

# EUROPEAN MILITARY AIRWORTHINESS REQUIREMENT EMAR 145

# REQUIREMENTS FOR MAINTENANCE ORGANISATIONS

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# **DOCUMENT CONTROL**

# **DOCUMENT APPROVAL**

The following table identifies the persons who have approved this document

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# DOCUMENT CHANGE RECORD

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1.0	19 Jan 2011	Approved	Initial Issue	All
1.1	25 Sep 2012	Approved	Amended to consider EASA amendments M3- M5	All
1.2	4 Oct 2016	Approved	Amended to consider EASA amendments M6- M7 and incorporation of the applicable elements of EASA Part M Subparts D&E and consistency with EMAR 66	AII

## **STATUS**

The Status of the document can take 3 values:

Working Draft: First version provided during the elaboration of the document by Task Force.

**Draft:** Draft version when issued by Task Force and proposed to MAWA Forum.

**Approved**: The document is approved by the participating Member States at the MAWA Forum for release.

#### **EDITION**

Edition will have the following template: Edition X.Y

The value of **X** will change after a **major** modification of the document

The value of Y will change after a minor modification of the document

#### NOTES:

- 1. Amended paragraphs from EMAR 145 Edition 1.1 are indicated by the use of a 'sidebar' in the margin. This can be readily cross-referenced using the table at the end of the document which details each change.
- 2. This EMAR relies on definitions laid down in EMAD 1. The Forms referred to in this document can be found in the EMAR Forms document.

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- 3. EMAR M introduces a number of constructs that are possible in the relationship between an Operating Organisation, CAMO and EMAR 145 AMO. Within EMAR 145, where the terminology 'Operating Organisation/CAMO' is used, it is essential that the appropriate organisation that can provide the required authority/service/information is engaged as per the context of the EMAR 145 requirement.
- 4. Unless specified otherwise in the text, all references to 'maintenance organisation' within this document are to be understood to mean a maintenance organisation that already has an EMAR 145 approval and a maintenance organisation that is seeking an EMAR 145 approval. All references to 'AMO' within this document are to be understood to mean an 'Approved Maintenance Organisation' that already has an EMAR 145 approval.

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#### **SECTION A**

#### TECHNICAL REQUIREMENTS

#### 145.A.10 Scope

This Section establishes the requirements to be met by a maintenance organisation to qualify for the issue or continuation of an approval for the maintenance of aircraft and components.

#### 145.A.15 Application

An application for the issue or change of an approval shall be made to the National Military Airworthiness Authority (NMAA) in a form and manner established by such authority.

#### 145.A.20 Terms of approval

The maintenance organisation shall specify the scope of work deemed to constitute approval in its Maintenance Organisation Exposition (MOE). (Appendix II to this EMAR contains a table of all classes and ratings.)

#### 145.A.25 Facility requirements

The maintenance organisation shall ensure that:

- (a) Facilities are provided appropriate for all planned work, ensuring in particular, protection from the weather elements. Specialised workshops and bays are segregated as appropriate, to ensure that environmental and work area contamination is unlikely to occur.
  - 1. For base maintenance of aircraft, aircraft hangars are both available and large enough to accommodate aircraft on planned base maintenance;
  - 2. For component maintenance, component workshops are large enough to accommodate the components on planned maintenance.
- (b) Office accommodation is provided for the management of the planned work referred to in paragraph (a), and certifying staff so that they can carry out their designated tasks in a manner that contributes to good aircraft maintenance standards.
- (c) The working environment including aircraft hangars, component workshops and office accommodation is appropriate for the task carried out and in particular special requirements observed. Unless otherwise dictated by the particular task environment, the working environment shall be such that the effectiveness of personnel is not impaired:
  - 1. Temperatures shall be maintained such that personnel can carry out required tasks without undue discomfort.
  - 2. Dust and any other airborne contamination shall be kept to a minimum and not be permitted to reach a level in the work task area where visible aircraft/component surface contamination is evident. Where dust/other airborne contamination results in visible surface contamination, all susceptible systems are sealed until acceptable conditions are re-established.

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- 3. Lighting shall be such as to ensure each inspection and maintenance task can be carried out in an effective manner.
- 4. Noise shall not distract personnel from carrying out inspection tasks. Where it is impractical to control the noise source, such personnel are provided with the necessary personal equipment to stop excessive noise causing distraction during inspection tasks.
- 5. Where a particular maintenance task requires the application of specific environmental conditions different to the foregoing, then such conditions shall be observed. Specific conditions are identified in the maintenance data.
- 6. The working environment for line maintenance shall be such that the particular maintenance or inspection task can be carried out without undue distraction. Therefore where the working environment deteriorates to an unacceptable level in respect of temperature, moisture, hail, ice, snow, wind, light, dust/other airborne contamination, the particular maintenance or inspection tasks must be suspended until satisfactory conditions are re-established.
- (d) Secure storage facilities shall be provided for components, equipment, tools and material. Storage conditions ensure segregation of serviceable components and material from unserviceable aircraft components, material, equipment and tools. The conditions of storage shall be in accordance with the manufacturer's instructions to prevent deterioration and damage of stored items. Access to storage facilities shall be restricted to authorised personnel.

#### 145.A.30 Personnel requirements

- (a) The maintenance organisation shall appoint an Accountable Manager who has corporate authority for ensuring that all maintenance can be carried out to the standard required by EMAR 145. The Accountable Manager shall:
  - 1. Ensure that all necessary resources are available to accomplish maintenance in accordance with <u>EMAR 145.A.65(b)</u> to support the maintenance organisation approval.
  - 2. Establish and promote the safety and quality policy specified in <u>EMAR</u> 145.A.65(a).
  - 3. Demonstrate a basic understanding of this EMAR.
- (b) The maintenance organisation shall nominate a person or group of persons, whose responsibilities include ensuring that the maintenance organisation complies with this EMAR. Such person(s) shall ultimately be responsible to the Accountable Manager.
  - 1. The person or persons nominated shall represent the maintenance management structure of the maintenance organisation and be responsible for all functions specified in this EMAR.
  - 2. The person or persons nominated shall be identified and their credentials submitted in a form and manner established by the NMAA.
  - 3. The person or persons nominated shall be able to demonstrate relevant knowledge, background and satisfactory experience related to aircraft or component maintenance and demonstrate a working knowledge of this EMAR.

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- 4. Procedures shall make clear who deputises for any particular person in the case of lengthy absence of the said person.
- (c) The Accountable Manager under paragraph (a) shall appoint a person with responsibility for monitoring the quality system, including the associated feedback system as required by <u>EMAR 145.A.65(c)</u>. The appointed person shall have direct access to the Accountable Manager to ensure that the Accountable Manager is kept properly informed on quality and compliance matters.
- (d) The maintenance organisation shall have a maintenance man-hour plan showing that the maintenance organisation has sufficient competent staff to plan, perform, supervise, inspect and quality monitor the maintenance organisation in accordance with the approval. In addition the maintenance organisation shall have a procedure to reassess work intended to be carried out when actual staff availability is less than the planned staffing level for any particular work shift or period.
- (e) The maintenance organisation shall establish and control the competence of personnel involved in any maintenance, management and/or quality audits in accordance with a procedure and to a standard defined through the MOE and approved by the NMAA. In addition to the necessary expertise related to the job function, competence shall include an understanding of the application of human factors and human performance issues appropriate to that person's function in the maintenance organisation.

'Human factors' means principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration of human performance.

'Human performance' means human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

- (f) The maintenance organisation shall ensure that personnel who carry out and/or control a non-destructive test of aircraft structures and/or components are appropriately qualified for the particular non-destructive test in accordance with the European or equivalent Standard recognised by the NMAA. Personnel who carry out any other specialised task shall be appropriately qualified in accordance with officially recognised Standards.
  - 1. By derogation to paragraph (f), a maintenance organisation may authorise those personnel specified in paragraphs (g) and (h)(1), qualified in Category B1 in accordance with EMAR 66, to carry out and/or control colour contrast dye penetrant inspections/visible dye penetrant inspections which are to be detailed in the MOE.
- (g) Any maintenance organisation maintaining aircraft, except where stated otherwise in paragraph (j), shall in the case of aircraft line maintenance, have appropriate Military Aircraft Type Rated certifying staff, qualified as Category B1 and B2 as appropriate, in accordance with EMAR 66 and <u>EMAR 145.A.35</u>.

In addition such maintenance organisations may also use appropriately task trained certifying staff holding the privileges described in EMAR 66.A.20(a)(1) or EMAR 66.A.20(a)3(ii) and qualified in accordance with EMAR 66 and EMAR 145.A.35 to carry out minor scheduled line maintenance and simple defect rectification. The availability of such certifying staff shall not replace the need for Category B1 and B2 certifying staff as appropriate.

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- (h) Any maintenance organisation maintaining aircraft, except where stated otherwise in paragraph (j) shall:
  - 1. In the case of base maintenance of aircraft, have appropriate Military Aircraft Type Rated certifying staff qualified as Category C in accordance with EMAR 66 and EMAR 145.A.35. In addition the maintenance organisation shall have sufficient Military Aircraft Type Rated staff qualified as Category B1 or B2 as appropriate in accordance with EMAR 66 and EMAR 145.A.35 to support the Category C staff.
    - (i) Category B1 and B2 support staff shall ensure that all relevant maintenance tasks have been carried out to the required standard before the Category C certifying staff issues the Certificate of Release to Service (CRS) for aircraft.
    - (ii) The maintenance organisation shall maintain a register of any such B1 and B2 support staff.
    - (iii) The Category C certifying staff shall ensure that compliance with paragraph (i) has been met and that all work has been accomplished during the particular base maintenance check or work package, and shall also assess the impact of any work not carried out with a view to either requiring its accomplishment or agreeing with the appropriate Continuing Airworthiness Management Organisation (CAMO) to defer such work to another specified check or time limit.

#### 2. NOT APPLICABLE

- (i) Component certifying staff shall be authorised by the maintenance organisation on the basis of appropriate competence, training and experience in accordance with a procedure(s) contained in the MOE.
- (j) By derogation to paragraphs (g) and (h), in relation to the obligation to comply with EMAR 66 the maintenance organisation may use certifying staff qualified in accordance with the following provisions:

#### 1. NOT APPLICABLE

#### 2. NOT APPLICABLE

3. For a repetitive pre-flight Airworthiness Directive (AD) which specifically states that the flight crew may carry out such AD, the maintenance organisation may issue a limited certification authorisation to the aircraft commander and/or the flight engineer on the basis of the flight crew licence or national equivalent qualification held. However, the maintenance organisation shall ensure that sufficient practical training has been carried out to ensure that such aircraft commander and/or flight engineer can accomplish the AD to the required standard.

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- 4. In the case of aircraft operating away from a supported location the maintenance organisation may issue a limited certification authorisation to the aircraft commander and/or the flight engineer on the basis of the flight crew licence or national equivalent qualification held subject to being satisfied that sufficient practical training has been carried out to ensure that the aircraft commander and/or flight engineer can accomplish the specified task to the required standard. The provisions of this paragraph shall be detailed in a MOE procedure.
- 5. In unforeseen cases, where an aircraft is grounded at a location other than the main base where no appropriate certifying staff are available, the maintenance organisation may issue a one-off certification authorisation:
  - (i) to one of its employees holding equivalent authorisations on other aircraft types of similar technology, construction and systems; or
  - (ii) to any person with not less than five years maintenance experience and holding a valid Military Aircraft Maintenance Licence (MAML) rated for the aircraft, provided there is no maintenance organisation appropriately approved under EMAR 145 at that location and the supporting maintenance organisation obtains and holds on file evidence of the experience and the MAML of that person.

All such cases as specified in this subparagraph shall be reported to the NMAA within seven days of the issuance of such certification authorisation. The maintenance organisation issuing the one-off authorisation shall ensure that any such maintenance that could affect flight safety is re-checked by an appropriately approved maintenance organisation.

(k) To certify on-aircraft maintenance performed on armament, rescue and escape systems and other military-specific systems, any maintenance organisation maintaining aircraft shall have sufficient staff possessing the Category A, B1 or B2 MAML with the appropriate extensions.

#### 145.A.35 Certifying staff and support staff

- (a) In addition to the appropriate requirements of <u>EMAR 145.A.30(g)</u> and (h), the maintenance organisation shall ensure that certifying and support staff have an adequate understanding of the relevant aircraft and/or components to be maintained together with the associated maintenance organisation procedures. In the case of certifying staff, this shall be accomplished before the issue or re-issue of the certification authorisation.
  - (i) 'Support staff' means those staff holding an EMAR 66 MAML in Category B1 and/or B2 with the appropriate extensions and Military Aircraft Type Ratings, working in a base maintenance environment while not necessarily holding certification privileges.
  - (ii) 'Relevant aircraft and/or components', means those aircraft or components specified in the particular certification authorisation.
  - (iii) 'Certification authorisation' means the authorisation issued to certifying staff by the Approved Maintenance Organisation (AMO) and which specifies the fact that they may sign CRSs within the limitations stated in such authorisation on behalf of the AMO.

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(b) Excepting those cases listed in <u>EMAR 145.A.30(j)</u> and EMAR 66.A.20(a)3(ii) the maintenance organisation may only issue a certification authorisation to certifying staff in relation to the basic categories or subcategories and any Military Aircraft Type Rating endorsed on the MAML, subject to the MAML remaining valid throughout the validity period of the authorisation and the certifying staff remaining in compliance with EMAR 66.

The maintenance organisation issues the certification authorisation when satisfied that compliance has been established with the appropriate paragraphs of EMAR 145 and EMAR 66. In granting the certification authorisation the maintenance organisation needs to be satisfied that the person holds a valid and applicable EMAR 66 MAML and shall confirm such fact with their NMAA.

(c) The maintenance organisation shall ensure that all certifying staff and support staff are involved in at least six months of actual relevant aircraft or component maintenance experience in any consecutive two year period.

For the purpose of this paragraph 'involved in actual relevant aircraft or component maintenance' means that the person has worked in an aircraft or component maintenance environment and has either exercised the privileges of the certification authorisation and/or has actually carried out maintenance on at least some of the aircraft type or aircraft group systems specified in the particular certification authorisation.

