

27.02.2017

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# SOTILASILMA-ALUSTEN SEKÄ NIIHEN LIITTYVIEN TUOTTEIDEN, OSIEN JA LAITTEIDEN SEKÄ SUUNNITTELU- JA TUOTANTO- ORGANISAATIOIDEN HYVÄKSYNTÄ

Tämä ohje noudattaa Euroopan Puolustusviraston (EDC) Sotilasilmaluviranomaisten yhteistyöryhmän (MAWA Forum) julkaisema ja hyväksymä EMAR 21 -vaatimuksen muutostasoa 1.2. Siltä osin kuin EMAR 21 -vaatimuksen on poikettu, on se merkitty tekstiin [hakasuluin].

Toimija voi poiketa tämän ohjeen vaatimuksista Sotilasilmaluviranomaisen hyväksynnällä, mikäli toimija osoittaa että vaadittua turvallisuustaso saavutetaan. Ohjeen alaosien ja kappaleiden numerointi vastaa EMAR 21:n muutostasoa 1.2.

## Ohjeen antamisen peruste:

Ilmailulaki (864/2014) 6 §, 7 § ja 33 §

## Voimassaoloaika:

1.3.2017 lukien toistaiseksi

## Siirtymäsäännökset:

Suunnitteluorganisaation on haettava tämän ohjeen mukaista hyväksyntää kolmen kuukauden kuluessa ohjeen voimaantulosta. Hyväksynnöissä, jotka on aloitettu ennen tämän ohjeen voimaantuloa ja jotka tulevat päätettäväksi tämän ohjeen voimaantulon jälkeen, noudatetaan tämän ohjeen mukaisia menettelyjä ellei viranomaisen kanssa toisin sovita. Tämä ohje ei koske jo myönnettyjä hyväksyntöjä.

27.02.2017

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# CERTIFICATION OF MILITARY AIRCRAFT AND RELATED PRODUCTS, PARTS AND APPLIANCES, AND DESIGN AND PRODUCTION ORGANISATIONS

This advisory is compatible with EASA Part 21 Edition no. 2 as published and approved by the Military Airworthiness Authorities (MAA) Forum under the umbrella of the European Defence Agency (EDA). Differences between EASA Part 21 and this advisory are indicated in the text by [square brackets]. The numbering of subparts and paragraphs is identical to those used in EASA Part 21 Edition no. 2.

A user may deviate from this advisory if an equivalent level of safety standard is achieved and if approved by the Authority.

**Enabling**  
Legislation Act (864/2014) Chapter 6, 7 and 33

## **Period of validity:**

From 1st of March 2017 until further notice

## **Transitional provision:**

A design organisation shall apply for an approval as described in this advisory within three months from the coming into force of this advisory. Approvals the handling of which has been started before the entry into force of this advisory and which will be accepted after the release of this advisory shall be subject to this advisory unless otherwise agreed with the Finnish Military Aviation Authority. This advisory does not apply to the approvals already granted.

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**ABBREVIATIONS**

|               |  |
|---------------|--|
| APU           | Auxiliary Power Unit                                   |
| APU ETSO      | Auxiliary Power Unit European Technical Standard Order |
| DOE           | Design Organisation Exposition                         |
| EASA          | European Aviation Safety Agency                        |
| EMACC         | European Military Airworthiness Certification Criteria |
| EMAR          | European Military Airworthiness Requirements           |
| EMPA          | European Military Part Approval                        |
| EMTSO         | European Military Technical Standard Order             |
| FI MAA        | Finnish Military Aviation Authority                    |
| MDOA          | Military Design Organisation Approval                  |
| MOD           | Ministry of Defence                                    |
| MRTC          | Military Restricted Type-Certificate                   |
| MTC           | Military Type-Certificate                              |
| MTOE          | Military Training Organisation Exposition              |
| NMAA          | National Military Airworthiness Authority              |
| SIO-Ma-Lt-005 | Airworthiness Code for Military Aircraft               |
| STC           | Supplemental Type-Certificate                          |

## 1 REQUIREMENTS

### 21.1 General

For the purpose of this [advisory]:

All references to "aircraft" throughout this [advisory] means "military aircraft", defined as those that follow special laws and regulations and are designed with specific characteristics for military operations.

- 'Authority' shall be, unless otherwise specified in this [advisory]:

1- The Authority in charge of the type-certification process.

(a) For a multinational programme, the Military Airworthiness Authorities of the participating Nations/States; or

(b) For a national programme, the [Finnish Military Aviation Authority (FI MAA)],

2- The Authority in charge of the production/design organisation approval:

(a) For a multinational programme, the Military Airworthiness Authorities of the participating Nations/States; or

(b) For a national programme, the [Finnish Military Aviation Authority (FI MAA)],

3- The [Finnish Military Aviation Authority (FI MAA)] in charge to issue the military permit to fly, in accordance with SIO-Ma-Lt-005]

4- The [Civil Aviation Authority] in charge to issue the Certificate of Airworthiness; or

5- For unregistered aircraft, the [Finnish Military Aviation Authority (FI MAA)] which prescribed the identification marks.

- 'Applicant' shall be:

(a) The contractor which should comply with this [advisory]; or

(b) Any organisation (including MODs) which must obtain from an Authority a type-certificate, a restricted type-certificate, a supplemental type-certificate, authorization [ ], a major change or a major repair design approval based on this [advisory]. It should be included herein the certificate of airworthiness, as mentioned in 21.A.172, and Military Permit to Fly /Flight Conditions, as mentioned in [Subpart P].

(c) Any organisation or operator or its representative which applies for an airworthiness certificate under Subpart H of this [advisory].

'Certification' - the process of recognition that a product, part or appliance, organisation or person complies with the applicable airworthiness requirements followed by the declaration of compliance.

*"continued (design) airworthiness"* means all tasks to be carried out to verify that the conditions under which a type-certificate or a supplemental type-certificate has been granted continue to be fulfilled at any time during its period of validity (Type Design) .

*"continuing (preservation of) airworthiness"* means all of the processes ensuring that, at any time in its operating life, the aircraft complies with the airworthiness requirements in force and is in a condition for safe operation (Maintenance).

All references to "certificates" throughout this [advisory] means "military certificates" (Although credit can be taken from a prior Civil Certificate issued by a recognised Civil Authority).

All references to "organisational approvals" throughout this [advisory] means "organisational approvals accepted or issued by military authorities".

Where this [advisory] requires specific EM/R forms to be used, equivalent forms approved by the Authority are permitted.

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## SECTION A

### TECHNICAL REQUIREMENTS

#### SUBPART A – GENERAL PROVISIONS

##### 21.A.1 Scope

This Section establishes general provisions governing the obligations and privileges of the applicant for, and holder of, any certificate issued to be issued in accordance with this Section.

##### 21.A.2 Undertaking by another organisation than the applicant for, or holder of, a certificate

The actions and obligations required to be undertaken by the holder of, or applicant for, a certificate for a product, part or appliance under this Section may be undertaken on its behalf by any other organisation, provided the holder of, or applicant for, that certificate can show that it has made an agreement with the other organisation, such as to ensure that the holder's obligations are and will be properly discharged.

##### 21.A.3A Failures, malfunction and defects

(a) System for Collection, Investigation and Analysis of Data.

The holder of a type-certificate, restricted type-certificate, supplemental type-certificate, [ ], major repair design approval or any other relevant approval deemed to have been issued under this [advisory] shall have a system for collecting, investigating and analysing reports of and information related to failures, malfunctions, defects or other occurrences which cause or might cause adverse effects on the airworthiness of the product, part or appliance covered by the type-certificate, restricted type-certificate, supplemental type-certificate, [ ], major repair design approval or any other relevant approval deemed to have been issued under this [advisory]. Information about this system shall be made available to all known operators of the product, part or appliance and, on request, to any person authorised under other associated EMARs.

(b) Reporting to the Authority.

