

# Proposal

## PART 21

### Certification of aircraft and related products, parts and appliances, and of design and production organisations

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**SECTION A**  
**TECHNICAL REQUIREMENTS**  
***SUBPART A — GENERAL PROVISIONS***

**21.A.1 Scope**

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

**21.A.2 Undertaking by another person 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 natural or legal person, provided the holder of, or applicant for, that certificate can show that it has made an agreement with the other person such as to ensure that the holder's obligations are and will be properly discharged.

**21.A.3A Failures, malfunctions and defects**

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

The holder of a type-certificate, restricted type-certificate, supplemental type-certificate, Technical Standard Order (TSO) authorization, major repair design approval or any other relevant approval deemed to have been issued under this Regulation 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 continuing airworthiness of the product, part or appliance covered by the type-certificate, restricted type-certificate, supplemental type-certificate, TSO authorization, major repair design approval or any other relevant approval deemed to have been issued under this Regulation. Information about this system shall be made available to all known operators of the product, part or appliance and, on request, to any person authorized under other associated implementing Regulations.

(b) Reporting to the CARC

1. The holder of a type-certificate, restricted type-certificate, supplemental type-certificate, TSO authorization, major repair design approval or any other relevant approval deemed to have been issued under this Regulation shall report to CARC 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, TSO authorization, major repair design approval or any other relevant approval deemed to have been issued under this Regulation, 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 CARC, 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 point (b), or under points 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, TSO authorization, or any other relevant approval deemed to have been issued under this Regulation, or the manufacturer as appropriate, shall investigate the reason for the deficiency and report to CARC the results of its investigation and any action it is taking or proposes to take to correct that deficiency.
2. If CARC 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, TSO authorization, or any other relevant approval deemed to have been issued under this Regulation, or the manufacturer as appropriate, shall submit the relevant data to CARC.

**21.A.3B Airworthiness directives**

- (a) An airworthiness directive means a document issued or adopted by CARC 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.
- (b) CARC shall issue an airworthiness directive when:
  1. an unsafe condition has been determined by CARC 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.
- (c) When an airworthiness directive has to be issued by CARC to correct the unsafe condition referred to in point (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, TSO authorization or any other relevant approval deemed to have been issued under this Regulation, shall:

1. Propose the appropriate corrective action or required inspections, or both, and submit details of these proposals to CARC for approval;
  2. Following the approval by CARC of the proposals referred to under point (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;
  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, TSO authorization, approval of a change to type design or approval of a repair design, shall collaborate with the production organization as necessary to ensure:

- (a) The satisfactory coordination of design and production required by point 21.A.122 or point 21.A.133 or point 21.A.165(c)(2) as appropriate; and
- (b) The proper support of the continued airworthiness of the product, part or appliance.

### *SUBPART B — TYPE-CERTIFICATES AND RESTRICTED TYPE-CERTIFICATES*

#### **21.A.11 Scope**

This Subpart establishes the procedure for issuing type-certificates for products and restricted type-certificates for aircraft, and establishes the rights and obligations of the applicants for, and holders of, those certificates.

#### **21.A.13 Eligibility**

Any natural or legal person that has demonstrated, or is in the process of demonstrating, its capability in accordance with point 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 organization applying for a type-certificate or restricted type-certificate shall demonstrate its capability by holding a design organisation approval, issued by CARC in accordance with Subpart J.
- (b) By way of derogation from point (a), as an alternative procedure to demonstrate its capability, an applicant may seek the agreement of CARC for the use of procedures setting out the specific design practices, resources and sequence of activities necessary to comply with this Part 21, when the product is one of the following:
  1. an LA2 aircraft;
  2. an engine or propeller installed in LA2 aircraft;

3. a piston engine;
  4. a fixed or adjustable pitch propeller.
- (c) By way of derogation from point (a), an applicant may choose for demonstration of capability by providing CARC with the certification programme required by point 21A.20(b) when the product is one of the following:
1. an LA1 aircraft;
  2. an engine or propeller installed in an LA1 aircraft.

#### **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 CARC.
- (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.
- (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.

#### **21.A.16A Airworthiness codes**

CARC shall issue and/or adopt airworthiness codes as standard means to show compliance of products, parts and appliances with the essential requirements of Part 21. Such codes shall be sufficiently detailed and specific to indicate to applicants the conditions under which certificates will be issued.

#### **21.A.16B Special conditions**

- (a) CARC shall prescribe special detailed technical specifications, named special conditions, for a product, if the related airworthiness code does 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 code is 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.
- (b) The special conditions contain such safety standards as CARC finds necessary to establish a level of safety equivalent to that established in the applicable airworthiness code.

#### **21.A.17 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 code established/adopted by CARC that is effective on the date of application for that certificate unless:
    - (i) otherwise specified by CARC; or
    - (ii) compliance with certification specifications of later effective amendments is chosen by the applicant or required under points (c) and (d);
  2. any special condition prescribed in accordance with point 21.A.16B(a).

- (b) An application for type-certification of large aeroplanes and large rotorcraft shall be effective for five years and an application for any other type-certificate shall be effective for three years, unless an applicant shows at the time of application that its product requires a longer period of time for design, development, and testing, and CARC approves a longer period.
- (c) In the case where a type-certificate has not been issued, or it is clear that a type-certificate will not be issued, within the time limit established under point (b), the applicant may:
  - 1. file a new application for a type-certificate and comply with all the provisions of point (a) applicable to an original application; or
  - 2. file for an extension of the original application and comply with the applicable airworthiness codes that were effective on a date, to be selected by the applicant, not earlier than the date which precedes the date of issue of the type-certificate by the time limit established under point (b) for the original application.
- (d) If an applicant chooses to comply with a certification specification of 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 certification specification that CARC finds is directly related.

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

- (a) The applicable noise requirements for the issue of a type-certificate for an aircraft are prescribed according to the provisions of Chapter 1 of Annex 16, Volume I, Part II to the Chicago Convention and:
  - 1. for subsonic jet aeroplanes, in Volume I, Part II, Chapters 2, 3 and 4, as applicable;
  - 2. for propeller-driven aeroplanes, in Volume I, Part II, Chapters 3, 4, 5, 6 and 10, as applicable;
  - 3. for helicopters, in Volume I, Part II, Chapters 8 and 11, as applicable; and
  - 4. for supersonic aeroplanes, in Volume I, Part II, Chapter 12, as applicable.
- (b) The applicable emission requirements for the issue of a type-certificate for an aircraft and engine are prescribed in Annex 16 to the Chicago Convention:
  - 1. for prevention of intentional fuel venting, in Volume II, Part II, Chapter 2;
  - 2. for emissions of turbo-jet and turbofan engines intended for propulsion only at subsonic speeds, in Volume II, Part III, Chapter 2; and
  - 3. for emissions of turbo-jet and turbofan engines intended for propulsion only at supersonic speeds, in Volume II, Part III, Chapter 3.
- (c) CARC shall **issue and/or adopt** certification specifications providing for acceptable means to demonstrate compliance with the noise and the emission requirements laid down in points (a) and (b) respectively.

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

Any natural or legal person proposing to change a product shall apply for a new type-certificate if CARC finds that the change in design, 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**

- (a) The applicant for a type-certificate or a restricted type-certificate shall demonstrate compliance with the applicable type-certification basis and environmental protection requirements and shall provide CARC with the means by which such compliance has been demonstrated.
- (b) The applicant shall provide CARC 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 point (b).
- (d) The applicant shall declare that it has demonstrated compliance with the applicable type-certification basis and environmental protection requirements, according to the certification programme established under point (b).
- (e) Where the applicant holds an appropriate design organisation approval, the declaration of point (d) shall be made according to the provisions of Subpart J.

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

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

- (a) demonstrating its capability in accordance with point 21.A.14;
- (b) submitting the declaration referred to in point 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 designated in accordance with points 21.A.17 and 21.A.18;
  - 2. any airworthiness 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 point 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 Regulation.

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

- (a) For an aircraft that does not meet the provisions of point 21.A.21(c), the applicant shall be entitled to have a restricted type-certificate issued by CARC after:
  - 1. complying with the appropriate type-certification basis established by CARC ensuring adequate safety with regard to the intended use of the aircraft, and with the applicable environmental protection requirements;
  - 2. expressly stating that it is prepared to comply with point 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 Regulation; or

2. have been shown to be in compliance with the certification specifications necessary to ensure safe flight of the aircraft.

### **21.A.29 Type Acceptance of an Imported Aircraft**

- (a) CARC may accept a type certificate of an aircraft on the basis of satisfactory evidence that an aircraft complies with requirements which are at least equal to the applicable airworthiness and environmental requirements specified in JCAR Part Certification Specifications,
- (b) CARC Type Acceptance Certificate (TAC) is issued for an aircraft on the basis of the original issuance of an aircraft Type Certificate by the State of Design, which is regarded as satisfactory evidence that the aircraft complies with the design aspects of the appropriate airworthiness and environmental requirements of the State of Design when CARC finds that:
  1. The State of Design certifies that the aircraft has been examined, tested, and found to meet:
    - (i) The applicable aircraft noise, fuel venting and exhaust emissions requirements,
    - (ii) The applicable airworthiness requirements, and
    - (iii) Any other requirements prescribed by CARC.
  2. The Type Certificate Holder (the applicant for Type Acceptance Certificate (TAC)) has submitted the technical data, concerning aircraft airworthiness and noise to the CARC,
  3. The Type Certificate Holder (TCH) delivery of a technical briefing to CARC on all aspects of the design, to fully understand the design, including new technologies, and any unique or unconventional features or intended unconventional use,
  4. The manuals, placards, listings, and instrument markings required by the applicable airworthiness and environmental requirements are presented, at least, in the English language, and
  5. ‘Passenger information Markings Placards’ and ‘Emergency Personal Information Markings Placards’ are presented in English language and in Arabic translations;

### **21.A.31 Type design**

- (a) The type design shall consist of:
  1. the drawings and specifications, and a 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;
  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 limitations section of the instructions for continued airworthiness as defined by the applicable airworthiness code; 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 Inspection and tests

- (a) The applicant shall perform all inspections and tests necessary to demonstrate compliance with the applicable type-certification basis and environmental protection requirements.
- (b) Before each test required by point (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 CARC to make any inspection necessary to check compliance with point (b).
- (d) The applicant shall allow CARC 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 point 21.A.20(d) 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 CARC under point (d):
1. the applicant shall submit to CARC a statement of compliance with point (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 point (b) is shown and the time it is presented to CARC for test.