- (d) The maintenance organisation shall ensure that all certifying staff and support staff receive sufficient continuation training in each two year period to ensure that such staff have up-to-date knowledge of relevant technology, maintenance organisation procedures and human factor issues.
- (e) The maintenance organisation shall establish a programme for continuation training for certifying staff and support staff, including a procedure to ensure compliance with the relevant paragraphs of <a href="EMAR 145.A.35">EMAR 145.A.35</a> as the basis for issuing certification authorisations under this EMAR to certifying staff, and a procedure to ensure compliance with EMAR 66.
- (f) Except where any of the unforeseen cases of <u>EMAR 145.A.30(j)(5)</u> apply, the maintenance organisation shall assess all prospective certifying staff for their competence, qualification and capability to carry out their intended certifying duties in accordance with a procedure as specified in the MOE prior to the issue or re-issue of a certification authorisation under this EMAR.
- (g) When the conditions of paragraphs (a), (b), (d), (f) and, where applicable, paragraph (c) have been fulfilled by the certifying staff, the maintenance organisation shall issue a certification authorisation that clearly specifies the scope and limits of such authorisation. Continued validity of the certification authorisation is dependent upon continued compliance with paragraphs (a), (b), (d), and where applicable, paragraph (c).
- (h) The certification authorisation shall be in a style that makes its scope clear to the certifying staff and any authorised person who may require to examine the authorisation. Where codes are used to define scope, the maintenance organisation shall make a code translation readily available.

'Authorised person' means the officials of the NMAA.

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- (i) The maintenance organisation shall nominate an individual who shall remain responsible on behalf of the maintenance organisation for issuing certification authorisations to certifying staff. Such person may nominate other persons to actually issue or revoke the certification authorisations in accordance with a procedure as specified in the MOE.
- (j) The maintenance organisation shall maintain a record of all certifying staff and support staff which shall contain:
  - 1. Details of any MAML held under EMAR 66; and
  - 2. All relevant training completed; and
  - 3. The scope of the certification authorisations issued, where relevant; and
  - 4. Particulars of staff with limited or one-off certification authorisations.

The maintenance organisation shall retain the record for at least three years after the certifying staff or support staff have ceased employment with the maintenance organisation or as soon as the authorisation has been withdrawn. In addition, upon request, the maintenance organisation shall furnish certifying staff and support staff with a copy of their record on leaving the maintenance organisation.

The certifying staff and support staff shall be given access on request to their personal records as detailed above.

- (k) The maintenance organisation shall provide certifying staff with a copy of their certification authorisation in either a documented or electronic format.
- (I) Certifying staff shall produce their certification authorisation to any authorised person within 72 hours.
- (m) The minimum age for certifying staff and support staff shall be 21 years.
- (n) The holder of a Category A MAML may only exercise certification privileges on a specific aircraft type following the satisfactory completion of the relevant Category A aircraft task training carried out by an organisation appropriately approved in accordance with EMAR 145 or EMAR 147. This training shall include practical hands on training and theoretical training as appropriate for each task authorised. Satisfactory completion of training shall be demonstrated by an examination or by workplace assessment carried out by the AMO or EMAR 147 MTO.
- (o) The holder of a Category B2 MAML may only exercise the certification privileges described in EMAR 66.A.20(a)(3)(ii) following the satisfactory completion of:
  - (i) the relevant Category A aircraft task training; and
  - (ii) 6 months of documented practical experience covering the scope of the authorisation that will be issued.

The task training shall include practical hands on training and theoretical training as appropriate for each task authorised. Satisfactory completion of training shall be demonstrated by an examination or by workplace assessment. Task training and examination/assessment shall be carried out by the AMO issuing the certifying staff authorisation. The practical experience shall be also obtained within the same AMO unless approved otherwise by the NMAA.

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#### 145.A.40 Equipment, tools and material

- (a) The maintenance organisation shall have available and use the necessary equipment, tools and material to perform the approved scope of work.
  - 1. Where the manufacturer specifies a particular tool or equipment, the maintenance organisation shall use that tool or equipment, unless the use of alternative tooling or equipment is agreed by the NMAA via procedures specified in the MOE.
  - 2. Equipment and tools must be permanently available, except in the case of any tool or equipment that is so infrequently used that its permanent availability is not necessary. Such cases shall be detailed in the MOE.
  - 3. A maintenance organisation approved for base maintenance shall have sufficient aircraft access equipment and inspection platforms/docking such that the aircraft can be properly inspected.
- (b) The maintenance organisation shall ensure that all tools, equipment and particularly test equipment, as appropriate, are controlled and calibrated according to an officially recognised standard at a frequency to ensure serviceability and accuracy. Records of such calibrations and traceability to the standard used shall be kept by the maintenance organisation.

#### 145.A.42 Acceptance of components

- (a) All components shall be classified and appropriately segregated into the following categories:
  - 1. Components which are in a satisfactory condition, released on an EMAR Form 1 or equivalent and marked in accordance with EMAR 21 Section A Subpart Q.
  - 2. Unserviceable components which shall be maintained in accordance with this section. A component shall be considered unserviceable in any one of the following circumstances:
    - (i) expiry of the service life limit as defined in the Aircraft Maintenance Programme (AMP);
    - (ii) non-compliance with the applicable ADs and other continued or continuing airworthiness requirement mandated by the NMAA;
    - (iii) absence of the necessary information to determine the airworthiness status or eligibility for installation;
    - (iv) evidence of defects or malfunctions;
    - (v) involvement in an incident or accident likely to affect its serviceability.

Unserviceable components shall be identified and stored in a secure location under the control of a maintenance organisation until a decision is made on the future status of such component.

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- 3. Unsalvageable components which are classified in accordance with EMAR 145.A.42(d). A maintenance organisation in consultation with the CAMO/Operating Organisation shall, in the case of unsalvageable components:
  - (i) retain such components in a secure location under the control of the maintenance organisation until a decision is made on the future status of such component; or
  - (ii) arrange for the components to be mutilated in a manner that ensures they are beyond economic salvage or repair before relinquishing responsibility for such components. By derogation, a CAMO/Operating Organisation may transfer responsibility of components classified as unsalvageable to an organisation for training or research without mutilation.
- 4. Standard parts used on an aircraft, engine, propeller or other aircraft component when specified in the manufacturer's illustrated parts catalogue and/or the maintenance data. These parts shall be accompanied by a manufacturer's declaration of conformity traceable to the applicable standard.
- 5. Material both raw and consumable used in the course of maintenance when the maintenance organisation is satisfied that the material meets the required specification and has appropriate traceability. All material shall be accompanied by documentation clearly relating to the particular material and containing a conformity to specification statement plus both the manufacturing and supplier source.

#### 6. NOT APPLICABLE.

- (b) Prior to installation of a component, the maintenance organisation shall ensure that the particular component is eligible to be fitted when different modification and/or AD standards may be applicable.
- (c) The maintenance organisation may fabricate a restricted range of parts to be used in the course of undergoing work within its own facilities, or other facilities if this is approved by the NMAA, provided procedures are identified in the MOE.
- (d) Components which have reached their certified life limit or contain a non-repairable defect shall be classified as unsalvageable and shall not be permitted to re-enter the component supply system unless certified life limits have been extended or a repair solution has been approved according to EMAR 21.
- (e) NOT APPLICABLE.

#### 145.A.45 Maintenance data

(a) The maintenance organisation shall have access to and use applicable current maintenance data in the performance of maintenance, including modifications and repairs. 'Applicable' means relevant to any aircraft, component or process specified in the Maintenance Organisation Approval Schedule and in any associated capability list.

In the case of maintenance data provided by a CAMO/Operating Organisation, the maintenance organisation shall have access to such data when the work is in progress, with the exception of the need to comply with EMAR 145.A.55(c).

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- (b) For the purposes of EMAR 145, applicable maintenance data shall be any of the following:
  - 1. Any applicable requirement, procedure, operational directive or information issued by or provided by the NMAA;
  - 2. Any applicable AD issued by the NMAA.
  - 3. Instructions for Continuing Airworthiness, issued by (Military) Type Certificate (MTC) holders, (Military) Supplementary Type Certificate (MSTC) holders, any other organisation required to publish such data by EMAR 21 and in the case of aircraft or components from third countries the airworthiness data mandated by the Authority responsible for the oversight of the aircraft or component and accepted by the NMAA;
  - 4. Any applicable standard, such as but not limited to, maintenance standard practices recognised by the NMAA as a good standard for maintenance;
  - 5. Any applicable data issued in accordance with paragraph (d).
- (c) The maintenance organisation shall establish procedures to ensure that if found, any inaccurate, incomplete or ambiguous procedure, practice, information or maintenance instruction contained in the maintenance data used by maintenance personnel is recorded and notified to the author of the maintenance data.
- (d) The maintenance organisation may only modify maintenance instructions in accordance with a procedure specified in the MOE. With respect to those changes, the maintenance organisation shall demonstrate that they result in equivalent or improved maintenance standards and shall inform the MTC holder/MSTC holder of such changes. Maintenance instructions for the purposes of this paragraph means instructions on how to carry out the particular maintenance task: they exclude the engineering design of repairs and modifications.
- (e) The maintenance organisation shall provide a common work card or worksheet system to be used throughout relevant parts of the maintenance organisation. In addition, the maintenance organisation shall either transcribe accurately the maintenance data contained in paragraphs (b) and (d) onto such work cards or worksheets or make precise reference to the particular maintenance task or tasks contained in such maintenance data. Work cards and worksheets may be computer generated and held on an electronic database subject to both adequate safeguards against unauthorised alteration and a back-up electronic database which shall be updated within 24 hours of any entry made to the main electronic database. Complex maintenance tasks shall be transcribed onto the work cards or worksheets and subdivided into clear stages to ensure a record of the accomplishment of the complete maintenance task.

Where the maintenance organisation provides a maintenance service to an Operating Organisation/CAMO who requires their work card or worksheet system to be used then such work card or worksheet system may be used. In this case, the maintenance organisation shall establish a procedure to ensure correct completion of the Operating Organisation's/CAMO's work cards or worksheets.

(f) The maintenance organisation shall ensure that all applicable maintenance data is readily available for use when required by maintenance personnel.

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(g) The maintenance organisation shall establish a procedure to ensure that maintenance data it controls is kept up to date. In the case of maintenance data controlled and provided by the Operating Organisation/CAMO, the maintenance organisation shall be able to show that either it has written confirmation from the Operating Organisation/CAMO that all such maintenance data is up to date or it has work orders specifying the amendment status of the maintenance data to be used or it can show that it is on the Operating Organisation's/CAMO's maintenance data amendment list.

#### 145.A.47 Maintenance planning

- (a) The maintenance organisation shall have a system appropriate to the amount and complexity of work to plan the availability of all necessary personnel, tools, equipment, material, maintenance data and facilities in order to ensure the safe completion of the maintenance work.
- (b) The planning of maintenance tasks, and the organising of shifts, shall take into account human performance limitations.
- (c) When it is required to hand over the continuation or completion of maintenance tasks for reasons of a shift or personnel changeover, relevant information shall be adequately communicated between outgoing and incoming personnel.

#### 145.A.48 Performance of maintenance

- (a) All maintenance shall be performed by qualified personnel, following the methods, techniques, standards, and instructions specified in the <u>EMAR 145.A.45</u> maintenance data.
- (b) An independent inspection shall be carried out after any flight safety sensitive maintenance task unless otherwise specified in this EMAR or agreed by the NMAA.
- (c) Only the authorised certifying staff according to <a href="EMAR 145.A.35">EMAR 145.A.35</a> and in consultation with the CAMO as necessary, can decide, using <a href="EMAR 145.A.45">EMAR 145.A.45</a> maintenance data, whether an aircraft defect hazards seriously the flight safety and therefore decide when and which rectification action shall be taken before further flight and which defect rectification can be deferred. However, this does not apply when:
  - (1) the approved Minimum Equipment List as mandated by the NMAA is used; or
  - (2) aircraft defects are defined as being acceptable by the NMAA.
- (d) After completion of all maintenance, a general verification shall be carried out to ensure the aircraft or component is clear of all tools, equipment, and any other extraneous parts and material, and that all access panels removed have been refitted.

#### 145.A.50 Certification of maintenance

- (a) 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 <a href="EMAR 145.A.70">EMAR 145.A.70</a>, taking into account the availability and use of the maintenance data specified in <a href="EMAR 145.A.45">EMAR 145.A.45</a> and that there are no non-compliances which are known to endanger flight safety.
- (b) A CRS for aircraft shall be issued before flight at the completion of any maintenance.

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- (c) New defects or incomplete maintenance work orders identified during the above maintenance shall be brought to the attention of the Operating Organisation/CAMO for the specific purpose of obtaining agreement to rectify such defects or completing the missing elements of the maintenance work order. In the case where the Operating Organisation/CAMO declines to have such maintenance carried out under this paragraph, paragraph (e) is applicable.
- (d) A CRS for components shall be issued at the completion of any maintenance on a component whilst off the aircraft. The authorised release certificate or airworthiness approval tag identified as EMAR Form 1 constitutes the component CRS. When an AMO maintains a component for its own use, an EMAR Form 1 may not be necessary depending upon the AMO's internal release procedures defined in the MOE.
- (e) By derogation to paragraph (a), when the AMO is unable to complete all maintenance ordered/tasked, it may issue a CRS within the approved aircraft limitations. The AMO shall enter such fact in the aircraft CRS before the issue of such certificate. Details of any deferred maintenance are to be entered in the aircraft technical log by appropriately approved certifying staff.
- (f) By derogation to paragraphs (a) and <u>EMAR 145.A.42</u>, when an aircraft is grounded at a location other than the Main Operation Base (MOB) due to the non-availability of a component with an appropriate release certificate, it is permissible to temporarily fit a component with another release certificate, subject to CAMO approval, which is in compliance with all the applicable technical and operational requirements. The fitment of such components shall be noted in the aircraft documentation, with a provision for the component to be removed at a time specified by the CAMO, unless an appropriate release certificate has been obtained in the meantime under paragraph (a) and <u>EMAR 145.A.42</u>.

