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# REQUIREMENTS FOR MAINTENANCE ORGANISATIONS (FIN EMAR 145)

This military aviation regulation establishes the requirements to be met by an approved maintenance organisation (AMO) for military aircraft.

**Enabling act:**

Aviation Act (864/2014; section 6 and section 7, subsection 1, paragraph 4)

**Period of validity:**

From 1.7. 2021 until further notice

**Repeal:**

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## APPENDIXES

Appendix 1: Class and Rating System to be used for the Approval of Maintenance Organisations

**ABBREVIATIONS**

AD	Airworthiness Directive
AMP	Aircraft Maintenance Programme
AMO	Approved Maintenance Organisation
CAMO	Continuing Airworthiness Management Organisation
CRS	Certificate of Release to Service
EASA	European Union Aviation Safety Agency
EDA	European Defence Agency
EMAR	European Military Airworthiness Requirements
FIMAA	Military Aviation Authority Finland
MAML	Military Aircraft Maintenance Licence
MAWA Forum	Military Airworthiness Authorities Forum
MEL	Minimum Equipment List
MOB	Main Operation Base
MOE	Maintenance Organisation Exposition
MSTC	Military Supplementary Type Certificate
MTC	Military Type Certificate
MTCH	Military Type Certificate Holder

## **INTRODUCTION**

The Military Aviation Authority Finland (FIMAA) issues regulations on national military aviation and international military aviation in Finland to ensure military aviation flight safety as authorised in the Aviation Act Section 6. In the present regulation the FIMAA establishes the requirements for military aircraft maintenance organisations.

This regulation complies with EMAR 145 Edition no. 1.2, where applicable, as published and approved by the Military Airworthiness Authorities (MAWA) Forum under the umbrella of the European Defence Agency (EDA). The numbering of subparts and paragraphs is identical to those used in EMAR 145 Edition no. 1.2.

This regulation may also be used as a basis for the assessment of equivalent foreign organisations.

The Finnish version is a translation of the original document in English. However, in case of a discrepancy, the Finnish translation will prevail.

## **1 REQUIREMENTS**

### **SECTION A TECHNICAL REQUIREMENTS**

#### **145.A.10 Scope**

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

#### **145.A.15 Application**

An application for the issue or change of an approval shall be made to the Military Aviation Authority Finland (FIMAA) in the form and manner established by the FIMAA.

#### **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 1 to this regulation 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.
  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.
- e) In accordance with the Act on the Defence Forces Section 2, in Defence Forces' operational missions, exercise activities, situations involving enhanced readiness and as necessitated by various emergency conditions, exemptions from the aforementioned facility requirements may be granted on orders issued by the Defence Forces.

#### **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 this regulation. The Accountable Manager shall:



1. Ensure that all necessary resources are available to accomplish maintenance in accordance with 145.A.65(b) to support the maintenance organisation approval.
  2. Establish and promote the safety and quality policy specified in 145.A.65(a).
  3. Demonstrate a basic understanding of this regulation.
- b) The maintenance organisation shall nominate a person or group of persons, whose responsibilities include ensuring that the maintenance organisation complies with this regulation. 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 regulation.
  2. The person or persons nominated shall be identified and their credentials submitted to the Military Aviation Authority Finland in the form and manner established by the FIMAA.
  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 regulation.
  4. Procedures shall make clear who deputises for any particular 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 145.A.65(c). 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.

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- 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 FIMAA. 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 FIMAA. 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 SIM-

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He-Lt-030, 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 certifying staff with an appropriate military aircraft maintenance qualification and authorisation in qualification Categories B1 and B2 as appropriate, in accordance with SIM-He-Lt-030 and 145.A.35. "Military aircraft maintenance qualification" means the record of a person's qualification category in the military authority register.

In addition, such maintenance organisations may also use appropriately task trained certifying staff holding the privileges described in SIM-He-Lt-030 66.A.20(a)(1) or 66.A.20(a)3(ii) and qualified in accordance with SIM-He-Lt-030 and 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.

