



CAAP 30-3(0) Approved Maintenance Organisation — Limited Category Aircraft

This publication is only advisory but it gives the CASA preferred method for complying with the Civil Aviation Regulations 1988 (CAR 1988).

It is not the only method, but experience has shown that if you follow this method you will comply with CAR 1988.

Always read this advice in conjunction with the appropriate regulations.

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References

Any reference to a CAR is a reference to CAR 1988.

Who this CAAP applies to

Approved Maintenance Organisations (AMO) responsible for the restoration and maintenance of ex-military aircraft (limited category aircraft).

Why this CAAP was written

This CAAP provides guidance to satisfy CAR 30 for AMOs wishing to carry out maintenance on limited category aircraft..

Status of this CAAP

This is the first issue of this CAAP.

For further information

Contact the CASA Area Office closest to you.

1. Introduction

1.1 To meet their obligations CAR 30 applicants applying for approval to maintain the limited category and experimental ex-military aircraft will be required to demonstrate that they have the appropriate facilities, data, tooling and qualified persons. Paragraph 2 of this document provides guidance for a maintenance organisation in meeting these requirements.

2. Approval for maintenance and recommendation for renewal

2.1 CAR 30 does not require an AMO to have a procedures manual for class B aircraft maintenance, however; to ensure that maintenance is carried out to a consistent and safe standard it is strongly recommended that an AMO has a procedures manual in place.

2.2 This paragraph provides guidance to applicants for approval to maintain limited category (ex-military) aircraft. The guidance does not impose additional obligations on maintenance organisations over and above those required for the maintenance of type-certificated aircraft. The standards that CASA would expect are as follows:

- (a) The facilities are appropriate for the type of aircraft and the type of maintenance being proposed by the AMO to be carried out. This requirement is no different from any other maintenance activity.
- (b) The minimum aircraft maintenance data that CASA would expect to be held by the AMO will be that data identified in the aircraft's approved maintenance program.
- (c) CASA would expect the AMO to hold, or have available to it, any special tooling identified in the aircraft's maintenance data that would be required to conduct the approved activities. It is accepted that not every item identified will be necessary and that existing equipment for aircraft maintenance may be substituted as long as that equipment is suitable for the purpose.
- (d) The qualifications held by the AMO's employees will vary from aircraft type to aircraft type. Typically maintenance of aircraft with a Permit Index of 0 or 1 would be covered within existing appropriate LAME or specific Maintenance Authority coverage and for Permit Index 2 or 3 aircraft a Maintenance Authority would be issued. There will, obviously, be variations to this with regards to qualifications, depending on aircraft complexity.

Note: Advice may be sought from the Maintenance Standards Branch for the Index 2 and 3 aircraft.

- (e) The establishment of a procedure for provision and the acceptance of aircraft components or spares giving due regard to their source, condition, traceability and serviceability status. This is regarded as necessary because of the age of the majority of these aircraft and the fact that manufacturer's support does not exist for many of these aircraft.

Note: Approval of instructions under subregulation 2A(4) of CAR 1988 may be required where no manufacturer or military instructions exist.

- (f) The establishment of a recording system related to CASA authorisations to staff for certifying aircraft maintenance and the authorisations of staff certifying for maintenance of aeronautical products. This is considered helpful in ensuring that qualifications are renewed as appropriate thus ensuring that all maintenance has been correctly certified.
- (g) The arrangements for the necessary training, and recurrency, for all staff certifying for carrying out critical work upon the aircraft, particularly in relation to turbine powered aircraft. This is an existing CAR 30 obligation and is intended to ensure that persons involved in the maintenance activities are fully aware, and remains aware, of the maintenance requirements and needs for these aircraft.
- (h) The establishment of a Quality Assurance System controlled by a suitable member of the AMO to carry out audits of the relevant company procedures and products. As with any maintenance activity a sound and effective quality system will ensure that all activities are carried out efficiently and effectively thus contributing to safety.

2.3 CASA would expect that where relevant the applicant be able to demonstrate that arrangements have been made to maintain and safely operate, as applicable but not limited to, such features as:

- (a) Ejector seats;
- (b) Pilots Parachute and Personal Survival Packs;
- (c) Liquid or gaseous oxygen systems;
- (d) Brake arresting parachutes;
- (e) Explosive and pyrotechnic systems; and
- (f) Externally mounted fuel tanks.

