



NOTICE OF PROPOSED DASR AMENDMENT

NPA 01/2020

CERTIFICATION OF MAINTENANCE

INTRODUCTION

Applicability

1. This proposal is applicable to all Continuing Airworthiness Management Organisations (CAMO) and DASR 145 Maintenance Organisations involved in the Certification of Maintenance on Defence aircraft.

Purpose

2. The purpose of this NPA is to clarify the intent of the current DASR 145.A.50 Certification of Maintenance and related regulations.

3. The proposed amendments are expected to:

- a. simplify Acceptable Means of Compliance (AMC) and Guidance Material (GM) relating to the certification of maintenance
- b. remove references to the Australian-unique term 'maintenance certification' introduced in AMC and GM that has become a source of confusion to the Defence community

4. The benefits flowing from the proposal are expected to:

- a. result in improved clarity on compliance with the DASR intent regarding the certification of maintenance
- b. provide CAMOs and DASR 145 Maintenance Organisations a defensible and agile framework for the certification of maintenance

Background

5. The current AMC and GM relating to certification of maintenance was adopted during the initial drafting of DASR to assist the Defence aviation community in transitioning to the new regulatory suite. Much of the content was informed by the equivalent CASA regulations and is not reflected by similar inclusions within EASA Regulations or European Military Aviation Requirements (EMAR). In line with DASA regulatory strategy, continuing airworthiness regulations are moving towards closer alignment with EMAR. This will be achieved through review and reduction of existing Australian-unique content, where practicable.

6. The Australian-unique content identified in this NPA is perceived by the regulated community to be overly prescriptive, confusing and does not provide the added safety outcomes expected. A number of organisations have been unable to comply with their approved processes for certification of maintenance without introducing additional procedures to support the established maintenance management and recording systems. This has led to the issue of Findings of non-compliance against DASR requirements in relation to their certification of maintenance processes.

7. Since DASR was introduced in Sep 2016, understanding of the regulatory principles with respect to the certification of maintenance has significantly matured. The proposed changes are expected to improve clarity on DASR compliance requirements and provide regulated entities greater flexibility in meeting DASR requirements.

Proposed Amendment

8. The proposed rewording and removal of AMC and GM to CA is presented at Annexes A through D. This amendment removes a significant amount of Australian-unique text to more closely align with the EMAR certification of maintenance requirements. In particular, content which introduces 'maintenance certification' or that reiterates the regulation will be removed.

Implementation Strategy

9. The proposed AMC and GM is intended to be released by DASA in the Oct 2020 release. Training material on certification of maintenance will be revised in conjunction with the respective DASR release. Amendment of this AMC and GM does not change the primary regulation or the compliance requirements. The adoption of this AMC and GM enables better outcomes for approved organisations certification of maintenance. The choice to adopt the AMC and GM in order to meet compliance requirements of DASR remains that of the CAMO or DASR 145 respectively.

10. On incorporation of the changes proposed in this NPA, DASA will cancel the extant Advisory Circular 006/2018 *Certificate of Release to Service Responsibilities for Maintenance Organisations and CAMOs*. A new advisory circular will be released concurrently to address certification of maintenance holistically. A draft of the new advisory circular is enclosed.

HOW TO SUBMIT COMMENTS ON THIS NPA

Format

11. Responses to this NPA are to be recorded on the NPA Response Sheet included at Annex E. Responses are to be submitted by email to DASA.DASR and chris.davies@defence.gov.au. Hardcopies of the NPA Comment Sheet are not required.

Timing

12. Comments on NPA 01/2020 are to be forwarded to DASA by close of business on 01 Aug 20.

Additional Information

13. Additional information concerning this NPA is available from Deputy Director Regulations and Strategic Data Analysis, LTCOL Chris Davies: chris.davies@defence.gov.au or (03) 9622 2761.

DISPOSITION OF RESPONSES RECEIVED

14. A Summary of Responses will be prepared and published on the [DASA Website](#). DASA will not individually acknowledge or respond to comments or submissions.

SN SKINNER
CAPT, RAN
DCA DASA

Tel: (03) 9282 3465

29 Jun 20

Annexes:

- A. NPA 01/2020 - Proposed Changes to DASR M AMC
- B. NPA 01/2020 - Proposed Changes to DASR Part 145 AMC and GM
- C. NPA 01/2020 - Proposed Changes to DASR Part 66 AMC
- D. NPA 01/2020 - Proposed Changes to DASR Glossary
- E. NPA 01/2020 - Response Sheet

Enclosure:

- 1. AC 005/2020 - CERTIFICATION OF MAINTENANCE – DASR 145 AND CAMO RESPONSABILITIES

NPA 01/2020

PROPOSED CHANGES TO DASR M – AMC

Appendix XIV to AMC 302(d)(3) para 17

- 'maintenance certification' to be replaced with task 'sign-off and CRS'
- Correct typographical error in title

Amend text as below:

Appendix XIV to AMC **M.A.302(d)(3)** para 17

17. Testing methods are functional tests referenced in maintenance documentation that provide error detection opportunities before ~~maintenance certification~~ task 'sign-off' and CRS. The effectiveness of a testing method as a barrier is affected by factors such as whether the test is autonomous, requires human intervention (initiation), is affected by failures of indications and displays, are continuous or intermittently run, or the test procedure itself is affected by human factors such as interpreting indications, counting drops etc. Examples of valid testing methods includes but is not limited to:

- functional tests that generate system/error fault indications,
- functional tests that validate correct sense, operating limits or conformance with design,
- physical leak checks,
- Initiated Built-in Test (IBIT),
- Periodic Built-in Test (PBIT), ie fault indication not immediately evident.