- h) Any maintenance organisation maintaining aircraft, except where stated otherwise in paragraph (j) shall:
1. In the case of base maintenance of aircraft, have certifying staff with an appropriate qualification in Category C in accordance with SIM-He-Lt-030 and 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 SIM-He-Lt-030 and 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 SIM-He-Lt-030 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 an 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 train-

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ing has been carried out to ensure that such aircraft commander and/or flight engineer can accomplish the AD to the required standard.

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)/qualification rated for the aircraft, provided there is no maintenance organisation appropriately approved under this regulation at that location and the supporting maintenance organisation obtains and holds on file evidence of the experience and the MAML/qualification of that person.

The maintenance organisation issuing the one-off authorisation shall ensure that any such maintenance that could affect flight

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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 who are holders of the Category A, B1 or B2 military aircraft maintenance qualification with the appropriate extensions.

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

- a) In addition to the appropriate requirements of 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 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 SIM-He-Lt-030 military aircraft maintenance qualification 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 145.A.30(j) and SIM-He-Lt-030 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 sub-categories specified in the military aircraft maintenance qualification and any Military Aircraft Type Rating endorsed on the military aircraft maintenance qualification, subject to the military aircraft maintenance qualification remaining valid throughout the validity period of the authorisation and the certifying staff remaining in compliance with SIM-He-Lt-030.

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 145.A.35 as the basis for issuing certification authorisations under this regulation to certifying staff, and a procedure to ensure compliance with SIM-He-Lt-030.

f) Except where any of the unforeseen cases of 145.A.30(j)(5) 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

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prior to the issue or re-issue of a certification authorisation under this regulation.

- 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), (f) 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 FIMAA.

- 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 military aircraft maintenance qualification held under SIM-He-Lt-030; 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.



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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.
- l) Certifying staff shall provide evidence of their certification authorisation to any authorised person within 72 hours.
- m) The minimum age for certifying staff and support staff shall be 21 years. The maintenance organisation may, for a valid reason, deviate from the age limit of 21 years for the holder of Category A military aircraft maintenance qualification.
- n) The holder of a Category A military aircraft maintenance qualification 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 this regulation or SIM-To-Lt-029. 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 SIM-To-Lt-029 MTO.
- o) The holder of a Category B2 military aircraft maintenance qualification may only exercise the certification privileges described in SIM-He-Lt-030 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.

#### **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 FIMAA 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.

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#### 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 SIM-To-Lt-035 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 FIMAA;
  - 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.

3. Unsalvageable components which are classified in accordance with 145.A.42(d). A maintenance organisation in consultation with the CAMO shall, in the case of unsalvageable components:

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- 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 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

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facilities if this is approved by the FIMAA, 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 SIM-To-Lt-035.
- 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, the maintenance organisation shall have access to such data when the work is in progress, with the exception of the need to comply with 145.A.55(c).

- b) For the purposes of this regulation, applicable maintenance data shall be any of the following:
  - 1. Any applicable requirement, procedure, operational regulation or information issued by or provided by the FIMAA;
  - 2. Any applicable airworthiness directive (AD) issued by the appropriate airworthiness authorities;
  - 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 SIM-To-Lt-035 and in the case

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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 FIMAA;

4. Any applicable standard, such as but not limited to, maintenance standard practices recognised by the FIMAA 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

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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 a 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 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.
- 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 CAMO, the maintenance organisation shall be able to show that either it has written confirmation from the 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 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 145.A.45 maintenance data.
- b) An independent inspection shall be carried out after any flight safety sensitive maintenance task unless otherwise specified in this regulation or agreed by the FIMAA.
- c) Only the authorised certifying staff according to 145.A.35 and in consultation with the CAMO as necessary, can decide, using 145.A.45 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 FIMAA is used; or
  - 2. aircraft defects are defined as being acceptable by the FIMAA or FIMAA authorized organisation.
- 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.



