



**Civil Aviation Advisory
Publication**

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CAAPs provide guidance, interpretation and explanation on complying with the Civil Aviation Regulations (CAR) or Civil Aviation Orders (CAO).

This CAAP provides advisory information to the aviation industry in support of a particular CAR or CAO. Ordinarily, the CAAP will provide additional ‘how to’ information not found in the source CAR, or elsewhere.

A CAAP is not intended to clarify the intent of a CAR, which must be clear from a reading of the regulation itself, nor may the CAAP contain mandatory requirements not contained in legislation.

Note: Read this advisory publication in conjunction with the appropriate reg

Contents

1. Acronyms	2
2. Introduction	2
3. Aircraft Log Books	2
4. Alternate to Aircraft Log Book or Section of Aircraft Log Book	3
5. General	3
6. Contents of an aircraft log book	3
7. Contents of an engine log book	5
8. Contents of a propeller log book	6
9. Major assembly and component history cards	6
10. Log book instructions	6
11. Alternate to aircraft log book – instructions	7

Aircraft Log Books and Alternate to Aircraft Log Books

Relevant regulations and other references

This publication should be read in conjunction with regulations 50A and 50B of the *Civil Aviation Regulations 1988* (CAR 1988) and Civil Aviation Order (CAO) 100.5.

This CAAP will be of interest to

This Civil Aviation Advisory Publication (CAAP) applies to holders of Licenced Aircraft Maintenance Engineers (LAME) licences, Certification of Registration (CoR) for class A and B Australian Aircraft and Regulation 30 of CAR 1988 Certificates of Approval for aircraft and aeronautical product maintenance.

Why this publication was written

This CAAP provides guidance about Aircraft Log Books and the development of an alternative to the aircraft log book as described within Sections 3 and 4 of CAO 100.5 – *Aircraft Log Books*.

Compliance with this CAAP will enable log books and alternatives to an aircraft log book to meet the regulatory requirements.

Log books that comply with this CAAP do not need to be submitted to CASA for approval however; a proposed alternative to a log book or section of a log book needs to be submitted to CASA for approval. If proposed alternatives meet the outcomes described in this CAAP then CASA would normally approve the alternative to a log book or section of a log book without change.

Status of this CAAP

This CAAP replaces CAAP 50B-1(0) dated March 1992 and incorporates new references in relation to CAR 50A, as well as updated issues under CAR 50B. The CAAP describes current CASA policy regarding approval of Aircraft Log Books.

For further information

For application and policy advice contact CASA’s Airworthiness Engineering Branch (Telephone 131 757).

1. Acronyms

AD	Airworthiness Directive
CAAP	Civil Aviation Advisory Publication
CAO	Civil Aviation Order
CAR	Civil Aviation Regulations 1988
CASA	Civil Aviation Safety Authority
CoR	Certificate of Registration
IFR	Instrument Flight Rules

2. Introduction

2.1 This publication describes a method of complying with the directions given under Regulations 50A and 50B of CAR 1988 and is advisory only.

2.2 CAR 1998 set out the legal requirements that must be complied with in relation to the subject matter of this publication. There may be a number of ways of ensuring that the requirements of the CARs are met. This publication sets out the method that is preferred and will ensure compliance with the regulations. However, before using the information in this publication the user should always read the CARs listed in the reference section below to ensure compliance with the legal obligations of the CARs.

3. Aircraft Log books

3.1 Subregulation 50A (1) of CAR 1988 specifies that a CoR holder for an Australian aircraft must keep an aircraft log book and make it available to the Civil Aviation Safety Authority (CASA) and relevant maintainers. The aircraft log book being referred is of a kind that is a physical book.