AMC M.A.710(a)(8) Airworthiness review (AUS)

- to be deleted in toto.

Delete the below content:

AMC M.A.710(a)(8) Airworthiness review (AUS)

MAINTENANCE CERTIFICATION

Examine a sample of 10 maintenance records to determine whether the maintenance certifications have been performed in accordance with DASR M.A. Subpart H --Certification of Release to Service (CRS) (AUS). The sampling should cover a range of maintenance carried out in the past 12 months.

CERTIFICATE OF RELEASE TO SERVICE

Examine the current certificate of release to service for the aircraft to determine whether the certificate has been issued in accordance DASR M.A. Subpart H.

NPA 01/2020

PROPOSED CHANGES TO DASR 145.A.50 – AMC AND GM

AMC2 145.A.50(a)

- to be deleted in toto

Delete the content below:

AMC2 145.A.50(a) Certification of maintenance (AUS)

An acceptable system of certification will be procedures detailed or referenced in the Maintenance Organisation Exposition (MOE) which show how the organisation provides for the certification requirements outlined in DASR 145 including performance of maintenance certifications and the issue of a Certificate of Release to Service (CRS).

All aircraft maintenance carried out will be covered by a maintenance Certification, performed by certifying employees qualified and authorised by the organisation in accordance with DASR 145.

A CRS will be issued following all maintenance of aircraft and components in accordance with DASR M. All aircraft CRS will be made in the technical log in accordance with DASR M.

Where an organisation requires the use of Category A Licence holders under provisions of subparagraph [DASR 145.A.30\(g\)](#), the organisation's system of certification will specify procedures and limitations applied to such certifying employees with respect to:

- training assessment and authorisation of individuals;
- performance of maintenance tasks and maintenance certifications; and
- issue of a CRS.

Where an organisation requires the use of specialist maintenance qualified employees under the provisions of paragraph DASR 145.A.30(f), the organisation's system of certification will specify procedures and limitations applied to such certifying employees with respect to:

- training assessment and authorisation of individuals; and
- performance of maintenance tasks and maintenance certifications.

The procedures will show, where an airworthiness determination is required to be made regarding an aircraft following specialist maintenance, such an airworthiness determination will be made by a Category B qualified certifying employee.

AMC3 145.A.50(a)

- to be deleted in toto

Delete the content below:

AMC3 145.A.50(a) Certificate of Release to Service and Authorised Release Certificate (AUS)

The normal form required for use for the CRS for components is the authorised release certificate known as DASR Form 1. The purpose of the CRS is to declare the serviceability of components following maintenance by an approved organisation. The DASR Form 1 is the primary form of CRS for a component that has been maintained by an approved organisation. This form must be used unless there is an approved alternative in-house release document for the organisation included in its Exposition.

The DASR Form 1 does not constitute approval to install the item on a particular aircraft or component, but helps the end user determine its airworthiness approval status. The Authorised Release Certificate is not a delivery or shipping note and aircraft are not to be released using the DASR Form 1.

AMC4 145.A.50(a)

- to be deleted in toto

Delete the content below:

AMC4 145.A.50(a) Certificate of Release to Service In-house Release Document (AUS)

An AMO may use an approved in-house release document if it is included in the AMOs Exposition, which specifies how the approved in-house release document meets all the requirements of DASR 145.A.50. The in-house release document does not constitute approval to install the item on a particular aircraft or component, but helps the end user determine its airworthiness approval status.

GM 145.A.50(a)

- to be deleted in toto

Delete the content below:

GM 145.A.50(a) Certification of maintenance (AUS)

The organisation should develop a system of certification that includes provisions for compliance of various regulatory requirements such as:

- training, assessment, qualification and authorisation of employees;
- maintenance certification and Certificate of Release to Service (CRS) requirement;
- work card or worksheet requirements; and

- procedures to show how maintenance records are made, how they are made available to the operator of an aircraft, and how copies of the maintenance records are retained.

To facilitate correct function of its system of certification, the organisation should train and authorise personnel to carry out maintenance on its behalf and sign for that maintenance after its completion or after completion to a stage of the maintenance. The organisation's system of certification may incorporate standards for various levels of authorisation as well as a description of the worksheet and records processes used. Where individuals are authorised to carry out maintenance, the individual must have been assessed by the organisation in accordance with DASR 145.

The provisions of DASR 145 for individuals approved for carrying out of maintenance are as follows, Regulation:

- [DASR 145.A.35](#) approves individuals to carry out maintenance on behalf of the AMO of an aircraft for which the organisation holds an approval to maintain;
- [DASR 145.A.30](#) requires an organisation to ensure that any individual who carries out maintenance on its behalf (either aircraft or component maintenance) is assessed as competent to carry out the maintenance, or is supervised by an individual who is assessed as competent;
- DASR 145.A.50 requires that an individual must not perform a maintenance certification for maintenance on behalf of an AMO unless he or she is a certifying employee of the organisation whose certification authorisation permits him or her to perform the certification and he or she either carried out the maintenance, or supervised the maintenance; and
- DASR 145.A.50 requires that an individual must not perform a maintenance certification unless he or she has ensured that the maintenance has been carried out in accordance with DASR 145 and the information required by regulation [DASR 145.A.55](#) and [DASR M.A.305](#) has been recorded.

For the performance of maintenance certification after aircraft maintenance, an organisation must authorise employees that are Licensed in accordance with [DASR 145.A.30](#) or for specialist maintenance certifying employees, qualified to a standard acceptable to the NMAA.

National Equivalent: For the issue of Aircraft CRS, when working under 'National Equivalent', employees must be appropriately qualified and authorised.