### 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 specified by CARC.
- (b) The applicant shall make all flight tests that CARC finds necessary:
1. to determine compliance with the applicable type-certification basis and environmental protection requirements; and
  2. to determine whether there is reasonable assurance that the aircraft, its parts and appliances are reliable and function properly for aircraft to be certificated under this Part, except for,
    - (i) sailplanes and powered sailplanes,
    - (ii) balloons and airships defined in LA1 or LA2,
    - (iii) aeroplanes of 2 722 kg or less maximum take-off mass (MTOM).
- (c) (Reserved)
- (d) (Reserved)

(e) (Reserved)

(f) The flight tests prescribed in point (b)(2) shall include:

1. for aircraft incorporating turbine engines of a type not previously used in a type-certificated aircraft, at least 300 hours of operation with a full complement of engines that conform to a type-certificate; and
2. for all other aircraft, at least 150 hours of operation.

#### **21.A.41 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 and emissions, the applicable type-certification basis and environmental protection requirements with which CARC records compliance, and any other conditions or limitations prescribed for the product in the applicable certification specifications and environmental protection requirements. The aircraft type-certificate and restricted type-certificate, in addition, both include the type-certificate data sheet for noise. The engine type-certificate data sheet includes the record of emission compliance.

#### **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 points 21.A.3A, 21.A.3B, 21.A.4, 21.A.55, 21.A.57 and 21.A.61; and, for this purpose, shall continue to meet the qualification requirements for eligibility under point 21.A.14; and
- (b) specify the marking in accordance with Subpart Q.

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

Transfer of a type-certificate or restricted type-certificate may only be made to a natural or legal person that is able to undertake the obligations under point 21.A.44, and, for this purpose, has demonstrated its ability to qualify under the criteria of point 21.A.14.

#### **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 Part 21; and
  2. the certificate not being surrendered or revoked under the applicable administrative procedures established by CARC.
- (b) Upon surrender or revocation, the type-certificate and restricted type-certificate shall be returned to CARC

#### **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 CARC and shall be retained in order to provide the information necessary to ensure the continued airworthiness and compliance with applicable environmental protection requirements 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 for the product, and provide copies, on request, to CARC.

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

- (a) The holder of the type-certificate or restricted type-certificate shall furnish at least one set of complete instructions for continued airworthiness, comprising descriptive data and accomplishment instructions prepared in accordance with the applicable type-certification basis, to each known owner 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 person required to comply with any of the terms of those instructions. The availability of some manual or portion of the instructions for continued 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 continued airworthiness shall be made available to all known operators of the product and shall be made available on request to any person required to comply with any of those instructions. A programme showing how changes to the instructions for continued airworthiness are distributed shall be submitted to CARC.

*(SUBPART C — NOT APPLICABLE)*

### **SUBPART D — CHANGES TO TYPE-CERTIFICATES AND RESTRICTED TYPE-CERTIFICATES**

#### **21.A.90 A 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. This Subpart also defines standard changes that are not subject to an approval process under this Subpart. In this Subpart, references to type-certificates include type-certificate and restricted type-certificate.

#### **21A.90B Standard changes**

- (a) Standard changes are changes to a type design:
1. in relation to:
    - (i) aeroplanes of 5 700 kg Maximum Take-Off Mass (MTOM) or less;
    - (ii) rotorcraft of 3 175 kg MTOM or less;
    - (iii) sailplanes, powered sailplanes, balloons and airships, as defined in LA1 or LA2,
  2. that follow design data included in certification specifications **issued and/or adopted** by CARC, containing acceptable methods, techniques and practices for carrying out and identifying standard changes, including the associated instructions for continuing airworthiness; and
  3. that are not in conflict with TC holders data.
- (b) Points 21A.91 to 21A.109 are not applicable to standard changes.

#### **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, noise, fuel venting, exhaust emission, or other characteristics affecting the airworthiness of the product. Without prejudice to point 21.A.19, all other changes are ‘major changes’ under this Subpart. Major and minor changes shall be approved in accordance with points 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 Subpart E.
- (b) Any natural or legal person 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 CARC 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 certification specifications and environmental protection requirements with which the change has been designed to comply in accordance with point 21.A.101.
- (b) Identification of any re-investigations necessary to show compliance of the changed product with the applicable certification specifications and environmental protection requirements.

**21.A.95 Minor changes**

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

- (a) by CARC; or
- (b) by an appropriately approved design organization under a procedure agreed with CARC.

**21.A.97 Major changes**

- (a) An applicant for approval of a major change shall:
  - 1. Submit to CARC substantiating data together with any necessary descriptive data for inclusion in the type design;
  - 2. Demonstrate that the changed product complies with applicable certification specifications and environmental protection requirements, as specified in point 21.A.101;
  - 3. Comply with points 21A.20(b), (c) and (d); and
  - 4. Where the applicant holds an appropriate design organization approval, make the declaration referred to in point 21A.20(d) according to the provisions of Subpart J;
  - 5. Comply with point 21.A.33 and, where applicable, point 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 certification specifications and environmental protection requirements**

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

- (b) By derogation from point (a), an applicant may show that the changed product complies with an earlier amendment of the airworthiness code defined in point (a), and of any other certification specification CARC 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 CARC finds not to be significant. In determining whether a specific change is significant, CARC considers the change in context with all previous relevant design changes and all related revisions to the applicable certification specifications 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 CARC finds is not affected by the change.
  3. Each area, system, part or appliance that is affected by the change, for which CARC finds that compliance with an airworthiness code described in point (a) would not contribute materially to the level of safety of the changed product or would be impractical.
- (c) An applicant for a change to an aircraft (other than a rotorcraft) of 2 722 kg (6 000 lbs) or less maximum weight or to a non-turbine rotorcraft of 1 361 kg (3 000 lbs) or less maximum weight may show that the changed product complies with the type-certification basis incorporated by reference in the type-certificate. However, if CARC finds that the change is significant in an area, CARC may designate compliance with an amendment to the type-certification basis incorporated by reference in the type-certificate, in effect at the date of the application, and any certification specification that CARC finds is directly related, unless CARC also finds that compliance with that amendment or certification specification would not contribute materially to the level of safety of the changed product or would be impractical.
- (d) If CARC finds that the airworthiness code in effect at the date of the application for the change does 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 point 21.A.16B, to provide a level of safety equivalent to that established in the airworthiness code in effect at the date of the application for the change.
- (e) An application for a change to a type-certificate for large aeroplanes and large rotorcraft is effective for five years, and an application for a change to any other type-certificate is effective for three years. In a case where the change has not been approved, or it is clear that it will not be approved under the time limit established under this point, the applicant may:
1. File a new application for a change to the type-certificate and comply with all the provisions of point (a) applicable to an original application for a change; or
  2. File for an extension of the original application and comply with the provisions of point (a) for an effective date of application, to be selected by the applicant, not earlier than the date which precedes the date of approval of the change by the time period established under this point for the original application for the change.

- (f) If an applicant chooses to comply with a certification specification of an amendment to the airworthiness codes that is effective after the filing of the application for a change to a type, the applicant shall also comply with any other certification specification that CARC 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 CARC after:
1. Submitting the declaration referred to in point 21.A. 20(d); and
  2. It is demonstrated that:
    - (i) The changed product meets the applicable certification specifications and environmental protection requirements, as specified in point 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 point 21.A.95 if it is shown that the changed product meets the applicable certification specifications, as specified in point 21.A.101.

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

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 CARC and shall be retained in order to provide the information necessary to ensure the continued airworthiness and compliance with applicable environmental protection requirements of the changed product.

#### **21.A.107 Instructions for continued 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 continued 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 owner 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 person required to comply with any of the terms of those instructions.
- (b) In addition, changes to those variations of the instructions for continued 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 person required to comply with any of those instructions.

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

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

- (a) undertake the obligations laid down in points 21.A.4, 21.A.105 and 21.A.107; and
- (b) specify the marking, including PA ('Part Approval') letters, in accordance with point 21.A.804 (a).

**SUBPART E — 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 rights and obligations of the applicants for, and holders of, those certificates.

**21.A.112A Eligibility**

Any natural or legal person ('organization') that has demonstrated, or is in the process of demonstrating, its capability under point 21.A.112B shall be eligible as an applicant for a supplemental type-certificate under the conditions laid down in this Subpart.

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

- (a) Any organization applying for a supplemental type-certificate shall demonstrate its capability by holding a design organization approval, issued by CARC in accordance with Subpart J.
- (b) By way of derogation from point (a), as an alternative procedure to demonstrate its capability, an applicant may seek CARC 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 points (a) and (b), an applicant may choose for demonstration of capability through CARC approval of a certification programme detailing the means for compliance demonstration for an STC on an aircraft, engine and propeller defined in point 21A.14(c).

**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 CARC.
- (b) An application for a supplemental type-certificate shall include the descriptions and identification required by point 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 point 21.A.97.

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

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

- (a) submitting the declaration referred to in point 21A.20(d); and
- (b) it is demonstrated that:
  - 1 the changed product meets the applicable certification specifications and environmental protection requirements, as specified in point 21A.101;
  - 2 any airworthiness provisions not complied with are compensated for by factors that provide an equivalent level of safety; and
  - 3 no feature or characteristic makes the product unsafe for the uses for which certification is requested.

- (c) demonstrating its capability in accordance with point 21.A.112B;
- (d) where, under point 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 point 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 points 21.A.44 and 21.A.118A.

#### **21.A.116 Transferability**

A supplemental type-certificate shall only be transferred to a natural or legal person that is able to undertake the obligations of point 21.A.118A and for this purpose has demonstrated its ability to qualify under the criteria of point 21.A.112B except for LA1 aircraft for which the natural or legal person has sought CARC agreement for the use of procedures setting out its activities to undertake these obligations.

#### **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 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 point (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 PA marking**

Each holder of a supplemental type-certificate shall:

- (a) undertake the obligations:
  - 1. laid down in points 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 point 21.A.115(c)(2);and for this purpose continue to meet the criteria of point 21.A.112B;
- (b) specify the marking, including PA letters, in accordance with point 21.A.804 (a).

#### **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 Part; and
  - 2. the certificate not being surrendered or revoked under the applicable administrative procedures established by CARC.
- (b) Upon surrender or revocation, the supplemental type-certificate shall be returned to CARC.



**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 for the product, necessary to cover the changes introduced under the supplemental type-certificate, and furnish copies of these manuals to CARC on request.