3.2 CASA has issued written instructions about the contents of an aircraft log book within Section 3 of CAO 100.5 a copy of which is detailed below. Paragraph 3.2 of CAO 100.5 says an aircraft log 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 IFR operations, VFR (Day) operations or VFR (Night) operations;
- (b) identify the aircraft's maintenance program (including details of maintenance release inspections);
- (c) identify any approved variations or exemptions to the aircraft's maintenance schedules;
- (d) have provision for the recording and certification of maintenance carried out on the aircraft;
- (e) have provision for the recording and certification of maintenance carried out on the aircraft's engine and, if applicable, the propeller;
- (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;
- (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;
- (h) contain a record of compliance with all applicable Airworthiness Directive (AD), including a record of the date and time-in-service of the compliance;
- (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 together in a way that protects each page from inadvertent misplacement, loss or removal.

3.3 Any book or sections of book that meets and contains the requirements of paragraph 3.2 of CAO 100.5 is an aircraft log book and does not require any specific approval by CASA.

3.4 By way of example, there are some engine log books that are provided by the original equipment manufacturer designed to be used for the recording and certification of engine maintenance. If such a an aircraft log book section provided for the requirements listed in paragraph 3.2 of CAO 100.5, then that section of the aircraft log book would not require any specific approval from CASA.

4. Alternate to aircraft log book or section of aircraft log book

4.1 Regulation 50B of CAR 1988 allows the CoR holder of an Australian aircraft to produce an alternative to an aircraft log book or section of an aircraft log book. Such alternatives must provide equivalent records to the aircraft log book or its sections.

4.2 By way of example some organisations use computer software, card systems or other databases to maintain the information required within an aircraft log. Irrespective of the alternative used, it must still meet the relevant requirements specified in paragraph 3.2 of CAO 100.5 and be approved by CASA.

5. General

5.1 An aircraft log book may be used to assist with performing a number of aircraft maintenance control functions, including:

- as a maintenance record:
 - airworthiness requirements and the leading particulars of the aircraft;
 - a record of all maintenance, modifications, repairs and rectifications that have been performed on the aircraft; and
 - a record of AD compliance;
- in the airworthiness control function it identifies:
 - the maintenance schedules applicable to the aircraft;
 - all applicable ADs and when they are due for compliance;
 - all time-lifed components fitted to the aircraft and when they are due for retirement or overhaul; and
 - all recurring maintenance required outside the normal maintenance schedules.

5.2 A ring binder may be utilised for the retention of the Log Book Statements, expired Maintenance Releases and any Major Assembly or Component History Cards.

5.3 To ensure a continuous record is kept of all work performed on the aircraft and the security of those pages, all pages containing certifications will be required to be control numbered for example page 2 of 3 pages.

6. Contents of an aircraft log book

6.1 The first section of the log book should identify the aircraft and its leading particulars including the following information:

- the name of the constructor, the type and model of the aircraft, the manufacturer's serial number for the aircraft and the year of construction of the aircraft;

- the make and type of the engine or engines fitted to the aircraft;
- the make and type of the propeller or propellers fitted to the aircraft;
- the nationality and registration mark of the aircraft;
- the name and address of the CoR holder;
- the aircraft radio equipment fit, VFR (day), VFR (night) or IFR;
- the operational category of the aircraft, i.e. aerial work, private or charter;
- reference to the aircraft's maintenance schedule;
- an approval box, where approval by the Authority is required for the aircraft's system of maintenance;
- the identity of the maintenance release inspection and the calendar period and time-in-service between maintenance release inspections;
- approved variations to the maintenance schedule;
- any airworthiness exemptions granted; and
- a certification, by the CoR holder, that the log book meets all the requirements of Section 3 or 4 of CAO 100.5.

6.2 The next section should provide for the recording and certification of all maintenance, modifications, repairs and rectifications to the aircraft. This section needs to comply with the certification requirements of Schedule 6 of CAR 1988 which include:

- Certification of completion of stages of maintenance and inspections under subregulation 42G (2) of CAR 1988;
- Certification of co-ordination of maintenance; and
- Final certification.

6.3 Certifications identify the following:

- the date the work being certified was performed;
- time-in-service of the aircraft at the time the work was performed;
- details of the work performed; and
- the certification relative to the entry.

