Transport Canada Transports Canada

Advisory Circular

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1.0 INTRODUCTION

(1) This Advisory Circular (AC) is provided for information and guidance purposes. It describes an example of an acceptable means, but not the only means, of demonstrating compliance with regulations and standards. This AC on its own does not change, create, amend or permit deviations from regulatory requirements, nor does it establish minimum standards.

1.1 Purpose

(1) The purpose of this Advisory Circular is to provide guidance for persons applying for, and later maintaining or operating an aircraft with, a Special Certificate of Airworthiness – Limited in accordance with the Exemption from subsections 507.06(2) and (3)(b) of the *Canadian Aviation Regulations (CARs)* dated 2017-04-27. The guidance is also relevant to maintenance and operations under Special Certificates of Airworthiness – Limited issued pursuant to prior exemptions or regulatory structures.

(2) This document expands on and complements the content of the Exemption from subsections 507.06(2) and (3)(b) of the CARs and discusses considerations for application for the Special C of A – Limited and the operation, continued airworthiness and maintenance of the aircraft. It should be read together with the conditions attached to the Exemption, and the related Exemption from Section 507.03 of the CARs, which allows a Transport Canada Civil Aviation official to issue the flight authority.

1.2 Applicability

(1) This document applies to Transport Canada Civil Aviation (TCCA) personnel, delegates, and the aviation industry.

1.3 Description of changes

(1) Section 1.1 — Purpose — was amended to indicate that the guidance contained in this Advisory Circular is applicable to all aircraft operating with a Special Certificates of Airworthiness – Limited.

(2) Section 5.3 — Evaluation of Individual Aircraft Criteria — paragraph (h), sub-paragraphs (iii) was amended, and sub-paragraphs (iv) through (viii) were added, to clarify maintenance schedule review and acceptance criteria, in particular the limits to the use of Part I or II of Appendix B to STD 625 of the CARs and Appendix C of STD 625 of the CARs.

(3) Section 5.3 — Evaluation of Individual Aircraft Criteria — paragraph (j), sub-paragraphs (ii) and (iii) were added to clarify the expectations for the review of the flight manual.

(4) Section 7.6 — Parts for Aircraft Operated under a Special Certificate of Airworthiness in the Limited Classification — was amended to introduce and describe exemption reference number NCR-021-2017, which applies to the installation of parts on aircraft operating pursuant to a Special Certificates of Airworthiness – Limited.

(5) Appendix B is new and contains a partial reproduction of exemption NCR-021-2017.

2.0 REFERENCES AND REQUIREMENTS

(1) Reference Documents

It is intended that the following reference materials be used in conjunction with this document:

(a) *Aeronautics Act* (R.S., 1985, c. A-2);

(b) Exemption from subsection 507.06(2) and paragraph 507.06(3)(b) of the *Canadian Aviation Regulations* (CARs). (NCR-099-2016 signed 2017-04-27) – or later revision)

(c) Exemption from subsections 507.03 of the CARs (NCR-114-2016 signed 2017-04-27) – or later revision)

(d) Exemption from paragraph 700.02(2)(a) of the CARs (NCR-021-2016 signed 2016-05-12)

(e) Exemption from subsection 571.07(1), paragraphs 571.08(1)(b) and 571.08(1)(c) and section 571.13 of the CARs and from sections 571.07, 571.08 and 571.13 of Standard 571– Maintenance of the Airworthiness Manual (NCR-021-2017 signed 2017-12-22)

(f) Part I Subpart I of the *Canadian Aviation Regulations* (CARs) – *Interpretation*

(g) Part II Subpart 1 of the CARs – *Identification of Aircraft and Other Aeronautical Products*

(h) Part IV Subpart 3 of the CARs – *Aircraft Maintenance Engineer Licences and Ratings*

(i) Part V Subpart 7 of the CARs – *Flight Authority and Certificate of Noise Compliance*

(j) Part V Subpart 71 of the CARs – *Aircraft Maintenance Requirements*

(k) Part V Subpart 73 of the CARs – *Approved Maintenance Organizations*

(l) Part VI Subpart 2 of the CARs – *Operating and Flight Rules*

(m) Part VI Subpart 5 of the CARs – *Aircraft Requirements*

(n) Part VII Subpart 0 Division I of the CARs – *General*

(o) Part VII Subpart 2 of the CARs – *Aerial Work*

(p) Standard 507 of the CARs, Appendix D – *Standardised Operating Conditions and Limitations*

(q) Chapter 566 of the Airworthiness Manual (AWM) – *Aircraft Maintenance Engineer (AME) Licensing and Training*

(r) Advisory Circular (AC) 571- 024, Issue 01, 2015-02-20 – *Documentation Required for the Installation of Parts onto Canadian Registered Aircraft*

(s) Transport Canada Publication, TP 13094, Revision 3, 2006-06 – *Maintenance Schedule Approval Policy and Procedures Manual*

(t) ICAO Annex 8 - *Airworthiness of Aircraft*

2.1 Cancelled Documents

(1) This document replaces Maintenance Staff Instruction (MSI) 52 Rev 1, issued 2006-03-31, *Issuance of Special Certificate of Airworthiness – Limited*.

(2) By default, it is understood that the publication of a new issue of a document automatically renders any earlier issues of the same document null and void.

2.2 Definitions and Abbreviations

(1) The following **definitions** are used in this document:

(a) **Applicant**: The applicant for the Special Certificate of Airworthiness – Limited can be the registered owner of the aircraft or a representative of the registered owner.

(b) **Applicant exemption**: the Exemption from subsection 507.06(2) and paragraph 507.06(3)(b) of the CARs.

(c) **Aircraft model:** A distinct sub-set or variant of an aircraft type. (e.g: Spitfire Mark V: Type = Spitfire, Model = Mark V.)

(d) **Aircraft type:** means aircraft which are similar in design; a family of aircraft having general characteristics in common.

(e) **Convention**, **ICAO Convention, the:** The Convention on International Civil Aviation, also known as the Chicago Convention, establishing the International Civil Aviation Organization (ICAO).