**21.A.120 Instructions for continued 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 continued airworthiness, prepared in accordance with the applicable type-certification basis, to each known owner 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 person required to comply with any of the terms of those instructions. Availability of some manual or portion of the variations to the instructions for continued 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 continued airworthiness shall be made available to all known operators of a product incorporating the supplemental type-certificate and shall be made available, on request, to any person required to comply with any of those instructions. A programme showing how changes to the variations to the instructions for continued airworthiness are distributed shall be submitted to CARC.

***SUBPART F — PRODUCTION WITHOUT PRODUCTION ORGANIZATION APPROVAL*****21.A.121 Scope**

- (a) This Subpart establishes the procedure for demonstrating the conformity with the applicable design data of a product, part and appliance that is intended to be manufactured without a production organization approval under Subpart G.
- (b) This Subpart establishes the rules governing the obligations of the manufacturer of a product, part, or appliance being manufactured under this Subpart.

**21.A.122 Eligibility**

Any natural or legal person may apply to show conformity of individual products, parts or appliances under this Subpart, if:

- (a) it holds or has applied for an approval covering the design of that product, part or appliance;  
or
- (b) it has ensured satisfactory coordination between production and design, through an appropriate arrangement with the applicant for, or holder of, an approval of such a design.

**21.A.124 Application**

- (a) Each application for an agreement to the showing of conformity of individual products, parts and appliances under this Subpart shall be made in a form and manner established by CARC.
- (b) Such application shall contain:

1. evidence which demonstrates, where applicable, that:
  - (i) the issuance of a production organization approval under Subpart G would be inappropriate; or
  - (ii) the certification or approval of a product, part or appliance under this Subpart is needed pending the issuance of a production organization approval under Subpart G;
2. an outline of the information required in point 21.A.125A(b).

#### **21.A.125A Issue of a letter of agreement**

The applicant shall be entitled to have a letter of agreement issued by CARC agreeing to the showing of conformity of individual products, parts and appliances under this Subpart, after:

- (a) having established a production inspection system that ensures that each product, part or appliance conforms to the applicable design data and is in condition for safe operation;
- (b) having provided a manual that contains:
  1. a description of the production inspection system required under point (a);
  2. a description of the means for making the determination of the production inspection system;
  3. a description of the tests required in points 21.A.127 and 21.A.128, and the names of persons authorized for the purpose of point 21.A.130(a);
- (c) demonstrating that it is able to provide assistance in accordance with points 21.A.3A and 21.A.129(d).

#### **21.A.125B Findings**

- (a) When objective evidence is found showing non-compliance of the holder of a letter of agreement with the applicable requirements of Part 21, the finding shall be classified as follows:
  1. a level one finding is any non-compliance with Part 21, which could lead to uncontrolled non-compliances with applicable design data and which could affect the safety of the aircraft;
  2. a level two finding is any non-compliance with Part 21, which is not 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 point (a).
- (c) After receipt of notification of findings **by the holder of a letter of agreement:**
  1. in case of a level one finding;

**Immediate action shall be taken by CARC to limit, suspend or revoke the letter of agreement in whole or in part, depending upon the extent of the finding, until successful corrective action has been completed by the organization.**

The holder of the letter of agreement shall demonstrate corrective action to the satisfaction of CARC within a period of no more than 21 working days after written confirmation of the finding.

2. in case of level two findings, the corrective action period granted by CARC shall be appropriate to the nature of the finding but in any case initially shall not be more than

three months. In certain circumstances and subject to the nature of the finding, CARC may extend the three months period subject to the provision of a satisfactory corrective action plan agreed by CARC;

3. a level three finding shall not require immediate action by the holder of the letter of agreement.

(d) In case of level one or level two findings, the letter of agreement may be subject to a partial or full limitation, suspension and revocation. The limitation, suspension or revocation of the letter of agreement shall be communicated in writing to the holder of the letter of agreement. CARC shall state the reasons for the limitation, suspension or revocation and inform the holder of the letter of agreement on its right to appeal.

The holder of the letter of agreement shall provide confirmation of receipt of the notice of limitation, suspension or revocation of the letter of agreement in a timely manner. When a letter of agreement has been suspended it shall only be reinstated after compliance with Subpart F of has been re-established.

#### **21.A.125C Duration and continued validity**

- (a) The letter of agreement shall be issued for a limited duration not exceeding one year. It shall remain valid unless:
  1. the holder of the letter of agreement fails to demonstrate compliance with the applicable requirements of this Subpart; or
  2. there is evidence that the manufacturer cannot maintain satisfactory control of the manufacture of products, parts, or appliances under the agreement; or
  3. the manufacturer no longer meets the requirements of point 21.A.122; or
  4. the letter of agreement has been surrendered, revoked under **point 21.A.125B (d)**, or has expired.
- (b) Upon surrender, revocation or expiry, the letter of agreement shall be returned to CARC.

#### **21.A.126 Production inspection system**

- (a) The production inspection system required under point 21.A.125A(a) shall provide a means for determining that:
  1. incoming materials, and bought or subcontracted parts, used in the finished product are as specified in the applicable design data;
  2. incoming materials, and bought or subcontracted parts, are properly identified;
  3. processes, manufacturing techniques and methods of assembly affecting the quality and safety of the finished product are accomplished in accordance with specifications accepted by CARC;
  4. design changes, including material substitutions, have been approved under Subpart D or E and controlled before being incorporated in the finished product.
- (b) The production inspection system required by point 21.A.125A(a), shall also be such as to ensure that:

1. parts in process are inspected for conformity with the applicable design data at points in production where accurate determinations can be made;
2. materials subject to damage and deterioration are suitably stored and adequately protected;
3. current design drawings are readily available to manufacturing and inspection personnel, and used when necessary;
4. rejected materials and parts are segregated and identified in a manner that precludes installation in the finished product;
5. materials and parts that are withheld because of departures from design data or specifications, and that are to be considered for installation in the finished product, are subjected to an approved engineering and manufacturing review procedure. Those materials and parts determined by this procedure to be serviceable shall be properly identified and reinspected if rework or repair is necessary. Materials and parts rejected by this procedure shall be marked and disposed of to ensure that they are not incorporated in the final product;
6. records produced under the production inspection system are maintained, identified with the completed product or part where practicable, and retained by the manufacturer in order to provide the information necessary to ensure the continued airworthiness of the product.

#### **21.A.127 Tests: aircraft**

- (a) Each manufacturer of an aircraft manufactured under this Subpart shall establish an approved production ground and flight test procedure and check-off forms, and in accordance with those forms, test each aircraft produced, as a means of establishing relevant aspects of compliance with point 21.A.125A(a).
- (b) Each production test procedure shall include at least the following:
  1. a check on handling qualities;
  2. a check on flight performance (using normal aircraft instrumentation);
  3. a check on the proper functioning of all aircraft equipment and systems;
  4. a determination that all instruments are properly marked, and that all placards and required flight manuals are installed after flight test;
  5. a check of the operational characteristics of the aircraft on the ground;
  6. a check on any other items peculiar to the aircraft being tested.

#### **21.A.128 Tests: engines and propellers**

Each manufacturer of engines, or propellers manufactured under this Subpart shall subject each engine, or variable pitch propeller, to an acceptable functional test as specified in the type-certificate holder's documentation, to determine if it operates properly throughout the range of operation for which it is type-certificated, as a means of establishing relevant aspects of compliance with point 21.A.125A(a).

#### **21.A.129 Obligations of the manufacturer**

Each manufacturer of a product, part or appliance being manufactured under this Subpart shall:

- (a) make each product, part or appliance available for inspection by CARC;

- (b) maintain at the place of manufacture the technical data and drawings necessary to determine whether the product conforms to the applicable design data;
- (c) maintain the production inspection system that ensures that each product conforms to the applicable design data and is in condition for safe operation;
- (d) provide assistance to the holder of the type-certificate, restricted type-certificate or design approval in dealing with any continuing airworthiness actions that are related to the products, parts or appliances that have been produced;
- (e) establish and maintain an internal occurrence reporting system in the interest of safety, to enable the collection and assessment of occurrence reports in order to identify adverse trends or to address deficiencies, and to extract reportable occurrences. This system shall include evaluation of relevant information relating to occurrences and the promulgation of related information;
- (f)
  - 1. report to the holder of the type-certificate, restricted type-certificate or design approval, all cases where products, parts or appliances have been released by the manufacturer and subsequently identified to have deviations from the applicable design data, and investigate with the holder of the type-certificate, restricted type-certificate or design approval to identify those deviations which could lead to an unsafe condition;
  - 2. report to CARC the deviations which could lead to an unsafe condition identified according to point (1). Such reports shall be made in a form and manner established under point 21.A.3A(b)(2) and accepted by CARC;
  - 3. where the manufacturer acts as supplier to another production organization, report also to that other organization all cases where it has released products, parts or appliances to that organization and subsequently identified them to have possible deviations from the applicable design data.

#### **21.A.130 Statement of conformity**

- (a) Each manufacturer of a product, part or appliance manufactured under this Subpart shall raise a statement of conformity, a CARC Form 18-0287 for complete aircraft, or a CARC Form 18-0227 for other products, parts or appliances. This statement shall be signed by an authorized person who holds a responsible position in the manufacturing organization.
- (b) A statement of conformity shall include:
  - 1. for each product, part or appliance a statement that the product, part or appliance conforms to the approved design data and is in condition for safe operation;
  - 2. for each aircraft, a statement that the aircraft has been ground and flight checked in accordance with point 21.A.127(a); and
  - 3. for each engine, or variable pitch propeller, a statement that the engine or propeller has been subjected by the manufacturer to a final functional test, in accordance with point 21.A.128, and additionally in case of engines, a determination according to data provided by the engine type-certificate holder that each completed engine is in compliance with the applicable emissions requirements current at the date of manufacture of the engine.
- (c) Each manufacturer of such a product, part or appliance shall:
  - 1. upon the initial transfer by it of the ownership of such a product, part or appliance; or
  - 2. upon application for the original issue of an aircraft certificate of airworthiness; or

3. upon application for the original issue of an airworthiness release document for an engine, a propeller, a part or appliance,  
present a current statement of conformity, for validation by CARC.
- (d) CARC shall validate by counter-signature the statement of conformity if it finds after inspection that the product, part or appliance conforms to the applicable design data and is in condition for safe operation.

### ***SUBPART G — PRODUCTION ORGANIZATION APPROVAL***

#### **21.A.131 Scope**

This Subpart establishes:

- (a) the procedure for the issuance of a production organization approval for a production organization showing conformity of products, parts and appliances with the applicable design data;
- (b) the rules governing the rights and obligations of the applicant for, and holders of, such approvals.