DASR 66: For the issue of Aircraft CRS, when working under DASR 66, employees must be DASR 66 License holders holding:

- for Line Maintenance, a Category B Licence for the aircraft or Category A Licence if required by the AMO; and
- for Base Maintenance, a Category C Licence for the aircraft.

The system of certification should provide an effective trail of accountability to show which employee carried out maintenance, who issued maintenance certifications and CRS, including the authorisation identification numbers of the employees involved; the date of the accomplishments and the maintenance data used.

Specialist maintenance certifying employees are particularly trained and qualified in the specialist field and may not have a holistic understanding of the interrelationship of an aircraft's systems, or airworthiness implications that the work may have, which a maintenance certification licence holder should have. For this reason the maintenance certification for specialist maintenance work will only be for the scope of the specialist maintenance and is not intended to cover work or airworthiness determinations normally performed and certified for by a Part 66 or national equivalent licence holder, nor can the organisation authorise an employee to issue a CRS predicated on the specialist maintenance qualification.

Following specialised service tasks, where an airworthiness determination is required to be made regarding an aircraft, such an airworthiness determination should be made by appropriate Category B licenced or equivalent certifying staff. The intent of a specialised service certification is to provide assurance that the specialised service carried out was completed to the standards required. The serviceability or unserviceability of an aircraft is determined by the Category B certifying staff or equivalent, based on the specialised service results and ICA including maintenance data.

The system of certification should incorporate all legislative requirements for work cards or worksheets, and enable effective completion of operators own worksheet systems if they are required to be utilised. This may include the ability for the organisations supplementary work card or defect reports to be appended to an operators task cards.

A component that has been maintained whilst not fitted to the aircraft requires the issue of a CRS for that maintenance and the aircraft requires a CRS for the installation of the component on the aircraft when that occurs.

Table 1 – Maintenance Certification Overview

FUNCTION	DASR 145 MAINTENANCE ORGANISATION	
Perform Maintenance / Task Sign Off	<p>DASR 145.A.48 requires that all maintenance shall be performed by qualified personnel, following the methods, techniques, standards, and instructions specified in the DASR 145.A.45 maintenance data.</p> <p>DASR 145.A.30(e) requires the maintenance organisation to establish and control the competence of personnel involved in any maintenance on aircraft or components. Mechanics who perform maintenance shall be appropriately qualified on the basis of appropriate competence, training and experience in accordance with a procedure contained in the MOE and developed with consideration to the guidance at DASR GM2 145.A.30(e). Mechanics are able to perform maintenance tasks to any standard specified in the maintenance data and should notify supervisors of defects or mistakes requiring rectification to re-establish required maintenance standards allowing them to sign for a task prior to maintenance certification – DASR AMC1 145.A.30(e).</p>	
Maintenance Certification	<p>DASR AMC2 145.A.50(a) - All aircraft maintenance carried out will be covered by a Maintenance Certification, performed by certifying employees qualified and authorised by the organisation in accordance with DASR 145.</p> <p>Maintenance certification attests that a competent and authorised person has determined that maintenance has been properly carried out to the required standard. Maintenance certification is undertaken by DASR 66 Certifying staff or specialist maintenance staff (see Glossary). Personnel who issue maintenance certification shall be appropriately qualified as Category A, B1, B2, B1 Support, B2 Support or specialist maintenance staff.</p>	
Certificate of Release to Service (CRS) for Aircraft	<p>DASR 145.A.50(b) requires that a CRS for aircraft shall be issued before flight at the completion of any maintenance.</p> <p>CRS following Line maintenance:</p> <p>A CRS may be issued by an authorised Category A licence holder if they have personally performed all maintenance; or by authorised Category B1/B2 licence holders. The licence holders may only issue the CRS if their licences have the appropriate privileges.</p>	<p>CRS following Base maintenance:</p> <p>The basis for this certification is that all the maintenance ordered by the CAMO has been carried out by authorised personnel and certified by authorised Category B1, B2 support staff, as appropriate. Only Category C personnel who also hold the appropriate Category B1 or B2 endorsement may sign the Maintenance Certification and issue the CRS. Personnel who issue a CRS for aircraft shall be appropriately qualified as Category C in accordance with DASR 66.</p>
Certificate of Release to Service for Components (Authorised Release Certificate)	<p>DASR 145.A.50(d) requires that a CRS for components shall be issued at the completion of any maintenance on a component whilst off the aircraft.</p> <p>A CRS for components verifies that all maintenance ordered/tasked has been properly carried out in accordance with the procedures specified in DASR 145.A.70, using maintenance data specified in DASR 145.A.45 and that there are no non-compliances which are known to endanger flight safety. A CRS for components is issued on an Authorised Release Certificate by an individual authorised by the DASR 145. The MOE defines the appropriate competence, training and experience of individuals who may issue a Component CRS with consideration to the guidance at DASR GM2 145.A.30(e).</p>	

NOTE: This table is an overview only for guidance. For full details of provisions and requirements, see DASR M and DASR 145

GM 145.A.50(b)

- to be deleted in toto

Delete the content below:

GM 145.A.50(b) Certificate of Release to Service before flight (AUS)

Whenever an organisation carries out maintenance on an aircraft, it must issue a CRS following completion of the maintenance and prior to any flight in accordance with regulation DASR145.A.50. If no maintenance is carried out by the organisation after a flight, the organisation is not required to issue a CRS before the next flight.