1. The holder of a type-certificate, restricted type-certificate, supplemental type-certificate, [ ], major repair design approval or any other relevant approval deemed to have been issued under this [advisory], shall report to the issuing/approving Authority any failure, malfunction, defect or other occurrence of which it is aware related to a product, part or appliance covered by the type-certificate, restricted type-certificate, supplemental type-certificate, [ ], major repair design approval or any other relevant approval deemed to have been issued under this [advisory], and which has resulted in or may result in an unsafe condition.

2. These reports shall be made in a form and manner established by the Authority, as soon as practicable and in any case dispatched not later than 72 hours after the identification of the possible unsafe condition, unless exceptional circumstances prevent this.

(c) Investigation of Reported Occurrences.

1. When an occurrence reported under paragraph (b), or under 21.A.129(f)(2) or 21.A.165(f)(2) results from a deficiency in the design, or a manufacturing deficiency, the holder of the type-certificate, restricted type-certificate, supplemental type-certificate, [ ], major repair design approval or any other relevant approval deemed to have been issued under this [advisory], or the manufacturer (Production Organisation) as appropriate, shall investigate the reason for the deficiency and report to the Authority the results of its investigation and any action it is taking or proposes to take to correct that deficiency.
2. If the Authority finds that an action is required to correct the deficiency, the holder of the type-certificate, restricted type-certificate, supplemental type-certificate, [ ], major repair design approval or any other relevant approval deemed to have been issued under this [advisory], or the manufacturer as appropriate, shall submit the relevant data to the Authority.

### 21.A.3B Airworthiness Directives

(a) An Airworthiness Directive means a document issued or adopted by the Authority which mandates actions to be performed on an aircraft to restore an acceptable level of safety, when evidence shows that the safety level of this aircraft may otherwise be compromised.

[In this case the Authority is considered to be, in addition to the Finnish Military Aviation Authority, the Authority in the country responsible for the design of the aircraft].

(b) The Authority shall issue an airworthiness directive when:

1. An unsafe condition has been determined by the Authority to exist in an aircraft, as a result of a deficiency in the aircraft, or an engine, propeller, part or appliance installed on this aircraft; and
2. That condition is likely to exist or develop in other aircraft, including engine, propeller, part or appliance installed on those aircraft that may be affected by this unsafe condition.

(c) When an Airworthiness Directive has to be issued by the Authority to correct the unsafe condition referred to in paragraph (b), or to require the performance of an inspection, the holder of the type-certificate, restricted type-certificate, supplemental type-certificate, major repair design approval [ ] or any other relevant approval deemed to have been issued under this [advisory], shall:

1. Propose the appropriate corrective action and/or required inspections and submit details of these proposals to the Authority for approval;
  2. Following the approval by the Authority of the corrective action and required inspections referred to under subparagraph (1), make available to all known operators or owners of the product, part or appliance and, on request, to any person required to comply with the airworthiness directive, appropriate descriptive data and accomplishment instructions.
- (d) An Airworthiness Directive shall contain at least the following information:
1. An identification of the unsafe condition;
  2. An identification of the affected aircraft, operating and maintenance associated documentation;
  3. The action(s) required;
  4. The compliance time for the required action(s);
  5. The date of entry into force.

#### 21.A.4 Coordination between design and production

Each holder of a type certificate, restricted type-certificate, supplemental type-certificate, [ ], approval of a change to type design or approval of a repair design, shall ensure collaboration between the design organisation and the production organisation as necessary to achieve:

- (a) The satisfactory coordination of design and production [ ] as appropriate; and
- (b) The proper support of the continued airworthiness of the product, part or appliance.

## SUBPART B – MILITARY TYPE-CERTIFICATES AND MILITARY RESTRICTED TYPE-CERTIFICATES

### 21.A.11 Scope

This Subpart establishes the procedure for issuing Military Type-Certificate (MTCs) for products and Military Restricted Type-Certificates (MRTCs) for aircraft, and establishes the rights and obligations of the applicants for, and holders of, those certificates.

### 21.A.13 Eligibility

Any organisation that has demonstrated, or is in the process of demonstrating, its capability in accordance with 21.A.14 shall be eligible as an applicant for a type-certificate or a restricted type-certificate under the conditions laid down in this Subpart.

### 21.A.14 Demonstration of capability

(a) Any organisation applying for a military type-certificate or military restricted type-certificate shall demonstrate its capability by holding a military design organisation approval (MDOA), issued by the Authority in accordance with EMAR 21 Subpart J.

(b) By way of derogation from paragraph (a), as an alternative procedure to demonstrate its capability, an applicant may seek Authority agreement for the use of procedures setting out the specific design practices, resources and sequence of activities necessary to comply with this [advisory], under the following conditions:

1. Products with simple and limited scope of design.
2. Starting phase toward a military design organisation approval or limited duration of design activities.
3. Products for which the major part of the Type Design certification activities have already been accepted by the Authority concerned.
4. Reserved

(c) By way of derogation from paragraph (a) and (b), any [ ] organisation applying for a type-certificate or restricted type-certificate may demonstrate its capability by having an agreement in place, accepted by the Authority, in accordance with 21.A.2 with a design organisation which has access to the type design data. The agreement shall include detailed statements how the actions and obligations are delegated to enable the [ ] organisation, in cooperation with the contracted organisation, to comply with the requirements of 21 Subpart J, including demonstration of compliance with 21.A.44.

### 21.A.15 Application

- (a) An application for a type-certificate or restricted type-certificate shall be made in a form and manner established by the Authority.
- (b) An application for an aircraft type-certificate or restricted type-certificate shall be accompanied by a three-view drawing of that aircraft and preliminary basic data, including the proposed operating characteristics and limitations [as appropriate].
- (c) An application for an engine or propeller type-certificate shall be accompanied by a general arrangement drawing, a description of the design features, the operating characteristics, and the proposed operating limitations, of the engine, or propeller [as appropriate].

### 21.A.16A Airworthiness Codes

The Authority may approve the use of applicable airworthiness codes as a standard means to show compliance of products, parts and appliances with the essential requirements of Annex 7 to the Basic Framework Document. Such codes shall be sufficiently detailed and specific to indicate to applicants the conditions under which certification will be issued.

### 21.A.16B Special conditions

(a) The Authority shall approve any special detailed technical specifications, named special conditions for a product, if the related airworthiness codes do not contain adequate or appropriate safety standards for the product, because:

1. The product has novel or unusual design features relative to the design practices on which the applicable airworthiness codes are based; or
2. The intended use of the product is unconventional; or
3. Experience from other similar products in service or products having similar design features, has shown that unsafe conditions may develop; or
4. Airworthiness codes do not exist for the concerned product function.

(b) The special conditions contain such safety standards as the Authority finds necessary to establish a level of safety equivalent to that established in the applicable airworthiness codes or a level of safety acceptable if airworthiness codes do not exist for the concerned product.

### 21.A.17A Type-certification basis

(a) The type-certification basis to be notified for the issuance of a type-certificate or a restricted type-certificate shall consist of:

1. The applicable airworthiness codes established according to 21.A.16A that are effective on the date of application for that certificate unless:

- i. Otherwise specified by the Authority; or
  - ii. Compliance with later effective amendments is elected by the applicant or required under paragraph (d).
2. Any special condition prescribed in accordance with 21.A.16B(a).
3. The tailoring of the criteria in European Military Airworthiness Certification Criteria (EMACC) based on the military use of the product, when appropriate airworthiness codes are not available.
- (b) (Reserved)
- (c) (Reserved)
- (d) If an applicant elects to comply with an amendment to the airworthiness codes that is effective after the filing of the application for a type-certificate, the applicant shall also comply with any other amendment that the Authority finds is directly related.
- (e) Special conditions in accordance with 21.A.16B may be required to take into account the intended military use of the aircraft.

#### **21.A.17B Reserved**

#### **21.A.18 Designation of applicable environmental protection requirements**

The applicable environmental protection requirements shall be established when certifying a product, taking account of the military operational need.