(f) **Commercially manufactured:** construction or assembly performed by an organisation concerned with or engaged in commerce; includes ex-military aircraft and aircraft built by former Soviet design bureaus and Chinese factories.

(g) **LSA; Light Sport Aircraft:** a class of aircraft defined by the United States Federal Aviation Administration with relaxed certification standards, similar to the European Aviation Safety Agency's 'Certification Specification for Very Light Aircraft' (**CS-VLA**)

(h) **Minister, the Minister:** means the Minister of Transport; in this context generally refers to a delegated official of the Minister; a Civil Aviation Safety Inspector; a Regional Transport Canada Civil Aviation office or centre.

(i) **Negligible**: adjective; not worth considering; insignificant. Of a thing, quantity, etc.; able to be neglected or disregarded; unworthy of notice or regard.

(j) **Official exemption:** the Exemption from subsections 507.03 of the CARs

(k) **Replica, reproduction:** a copy, duplicate or imitation of an aircraft model.

(l) **Restore:** means to return a substantially or nearly complete aircraft to operation by maintenance processes, where that aircraft had been permanently withdrawn from service, declared damaged beyond repair or destroyed.

(m) **Type Certificate:** further to the definition in section 101.01 of the CARs, a type certificate is:

(i) a document issued by the Minister certifying that the type design of an aircraft meets the applicable standards;

(ii) a certificate issued by a foreign civil aviation authority, that is the local equivalent of a document referred to in paragraph (i), and issued by the foreign airworthiness authority having jurisdiction over the type design of an aircraft type; and is;

(iii) a document which indicates or suggests that an aircraft design meets internationally recognized standards; the requirements of ICAO Annex 8.

(n) **Type description:** means the defining design features and specifications of an aircraft type or particularly a model**.**

(2) The following **abbreviations** are used in this document:

(a) **AME:** Aircraft Maintenance Engineer

(b) **AMO:** Approved Maintenance Organisation

(c) **C of A:** Certificate of Airworthiness

(d) **CAD:** Canadian Aviation Document

(e) **CAR** or **CARs:** Canadian Aviation Regulation(s)

(f) **CASI:** Civil Aviation Safety Inspector (Airworthiness or Operations)

(g) **HQ**: Headquarters

(h) **ICAO**: International Civil Aviation Organization

(i) **RCA**: Restricted Certification Authority

(j) **SME**: Subject Matter Expert

(k) **TCCA**: Transport Canada Civil Aviation

3.0 BACKGROUND

(1) With the exception of ultra-light aircraft, all aircraft registered in Canada require a flight authority before they can be flown. There are several kinds of flight authorities, each of which is reflected in the issue of a particular Canadian Aviation Document (CAD). **This AC discusses only the Special Certificate of Airworthiness in the classification of Limited** (Special C of A – Limited).

(2) Since 2002, multiple exemptions from section 507.03 of the CARs were issued. Although there were slight variations in the wording of the exemptions and their provisions, all the exemptions were intended to allow persons to apply for a Special C of A – Limited and operate in Canada non-type certified (including ex-military) aircraft, subject to Transport Canada Civil Aviation evaluation of the aircraft, with maintenance and operating conditions attached to the flight authority.

(3) As of the date of this Advisory Circular, there are only two applicable exemptions. The Applicant exemption (see Definitions) describes aircraft eligibility and the conditions for application. The Official exemption lays out the conditions of issue of the Special C of A – Limited.

(4) Pursuant to CARs paragraph 700.05(3)(a) the Minister may authorize the operation of an aircraft in aerial work under Subpart 702 if a special certificate of airworthiness in the restricted or limited classification has been issued in respect of the aircraft. The issue of the Special C of A – Limited under CARs section 507.03 does not constitute Ministerial approval under CARs section 700.05.

(5) Except where specifically stated to the contrary, aircraft operating with a Special C of A are subject to the same operational and maintenance regulations as aircraft with a 'normal' C of A issued pursuant to section 507.02 of the CARs.

4.0 APPLICATION

(1) An application for a Special Certificate of Airworthiness – Limited should conform to the requirements of the Applicant exemption, and should be submitted to a Civil Aviation Safety Inspector – Airworthiness (CASI - Airworthiness) at the geographically appropriate Transport Canada Centre or Regional Office. The CASI – Airworthiness will evaluate the application against the requirements of the Applicant exemption, and the aircraft itself, primarily by reference to documents provided by the applicant.

(2) When documents supporting the application are submitted in a language other than English or French, a translation in either of those languages shall accompany the documents.

(3) Issuance will be delayed if the documents required, including documents required for verification, are not received. All documentation that is submitted in support of an application must be technically accurate, complete and in compliance with the regulatory requirements of the submission being made. It is beyond the scope of service of TCCA to provide quality assurance services to the industry.

5.0 EVALUATION AGAINST THE CONDITIONS OF ISSUE

(1) To allow an accurate evaluation of the aircraft, applicants for a Special C of A - Limited must provide all the information required by the conditions of the Applicant exemption and by sections 507.06 and 507.07 of the CARs.

5.1 Evaluation of Aircraft Model Eligibility

(1) An aircraft eligible for a Special Certificate of Airworthiness - Limited is an aircraft:

(a) **which has been serially and commercially manufactured to a distinct and definable**

type description;

(i) The aircraft must originally have been manufactured as one of many essentially identical aircraft in a controlled, industrial mass-production process.

(ii) Replica aircraft or reproduction aircraft are not eligible.

(iii) A restored aircraft without a type certificate may be eligible, provided that the original fuselage, wings and empennage are present and can be made safe for flight by overhaul or repair techniques in accordance with the manufacturer's maintenance instructions.

(iv) Amateur-built aircraft are not eligible. An aircraft originally intended to meet the conditions for issue of a Special Certificate of Airworthiness – Amateur-built but which does not meet the major portion requirement may be eligible, if the aircraft was serially and commercially manufactured to a distinct and definable type description.