AMC 145.A.50(c)

- to be deleted in toto

Delete the content below

AMC 145.A.50(c) New defects or incomplete maintenance (AUS)

An approved organisation's certification documentation and procedures will be acceptable to the NMAA if they provide appropriately for notification of particulars of newly identified defects and maintenance not completed on the continuing airworthiness record to the person responsible for the continuing airworthiness of the aircraft or component.

Newly identified defects that affect the operation of an aircraft will be entered into the Aircraft Technical Log along with any deferral details for the defect.

Scheduled maintenance tasks that the operator or CAMO agrees may be deferred to a later time within the constraints of the approved Aircraft Maintenance Program (AMP) will be deferred on documentation that is forwarded to the Operating Organisation or CAMO for rescheduling in sufficient time to enable compliance with the AMP.

GM 145.A.50(c)

- to be deleted in toto

Delete the content below

GM 145.A.50(c) New Defects or incomplete maintenance (AUS)

Written notifications of the particulars of incomplete maintenance or newly identified defects need to be provided to the person responsible for continuing airworthiness on the continuing airworthiness record. The notifications should be made in a form that is appropriate to the nature of the deferral.

If a defect is identified that effects the operation of the aircraft, the defect should be entered in the aircraft's Technical Log, where it is visible to the crew and maintenance employees involved in the operation of the aircraft. For example if a defect requires the application of an MEL item, it must be entered in the aircraft's Technical Log. However if

the deferral is for scheduled maintenance and the CAMO has agreed that it can be deferred to a subsequent time and the CAMO is able to reschedule the maintenance within the limitations of the aircraft's approved AMP, the deferral may be on alternative documentation not carried on board the aircraft.

AMC3 145.A.50(d)

- to be deleted in toto

Delete the content below

AMC3 145.A.50(d) Certificate of Release to Service — Components (AUS)

IN-HOUSE RELEASE DOCUMENTATION

An acceptable in-house release documentation system will be one where the organisations MOE procedures ensure that a component released under the documentary system is for the organisations own use only, for fitment to an aircraft or other component by the organisation that issued the in-house release document.

The acceptable system of documentation includes all of the information required by a DASR Form 1 but not all the information required for the DASR Form 1 needs be included on the label that accompanies the component. The label that accompanies the component must confirm the serviceability of the component and provide any information needed to enable determination of the component's eligibility for fitment.

The system of documentation includes information additional to what is on the label that accompanies the component. The additional information may be in paper or computer records, traced to the particular component, to provide for control of the component's maintenance and operational history including:

- duplication of information included in the label that accompanied the component;
- the identity and revision status of maintenance documentation used as the approved standard for the maintenance;
- compliance or non-compliance with ADs or SBs;
- details of maintenance work carried out or reference to a document where this is stated;
- details of modifications carried out and approved data used (SBs, STCs etc.);
- replacement parts installed and/or parts found installed, as appropriate;
- concessions/exemption/exclusion, as applicable; and
- life-limited component's history;

Note: The control of the component's maintenance and operational history may be accomplished by the operator as part of its continuing airworthiness maintenance function. In this case the MOE procedure will have to show how the internal system of documentation is interfaced with the operators system of CAM.

GM 145.A.50(d)

- to be deleted in toto

Delete the content below

GM 145.A.50(d) Certificate of Release to Service — Components (AUS)

A CRS for an component must be made on a DASR Form 1, except for those circumstances in which a Part 145 organisation may use an in-house release document. If the DASR Form 1 is used, it must be completed in accordance with the instructions set out in DASR M. If an in house release is used, it must be in a form approved by the NMAA.

NPA 01/2020

PROPOSED CHANGES TO DASR 66 – GM

GM 66.A.20 Privileges (AUS)

- amend para 3

Amended content below:

3. In the Australian context, the term 'competent mechanics' refers to individuals who hold an appropriate qualification or Statement of Attainment; have the appropriate training and experience for the particular maintenance tasks they are performing or supervising and are authorised by the DASR 145 maintenance organisation to ~~certify (sign for)~~ task 'sign-off' and/or CRS the maintenance they have performed and/or supervised.

GM 66.A.20(a)(2) Certification privileges (AUS)

- delete paras 1, 2 and 3
- new para 1 added to emphasis the potential exclusion for supervision on MAML

Delete the content below:

GM 66.A.20(a)(2) Certification privileges (AUS)

1. B1 MAML holders may sign Certificates of Release after maintenance on electro mechanical and pitot-static components if there are no exclusions on their licence precluding such certifications.
2. DASR 66 and DASR 145 refer to 'B1 support staff and B2 support staff' in connection with base maintenance. These terms refer to individuals who have a B1 or a B2 licence, with the relevant Type-rating; but their role as B1 or B2 support staff is not to issue the aircraft Certificate of Release to Service (CRS), but to supervise and co-ordinate the maintenance activities and sign maintenance certifications. The B1 or B2 support staff are acting 'in support' of the C licence holder who issues the CRS.
3. B1 and B2 support staff must have certification privileges authorised by the DASR 145 maintenance organisation.

New content below:

GM 66.A.20(a)(2) Certification privileges (AUS)

1. Supervision privileges can be exercised by B1 MAML holders if they do not have the E62 Exclusion – Supervision of Maintenance.

GM 66.A.20(a)3(ii) Certification privileges (AUS)

- Amended para 1
- New para 2 to reflect content of **GM 66.A.20(a)(2) Certification privileges (AUS)** for B2 MAML application

Amended content below:

GM1 66.A.20(a)3(ii) Certification privileges (AUS)

1. ~~For an indicative list of simple minor scheduled Line maintenance and simple defect rectification refer to DASR AMC 145.A.30(g), paragraph 2.~~ DASR AMC 145.A.30(g) paragraph 2 gives an indicative list of simple minor scheduled Line maintenance and simple defect rectifications, which may constitute category A tasking. A B2 MAML holder who has attained an A category, will have the A category privileges and therefore can issue CRS for those tasks they have personally performed.
2. Supervision privileges can be exercised by B2 MAML holders if they do not have the E62 Exclusion – Supervision of Maintenance.