#### **21.A.133 Eligibility**

Any natural or legal person ('organization') shall be eligible as an applicant for an approval under this Subpart. The applicant shall:

- (a) justify that, for a defined scope of work, an approval under this Subpart is appropriate for the purpose of showing conformity with a specific design; and
- (b) hold or have applied for an approval of that specific design; or
- (c) have ensured, through an appropriate arrangement with the applicant for, or holder of, an approval of that specific design, satisfactory coordination between production and design.

#### **21.A.134 Application**

Each application for a production organization approval shall be made to CARC in a form and manner established by CARC, and shall include an outline of the information required by point 21.A.143 and the terms of approval requested to be issued under point 21.A.151.

#### **21.A.135 Issue of production organization approval**

An organization shall be entitled to have a production organization approval issued by CARC when it has demonstrated compliance with the applicable requirements under this Subpart.

#### **21.A.139 Quality System**

- (a) The production organization shall demonstrate that it has established and is able to maintain a quality system. The quality system shall be documented. This quality system shall be such as to enable the organization to ensure that each product, part or appliance produced by the organization or by its partners, or supplied from or subcontracted to outside parties, conforms to the applicable design data and is in condition for safe operation, and thus exercise the privileges set forth in point 21.A.163.
- (b) The quality system shall contain:
  1. as applicable within the scope of approval, control procedures for:
    - (i) document issue, approval, or change;
    - (ii) vendor and subcontractor assessment audit and control;

- (iii) verification that incoming products, parts, materials, and equipment, including items supplied new or used by buyers of products, are as specified in the applicable design data;
- (iv) identification and traceability;
- (v) manufacturing processes;
- (vi) inspection and testing, including production flight tests;
- (vii) calibration of tools, jigs, and test equipment;
- (viii) non conforming item control;
- (ix) airworthiness coordination with the applicant for, or holder of, the design approval;
- (x) records completion and retention;
- (xi) personnel competence and qualification;
- (xii) issue of airworthiness release documents;
- (xiii) handling, storage and packing;
- (xiv) internal quality audits and resulting corrective actions;
- (xv) work within the terms of approval performed at any location other than the approved facilities;
- (xvi) work carried out after completion of production but prior to delivery, to maintain the aircraft in a condition for safe operation;
- (xvii) issue of permit to fly and approval of associated flight conditions.

The control procedures need to include specific provisions for any critical parts.

2. An independent quality assurance function to monitor compliance with, and adequacy of, the documented procedures of the quality system. This monitoring shall include a feedback system to the person or group of persons referred to in point 21.A.145(c)(2) and ultimately to the manager referred to in point 21.A.145(c)(1) to ensure, as necessary, corrective action.

### **21.A.143 Exposition**

- (a) The organization shall submit to CARC a production organization exposition providing the following information:
  1. a statement signed by the accountable manager confirming that the production organization exposition and any associated manuals which define the approved organization's compliance with this Subpart will be complied with at all times;
  2. the title(s) and names of managers accepted by CARC in accordance with point 21.A.145(c)(2);
  3. the duties and responsibilities of the manager(s) as required by point 21.A.145(c)(2) including matters on which they may deal directly with CARC on behalf of the organization;
  4. an organizational chart showing associated chains of responsibility of the managers as required by point 21.A.145(c)(1) and (2);
  5. a list of certifying staff as referred to in point 21.A.145(d);

6. a general description of man-power resources;
  7. a general description of the facilities located at each address specified in the production organization's certificate of approval;
  8. a general description of the production organization's scope of work relevant to the terms of approval;
  9. the procedure for the notification of organizational changes to CARC;
  10. the amendment procedure for the production organization exposition;
  11. a description of the quality system and the procedures as required by point 21.A.139(b)(1);
  12. a list of those outside parties referred to in point 21.A.139(a).
- (b) The production organization exposition shall be amended as necessary to remain an up-to-date description of the organization, and copies of any amendments shall be supplied to CARC.

#### **21.A.145 Approval requirements**

The production organization shall demonstrate, on the basis of the information submitted in accordance with point 21.A.143 that:

- (a) with regard to general approval requirements, facilities, working conditions, equipment and tools, processes and associated materials, number and competence of staff, and general organization are adequate to discharge obligations under point 21.A.165;
- (b) with regard to all necessary airworthiness, noise, fuel venting and exhaust emissions data:
  1. the production organization is in receipt of such data from CARC, and from the holder of, or applicant for, the type-certificate, restricted type-certificate or design approval, to determine conformity with the applicable design data;
  2. the production organization has established a procedure to ensure that airworthiness, noise, fuel venting and exhaust emissions data are correctly incorporated in its production data;
  3. such data are kept up to date and made available to all personnel who need access to such data to perform their duties;
- (c) with regard to management and staff:
  1. a manager has been nominated by the production organization, and is accountable to CARC. His or her responsibility within the organization shall consist of ensuring that all production is performed to the required standards and that the production organization is continuously in compliance with the data and procedures identified in the exposition referred to in point 21.A.143;
  2. a person or group of persons have been nominated by the production organization to ensure that the organization is in compliance with the requirements of this Annex I (Part 21), and are identified, together with the extent of their authority. Such person(s) shall act under the direct authority of the accountable manager referred to in point (1). The persons nominated shall be able to show the appropriate knowledge, background and experience to discharge their responsibilities;
  3. staff at all levels have been given appropriate authority to be able to discharge their allocated responsibilities and that there is full and effective coordination within the



production organization in respect of airworthiness, noise, fuel venting and exhaust emission data matters;

- (d) with regard to certifying staff, authorised by the production organization to sign the documents issued under point 21.A.163 under the scope or terms of approval:
1. the knowledge, background (including other functions in the organization), and experience of the certifying staff are appropriate to discharge their allocated responsibilities;
  2. the production organization maintains a record of all certifying staff which shall include details of the scope of their authorization;
  3. certifying staff are provided with evidence of the scope of their authorization.

#### **21.A.147 Changes to the approved production organization**

- (a) After the issue of a production organization approval, each change to the approved production organization that is significant to the showing of conformity or to the airworthiness and characteristics of noise, fuel venting and exhaust emissions of the product, part or appliance, particularly changes to the quality system, shall be approved by CARC. An application for approval shall be submitted in writing to CARC and the organization shall demonstrate to CARC before implementation of the change, that it will continue to comply with this Subpart.
- (b) CARC shall establish the conditions under which a production organization approved under this Subpart may operate during such changes unless CARC determines that the approval should be suspended.

#### **21.A.148 Changes of location**

A change of the location of the manufacturing facilities of the approved production organization shall be deemed of significance and therefore shall comply with point 21.A.147.

#### **21.A.149 Transferability**

Except as a result of a change in ownership, which is deemed significant for the purposes of point 21.A.147, a production organization approval is not transferable.

#### **21.A.151 Terms of approval**

The terms of approval shall identify the scope of work, the products or the categories of parts and appliances, or both, for which the holder is entitled to exercise the privileges under point 21.A.163.

Those terms shall be issued as part of a production organization approval.

#### **21.A.153 Changes to the terms of approval**

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

#### **21.A.157 Investigations**

A production organization shall make arrangements that allow CARC to make any investigations, including investigations of partners and subcontractors, necessary to determine compliance and continued compliance with the applicable requirements of this Subpart.

**21.A.158 Findings**

- (a) When objective evidence is found showing non compliance of the holder of a production organization approval with the applicable requirements of this Part, the finding shall be classified as follows:
1. a level one finding is any non-compliance with Part 21 which could lead to uncontrolled non-compliances with applicable design data and which could affect the safety of the aircraft;
  2. a level two finding is any non-compliance with Part 21 which is not 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 point (a).
- (c) After receipt of notification of findings by the organization,
1. for level one findings, immediate action shall be taken by CARC to limit, suspend or revoke the production organization approval, in whole or in part, depending upon the extent of the finding, until successful corrective action has been completed by the organization. The holder of the production organization approval shall demonstrate corrective action to the satisfaction of CARC within a period of no more than 21 working days after written confirmation of the finding;
  2. for level two findings, the corrective action period granted by CARC shall be appropriate to the nature of the finding but in any case initially shall not be more than three months. In certain circumstances , at the end of this period and subject to the nature of the finding, CARC may extend the three months period subject to the provision of a satisfactory corrective action plan agreed by CARC;
  3. a level three finding shall not require immediate action by the holder of the production organization approval.
- (d) In case of level one or level two findings, the production organization approval may be subject to a partial or full limitation, suspension or revocation. The holder of the production organization approval shall provide confirmation of receipt of the notice of limitation, suspension or revocation of the production organization approval in a timely manner. Action shall be taken by CARC to suspend the approval in whole or in part in case of failure to comply within the timescale granted by CARC.

**21.A.159 Duration and continued validity**

- (a) A production organization approval shall be issued for duration of 24 calendar months. It shall remain valid and eligible for the renewal at the end of 24 calendar months unless:
1. the production organization fails to demonstrate compliance with the applicable requirements of this Subpart; or
  2. CARC is prevented by the holder or any of its partners or subcontractors to perform the investigations in accordance with point 21.A.157; or
  3. there is evidence that the production organization cannot maintain satisfactory control of the manufacture of products, parts or appliances under the approval; or
  4. the production organization no longer meets the requirements of point 21.A.133; or
  5. the certificate has been surrendered or revoked under point 21.A.158.
- (b) Upon surrender or revocation, the certificate shall be returned to CARC.

**21.A.163 Privileges**

Pursuant to the terms of approval issued under point 21.A.135, the holder of a production organization approval may:

- (a) perform production activities under Part 21;
- (b) in the case of complete aircraft and upon presentation of a statement of conformity (CARC Form 18-0287) under point 21.A.174, obtain an aircraft certificate of airworthiness and a noise certificate without further showing;
- (c) in the case of other products, parts or appliances, issue authorized release certificates (CARC Form 18-0227) without further showing;
- (d) maintain a new aircraft that it has produced and issue a certificate of release to service (CARC Form 18-0295) in respect of that maintenance;
- (e) under procedures agreed with CARC for production, for an aircraft it has produced and when the production organization itself is controlling under its POA the configuration of the aircraft and is attesting conformity with the design conditions approved for the flight, to issue a permit to fly in accordance with point 21.A.711(c) including approval of the flight conditions in accordance with point 21.A.710(b).