(v) Aeroplanes which meet the definitions for Basic or Advanced Ultralight Aeroplane may be eligible if the aeroplane was manufactured under a controlled, industrial mass-production process as determined by TCCA. The aeroplane would have to be operated and maintenance performed in accordance with the Special Certificate of Airworthiness - Limited requirements and the CARs.

(b) which is not of a model for which a type certificate has been issued or accepted by the Minister;

(i) Type-certified aircraft, specifically including those which have been improperly maintained or modified, are not eligible.

(ii) If the aircraft model is listed on a type certificate issued or accepted by the Minister pursuant to subpart 521 of the CARs, then the aircraft must meet the corresponding conditions of issue, whether they be those pertaining to a Certificate of Airworthiness referred to in section 507.02 of the CARs, or those pertaining to a Special Certificate of Airworthiness – Restricted referred to in section 507.03 of the CARs. In either case, a Special C of A – Limited under CAR 507.03 or the exemptions will not be considered because the aircraft does not constitute an eligible aircraft. A request for a Special C of A – Limited is not an option.

(iii) A model is a sub-set of a type; often some models of a type are listed on a type certificate while others are not. Type certificates issued by the Minister are always model specific, and may be specific to a serial number range. If the certificate does not include the model of the aircraft in question, or the serial number, the Minister has not issued a type certificate that covers that particular aircraft, and it may be eligible for a Special C of A – Limited.

(iv) The Transport Canada National Aeronautical Product Approval (NAPA) System maintains an online listing called 'NICO' (NAPA Issued Certificates Online). NICO provides access to the most up-to-date information regarding Canadian Type Certificate Data Sheets (TCDS).

(c) which is not of an aircraft model which is in production and for which a foreign airworthiness authority having jurisdiction over the type design of the aircraft has issued a document that is the foreign equivalent of a type certificate.

(i) If the aircraft model has a foreign type certificate **and** the model is in production (i.e: a new aircraft of the model can be ordered from the manufacturer or a dealer) the manufacturer must apply via the foreign type certification authority for a Canadian type certificate.

(ii) When the aircraft is foreign manufactured it is necessary to determine whether the particular model is or is not covered by a foreign type certificate to ICAO Annex 8 standards, and is or is not in production in conformity to that type certificate.

5.2 Reason for Evaluation

(1) The type certification process measures an aircraft design against internationally agreed civil airworthiness standards. An aircraft model with a type certificate has gone through a complex process to establish its compliance with the requirements of the CARs and the comprehensive and detailed airworthiness requirements of Annex 8 to the Convention on International Civil Aviation.

(2) As part of the type certification process operating limitations and maintenance conditions for the type are established by the aircraft's designer and manufacturer in concert with Transport Canada Civil Aviation, National Aircraft Certification. When the type designer has satisfied the Minister that the aircraft meets the required standard and that the aircraft can be maintained and operated so as to meet the airworthiness requirements, a type certificate is issued. All other ICAO nations have similar processes but their airworthiness standards are not exactly the same as Canada's.

(3) An aircraft of a type or model without a type certificate has not been subjected to the type certification process, so its conformity to any airworthiness standards is unknown. Before the Minister can allow the aircraft to fly he or she must be satisfied by the applicant that the aircraft can be maintained properly and operated safely. The Minister has a responsibility not only to the aircraft's occupants, but also to other aircraft and persons or property on the ground.

(4) Throughout the application process, the onus is on the applicant to provide evidence to satisfy the Minister that, subject to appropriate Operating Conditions and limitations, the aircraft can be maintained to the applicable standards and operated without undue risk to its occupants or to other aircraft, persons, animals or property.

(5) The Minister may inspect, or may cause to be inspected, any aircraft for which an application for flight authority has been made.

5.3 Evaluation of Individual Aircraft Eligibility – Conditions of Application

(1) As well as submitting documents that show the aircraft to be an eligible aircraft, the applicant must submit to the Minister documents, translated as necessary into either English or French, which contain to the satisfaction of the Minister the following information:

(a) **A general history and description of the aircraft type and model and the purpose for which the type was designed;**

(i) The history provided in response to this requirement should be general information to "introduce" the aircraft and the type to TCCA. It need not be overly complex or detailed.

(b) **The purpose for which the aircraft is to be used;**

(i) The intended purpose of the aircraft should be described, so that appropriate Operating Conditions can be made part of the Special C of A – Limited and the suitability of the Maintenance Schedule assessed.

(c) **All technical, historical or operational information which may be pertinent or relevant to the review of the application by the Minister, including but not limited to:**

(i) **documentation concerning the model type description as originally manufactured and, regarding the aircraft for which the application is made, any non-conformity to that type description; and**

(A) Documentation regarding nonconformities (e.g: damage repairs, upgrades to engines, modifications) should be as complete as possible, including the reason for the non-conformity, where and when the work was accomplished, by whom and according to what data.

(ii) **information about any life limits established by the manufacturer of the aircraft or by another authoritative body, and the time remaining until any such limit is reached; and**

(A) life limits affecting installed equipment should also be identified

(iii) **any applicable flight or operating limitations.**

(d) **Evidence of the approximate date of manufacture of the aircraft and the name of the manufacturer and, if the manufacturer is an entity, its legal name, along with the manufacturer's model designation and the aircraft serial number;**

(i) If it is not possible to establish the precise day of manufacture the period of manufacture should be established as accurately as possible. The requirement relates to determining the modification status and the type description as built.

(ii) According to Subpart 201 of the CARs, all aircraft must have an Identification plate. If an aircraft does not have an aircraft identification plate the application must include evidence that establishes the identity of the aircraft, and a request for authorization to attach an aircraft identification plate to the aircraft.

(iii) An identification plate does not necessarily mean that the aircraft to which the plate is attached is actually the aircraft described on the plate. In particular, the attachment of a manufacturer's identification plate to a replica or reproduction does not make the aircraft eligible for a Special Cof A – Limited.