#### 145.A.55 Maintenance records

- (a) The maintenance organisation shall record all details of maintenance work carried out. As a minimum, the AMO shall retain records necessary to prove that all requirements have been met for issuance of the CRS, including all release documents.
- (b) The AMO shall provide a copy of each CRS to the CAMO, together with a copy of any specific repair/modification data used for repairs/modifications carried out.
- (c) The AMO shall retain a copy of all detailed maintenance records and any associated maintenance data for three years from the date the aircraft or component to which the work relates was released from the AMO.
  - 1. Records under this paragraph shall be stored in a manner that ensures protection from damage, alteration and theft. The records shall remain readable and accessible for the duration of the storage period.
  - 2. Computer backup discs, tapes etc. shall be stored in a different location from that containing the working discs, tapes etc., in an environment that ensures they remain in good condition.
  - 3. Where an AMO terminates its operation, all retained maintenance records covering the last three years shall be distributed to the CAMO responsible for the respective aircraft or component or shall be stored as specified by the NMAA.

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#### 145.A.60 Occurrence reporting

- (a) The maintenance organisation shall report to the NMAA and all further addressees as required by national regulations any condition of the aircraft or component identified by the maintenance organisation that has resulted or may result in an unsafe condition that hazards seriously the flight safety.
- (b) The maintenance organisation shall establish an internal occurrence reporting system as detailed in the MOE to enable the collection and evaluation of such reports, including the assessment and extraction of those occurrences to be reported under paragraph (a). This procedure shall identify adverse trends, corrective actions taken or to be taken by the maintenance organisation to address deficiencies and include evaluation of all known relevant information relating to such occurrences and a method to circulate the information as necessary.
- (c) The maintenance organisation shall make such reports in a form and manner established by the NMAA, and ensure that they contain all pertinent information about the condition and evaluation results known to the maintenance organisation.
- (d) The maintenance organisation shall report to the CAMO/Operating Organisation any such condition affecting the aircraft or component.
- (e) The maintenance organisation shall produce and submit such reports within predefined NMAA timeframes, but in any case within 72 hours of the maintenance organisation identifying the condition to which the report relates.

#### 145.A.65 Safety and quality policy, maintenance procedures and quality system

- (a) The maintenance organisation shall establish a safety and quality policy for the maintenance organisation to be included in the MOE under EMAR 145.A.70.
- (b) The maintenance organisation shall establish procedures agreed by the NMAA taking into account human factors and human performance to ensure good maintenance practices and compliance with EMAR 145 which shall include a clear work order or contract such that aircraft and components may be released to service in accordance with EMAR 145.A.50.
  - 1. The maintenance procedures under this paragraph apply to <u>EMAR 145.A.25</u> to <u>EMAR 145.A.95</u>.
  - 2. The maintenance procedures established or to be established by the maintenance organisation under this paragraph shall cover all aspects of carrying out the maintenance activity, including the provision and control of specialised services and lay down the standards to which the maintenance organisation intends to work.
  - 3. With regard to aircraft line and base maintenance, the maintenance organisation shall establish procedures to minimise the risk of multiple errors and capture errors on critical systems, and to ensure that no person is required to carry out and inspect in relation to a maintenance task involving some element of disassembly/reassembly of several components of the same type fitted to more than one system on the same aircraft during a particular maintenance check. However, when only one person is available to carry out these tasks then the maintenance organisation's work card or worksheet shall include an additional stage for re-inspection of the work by this person after completion of all the same tasks.

- 4. Maintenance procedures shall be established to ensure that damage is assessed and modifications and repairs are carried out using data specified in EMAR M.A.304.
- (c) The maintenance organisation shall establish a quality system that includes the following:
  - 1. Independent audits in order to monitor compliance with required aircraft/aircraft component standards and adequacy of the procedures to ensure that such procedures invoke good maintenance practices and airworthy aircraft/aircraft components; and
  - 2. A quality feedback reporting system to the person or group of persons specified in <u>EMAR 145.A.30(b)</u> and ultimately to the Accountable Manager that ensures proper and timely corrective action is taken in response to reports resulting from the independent audits established to meet paragraph (1).
- (d) The maintenance organisation shall ensure that its personnel have access to quality system documentation and are knowledgeable of procedures relevant to their function.
- (e) Where an organisation has several EMAR approvals, the quality systems may be combined.

#### 145.A.70 Maintenance Organisation Exposition (MOE)

- (a) 'Maintenance Organisation Exposition' means the document or documents that contain the material specifying the scope of work deemed to constitute approval and showing how the maintenance organisation intends to comply with EMAR 145. The maintenance organisation shall provide the NMAA with a MOE containing the following information:
  - 1. A statement signed by the Accountable Manager confirming that the MOE and any referenced associated manuals define the maintenance organisation's compliance with EMAR 145 and shall be complied with at all times. When the Accountable Manager is neither the Chief Executive Officer nor senior military commander of the maintenance organisation then one of the latter shall countersign the statement; and
  - 2. The maintenance organisation's safety and quality policy as specified by <u>EMAR</u> <u>145.A.65</u>; and
  - 3. The title(s) and name(s) of the persons nominated under <u>EMAR 145.A.30(b)</u>; and
  - 4. The duties and responsibilities of the persons nominated under <a href="EMAR"><u>EMAR</u></a></a>
    <a href="145.A.30">145.A.30</a></a>(b), including matters on which they may deal directly with the NMAA on behalf of the maintenance organisation; and
  - 5. An organisation chart showing associated chains of responsibility between the persons nominated under <a href="EMAR 145.A.30">EMAR 145.A.30</a>(b); and
  - 6. A list of certifying staff and support staff; and
  - 7. A general description of manpower resources; and
  - 8. A general description of the facilities located at each address specified in the maintenance organisation's approval certificate; and

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- 9. A specification of the maintenance organisation's scope of work relevant to the extent of approval; and
- 10. The notification procedure of EMAR 145.A.85 for organisation changes; and
- 11. The MOE amendment procedure; and
- 12. The procedures and quality system established by the maintenance organisation under <u>EMAR 145.A.25</u> to <u>EMAR 145.A.90</u>; and
- 13. A list of Operating Organisations and CAMOs to which the maintenance organisation provides an aircraft maintenance service; and
- 14. A list of contracted/tasked organisations, where applicable, as specified in EMAR 145.A.75(b); and
- 15. A list of line stations, where applicable, as specified in EMAR 145.A.75(d); and
- 16. A list of contracted/tasked organisations operating under their own EMAR approval, where applicable.
- (b) The MOE shall be amended as necessary to remain an up-to-date description of the maintenance organisation. The MOE and any subsequent amendment shall be approved by NMAA.
- (c) Notwithstanding paragraph (b), minor amendments to the MOE may be approved through an MOE procedure (hereinafter called indirect approval).
- (d) Where a maintenance organisation has an extant EASA Part 145 approval, those parts of the organisation's EASA Part 145 exposition that are equally applicable to satisfy the EMAR 145 requirements shall generally be accepted by the NMAA as equivalent in respect of the EMAR 145 MOE. In this case it is permissible that only those requirements that are military specific need be addressed in the EMAR 145 MOE; those requirements covered by read-across of the sections of the EASA exposition shall be identified and the EASA exposition clause reference quoted.
- (e) Paragraph moved to EMAR 145.A.65(d)

#### 145.A.75 Privileges of the AMO

In accordance with the MOE, the AMO shall be entitled to carry out the following tasks:

- (a) Maintain any aircraft and/or component listed on its approval certificate at the locations identified in the approval certificate and in the MOE;
- (b) Arrange for the maintenance of any aircraft or component, listed on its approval certificate, to be carried out by another maintenance organisation that is working under the quality system of the AMO. This refers to work being carried out by a maintenance organisation not itself appropriately approved to carry out such maintenance under this EMAR and is limited to the work scope permitted under <a href="EMAR 145.A.65">EMAR 145.A.65</a>(b) procedures. This work scope shall not include a base maintenance check of an aircraft or a complete workshop maintenance check or overhaul of an engine or engine module. The AMO that contracts/tasks such work retains responsibility for all these maintenance activities irrespective of who is undertaking them. All such maintenance organisations shall be listed in the MOE;

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- (c) Maintain any aircraft or any component listed on its approval certificate at any location subject to the need for such maintenance arising either from the unserviceability of the aircraft or from the necessity of supporting occasional line maintenance, subject to the conditions specified in the MOE;
- (d) Maintain any aircraft and/or component listed on its approval certificate at a location identified as a line maintenance location capable of supporting minor maintenance and only if the MOE both permits such activity and lists such locations;
- (e) Issue CRSs in respect of completion of maintenance in accordance with <u>EMAR</u> 145.A.50.

#### 145.A.80 Limitations on the AMO

The AMO shall only maintain an aircraft or component for which it is approved when all the necessary facilities, equipment, tooling, material, maintenance data and certifying staff are available.

#### 145.A.85 Changes to the AMO

The AMO shall notify the NMAA of any proposal to carry out any of the following changes before such changes take place to enable the NMAA to determine continued compliance with EMAR 145 and to amend, if necessary, the approval certificate, except that in the case of proposed changes in personnel not known to the management beforehand, these changes shall be notified at the earliest opportunity.

- 1. The name of the AMO;
- 2. The main location of the AMO;
- 3. Additional locations of the AMO;
- 4. The Accountable Manager and all appointed deputies;
- 5. Any of the persons nominated under <u>EMAR 145.A.30</u>(b) and their appointed deputies;
- 6. The facilities, equipment, tools, material, procedures, work scope or certifying staff that could affect the approval;
- 7. The ownership of the AMO or its parent company.

#### 145.A.90 Continued validity of approval

- (a) An approval shall be issued for an unlimited duration. It shall remain valid subject to:
  - 1. The AMO remaining in compliance this EMAR, in accordance with the provisions related to the handling of findings in accordance with <u>EMAR 145.B.50</u>; and
  - 2. The NMAA being granted access to the AMO to determine continued compliance with this EMAR; and
  - 3. The certificate not being surrendered or revoked.
- (b) Upon surrender or revocation, the approval shall be returned to the NMAA.

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#### 145.A.95 AMO Findings by the NMAA

- (a) After receipt of notification of findings according to EMAR 145.B.50, the AMO shall:
  - 1. Identify the root cause of the non-compliance; and
  - 2. Define a corrective action plan; and
  - 3. Demonstrate corrective action implementation to the satisfaction of the NMAA within a period required by the NMAA.
- (b) A level 1 finding is any significant non-compliance with EMAR 145 requirements which lowers the safety standard and hazards seriously the flight safety. Depending upon the extent of the level 1 finding, it leads to an immediate full or partial revocation, limitation or suspension of the approval by the NMAA until successful corrective action has been taken by the AMO.
- (c) A level 2 finding is any non-compliance with the EMAR 145 requirements which could lower the safety standard and possibly hazards the flight safety.
- (d) An AMO's non-compliance with the actions identified in <u>EMAR 145.A.95(a)</u> leads to a full or partial suspension of the approval by the NMAA.

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#### **SECTION B**

#### PROCEDURES FOR NATIONAL MILITARY AIRWORTHINESS AUTHORITIES

#### 145.B.01 Scope

This section establishes the administrative procedures which the NMAA shall follow when exercising its tasks and responsibilities regarding issuance, continuation, change, suspension or revocation of maintenance organisation approvals in accordance with the requirements of EMAR 145.

## 145.B.10 National Military Airworthiness Authority

#### (a) General

The participating Member States (pMS) shall designate their NMAA with allocated responsibilities for the issuance, continuation, change, suspension or revocation of a maintenance organisation approval. This NMAA shall establish documented procedures and an organisational structure.

#### (b) Resources

The number of staff shall be appropriate to carry out the requirements as detailed in this section.

#### (c) Qualification and training

All staff involved in EMAR 145 approvals shall:

- 1. Be appropriately qualified and have all necessary knowledge, experience and training to perform their allocated tasks.
- 2. Have received initial training/continuation training on EMAR 145 where relevant, including its intended meaning and standard.

#### (d) Procedures

The NMAA shall establish procedures detailing how compliance with this Section B is accomplished.

The procedures shall be reviewed and amended to ensure continued compliance.

#### 145.B.15 Maintenance Organisations located in several pMS

NOT APPLICABLE.

#### 145.B.20 Initial approval

- (a) Provided the requirements of <u>EMAR 145.A.30</u>(a) and (b) are complied with, the NMAA shall formally indicate its acceptance of the personnel, specified in <u>EMAR 145.A.30</u>(a) and (b), to the applicant in writing.
- (b) The NMAA shall establish that the procedures specified in the MOE comply with EMAR 145 and verify that the Accountable Manager signs the commitment statement.
- (c) The NMAA shall verify that the maintenance organisation is in compliance with the requirements of EMAR 145.

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- (d) A meeting between the NMAA and the Accountable Manager shall be convened at least once during the investigation for approval to ensure that he/she fully understands the significance of the approval and the reason for signing the MOE commitment statement to compliance with the procedures specified in the MOE.
- (e) All findings must be confirmed in writing to the maintenance organisation.
- (f) The NMAA shall record all findings, closure actions (actions required to close a finding) and recommendations.
- (g) For initial approval, all findings shall be corrected by the maintenance organisation and accepted by the NMAA before the approval can be issued.
- (h) The NMAA shall also verify the validity of all MAMLs held by maintenance organisation personnel specified in EMAR 145.A.30 and EMAR 145.A.35.

## 145.B.25 Issue of approval

- (a) The NMAA shall formally approve the MOE and issue to the applicant an EMAR Form 3 approval certificate, which includes the approval ratings (specified in Appendix II). The NMAA shall only issue a certificate when the maintenance organisation is in compliance with EMAR 145.
- (b) The NMAA shall indicate the conditions of the approval on the EMAR Form 3 approval certificate.
- (c) The reference number shall be included on the EMAR Form 3 approval certificate.