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**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 145.A.70, taking into account the availability and use of the maintenance data specified in 145.A.45 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.
- 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.
- 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 or equivalent constitutes the component CRS. When an AMO maintains a component for its own use, an EMAR Form 1 or equivalent 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 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 145.A.42.

#### **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 FIMAA.

#### **145.A.60 Occurrence reporting**

- a) The maintenance organisation shall report to the FIMAA 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 FIMAA, 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 any such condition affecting the aircraft or component.
- e) The maintenance organisation shall produce and submit such reports within predefined FIMAA timeframes, but in any case within 72 hours of the maintenance organisation identifying the condition to which the report relates.

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**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 145.A.70.
- b) The maintenance organisation shall establish procedures agreed by the FIMAA taking into account human factors and human performance to ensure good maintenance practices and compliance with this regulation which shall include a clear work order or contract such that aircraft and components may be released to service in accordance with 145.A.50.
  - 1. The maintenance procedures under this paragraph apply to 145.A.25 to 145.A.95.
  - 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 SIM-To-Lt-036 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 145.A.30(b) 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 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 this regulation. The maintenance organisation shall provide the FIMAA 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

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the maintenance organisation's compliance with this regulation 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 145.A.65; and
3. The title(s) and name(s) of the persons nominated under 145.A.30(b); and
4. The duties and responsibilities of the persons nominated under 145.A.30(b), including matters on which they may deal directly with the FIMAA on behalf of the maintenance organisation; and
5. An organisation chart showing associated chains of responsibility between the persons nominated under 145.A.30(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
9. A specification of the maintenance organisation's scope of work relevant to the extent of approval; and
10. The notification procedure of 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 145.A.25 to 145.A.90; and

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13. A list of CAMOs to which the maintenance organisation provides an aircraft maintenance service; and
  14. A list of contracted/tasked organisations, where applicable, as specified in 145.A.75(b); and
  15. A list of line stations, where applicable, as specified in 145.A.75(d); and
  16. A list of contracted/tasked organisations, 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 FIMAA.
  - c) Notwithstanding paragraph (b), minor amendments to the MOE may be approved through an MOE procedure (hereinafter called indirect approval). The procedure requires minor amendments and the procedure must be prepared by MOE. The procedure must be approved by FIMAA.
  - 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 SIM-To-Lt-031 requirements shall generally be accepted by the FIMAA as equivalent in respect of the SIM-To-Lt-031 MOE. In this case it is permissible that only those requirements that are military specific need be addressed in the SIM-To-Lt-031 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 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 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 regulation and is limited to the work scope permitted under 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. 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;
- 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 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 FIMAA of any proposal to carry out any of the following changes before such changes take place to enable the FIMAA to determine continued compliance



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with this regulation 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 145.A.30(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 with this regulation, in accordance with the provisions related to the handling of findings in accordance with the Military Aviation Authority Finland; and
  2. The FIMAA being granted access to the AMO to determine continued compliance with this regulation; and
  3. The certificate not being surrendered or revoked.
- b) Upon surrender or revocation, the approval shall be returned to the FIMAA.

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**145.A.95 AMO Findings by the FIMAA**

- a) After receipt of notification of findings according to the Military Aviation Authority Finland, 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 FIMAA within a period required by the FIMAA.
- b) A level 1 finding is any significant non-compliance with this regulation 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 FIMAA until successful corrective action has been taken by the AMO.
- c) A level 2 finding is any non-compliance with the requirements which could lower the safety standard and possibly hazards the flight safety.
- d) A discrepancy (level 3 finding) is any observation made by the military aviation authority which is does not constitute a non-compliance with this regulation but makes it necessary for the organisation to reassess or specify the task subject to the observation.
- e) An AMO's non-compliance with the actions identified in 145.A.95(a) leads to a full or partial suspension of the approval by the FIMAA.

**145.A.1000 National requirements**

- a) In respect of individual aircraft, the organisation approved in compliance with this regulation may, within its terms of approval, be entitled to grant exemptions.