#### **21.A.19 Changes requiring a new type-certificate**

Any applicant proposing to change a product, shall apply for a new type-certificate if the Authority finds that the change in design, configuration, power, thrust or mass is so extensive that a substantially complete investigation of compliance with the applicable type-certification basis is required.

#### **21.A.20 Compliance with the type-certification basis and environmental protection requirements (where applicable)**

The applicant for a type-certificate or a restricted type-certificate shall demonstrate compliance with the applicable type-certification basis and environmental protection requirements (where applicable) and shall provide the Authority with the means by which such compliance has been demonstrated.

- (b) The applicant shall provide the Authority with a certification programme detailing the means for compliance demonstration. This document shall be updated as necessary during the certification process.

(c) The applicant shall record justification of compliance within compliance documents according to the certification programme established under paragraph (b).

(d) The applicant shall declare that it has demonstrated compliance with an applicable type-certification basis and environmental protection requirements (where applicable), according to the certification programme established under paragraph (b).

(e) Where the applicant holds an appropriate design organisation approval, the declaration of paragraph (d) shall be made according to the provisions of 21 Subpart J.

#### **21.A.21 Issue of a type-certificate**

The applicant shall be entitled to have a product type-certificate issued by the Authority after:

(a) Demonstrating its capability in accordance with 21.A.14;

(b) Submitting the declaration referred to in 21.A.20 (d); and

(c) It is shown that:

1. The product to be certificated meets the applicable type-certification basis and environmental protection requirements (where applicable) designated in accordance with 21.A.17A and 21.A.18 (where applicable);
2. Any applicable provisions not complied with are compensated for by factors that provide an equivalent level of safety;
3. No feature or characteristic makes it unsafe for the uses for which certification is requested; and
4. The type-certificate applicant has expressly stated that it is prepared to comply with 21.A.44.

(d) In the case of an aircraft type-certificate, the engine or propeller or both, if installed in the aircraft, have a type-certificate issued or determined in accordance with this [advisory], unless the engine and propeller are fully covered by the aircraft level type-certificate.

#### **21.A.23 Issue of a restricted type-certificate**

(a) For an aircraft that does not meet the provisions of 21.A.21(c), the applicant shall be entitled to have a restricted type-certificate issued by the Authority after:

1. Complying with the appropriate type-certification basis established by the Authority ensuring adequate safety where restrictions may be imposed in regard to the intended use of the aircraft, and with the applicable environmental protection requirements (where applicable);

2. Expressly stating that it is prepared to comply with 21.A.44.
- (b) The engine or propeller installed in the aircraft, or both, shall:
  1. Have a type-certificate issued or determined in accordance with this [p  
visory]; or
  2. Have been shown to be in compliance with the type-certification basis  
necessary to ensure safe flight of the aircraft.

### 21.A.31 Type design

- (a) The type design shall consist of:
  1. The drawings and specifications, and listing of those drawings and specifications, necessary to define the configuration and the design features of the product shown to comply with the applicable type-certification basis and environmental protection requirements (where applicable);
  2. Information on materials and processes and on methods of manufacture and assembly of the product necessary to ensure the conformity of the product;
  3. An approved airworthiness limitation section of the instructions for continuing airworthiness as defined by the applicable airworthiness codes; and
  4. Any other data necessary to allow by comparison, the determination of the airworthiness, the characteristics of noise, fuel venting, and exhaust emissions (where applicable) of later products of the same type.
- (b) Each type design shall be adequately identified.

### 21.A.33 Investigation and tests

- (a) The applicant shall perform all inspections and tests necessary to show compliance with the applicable type-certification basis and environmental protection (where applicable).
- (b) Before each test required by paragraph (a) is undertaken, the applicant shall have determined:
  1. For the test specimen:
    - i. That materials and processes adequately conform to the specifications for the proposed type design;
    - ii. That parts of the products adequately conform to the drawings in the proposed type design;



- iii. That the manufacturing processes, construction and assembly adequately conform to those specified in the proposed type design; and
2. That the test equipment and all measuring equipment used for tests are adequate for the test and are appropriately calibrated.
- (c) The applicant shall allow the Authority to make any inspection necessary to check compliance with paragraph (b).
- (d) The applicant shall allow the Authority to review any report and make any inspection and to perform or witness any flight and ground test necessary to check the validity of the declaration of compliance submitted by the applicant under 21.A.20(b) and to determine that no feature or characteristic makes the product unsafe for the uses for which certification is requested.
- (e) For tests performed or witnessed by the Authority under paragraph (d):
1. The applicant shall submit to the Authority a statement of compliance with paragraph (b); and
  2. No change relating to the test that would affect the statement of compliance may be made to a product, part or appliance between the time compliance with paragraph (b) is shown and the time it is presented to the Authority for tests.

#### 21.A.35 Flight Tests

- (a) Flight testing for the purpose of obtaining a type-certificate shall be conducted in accordance with conditions for such flight testing approved by the Authority.
- (b) The applicant shall make all flight tests that the Authority finds necessary:
1. To determine compliance with the applicable type-certification basis, and environmental protection requirements (where applicable); and
  2. To determine whether there is reasonable assurance that the aircraft, its parts and appliances are reliable and function properly.
- (c) (Reserved)
- (d) (Reserved)
- (e) (Reserved)
- (f) The flight tests prescribed in subparagraph (b)(2) shall include:
1. For aircraft incorporating turbine engines of a type not previously used in type-certificated aircraft, at least 300 hours of operation or as agreed by

the Authority, with a full complement of engines that conform to a type-certificate; and

2. For all other aircraft, at least 150 hours of operation or as agreed by the Authority.

#### **21.A.41 Type-certificate and restricted type-certificate**

The type-certificate and restricted type-certificate are both considered to include the type design, the operating limitations, the type-certificate data sheet for airworthiness, the applicable type-certificate basis and environmental protection requirements (where applicable) with which the Authority records compliance, and any other conditions or limitations prescribed for the product in the applicable airworthiness requirements and environmental protection requirements (where applicable).

#### **21.A.42 Integration**

The aircraft MTC Holder shall be responsible for the integration of Products, Weapons and other Systems onto the aircraft, except for approvals under Subpart E.

#### **21.A.44 Obligations of the holder**

Each holder of a type-certificate or restricted type-certificate shall:

- (a) Undertake the obligations laid down in 21.A.3A, 21.A.3B, 21.A.4, 21.A.55, 21.A.57 and 21.A.58; and, for this purpose, shall continue to meet the requirements of 21.A.14; and
- (b) Specify the marking in accordance with EMAR 21 Subpart Q [or equivalent regulations acceptable to the Authority].

#### **21.A.47 Transferability**

Transfer of a type-certificate or restricted type-certificate may only be made to an organisation that is able to undertake the obligations under 21.A.44, and, for this purpose, has demonstrated its ability to qualify under the criteria of 21.A.14. [The transfer of an above-mentioned certificate shall be approved by the authority].

#### **21.A.51 Duration and continued validity**

- (a) A type-certificate and restricted type-certificate shall be issued for an unlimited duration. They shall remain valid subject to:
  1. The holder remaining in compliance with this [advisory]; and
  2. The certificate not being surrendered or revoked under the applicable administrative procedures established by the Authority.
- (b) Upon surrender or revocation, the type-certificate and restricted type-certificate shall be returned to the Authority.

(c) The type-certificate or restricted type-certificate holder must inform the Authority, as soon as practicable, when it is no longer able to meet the type-certificate or the restricted type-certificate holder responsibilities defined by this [advisory], for one or several types of product.

#### 21.A.55 Record keeping

All relevant design information, drawings and test reports, including inspection records for the product tested, shall be held by the type-certificate or restricted type-certificate holder at the disposal of the Authority and shall be retained in order to provide the information necessary to ensure the continued airworthiness and compliance with applicable environmental protection requirements (where applicable) of the product.