2.4 Where an AMO does not have the capability for the repair or overhaul of components (including powerplant) fitted to the aircraft then the AMO will need to have appropriate arrangements in place for those overhauls and repairs. Such an arrangement may take the form of an agreement with another AMO that has been approved by CASA for that purpose.

2.5 As the support for the majority of these aircraft will not be provided by the manufacturer or military service, it is highly recommended that the AMO has in place the services of appropriate CAR 35 Authorised Persons to assist with the development and approval of modification and repair data. It is also highly recommended that CAR 42S Authorised Persons that also hold CAR 2A delegation be available to assist with changes to the aircraft's maintenance programs and maintenance data.

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APPENDIX 1

Ex-Military Aircraft Maintenance Organisation Manual General Guide

1. Introduction

This Appendix is intended as a general guide to the compilation of a procedures manual. Reference should be made to Appendices 2 and 3, as appropriate, for additional manual content. An organisation already approved for maintenance activities will need to address only those items not already included in their manual.

1.1 Minimum acceptable requirements for compiling a manual are not prescribed in these Appendices, but a manual based on their content would be acceptable to CASA,

1. The Manual should be produced in a concise form, and its scope, insofar as it applies to the approval sought, should include:

- (a) a description of the AMO's premises, and facilities;
- (b) detail of the senior staff responsibilities;
- (c) the procedures in use to ensure compliance with CASA requirements; and
- (d) the AMO's quality system. It is recommended that the Manual be presented in loose-leaf form, so that it may be readily amended.

1.3 A manual cannot be completed until the relevant approval requirements have been satisfied, and it must be in its final draft before approval by CASA, and before the terms of approval can be granted. CASA staff will discuss the AMO's preliminary drafts during their visit(s) in order to agree the final content.

1.4 The Manual will form the basis of the CASA approval of the AMO and should be written under the following headings:

- (a) Identification of the Manual (see 2. 1).
- (b) Introduction (see 2.2).
- (c) Premises and undertakings of the AMO related to CASA approval (see 2.3)
- (d) Terms of approval (see 2.4).
- (e) Personnel (see 2.5). (Appendix 3 (1))
- (f) Facilities (see 2.6).
- (g) Procedures (see 2.7). (Appendix 2 and 3)

2. Basic Requirements For A Manual

2.1 Identification

The manual should be identified as follows:

- (a) Company name, document title and reference number.
- (b) Amendment standard by issue number/ date/ amendment record.
- (c) Approval by the owner of the organization (accountable manager).
- (d) Holders of the manual, i.e. distribution list
- (e) Official title of person responsible for administration of the manual.
- (f) Contents List or Index.

(f) List of Effective Pages

2.2 Introduction

The introduction should explain the purpose of the manual for the guidance of the AMO's own personnel, and should give general information concerning the AMO's history and development, in order to provide background information to CASA. Where appropriate, relationships with other AMOs, forming part of the same group, should be mentioned.

2.3 AMO's Premises and Undertakings

Brief details of premises should be included; addresses, contact details (phone numbers, fax numbers, email addresses etc.) approximate floor space, and types of buildings. The scope of the AMO's maintenance activities, at the various premises, should be defined.

2.4 Terms of Approval

The Manual will form the basis of CASA approval. A concise definition of the work authorised will be prescribed in the CASA approval. It is recommended that a copy of the CASA certificate is included in the manual.

2.5 Personnel

2.5.1 This section of the manual should nominate the responsible persons giving their terms of reference within the AMO, and, in particular, outlining any responsibilities for liaison with CASA. As individual personnel requirements will differ depending on the scope of the approval, reference should be made to the relevant paragraphs of either Appendix 2 or 3. A diagram, or diagrams, showing chains of responsibility of nominated departmental heads, and senior technical personnel up to the accountable manager, should be included. These diagrams should also indicate, by suitable means, and/or written description, how technical co-ordination throughout the AMO is affected.

2.5.2 The AMO should nominate the key Authorised Person(s) that are to support its operation. For consistency it is recommended that these persons should be engaged under a formal agreement with the AMO, with details of their terms of reference as senior members of the AMO provided within the manual.

2.6 Facilities

This section should provide information concerning the AMO's technical facilities and associated essential equipment, which will vary according to the type(s) of activity involved and the specific terms of approval sought.

2.6.1 Under the section devoted to facilities, information under the headings given below, should be included, where applicable. If there is a good deal of detailed information the use of appendices is recommended.