(e) **Type and model data, including drawings or other technical data, required to perform the inspection referred to in (k) below and which establish the type description to which the aircraft's conformity will be attested;**

(i) If a type description applicable to the aircraft cannot be identified, then the aircraft is not eligible for a Special C of A – Limited.

(f) **The aircraft Journey Log and other technical records assigned to that aircraft as required by section 605.92 of the CARs, or in the case of an application made in respect of an imported foreign aircraft, the equivalent documents;**

(i) If the technical history of the aircraft is incomplete or inadequate, an extensive inspection will be required to assess the condition of the aircraft and verify its conformity to the type description. This could require the use of various non-destructive inspection techniques, structural disassembly, or other in-depth inspection techniques.

(ii) If the technical history of the engines, propellers, or other components is incomplete or inadequate, the items concerned shall undergo a complete overhaul or be replaced with units with acceptable history.

(iii) Each life limited part shall be accompanied by a technical record containing details of all repairs and modifications carried out during its service life, a record of its accumulated time in flying hours or cycles, as applicable, and the time remaining.

(g) **A current Weight and Balance report, together with an equipment list which includes the weight and moment arm of each item of equipment not forming part of the type description;**

(i) The report must meet the requirements of Standard 571 Appendix C.

(h) **An approved maintenance schedule to which the aircraft shall be maintained pursuant to section 605.86 of the CARs;**

(i) If the aircraft is a pressurized turbine-powered aircraft, airship or large aircraft, or if it is to be operated in any way for hire and reward, the aircraft shall be maintained in accordance with a maintenance schedule submitted to and formally approved by Transport Canada according to the procedures in the Maintenance Schedule Approval Policy and Procedures Manual, TP 13094.

(ii) Maintenance schedules are approved in the same manner as for any other aircraft, in accordance with CARs section 605.86 and section 625.86 of Standard 625. They may be based upon the manufacturer's recommended program, another operator's approved program or a military schedule for the aircraft type, adjusted as necessary for the operating circumstances and installed equipment.

(iii) Owners of small aircraft and balloons which are not operated for hire or reward who choose to comply with Part I or II of Appendix B to STD 625 of the CARs and Appendix C of STD 625 of the CARs, need not submit any documents to the Minister for formal approval. The schedule formed by Appendices B and C is considered to be approved for their use by the Minister. Provided the aircraft maintenance schedule conforms to the requirements in section 625.86 of STD 625 of the CARs, owners need only make an entry in the aircraft technical records that the aircraft is maintained pursuant to Appendix B and C of STD 625 of the CARs, and make that declaration as part of their application.

(iv) However, it remains the owner's responsibility to ensure that the schedule addresses all the features of the aircraft and its equipment. The checklists in Appendices B and C of STD 625 of the CARs are guides for development of aircraft specific checklists, not complete checklists in themselves.

(v) In accordance with subsection 625.86(10) of STD 625 of the CARs, the Minister may direct the owner to include in the maintenance schedule additional requirements applicable to the aircraft.

(vi) The language in section 605.86 of the CARs and section 625.86 of STD 625 of the CARs limits the approval of a schedule formed by Appendices B and C of STD 625 of the CARs to being "applicable to the type of aircraft." Aircraft of a type eligible for the Spec CofA - Limited may be too complex or specialized to allow adaptation of Appendices B and C of STD 625 of the CARs.

(vii) If the aircraft is evaluated per section 5.2 of this AC as being complex or unusual, or the maintenance requirements are not absolutely clear and defined, the owner will be required to submit an application for approval of a proposed maintenance schedule, even if the aircraft is "small" and is not to be operated commercially.

(viii) Condition 1 of the Operating Conditions listed in Appendix A of the Exemption requires that "The aircraft shall be safe for flight, in that it shall be maintained in a safe condition which enables its operation without presenting undue risk to the safety of the aircraft, other aircraft, persons, animals or property." If the Minister is of the opinion that a schedule formed by Appendices B and C is unlikely to adequately ensure the safe operation of the aircraft, the applicant will be required to submit a maintenance schedule proposal for approval in accordance with STD 625 Appendix D.

(i) **Evidence showing that sufficient applicable information, equipment, supplies and spares are available to enable proper maintenance of the aircraft and evidence that persons with sufficient training, knowledge, experience and skill are available to properly perform maintenance on the aircraft;**

(i) Some Special C of A – Limited aircraft are relatively complex or have unusual operational, maintenance or part requirements. In particular, the knowledge, experience and skill to maintain some older construction techniques and complex engines may be essential but hard to find.

(ii) The applicant must show that the maintenance program is supportable.

(j) **An aircraft flight manual or an equivalent document that includes sufficient information to enable safe operation of the aircraft, and any applicable flight or operating limitations;**

(i) The flight manual, operating handbook or equivalent must be appropriate to the aircraft and its intended use; and sufficiently detailed, complete and comprehensible to allow the safe operation of the aircraft.

(ii) The applicant must verify that the operating procedures in the flight manual or equivalent document do not contravene any CAR requirements.

(iii) Where necessary, TCCA may review the flight manual, or equivalent, and require additional procedures or limitations be included.

(iv) Any evaluation of the flight manual or equivalent document (or collection of documents) against these requirements will be performed by Flight Operations SMEs.

(v) Where necessary, the Minister may require additional procedures or limitations to be included in a supplement to the document.

(vi) The manual must include a table of contents, and a list of effective pages or an equivalent must be provided with the original and each revision of the document.

(vii) Directly applicable and authoritative flight manuals for old, foreign or rare aircraft are occasionally not readily available from the manufacturer or an original operator, and it may be necessary to develop a document equivalent to a flight manual from other sources.

(viii) The document will be directly referenced as a condition of the flight authority, to ensure that all flight operations are conducted in accordance with the procedures and limitations specified in the document.