#### 21.A.57 Manuals

The holder of a type-certificate or restricted type-certificate shall produce, maintain and update master copies of all manuals required by the applicable type-certification basis and environmental protection requirements (where applicable) for the product, and provide copies, on request, to the Authority.

#### 21.A.61 Instructions for continuing airworthiness

(a) The holder of the type-certificate or restricted type-certificate shall furnish at least one set of complete instructions for continuing airworthiness, comprising descriptive data and accomplishment instructions prepared in accordance with the applicable type-certification basis, to each known operator of one or more aircraft, engine or propeller upon its delivery or upon issue of the first certificate of airworthiness for the affected aircraft, whichever occurs later and thereafter make those instructions available on request to any other operator required to comply with any of the terms of those instructions. The availability of some manual or portion of the instructions for continuing airworthiness, dealing with overhaul or other forms of heavy maintenance, may be delayed until after the product has entered into service, but shall be available before any of the products reaches the relevant age or flight hours/cycles.

(b) In addition, changes to the instructions for continuing airworthiness shall be made available to all known operators of the product and shall also be provided on request to any other operator required to comply with any of those instructions. A programme showing how changes to the instructions for continuing airworthiness are distributed shall be submitted to the Authority.

(SUBPART C – NOT APPLICABLE)

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## **SUBPART D – CHANGES TO MILITARY TYPE-CERTIFICATES AND MILITARY RESTRICTED TYPE-CERTIFICATES**

### **21.A.90 Scope**

This Subpart establishes the procedure for the approval of changes to type designs and type-certificates, and establishes the rights and obligations of the applicants for, and holders of, those approvals. In this Subpart, references to type-certificates include type-certificate and restricted type-certificate.

### **21.A.91 Classification of changes in type design**

Changes in type design are classified as minor and major. A 'minor change' is one that has no appreciable effect on the mass, balance, structural strength, reliability, operational characteristics, or other characteristics affecting the airworthiness of the product and, where applicable, environmental characteristics such as noise, fuel venting and exhaust emission. Without prejudice to 21.A.19, all other changes are 'major changes' under this Subpart. Major and minor changes shall be approved in accordance with 21.A.95 or 21.A.97 as appropriate, and shall be adequately identified.

### **21.A.92 Eligibility**

(a) Only the type-certificate holder may apply for approval of a major change to a type design under this Subpart; all other applicants for a major change to a type design shall apply under 21 Subpart E.

(b) Any investigation may apply for approval of a minor change to a type design under this Subpart.

### **21.A.93 Application**

An application for approval of a change to a type design shall be made in a form and manner established by the Authority and shall include:

(a) A description of the change identifying:

1. All parts of the type design and the approved manuals affected by the change; and
2. The airworthiness codes and environmental protection requirements (where applicable) with which the change has been designed to comply in accordance with 21.A.101.

(b) Identification of any re-investigations necessary to show compliance of the changed product with the applicable airworthiness codes and environmental protection requirements (where applicable).

**21.A.95 Minor changes**

Minor changes in a type design shall be classified and approved either:

- (a) By the Authority; or
- (b) By an appropriately approved design organisation under a procedure agreed with the Authority.

**21.A.97 Major changes**

- (a) An applicant for approval of a major change shall:
  1. Submit to the Authority substantiating data together with any necessary descriptive data for inclusion in the type design;
  2. Show that the changed product complies with applicable airworthiness codes and environmental protection requirements (where applicable), as specified in 21.A.101;
  3. Declare that it has shown compliance with the applicable type-certification basis and environmental protection requirements (where applicable) and shall provide to the Authority the basis on which such a declaration is made;
  4. Where the applicant holds an appropriate design organisation approval, make the declaration in subparagraph (a)(3) according to the provisions of Subpart J;
  5. Comply with 21.A.33 and, where applicable, 21.A.35.
- (b) Approval of a major change in a type design is limited to that or those specific configuration(s) in the type design upon which the change is made.

**21.A.101 Designation of applicable Airworthiness codes and environmental protection requirements (where applicable)**

(a) An applicant for a change to a type-certificate shall demonstrate that the changed product complies with the airworthiness codes that are applicable to the changed product and that are in effect at the date of the application for the change, unless compliance with airworthiness codes of later effective amendments is chosen by the applicant or required under paragraph (f), and with the applicable environmental protection requirements (where applicable) laid down in 21.A.18.

(b) By derogation from paragraph (a), an applicant may show that the changed product complies with an earlier amendment of an airworthiness code defined in paragraph (a), and of any other requirement the Authority finds is directly related. However, the earlier amended airworthiness code may not precede the corresponding airworthiness code incorporated by reference in the type-certificate. The applicant may show compliance with an earlier amendment of an airworthiness code for any of the following:

1. A change that the Authority finds not to be significant. In determining whether a specific change is significant, the Authority considers the change in context with all previous relevant design changes and all related revisions to the applicable type-certification basis incorporated in the type-certificate for the product. Changes that meet one of the following criteria are automatically considered significant:
  - i. The general configuration or the principles of construction are not retained.
  - ii. The assumptions used for certification of the product to be changed do not remain valid.
2. Each area, system, part or appliance that the Authority finds is not affected by the change.
3. Each area, system, part or appliance that is affected by the change, for which the Authority finds that compliance with the airworthiness codes described in paragraph (c) would not contribute materially to the level of safety of the changed product or would be impractical.

(c) (Reserved)

(d) If the Authority finds that the airworthiness codes in effect at the date of the application for the change do not provide adequate standards with respect to the proposed change, the applicant shall also comply with any special conditions, and amendments to those special conditions, prescribed under the provisions of 21.A.16B, to provide a level of safety equivalent to that established by the airworthiness codes in effect at the date of the application for the change.

(e) (Reserved)

(f) If an applicant chooses to comply with airworthiness requirements that are derived from an amendment to an airworthiness code that is effective after the filing of the application for a change to a type, the applicant shall also comply with any other airworthiness requirement that the Authority finds is directly related.

### **21.A.103 Issue of approval**

(a) The applicant shall be entitled to have a major change to a type design approved by the Authority after:

1. Submitting the declaration referred to in 21.A.20(d); ; and
2. It is demonstrated that:
  - i. The changed product meets the applicable airworthiness codes and environmental protection requirements (where applicable) as specified in 21.A.101;

ii. Any airworthiness provisions not complied with are compensated for by factors that provide an equivalent level of safety; and

iii. No feature or characteristic makes the product unsafe for the uses for which certification is requested.

(b) A minor change to a type design shall only be approved in accordance with 21.A.95 if it is shown that the changed product meets the applicable airworthiness codes, as specified in 21.A.101.

#### **21.A.105 Record keeping**

(a) For each change, all relevant design information, drawings and test reports, including inspection records for the changed product tested, shall be held by the applicant at the disposal of the Authority and shall be retained in order to provide the information necessary to ensure the continued airworthiness and compliance with applicable environmental protection requirements (where applicable) of the changed product.

(b) Unless otherwise laid down by the Authority, the records must be retained for at least two years after the removal of service of the last aircraft of the type certified.

#### **21.A.107 Instructions for continuing airworthiness**

(a) The holder of a minor change approval to type design shall furnish at least one set of the associated variations, if any, to the instructions for continuing airworthiness of the product on which the minor change is to be installed, prepared in accordance with the applicable type-certification basis, to each known operator of one or more aircraft, engine, or propeller incorporating the minor change, upon its delivery, or upon issuance of the first certificate of airworthiness for the affected aircraft, whichever occurs later, and thereafter make those variations in instructions available, on request, to any other operator required to comply with any of the terms of those instructions.

(b) In addition, changes to those variations of the instructions for continuing airworthiness shall be made available to all known operators of a product incorporating the minor change and shall be made available, on request, to any organisation required to comply with any of those instructions.

#### **21.A.109 Obligations and EMPA marking**

The holder of a minor change approval to type design shall:

(a) Undertake the obligations laid down in 21.A.4, 21.A.105 and 21.A.107; and

(b) Specify the marking, including EMPA (herein 'European Military Part Approval') letters, in accordance with EMAR 21.A.804 [or equivalent regulations acceptable to the Authority].