- (a) Maintenance, Overhaul and Repair.
- (b) Storage.
- (c) Publications and Library.
- (d) Technical Records.

2.6.2 The headings should be varied to suit the size of the AMO and its activities.

2.7 Procedures

Depending on the scope of the approval, individual procedures will differ. The headings below are examples of the procedures that may also need to be covered in the manual:

- (a) modification procedures;
 - (b) concession procedures;
 - (c) defect investigation;
 - (d) maintenance program/schedule control;
 - (e) technical records;
 - (f) technical publications control, including Service Bulletin procedures;
 - (g) test flight procedures;
 - (h) training;
 - (i) appendices, giving examples of:
 - (i) standard forms, cross-referenced to the written procedures section;
 - (ii) tags indicating the purpose and use of each;
 - (iii) inspection stamps, and other identification symbols used to indicate status of parts; and
 - (iv) approved certificate and/or test certificate.
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APPENDIX 2

Ex-Military Aircraft — Additional Information

1. Continued Airworthiness Support/Information

The more complex the aircraft, the more necessary it will be to have adequate technical/design expertise of the type in order to maintain the level of continued airworthiness support. It may not be possible for AMOs to retain a full time design staff of adequate capability to cover initial approval of a given aircraft. In these cases adequate arrangements should exist to cover initial approval and continued support of each aircraft.

2. Modification made by the AMO

2.1 In general the normal CASA procedure will apply. The approval granted does not confer approval of any activity to design or seek approval for major modifications on this class of aircraft. Minor modifications to aircraft or components are required to be submitted either to a CAR 35 authorised person or the local CASA Engineering Support Office, along with technical justification, to substantiate such change.

2.2 Significant changes to the aircraft in terms of powerplant changes, propeller type, alternative material specifications or equipment changes (to ensure that the aircraft is equipped to a standard acceptable to CASA for the intended purpose) may be the subject of major modification action, but all such applications should be discussed with CASA. If the AMO wishes to undertake such work they should make application for CASA approval, but approval may require additional personnel with specialist qualifications and experience.

2.3 While the aircraft should conform as closely as possible to the (Military) Type Design Standard in respect of which the safety record has been accepted, it is recognised that the operator may wish to embody modifications in order to simplify operation of the aircraft (such as replacement of non-standard oxygen supply connectors with NATO standard connectors). The AMO's manual will include a procedure whereby; such modifications are identified, defined and submitted to CAR 35 authorised person for approval (these may form part of a submission for initial approval of an aircraft). Such modifications are to be adequately defined on modification sheets to include drawings, circuit diagrams and changes to Pilots Notes showing effect on limitations and operation, and justification.

Notes

- (1) *In the event that the initial basis of acceptance of an aircraft into service is not known in detail, the justification for approval of such a modification is subject to a design advice to CASA.*
- (2) *Material substitution during manufacture of replacement parts; or any repairs not identifiably made in accordance with the military or manufacturer's repair manuals, constitute modifications which must be properly approved.*

3 Technical Records

The AMO will keep permanent records covering the maintenance of each aircraft. Such records include detailed modification state, fatigue audit (including copies of salient records confirming individual assembly fatigue lives), civil modification definitions and justifications, test reports, weight reports and schedule, radio equipment list and test report, and the CAR 35 authorised person reports.

APPENDIX 3

Ex-Military Aircraft Approval — Additional Information

1. PERSONNEL AND STAFF

1.1 The AMO should nominate the key engineering staff that are to support its operation. These staff should be employed under a formal agreement with the AMO and the staff member concerned with details of their terms of reference as senior members of the AMO provided in the AMO's Procedures Manual.

1.2 The AMO should have at least one staff member who is nominated as a senior engineer and who holds CASA AME licences or maintenance authorities appropriate to the aircraft to be maintained.

1.3 Additional part time staff, or volunteers may be used to provide additional resources providing there are in existence suitable control procedures within the AMO manual. A form of agreement should be raised which gives detailed terms of reference in writing to the staff member or volunteer.

2 PROCEDURES

2.1 Inspection and Certification

2.1.1 The AMO should ensure all the maintenance and defect rectification is recorded and certified by the appropriate staff with details of the necessary action taken.

2.1.2 It is expected that the normal aviation practices for the documenting of maintenance checks and recording defects with subsequent rectification will satisfy this requirement.

2.1.3 Maintenance check sheets should provide information of the amendment status of the maintenance program when work is certified. A work records control system should be established to show the status of completion of work at any time and be readily capable of review.