**21.A.165 Obligations of the holder**

The holder of a production organization approval shall:

- (a) ensure that the production organization exposition furnished in accordance with point 21.A.143 and the documents to which it refers, are used as basic working documents within the organization;
- (b) maintain the production organization in conformity with the data and procedures approved for the production organization approval;
- (c)
  - 1. determine that each completed aircraft conforms to the type design and is in condition for safe operation prior to submitting statements of conformity (CARC Form 18-0287) to CARC; or
  - 2. determine that other products, parts or appliances are complete and conform to the approved design data and are in a condition for safe operation before issuing a CARC Form 18-0227 to certify conformity to approved design data and condition for safe operation, and additionally in case of engines, determine according to data provided by the engine type-certificate holder that each completed engine is in compliance with the applicable emissions requirements as defined in point 21.A.18(b), current at the date of manufacture of the engine, to certify emissions compliance; or
  - 3. determine that other products, parts or appliances conform to the applicable data before issuing CARC Form 18-0227 as a conformity certificate;
- (d) record all details of work carried out;
- (e) establish and maintain an internal occurrence reporting system in the interest of safety, to enable the collection and assessment of occurrence reports in order to identify adverse trends or to address deficiencies, and to extract reportable occurrences. This system shall include evaluation of relevant information relating to occurrences and the promulgation of related information;
- (f)
  - 1. report to the holder of the type-certificate or design approval, all cases where products, parts or appliances have been released by the production organization and

- subsequently identified to have possible deviations from the applicable design data, and investigate with the holder of the type-certificate or design approval in order to identify those deviations which could lead to an unsafe condition;
2. **report to CARC** the deviations which could lead to an unsafe condition identified according to point (1). Such reports shall be made in a form and manner established/or accepted by CARC under point 21.A.3A(b)(2);
  3. where the holder of the production organization approval is acting as a supplier to another production organization, report also to that other organization all cases where it has released products, parts or appliances to that organization and subsequently identified them to have possible deviations from the applicable design data;
- (g) provide assistance to the holder of the type-certificate or design approval in dealing with any continuing airworthiness actions that are related to the products parts or appliances that have been produced;
- (h) establish an archiving system incorporating requirements imposed on its partners, suppliers and subcontractors, ensuring conservation of the data used to justify conformity of the products, parts or appliances. Such data shall be held at the disposal of CARC and be retained in order to provide the information necessary to ensure the continuing airworthiness of the products, parts or appliances;
- (i) where, under its terms of approval, the holder issues a certificate of release to service, determine that each completed aircraft has been subjected to necessary maintenance and is in condition for safe operation, prior to issuing the certificate;
- (j) where applicable, under the privilege of point 21.A.163(e), determine the conditions under which a permit to fly can be issued;
- (k) where applicable, under the privilege of point 21.A.163(e), establish compliance with points 21.A.711(c) and (e) before issuing a permit to fly to an aircraft.

## ***SUBPART H — CERTIFICATES OF AIRWORTHINESS AND RESTRICTED CERTIFICATES OF AIRWORTHINESS***

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

This Subpart establishes the procedure for issuing airworthiness certificates.

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

Any natural or legal person under whose name an aircraft is registered or will be registered in Jordan, 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 Part 21;
- (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 Part 21; or

2. which have been shown to CARC to comply with specific airworthiness specifications ensuring adequate safety.

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

- (a) Pursuant to point 21.A.172, an application for an airworthiness certificate shall be made in a form and manner established by CARC.
- (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 point 21.A.163(b); or
      - issued under point 21.A.130 and validated by CARC; or
      - for an imported aircraft, a statement signed by the exporting authority that the aircraft conforms to a design approved/accepted by CARC;
    - (ii) a weight and balance report with a loading schedule;
    - (iii) the flight manual, when required by the applicable airworthiness code for the particular aircraft;
  3. with regard to used aircraft:
    - (i) a statement by the exporting authority of the State where the aircraft is registered, reflecting the airworthiness status of the aircraft on its register at time of transfer;
    - (ii) a weight and balance report with a loading schedule;
    - (iii) the flight manual when such material is required by the applicable airworthiness code for the particular aircraft;
    - (iv) historical records to establish the production, modification, and maintenance standard of the aircraft, including all limitations associated with a restricted certificate of airworthiness. Limitations for use will be associated with restricted certificates of airworthiness, including airspace restrictions, as necessary to take account of deviations from essential requirements for airworthiness.
    - (v) an airworthiness review report and a recommendation issued by an approved CAMO in accordance with Part M for the issuance of a certificate of airworthiness or restricted certificate of airworthiness.
    - (vi) an airworthiness review certificate following an airworthiness review in accordance with Part M.
- (c) Unless otherwise agreed, the statements referred to in points (b)(2)(i) and (b)(3)(i) shall be issued no more than 60 days before presentation of the aircraft to CARC.

#### **21.A.175 Language**

The manuals, placards, listings, and instrument markings and other necessary information required by applicable certification specifications shall be presented at least in English language, passenger placards shall be presented in English and Arabic languages.

**21.A.177 Amendment or modification**

An airworthiness certificate may be amended or modified only by CARC.

**21.A.179 Transferability and re-issuance**

(a) Where ownership of an aircraft has changed:

1. if it remains on the register, 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 going to be registered in another State, the certificate of airworthiness, or the restricted certificate of airworthiness conforming to a restricted type-certificate only, shall be returned to CARC;

(b) Where ownership of an aircraft has changed, and the aircraft has a restricted certificate of airworthiness not conforming to a restricted type-certificate, the airworthiness certificate shall be transferred together with the aircraft provided the aircraft remains on the register in and with the agreement of CARC.

**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 CARC.

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

(a) An airworthiness certificate shall be issued for duration of 24 calendar months. It shall remain valid and eligible for the renewal at the end of 24 calendar months subject to:

1. compliance with the applicable type-design and continuing airworthiness requirements; and
2. the aircraft remaining on the register; and
3. the type-certificate or restricted type-certificate under which it is issued not being previously invalidated under point 21.A.51;
4. the certificate not being surrendered or revoked under point 21.A.181 (b).

(b) Upon evidence that any of the conditions specified in point 21.A.181(a) is not met, CARC shall suspend or revoke an airworthiness certificate and the notice of suspension and revocation of a certificate of airworthiness or restricted certificate of airworthiness shall state the reasons for the suspension or revocation and inform the holder of the certificate of its right to appeal. Upon surrender or revocation, the certificate shall be returned to CARC.

**21.A.182 Aircraft identification**

Each applicant for an airworthiness certificate under this Subpart shall demonstrate that its aircraft is identified in accordance with Subpart Q.

***SUBPART I — NOISE CERTIFICATES*****21.A.201 Scope**

This Subpart establishes the procedure for issuing noise certificates.

**21.A.203 Eligibility**

Any natural or legal person under whose name an aircraft is registered or will be registered in Jordan Registry, or its representative, shall be eligible as an applicant for a noise certificate for that aircraft under this Subpart.

**21.A.204 Application**

- (a) Pursuant to point 21.A.203, an application for a noise certificate shall be made in a form and manner established by CARC.
- (b) Each application shall include:
1. with regard to new aircraft:
    - (i) a statement of conformity:
      - issued under point 21.A.163(b); or
      - issued under point 21.A.130 and validated by CARC; or
      - for an imported aircraft, a statement, signed by the exporting authority that the aircraft conforms to a design **accepted** by CARC; and
    - (ii) the noise information determined in accordance with the applicable noise requirements;
  2. with regard to used aircraft:
    - (i) the noise information determined in accordance with the applicable noise requirements; and
    - (ii) historical records to establish the production, modification, and maintenance standard of the aircraft.
- (c) Unless otherwise agreed, the statements referred to in point (b)(1) shall be issued no more than 60 days before presentation of the aircraft to the CARC.

**21.A.207 Amendment or modification**

A noise certificate may be amended or modified only by CARC.

**21.A.209 Transferability and re-issuance**

Where ownership of an aircraft has changed:

- (a) if the aircraft remains on the register, the noise certificate shall be transferred together with the aircraft; or
- (b) if the aircraft moves to the register of another State, the noise certificate original copy shall be returned to CARC.

**21.A.210 Inspections**

The holder of the noise certificate shall provide access to the aircraft for which that noise certificate has been issued upon request by CARC for inspection.

**21.A.211 Duration and continued validity**

- (a) A noise certificate shall be issued for an unlimited duration. It shall remain valid subject to:
1. compliance with the applicable type-design, environmental protection and continuing airworthiness requirements; and
  2. the aircraft remaining on the register; and
  3. the type-certificate or restricted type-certificate under which it is issued not being previously invalidated under point 21.A.51;

4. the certificate not being surrendered or revoked. CARC shall suspend or revoke a noise certificate upon evidence that some of the conditions specified in point 21.A.211(a) (1)-(3) are not met.

(b) Upon issuance of the notice of suspension and revocation of a noise certificate CARC shall state the reasons for the suspension and revocation and shall inform the holder of the certificate on its right to appeal. Upon surrender or revocation, the certificate shall be returned to CARC.

## ***SUBPART J — DESIGN ORGANISATION APPROVAL***

### **21.A.231 Scope**

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

### **21.A.233 Eligibility**

Any natural or legal person ('organization') shall be eligible as an applicant for an approval under this Subpart

- (a) in accordance with points 21.A.14, 21.A.112B, 21.A.432B or 21.A.602B; or
- (b) for approval of minor changes or minor repair design, when requested for the purpose of obtaining privileges under point 21.A.263.

### **21.A.234 Application**

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

### **21.A.235 Issue of design organization approval**

An organization shall be entitled to have a design organization approval issued by CARC when it has demonstrated compliance with the applicable requirements under this Subpart.

### **21.A.239 Design assurance system**

- (a) The design organization 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 organization:
  - 1. to ensure that the design of the products, parts and appliances or the design change thereof, comply with the applicable type-certification basis and environmental protection requirements; and
  - 2. to ensure that its responsibilities are properly discharged in accordance with:
    - (i) the appropriate provisions of this Part; and
    - (ii) the terms of approval issued under point 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 organization submits compliance statements and associated documentation to CARC.



- (c) The design organization 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 Data**

- (a) The design organization shall furnish a handbook to CARC describing, directly or by cross-reference, the organization, 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 organizations or subcontractors, the handbook shall include a statement of how the design organization is able to give, for all parts and appliances, the assurance of compliance required by point 21.A.239(b), and shall contain, directly or by cross-reference, descriptions and information on the design activities and organization of those partners or subcontractors, as necessary to establish this statement.
- (c) The handbook shall be amended as necessary to remain an up-to-date description of the organization, and copies of amendments shall be supplied to CARC.
- (d) The design organization 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 in the organization.