#### 145.B.30 Continuing oversight

The continuation of an approval shall be monitored in accordance with the applicable 'initial approval' process under EMAR 145.B.20. In addition:

- (a) The NMAA shall keep and update a program listing the AMOs under its supervision, the dates when audit visits are due and when such visits were carried out.
- (b) Each AMO shall be reviewed for compliance with EMAR 145 at periods not exceeding 24 months.
- (c) A meeting with the Accountable Manager shall be convened at least once every 24 months to ensure he/she remains informed of significant issues arising during audits.
- (d) All findings shall be confirmed officially to the AMO.
- (e) The NMAA shall record all findings, their level and corrective actions taken (date due, date closed and the reference) and recommendations.

#### **145.B.35 Changes**

- (a) The NMAA shall receive notification from the AMO of any proposed change as listed in <u>EMAR 145.A.85</u>. The NMAA shall follow the applicable elements of the initial process paragraphs for any change to the AMO.
- (b) The NMAA may prescribe the conditions under which the AMO may operate during such changes unless it determines that the approval should be suspended due to the nature or the extent of the changes.

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#### 145.B.40 Maintenance Organisation Exposition (MOE) amendments

For any change to the MOE:

- (a) In the case of direct approval of the amendments of the MOE, the NMAA shall verify that the procedures specified in the MOE are in compliance with EMAR 145 before formally notifying the AMO of the approval.
- (b) In the case of indirect approval of amendments of the MOE, the NMAA shall ensure that:
  - (i) the amendments remain minor; and
  - (ii) it has an adequate control over the approval of all MOE amendments to ensure they remain in compliance with EMAR 145.

#### 145.B.45 Revocation, suspension and limitation of approval

The NMAA shall:

- (a) suspend an approval on reasonable grounds in the case of a potential safety threat; or
- (b) suspend, revoke or limit an approval pursuant to **EMAR 145.B.50**.

#### **145.B.50 Findings**

- (a) When during audits or by other means evidence is found showing non-compliance with the requirements of EMAR 145, the NMAA shall take the following actions:
  - 1. For level 1 findings, immediate action shall be taken by the NMAA to revoke, limit or suspend in whole or in part, depending upon the extent of the level 1 finding, the AMO approval, until successful corrective action has been taken by the AMO.
  - 2. For level 2 findings, the corrective action period granted by the NMAA must be appropriate to the nature of the finding but in any case initially must not be more than three months. In certain circumstances and subject to the nature of the finding the NMAA may extend the three month period subject to a satisfactory corrective action plan agreed by the NMAA.
- (b) Action shall be taken by the NMAA to suspend in whole or in part the approval in case of failure to comply within the timescale granted by the NMAA.
- (c) The NMAA shall have a system to analyse findings for their safety significance.

#### 145.B.55 Record-keeping

- (a) The NMAA shall establish a system of record-keeping with minimum retention criteria that allows adequate traceability of the process to issue, continue, change, suspend or revoke each individual maintenance organisation approval.
- (b) The records shall include as a minimum:
  - 1. The application for an maintenance organisation approval, including the continuation thereof; and

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- 2. The NMAA continued oversight program including all audit records; and
- 3. A copy of the AMO approval certificate including any change thereto; and
- 4. A copy of the audit program listing the dates when audits are due and when audits were carried out; and
- 5. Copies of all formal correspondence including EMAR Form 4; and
- 6. Details of any exemption and enforcement action(s); and
- 7. Any other NMAA audit report forms; and
- 8. MOEs.
- (c) The minimum retention period for the above records shall be four years.
- (d) Moved to GM EMAR 145.B.55.
- (e) The records shall be stored in a manner that ensures protection from damage, alteration and theft. The records shall remain readable and accessible for the duration of the storage period.

# 145.B.60 Exemptions

All exemptions granted shall be recorded and retained by the NMAA.

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# Appendix I - Authorised Release Certificate EMAR Form 1

EMAR Form 1 is contained in the EMAR Forms document.

# Appendix II - Class and Rating System to be used for the Approval of Maintenance Organisations

- 1. Table 1 outlines the full extent of approval possible under EMAR 145 in a standardised form. A maintenance organisation shall be granted an approval ranging from a single class and rating with limitations to all classes and ratings with limitations.
- 2. In addition to Table 1 the maintenance organisation is required by <u>EMAR 145.A.20</u> to indicate its scope of work in the MOE. See also paragraph 11.
- 3. Within the approval class(es) and rating(s) granted by the NMAA, the scope of work specified in the MOE defines the exact limits of approval. It is therefore essential that the approval class(es) and rating(s) and the maintenance organisation's scope of work are matching.
- 4. A Category A class rating means that the AMO may carry out maintenance on the aircraft and any component (including engines/APUs), in accordance with aircraft maintenance data or, if agreed by the NMAA, in accordance with component maintenance data, only whilst such components are fitted to the aircraft. Nevertheless, such A-rated AMO may temporarily remove a component for maintenance, in order to improve access to that component, except when such removal generates the need for additional maintenance not covered under the provisions of this paragraph. This shall be subject to a control procedure in the MOE to be approved by the NMAA. The limitation section shall specify the scope of such maintenance thereby indicating the extent of approval.
- 5. A Category B class rating means that the AMO may carry out maintenance on the uninstalled engine and/or APU ('Auxiliary Power Unit') and engine and/or APU components, in accordance with engine and/or APU maintenance data or, if agreed by the NMAA, in accordance with component maintenance data only whilst such components are fitted to the engine and/or APU. Nevertheless, such B-rated AMO may temporarily remove a component for maintenance, in order to improve access to that component, except when such removal generates the need for additional maintenance not covered under the provisions of this paragraph. The limitation section shall specify the scope of such maintenance thereby indicating the extent of approval. An AMO with a Category B class rating may also carry out maintenance on an installed engine during 'base' and 'line' maintenance subject to a control procedure in the MOE to be approved by the NMAA. The MOE scope of work shall reflect such activity where permitted by the NMAA.
- 6. A Category C class rating means that the AMO may carry out maintenance on uninstalled components (excluding engines and APUs) intended for fitment to the aircraft or engine/APU. The limitation section shall specify the scope of such maintenance thereby indicating the extent of approval. An AMO with a Category C class rating may also carry out maintenance on an installed component during base and line maintenance or at an engine/APU maintenance facility subject to a control procedure in the MOE to be approved by the NMAA. The MOE scope of work shall reflect such activity where permitted by the NMAA.
- 7. A Category D class rating is a self-contained class rating not necessarily related to a specific aircraft, engine or other component. The D1 Non-Destructive Testing (NDT) rating is only necessary for an AMO that carries out NDT as a particular task for another maintenance organisation. An AMO with a class rating in A or B or C Category may carry out NDT on products it is maintaining subject to the MOE containing NDT procedures, without the need for a D1 class rating.

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- 8. Category A class ratings are subdivided into 'base' or 'line' maintenance. A maintenance organisation may be approved for either 'base' or 'line' maintenance or both. It should be noted that a 'line' facility located at a main base facility requires a 'line' maintenance approval.
- 9. The 'limitation' section is intended to give the NMAA the flexibility to customise the approval to a particular maintenance organisation. Ratings shall be mentioned on the approval only when appropriately limited. Table 1 specifies the types of limitation possible (an example could be avionic systems installations and related maintenance). Whilst maintenance is listed last in each class rating it is acceptable to stress the maintenance task rather than the aircraft or engine type or manufacturer, if this is more appropriate to the maintenance organisation (an example could be avionic systems installations and maintenance). Such mention in the limitation section indicates that the maintenance organisation is approved to carry out maintenance up to and including this particular type/task.
- 10. Table 1 makes reference to series, type and group in the limitation section of class A and B. Series means a specific type series such as Tiger series or Tornado series or Rafale series or Super Puma series or AB 212 series or Gripen series or C 101 series or C 235 series etc. Type means a specific type or model such as C 130 H type or C 130 J type, Tiger HAP type or Tiger HAD type etc. Any number of series or types may be quoted. Group means for example: "Rolls Royce T-56 Turbo prop engines" or "Fokker twin turbo prop aircraft".
- 11. When a lengthy capability list is used which could be subject to frequent amendment, then such amendment shall be in accordance with a procedure acceptable to the NMAA and included in the MOE. The procedure shall address the issues of who is responsible for capability list amendment control and the actions that need to be taken for amendment. Such actions include ensuring compliance with EMAR 145 for products or services added to the list.

12. NOT APPLICABLE.

# Table 1

CLASS	RATING	LIMITATION	BASE	LINE
	A1 Aeroplanes/	[State aeroplane manufacturer or	[YES/	[YES/
AIRCRAFT	above 5 700 kg	group or series or type and/or the maintenance task(s)]	NO]*	NOJ*
	A2 Aeroplanes/	[State aeroplane manufacturer or	[YES/	[YES/
	5 700 kg and below	group or series or type and/or the	NOJ*	NOJ*
	A3 Helicopters	maintenance tasks] [State helicopter manufacturer or	[YES/	[YES/
	Ad Helicopters	group or series or type and/or the	NO]*	NO]*
		maintenance task(s)]	-	_
	A4 Aircraft other than A1, A2 and A3	[State aircraft series or type and/or the maintenance task(s)]	[YES/ NO]*	[YES/ NO]*
	· ·	\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \	_	
ENGINES/APU	B1 Turbine	[State engine series or type and/or the r	naintenance	e task(s)]
	B2 Piston	[State engine manufacturer or group of the maintenance task(s)]	r series or	type and/or
	B3 APU	[State engine manufacturer or serie maintenance task(s)]	s or type	and/or the
COMPONENTS		S1000D CHAPTER REFERENCE <sup>1</sup>	LIMITA (aircrai	
other than complete engines or APU's		INLI LINLINOL	compo	onent,
<b>5</b>	C1 Air Cond & Press	21		
	C2 Auto Flight	22		
	C3 Comms and Nav	23-34-43		
	C4 Doors — Hatches	52		
	C5 Electrical Power & Lights	24-33-91		
	C6 Equipment	25-38-45-50		
	C7 Engine — APU	49-71-72-73-74-75-76-77-78- 79-80-81-82-83-86		
	C8 Flight Controls	27-55-57.40-57.50-57.60- 57.70		
	C9 Fuel — Airframe	28-48		
	C10 Helicopter — Rotors	62-64-66-67		
	C11 Helicopter — Trans	63-65		
	C12 Hydraulic Power	29		
	C13 Indicating - recording system	31-46		
	C14 Landing Gear	32-90		
	C15 Oxygen	35-47		
	C16 Propellers	61		
	C17 Pneumatic & Vacuum	36-37		
	C18 Protection ice/ rain/fire	26-30		
	C19 Windows	56		
	C 20 Structural	53-54-57.10-57.20-57.30		
	C 21 Water Ballast	41		
	C 22 Propulsion Augmentation	84		
	C 51 Attack systems	39-40-42		
	C 52 Radar/ Surveillance	92-93		
	C 53 Weapons systems	94		
	C 54 Crew escape &Safety	95		
	C 55 Drones/Telemetry	96-00, 96-30, 96-40		
	C 56 Reconnaissance	97-98		
	C 57 Electronic warfare	99		
SPECIALISED	D1 Non-Destructive Testing	[State particular NDT method(s)]		
SERVICES	D5 Arms, Munitions and Pyrotechnic Systems Specific	[State arms type and maintained pyrote	chnic syster	ms]

S1000D Chapter Reference: in conformity with "S1000D Main System Breakdown"

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EMAR Form 3 is contained in the EMAR Forms document.

Appendix IV - Not Applicable

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#### EMAR 145 Ed 1.1 -vs - EMAR 145 Ed 1.2 TABLE OF CHANGES

In accordance with the direction received from the MAWA Forum, all amended paragraphs from EMAR 145 Edition 1.1 are indicated by the use of a 'sidebar' in the margin. This can be readily cross-referenced using this table which details each change.

#### Nomenclature Used:

Additions to the text introduced in Edition 1.2 are tabulated below in red. Deletions of text from Edition 1.1 are indicated by the use of ▶ ◄. In both cases, the reason for the difference is clarified in the 'notes' column'.

If a paragraph is not included on the table, then no amendments have been made (but see 'Note' below).