(k) **A written report to the Minister which is compiled and signed by a person who may sign a maintenance release as described in section 571.11 of Standard 571 - Maintenance** (i.e: a qualified person) **and which:**

(i) **describes the results of an annual inspection as itemized in an approved maintenance schedule or an equivalent inspection described in the aircraft maintenance manual, supervised by the qualified person and including disassembly when necessary;**

(ii) **details any maintenance accomplished as part of the inspection;**

(iii) **describes any repairs or modifications that were required and carried out to bring the aircraft to a condition of conformity to the type description and capable of safe operation, including the acceptable data used to accomplish the repair or modification.**

(A) This requirement is for an inspection report signed by an Aircraft Maintenance Engineer (AME) qualified to sign a maintenance release on the aircraft model. The inspection records should show:

(I) that the aircraft, engines, propellers and appliances conform to the type and model data;

(II) that all aircraft systems, engines, propellers, appliances, and controls are functioning properly;

(III) what modifications have been embodied post-manufacture, in accordance with what acceptable data and under what authority;

(IV) what modifications affecting airworthiness or safety, developed and considered mandatory by a competent authority or the manufacturer, have or have not been incorporated;

(V) the extent of corrosion or damage, and the method of repair;

(2) In addition to (1) (a) through(k), **the applicant shall provide any additional documentation requested by the Minister, and any other information that they possess or are aware of that may be pertinent for the Minister's purposes in considering the issuance of a special certificate of airworthiness in the limited classification for the aircraft, in determining the operating conditions to be part of the special certificate of airworthiness in the limited classification, if issued, and in forming an opinion regarding whether or not the aircraft is safe for flight and whether it can be maintained in a safe condition and operated without undue risk to the safety of the aircraft, other aircraft, persons, animals or property;**

(a) The applicant's duty is to provide pertinent information, whether it hurts or helps their application.

(3) The applicant shall submit an application signed by him or herself.

(4) The applicant shall submit an attestation to the aircraft's condition and its conformity with the declared type description and to its safety for flight which is signed by a person authorized to do so pursuant to section 507.10 of the CARs.

(a) Only the holder of a Canadian AME license can sign the attestation to the aircraft's condition and conformity.

(b) Form 24-0043 (latest version) can be used to make application and provide the attestation. If 24-0043 version 1510-05 is used, in the Certification box the AME signing should strike out "approved type designation" and insert "type description".

5.4 Evaluation of Unusual Features

(1) Many Special C of A – Limited aircraft are ex-military aircraft or are aircraft intended to fulfill a very specific purpose (e.g.: fire-fighting, competition aerobatics) and may have features or equipment that are not normal in the civilian or air transport worlds.

(2) In evaluating unusual features, an issuing CASI-Airworthiness will pay particular attention to features that could affect the safe operation of the aircraft. Unusual equipment may be essential to the safe operation or to the intended use of the aircraft. Such equipment may be allowable, subject to an evaluation of the feature or equipment and the imposition of appropriate Operating Conditions. Except in very unusual circumstances, offensive weaponry must be removed.

(3) From an airworthiness perspective features like jettisonable doors or canopies, ejection seats or afterburners are systems and appliances with quantifiable maintenance requirements and operating limitations.

(4) If the equipment is not to be removed or disabled, the applicant must justify the continued use of such equipment, explain how the aircraft with the equipment installed can be safely operated and that the equipment can be maintained to the manufacturer's instructions or equivalent, or (where the manufacturer has not made any recommendations) to recognized industry practices.

(5) The Minister of Transport may cooperate and collaborate with the Department of National Defence when the intended use of the aircraft is to perform aerial work for the military, and the unusual feature is required to perform that work.

6.0 CAR 507.09: OPERATING CONDITIONS

(1) Except where specifically stated to the contrary, aircraft operating with a Special C of A – Limited are subject to the same operational and maintenance regulations as aircraft with a 'normal' C of A issued pursuant to section 507.02 of the CARs. The operating conditions in the exemption and the Operating Conditions attached to a Special C of A – Limited are in addition to CARs requirements.

(2) Section 507.09 of the CARs states that when an aircraft does not meet the requirements for the issue of a flight authority that conforms to Article 31 of the Convention (i.e: a CAR Section 507.02 Certificate of Airworthiness), the Minister shall make the flight authority subject to operating conditions where the conditions are required to ensure the safety of the aircraft, other aircraft, persons, animals or property.

(3) Every Special Certificate of Airworthiness (Form 24-0074) has a page of Operating Conditions (form 24-0090) which becomes a part of the certificate and is attached to and referenced on the Certificate. The Operating Conditions can set out conditions for maintenance as well as flight operations.

(4) Section 605.03 of the CARs requires that an aircraft be operated in accordance with the conditions set out in the flight authority.

(5) The configuration and condition of the aircraft and the probable future use of the aircraft are considered when the operating and maintenance conditions to be attached to the flight authority are being established.

(6) Aircraft shall be maintained and operated in accordance with the Operating Conditions attached to the Special Certificate of Airworthiness - Limited, with the procedures and limitations in the aircraft flight manual or equivalent document, and in compliance with the CARs. The operator must be aware of all the applicable conditions and limitations.

(7) Appendix A lists Operating Conditions which will be attached to each Special C of A – Limited issued in accordance with the exemptions. Where necessary, additional Operating Conditions may be applied, such as those listed in *Standard 507*, Appendix D "Matrix of Aircraft Operating Conditions" or as made necessary because of the characteristics or operating environment of the aircraft.

(8) Operating Conditions cannot authorize deviation from the Operating or Flight rules set out in the CARs.

(9) If the Operating Conditions are changed then the associated Special C of A – Limited must be re-issued to correct the date shown in line 10 of the Special Certificate of Airworthiness.

7.0 MAINTENANCE

(1) Maintenance shall be performed in accordance with Parts V and VI of the CARs, unless the CAR or related standard text of the particular Regulation or Standard specifically excludes aircraft operating under a Special Certificate of Airworthiness – Limited.

7.1 Maintenance Performance

(1) All non-specialized maintenance shall be released by an appropriately rated AME, Canadian Approved Maintenance Organisation (AMO) or an appropriately rated foreign organization accepted under the terms of a Technical Arrangement or Bi-lateral Agreement.