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

The design organization shall demonstrate, on the basis of the information submitted in accordance with point 21.A.243 that, in addition to complying with point 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 these, together with the accommodation, facilities and equipment, are adequate to enable the staff to achieve the airworthiness and environmental protection objectives for the product;
- (b) there is full and efficient coordination between departments and within departments in respect of airworthiness and environmental protection matters.

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

After the issue of a design organization approval, each change to the design assurance system that is significant to the showing of compliance or to the airworthiness and environmental protection of the product, shall be approved by CARC. An application for approval shall be submitted in writing to CARC and the design organization shall demonstrate to CARC, on the basis of submission of proposed changes to the handbook, 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 point 21.A.247, a design organization approval is not transferable.

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

The terms of approval shall identify the types of design work, the categories of products, parts and appliances for which the design organization holds a design organization approval, and the functions and duties that the organization is approved to perform in regard to the airworthiness and characteristics of noise, fuel venting and exhaust emissions of products. For design organization approval covering type-certification or TSO authorization for Auxiliary Power Unit (APU), the terms

of approval shall contain in addition the list of products or APU. Those terms shall be issued as part of a design organization approval.

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

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

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

- (a) The design organization shall make arrangements that allow CARC to make any investigations, including investigations of partners and subcontractors, necessary to determine compliance and continued compliance with the applicable requirements of this Subpart.
- (b) The design organization shall allow CARC 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 point 21.A.239(b).

#### **21.A.258 Findings**

- (a) When objective evidence is found showing non-compliance of the holder of a design organization approval with the applicable requirements of this Part, the finding shall be classified as follows:
  - 1. a level one finding is any non-compliance with this Part 21 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 Part 21 which is not 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 point (a).
- (c) After receipt of notification of findings under the applicable administrative procedures established by CARC,
  - 1. in case of a level one finding, the holder of the design organization approval shall demonstrate corrective action to the satisfaction of CARC within a period of no more than 21 working days after written confirmation of the finding;
  - 2. in case of level two findings, the corrective action period granted by CARC shall be appropriate to the nature of the finding but in any case initially shall not be more than three months. In certain circumstances and subject to the nature of the finding CARC may extend the three months period subject to the provision of a satisfactory corrective action plan agreed by CARC;
  - 3. a level three finding shall not require immediate action by the holder of the design organization approval.
- (d) In case of level one or level two findings, the design organization approval may be subject to a partial or full suspension or revocation under the applicable administrative procedures established by CARC. The holder of the design organization approval shall provide confirmation of receipt of the notice of suspension or revocation of the design organization approval in a timely manner.

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

- (a) A design organization approval shall be issued for duration of 24 calendar months. It shall remain valid **and eligible for the renewal at the end of 24 calendar months** unless:
1. the design organization fails to demonstrate compliance with the applicable requirements of this Subpart; or
  2. CARC is prevented by the holder or any of its partners or subcontractors to perform the investigations in accordance with point 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 CARC.
- (b) Upon surrender or revocation, the certificate shall be returned to CARC.

**21.A.263 Privileges**

- (a) The holder of a design organization approval shall be entitled to perform design activities under this Part and within its scope of approval.
- (b) Subject to point 21.A.257(b), CARC shall accept without further verification the following compliance documents submitted by the applicant for the purpose of obtaining:
1. the approval of flight conditions required for a permit to fly; or
  2. a type-certificate or approval of a major change to a type design; or
  3. a supplemental type-certificate; or
  4. a TSO authorization under point 21.A.602B(b)(1); or
  5. a major repair design approval.
- (c) The holder of a design organization 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 DOA ref. CARC. 21J. [XXXX]’;
  4. to approve minor revisions to the aircraft flight manual and supplements, and issue such revisions containing the following statement: ‘Revision No [YY] to AFM (or supplement) ref. [ZZ] is approved under the authority of DOA ref. CARC. 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 or TSO authorization;
  6. to approve the conditions under which a permit to fly can be issued in accordance with point 21.A.710(a)(2), except for permits to fly to be issued for the purpose of point 21.A.701(a)(15);
  7. to issue a permit to fly in accordance with point 21.A.711(b) for an aircraft it has designed or modified, or for which it has approved under point 21.A.263(c)(6) the conditions under which the permit to fly can be issued, and when the design

organization itself is controlling under its Design Organization Approval the configuration of the aircraft and is attesting conformity with the design conditions approved for the flight.

#### **21.A.265 Obligations of the holder**

The holder of a design organization approval shall:

- (a) maintain the handbook in conformity with the design assurance system;
- (b) ensure that this handbook is used as a basic working document within the organization;
- (c) determine that the design of products, or changes or repairs thereof, as applicable, comply with applicable requirements and have no unsafe feature;
- (d) except for minor changes or repairs approved under the privilege of point 21.A.263, provide to CARC statements and associated documentation confirming compliance with point (c);
- (e) provide to CARC information or instructions related to required actions under point 21.A.3B;
- (f) where applicable, under the privilege of point 21.A.263(c)(6), determine the conditions under which a permit to fly can be issued;
- (g) where applicable, under the privilege of point 21.A.263(c)(7), establish compliance with points 21.A.711(b) and (e) before issuing a permit to fly to an aircraft.

### ***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 in a type-certificated product shall be made:

- (a) in conjunction with the type-certification procedures of Subpart B, D or E for the product in which it is to be installed; or
- (b) where applicable, under the TSO authorization procedures of Subpart O; or
- (c) in the case of standard parts, in accordance with officially recognised Standards.

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

In all cases where the approval of a part or appliance is explicitly required by law or CARC measures, the part or appliance shall comply with the applicable TSO or with the specifications recognised as equivalent by CARC in the particular case.

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

A part or appliance shall be eligible for installation in a type-certificated product when it is in a condition for safe operation, and it is:

- (a) accompanied by an authorized release certificate (Form 227), certifying that the item was manufactured in conformity to approved design data and is marked in accordance with Subpart Q; or
- (b) a standard part; or
- (c) in the case of LA1 or LA2 aircraft, a part or appliance that is:

1. not life-limited, nor part of the primary structure, nor part of the flight controls;
2. manufactured in conformity to applicable design;
3. marked in accordance with Subpart Q;
4. identified for installation in the specific aircraft;
5. to be installed in an aircraft for which the owner has verified compliance with the conditions 1 through 4 and has accepted responsibility for this compliance.

*(SUBPART L — NOT APPLICABLE)*

### **SUBPART M — REPAIRS**

#### **21.A.431 A Scope**

- (a) This Subpart establishes the procedure for the approval of repair design, and establishes the rights and obligations of the applicants for, and holders of, those approvals.
- (b) This Subpart defines standard repairs that are not subject to an approval process under this Subpart.
- (c) A 'repair' means elimination of damage and/or restoration to an airworthy condition following initial release into service by the manufacturer of any product, part or appliance.
- (d) 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 Part 21.
- (e) A repair to a TSO article other than an Auxiliary Power Unit (APU) shall be treated as a change to the TSO design and shall be processed in accordance with point 21.A.611.

#### **21A.431B Standard repairs**

- (a) Standard repairs are repairs:
  - (1) in relation to:
    - (i) aeroplanes of 5 700 kg Maximum Take-Off Mass (MTOM) or less;
    - (ii) rotorcraft of 3 175 kg MTOM or less;
    - (iii) sailplanes and powered sailplanes, balloons and airships as defined in LA1 or LA2.
  - (2) that follow design data included in certification specifications issued/adopted by CARC, containing acceptable methods, techniques and practices for carrying out and identifying standard repairs , including the associated instructions for continuing airworthiness; and
  - (3) that are not in conflict with TC holders data.
- (b) Points 21A.432A to 21A.451 are not applicable to standard repairs.

#### **21.A.432A Eligibility**

- (a) Any natural or legal person that has demonstrated, or is in the process of demonstrating, its capability under point 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 natural or legal person 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 design organization approval, issued by CARC in accordance with Subpart J.
- (b) By way of derogation from point (a), as an alternative procedure to demonstrate its capability, an applicant may seek CARC 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 points (a) and (b), an applicant may seek the agreement of the CARC for the approval of a certification programme setting out the specific design practices, resources and sequence of activities necessary to comply with this Part for a repair on a product defined in point 21A.14(c).

**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 incorporated by reference in the type-certificate or supplemental type-certificate or APU TSO authorization, as applicable, or those in effect on the date of application (for repair design approval), plus any amendments to those certification specifications or special conditions CARC finds necessary to establish a level of safety equal to that established by the type-certification basis incorporated by reference in the type-certificate, supplemental type-certificate or APU TSO authorization;
  - 2. submit all necessary substantiation data, when requested by CARC;
  - 3. declare compliance with the certification specifications and environmental protection requirements of point (a)(1).
- (b) Where the applicant is not the type-certificate or supplemental type-certificate or APU TSO authorization holder, as applicable, the applicant may comply with the requirements of point (a) through the use of its own resources or through an arrangement with the type-certificate or supplemental type-certificate or APU TSO authorization 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 point 21.A.91 for a change in the type design.
- (b) A repair shall be classified 'major' or 'minor' under point (a) either:
  - 1. by CARC; or
  - 2. by an appropriately approved design organization under a procedure agreed with CARC.

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

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

- (a) by CARC; or
- (b) by an appropriately approved organization that is also the type-certificate, the supplemental type-certificate or APU TSO authorization holder, under a procedure agreed with CARC; or

- (c) for minor repairs only, by an appropriately approved design organization under a procedure agreed with CARC.

#### **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 Subpart F; or
- (b) by an organization appropriately approved in accordance with Subpart G; or
- (c) by an appropriately approved maintenance organization.

#### **21.A.441 Repair embodiment**

- (a) The embodiment of a repair shall be made in accordance with Part-M or Part-145 as appropriate, or by a production organisation appropriately approved in accordance with Subpart G, under the point 21.A.163 (d) privilege.
- (b) The design organization shall transmit to the organization 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 CARC.

#### **21.A.445 Unrepaired damage**

- (a) When 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 CARC; or
  2. by an appropriately approved design organization under a procedure agreed with CARC.