GM 66.A.30(a) Basic experience requirements

- Both dots points at para 1 of Australian-unique content to be deleted:

Deleted content below:

GM 66.A.30(a) Basic experience requirements

- To clarify, ‘...12 months experience as a B1 or B2 support staff’ means the applicant has signed for the maintenance the applicant has performed or supervised; but has not signed Certificates of Release for base maintenance.
- To clarify, ‘...12 months experience as a B1 or B2 support staff’ means the applicant has been verifying(signing) that the maintenance the applicant has performed or supervised has been correctly and completely carried out.

NPA 01/2020

PROPOSED CHANGES TO DASR GLOSSARY

Certifying Staff Responsibilities

- to be amended to fix spelling error in Responsibilities
- replace 'sign maintenance certifications' with 'conduct task sign-off' to more accurately align with 145.A.50 regulation and AMC.

Amend text as below:

Certifying Staff Responsibilities

1. **On aircraft maintenance.** Certifying Staff are authorised licence holders, with appropriate privileges to:
 - a. ~~sign maintenance certifications~~ conduct task 'sign off',
 - b. issue CRS.
2. **Component (off aircraft) maintenance.** Certifying staff are authorised personnel who do not need a licence and who:
 - a. ~~sign maintenance certifications~~ conduct task 'sign-off',
 - b. issue component CRS.
3. Specialised services staff are authorised personnel who may ~~sign maintenance certifications~~ conduct task 'sign-off', for aircraft and/or components (no licence required), within the scope of their specialisation.

Maintenance certification

- to be deleted in toto.

Delete the below glossary term and definition:

Maintenance Certification

Maintenance certification attests that a competent and authorised person has determined that maintenance has been properly carried out to the required standard. Maintenance certification is undertaken by DASR 66 Certifying staff or specialised services staff.

NPA 01/2020 Response Sheet

Certification of Maintenance

Please forward this sheet to DASA as an email attachment to DASA.DASR and chris.davies@defence.gov.au by 01 Aug 20,

Please indicate your acceptance or otherwise of this proposal by ticking the appropriate box below. Additional comments, suggested amendments or alternative action are welcome and may be provided on this response sheet or by separate correspondence.

- ☐ The proposal is **acceptable without change.**
- ☐ The proposal is **acceptable but would be improved if the following changes were made:**
- ☐ The proposal is **not acceptable but would be acceptable if the following changes were made:**

LSN	NPA Reference: (i.e Regulation number, NPA paragraph etc)	Comment or suggested change	Explanation
1			
2			
3			
4			
5			

RESOURCE IMPLICATIONS

Please provide specific comment on any significant resource implications that this proposal may have for your organisation, for both its implementation and ongoing compliance. Your comments should address both financial and human resource considerations.

Resource implications – Proposal implementation	
Resource implications – Proposal sustainment	

RESPONDENT DETAILS

Your name:	
Submission date:	
Your organisation:	
Email address:	
Postal address:	
Phone:	
Whose views are represented in your response? i.e. Is your response the authoritative response from your organisation?	Responding on behalf of : Individual [] Regulated Military entity [] Regulated Commercial entity [] Wing HQ [] Group HQ [] ADF Regulatory, Technical or Logistics policy agency [] Other commercial entity [], Other [] Please describe:
Do you consent to your name being published as an NPA respondent within the NPA Summary of Responses:	YES [] NO []



ADVISORY CIRCULAR

AC 005/2020 v 1.0

CERTIFICATION OF MAINTENANCE – DASA 145 MO AND CAMO RESPONSIBILITIES

BP8534915

v1.0 – Jun 2020

CERTIFICATION OF MAINTENCE – DASR 145 MO AND CAMO RESPONSIBILITIES

An Advisory Circular is issued by the Authority to promulgate important information to the Defence Aviation community, but does not mandate any action. This includes informing the community on aviation safety / airworthiness matters, information that enhances compliance understanding for existing regulation, or policy guidance for aviation issues not yet regulated that requires further understanding.

Audience

This Advisory Circular (AC) is relevant to:

- Entities regulated by (DASR exercising roles or responsibilities associated with Initial/Continued and Continuing Airworthiness comprising of MAO organisations (including CAMO and CAMO service providers) and DASR 145 MO's.

Purpose

The purpose of this Advisory Circular (AC) is to provide guidance in relation to the CRS process for aircraft maintenance, specifically the functions and responsibilities of CAMOs and DASR 145 MO's or equivalent. The AC aims to consolidate the applicable requirements from different sections of the DASR and describes the intended outcomes in relation to CRS as interpreted by DASA.

Further information

For further information on this AC, contact:

DASA Directorate of Continuing Airworthiness

[DASA.DCA <dasa.dca@defence.gov.au>](mailto:dasa.dca@defence.gov.au)

CERTIFICATION OF MAINTENCE – DASR 145 MO AND CAMO RESPONSIBILITIES

Status

This AC will remain current until cancelled by DASA.