6.4 A record of engine and propeller installation details will also be required to be kept. This record will contain the following details of the installation or removal:

- the date of the installation and removal;
- the total time-in-service of the aircraft at installation and removal;
- the time-since-new or the time-since-overhaul of the engine at installation;
- the serial number of the engine or propeller; and
- the aircraft time-in-service that the engine is due for removal.

6.5 A record of the replacement or removal of time-lifed components will be required to be kept. This record will contain the following details:

- the date of the replacement and removal of the component;
- the total time-in-service of the aircraft at installation and removal;
- the time-since-new or the time-since-overhaul of the replacement component;
- a identity, part number and serial number of the replaced or removed component; and
- the aircraft time-in-service that the component is due for removal.

6.6 A record of the compliance with all applicable AD, recurring or non-recurring and the date or time-in-service of the compliance must be maintained. For maintenance planning purposes and ease of research, recurring ADs should be separated from non-recurring.

6.7 It is permissible to have provision for the certification of compliance with an AD incorporated in the record.

6.8 A summary of changes to the empty weight of the aircraft will be required to ensure that any modifications or repairs to the aircraft do not exceed the Centre of Gravity limits specified in the aircraft flight manual.

7. Contents of an engine log book

7.1 A separate removable section of the aircraft log book is normally utilised to cover the provisions of Section 3 of CAO 100.5 in relation to the engine. A removable section facilitates the transfer of all information pertinent to the engine to organisations involved in the overhaul of that engine. It is recommended that all certifications relating to work performed on the engine, including scheduled maintenance, be entered in the engine section.

7.2 The engine section of the log book must identify the engine and its leading particulars and include the following:

- the name of the manufacturer, the type and model of the engine and the manufacturer's serial number for the engine;
- the name and address of the certificate of registration holder;
- any airworthiness exemptions granted;
- an engine installation and removal record, including:
 - the registration mark of the aircraft that the engine is fitted to;
 - the date of the installation and removal;
 - the position of the engine on the aircraft;
 - the engine time-since-new or the time-since-overhaul at the installation and removal;
 - the aircraft total time-in-service at the installation and removal; and
 - the aircraft total time-in-service that the engine is due for removal;
- the engine overhaul period, or for modular turbine engines, the overhaul periods for each module;
- certification pages identifying:
 - the date the work being certified was performed;
 - time-in-service of the engine at the time the work was performed;
 - details of the work performed; and
 - the certification relative to the entry;
- an engine component change record including:
 - the date of the replacement and removal of the component;
 - the total time-in-service of the aircraft at installation and removal;
 - the time-since-new or the time-since-overhaul of the replacement component;
 - an identity, part number and serial number of the replaced or removed component;
 - the aircraft time-in-service that the component is due for removal; and
- an AD and modification compliance record.

8. Contents of a propeller log book

8.1 A separate removable section of the aircraft log book is normally utilised to cover the provisions of Section 3 of CAO 100.5 in relation to the constant speed propeller. A removable section facilitates the transfer of all information pertinent to the propeller to organisations involved in the overhaul of that propeller. It is recommended that all certifications relating to work performed on the propeller be entered in this section.

8.2 The propeller section of the log book should identify the propeller and its leading particulars and include the following:

- the name of the manufacturer, the type and model of the propeller and the manufacturer's serial number for the propeller hub and blades;
- the year the propeller was manufactured;
- the propeller blade drawing number;
- the propeller diameter;
- the direction of rotation of the propeller;
- the high and low basic pitch settings;
- any airworthiness exemptions granted;
- the propeller overhaul period;
- the propeller diameter;
- the propeller blade reference station;
- certification pages identifying:
 - the date the work being certified was performed;
 - time-in-service of the propeller at the time the work was performed;
 - details of the work performed; and
 - the certification relative to the entry; and
- an AD and modification compliance record.

9. Major assembly and component history cards

9.1 As the Major Assembly History Card and the Component History Card are acceptable documents for the supply of components it is essential that provision be made in the log book for their incorporation.

9.2 These history cards should be kept in the back of the log book and are to accompany the major assembly or component when they are removed from the aircraft.

9.3 The instructions for the use of Major Assembly and Component History Card are to be complied with while that card is incorporated in the log book.