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

- (b) Where the organization evaluating the damage under point (a) is neither CARC nor the type-certificate, supplemental type-certificate or APU TSO authorization holder, this organization shall justify that the information on which the evaluation is based is adequate either from its organization's own resources or through an arrangement with the type-certificate, supplemental type-certificate or APU TSO authorization 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 point 21.A.443, justification for classification and evidence of the design approval, shall:

- (a) be held by the repair design approval holder at the disposal of CARC; 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 continued airworthiness**

- (a) The holder of the repair design approval shall furnish at least one complete set of those changes to the instructions for continued 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 into service before the changes to those instructions have been completed, but this shall be for a limited service period, and in agreement with CARC. Those changes to the instructions shall be made available on request to any other person required to comply with any of the terms of those changes to the instructions. The availability of some manual or portion of the changes to the instructions for continued 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 continued 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 person 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 continued airworthiness are distributed shall be submitted to CARC.

#### **21.A.451 Obligations and PA marking**

- (a) Each holder of a major repair design approval shall:
1. undertake the obligations:
    - (i) laid down in points 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, supplemental type-certificate and with the APU TSO authorization holder under point 21.A.433 (b), as appropriate.
  2. specify the marking, including PA letters, in accordance with point 21.A.804(a).
- (b) Except for type-certificate holders or APU authorization holders for which point 21.A.44 applies, the holder of a minor repair design approval shall:
1. undertake the obligations laid down in points 21.A.4, 21.A.447 and 21.A.449; and
  2. specify the marking, including PA letters, in accordance with point 21.A.804(a).

*(SUBPART N — NOT APPLICABLE)*

### ***SUBPART O — TECHNICAL STANDARD ORDER AUTHORIZATIONS***

#### **21.A.601 Scope**

This Subpart establishes the procedure for issuing TSO authorizations and the rules governing the rights and obligations of applicants for, or holders of, such authorizations.



**21.A.602A Eligibility**

Any natural or legal person that produces or is preparing to produce a TSO article, and that has demonstrated, or is in the process of demonstrating, its capability under point 21.A.602B shall be eligible as an applicant for a TSO authorization.

**21.A.602B Demonstration of capability**

Any applicant for a TSO authorization shall demonstrate its capability as follows:

- (a) for production, by holding a production organization approval, issued in accordance with Subpart G, or through compliance with Subpart F procedures; and
- (b) for design:
  - 1. for an Auxiliary Power Unit, by holding a design organization approval, issued by CARC in accordance with Subpart J;
  - 2. for all other articles, by using procedures setting out the specific design practices, resources and sequence of activities necessary to comply with this Part 21.

**21.A.603 Application**

- (a) An application for a TSO authorization shall be made in a form and manner established by CARC and shall include an outline of the information required by point 21.A.605.
- (b) When a series of minor changes in accordance with point 21.A.611 is anticipated, the applicant shall set forth in its application the basic model number of the article and the associated part numbers with open brackets after it to denote that suffix change letters or numbers (or combinations of them) will be added from time to time.

**21.A.604 TSO Authorization for an Auxiliary Power Unit (APU)**

With regard to TSO authorization for an Auxiliary Power Unit:

- (a) points 21.A.15, 21.A.16B, 21.A.17, 21.A.20, 21.A.21, 21.A.31, 21.A.33, 21.A.44 shall apply by way of derogation from points 21.A.603, 21.A.606(c), 21.A.610 and 21.A.615, except that a TSO Authorization shall be issued in accordance with 21.A.606 instead of the type-certificate;
- (b) subpart D or Subpart E is applicable for the approval of design changes by way of derogation from point 21.A.611. When Subpart E is used, a separate TSO authorization shall be issued instead of a supplemental type-certificate.
- (c) Subpart M is applicable to the approval of repair designs.

**21.A.605 Data requirements**

The applicant shall submit the following documents, to CARC:

- (a) a statement of compliance certifying that the applicant has met the requirements of this Subpart;
- (b) a Declaration of Design and Performance (DDP);
- (c) one copy of the technical data required in the applicable TSO;
- (d) the exposition (or a reference to the exposition) referred to in point 21.A.143 for the purpose of obtaining an appropriate production organization approval under Subpart G or the manual (or a reference to the manual) referred to in point 21.A.125A(b) for the purpose of manufacturing under Subpart F without production organization approval;

- (e) for an APU, the handbook (or a reference to the handbook) referred to in point 21.A.243 for the purpose of obtaining an appropriate design organization approval under Subpart J;
- (f) for all other articles, the procedures referred to in point 21.A.602B(b)(2).

#### **21.A.606 Issue of TSO authorization**

The applicant shall be entitled to have a TSO authorization issued by CARC after:

- (a) demonstrating its capability in accordance with point 21.A.602B; and
- (b) demonstrating that the article complies with the technical conditions of the applicable TSO, and submitting the corresponding statement of compliance;
- (c) expressly stating that it is prepared to comply with point 21.A.609.

#### **21.A.607 TSO authorization privileges**

The holder of a TSO authorization is entitled to produce and to mark the article with the appropriate TSO marking.

#### **21.A.608 Declaration of Design and Performance (DDP)**

- (a) The DDP shall contain at least the following information:
  1. information corresponding to point 21.A.31(a) and (b), identifying the article and its design and testing standard;
  2. the rated performance of the article, where appropriate, either directly or by reference to other supplementary documents;
  3. a statement of compliance certifying that the article has met the appropriate TSO;
  4. reference to relevant test reports;
  5. reference to the appropriate Maintenance, Overhaul and Repair Manuals;
  6. the levels of compliance, where various levels of compliance are allowed by the TSO;
  7. list of deviations accepted in accordance with point 21.A.610.
- (b) The DDP shall be endorsed with the date and signature of the holder of the TSO authorization, or its authorized representative.

#### **21.A.609 Obligations of holders of TSO authorizations**

The holder of a TSO authorization under this Subpart shall:

- (a) manufacture each article in accordance with Subpart G or Subpart F that ensures that each completed article conforms to its design data and is safe for installation;
- (b) prepare and maintain, for each model of each article for which a TSO authorization has been issued, a current file of complete technical data and records in accordance with point 21.A.613;
- (c) prepare, maintain and update master copies of all manuals required by the applicable airworthiness specifications for the article;
- (d) make available to users of the article and to CARC on request those maintenance, overhaul and repair manuals necessary for the usage and maintenance of the article, and changes to those manuals;
- (e) mark each article in accordance with point 21.A.807;
- (f) comply with points 21.A.3A, 21.A.3B and 21.A.4;

- (g) continue to meet the qualification requirements of point 21.A.602B.

#### **21.A.610 Approval for deviation**

- (a) Each manufacturer who requests approval to deviate from any performance standard of a TSO shall demonstrate that the standards from which a deviation is requested are compensated for by factors or design features providing an equivalent level of safety.
- (b) The request for approval to deviate, together with all pertinent data, shall be submitted to CARC.

#### **21.A.611 Design changes**

- (a) The holder of the TSO authorization may make minor design changes (any change other than a major change) without further authorization by CARC. In this case, the changed article keeps the original model number (part number changes or amendments shall be used to identify minor changes) and the holder shall forward to CARC any revised data that are necessary for compliance with point 21.A.603(b).
- (b) Any design change by the holder of the TSO authorization that is extensive enough to require a substantially complete investigation to determine compliance with a TSO is a major change. Before making such a change, the holder shall assign a new type or model designation to the article and apply for a new authorization under point 21.A.603.
- (c) No design change by any natural or legal person other than the holder of the TSO authorization who submitted the statement of compliance for the article is eligible for approval under this Subpart O unless the person seeking the approval applies under point 21.A.603 for a separate TSO authorization.

#### **21.A.613 Record-keeping**

Further to the record-keeping requirements appropriate to or associated with the quality system, all relevant design information, drawings and test reports, including inspection records for the article tested, shall be held at the disposal of CARC and shall be retained in order to provide the information necessary to ensure the continued airworthiness of the article and of the type-certificated product in which it is fitted.

#### **21.A.615 Inspection by CARC**

Upon a request of CARC, each applicant for, or holder of a TSO authorization for an article shall allow CARC to:

- (a) Witness any tests;
- (b) Inspect the technical data files on that article.

#### **21.A.619 Duration and continued validity**

(a) A TSO authorization shall be issued for duration of 24 calendar months. It shall remain valid and eligible for the renewal at the end of 24 calendar months unless:

1. the conditions required when TSO authorization was granted are no longer being observed; or
2. the obligations of the holder specified in point 21.A.609 are no longer being discharged; or
3. the article has proved to give rise to unacceptable hazards in service; or
4. the authorization has been surrendered or revoked under the applicable administrative procedures established by CARC.

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

### **21.A.621 Transferability**

Except for a change in ownership of the holder, which shall be regarded as a change of significance, and shall therefore comply with points 21.A.147 and 21.A.247 as applicable, a TSO authorization issued under this Part is not transferable.

## ***SUBPART P — PERMIT TO FLY***

### **21.A.701 Scope**

(a) Permits to fly shall be issued in accordance with this Subpart to aircraft that do not meet, or have not been shown to meet, applicable airworthiness requirements but are capable of safe flight under defined conditions and for the following purposes:

1. development;
2. showing compliance with regulations or certification specifications;
3. design organizations or production organizations crew training;
4. production flight testing of new production aircraft;
5. flying aircraft under production between production facilities;
6. flying the aircraft for customer acceptance;
7. delivering or exporting the aircraft;
8. flying the aircraft for Authority acceptance;
9. market survey, including customer's crew training;
10. exhibition and air show;
11. flying the aircraft to a location where maintenance or airworthiness review are to be performed, or to a place of storage;
12. flying an aircraft at a weight in excess of its maximum certificated takeoff weight for flight beyond the normal range over water, or over land areas where adequate landing facilities or appropriate fuel is not available;
13. record breaking, air racing or similar competition;
14. flying aircraft meeting the applicable airworthiness requirements before conformity to the environmental requirements has been found;
15. for non-commercial flying activity on individual non-complex aircraft or types for which a certificate of airworthiness or restricted certificate of airworthiness is not appropriate.

(b) This Subpart establishes the procedure for issuing permits to fly and approving associated flight conditions, and establishes the rights and obligations of the applicants for, and holders of, those permits and approvals of flight conditions.

### **21.A.703 Eligibility**

- (a) Any natural or legal person shall be eligible as an applicant for a permit to fly except for a permit to fly requested for the purpose of point 21.A.701(a)(15) where the applicant shall be the owner.
- (b) Any natural or legal person shall be eligible for application for the approval of the flight conditions.