## SUBPART E – MILITARY SUPPLEMENTAL TYPE-CERTIFICATES

### 21.A.111 Scope

This Subpart establishes the procedure for the approval of major changes to the type design under supplemental type-certificate procedures, and establishes the obligations and privileges of the applicants for, and holders of, those certificates.

### 21.A.112A Eligibility

Any Organisation that has demonstrated, or is in the process of demonstrating, its capability under 21.A.112B shall be eligible as an applicant for a Supplemental Type-Certificate (STC) under the conditions laid down in this Subpart.

### 21.A.112B Demonstration of capability

(a) Any organisation applying for a supplemental type-certificate shall demonstrate its capability by having a military design organisation approval (MDOA), issued by the Authority in accordance with EMAR 21 Subpart J.

(b) By way of derogation from paragraph (a) as an alternative procedure to demonstrate its capability, an applicant may seek Authority agreement for the use of procedures setting out the specific design practices, resources and sequence of activities necessary to comply with this Subpart.

(c) By way of derogation from paragraph (a) and (b), any [ ] organisation applying for a supplemental type-certificate may demonstrate its capability by having an agreement in place, accepted by the Authority, in accordance with 21.A.93 with a design organisation which has access to the type design data. The agreement shall include detailed statements how the actions and obligations are delegated to enable the [ ] organisation, in cooperation with the contracted organisation, to comply with the requirements of EMAR 21 Subpart J, including demonstration of compliance with 21.A.118A.

### 21.A.113 Application for a supplemental type-certificate

(a) An application for a supplemental type-certificate shall be made in a form and manner established by the Authority.

(b) An application for a supplemental type-certificate shall include the descriptions and identification required by 21.A.93. In addition, such an application shall include a justification that the information on which those identifications are based is adequate either from the applicant's own resources, or through an arrangement with the type-certificate holder.

#### 21.A.114 Showing of compliance

Any applicant for a supplemental type-certificate shall comply with 21.A.97 and shall be responsible for the integration of any such changes to the product.

#### 21.A.115 Issue of a supplemental type-certificate

The applicant shall be entitled to have a supplemental type-certificate issued by the Authority after:

- (a) Complying with 21.A.103(a);
- (b) Demonstrating its capability in accordance with 21.A.112;
- (c) Where, under 21.A.113(b), the applicant has entered into an arrangement with the type-certificate holder
  1. The type-certificate holder has advised that it has no technical objection to the information submitted under 21.A.93; and
  2. The type-certificate holder has agreed to collaborate with the supplemental type-certificate holder to ensure discharge of all obligations for continued airworthiness of the changed product through compliance with 21.A.44 and 21.A.118A.

#### 21.A.116 Transferability

A supplemental type-certificate shall only be transferred to an organisation that is able to undertake the obligations of 21.A.118A and for this purpose has demonstrated its ability to qualify under the criteria of 21.A.112B. [The transfer of a supplemental type-certificate shall be approved by the authority.]

#### 21.A.117 Changes to that part of a product covered by a supplemental type-certificate

- (a) Minor changes to that part of a product covered by a supplemental type-certificate shall be classified and approved in accordance with EMAR 21 Subpart D.
- (b) Each major change to that part of a product covered by a supplemental type-certificate shall be approved as a separate supplemental type-certificate in accordance with this Subpart.
- (c) By way of derogation from paragraph (b), a major change to that part of a product covered by a supplemental type-certificate submitted by the supplemental type-certificate holder itself may be approved as a change to the existing supplemental type-certificate.

#### 21.A.118A Obligations and EMPA marking

Each holder of a supplemental type-certificate shall:

(a) Undertake the obligations:

1. Laid down in 21.A.3A, 21.A.3B, 21.A.4, 21.A.105, 21.A.119 and 21.A.120;
2. Implicit in the collaboration with the type-certificate holder under 21.A.115(c)(2); and for this purpose continue to meet the criteria of 21.A.112B.

(b) Specify the marking, including EMPA letters, in accordance with 21.A.804.

#### **21.A.118B Duration and continued validity**

(a) A supplemental type-certificate shall be issued for an unlimited duration. It shall remain valid subject to:

1. The holder remaining in compliance with this [advisory]; and
2. The certificate not being surrendered or revoked under the applicable administrative procedures established by the Authority.

(b) Upon surrender or revocation, the supplemental type-certificate shall be returned to the Authority.

(c) The supplemental type-certificate holder shall inform the Authority, as soon as practicable, when it is no longer able to meet the supplemental type-certificate holder responsibilities defined by this [advisory], for one or several types of products. In this case, it shall provide access to the Authority with all the information necessary for the latter to ensure, or have ensured, the continued airworthiness of the type design of the concerned products.

#### **21.A.119 Manuals**

The holder of a supplemental type-certificate shall produce, maintain, and update master copies of variations in the manuals required by the applicable type-certification basis and environmental protection requirements (where applicable) for the product, necessary to cover the changes introduced under the supplemental type-certificate, and furnish copies of these manuals to the Authority, on request.

#### **21.A.120 Instructions for continuing airworthiness**

(a) The holder of the supplemental type-certificate for an aircraft, engine, or propeller, shall furnish at least one set of the associated variations to the instructions for continuing airworthiness, prepared in accordance with the applicable type-certification basis, to each known operator of one or more aircraft, engine, or propeller incorporating the features of the supplemental type-certificate, upon its delivery, or upon issuance of the first certificate of airworthiness for the affected aircraft, whichever occurs later, and thereafter make those variations in instructions available, on request, to any other operator required to comply with any of the terms of those instructions. Availa-

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bility of some manual or portion of the variations to the instructions for continuing airworthiness, dealing with overhaul or other forms of heavy maintenance, may be delayed until after the product has entered into service but shall be available before any of the products reaches the relevant age or flight-hours/cycles.

(b) In addition, changes to those variations of the instructions for continuing airworthiness shall be made available to all known operators of the product incorporating the supplemental type-certificate and shall be made available, on request, to any operators required to comply with any of those instructions. A programme showing how changes to the variations to the instructions for continuing airworthiness are distributed shall be submitted to the Authority.

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**SUBPART F – PRODUCTION WITHOUT MILITARY PRODUCTION ORGANISATION APPROVAL**

[TO BE ADDED LATER]

[Ref. SIO-Ma-Lt-005]

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**SUBPART G – MILITARY PRODUCTION ORGANISATION APPROVAL**

[TO BE ADDED LATER]

[Ref. SIO-Ma-Lt-005]

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## **SUBPART H – MILITARY CERTIFICATES OF AIRWORTHINESS AND MILITARY RESTRICTED CERTIFICATES OF AIRWORTHINESS**

### **21.A.171 Scope**

This Subpart establishes the procedure for issuing airworthiness certificates

### **21.A.172 Eligibility**

Any organisation or operator under whose name an aircraft is registered or will be registered in a Participating State ('State of registry'), or its representative, shall be eligible as an applicant for an airworthiness certificate for that aircraft under this Subpart.

### **21.A.173 Classification**

Airworthiness certificates shall be classified as follows:

- (a) Certificates of airworthiness shall be issued to aircraft which conform to a type-certificate that has been issued in accordance with this [advisory] (or if appropriate and if national regulations allow, based upon a Civil Type-certificate issued by a recognised Civil Authority);
- (b) Restricted certificates of airworthiness shall be issued to aircraft:
  1. Which conform to a restricted type-certificate that has been issued in accordance with this [advisory], or
  2. Which have been shown to the Authority to comply with specific airworthiness specifications ensuring adequate safety.

### **21.A.174 Application**

(a) Pursuant to 21.A.172, an application for an airworthiness certificate shall be made in a form and manner established by the Authority of the State of registry.