10. Log book instructions

10.1 The following list of instructions will ensure that aircraft log books retain an auditable trail and remain an airworthiness control tool:

- All entries in the log book are to be legible and made by pen in blue or black ink. This allows photo-copying of log book entries as other colours do not reproduce.
- No log book entry is to be obliterated or erased by any means.
- The use of correction fluid is not permitted.

- An incorrect entry shall be identified as such and shall be signed and dated by the person making the correction. Their licence/authority number must be recorded with their signature.
- Incorrect entries shall only be corrected by a person who is licensed or authorised to certify for the type of maintenance the incorrect entry relates to.
- Expired maintenance releases shall be inserted into and retained as a permanent part of the log book.
- Attachments are permitted in the aircraft and engine sections of this log book for entries such as major repairs, modifications, engine overhaul or computer generated entries etc.:
 - Such attachments shall bear the aircraft registration marks or the engine serial number as applicable, and will become a permanent part of that section of the log book.
 - Each entry must be securely attached to a log book page which includes a certified endorsement stating:
 - an entry is attached;
 - the type of maintenance carried out;
 - the name of the organisation performing the maintenance;
 - the job number; and
 - the date.
- Where the fitting of a lifed component has been certified on the Maintenance Release the fitted components 'Component History Card' or 'Major Assembly History Card', must be transferred to the aircraft's log book before the issue of the next Maintenance Release.

11. Alternate to aircraft log book - instructions

11.1 Where an alternate to Aircraft Log Book is approved by CASA the same outcomes for that alternate as that required for the aircraft log book in Section 10 of this CAAP, will be required for the approval by CASA. For example, a proposed alternate to the aircraft log book, such as computer software, would need to be able to produce reports that contain a legible and complete record, is capable of tracking changes or prevents alterations, details the sequence of maintenance etc.

Executive Manager
Standards Division

July 2012

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Australian Government
Civil Aviation Safety Authority

I, JOHN FRANCIS McCORMICK, Director of Aviation Safety, on behalf of CASA, make this instrument under regulations 5, 50A and 50B of the *Civil Aviation Regulations 1988 (CAR 1988)*.

John F. McCormick
Director of Aviation Safety

Date 2012

Civil Aviation Order 100.5 Amendment Instrument 2012 (No. x)

1 Name of instrument

This instrument is the *Civil Aviation Order 100.5 Amendment Instrument 2012 (No. x)*.

2 Commencement

This instrument commences on the day after registration.

3 Amendment of Civil Aviation Order 100.5

Schedule 1 amends *Civil Aviation Order 100.5 (General requirements in respect of maintenance of Australian aircraft) 2011*.

Schedule 1 Amendments

[1] Subparagraph 3.2 (j)

substitute

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

[2] Paragraph 3.3, the Note

substitute

Note If an aircraft log book fully complies with the requirements of paragraphs 3.2 and 3.3, there is no requirement that it be submitted to CASA for approval. It must, however, 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.

[3] Subsection 4

substitute

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; and
 - (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 log book which incorporate certification pages managed in accordance with a secure system which sequentially numbers each page and protects it from the following:
 - (i) any inadvertent misplacement, loss or removal;
 - (ii) any inadvertent deletion or amendment;
 - (iii) any deletion or amendment that is not immediately visible on the face of the document.
 - (iv) any deletion or amendment that renders the previous version illegible.
- Note* Under subsection 50B (5) of CAR 1988, 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 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.

[4] Subsection 10

substitute

10 Notice of events

Note Subsection 10 Notice of events, was made under regulation 30B of CAR 1988. Schedule 2 of the *Civil Aviation and Civil Aviation Safety Amendment Regulations 2011 (No. 2)* (SLI 2011 No. 77) repealed regulation 30B of CAR 1988, thereby also repealing subsection 10. The notification obligations of certificate of approval holders are now contained in Part 11 of the *Civil Aviation Safety Regulations 1998*; see for example, regulations 11.070 to 11.074. This Note is for information only and is not intended to have any effect on any obligations under CAO 100.5 or CASR 1998.