(2) If the aircraft is operated in any way for hire and reward – including pursuant to Part VII of the CARs – maintenance shall be performed and released by an appropriately rated Canadian AMO or by an appropriately rated foreign organization accepted under the terms of a Technical Arrangement or Bi-lateral Agreement.

(3) Where the work is defined as specialized in Schedule II of section 571.04 of the CARs, the work must be carried out by an appropriately rated AMO.

(4) The addition of a Special C of A – Limited aircraft type to an Approved Maintenance Organisation's (AMO's) scope of work is approved in the same manner as for other aircraft. The AMO must have the necessary facilities, equipment and technical information to satisfy the aircraft's maintenance requirements, including the expertise and equipment to accomplish any unusual requirements (e.g.: ejector seat maintenance). The AMO must also have an appropriate –approved when necessary – training program and selection criteria for Aircraft Certification Authority (ACA) holders.

7.2 Maintenance Release

(1) AMEs signing a maintenance release on these aircraft must have the proper knowledge, experience, skill and training to do so.

(2) In order to determine which M rated AME licence is appropriate to sign a maintenance release for work performed on Canadian registered aircraft with a Special C of A – Limited, the aircraft type and model data should be examined to establish whether the build standard of the aircraft is broadly comparable to one listed in the scope of privileges of the M1 or M2 rating. The scope of the privileges found in subsection 566.03(8) of the Airworthiness Manual (AWM) applies and must be consulted to determine which M rating is appropriate to the aeronautical product being maintained. For example, if the aircraft is a small piston engine aeroplane with a maximum take-off weight of less than 5700 kg and the design standard is comparable to those in Chapter 523 of the AWM then the M1 rating would be appropriate, based on the phrase in section 566.03 of the AWM "and equivalent standards".

(3) E and S ratings may sign a maintenance release if the work performed is within their scope of privileges.

(4) AMEs signing a maintenance release for turbine powered helicopters and transport category aircraft must have passed a TCCA approved maintenance type course. If no TCCA approved course is available, a Restricted Certification Authority (RCA) may be required.

(5) Only when necessary, an RCA can be applied for and issued in accordance with subsection 571.11(8) of the CARs. An RCA may be issued if the applicant proves that their training, knowledge and experience is equivalent to that of an AME with a rating on the aeronautical product concerned.

(6) If the expertise necessary to maintain the aircraft is particularly specialized the person or organization(s) qualified to perform and release maintenance on the aircraft may be specifically identified in the Operating Conditions. If the identified person or organization is no longer

available to perform or certify maintenance then the Operating Conditions are not met and the flight authority is invalidated once maintenance is required.

7.3 Modifications and repairs

(1) Modifications and repairs which affect, reasonably could affect or are likely to affect the Operating Conditions attached to the Special C of A – Limited must be reviewed by the Minister **prior to next flight**. The aircraft operator has an obligation to report these changes to Transport Canada Civil Aviation.

(2) Where a person performs a modification or repair which has more than negligible effects on the weight and centre-of-gravity limits, structural strength, performance, power plant operation, flight characteristics or other qualities affecting the aircraft's airworthiness or environmental characteristics, the person performing the modification or repair **must report** it to the Minister in accordance with the procedures and specifications set out in Appendix L - Major Repair or Major Modification Report of *Standard 571*.

(3) The criteria listed in *Part V – Standard 571*, Appendix A, Criteria for the Classification of Major Modifications and Repairs - may be applied as part of determining whether the modification or repair is 'reportable' or not. When in doubt, it should be reported.

(4) Alterations or amendments to the flight manual or equivalent document inevitably affect the Operating Conditions because the flight manual is identified in the Operating Conditions, so flight manual changes must be reviewed by the Minister **prior to next flight**.

(5) Routine or seasonal changes of previously evaluated systems or role equipment are exempt from the reporting requirement, but as usual the removal and installation must be recorded, and the applicable content of the flight manual identified (e.g.: installation and removal of floats, skis or wheels; installation and removal of spray booms or survey equipment).

(6) The Ministerial review will be carried out by a CASI-Airworthiness or a CASI-Operations or both, as required, with the principal object of ensuring that the aircraft is safe for flight. If changes to the Operating Conditions are necessary, the existing Special C of A – Limited and Operating Conditions must be surrendered so that an updated Special C of A – Limited and the Operating Conditions can be amended.

(7) As far as possible, aircraft owners should notify the Minister of a proposed modification or repair beforehand, so that foreseeable difficulties in the acceptance of the changes can be dealt with before the post modification review by TCCA.

7.4 Data for modifications and repairs

(1) Modifications and repairs to Special C of A – Limited aircraft must be carried out to acceptable data in accordance with section 571.06 of the CARs.

(2) Acceptable data is data meeting the description of Acceptable data in section 571.06 of *Standard 571*. Acceptable data must be relevant and appropriate for the deviation from, or the restoration to, the aircraft model description.

(3) It is up to the applicant or certificate holder to clearly demonstrate to TCCA that the data is relevant and appropriate, including where necessary the identity and qualifications of the person or organisation responsible for any engineering analyses.

(4) Sources of acceptable data include:

(a) drawings and methods recommended by the manufacturer of the aircraft, component, or appliance;

(b) Transport Canada advisory documents;

(c) advisory documents issued by foreign airworthiness authorities with whom Canada has entered into airworthiness agreements or memoranda of understanding such as current issues of Advisory Circular 43.13-1 and -2 issued by the FAA, Civil Aviation Information Publications (CAIPs) issued by the Civil Aviation Authority (CAA) of the United Kingdom, or Advisory Circular, Joint (ACJs) issued by the Joint Aviation Authority (JAA) or Acceptable Means of Compliance (AMC) issued by the European Aviation Safety Agency (EASA);

(d) drawings and methods that are relevant and appropriate developed by a competent Engineer.

(5) Repair or modification instructions can be developed by or on behalf of the owner and may be acceptable if they have been subjected to an appropriate level of review or analysis, and compliance with recognized industry standards is demonstrated.