**21.A.705 “Reserved”****21.A.707 Application for permit to fly**

- (a) Pursuant to point 21.A.703 and when the applicant has not been granted the privilege to issue a permit to fly, an application for a permit to fly shall be made in a form and manner established by to CARC.
- (b) Each application for a permit to fly shall include:
  - 1. the purpose(s) of the flight(s), in accordance with point 21.A.701;
  - 2. the ways in which the aircraft does not comply with the applicable airworthiness requirements;
  - 3. the flight conditions approved in accordance with point 21.A.710.
- (c) Where the flight conditions are not approved at the time of application for a permit to fly, an application for approval of the flight conditions shall be made in accordance with point 21.A.709.

**21.A.708 Flight conditions**

Flight conditions include:

- (a) the configuration(s) for which the permit to fly is requested;
- (b) any condition or restriction necessary for safe operation of the aircraft, including:
  - 1. the conditions or restrictions put on itineraries or airspace, or both, required for the flight(s);
  - 2. the conditions and restrictions put on the flight crew to fly the aircraft;
  - 3. the restrictions regarding carriage of persons other than flight crew;
  - 4. the operating limitations, specific procedures or technical conditions to be met;
  - 5. the specific flight test programme (if applicable);
  - 6. the specific continuing airworthiness arrangements including maintenance instructions and regime under which they will be performed;
- (c) the substantiation that the aircraft is capable of safe flight under the conditions or restrictions of point (b);
- (d) the method used for the control of the aircraft configuration, in order to remain within the established conditions.

**21.A.709 Application for approval of flight conditions**

- (a) Pursuant to point 21.A.707(c) and when the applicant has not been granted the privilege to approve the flight conditions, an application for approval of the flight conditions shall be made to CARC in a form and manner established by CARC:
  - 1. when approval of the flight conditions is related to the safety of the design; **and/or**
  - 2. when approval of the flight conditions is not related to the safety of the design.
- (b) Each application for approval of the flight conditions shall include:
  - 1. the proposed flight conditions;
  - 2. the documentation supporting these conditions; and

3. a declaration that the aircraft is capable of safe flight under the conditions or restrictions of point 21.A.708(b).

#### **21.A.710 Approval of flight conditions**

- (a) When approval of the flight conditions is related to the safety of the design, the flight conditions shall be approved by:
  1. CARC; or
  2. an appropriately approved design organisation, under the privilege of point 21.A.263(c)(6).
- (b) When approval of the flight conditions is not related to the safety of the design, the flight conditions shall be approved by CARC, or the appropriately approved organization that will also issue the permit to fly under the privilege granted to the organization.
- (c) Before approving the flight conditions, CARC or the approved organization must be satisfied that the aircraft is capable of safe flight under the specified conditions and restrictions. CARC may make or require the applicant to make any necessary inspections or tests for that purpose.

#### **21.A.711 Issue of a permit to fly**

- (a) A permit to fly (CARC Form 18-0120-1) may be issued by CARC, when:
  1. the data required by 21.A.707 is presented to CARC; and
  2. the flight conditions referred to in point 21.A.708 have been approved in accordance with point 21.A.710; and
  3. CARC, through its own investigations, which may include inspections, or through procedures agreed with the applicant, is satisfied that the aircraft conforms to the design defined under point 21.A.708 before flight.
- (b) An appropriately approved design organization may issue a permit to fly (CARC Form 18-0120-2) under the privilege granted under point 21.A.263(c)(7), when the flight conditions referred to in point 21.A.708 have been approved in accordance with point 21.A.710.
- (c) An appropriately approved production organization may issue a permit to fly (CARC Form 18-0120-2) under the privilege granted under point 21.A.163(e), when the flight conditions referred to in point 21.A.708 have been approved in accordance with point 21.A.710.
- (d) An appropriately approved continuing airworthiness management organization may issue a permit to fly (CARC Form 18-0120-2) under the privilege granted under point M.A.711 of Part M, when the flight conditions referred to in point 21.A.708 have been approved in accordance with point 21.A.710.
- (e) The permit to fly shall specify the purpose(s) and any conditions and restrictions which have been approved in accordance with point 21.A.710.
- (f) For permits issued under points (b), (c) or (d), a copy of the permit to fly and associated flight conditions shall be submitted to CARC at the earliest opportunity but not later than 3 days.
- (g) Upon evidence that any of the conditions specified in point 21.A.723(a) are not met for a permit to fly that an organization has issued pursuant to points (b), (c) or (d), that organization shall immediately revoke that permit to fly and inform CARC without delay.

**21.A.713 Changes**

- (a) Any change that invalidates the flight conditions or associated substantiation established for the permit to fly shall be approved in accordance with point 21.A.710. When relevant an application shall be made in accordance with point 21.A.709.
- (b) A change affecting the content of the permit to fly requires the issuance of a new permit to fly in accordance with point 21.A.711.

**21.A.715 Language**

The manuals, placards, listings, and instrument markings and other necessary information required by applicable certification specifications shall be presented at least in English language.

**21.A.719 Transferability**

- (a) A permit to fly is not transferable.
- (b) Notwithstanding, point (a) for a permit to fly issued for the purpose of point 21.A.701(a)(15), where ownership of an aircraft has changed, the permit to fly shall be transferred together with the aircraft provided the aircraft remains on the register.

**21.A.721 Inspections**

The holder of, or the applicant for, a permit to fly shall provide access to the aircraft concerned at the request of CARC.

**21.A.723 Duration and continued validity**

- (a) A permit to fly shall be issued for a maximum of 12 months and shall remain valid subject to:
  - 1. compliance with the conditions and restrictions of point 21.A.711(e) associated with the permit to fly;
  - 2. the permit to fly not being surrendered or revoked;
  - 3. the aircraft remaining on the register.
- (b) **“Reserved”**.
- (c) Upon surrender or revocation, the permit to fly shall be returned to CARC.

**21.A.725 Renewal of permit to fly**

Renewal of the permit to fly shall be processed as a change in accordance with point 21.A.713.

**21.A.727 Obligations of the holder of a permit to fly**

The holder of a permit to fly shall ensure that all the conditions and restrictions associated with the permit to fly are satisfied and maintained.

**21.A.729 Record-keeping**

- (a) All documents produced to establish and justify the flight conditions shall be held by the holder of the approval of the flight conditions at the disposal of CARC and shall be retained in order to provide the information necessary to ensure the continued airworthiness of the aircraft.
- (b) All documents associated with the issue of permits to fly under the privilege of approved organizations, including inspection records, documents supporting the approval of flight conditions and the permit to fly itself, shall be held by the related approved organization at

the disposal of CARC and shall be retained in order to provide the information necessary to ensure the continued airworthiness of the aircraft.

## ***SUBPART Q — IDENTIFICATION OF PRODUCTS, PARTS AND APPLIANCES***

### **21.A.801 Identification of products**

- (a) The identification of products shall include the following information:
  - 1. manufacturer's name;
  - 2. product designation;
  - 3. manufacturer's Serial number;
  - 4. any other information CARC finds appropriate.
- (b) Any natural or legal person that manufactures an aircraft or engine under Subpart G or Subpart F shall identify that aircraft or engine by means of a fireproof plate that has the information specified in point (a) marked on it by etching, stamping, engraving, or other approved method of fireproof marking. The identification plate shall be secured in such a manner that it is accessible and legible, and will not likely be defaced or removed during normal service, or lost or destroyed in an accident.
- (c) Any natural or legal person that manufactures a propeller, propeller blade, or propeller hub under Subpart G or Subpart F shall identify it by means of a plate, stamping, engraving, etching or other approved method of fireproof identification that is placed on it on a non-critical surface, contains the information specified in point (a), and will not likely be defaced or removed during normal service or lost or destroyed in an accident.
- (d) For manned balloons, the identification plate prescribed in point (b) shall be secured to the balloon envelope and shall be located, if practicable, where it is legible to the operator when the balloon is inflated. In addition, the basket, load frame assembly and any heater assembly shall be permanently and legibly marked with the manufacturer's name, part number, or equivalent, and serial number, or equivalent.

### **21.A.803 Handling of identification data**

- (a) No person shall remove, change, or place identification information referred to in point 21.A.801(a) on any aircraft, engine, propeller, propeller blade, or propeller hub, or in point 21.A.807(a) on an APU, without the approval of CARC.
- (b) No person shall remove or install any identification plate referred to in point 21.A.801, or in point 21.A.807 for an APU, without the approval of CARC.
- (c) By way of derogation from points (a) and (b), any natural or legal person performing maintenance work under the applicable regulations may, in accordance with methods, techniques and practices established by CARC:
  - 1. remove, change, or place the identification information referred to in point 21.A.801(a) on any aircraft, engine, propeller, propeller blade, or propeller hub, or in point 21.A.807(a) on an APU; or
  - 2. remove an identification plate referred to in point 21.A.801, or point 21.A.807 for an APU, when necessary during maintenance operations.
- (d) No person shall install an identification plate removed in accordance with point (c)(2) on any aircraft, engine, propeller, propeller blade, or propeller hub other than the one from which it was removed.



**21.A.804 Identification of parts and appliances**

- (a) Each part or appliance shall be marked permanently and legibly with:
1. a name, trademark, or symbol identifying the manufacturer in a manner identified by the applicable design data; and
  2. the part number, as defined in the applicable design data; and
  3. the letters PA for parts or appliances produced in accordance with approved design data not belonging to the type-certificate holder of the related product, except for TSO articles.
- (b) By way of derogation from point (a), if CARC agrees that a part or appliance is too small or that it is otherwise impractical to mark a part or appliance with any of the information required by point (a), the authorized release document accompanying the part or appliance or its container shall include the information that could not be marked on the part.

**21.A.805 Identification of critical parts**

In addition to the requirement of point 21.A.804, each manufacturer of a part to be fitted on a type-certificated product which has been identified as a critical part shall permanently and legibly mark that part with a part number and a serial number.

**21.A.807 Identification of TSO articles**

- (a) Each holder of a TSO authorization under Subpart O shall permanently and legibly mark each article with the following information:
1. the name and address of the manufacturer;
  2. the name, type, part number or model designation of the article;
  3. the serial number or the date of manufacture of the article or both; and
  4. the applicable TSO number.
- (b) By way of derogation from point (a), if CARC agrees that a part is too small or that it is otherwise impractical to mark a part with any of the information required by point (a), the authorized release document accompanying the part or its container shall include the information that could not be marked on the part.
- (c) Each person who manufactures an APU under Subpart G or Subpart F shall identify that APU by means of a fireproof plate that has the information specified in point (a) marked on it by etching, stamping, engraving, or other approved method of fireproof marking. The identification plate shall be secured in such a manner that it is accessible and legible, and will not likely be defaced or removed during normal service, or lost or destroyed in an accident.