Version	Date Approved	Approved By	Details
1.0	Jun 2020	CAPT Skinner RAN, DCA	Initial release

DRAFT

CERTIFICATION OF MAINTENANCE – DASR 145 MO AND CAMO RESPONSIBILITIES

Contents

Audience	i
Purpose	i
Further information	i
Status.....	ii
1 Reference material	1
1.1 Acronyms.....	1
1.2 Definitions	1
1.3 References	2
2 Introduction	3
2.1 Background.....	3
3 Certification of Maintenance Responsibilities	4
3.1 Continuing Airworthiness Management Organisation responsibilities.....	4
3.2 DASR 145 Maintenance Organisation responsibilities.....	4
3.3 DASR 145 maintenance personnel responsibilities	5
3.4 Task Sign-off.....	5
3.5 Certificate of Release to Service.....	5
4 CRS.....	7
4.1 What is a CRS?	7
4.2 How does a MAML holder “verify that the maintenance ordered/tasked has been properly carried out”?	7
4.3 How does a MAML holder “make an assessment that there are no non-compliances which are known to endanger flight safety?	8
4.4 When is a CRS issued?	9
4.5 Who can issue a CRS in Line Maintenance?	9
4.6 Who can issue CRS in Base Maintenance?	10

CERTIFICATION OF MAINTENANCE – DASR 145 MO AND CAMO RESPONSIBILITIES

1 Reference material

1.1 Acronyms

The acronyms and abbreviations used in this AC are listed in the table below.

Acronym	Description
AC	Advisory Circular
AMC	Acceptable Means of Compliance
CAM	Continuing Airworthiness Manager
CAME	Continuing Airworthiness Management Exposition
CAMO	Continuing Airworthiness Management Organisation
CRE	Configuration, Role and Environment
CRS	Certificate of Release to Service
DASA	Defence Aviation Safety Authority
DASR	Defence Aviation Safety Regulation
DASR 145 MO	Defence Aviation Safety Regulation 145 Maintenance Organisation
Defence AA	Defence Aviation Authority
EMAR	European Military Airworthiness Requirements
GM	Guidance Material
MAO	Military Air Operator
MOE	Maintenance Organisation Exposition

1.2 Definitions

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

CERTIFICATION OF MAINTENANCE – DASR 145 MO AND CAMO RESPONSIBILITIES

Term	Definition
Endanger Flight Safety	<p>Refer to AMC1 to 145.A.50(a) which states: <i>'Endanger flight safety means any instance where safe operation could not be assured or which could lead to an unsafe condition. It typically includes, but is not limited to, significant cracking, deformation, corrosion or failure of primary structure, any evidence of burning (including overheating), electrical arcing, significant hydraulic fluid or fuel leakage and any emergency system or total system failure. An AD overdue for compliance is also considered a hazard to flight safety.'</i></p>
Supervision of Maintenance	<p><i>Maintenance that is being performed by an authorised person under the supervision of a MAML holder who:</i></p> <ol style="list-style-type: none"><i>1. is observing the maintenance being carried out to the extent necessary to enable the MAML holder to form an opinion as to whether the maintenance is being carried out properly; and</i><i>2. is available to give advice to, and answer questions about the maintenance from, the authorised person.</i> <p>Work Health and Safety is a supervisory requirement however, with respect to DASRs, supervision relates to the technical performance of the maintenance task alone</p>

1.3 References

1.3.1 AAP 8000.011 Defence Aviation Safety Regulations

1.3.2 EASA policy on Certificate of Release to Service for aircraft maintenance and associated responsibilities for maintenance organisations and CAMOs – 17 Dec 15

Unless specified otherwise, all regulation references in this AC refer to the Defence Aviation Safety Regulation (DASR).

CERTIFICATION OF MAINTENANCE – DASR 145 MO AND CAMO RESPONSIBILITIES

2 Introduction

2.1 Background

- 2.1.1 Under the DASR framework, any maintenance carried out on an aircraft, its systems and its components must be certified, on completion and prior to return to service. The instrument used to achieve this outcome is the CRS which must be issued before flight at the completion of any maintenance. The CRS should contain as a minimum:
- Basic details of the maintenance that was carried out;
 - Date such maintenance was completed;
 - Identity of organisation and person issuing the CRS; and
 - Limitations to airworthiness or operations, if there are any.
- 2.1.2 The requirements for CRS reside across multiple implementing regulation subsections (DASR M, DASR 145 and DASR 66) that collaboratively inform the regulated community of the Authority's requirement. The intent of this AC is to summarise the applicable requirements for CRS to assist the community in meeting the DASR.
- 2.1.3 Previously AC 006/2018, 'Certificate of Release to Service responsibilities for Maintenance Organisations and CAMOs', set out requirements pertaining to certification of maintenance inclusive of the term 'Maintenance Certification' (MC) and CRS. Reference to MC has subsequently been removed from DASR due confusion created by its insertion as AMC and GM to DASR 145.A.50(a) in the main with associated reference to it removed from all other parts of the DASRs. Subsequently, any reference to certification in DASR M, 145 and 66 is now referring to CRS solely.

CERTIFICATION OF MAINTENANCE – DASR 145 MO AND CAMO RESPONSIBILITIES

3 Certification of Maintenance Responsibilities

3.1 Continuing Airworthiness Management Organisation responsibilities

3.1.1 CAMO responsibilities are described in detail within DASR M and include:

- the CAMO is responsible for all activities aimed to determine the airworthiness status of the aircraft and to appropriately plan and coordinate maintenance.
- ensuring that all maintenance requirements (Airworthiness Directives, maintenance program requirements, defect rectification, etc.) are complied with and released by DASR 145 MO's or equivalents (M.A 708(b)).
- the CAMO (on behalf of the operator) is responsible for planning and ordering all required maintenance and for ensuring that all ordered maintenance conducted by the DASR 145 MO or equivalent is complete and has a CRS. The CAME must explain how this is achieved.

