service***, in relation to an aircraft component, means the time during which a component is installed in an aircraft, being the time commencing from the moment the aircraft leaves the ground on a flight and ending when it touches the ground for the purpose of landing at the end of the flight.

***Regulations*** means the *Civil Aviation Regulations 1988*.

## 3 Aircraft log books

3.1 For the purposes of subregulation 50A (2) of the Regulations, 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 bound and sequentially numbered.

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

*Note* CASA has approved the following log books for class B aircraft as being acceptable documents for the recording of the aircraft's details, maintenance control and certification for maintenance:

- (a) for an aircraft — a CA 9, 9A, DA 9 or the CAA Loose Leaf Log Book;
- (b) for an aircraft engine — a CA 10, 10A, DA 10 or the Engine Section of the CAA Loose Leaf Log Book;
- (c) for an aircraft propeller — a CA 32, DA 32 or the Propeller Maintenance Certification Log Section of the CAA Loose Leaf Log Book.

#### **4 Alternative to aircraft log book**

- 4.1 For the purposes of subregulation 50B (2) of the Regulations, an approval of an alternative to an aircraft log book is subject to the condition that the instructions set out in paragraphs 3.2 and 3.3 must be complied with in relation to the alternative to an aircraft log book.
- 4.2 In the application of paragraphs 3.2 and 3.3 to an alternative to a log book, references in those paragraphs to an aircraft log book are to be read as references to an alternative to an aircraft log book.

#### **5 Retention of aircraft maintenance records**

- 5.1 For the purposes of subregulation 50C (1) of the Regulations, CASA directs that aircraft maintenance records must be retained in accordance with paragraph 5.2.
- 5.2 Aircraft maintenance records must be retained for the following periods:
  - (a) in the case of an aircraft log book — a period of 1 year commencing immediately after the aircraft's operating life has ended or the aircraft has been permanently removed from the Register of Australian Aircraft;
  - (b) in the case of an engine log book — a period of 1 year commencing immediately after the engine has been permanently withdrawn from use;
  - (c) in the case of a propeller log book — a period of 1 year commencing immediately after the propeller has been permanently withdrawn from use;
  - (d) in the case of a Major Assembly History Card and Component History Card — until certification is made for the next overhaul following the last overhaul or a period of 1 year commencing immediately after the component has been permanently withdrawn from use, as the case requires;
  - (e) in the case of a maintenance release — a period of 1 year commencing after the aircraft's operating life has ended or the aircraft has been permanently removed from the Register of Australian Aircraft, as the case requires;
  - (f) 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;
  - (g) 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.
- 5.3 If an Australian aircraft is exported from Australia the aircraft's maintenance records must accompany the aircraft.

#### **6 Maintenance releases for class A aircraft**

- 6.1 For the purposes of subregulation 43 (1) of the Regulations, 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 the Regulations, 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 certificate of approval holders 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 certificate of approval holder 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 the Regulations and Orders 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.

## **7 Maintenance releases for class B aircraft**

- 7.1 For the purposes of subregulation 43 (1) of the Regulations, CASA directs that the maintenance release for a class B aircraft is the CAA Maintenance Release Form DA741 or an alternative that is approved by CASA.
- 7.2 Subject to regulation 47 of the Regulations 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 CAA Maintenance Schedule.
- 7.4 Before a maintenance release for a class B 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;
- and the person must be present during the time the maintenance release inspection is being performed.
- 7.5 The person signing the maintenance release must ensure that the following information is recorded on the maintenance release at the time it is issued:
- (a) the information referred to in paragraph 6.5;
  - (b) for private class B aircraft being maintained annually to the CASA Maintenance Schedule — all calendar time maintenance due for the next 12 months and a reasonable estimate, based on the aircraft’s operating cycle, of maintenance due on a time-in-service basis.
- 7.6 The information required under subparagraph 7.5 (b) must be recorded in the “Maintenance Required” section of the maintenance release.

## **7A Maintenance certification for composite structures maintenance**

7A.1 In this subsection:

**CAR 30 maintenance organisation** means an organisation engaged in the maintenance of aircraft, aircraft components or aircraft materials, that is, the holder of a current certificate of approval to carry out maintenance, issued under regulation 30 of CAR 1988.

**CAR 1988** means the *Civil Aviation Regulations 1988*.

**CASR 1998** means the *Civil Aviation Safety Regulations 1998*.

**composite maintenance** means maintenance of an aircraft’s composite structures.

**composite structure aircraft** means an aircraft containing fibre reinforced plastic composite structures.

**maintenance certification** means a certification under regulation 42ZE of CAR 1988 for the completion of maintenance.

- 7A.2 A CAR 30 maintenance organisation may only allow its licensed aircraft maintenance engineers to provide a maintenance certification for the completion of composite maintenance, if they:
- (a) hold a category B1 licence issued under Part 66 of CASR 1998; and
  - (b) are qualified in accordance with paragraph 7A.3.
- 7A.3 Composite maintenance on the aircraft specified in Table 1 must be carried out by:
- (a) the holder of an Airframe Group 7 rating, as described in Civil Aviation Order 100.91, that was current immediately before 27 June 2011; or
  - (b) by the holder of one of the following qualifications:
    - (i) AQTF qualification MEA405B;
    - (ii) a Transport Canada AME licence endorsed with an “S” rating;
    - (iii) a New Zealand B1 category AME licence endorsed with a Group 4 rating;
    - (iv) any other aircraft composite structures qualification approved in writing by CASA as a suitable qualification for composite maintenance.
- 7A.4 To avoid any doubt, a person referred to in paragraph 42ZC (4) (b) of CAR 1988 must not carry out either composite maintenance or the maintenance referred to in Schedule 7 to CAR 1988.