(b) Each application for a certificate of airworthiness or restricted certificate of airworthiness shall include:

1. The class of airworthiness certificate applied for;
2. With regard to new aircraft:
  - i. A statement of conformity:
    - Issued under EMAR 21.A.163 (b); or
    - Issued under EMAR 21.A.130 and validated by the Authority; or
    - For an imported aircraft, any acceptable evidence to support that the aircraft conforms to a design approved by the Authority of the State of registry.

- ii. A weight and balance report with a loading schedule;
- iii. The flight manual and any other manuals required by the airworthiness Authority of the State of registry.
- [iii. A Military Airworthiness Review Certificate issued by Air Combat Centre]

3. With regard to used aircraft:

- i. [ ]
- ii. [ ]
  - A statement by the Authority of the State where the aircraft is, or was, registered, reflecting the airworthiness status of the aircraft on its register at time of transfer;
  - A weight and balance report with a loading schedule;
  - The flight manual and any other manuals required by the airworthiness Authority of the State of registry;
  - Historical records to establish the production, modification, and maintenance standards of the aircraft, including all limitations associated with a restricted certificate of airworthiness [ ];
  - [iii. Military Airworthiness Review Certificate issued by Air Combat Centre]

(c) Unless otherwise agreed, the statements referred to in subparagraphs (b)(2)(i) and (b)(3) [ ] shall be issued no more than 60 days before presentation of the aircraft to the airworthiness Authority of the State of registry.

#### 21.A.176 Language

The manuals, placards, listings, and instrument markings and other necessary information required by applicable airworthiness codes shall be presented in a language acceptable to the Authority of the State of registry.

#### 21.A.177 Amendment or modification

An airworthiness certificate may be amended or modified only by the Authority of the State of registry.

#### 21.A.179 Transferability and re-issuance within States applying EMARs

(a) Where national regulations allow ownership (either nationally or to another State/Nation) of an aircraft to be changed:



1. If it remains in the same State of registry, the certificate of airworthiness, or the restricted certificate of airworthiness conforming to a restricted type-certificate only, shall be transferred together with the aircraft;
2. If the aircraft is registered in another State applying EMARs, the certificate of airworthiness, or the restricted certificate of airworthiness conforming to a restricted type-certificate only, shall be issued:
  - i. Upon presentation of the former certificate of airworthiness and of a valid Military Airworthiness Review Certificate issued under EMAR M; and
  - ii. When satisfying EMAR 21.A.117.

(b) Where ownership of an aircraft has been transferred, and the aircraft has a restricted certificate of airworthiness not conforming to a restricted type-certificate, the airworthiness certificates shall be transferred together with the aircraft provided the aircraft remains on the same register, [or issued] only with the formal agreement of the Authority of the State of registry to which it is transferred.

#### **21.A.180 Inspections**

The holder of the airworthiness certificate shall provide access to the aircraft for which that airworthiness certificate has been issued upon request by the Authority of the State of registry.

#### **21.A.181 Duration and continued validity**

- (a) An airworthiness certificate may be issued for an unlimited duration. It shall remain valid subject to:
  1. Compliance with the applicable type-design, airworthiness directives and instructions for continuing airworthiness; and
  2. The aircraft remaining on the same register;
  3. The type-certificate or restricted type-certificate under which it is issued not being previously invalidated under 21.A.51; and
  4. The certificate not being surrendered or revoked by the Authority of the State of registry.
  5. The Military Airworthiness Review Certificate being valid.

(b) Upon surrender or revocation, the certificate shall be returned to the Authority of the State of registry.

**21.A.182 Aircraft identification**

Each applicant for an airworthiness certificate under this Subpart shall demonstrate that its aircraft is identified in accordance with EMAR 21 Subpart Q [or equivalent regulations acceptable to the Authority].

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**SUBPART I – NOISE CERTICATES (TO BE ADDED LATER IF REQUIRED)**

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## SUBPART J – MILITARY DESIGN ORGANISATION APPROVAL

### 21.A.231 Scope

This Subpart establishes the procedure for the approval of design organisations and rules governing the obligations and privileges of applicants for, and holders of, such approvals.

### 21.A.233 Eligibility

At the discretion of the Authority, any organisation shall be eligible as an applicant for an approval under this Subpart:

- (a) In accordance with 21.A.14, 21.A.112B [or 21.A.432B] [ ]
- (b) For approval of minor changes or minor repair design, when requested for the purpose of obtaining privileges under 21.A.263.

### 21.A.234 Application

Each application for a design organisation approval shall be made in a form and manner established by the Authority, or an alternative acceptable to the Authority, and shall include an outline of the information required by 21.A.243, and the terms of approval requested to be issued under 21.A.251.

### 21.A.235 Issue of Military Design Organisation approval

An organisation shall be entitled to have a design organisation approval issued by the Authority when it has demonstrated compliance with the applicable requirements under this subpart.

### 21.A.239 Design assurance system

(a) The design organisation shall demonstrate that it has established and is able to maintain a design assurance system for the control and supervision of the design and of design changes, of products, parts and appliances covered by the application. This design assurance system shall be such as to enable the organisation:

1. To ensure that the design of the products, parts and appliances or the design change or repair solution thereof, comply with the applicable type-certification basis and environmental protection requirements (where applicable); and
2. To ensure that its responsibilities are properly discharged in accordance with:
  - i. The appropriate provisions of this [advisory]; and
  - ii. The terms of approval issued under 21.A.251.
3. To independently monitor the compliance with, and adequacy of, the documented procedures of the system. This monitoring shall include a

feed-back system to a person or a group of persons having the responsibility to ensure corrective actions.

(b) The design assurance system shall include an independent checking function of the showings of compliance on the basis of which the organisation submits compliance statements and associated documentation to the Authority.

(c) The design organisation shall specify the manner in which the design assurance system accounts for the acceptability of the parts or appliances designed or the tasks performed by partners or subcontractors according to methods which are the subject of written procedures.

#### **21.A.243 Design Organisation Exposition (DOE)**

(a) The design organisation shall furnish a DOE to the Authority describing, directly or by cross-reference, the organisation, the relevant procedures and the products, or changes to products to be designed.

(b) Where any parts or appliances, or any changes to the products are designed by partner organisations or subcontractors, the DOE shall include a statement of how the design organisation is able to give, for all parts and appliances, the assurance of compliance required by 21.A.239(b), and shall contain, directly or by cross-reference, descriptions and information on the design activities and organisation of the partners or subcontractors, as necessary to establish this statement.

(c) The DOE shall be amended as necessary to remain an up-to-date description of the organisation, and copies of amendments shall be supplied to the Authority.

(d) The design organisation shall furnish a statement of the qualifications and experience of the management staff and other persons responsible for making decisions affecting airworthiness and environmental protection (where applicable) in the organisation.

#### **21.A.245 Approval requirements**

The design organisation shall demonstrate, on the basis of the information submitted in accordance with 21.A.243 that, in addition to complying with 21.A.239:

(a) The staff in all technical departments are of sufficient numbers and experience and have been given appropriate authority to be able to discharge their allocated responsibilities and that these, together with the accommodation, facilities and equipment are adequate to enable the staff to achieve the airworthiness and environmental protection (where applicable) objectives for the product;

(b) There is full and efficient coordination between departments and within departments in respect of airworthiness and environmental protection (where applicable) matters.

#### **21.A.247 Changes in design assurance system**

After the issue of a design organisation approval, each change to the design assurance system that is significant to the showing of compliance or to the airworthiness and environmental protection (where applicable) of the product, shall be approved by the Authority. An application for approval shall be submitted in writing to the Authority and the design organisation shall demonstrate to the Authority, on the basis of submission of proposed changes to the DOE, and before implementation of the change, that it will continue to comply with this Subpart after implementation.

#### **21.A.249 Transferability**

Except as a result of a change in ownership, which is deemed significant for the purposes of 21.A.247, a design organisation approval is not transferable.