Note: The following minor changes have been introduced throughout the document. If these are the <u>only</u> changes in a paragraph, then they are not included in this table and sidebars have not been used:

- 1. 'Maintenance Organisation Exposition' has been replaced by 'MOE'
- 2. 'Approved Maintenance Organisation' has been replaced by 'AMO'
- 3. Reference to 'B mil' removed (EMAR 66 does not contain the B mil rating).
- 4. 'or national equivalent qualification' removed because EMAR 66 has been published.
- 5. 'airworthiness directive' has been replaced by 'AD'.
- 6. 'aircraft maintenance licence' and 'Military Aircraft Maintenance Licence' have both been replaced by 'MAML'.
- 7. 'certificate of release to service' has been replaced by 'CRS'
- 8. 'Continuing Airworthiness Management Organisation' has been replaced by 'CAMO'
- 9. 'sub-paragraph' has been replaced by 'subparagraph'
- 10. 'organisation' has been replaced by 'maintenance organisation' or 'AMO' for clarity where appropriate (See Note 4, page 4)

Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
145.A.25 Facility requirements	(c)	The working environment including aircraft hangars, component workshops and office accommodation is appropriate for the task carried out and in particular special requirements observed. Unless otherwise dictated by the particular task environment, the working environment must be such that the effectiveness of personnel is not impaired:	The working environment including aircraft hangars, component workshops and office accommodation is appropriate for the task carried out and in particular special requirements observed. Unless otherwise dictated by the particular task environment, the working environment shall be such that the effectiveness of personnel is not impaired:	'must' changed to 'shall' for correct use of nomenclature in the requirements
	(c)1	Temperatures must be maintained such that personnel can carry out required tasks without undue discomfort.	Temperatures shall be maintained such that personnel can carry out required tasks without undue discomfort.	'must' changed to 'shall' for correct use of nomenclature in the requirements
	(c)2	Dust and any other airborne contamination are kept to a minimum and not be permitted to reach a level in the work task area where visible aircraft/component surface contamination is evident. Where dust/other airborne contamination results in visible surface contamination, all susceptible systems are sealed until acceptable conditions are re-established.	Dust and any other airborne contamination > < shall be kept to a minimum and not be permitted to reach a level in the work task area where visible aircraft/component surface contamination is evident. Where dust/other airborne contamination results in visible surface contamination, all susceptible systems are sealed until acceptable conditions are reestablished.	'are kept' changed to 'shall be kept' for correct use of nomenclature in the requirements.
	(c)3	Lighting is such as to ensure each inspection and maintenance task can be carried out in an effective manner.	Lighting shall be such as to ensure each inspection and maintenance task can be carried out in an effective manner.	'is' changed to 'shall be' for correct use of nomenclature in the requirements
	(c)5	Where a particular maintenance task requires the application of specific environmental conditions different to the foregoing, then such conditions are observed. Specific conditions are identified in the maintenance data.		1. 'are' changed to 'shall be' for correct use of nomenclature in the requirements.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(c)6	The working environment for line maintenance are such that the particular maintenance or inspection task can be carried out without undue distraction. Therefore where the working environment deteriorates to an unacceptable level in respect of temperature, moisture, hail, ice, snow, wind, light, dust/other airborne contamination, the particular maintenance or inspection tasks must be suspended until satisfactory conditions are re-established.	The working environment for line maintenance shall be such that the particular maintenance or inspection task can be carried out without undue distraction. Therefore where the working environment deteriorates to an unacceptable level in respect of temperature, moisture, hail, ice, snow, wind, light, dust/other airborne contamination, the particular maintenance or inspection tasks must be suspended until satisfactory conditions are reestablished.	'is' changed to 'shall be' for correct use of nomenclature in the requirements.
	(d)	Secure storage facilities are provided for components, equipment, tools and material. Storage conditions ensure segregation of serviceable components and material from unserviceable aircraft components, material, equipment and tools. The conditions of storage are at least in accordance with the manufacturer's instructions to prevent deterioration and damage of stored items. Access to storage facilities is restricted to authorised personnel.	for components, equipment, tools and material. Storage conditions ensure segregation of serviceable components and material from unserviceable aircraft components, material, equipment and tools. The conditions of storage shall be in accordance with the manufacturer's instructions to prevent deterioration and damage of stored items. Access to storage facilities shall be restricted to authorised personnel.	use of nomenclature in the requirements.  2. Text was originally inserted into EMAR 145 to cover military specificities. However, following discussion, 'at least' removed because this could have airworthiness implications.
145.A.30 Personnel requirements	(b)2	The person or persons nominated shall be identified and their credentials submitted in form and manner established by the NMAA.	The person or persons nominated shall be identified and their credentials submitted in a form and manner established by the NMAA.	1. 'a' inserted for correct use of English

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(b)3	The person or persons nominated shall be able to demonstrate relevant knowledge, background and satisfactory experience related to aircraft or component maintenance and demonstrate a working knowledge of EMAR 145.		1. Amended to re-align with EASA Part 145.
	(d)	The organisation shall have a maintenance man-hour plan showing that the organisation has sufficient staff to plan, perform, supervise, inspect and quality monitor the organisation in accordance with the approval. In addition the organisation shall have a procedure to reassess work intended to be carried out when actual staff availability is less than the planned staffing level for any particular work shift or period.	The maintenance organisation shall have a maintenance man-hour plan showing that the maintenance organisation has sufficient competent staff to plan, perform, supervise, inspect and quality monitor the maintenance organisation in accordance with the approval. In addition the maintenance organisation shall have a procedure to reassess work intended to be carried out when actual staff availability is less than the planned staffing level for any particular work shift or period.	'maintenance' inserted for clarity.     'competent' added to provide clarity to the statement and stress that the staff must be competent for the planned workload. Aligns with the EASA amendment to the AMC.
	(e)	The organisation shall establish and control the competence of personnel involved in any maintenance, management and/or quality audits in accordance with a procedure and to a standard defined through the MOE and approved by the NMAA. In addition to the necessary expertise related to the job function, competence must include an understanding of the application of human factors and human performance issues appropriate to that person's function in the organisation.	The maintenance organisation shall establish and control the competence of personnel involved in any maintenance, management and/or quality audits in accordance with a procedure and to a standard defined through the MOE and approved by the NMAA. In addition to the necessary expertise related to the job function, competence shall include an understanding of the application of human factors and human performance issues appropriate to that person's function in the maintenance organisation.	'maintenance' inserted for clarity.     'must' changed to 'shall' for correct use of nomenclature in the requirements

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(f)	The organisation shall ensure that personnel who carry out and/or control a non-destructive test of aircraft structures and/or components are appropriately qualified for the particular non-destructive test in accordance with the European or equivalent Standard recognised by the NMAA. Personnel who carry out any other specialised task shall be appropriately qualified in accordance with officially recognised Standards. By derogation to this paragraph those personnel specified in paragraphs (g) and (h)(1) and (h)(2), qualified in EMAR 66 category B1 or national equivalent qualification may carry out and/or control colour contrast dye penetrant tests.	recognised by the NMAA. Personnel who carry out any other specialised task shall	
	(f)1		By derogation to ▶ ◀ paragraph (f), a maintenance organisation may authorise those personnel specified in paragraphs (g) and (h)(1) ▶ ◀, qualified in Category B1 in accordance with EMAR 66, to carry out and/or control colour contrast dye penetrant inspections/visible dye penetrant inspections which are to be detailed in the MOE.	wording adjusted to reflect that derogation is from paragraph (f).  2. 'a maintenance organisation may authorise' added to indicate that it is not mandatory  3. 'and h(2) deleted because paragraph is not applicable.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(g)	Any organisation maintaining aircraft, except where stated otherwise in paragraph (j), shall in the case of aircraft line maintenance, have appropriate aircraft type rated certifying staff, qualified as category B1, B2 and B mil or national equivalent qualification in accordance with EMAR 66 and EMAR 145.A.35.  In addition such organisations may also use appropriately task trained certifying	Any maintenance organisation maintaining aircraft, except where stated otherwise in paragraph (j), shall in the case of aircraft line maintenance, have appropriate Military Aircraft Type Rated certifying staff, qualified as Category B1 and B2 ► as appropriate, in accordance with EMAR 66 and EMAR 145.A.35.  In addition such maintenance oranisations	5 1 5
		staff qualified as category A or national equivalent qualification in accordance with EMAR 66 and EMAR 145.A.35 to carry out minor scheduled line maintenance and simple defect rectification. The availability of such category A certifying staff shall not replace the need for EMAR 66 category B1, B2 and B mil or national equivalent qualification certifying staff to support the category A certifying staff. However, such EMAR 66 category B1, B2 and B mil or national equivalent qualified staff need not always be present at the line station during minor scheduled line maintenance or simple defect rectification.	may also use appropriately task trained certifying staff holding the privileges described in EMAR 66.A.20(a)(1) or EMAR 66.A.20(a)3(ii) and qualified in accordance with EMAR 66 and EMAR 145.A.35 to carry out minor scheduled line maintenance and simple defect rectification. The availability of such ► < certifying staff shall not replace the need for Category B1 and B2 certifying staff as appropriate. ► <	EASA at M6 which has been slightly amended to refer to the EMARs.  5. 'Category A' removed for improved readability.  6. Last sentence deleted at EASA M6.
		To ensure the achievement of certain operations of maintenance, such as the maintenance and operations of laying and removal of armaments, the organisation must have sufficient staff possessing the class B mil or national equivalent qualification.	<b>▶</b>	6. Text moved to new paragraph (k), applicable to line and base maintenance

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	h(1)	In the case of base maintenance of aircraft, have appropriate aircraft type rated certifying staff qualified as category C or national equivalent qualification in accordance with EMAR 66 or equivalent and EMAR 145.A.35. In addition the organisation shall have sufficient aircraft type rated staff qualified as category B or national equivalent in accordance with EMAR 66 or equivalent and EMAR 145.A.35 to support the category C staff or national equivalent qualification.	In the case of base maintenance of aircraft, have appropriate Military Aircraft Type Rated certifying staff qualified as Category C ► In accordance with EMAR 66 ► In accordance with EMAR 66 ► In addition the maintenance organisation shall have sufficient Military Aircraft Type Rated staff qualified as Category B1 or B2 as appropriate in accordance with EMAR 66 and EMAR 145.A.35 to support the Category C staff.	<ol> <li>'maintenance' inserted for clarity.3. 'or B2' added for clarification.</li> <li>'as appropriate' added by EASA at M6.</li> </ol>
	(h)1(i)	Category B1, B2 and B mil staff shall ensure that all relevant tasks or inspections have been carried out to the required standard before the category C or national equivalent qualification certifying staff issues the certificate of release to service.	shall ensure that all relevant maintenance tasks ► ◀ have been carried out to the required standard before the Category C	<ol> <li>2. 'maintenance' includes 'inspections' (EMAD 1 definition refers)</li> <li>3. The correct terminology is 'Certificate of</li> </ol>
	(i)	Component certifying staff shall comply with EMAR 66 or national equivalent qualification.	Component certifying staff shall be authorised by the maintenance organisation on the basis of appropriate competence, training and experience in accordance with a procedure(s) contained in the MOE.	1. Reference to EMAR 66 is not appropriate because it does not contain information on component certifying staff. Revised text is based on EASA Reg No 1321/2014.
	(j)	By derogation to paragraphs (g) and (h), the organisation may use certifying staff qualified in accordance with the following provisions:	By derogation to paragraphs (g) and (h), in relation to the obligation to comply with EMAR 66 the maintenance organisation may use certifying staff qualified in accordance with the following provisions:	<ol> <li>'in relation to' added at EASA M6.</li> <li>'maintenance' inserted for clarity.</li> </ol>

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(j)3	For a repetitive pre-flight airworthiness directive which specifically states that the flight crew may carry out such airworthiness directive, the organisation may issue a limited certification authorisation to the aircraft commander and/or the flight engineer on the basis of the flight crew licence or national equivalent qualification held. However, the organisation shall ensure that sufficient practical training has been carried out to ensure that such aircraft commander or flight engineer can accomplish the airworthiness directive to the required standard.	held. However, the maintenance organisation shall ensure that sufficient practical training has been carried out to ensure that such aircraft commander and/or flight engineer can accomplish the	'airworthiness directive' replaced by 'AD'     'maintenance' inserted for clarity.     'and' added to align with previous sentence.
	(j)4	In the case of aircraft operating away from a supported location the organisation may issue a limited certification authorisation to the aircraft commander, the flight engineer and/or the crew chief on the basis of the flight crew licence or national equivalent qualification held subject to being satisfied that sufficient practical training has been carried out to ensure that the commander or flight engineer can accomplish the specified task to the required standard. The provisions of this paragraph shall be detailed in a Maintenance Organisation Exposition procedure.	a supported location the maintenance organisation may issue a limited certification authorisation to the aircraft commander and/or the flight engineer ► on the basis of the flight crew licence or national equivalent qualification held subject to being satisfied that sufficient practical training has been carried out to ensure that the aircraft commander and/or flight engineer can accomplish the specified task to the required standard.	2. 'and' added to align with previous paragraph.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(j)5	where an aircraft is grounded at a location other than the main base where no appropriate certifying staff are	aircraft is grounded at a location other than the main base where no appropriate certifying staff are available, the maintenance organisation may issue a	2. 'organisation contracted to provide maintenance' replaced by 'maintenance
	j(5)(i)	equivalent type authorisations on aircraft	to one of its employees holding equivalent  ▶ ◀ authorisations on other aircraft types of similar technology, construction and systems; or	1. 'type' removed because the reference to 'type' in this context is not appropriate. There are 'military aircraft type ratings, but not 'type authorisations. It should just refer to an 'authorisation. The remainder of the sentence was amended for correct use of English.
	(k)		(k) To certify on-aircraft maintenance performed on armament, rescue and escape systems and other military-specific systems, any maintenance organisation maintaining aircraft shall have sufficient staff possessing the Category A, B1 or B2 MAML with the appropriate extensions.	aircraft' added for clarity. 'Must' changed to 'shall' for correct nomenclature in the

Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
145.A.35 Certifying staff and support staff	(a)	(h), the organisation shall ensure that certifying and category B1, B2 and B mil support staff have an adequate	requirements of EMAR 145.A.30(g) and (h), the maintenance organisation shall ensure that certifying and support staff ▶ ◄ have an adequate understanding of the relevant aircraft and/or components to be maintained together with the associated maintenance organisation	<ol> <li>'category B1, B2 and B mil' removed at EASA M6.</li> <li>'must' replaced by 'shall' for correct</li> </ol>

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(a)(i)		'Support staff' means those staff holding an EMAR 66 MAML in Category B1 and/or B2 with the appropriate extensions and Military Aircraft Type Ratings, working in a base maintenance environment while not necessarily holding certification privileges.	1. See comment above
	(a)(ii)		'Relevant aircraft and/or components', means those aircraft or components specified in the particular certification authorisation.	
	(a)(iii)		'Certification authorisation' means the authorisation issued to certifying staff by the Approved Maintenance Organisation (AMO) and which specifies the fact that they may sign CRSs within the limitations stated in such authorisation on behalf of the AMO.	

Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(b)	145.A.30(j) the organisation may only issue a certification authorisation to certifying staff in relation to the basic categories or subcategories and any type rating listed on the aircraft maintenance	staff in relation to the basic categories or subcategories and any Military Aircraft Type Rating endorsed on the MAML, subject to the MAML remaining valid throughout the validity period of the authorisation and the certifying staff remaining in compliance with EMAR 66	<ol> <li>'and EMAR 66.A.20(a)3(ii)' added at EASA M6.</li> <li>Text moved from AMC and reworded. A MAML is non-expiring, therefore an AMO shall confirm in all cases that it is valid before issuing an authorisation to avoid possible</li> </ol>

Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(c)	The organisation shall ensure that all certifying staff and category B1, B2 and B mil support staff or national equivalent qualification are involved in at least six months of actual relevant aircraft or component maintenance experience in any consecutive two year period.	The maintenance organisation shall ensure that all certifying staff and ▶ ◀ support staff ▶ ◀ are involved in at least six months of actual relevant aircraft or component maintenance experience in any consecutive two year period.	2.'category B1, B2 and B mil' removed at
		For the purpose of this paragraph 'involved in actual relevant aircraft or component maintenance' means that the person has worked in an aircraft or component maintenance environment and has either exercised the privileges of the certification authorisation and/or has actually carried out maintenance on at least some of the aircraft type systems specified in the particular certification authorisation.	'involved in actual relevant aircraft or component maintenance' means that the person has worked in an aircraft or	2. 'or aircraft group' added at EASA M6
	(d)	The organisation shall ensure that all certifying staff and category B1 and B2 and B mil or national equivalent qualification support staff receive sufficient continuation training in each two year period to ensure that such staff have up-to-date knowledge of relevant technology, organisation procedures and human factor issues.	The maintenance organisation shall ensure that all certifying staff and ▶  support staff receive sufficient continuation training in each two year period to ensure that such staff have upto-date knowledge of relevant technology, maintenance organisation procedures and human factor issues.	2. 'category B1 and B2 and B mil or national

Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(e)	The organisation shall establish a programme for continuation training for certifying and category B1, B2 and B mil support staff or national equivalent, including a procedure to ensure compliance with the relevant paragraphs of EMAR 145.A.35 as the basis for issuing certification authorisations under EMAR 145 to certifying staff, and a procedure to ensure compliance with EMAR 66.	establish a programme for continuation training for certifying staff and ▶ ◀ support staff, including a procedure to ensure compliance with the relevant paragraphs of EMAR 145.A.35 as the basis for issuing certification authorisations under this EMAR to certifying staff, and a procedure to ensure	•
	(h)	The certification authorisation must be in a style that makes its scope clear to the certifying staff and any authorised person who may require to examine the authorisation. Where codes are used to define scope, the organisation shall make a code translation readily available.	The certification authorisation shall be in a style that makes its scope clear to the certifying staff and any authorised person who may require to examine the authorisation. Where codes are used to define scope, the maintenance organisation shall make a code translation readily available.	2. 'must' changed to 'shall' for correct use of
	(i)	The person responsible for the quality system shall also remain responsible on behalf of the organisation for issuing certification authorisations to certifying staff. Such person may nominate other persons to actually issue or revoke the certification authorisations in accordance with a procedure as specified in the Maintenance Organisation Exposition.	The maintenance organisation shall nominate an individual who shall remain	2. Amended to allow the case where it is not necessarily the QA department of the AMO that issues the authorisation but another specific part of the AMO that carries out this

Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(j)	The organisation shall retain the record for at least three years after the certifying staff or B1, B2 or B mil or national equivalent qualification or support staff have ceased employment with the organisation or as soon as the authorisation has been withdrawn. In addition, upon request, the maintenance organisation shall furnish certifying staff and support staff with a copy of their record on leaving the organisation.	The maintenance organisation shall retain the record for at least three years after the certifying staff or ▶ ◀ support staff have ceased employment with the maintenance organisation or as soon as the authorisation has been withdrawn. In addition, upon request, the maintenance organisation shall furnish certifying staff and support staff with a copy of their record on leaving the maintenance organisation.	2.'category B1, B2 and B mil' removed at
	(1)	Certifying staff shall produce their certification authorisation to any authorised person within 24 hours.	Certifying staff shall produce their certification authorisation to any authorised person within 72 hours.	
	(m)	The minimum age for certifying staff and category B1, B2 and B mil or national equivalent qualification support staff is 21 years.	The minimum age for certifying staff and ▶   support staff shall be 21 years.	<ol> <li>'category B1 and B2 and B mil or national equivalent qualification' deleted.</li> <li>'is' replaced by 'shall' for correct use of nomenclature in the EMARs.</li> </ol>
	(n)		The holder of a Category A MAML may only exercise certification privileges on a specific aircraft type following the satisfactory completion of the relevant Category A aircraft task training carried out by an organisation appropriately approved in accordance with EMAR 145 or EMAR 147. This training shall include practical hands on training and theoretical training as appropriate for each task authorised. Satisfactory completion of training shall be demonstrated by an examination or by workplace assessment carried out by the AMO or EMAR 147 MTO.	1. Text added at EASA M6. It was included as footnote to EMAR 66.A.20(b) for completeness, until EMAR 145 was amended.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(o)		The holder of a Category B2 MAML may only exercise the certification privileges described in EMAR 66.A.20(a)(3)(ii) following the satisfactory completion of: (i) the relevant Category A aircraft task training; and (ii) 6 months of documented practical experience covering the scope of the authorisation that will be issued. The task training shall include practical hands on training and theoretical training as appropriate for each task authorised. Satisfactory completion of training shall be demonstrated by an examination or by workplace assessment. Task training and examination/assessment shall be carried out by the AMO issuing the certifying staff authorisation. The practical experience shall be also obtained within the same AMO unless approved otherwise by the NMAA.	1. Text added at EASA M6. It was included as a footnote to EMAR 66.A.20(b) for completeness, until EMAR 145 was amended. It will be removed from EMAR 66 at the next amendment.
145.A.40 Equipment, tools and material	(a)1	organisation shall use that tool or equipment, unless the use of alternative tooling or equipment is agreed by NMAA	particular tool or equipment, the maintenance organisation shall use that tool or equipment, unless the use of	•

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(a)2	Equipment and tools must be permanently available, except in the case of any tool or equipment that is so infrequently used that its permanent availability is not necessary. Such cases will be detailed in the Maintenance Organisation Exposition.	available, except in the case of any tool or equipment that is so infrequently used that its permanent availability is not necessary. Such cases shall be detailed	'will' replaced by 'shall' for correct use of nomenclature in the EMAR Requirements.
145.A.42 Acceptance of components				Note: This Section has been extensively revised following the incorporation into EMAR 145 of the appropriate sections of EASA Part M Subpart E (Components)

Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(a)2	Unserviceable components which shall be maintained in accordance with this section.		1. Additional text taken from EASA Part M paragraph M.A.504

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(a)3	Unsalvageable components which are classified in accordance with EMAR 145.A.42(d).	Unsalvageable components which are classified in accordance with EMAR 145.A.42(d). A maintenance organisation in consultation with the CAMO/Operating Organisation shall, in the case of unsalvageable components:  (i) retain such components in a secure location under the control of the maintenance organisation until a decision is made on the future status of such component; or	1. Additional text taken from EASA Part M paragraph M.A.504(d) and M.A.504(e)
			(ii) arrange for the components to be mutilated in a manner that ensures they are beyond economic salvage or repair before relinquishing responsibility for such components.  By derogation, a CAMO/Operating	
			Organisation may transfer responsibility of components classified as unsalvageable to an organisation for training or research without mutilation.	
	(a)4	Standard parts used on an aircraft, engine, propeller or other aircraft component when specified in the manufacturer's illustrated parts catalogue and/or the maintenance data. These parts must be accompanied by a manufacturer's declaration of conformity.	Standard parts used on an aircraft, engine, propeller or other aircraft component when specified in the manufacturer's illustrated parts catalogue and/or the maintenance data. These parts shall be accompanied by a manufacturer's declaration of conformity traceable to the applicable standard.	'must' replaced by 'shall' for correct use of nomenclature in the EMAR Requirements.     'traceable to the applicable standard' taken from EASA Part M Subpart E.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(a)6		NOT APPLICABLE.	1. A new paragraph (a)6 was added at EASA M7. However this text is Not Applicable to the military domain, so this has been added as a signpost only.
	(e)		NOT APPLICABLE.	1. A new paragraph (e) was added at EASA M7. However this text is Not Applicable to the military domain, so this has been added as a signpost only.
145.A.45 Maintenance data	(a)	The organisation shall hold and use applicable current maintenance data in the performance of maintenance, including modifications and repairs. 'Applicable' means relevant to any aircraft, component or process specified in the organisation's approval class rating schedule and in any associated capability list.  In the case of maintenance data provided by a CAMO, the organisation shall hold such data when the work is in progress, with the exception of the need to comply with EMAR 145.A.55(c).	maintenance data in the performance of maintenance, including modifications and repairs. 'Applicable' means relevant to	<ol> <li>'hold' changed to 'have access to'. Hold implies responsibility for ownership, whereas the Requirement is to demonstrate that the AMO has access to this information.</li> <li>'organisation's approval class rating schedule' changed to 'Maintenance'</li> </ol>

Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(b)3	Instructions for continuing airworthiness, issued by (Military) Type Certificate Holders, Supplementary Type Certificate Holders, any other organisation required to publish such data by EMAR 21 and in the case of aircraft or components from third countries the airworthiness data mandated by the NMAA responsible for the oversight of the aircraft or component;	by EMAR 21 and in the case of aircraft or components from third countries the airworthiness data mandated by the	Acronyms MTC and MSTC added because this is their first use in EMAR 145.     'NMAA' replaced by 'authority' because it may not be an NMAA. However, the 'Authority' must be accepted by the NMAA of the pMS operating the aircraft.
	(e)	Where the organisation provides a maintenance service to an aircraft operator who requires their work card or worksheet system to be used then such work card or worksheet system may be used. In this case, the organisation shall establish a procedure to ensure correct completion of the aircraft operators' work cards or worksheets.	provides a maintenance service to an Operating Organisation/CAMO who requires their work card or worksheet system to be used then such work card or	<ol> <li>'aircraft operator' changed to 'Operating Organisation' to reflect nomenclature used in EMAR M.</li> <li>'CAMO' inserted because under EMAR M it is possible for an AMO to have a contract with</li> </ol>

Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(g)	The organisation shall establish a procedure to ensure that maintenance data it controls is kept up to date. In the case of operator/customer controlled and provided maintenance data, the organisation shall be able to show that either it has written confirmation from the operator/customer that all such maintenance data is up to date or it has work orders specifying the amendment status of the maintenance data to be used or it can show that it is on the operator/customer maintenance data amendment list.	establish a procedure to ensure that maintenance data it controls is kept up to date. In the case of maintenance data controlled and provided by the Operating Organisation/CAMO, the maintenance organisation shall be able to show that either it has written confirmation from the Operating Organisation/CAMO that all such maintenance data is up to date or it has work orders specifying the amendment status of the maintenance	Organisation' to reflect nomenclature used in EMAR M. Sentence reworded for clarity.  3. 'CAMO' inserted because under EMAR M it is possible for an AMO to have a contract/tasking with either the Operating Organisation or a CAMO.
145.A.48 Performance of maintenance				Note: This is a new Section following the incorporation into EMAR 145 of the appropriate sections of EASA Part M Subpart D (Maintenance Standards). The Section number used aligns with EASA NPA 2013-01(C).
	(a)		All maintenance shall be performed by qualified personnel, following the methods, techniques, standards, and instructions specified in the <u>EMAR 145.A.45</u> maintenance data.	Text taken from EASA Part M Subpart D.
	(b)		An independent inspection shall be carried out after any flight safety sensitive maintenance task unless otherwise specified in this EMAR or agreed by the NMAA.	Text taken from EASA Part M Subpart D.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(c)		Only the authorised certifying staff according to <u>EMAR 145.A.35</u> and in consultation with the CAMO as necessary, can decide, using <u>EMAR 145.A.45</u> maintenance data, whether an aircraft defect hazards seriously the flight safety and therefore decide when and which rectification action shall be taken before further flight and which defect rectification can be deferred. However, this does not apply when:	
	(c)1		the approved Minimum Equipment List as mandated by the NMAA is used; or	Text taken from EASA Part M Subpart D.
	(c)2		aircraft defects are defined as being acceptable by the NMAA.	Text taken from EASA Part M Subpart D.
	(d)		After completion of all maintenance, a general verification shall be carried out to ensure the aircraft or component is clear of all tools, equipment, and any other extraneous parts and material, and that all access panels removed have been refitted.	1. Text taken from EASA Part M Subpart D.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
145.A.50 Certification of maintenance	(a)	A "certificate of release to service for aircraft" shall be issued by appropriately authorised certifying staff on behalf of the organisation when it has been verified that all maintenance has been properly carried out in accordance with the procedures specified in EMAR 145.A.70, taking into account the availability and use of the maintenance data specified in EMAR 145.A.45 and that there are no non-compliances which are known to endanger flight safety.	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 EMAR 145.A.70, taking into account the availability and use of the	'CRS for components' added because this paragraph is applicable to both a CRS for aircraft and a CRS for components.     'organisation' changed to 'AMO' for clarity.     'ordered/tasked' added for clarity. The contract/tasking specifies the work to be carried out.
	(b)	A certificate of release to service shall be issued before flight at the completion of any maintenance.	A CRS for aircraft shall be issued before flight at the completion of any maintenance.	'for aircraft' added for clarity
	(c)	New defects or incomplete maintenance work orders identified during the above maintenance shall be brought to the attention of the CAMO for the specific purpose of obtaining agreement to rectify such defects or completing the missing elements of the maintenance work order. In the case where the CAMO declines to have such maintenance carried out under this paragraph, paragraph (e) is applicable.	work orders identified during the above maintenance shall be brought to the attention of the Operating Organisation/CAMO for the specific purpose of obtaining agreement to rectify	1. 'Operating Organisation' inserted because under EMAR M it is possible for an AMO to have a contract/tasking with either the Operating Organisation or a CAMO.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(d)	A "certificate of release to service for components" shall be issued at the completion of any maintenance on a component whilst off the aircraft. The authorised release certificate or airworthiness approval tag identified as EMAR Form 1 or equivalent constitutes the component certificate of release to service. When an organisation maintains a component for its own use, an EMAR Form 1 or equivalent may not be necessary depending upon the organisation's internal release procedures defined in the Maintenance Organisation Exposition.	A CRS for components shall be issued at the completion of any maintenance on a component whilst off the aircraft. The authorised release certificate or airworthiness approval tag identified as EMAR Form 1   component CRS. When an AMO maintains a component for its own use, an EMAR Form 1   may not be necessary depending upon the AMO's internal release procedures defined in the MOE.	1.
	(e)	By derogation to paragraph (a), when the organisation is unable to complete all maintenance ordered, it may issue a certificate of release to service within the approved aircraft limitations. The organisation shall enter such fact in the aircraft certificate of release to service before the issue of such certificate. Details of any incomplete maintenance are to be entered in the aircraft technical log by appropriately approved certifying staff.	By derogation to paragraph (a), when the AMO is unable to complete all maintenance ordered/tasked, it may issue a CRS within the approved aircraft limitations. The AMO shall enter such fact in the aircraft CRS before the issue of such certificate. Details of any deferred maintenance are to be entered in the aircraft technical log by appropriately approved certifying staff.	1. 'tasked' added because in a military environment a formal contract may not exist. 2. 'incomplete' replaced by 'deferred' to align with MA 305(d)6 and also EMAR 145 AMC.

Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(f)	By derogation to paragraphs(a) and EMAR 145.A.42, when an aircraft is grounded at a location other than the Main Operation Base (MOB) due to the non-availability of a component with an appropriate release certificate, it is permissible to temporarily fit a component with another release certificate which is in compliance with all the applicable technical and operational requirements. The fitment of such components shall be noted in the aircraft documentation, with a provision for the component to be removed at a time specified by the approving engineering officer, unless an appropriate release certificate has been obtained in the meantime under paragraph (a) and EMAR 145.A.42.	By derogation to paragraphs (a) and EMAR 145.A.42, when an aircraft is grounded at a location other than the Main Operation Base (MOB) due to the non-availability of a component with an appropriate release certificate, it is permissible to temporarily fit a component with another release certificate, subject to CAMO approval, which is in compliance with all the applicable technical and operational requirements. The fitment of such components shall be noted in the aircraft documentation, with a provision for the component to be removed at a time specified by the CAMO, unless an appropriate release certificate has been obtained in the meantime under paragraph (a) and EMAR 145.A.42.	'subject to CAMO approval' added because it is the CAMO who has to make this decision.     'approving engineering officer' replaced by 'CAMO' because it is the CAMO who must make this decision.
145.A.55 Maintenance records	(b)	The organisation shall provide a copy of each certificate of release to service to the Continuing Airworthiness Management Organisation (CAMO), together with a copy of any specific approved repair/modification data used for repairs/modifications carried out.	The AMO shall provide a copy of each CRS to the CAMO, together with a copy of any specific ► < repair/modification data used for repairs/modifications carried out.	1. 'approved' was removed by EASA at amendment M7.
	(c)1	Records under this paragraph shall be stored in a manner that ensures protection from damage, alteration and theft.	Records under this paragraph shall be stored in a manner that ensures protection from damage, alteration and theft. The records shall remain readable and accessible for the duration of the storage period.	1. Text added to ensure that the records are not just retained, but remain readable and accessible.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(c)3	Where an organisation approved under this EMAR terminates its operation, all retained maintenance records covering the last three years shall be distributed to the CAMO responsible for the respective aircraft or component or shall be stored as specified by the NMAA.	Where an AMO terminates its operation, all retained maintenance records covering the last three years shall be distributed to the CAMO responsible for the respective aircraft or component or shall be stored as specified by the NMAA.	'organisation approved under this EMAR' replaced by 'AMO' for improved readability.
145.A.60 Occurrence reporting	(a)	The organisation shall report to the NMAA and the organisation responsible for the design of the aircraft or component any condition of the aircraft or component identified by the organisation that has resulted or may result in an unsafe condition that hazards seriously the flight safety.	The maintenance organisation shall report to the NMAA and all further addressees as required by national regulations any condition of the aircraft or component identified by the maintenance organisation that has resulted or may result in an unsafe condition that hazards seriously the flight safety.	2. Wording changed to align with EMAR
	(d)	Where the organisation is tasked or contracted by a CAMO to carry out maintenance, the organisation shall also report to the CAMO any such condition affecting the aircraft or component.	► The maintenance organisation shall report to the CAMO/Operating Organisation any such condition affecting the aircraft or component.	EMAR M which has introduced direct tasking
145.A.65 Safety and quality policy, maintenance procedures and quality system	(b)4	Maintenance procedures shall be established to ensure that damage is assessed and modifications and repairs are carried out using data provided by an organisation approved by the NMAA or by an approved EMAR 21 Design Organisation, as appropriate.	Maintenance procedures shall be established to ensure that damage is assessed and modifications and repairs are carried out using data specified in EMAR M.A.304.	Text amended at EASA M7.
	(e)		Where an organisation has several EMAR approvals, the quality systems may be combined.	

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
145.A.70 Maintenance Organisation Exposition (MOE)	(a)1	A statement signed by the Accountable Manager confirming that the MOE and any referenced associated manuals define the organisation's compliance with EMAR 145 and will be complied with at all times. When the Accountable Manager is neither the Chief Executive Officer nor senior military commander of the Approved Maintenance Organisation then the latter shall countersign the statement;	A statement signed by the Accountable Manager confirming that the MOE and any referenced associated manuals define the maintenance organisation 's compliance with EMAR 145 and shall be complied with at all times. When the Accountable Manager is neither the Chief Executive Officer nor senior military commander of the maintenance organisation then one of the latter shall countersign the statement; and	'maintenance' added for clarity.     'will' replaced by 'shall' for correct nomenclature in the EMAR Requirements.     'one' added to avoid ambiguity of who should sign the statement.     'and' added to all lines because they form a list
	(a)6	A list of certifying staff and B 1, B2 and B mil support staff or national equivalent qualification.	A list of certifying staff and ▶ ◀ support staff ▶ ◀; and	<ol> <li>'B1, B2 and B mil' removed at EASA M6.</li> <li>'and' added to all lines because they form a list</li> </ol>
	(a)13	À list of operators, where applicable, to which the organisation provides an aircraft maintenance service;	A list of Operating Organisations and CAMOs to which the maintenance organisation provides an aircraft maintenance service; and	<ol> <li>'and CAMOs' added because EMAR M provides the possibility of an AMO having contracts/tasking agreements with Operating Organisations and CAMOs.</li> <li>'maintenance' added for clarity.</li> <li>'and' added to all lines because they form a list.</li> </ol>
	(a)14	A list of subcontracted organisations, where applicable, as specified in EMAR 145.A.75(b);	A list of contracted/tasked organisations, where applicable, as specified in EMAR 145.A.75(b); and	1. All references to 'subcontract' have been removed from EMAR 145. Contracts are either 'with an approved organisation' or 'with a non-approved organisation'.  2. 'tasked' added to align with EMAR M. In the military context, units may be 'tasked' rather than 'contracted'.  3. 'and' added to all lines because they form a list.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(a)16	A list of contracted organisations, where applicable.	A list of contracted/tasked organisations operating under their own EMAR approval, where applicable.	1. 'tasked' added to align with EMAR M. In the military context, units may be 'tasked' rather than 'contracted'. 2. 'operating under their own EMAR approval' added to differentiate from those organisations in para 14.
	(d)	Where a maintenance organisation has an extant EASA Part 145 approval, those parts of the organisation's EASA Part 145 exposition that are equally applicable to satisfy the EMAR 145 requirements will generally be accepted by the NMAA as equivalent in respect of the EMAR 145 exposition. In this case it is permissible that only those regulations that are military specific need be addressed in the EMAR 145 exposition; those regulations covered by read-across of the sections of the EASA exposition document must be identified and the EASA document clause reference quoted.	Where a maintenance organisation has an extant EASA Part 145 approval, those parts of the organisation's EASA Part 145 exposition that are equally applicable to satisfy the EMAR 145 requirements shall generally be accepted by the NMAA as equivalent in respect of the EMAR 145 MOE. In this case it is permissible that only those requirements that are military specific need be addressed in the EMAR 145 MOE; those requirements covered by read-across of the sections of the EASA exposition ▶ ◄ shall be identified and the EASA exposition clause reference quoted.	<ol> <li>'will' and 'must' replaced by 'shall' for correct use of nomenclature in the requirements.</li> <li>'regulations' replaced by 'requirements' for correct nomenclature in the EMARs.</li> <li>Uses of 'document' removed for improved</li> </ol>
145.A.75 Privileges of the AMO	(a)	Maintain any aircraft and/or component for which it is approved at the locations identified in the approval certificate and in the Maintenance Organisation Exposition;	listed on its approval certificate at the locations identified in the approval	Words changed for improved clarity.

Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(b)	Arrange for maintenance of any aircraft or component for which it is approved at another organisation that is working under the quality system of the organisation. This refers to work being carried out by an organisation not itself appropriately approved to carry out such maintenance under this EMAR and is limited to the work scope permitted under EMAR 145.A.65(b) procedures. This work scope shall not include a base maintenance check of an aircraft or a complete workshop maintenance check or overhaul of an engine or engine module;	another maintenance organisation that is working under the quality system of the AMO. This refers to work being carried out by a maintenance organisation not itself appropriately approved to carry out such maintenance under this EMAR and is limited to the work scope permitted under EMAR 145.A.65(b) procedures. This work scope shall not include a base maintenance check of an aircraft or a	2. 'maintenance' added for clarity
	(c)	Maintain any aircraft or any component for which it is approved at any location subject to the need for such maintenance arising either from the unserviceability of the aircraft or from the necessity of supporting occasional line maintenance, subject to the conditions specified in the Maintenance Organisation Exposition;		1. Amended to align with subparagraph (b).

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(d)	Maintain any aircraft and/or component for which it is approved at a location identified as a line maintenance location capable of supporting minor maintenance and only if the Maintenance Organisation Exposition both permits such activity and lists such locations:	Maintain any aircraft and/or component listed on its approval certificate at a location identified as a line maintenance location capable of supporting minor maintenance and only if the MOE both permits such activity and lists such locations:	1. Amended to align with subparagraph (b).
145.A.85 Changes to the AMO		The AMO shall notify the NMAA of any proposal to carry out any of the following changes before such changes take place to enable the NMAA to determine continued compliance with EMAR 145 and to amend, if necessary, the approval certificate, except that in the case of proposed changes in personnel not known to the management beforehand, these changes must be notified at the earliest opportunity.	The AMO shall notify the NMAA of any proposal to carry out any of the following changes before such changes take place to enable the NMAA to determine continued compliance with EMAR 145	1. 'must' changed to 'shall' for correct use of nomenclature in the requirements.
145.A.95 AMO Findings by the NMAA	(a)	A level 1 finding is any significant non-compliance with EMAR 145 requirements which lowers the safety standard and hazards seriously the flight safety.	After receipt of notification of findings according to EMAR 145.B.50, the AMO	Note: This section was extensively rewritten to align with the text approved in EMAR M, which is considered much clearer.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(b)	A level 2 finding is any non-compliance with EMAR 145 requirements which could lower the safety standard and possibly hazard the flight safety.	A level 1 finding is any significant non-compliance with EMAR 145 requirements which lowers the safety standard and hazards seriously the flight safety. Depending upon the extent of the level 1 finding, it leads to an immediate full or partial revocation, limitation or suspension of the approval by the NMAA until successful corrective action has been taken by the AMO.	Note: This section was extensively rewritten to align with the text approved in EMAR M, which is considered much clearer.
	(c)	After receipt of notification of findings according EMAR 145.B.50, the holder of the maintenance organisation approval shall define a corrective action plan and demonstrate corrective action to the satisfaction of the NMAA within a period agreed with this authority.	A level 2 finding is any non-compliance with the EMAR 145 requirements which could lower the safety standard and possibly hazards the flight safety.	Note: This section was extensively rewritten to align with the text approved in EMAR M, which is considered much clearer.
	(d)		An AMO's non-compliance with the actions identified in <u>EMAR 145.A.95(a)</u> leads to a full or partial suspension of the approval by the NMAA.	Note: This section was extensively rewritten to align with the text approved in EMAR M, which is considered much clearer.
145.B.10 National Military Airworthines s Authority	(a)	The participating Member States (pMS) shall designate their NMAA with allocated responsibilities for the issuance, continuation, change, suspension or revocation of a maintenance approval. This NMAA shall establish documented procedures and an organisational structure.	The participating Member States (pMS) shall designate their NMAA with allocated responsibilities for the issuance, continuation, change, suspension or revocation of a maintenance organisation approval. This NMAA shall establish documented procedures and an organisational structure.	1. 'organisation' added for correct nomenclature. At this stage the organisation is not approved, so 'AMO' cannot be used.
	(b)	The number of staff must be appropriate to carry out the requirements as detailed in this section.	The number of staff shall be appropriate to carry out the requirements as detailed in this section.	'must' replaced by 'shall' for correct use of nomenclature in the Requirements.
	(c)	All staff involved in EMAR 145 approvals must:	All staff involved in EMAR 145 approvals shall:	1. 'must' replaced by 'shall' for correct use of nomenclature in the Requirements.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(c)2	Have received training/continuation training on EMAR 145 where relevant, including its intended meaning and standard.	Have received initial training/continuation training on EMAR 145 where relevant, including its intended meaning and standard.	'initial' added for improved clarity. Both initial training and continuation training are required.
	(d)	The procedures must be reviewed and amended to ensure continued compliance.	The procedures shall be reviewed and amended to ensure continued compliance.	1. 'must' replaced by 'shall' for correct use of nomenclature in the Requirements.
145.B.17 Acceptable Means of Compliance	(a)	The MAWA Forum shall ensure the development of Acceptable Means of Compliance in order to establish compliance with this EMAR. When the Acceptable Means of Compliance are met, the related requirements of this part shall be considered as met.		Text deleted at EASA M6. There is no equivalent paragraph in EMAR 147 or EMAR M.
145.B.20 Initial approval	(b)	The NMAA shall verify that the procedures specified in the Maintenance Organisation Exposition comply with EMAR 145 and verify that the Accountable Manager signs the commitment statement.	The NMAA shall establish that the procedures specified in the MOE comply with EMAR 145 and verify that the Accountable Manager signs the commitment statement.	1. 'verify' replaced by 'establish' for improved use of English.
	(d)	A meeting between the NMAA and the Accountable Manager shall be convened at least once during the investigation for approval to ensure that he/she fully understands the significance of the approval and the reason for signing the exposition commitment of the organisation to compliance with the procedures specified in the exposition.	A meeting between the NMAA and the Accountable Manager shall be convened at least once during the investigation for approval to ensure that he/she fully understands the significance of the approval and the reason for signing the MOE commitment statement to compliance with the procedures specified in the MOE.	1. Text altered for clarity to stress what is actually being signed.
	(g)	For initial approval all findings must be corrected before the approval can be issued.	For initial approval, all findings shall be corrected by the maintenance organisation and accepted by the NMAA before the approval can be issued.	<ol> <li>'must' replaced by 'shall' for correct use of nomenclature in the Requirements.</li> <li>'by the maintenance organisation and accepted by the NMAA' added to stress the closure actions required.</li> </ol>