2.2 Spares Procurement

2.2.1 All the required spare parts and components procured for this type of aircraft should, wherever possible, be obtained from original sources or through known and reputable distributors.

2.2.2 Where items are obtained via Military, or other related sources these items should be inspected and evaluated with regard to physical condition, life details, completeness of records, modification status and compatibility to aircraft serial number by the AMO purchasing the item. Acceptance of the item following such inspection should be assessed and recorded by a certifying engineer prior in fitment. This procedure should be reflected in the AMO's Procedures Manual.

2.2.3 During the assessment of a component's condition, consideration must also be given to the need to carry out an internal examination to assess the effects of age and corrosion. It may be necessary to carry out a strip investigation, partial or full, if the component's condition cannot be readily assessed by other means, e.g. boroscopes, NDI etc.

2.2.4 Structural components, forging and castings should be inspected for condition, damage and age related deterioration, with consideration given to utilising NDI techniques to assist such an inspection. Whenever possible the military or manufacturers advice should be sought.

2.2.5 Engines, propellers and gearboxes should be overhauled prior to their initial fitment to the aircraft except where the item's service history and current status is known and documented. The overhaul should be carried out by an appropriately approved overhaul facility or under an arrangement with a facility acceptable to CASA.

Note: Advice may be sought from the General Aviation/Aerialwork Maintenance Section of CASA's Maintenance Standards Branch.

2.2.6 Standard Parts. Standard aircraft hardware such as fasteners, e.g. nuts and bolts, should be purchased from normal aviation sources. These should conform to the specified part number in the manufacturer's maintenance information. Where this information differs from the current specifications for those items in civil use, acceptance via a certificate of conformity showing equivalence will suffice.

2.2.7 Where items are no longer manufactured or available from known sources, caution should be exercised on the acceptance of items unless their serviceability can readily be determined by inspection and/or overhaul. The use of alternative parts in the overhaul or maintenance of aircraft or components is only permitted when supported by the agreement of the manufacturer or a CAR 35/36 Authorised Person, through modification action, or where agreed in individual circumstances with CASA.

2.3 Manufacture In The Course Of Maintenance

2.3.1 The manufacture of non-critical parts may be permitted subject to the AMO having the necessary drawings and facilities, equipment, etc. where the part is intended to be produced only for an aircraft supported by the AMO.

2.3.2 Major structural items should be manufactured under the control of an APMA, to the required specifications and original drawings, unless agreed otherwise in advance by CASA. Any deviation in material specification, heat treatment or manufacturing process will need to be supported by technical justification from a suitably qualified CAR 35 authorised person and a prepared case should be submitted in the form of a design advice to CASA.

2.3.3 Manufacture to pattern is normally prohibited, however, specific items may be agreed by CASA.

2.4 Modifications

2.4.1 Normal CASA procedure will apply, minor modifications to aircraft or components are required to be submitted either to a CAR 35 authorised person or CASA for approval.

2.4.2 Significant changes to the aircraft in terms of powerplant changes, propeller type, alternative material specifications or equipment changes may be the subject of major modification action, but all such applications should be discussed with CASA in the first instance.

2.5 Flight Test Arrangements.

The AMO will have a procedure with the aircraft's operator covering conduct of the necessary flight-testing of the aircraft.

2.6 Additional location Control

2.6.1 Where the AMO intends to carry out activities at sites other than the main site of the approval but remaining under the control of the basic AMO, the additional locations will be considered as additional locations for approval purposes. The additional locations should be

environmentally suitable for the needs of the operations to be carried out and defined in the manual. Short-term agreements for additional locations may be arranged by letter with the local CASA Office and may be subject to any special conditions that are deemed necessary.

2.6.2 The term additional location is not intended to include activities associated with line (ramp) maintenance support of the aircraft during normal operations. Repairs or scheduled maintenance away from base may require to be reflected in a short-term agreement as above.

3 TECHNICAL RECORDS

3.1 Technical records shall be maintained and shall be such that proper correlation of all work carried out is established with relevant documents including the following, as appropriate:

- (a) customer's order;
- (b) aircraft, engine or part;
- (c) relevant standards/specifications;
- (d) stores records;
- (e) test and inspection records including a record of each identified (i.e. by serial number) component and item of equipment; and
- (f) maintenance releases issued.

3.2 Essential records will be required to be maintained in accordance with CAO 100.5.