7.5 Modification or Repair Report Contents

(1) TCCA SMEs may evaluate a report primarily for completeness, validity and appropriateness. A report to the Minister describing a modification or repair shall include or address the following, when relevant to the work done:

(a) Drawings and diagrams;

(b) Installation Instructions, including a determination that the modification or repair can be installed in the aeronautical product in conformity with the drawings and instructions;

(c) Maintenance and Repair Manual Supplements or equivalent;

(d) Engineering Reports, such as Structural Analysis, Fault Analysis, Equipment Qualification Test Report, Functional Hazard Assessment, System Safety Analysis, etc;

(e) Documentation demonstrating that the source of electrical energy for all electrical and radio equipment is adequate;

(f) Updated weight and balance report and equipment list;

(g) Supplemental Instructions for Continuing Airworthiness or equivalent maintenance instructions, including determination that the maintenance instructions provide adequate information for continuing airworthiness of the appliance and aircraft;

(h) Aircraft Flight Manual Supplements, or equivalent, including determination that the operating instructions provide adequate information for safe operation of the appliance and aircraft;

(i) Log book copies, if the work has been accomplished;

(j) If the modification or repair could reasonably require a change to the operating conditions, that fact should be emphasised in the report.

(2) When relevant, the following are some areas that should be reflected in the data delivered:

(a) Structural strength (static, strength, hardness, flexibility);

(b) Fatigue life;

(c) Damage tolerance;

(d) Corrosion protection;

(e) Noise attenuation;

(f) Thermal conductivity;

(g) Accessibility for maintenance;

(h) Vibration;

(i) Colour and reflectance (i.e. ultraviolet absorption, thermal radiation);

(j) Process specifications (nitriding, etc.);

(k) Surface finish, aerodynamic smoothness;

(l) Environmental factors, such as heat, cold, reduced pressure at altitude, etc.;

(m) Electrical conductivity (lightning strike protection);

(n) EMI protection;

(o) Flammability protection;

(p) Failure modes and effects analysis;

(q) Effect on existing Operating Conditions, with recommendations.

7.6 Parts for Aircraft Operated under a Special Certificate of Airworthiness in the Limited Classification

(1) Parts that meet the requirements of sections 571.07, 571.08, 571.09 and 571.13 of the CARs may be installed on Special C of A – Limited aircraft.

(2) When parts that meet the CARs requirements are not available, parts may be acceptable for installation if they meet the conditions set out in exemption NCR-021-2017. Exemption NCR-021-2017 sets the conditions to authorize the installation on Spec CofA – Limited aircraft of parts for which the accompanying documentation does not meet the requirements of the CARs.

(3) Whether the part meets the requirements of the CARs or the exemption, the installer has the responsibility to ensure that the new, used, or life-limited part is eligible for installation onto the applicable Special CofA-Limited aircraft or aeronautical product thereof.

(4) The precise language of “certification” and “approval” required by CAR 571 is often not found in the documentation received with military-specific or specialized parts.

(5) Parts installed under the exemption must meet the applicable airworthiness requirements, they must be airworthy. However, parts may not necessarily be approved or certified by an organization approved or recognized under the CARs. The particular and familiar language of certification and approval by an organization may not necessarily be used in the documentation accompanying the part.

(6) The installer must inspect the part and examine its documentation prior to installation. The following are prime considerations when determining eligibility for installation:

a. The part must be the correct part for the application;

b. The part must be apparently safe for flight; correctly configured, free of damage, corrosion, or deterioration;

c. The part’s documentation must

i. be consistent with the physical condition of the part

ii. include evidence of maintenance or manufacture properly performed by a person or organisation qualified to do the work; and

iii. record that the work completed was done according to the technical data for the part.

(7) The exemption does not allow the installation of un-documented parts; those that have no accompanying documentation.

(8) The installation of a part under the terms of the exemption must be clearly recorded in the aircraft technical records

(9) When installing parts that do not meet the certification requirements of Subpart 571 of the CARs on Special CofA-Limited aircraft, please refer to the specific conditions of exemption NCR-021-2017, which is partially reproduced in Appendix B of this AC.

8.0 INFORMATION MANAGEMENT

(1) Not Applicable.

9.0 DOCUMENT HISTORY

(1) AC 507-001 Issue 01, RDIMS 12560095 (E), 12787374 (F), dated 2017-05-31 – Special Certificate of Airworthiness – Limited.

10.0 CONTACT OFFICE

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[Original signed by]

Robert Sincennes
Director, Standards Branch
Transport Canada Civil Aviation

APPENDIX A OPERATING CONDITIONS FOR SPECIAL CERTIFICATE OF AIRWORTHINESS - LIMITED AIRCRAFT

These Operating Conditions are normally applicable to every aircraft having a Special Certificate of Airworthiness- Limited. Although these conditions may be minimally adapted to particular situation, they will be retained on the Operating Conditions Form 24-0090 to the maximum extent possible.

These conditions may be supplemented with any additional Conditions necessary to ensure the safety of the aircraft, other aircraft, persons, animals or property.

(1) The aircraft shall be safe for flight, in that it shall be maintained in a safe condition which enables its operation without presenting undue risk to the safety of the aircraft, other aircraft, persons, animals or property.

(2) The aircraft shall be maintained in accordance with the maintenance requirements set out in Parts V and VI of the CARs.

(3) All maintenance releases shall be signed by:

a) an appropriately rated Aircraft Maintenance Engineer (AME); or

b) the holder of an applicable Restricted Certification Authority (RCA) for the aircraft type, issued in accordance with section 571.11 of the CARs, or

c) the holder of an Aircraft Maintenance Engineer licence who has been authorized to sign by the holder of an Approved Maintenance Organization (AMO) certificate issued under section 573.02 of the CARs and with a rating appropriate to the work performed; or by an appropriately rated foreign organization accepted under the terms of a Technical Arrangement or Bi-lateral Agreement.

(4) All Specialized maintenance shall be performed by an appropriately rated Canadian Approved Maintenance Organization (AMO) or by an appropriately rated foreign organization accepted under the terms of a Technical Arrangement or Bi-lateral Agreement.