**Table 1 — List of composite structure aircraft**

Aerodesign Pulsar	Extra 300/300S	Quickie Q1/Q2 Series
Buchanan BAC 204	Grob 520 Egrett	Quickie 200
Cirrus SR20/SR22	Grob G115	Rand KR2
CoZ Cosy	Gyroflug SCO1B-160	Rutan Defiant
Diamond DA 40	HOAC DV 20 Katana/ Diamond DA 20A1	Rutan Long Eze
Diamond DA 42	III SkyArrow 650	Rutan Vari Eze
Diamond DV22/DA22	Jabiru LSA	Stoddard Hamilton Glasair Series
Diamond HK-36	Lancair/Columbia Series	Stoddard Hamilton Glastar
Eagle X/XTS Series	Liberty XL2	Tecnam P92

## 8 Inadequate maintenance schedules

- 8.1 For the purposes of subregulation 42A (6) of the Regulations, 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;	de Havilland DH89 (Dragon Rapide);
Aero L40;	de Havilland DH90 (Dragonfly);
Aero L200A;	Fairchild 24;
Aero Commander 500 (excluding the 500S model);	Junkers A50;
Auster, all aircraft;	Klemm, all aircraft;
Avro, all aircraft;	Lockheed L-12;
Beagle Airedale;	Percival Gull;
Beagle Terrier;	Percival Proctor;
Beechcraft 17;	Piaggio P166;
Beechcraft 18;	Piper J2;
Beechcraft 50;	Piper J3;
British Aircraft Manufacturing Co.	Piper PA11;
Swallow;	Piper Colt;
Callair A9;	Piper Tripacer;
Chrislea CH 3-4;	Piper PA23 Apache;
De Havilland DH60 (Moth);	Piper PA25 Pawnee;
de Havilland DH82 (Tiger Moth);	Porterfield, all aircraft;
de Havilland DH 84 (Dragon);	SAAB 91;
de Havilland DH87 (Hornet Moth);	Stinson, all aircraft;
	Waco, all aircraft.

*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 the Regulations.

## **9 Replacement of time-lifed components**

- 9.1 For the purposes of subregulation 38 (1) of the Regulations, CASA directs each person who is the holder of the certificate of registration for an Australian aircraft to comply with the requirement specified in the Airworthiness Limitation Section of the maintenance manual of the aircraft for which the person is the holder of the certificate of registration.

## **9A Electronic navigational databases**

- 9A.1 The pilot in command of an aircraft may update the navigation system database of the Global Navigation Satellite System (*GNSS*) of an aircraft on the following conditions:
- (a) he or she must be authorised under Civil Aviation Order 40.2.1 to use the GNSS;
  - (b) he or she must satisfy all the requirements in paragraph 13.7 of Civil Aviation Order 40.2.1;
  - (c) he or she may only use data that is supplied by an organisation that is approved in writing by CASA to provide the data;
  - (d) he or she may update the navigation database system only if it involves the insertion into the navigation data unit of a data card, a disk or a similar device;
  - (e) he or she must ensure that the update of the navigation database system is carried out in accordance with the instructions of the manufacturer of the GNSS navigation equipment.

## **10 Notice of events**

- 10.1 For the purposes of subregulation 30B (1) of the Regulations, CASA requires each person who is the holder of the certificate of approval issued under regulation 30 to notify CASA, in writing, if any of the following events occur in relation to the certificate of approval:
- (a) there is a change, or a proposed change, to:
    - (i) the holder's identity; or
    - (ii) the holder's place of business or location where activities relating to the certificate are carried out; or
    - (iii) the holder's registered office address; or
    - (iv) the address to which communications under the Regulations may be sent;
  - (b) the holder permanently ceases to engage in any or all of the activities for which the certificate was granted;
  - (c) the holder is unable, for any reason, to carry out the activities for which the certificate was granted.
- 10.2 The notice required by paragraph 10.1 must be given to CASA within 14 days of the happening of the event specified in paragraph 10.1.

## Maintenance control manual

*Note* Regulation 42ZV of the Regulations provides that the operator of a class A aircraft must ensure that the operator's maintenance control manual is complied with. This manual must describe the procedures that are in place to control the performance of all maintenance activities on the aircraft.

*Note* The manual must identify the aircraft to which it relates, the Certificate of Registration holder of the aircraft, the aircraft's system of maintenance and maintenance control procedures.

*Note* CASA has produced CAAP 42ZV-1 which provides guidance for compiling a maintenance control manual and provides a description of maintenance control procedures.

## 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 <i>Gazette</i> / registration on FRLI	Date of commencement	Application, saving or transitional provisions
CAO 2004 No. R83	23 December 2004	23 December 2004 (see s. 2)	
CAO 100.5 2008 No. 1	FRLI 27 March 2008 (see F2008L00598)	28 March 2008 (see s. 2)	
CAO 100.5 2011 No. 1	FRLI 22 June 2011 (see F2011L01193)	27 June 2011 (see 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
s. 1 .....	rs. CAO 100.5 2011 No. 1
s. 2 (renumbered s. 1B).....	CAO 100.5 2011 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. 7A.....	ad. CAO 100.5 2011 No. 1
subs. 9A.....	ad. CAO 100.5 2008 No. 1