#### **21.A.251 Terms of approval**

The terms of approval shall identify the types of design work, categories of products, parts and appliances for which the design organisation holds a design organisation approval and the functions and duties that the organisation is approved to perform in regard to the airworthiness of products. For design organisation approval covering type-certification [ ] for Auxiliary Power Unit (APU), the terms of approval shall contain in addition the list of products or parts, whose terms shall be issued as part of a design organisation approval.

#### **21.A.253 Changes to the terms of approval**

Each change to the terms of approval shall be approved by the Authority. An application for a change to the terms of approval shall be made in a form and manner established by the Authority. The design organisation shall comply with the applicable requirements of this Subpart.

#### **21.A.257 Investigations**

(a) The design organisation shall make arrangements that allow the Authority to make any investigations, including investigations of partners and sub-contractors, necessary to determine compliance and continued compliance with the applicable requirements of this Subpart.

(b) The design organisation shall allow the Authority to review any report and make any inspection and perform or witness any flight and ground test necessary to check the validity of the compliance statements submitted by the applicant under 21.A.239(b).

### 21.A.258 Findings

(a) When objective evidence is found showing non-compliance of the holder of a design organisation approval with the applicable requirements of this Subpart [advisory], the finding shall be classified as follows:

1. A level one finding is any non-compliance with this [advisory] which could lead to uncontrolled non-compliances with applicable requirements and which could affect the safety of the aircraft;
2. A level two finding is any non-compliance with this [advisory] which is classified as level one.

(b) A level three finding is any item where it has been identified by objective evidence, to contain potential problems that could lead to a non-compliance under paragraph (a).

(c) After receipt of notification of findings under the applicable administrative procedures established by the Authority:

1. In case of a level one finding, the holder of the design organisation approval shall demonstrate corrective action to the satisfaction of the Authority within a period of no more than 20 working days after written confirmation of the finding;
2. In case of level two findings, the corrective action period granted by the Authority shall be appropriate to the nature of the finding but in any case initial period shall not be more than three months. In certain circumstances and subject to the nature of the finding the Authority may extend the corrective action period subject to a satisfactory corrective action plan agreed by the Authority.
3. A level three finding shall not require immediate action by the holder of the design organisation approval. If appropriate, the Authority will specify a compliance time.

(d) In case of level one or level two findings, the design organisation approval may be subject to a partial or full suspension or revocation under the applicable administrative procedures established by the Authority. The holder of the design organisation approval shall provide confirmation of receipt of the notice of suspension or revocation of the design organisation approval in a timely manner.

### 21.A.259 Duration and continued validity

(a) A design organisation approval can be issued for a limited period. It shall remain valid for that duration unless:

1. The design organisation fails to demonstrate compliance with the applicable requirements of this Subpart; or

2. The Authority is prevented by the holder or any of its partners or subcontractors to perform the investigations in accordance with 21.A.257; or
3. There is evidence that the design assurance system cannot maintain satisfactory control and supervision of the design of products or changes thereof under the approval; or
4. The certificate has been surrendered or revoked under the applicable administrative procedures established by the Authority.

(b) Upon surrender or revocation, the certificate shall be returned to the Authority.

### 21.A.263 Privileges

The Authority may grant the following privileges [ ]:

(a) The holder of a design organisation approval shall be entitled to perform design activities under this [approval] and within its scope of approval;

(b) Subject to 21.A.257(b) the Authority shall accept without further verification the following compliance documents submitted by the applicant for the purpose of obtaining:

1. [Reserved. Ref. to Ma-L 205]
2. A type-certificate of approval of a major change to a type design; or
3. A supplemental type certificate; or
4. [Reserved]
5. A major repair design approval.

(c) The holder of a design organisation approval shall be entitled, within its terms of approval and under the relevant procedures of the design assurance system:

1. To classify changes to type design and repairs as 'major' or 'minor';
2. To approve minor changes to type design and minor repairs;
3. To issue information or instructions containing the following statement: 'The technical content of this document is approved under the authority of MDOA ref. FIN.FIMAA.21J.XXXX';
4. To [propose] minor revisions to the aircraft flight manual and supplements, and issue such [proposal] containing the following statement: 'Revision nr. YY to AFM (or supplement) ref. (ZZ), is approved under the authority of MDOA ref. FIN.FIMAA.21J.XXXX';



5. To approve the design of major repairs to products or Auxiliary Power Units for which it holds the type-certificate or the supplemental type-certificate [ ];
6. [Reserved. Ref. SIO-Ma-Lt-005];
7. [Reserved. Ref. SIO-Ma-Lt-005].

(d) For a military product derived from a civil type certified product, the holder of a MDOA shall be entitled, within its terms of approval and under the relevant procedures of the design assurance system:

1. To declare the applicability, through validation of no impact to the military certification basis and the intended use, of the following when it is has already been approved by a recognized civil airworthiness authority:
  - i. A modification; or
  - ii. An instruction for continuing airworthiness; or
  - iii. Revisions to the flight manual; or
  - iv. Revisions to the maintenance manual.
2. To [propose approval of ] the following, when it is has already been approved by a recognized civil airworthiness authority and when it has been declared to be applicable to the military product:
  - i. A major modification; or
  - ii. Revisions to the flight manual; or
  - iii. Revisions to the approved sections of the maintenance manual.

#### 21.A.20 Obligations of the holder

The holder of a design organisation approval shall:

- (a) Maintain the DOE in conformity with the design assurance system;
- (b) Ensure that this DOE is used as a basic working document within the organisation;
- (c) Determine that the design of products, or changes or repairs thereof, as applicable, comply with applicable airworthiness requirements and have no unsafe feature;
- (d) Except for minor changes or repairs approved under the privilege of 21.A.263, provide to the Authority statements and associated documentation confirming compliance with paragraph (c); [and]

(e) Provide to the Authority information or instructions related to required actions under 21.A.3B;

(f) [Reserved. Ref. SIO-Ma-Lt-005]

(g) [Reserved. Ref. SIO-Ma-Lt-005]

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## SUBPART K – PARTS AND APPLIANCES

### 21.A.301 Scope

This Subpart establishes the procedure relating to the approval of parts and appliances.

### 21.A.303 Compliance with applicable requirements

The showing of compliance of parts and appliances to be installed on a type-certificated product shall be made:

- (a) In conjunction with the type-certification procedures of 21 Subpart B, D or E for the product in which it is to be installed; or
- (b) Where applicable, under the EMTSC authorisation procedures of EMAR 21 Subpart O; or
- (c) In the case of standard parts, in accordance with officially recognised Standards; or
- (d) For specific equipment not subject to recognised airworthiness standards covered by the above and which has been demonstrated to the Authority not to adversely affect the airworthiness of the aircraft, in accordance with integration or installation requirements at aircraft level.

### 21.A.305 Approval of parts and appliances

In all cases where the approval of a part or appliance is explicitly required by this [advisory] Authority procedures, the part or appliance shall comply with the applicable EMTSC or with the specifications recognised as equivalent by the Authority in the particular case.

### 21.A.307 Release of parts and appliances for installation

A part or appliance (except for 21.A.303(c) and (d)), shall be eligible for installation in a type-certificated product when it is in a condition for safe operation and is:

- (a) Accompanied by an authorised release certificate (EMAR Form 1 [or equivalent certificate acceptable to the Authority]), certifying that the item was manufactured in conformity to approved design data and is marked in accordance with EMAR Subpart Q [or equivalent regulations acceptable to the Authority] ; or
- (b) A standard part

(SUBPART L – NOT APPLICABLE)

**KUMMOTU**

## SUBPART M – REPAIRS

### 21.A.431 Scope

(a) This Subpart establishes the procedure for the approval of repair design, and establishes the obligations and privileges of the applicants for, and holders of, those approvals.

(b) A 'repair' means elimination of damage and/or restoration to a fairworthy condition following initial release into service by the manufacturer of any product, part or appliance.

(c) Elimination of damage by replacement of parts or appliances without the necessity for design activity shall be considered as a maintenance task and shall therefore require no approval under this Subpart [advisory].

(d) [Reserved].