3.2 DASR 145 Maintenance Organisation responsibilities

3.2.1 The DASR 145 MO (or equivalent) responsibilities are described in detail in DASR 145 and include:

- the development of 'certification of maintenance' procedures that ensures all maintenance actions have been properly co-ordinated and the CRS is issued within a reasonable timeframe after the actual performance of the tasks.
- the DASR 145 MO is responsible for adequately performing the maintenance ordered by the CAMO.
- issuing a CRS following maintenance.
- the CRS issued has to be recorded in the continuing airworthiness record system. This information shall be available to the aircraft captain (refer to DASR M.A.306 and AMC DASR M.A.306(a), who is ultimately responsible for accepting the aircraft before a flight takes place.

CERTIFICATION OF MAINTENANCE – DASR 145 MO AND CAMO RESPONSIBILITIES

3.3 DASR 145 maintenance personnel responsibilities

3.3.1 The certification of maintenance requires two actions. They are:

- a task 'sign-off'; and
- a CRS.

3.3.2 These two levels may be performed by a singular person or group of people dependent upon task complexity, qualifications and authorisations. A CRS can only be signed by an appropriately qualified and authorised Military Aircraft Maintenance License (MAML) holder.

3.4 Task Sign-off

3.4.1 The attestation of the competent and authorised person that has performed the maintenance task prior to the issuance of a CRS. A person performing the 'task sign-off' attestation does not require a MAML.

3.4.2 AMC 145.A.65(b)(3) states that, in order to prevent omissions, every task or group of tasks should be signed-off by authorised personnel after its completion. It also states that a 'sign-off' is different from a 'release to service' (CRS).

3.4.3 Furthermore, this AMC states that work by 'unauthorised personnel' (temporary staff, trainee/apprentice) must be witnessed by the authorised person before they 'sign-off'. This means the authorised person is responsible for the maintenance performed.

3.4.4 IAW AMC1 145.A.30(e)(3) personnel performing task 'sign-off', "shall be able to carry out tasks to any standard specified in the maintenance data, and will notify supervisors of mistakes requiring rectification to re-establish required maintenance standards".

3.4.5 Nevertheless, holding a task 'sign off' authorisation doesn't mean that the authorised person can 'sign-off' all tasks. It means that he/she can 'sign-off' tasks within the scope of their authorisation, depending on the training and experience held, and in accordance with a procedure described in the MOE.

3.5 Certificate of Release to Service

3.5.1 The wording of DASR 145.A.50(a) has very often raised different interpretations.

3.5.2 145.A.50(a) states: "A CRS for aircraft and a CRS for components shall be issued by appropriately authorised certifying staff on behalf of the AMO when it has been verified that all maintenance ordered/tasked has been properly carried out in accordance with the procedures specified in DASR 145.A.70,

CERTIFICATION OF MAINTENANCE – DASR 145 MO AND CAMO RESPONSIBILITIES

taking into account the availability and use of the maintenance data specified in DASR 145.A.45 and that there are no non-compliances which are known to endanger flight safety”. To clarify, the pertinent points from this regulation are (further elaborated upon in section 4):

- the individual conducting the CRS is appropriately authorised to do so;
- a verification has to be made confirming the maintenance has been carried out correctly using appropriate procedures IAW AMD; and
- as a result of the maintenance conducted there are no non-compliances which are known to 'endanger flight safety'.

CERTIFICATION OF MAINTENANCE – DASR 145 MO AND CAMO RESPONSIBILITIES

4 CRS

4.1 What is a CRS?

- 4.1.1 An attestation made by an authorised MAML holder by way of a certification signature after the completion of maintenance within license scope. This certification signature is considered to create a 'certificate', signifying that the maintenance or group of maintenance activities can be released to service. The holder of an appropriate category A, B1 or B2 MAML may issue a CRS within the scope of their authorisation, except following the completion of base maintenance in a DASR 145 AMO. A category C authorised MAML holder is required to issue a CRS after the completion of Base maintenance.
- 4.1.2 By the definition of CRS above there are two components that need to be fulfilled by the authorised MAML holder before the issuance of a CRS is possible:
- **Verification** that the maintenance has been properly carried out; and
 - **Assessment** ensuring that no non-compliances which are known to exist that could 'endanger flight safety'.

4.2 How does an authorised MAML holder “verify that the maintenance ordered/tasked has been properly carried out”?

- 4.2.1 Through the supervision and management of the maintenance task. With respect to DASRs supervision relates to the technical performance of the maintenance task alone. This statement does not necessarily mean that authorised MAML holders have to perform or supervise the whole process of every task, however; with respect to issuing a CRS, supervision includes but is not limited to:
- assessing the complexity of each task and experience of the personnel assigned to establish an inspection regime of the maintenance being performed.
 - Making sure that the personnel that have been assigned to perform the maintenance are authorised to task 'sign-off' to the corresponding level.
 - coordinating the different tasks associated with the maintenance being performed.
 - being available to support personnel in case of any mistakes or unexpected difficulties.
 - ensuring that the job has been completed IAW correct ICA and signed-off appropriately.

CERTIFICATION OF MAINTENANCE – DASR 145 MO AND CAMO RESPONSIBILITIES

4.2.2 Authorised MAML holders are responsible to determine the amount of involvement they require in order to be satisfied that the maintenance can be issued a CRS. Subsequently, the DASR 145 MO cannot limit the authorised MAML holder in terms of what supervision and management they put in place for the maintenance task. The DASR 145 MO may however set a minimum requirement.

4.3 How does an authorised MAML holder, “make an assessment that there are no non-compliances which are known to endanger flight safety”?