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	(h)		The NMAA shall also verify the validity of all MAMLs held by Maintenance Organisation personnel specified in EMAR 145.A.30 and EMAR 145.A.35.	1. Sentence added to align with EMAR 66 and 145.A.35(b). A MAML is non-expiring, therefore an AMO shall confirm in all cases that it is valid before issuing an authorisation to avoid possible fraudulent use.
145.B.25 Issue of approval	(a)	The NMAA shall formally approve the MOE and issue to the applicant an EMAR Form 3 or equivalent national document approval certificate, which includes the approval ratings (specified in Appendix II). The NMAA shall only issue a certificate when the organisation is in compliance with EMAR 145.	The NMAA shall formally approve the MOE and issue to the applicant an EMAR Form 3 ▶ ◄ approval certificate, which includes the approval ratings (specified in Appendix II). The NMAA shall only issue a certificate when the maintenance organisation is in compliance with EMAR 145.	'or equivalent national document' removed because an EMAR Form 3 shall be used.     'maintenance' added for clarity.
	(b)	The NMAA shall indicate the conditions of the approval on the EMAR Form 3 approval certificate or equivalent national document.	The NMAA shall indicate the conditions of the approval on the EMAR Form 3 ▶   approval certificate.	1. 'or equivalent national document' removed because an EMAR Form 3 shall be used.
	(c)	The reference number shall be included on the EMAR Form 3 or equivalent national document approval certificate.	The reference number shall be included on the EMAR Form 3 ▶	1. 'or equivalent national document' removed because an EMAR Form 3 shall be used.
145.B.30 Continuing oversight	(b)	Each organisation must be reviewed for compliance with EMAR 145 at periods not exceeding 24 months.	Each AMO shall be reviewed for compliance with EMAR 145 at periods not exceeding 24 months.	1. 'must' replaced by 'shall' for correct use of nomenclature in the Requirements.
	(d)		All findings shall be confirmed officially to the AMO.	Paragraph added to align with EMAR M.
	(e)		The NMAA shall record all findings, their level and corrective actions taken (date due, date closed and the reference) and recommendations.	Paragraph added to align with EMAR Form 6 Part 4.
145.B.35 Changes	(b)	The NMAA may prescribe the conditions under which organisation may operate during such changes unless it determines that the approval should be suspended.	The NMAA may prescribe the conditions under which the AMO may operate during such changes unless it determines that the approval should be suspended due to the nature or the extent of the changes.	1. 'due to the nature or the extent of the changes' added to provide further clarity about allowing the AMO to continue to operate.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
145.B.40 Maintenance Organisation Exposition (MOE) amendments	(b)	In the case of indirect approval of amendments of the MOE, the NMAA shall ensure that it has an adequate control over the approval of all MOE amendments.	ensure that:	
145.B.50 Findings	(c)		The NMAA shall have a system to analyse findings for their safety significance.	1. Text added to align with approved text for EMAR M.B.903(b) which is considered clearer.
145.B.55 Record- keeping	(b)5	Copies of all formal correspondence including EMAR Form 4 or equivalent	Copies of all formal correspondence including EMAR Form 4 ▶ ◀; and	<ol> <li>'or equivalent' removed because an EMAR Form 4 shall be used.</li> <li>'and' added to all lines because they form a list.</li> </ol>
	(d)	The NMAA may elect to use either a paper or computer system or any combination of both subject to appropriate controls.	Moved to GM EMAR 145.B.55.	1. Text moved as indicated because it is not considered to be a Requirement, but merely GM.
	(e)		The records shall be stored in a manner that ensures protection from damage, alteration and theft. The records shall remain readable and accessible for the duration of the storage period.	1. Text added to align with approved text for EMAR M.B.104.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
Appendix I - Authorised Release Certificate EMAR Form 1				1. All EMAR Forms are now contained in the EMAR Forms document.

Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
Appendix II - Class and Rating System to be used for the Approval of Maintenance Organisation s	1.	Table 1 outlines the full extent of approval possible under EMAR 145 in a standardised form. An organisation must be granted an approval ranging from a single class and rating with limitations to all classes and ratings with limitations.	Table 1 outlines the full extent of approval possible under EMAR 145 in a standardised form. A maintenance organisation shall be granted an approval ranging from a single class and rating with limitations to all classes and ratings with limitations.	
	4.	A category A class rating means that the EMAR 145 Approved Maintenance Organisation may carry out maintenance on the aircraft and any component (including engines/APUs), in accordance with aircraft maintenance data or, if agreed by the NMAA, in accordance with component maintenance data, only whilst such components are fitted to the aircraft. Nevertheless, such A-rated Approved Maintenance Organisation may temporarily remove a component for maintenance, in order to improve access to that component, except when such removal generates the need for additional maintenance not covered under the provisions of this paragraph. This will be subject to a control procedure in the Maintenance Organisation Exposition to be approved by the NMAA. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval.	A Category A class rating means that the AMO may carry out maintenance on the aircraft and any component (including engines/APUs), in accordance with aircraft maintenance data or, if agreed by the NMAA, in accordance with component maintenance data, only whilst such components are fitted to the aircraft. Nevertheless, such A-rated AMO may temporarily remove a component for maintenance, in order to improve access to that component, except when such removal generates the need for additional maintenance not covered under the provisions of this paragraph. This shall be subject to a control procedure in the MOE to be approved by the NMAA. The limitation section shall specify the scope of such maintenance thereby indicating the extent of approval.	'will' replaced by 'shall' for correct use of nomenclature in the EMAR Requirements.

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Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
	5.	A category B class rating means that the EMAR 145 Approved Maintenance Organisation may carry out maintenance on the uninstalled engine and/or APU (_Auxiliary Power Unit') and engine and/or APU components, in accordance with engine and/or APU maintenance data or, if agreed by the NMAA, in accordance with component maintenance data only whilst such components are fitted to the engine and/or APU. Nevertheless, such B-rated Approved Maintenance Organisation may temporarily remove a component for maintenance, in order to improve access to that component, except when such removal generates the need for additional maintenance not covered under the provisions of this paragraph. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval. An EMAR 145 Approved Maintenance Organisation with a category B class rating may also carry out maintenance on an installed engine during _base' and _line' maintenance subject to a control procedure in the Maintenance Organisation Exposition to be approved by the NMAA. The Maintenance Organisation Exposition scope of work shall reflect such activity where permitted by the NMAA.	A Category B class rating means that the AMO may carry out maintenance on the uninstalled engine and/or APU ('Auxiliary Power Unit') and engine and/or APU components, in accordance with engine and/or APU maintenance data or, if agreed by the NMAA, in accordance with component maintenance data only whilst such components are fitted to the engine and/or APU. Nevertheless, such B-rated AMO may temporarily remove a component for maintenance, in order to improve access to that component, except when such removal generates the need for additional maintenance not covered under the provisions of this paragraph. The limitation section shall specify the scope of such maintenance thereby indicating the extent of approval. An AMO with a Category B class rating may also carry out maintenance on an installed engine during 'base' and 'line' maintenance subject to a control procedure in the MOE to be approved by the NMAA. The MOE scope of work shall reflect such activity where permitted by the NMAA.	'will' replaced by 'shall' for correct use of nomenclature in the EMAR Requirements.

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Table 1

	Tab	<u>le 1</u>		
CLASS	RATING	LIMITATION	BASE	LINE
	A1 Aeroplanes/	[State aeroplane manufacturer or	[YES/	[YES/
AIRCRAFT	above 5 700 kg	group or series or type and/or the maintenance task(s)]	NOJ*	NOJ*
	A2 Aeroplanes/	[State aeroplane manufacturer or	[YES/	[YES/
	5 700 kg and below	group or series or type and/or the maintenance tasks]	NOJ*	NOJ*
	A3 Helicopters	[State helicopter manufacturer or	[YES/	[YES/
		group or series or type and/or the maintenance task(s)]	NOJ*	NOJ*
	A4 Aircraft other	[State aircraft series or type and/or the	[YES/	[YES/
	than A1, A2 and A3	maintenance task(s)]	NOJ*	NO]*
ENGINES/APU	B1 Turbine	[State engine series or type and/or the	maintenano	e task(s)]
	B2 Piston	[State engine manufacturer or group of the maintenance task(s)]	or series or	type and/or
	B3 APU	[State engine manufacturer or serie maintenance task(s)]	s or type	and/or the
		S1000D CHAPTER	LIMITA	
COMPONENTS other than complete		REFERENCE 1	(aircrat	
engines or APU's			manufa	
	C1 Air Cond & Press	21		
	C2 Auto Flight	22		
	C3 Comms and Nav	23-34-43		
	C4 Doors — Hatches	52		
	C5 Electrical Power	24-33-91		
	C6 Equipment	25-38-45-50		
	C7 Engine — APU	49-71-72-73-74-75-76-77-78-		
		79-80-81-82-83-86		
	C8 Flight Controls	27-55-57.40-57.50-57.60- 57.70		
	C9 Fuel — Airframe	28-48		
	C10 Helicopter — Rotors	62-64-66-67		
	C11 Helicopter — Trans			
		63-65		
	C12 Hydraulic	29		
	C13 Instruments	31-46		
	C14 Landing Gear	32-90		
	C15 Oxygen	35-47		
	C16 Propellers	61		
	C17 Pneumatic	36-37		
	C18 Protection ice/ rain/fire	26-30		
	C19 Windows	56		
	C 20 Structural	53-54-57.10-57.20-57.30		
	C 21 Water Ballast	41		
	C 22 Propulsion Augmentation	84		
	C 51 Attack systems	39-40-42		
	C 52 Radar/ Surveillance	92-93		
	C 53 Weapons systems	94		
	C 54 Crew escape	95		
	C 55 Missiles/Drones/Telemetry	96		
	C 56 Reconnaissance	97-98		
	C 57 Electronic warfare	99		
SPECIALISED	D1 Non-Destructive Testing	[State particular NDT method(s)]		
SERVICES	D5 Arms, Munitions and Pyrotechnic Systems Specific	[State arms type and maintained pyrote	chnic syste	ms]
		•		

S1000D Chapter Reference: in conformity with "S1000D Main System Breakdown"

Table 1

CLASS	RATING	LIMITATION	BASE	LINE
AIRCRAFT	A1 Aeroplanes/ above 5 700 kg	[State aeroplane manufacturer or group or series or type and/or the	[YES/	[YES/
AIRONATI	above 5 700 kg	maintenance task(s)]	NOJ*	NOJ*
	A2 Aeroplanes/	[State aeroplane manufacturer or		[YES/
	5 700 kg and below	group or series or type and/or the maintenance tasks]	NOJ*	NOJ*
	A3 Helicopters	State helicopter manufacturer or	TYES/	TYES/
		group or series or type and/or the	NOI*	NOJ*
	A4 Aircraft other	maintenance task(s)] [State aircraft series or type and/or the	1	1 -
	than A1, A2 and A3	maintenance task(s)]	[YES/ NO]*	[YES/ NOI*
			NOj	NOj
ENGINES/APU	B1 Turbine	[State engine series or type and/or the	maintenanc	e task(s)]
ENGINES/APU				
	B2 Piston	[State engine manufacturer or group of	or series or	type and/o
		the maintenance task(s)]		
	B3 APU	[State engine manufacturer or serie	e or tune	and/or th
	B3 APU	maintenance task(s)]	s or type	and/or un
2011DOLIELES		S1000D CHAPTER	LIMITA	
COMPONENTS other than complete		REFERENCE 1	(aircra comp	ft type, onent.
engines or APU's			manufa	
•	C1 Air Cond & Press	21		
	C2 Auto Flight	22		
	C3 Comms and Nax	23-34-43		
	C4 Doors — Hatches	52		
	C5 Electrical Power & Lights	24-33-91		
	C8 Equipment	25-38-45-50		
	C7 Engine — APU	49-71-72-73-74-75-76-77-78-		
		79-80-81-82-83-86		
	C8 Flight Controls	27-55-57.40-57.50-57.60- 57.70		
	C9 Fuel — Airframe	28-48		
	C10 Helicopter — Rotors	62-64-66-67		
	C11 Helicopter — Trans	63-65		
	C12 Hydraulic Power	29		
	C13 Indicating - recording system	31-46		
	C14 Landing Gear	32-90		
	C15 Oxygen	35-47		
	C18 Propellers	61		
	C17 Pneumatic & Vacuum	36-37		
	C18 Protection ice/ rain/fire	26-30		
	C19 Windows	56		
	C 20 Structural	53-54-57.10-57.20-57.30		
	C 21 Water Ballast	41		
	C 22 Propulsion Augmentation	84		
	C 51 Attack systems	39-40-42		
	C 52 Radar/ Surveillance	92-93		
	C 53 Weapons systems	94		
	C 54 Crew escape &Safety	95		
	C 55 ► ◆Drones/Telemetry	96-00, 96-30, 96-40		
	C 56 Reconnaissance	97-98		
	C 57 Electronic warfare	99		
	D1 Non-Destructive	[State particular NDT method(s)]		
SPECIALISED	Testing	1		
SERVICES	D5 Arms, Munitions and Pyrotechnic	[State arms type and maintained pyrote	chnic syste	ms]

S1000D Chapter Reference: in conformity with "S1000D Main System Breakdown"

Paragraph	Sub- Para	EMAR 145 Ed 1.1 wording	EMAR 145 Ed 1.2 revised wording	Notes
Appendix III - EMAR Form 3			EMAR Form 3 is contained in the EMAR Forms document.	All EMAR Forms are now contained in the EMAR Forms document.