### 21.A.432A Eligibility

(a) Any organisation that has demonstrated, or is in the process of demonstrating, its capability according to 21.A.432B shall be eligible as an applicant for a major repair design approval under the conditions laid down in this Subpart.

(b) Any organisation shall be eligible to apply for approval of a minor repair design.

### 21.A.432B Demonstration of capability

(a) An applicant for a major repair design approval shall demonstrate its capability by holding a military design organisation approval (MDOA), issued by the Authority in accordance with EMAR Subpart J.

(b) By way of derogation from paragraph (a), as an alternative procedure to demonstrate its capability, an applicant may seek Authority agreement for the use of procedures setting out the specific design practices, resources and sequence of activities necessary to comply with this Subpart.

(c) By way of derogation from paragraph (a) and (b), any [ ] organisation applying for a major repair design approval may demonstrate its capability by having an agreement in place, accepted by the Authority, in accordance with 21.A.2 with a design organisation which has access to the type design data. The agreement shall include detailed statements how the actions and obligations are delegated to enable the [ ] organisation, in cooperation with the contracted organisation, to comply with the requirements of EMAR 21 Subpart J, including demonstration of compliance with 21.A.451.

### 21.A.433 Repair design

(a) The applicant for approval of a repair design shall:

1. Demonstrate compliance with the type-certification basis and environmental protection requirements (where applicable) incorporated by reference in the type-certificate or supplemental type-certificate [ ], as applicable, or those in effect on the date of application (for repair design approval), plus any amendments to the type-certification basis the Authority finds necessary to establish a level of safety equal to that established by the type-certification basis incorporated by reference in the type-certificate or supplemental type-certificate [ ];
2. Submit all necessary substantiation data, when requested by the Authority;
3. Declare compliance with the type-certification basis and environmental protection requirements (where applicable) of subparagraph (a)(1).

(b) Where the applicant is not the type-certificate or supplemental type-certificate [ ] holder, as applicable, the applicant may comply with the requirements of paragraph (a) through the use of its own resources or through an arrangement with the type-certificate or supplemental type-certificate or APU ETSO authorisation holder as applicable.

#### **21.A.435 Classification of repairs**

(a) A repair may be 'major' or 'minor'. The classification shall be made in accordance with the criteria of 21.A.431 for a change in the type design.

(b) A repair shall be classified 'major' or 'minor' under paragraph (a) either:

1. By the Authority; or
2. By an appropriately approved design organisation under a procedure agreed with the Authority.

#### **21.A.437 Issue of repair design approval**

When it has been declared and has been shown that the repair design meets the applicable type-certification basis and environmental protection requirements (where applicable) of 21.A.433(a)(1), it shall be approved:

(a) By the Authority; or

(b) By an appropriately approved organisation that is also the type-certificate or the supplemental type-certificate [ ] holder, under a procedure agreed with the Authority; or

(c) For minor repairs only, by an appropriately approved design organisation under a procedure agreed with the Authority.

#### 21.A.439 Production of repair parts

Parts and appliances to be used for the repair shall be manufactured in accordance with production data based upon all the necessary design data as provided by the repair design approval holder:

- (a) Under EMAR 21 Subpart F; or
- (b) By an organisation appropriately approved in accordance with EMAR 21 Subpart G; or
- (c) By an appropriately approved maintenance organisation.

#### 21.A.441 Repair embodiment

- (a) The embodiment of a repair shall be made by an appropriately approved maintenance organisation, or by a production organisation appropriately approved in accordance with EMAR 21 Subpart G under 21.A.163 privilege.
- (b) The design organisation shall transmit to the organisation performing the repair all the necessary installation instructions.

#### 21.A.443 Limitations

A repair design may be approved subject to limitations, in which case the repair design approval shall include all necessary instructions and limitations. These instructions and limitations shall be transmitted by the repair design approval holder to the operator in accordance with a procedure agreed with the Authority.

#### 21.A.445 Unrepaired damage

- (a) Where a damaged product, part or appliance, is left unrepaired, and is not covered by previously approved data, the evaluation of the damage for its airworthiness consequences may only be made:

1. By the Authority; or

2. By an appropriately approved design organisation under a procedure agreed with the Authority.

Any necessary limitations shall be processed in accordance with the procedures of 21.A.443.

- (b) Where the organisation evaluating the damage under paragraph (a) is neither the Authority nor the type-certificate or supplemental type-certificate [ ] holder, this organisation shall justify that the information on which the evaluation is based is adequate either from its organisation's own resources or through an arrangement with the type-certificate or supplemental type-certificate [ ] holder, or manufacturer, as applicable.

### 21.A.447 Record keeping

For each repair, all relevant design information, drawings, test reports, instructions and limitations possibly issued in accordance with 21.A.443, justification for classification and evidence of the repair design approval, shall:

- (a) Be held by the repair design approval holder at the disposal of the Authority; and
- (b) Be retained by the repair design approval holder in order to provide the information necessary to ensure the continued airworthiness of the repaired products, parts or appliances.

### 21.A.449 Instructions for continuing airworthiness

(a) The holder of the repair design approval shall furnish at least one complete set of those changes to the instructions for continuing airworthiness which result from the design of the repair, comprising descriptive data and accomplishment instructions prepared in accordance with the applicable requirements, to each operator of aircraft incorporating the repair. The repaired product, part or appliance may be released back into service before the changes to those instructions have been completed, but this shall be for a limited service period, and in agreement with the Authority. Those changes to the instructions shall be made available on request to any other operator required to comply with any of the terms of those changes to the instructions. The availability of some major or portion of the changes to the instructions for continuing airworthiness, dealing with overhaul or other forms of heavy maintenance, may be delayed until after the product has entered into service, but shall be available before any of the products reaches the relevant age or flight hours/cycles.

(b) If updates to those changes to the instructions for continuing airworthiness are issued by the holder of the repair design approval after the repair has been first approved, these updates shall be furnished to each operator and shall be made available on request to any other operator required to comply with any of the terms of those changes to the instructions. A programme showing how updates to the changes to the instructions for continuing airworthiness are distributed shall be submitted to the Authority.

### 21.A.451 Obligations and EMPA marking

(a) Each holder of a major repair design approval shall:

1. Undertake the obligations:

i. Laid down in 21.A.3A, 21.A.3B, 21.A.4, 21.A.439, 21.A.441, 21.A.443, 21.A.447 and 21.A.449;

ii. Implicit in the collaboration with the type-certificate or supplemental type-certificate [ ] under 21.A.433 (b), as appropriate.



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2. Specify the marking, including EMPA ('European Military Part Approval') letters, in accordance with EMAR 21.A.804(a) [or equivalent regulations acceptable to the Authority].

(b) Except for type-certificate holders [ ] for which 21.A.44 applies, the holder of a minor repair design approval shall:

1. Undertake the obligations laid down in 21.A.4, 21.A.417 and 21.A.449; and
2. Specify the marking, including EMPA letters, in accordance with EMAR 21.A.804(a) [or equivalent regulations acceptable to the Authority].

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(SUBPART N – NOT APPLICABLE)

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**SUBPART O – EUROPEAN MILITARY TECHNICAL STANDARD ORDER AUTHORISATIONS**

[TO BE ADDED LATER]

**KUMOTFU**

**SUBPART P – MILITARY PERMIT TO FLY**

[Ref. SIO-Ma-Lt-005]

**KUMOTFU**

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**SUBPART Q – IDENTIFICATION OF PRODUCTS, PARTS AND APPLIANCES**

[TO BE ADDED LATER]

[Ref. SIO-Ma-Lt-005]

**KUMMOTU**

**SECTION B**

**PROCEDURES FOR THE AUTHORITIES**

[TO BE ADDED LATER]

**KUMOTU**

## 2 TRANSITIONAL PROVISION

This advisory comes into force 1.3.2017.

Director  
Colonel (Eng.)

Kimmo Kortaja

Head of Airworthiness  
M.Sc. (Eng.)

Kimmo Pelkonen

KUMMOTU