4.3.1 This is achieved by a cognitive process that assesses whether an endangerment to flight safety exists as defined within AMC1 DASR 145.A.50(a) against the physical outcomes of the completed maintenance. It does not require the DASR 145 MO to find or become responsible for hidden non-compliances which are not expected to be discovered during the ordered maintenance.

4.3.2 In circumstances where after performing the maintenance ordered by the CAMO, the aircraft is left in a non-airworthy configuration, a CRS can still be issued for the maintenance that has been completed. The CRS can be issued as long as the incomplete maintenance or identified defects are properly identified in the CA records system and communicated to the CAMO. For example, where the DASR 145 MO removes an engine for preservation (without installing a new one), or where the organisation performs an NDT inspection and finds a crack outside limits.

4.3.3 The circumstances mentioned above (including non-compliances affecting flight safety discovered during maintenance), can be properly addressed by using the provisions contained in DASR 145.A.50(c) and (e).

4.3.4 It is important to stress that a CRS does not mean that the aircraft is airworthy and ready for flight. A CRS is issued by the 145 MO for the maintenance performed; the CAMO is responsible for ensuring that all continuing airworthiness requirements are met for the aircraft to undertake its assigned mission before releasing to the Operator.

CERTIFICATION OF MAINTENANCE – DASR 145 MO AND CAMO RESPONSIBILITIES

4.4 When is a CRS issued?

- 4.4.1 “A certificate of release to service shall be issued before flight at the completion of any maintenance”.
- 4.4.2 DASA’s position is that the words “any maintenance” can be interpreted in different ways, such as:
- any maintenance task.
 - any combination of maintenance tasks.
 - any maintenance event.
- 4.4.3 Consequently, there can be different systems of release to service, such as:
- Several CRS are issued, each one of them covering a different single maintenance task.
 - Several CRS are issued, each one of them covering a different group of maintenance tasks.
 - A single CRS is issued covering all the maintenance included in a maintenance event.
- 4.4.4 It is important to note that the organisation must ensure that the CRS issued to the CAMO clearly identifies that all maintenance is complete. If there is any incomplete maintenance, the CRS must clearly identify it in the CA records system and the corresponding limitations (if any). In each of the above cases, it is important to note that there is no change in the responsibilities of the individual authorised MAML holder in signing the CRS.

4.5 Who can issue a CRS in Line Maintenance?

- 4.5.1 Only appropriately authorised category A, B1 and/or B2 MAML holders can issue a CRS in Line Maintenance. The scope and responsibility of each license category is provided below.
- 4.5.2 **Category A licence**
- 4.5.3 The category A licence permits the authorised MAML holder to issue CRS for work that the licence holder has personally performed (task ‘sign- off’) and within the scope of their certification authorisation.
- 4.5.4 A category A licence does not permit the authorised MAML holder to issue a CRS for the work of others, only for their own maintenance. However, other personnel may be present, directed and instructed by the authorised MAML

CERTIFICATION OF MAINTENANCE – DASR 145 MO AND CAMO RESPONSIBILITIES

holder in providing assistance to them during the performance of the maintenance task.

4.5.5 Category B1 licence

4.5.6 Subject to exclusions listed on the licence, the category B1 licence permits the authorised MAML holder to perform maintenance supervision to verify maintenance conducted and assess any endangerment to flight safety, and subsequently issue a CRS for maintenance within the scope of their license and certification authorisation.

4.5.7 Category B2 licence

4.5.8 Subject to exclusions listed on the licence, the category B2 licence permits the authorised MAML holder to perform maintenance supervision to verify maintenance conducted and assess any endangerment to flight safety, and subsequently issue a CRS for maintenance within the scope of their license and certification authorisation.

NOTE

In line maintenance both the verify and assessment components of the CRS are personally performed by the MAML Holder.

4.5.9 The MAML holder may also perform the task 'sign off' of the maintenance task if they have physically carried out that maintenance themselves in accordance with their task 'sign-off' authorisation.

4.6 Who can issue CRS in Base Maintenance?

4.6.1 Only appropriately authorised C category license holders can issue a CRS in Base Maintenance with the use of Support Staff. The scope and responsibility of the category C authorised MAML holder and Support Staff are provided below.

4.6.2 Category C licence

4.6.3 The category C licence permits the authorised MAML holder to issue a CRS following base maintenance on aircraft carried out by a DASR 145 AMO within the scope of their certification authorisation.

4.6.4 The principal function of the category C authorised MAML holder is to ensure that all required maintenance that has been ordered, has been **verified** by appropriate authorised support staff and any outstanding or incomplete maintenance has been identified and the operator notified before issuance of the CRS.

4.6.5 The category C authorised MAML holder only performs the **assessment** component of the CRS in Base maintenance. In order to perform the **verify**

CERTIFICATION OF MAINTENCE – DASR 145 MO AND CAMO RESPONSIBILITIES

component the C MAML holder will employ support staff to perform this function.

4.6.6 **Support staff**

4.6.7 The role of B1 and/or B2 authorised MAML holders acting as support staff during Base maintenance is to verify that all relevant tasks and/or inspections within the scope of their license have been carried out to the required standard; ensuring that maintenance has been performed properly, before the category C authorised MAML holder issues the CRS.

4.6.8 A category C authorised MAML holder may act as their own support staff if they also hold the required B1/B2 license scope and subsequent authorisation with regard to the base maintenance being performed. The category C authorised MAML holder in this instance can issue the CRS without the use of support staff. The procedures with respect to a category C authorised MAML holder acting as their own support staff must be articulated in the MOE.

Original Signed

SN Skinner
CAPT, RAN
Director Continuing Airworthiness
Defence Aviation Safety Authority
Jun 2020