(5) If the aircraft is operated in any way for hire and reward, maintenance shall be performed by an appropriately rated Canadian Approved Maintenance Organisation (AMO) or by an appropriately rated foreign organization accepted under the terms of a Technical Arrangement or Bi-lateral Agreement.

(6) If the aircraft is operated in any way for hire and reward, the aircraft shall be maintained in accordance with a Maintenance Schedule submitted to and formally approved by the Minister.

(7) All modifications and repairs shall be performed in accordance with acceptable data as defined in section 571.06 of the Airworthiness Manual.

(8) Where a person performs a modification or repair which has more than negligible effects on the weight and centre-of-gravity limits, structural strength, performance, power plant operation, flight characteristics or other qualities affecting the aircraft's airworthiness or environmental characteristic, the person performing the modification or repair shall report it to the Minister in accordance with the procedures specified in section 571.12 of the Airworthiness Manual.

(9) When the aircraft is modified or repaired in a way that could reasonably require a change to the Operating Conditions which form part of the special certificate of airworthiness in the limited classification, the owner or operator shall ensure that a modification or repair report is submitted to and reviewed by the Minister prior to the next flight of the aircraft.

(10) The aircraft shall be operated in accordance with the operating rules in the Canadian Aviation Regulations, and with the procedures and limitations specified in the aircraft flight manual (AFM) or equivalent document listed in the Operating Conditions attached to the Special Certificate of Airworthiness – Limited, and with any procedures and limitations listed in the Operating Conditions.

(11) When alterations or amendments are made to the flight manual or equivalent document specified in the Operating Conditions which are part of the special certificate of airworthiness in the limited classification, the owner or operator of the aircraft shall ensure that these changes are submitted to and reviewed by the Minister prior to the next flight of the aircraft.

(12) In the case where the aircraft has been approved by the Minister for the carriage of passengers, the following, as applicable, shall be met:

(a) the aircraft shall have a placard which contains a statement displayed either so that it is readily legible from each passenger station or on the side of the fuselage, stating in English and French that passengers fly in this aircraft at their own risk and that the aircraft does not comply with internationally recognized standards;

(b) in the case where the placard is displayed on the side of the fuselage, it shall be in a position that is readily legible to persons entering the aircraft, in letters at least 10 mm (3/8 in.) high and of a colour contrasting with the background; and

(c) all passengers shall be briefed before each flight on

(i) the meaning and implications of the placard;

(ii) where applicable, which seats are not to be occupied during take-off and landing; and

(iii) emergency procedures, including the operation of the seats, seat belts, and exits.

Note: In addition to the standard passenger briefing required by CARs Section 602.89, passengers must be briefed on the meaning of the placard. A prospective passenger may not be of the aviation community and needs to know what risks they are accepting in flying in the aircraft. They must be told that a Special Certificate of Airworthiness – Limited aircraft may not have been designed or constructed to internationally known and established standards, unlike an aircraft in normal passenger service. The briefing should also address any unusual features of the aircraft and how to operate the seats, seat belts and exits. This placard may also be required in view of the pilot of a single seat aircraft, if the intended use of the aircraft includes operation by a group of pilots, for instance members of a gliding club.

APPENDIX B INSTALLATION OF PARTS PURSUANT TO EXEMPTION NCR-021-2017

(1) Refer to the TCCA Exemptions Search Page http://wwwapps2.tc.gc.ca/saf-sec-sur/2/exemptions/e_s.aspx?lang=eng to find the full and current text of exemption NCR-021-217

(13) The following is a partial reproduction of Exemption NCR-021-2017:

EXEMPTION FROM SUBSECTION 571.07(1), PARAGRAPHS 571.08(1)(b) AND 571.08(1)(c) AND SECTION 571.13 OF THE *CANADIAN AVIATION REGULATIONS* AND FROM SECTIONS 571.07, 571.08 AND 571.13 OF STANDARD 571– MAINTENANCE OF THE *AIRWORTHINESS MANUAL*

CONDITIONS

This exemption is subject to the following conditions:

1. No part shall be installed other than:

    a) one which is specified in the type design of the aircraft or aeronautical product on which it is to be installed, or

    b) one which is identified as an alternative part according to acceptable data as defined in section 571.06 of the CARs.

2. If a part is described by its manufacturer, or the manufacturer of the aircraft on which the part is to be installed, as having a service life which may not be exceeded, it must also have the available technical history to show that the time in service established for that part has not been exceeded prior to the installation of that part.

3. The person authorized to sign a maintenance release shall inspect the part and verify its accompanying documentation to ensure that the part:

    a) is the correct part for the application,

    b) corresponds with its documentation,

    c) shows no apparent damage, corrosion or deterioration, and

    d) is in a condition for safe operation.

4. No person authorized to sign a maintenance release shall install a new part unless the accompanying documentation includes a statement from the manufacturer of the part or from the manufacturer of the aircraft that the part conforms to the applicable type design.

5. No person authorized to sign a maintenance release shall install a used part unless the accompanying documentation includes a statement that the part was maintained by a qualified organization using the most recent methods, techniques, practices, parts, materials, tools, equipment and test apparatuses that are:

a) specified for the part in the most recent maintenance manual or maintenance instructions developed by the manufacturer of the aircraft on which the part is to be installed or, in the case when the most recent instructions are not available, specified by the manufacturer of that part, or

b) equivalent to those specified by the manufacturer of the aircraft on which the part is to be installed or specified by the manufacturer of that part.

6. No person authorized to sign a maintenance release shall install a part obtained from an aeronautical product that was damaged or permanently withdrawn from service, unless the part:

a) can be traced to the manufacturer; and

b) is inspected in accordance with the applicable maintenance manual or maintenance instructions and, if the part has been repaired or modified, it can be determined by the person authorized to sign a maintenance release that the work was performed in accordance with acceptable data as defined in section 571.06 of the CARs.

7. Installation and removal of the part shall be recorded in the technical records of the aircraft, making reference to this exemption.