- b) The Organisation shall designate persons who are authorised to issue such permits as are required in the terms of approval and comply with this paragraph.
- c) The qualification requirements of the authorisers shall be described in the MOE.

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**SECTION B PROCEDURES FOR NATIONAL MILITARY AIRWORTHINESS AUTHORITY**

TO BE ADDED LATER IF REQUIRED

## 2 TRANSITIONAL PROVISION

This regulation comes into force 1.7.2021.

Approvals issued in accordance with SIM-To-Lt-001 shall remain valid until the military aircraft maintenance organisation has been approved in accordance with this regulation or the maintenance organisation has returned its approval or the approval has been revoked. In accordance with SIM-To-Lt-001 regulation, approved military aircraft maintenance organisations shall apply for approval as stipulated in this regulation by 1 June 2022.

Item 145.A.30 (g) and (h) of this regulation defines the certifying staff and support staff. Maintenance organisations shall ensure that the certifying staff and support staff possess a qualification issued in accordance with SIM-He-Lt-030 by 31 December 2022.

## 3 EXEMPTIONS

The Military Aviation Authority Finland may grant exemptions from this regulation based on a justifiable application addressing the exceptional features of the activities in question. The application process and instructions are detailed in the Military Aviation Authority Advisory SIO-Pe-YI-008 "Application for exemption to military aviation authority decision or military aviation regulation in force".

Director

Colonel, M.Sc. (Tech.)

Kim Juhala

Technical Director

M.Sc. (Tech.)

Kimmo Pelkonen

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## CLASS AND RATING SYSTEM TO BE USED FOR THE APPROVAL OF MAINTENANCE ORGANISATIONS

1. Table 1 outlines the full extent of approval possible under SIM-To-Lt-031 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 SIM-To-Lt-031 145.A.20 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 FIMAA, 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 FIMAA, 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 FIMAA. 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 FIMAA, in accordance with component

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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 FIMAA. The MOE scope of work shall reflect such activity where permitted by the FIMAA.

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 FIMAA. The MOE scope of work shall reflect such activity where permitted by the FIMAA.
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.
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 maintenance facility located at a main base maintenance facility requires a line maintenance approval.

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9. The 'limitation' section is intended to give the FIMAA 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 avionics 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 avionics 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 FIMAA 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 SIM-To-Lt-031 for products or services added to the list.
12. NOT APPLICABLE.



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 maintenance task(s)]	[YES/ NO]*	[YES/ NO]*
	A2 Aeroplanes/5 700 kg and below	[State aeroplane manufacturer or group or series or type and/or the maintenance task(s)]	[YES/ NO]*	[YES/ NO]*
	A3 Helicopters	[State helicopter manufacturer or group or series or type and/or the maintenance task(s)]	[YES/ NO]*	[YES/ NO]*
	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 maintenance task(s)]		
	B2 Piston	[State engine manufacturer or group or series or type and/or the maintenance task(s)]		
	B3 APU	[State engine manufacturer or series or type and/or the maintenance task(s)]		
COMPONENTS other than complete engines or APU's		<i>S1000D CHAPTER REFERENCE 1</i>	<i>LIMITATIONS (aircraft type, component, manufacturer)</i>	
	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	
	C20 Structural	53-54-57.10-57.20-57.30	
	C21 Water Ballast	41	
	C22 Propulsion Augmentation	84	
	C51 Attack systems	39-40-42	
	C52 Radar/Surveillance	92-93	
	C53 Weapons systems	94	
	C54 Crew escape & Safety	95	
	C55 Drones/Telemetry	96-00, 96-30, 96-40	
	C56 Reconnaissance	97-98	
	C57 Electronic warfare	99	
SPECIALISED SERVICES	D1 Non-Destructive Testing	[State particular NDT method(s)]	
	D5 Arms, Munitions and Pyrotechnic Systems Specific	[State arms type and maintained pyrotechnic systems]	

<sup>1</sup> S1000D Chapter Reference : in conformity with "S1000D Main System Breakdown"