

6/02/05

SUBJ: **RECIPROCAL ACCEPTANCE OF REPAIR DESIGN DATA APPROVALS
BETWEEN FAA AND TCCA**

1. PURPOSE. This order instructs Federal Aviation Administration (FAA) certification staffs how to implement the October 2003 Memorandum of Understanding (MOU) between us and Transport Canada Civil Aviation (TCCA) for the design approval of aeronautical product repairs. It guides the reciprocal acceptance of repair design data approved by the FAA, the TCCA, and our respective designees/delegates. The repair design data is for any Canadian or U.S.-registered aircraft, or aeronautical products installed on those aircraft.

2. DISTRIBUTION. Distribute this order to the branch level in Washington headquarters, the branch level of Aircraft Certification Directorates; Flight Standards District Offices; all Aircraft Certification Offices; the Aircraft Certification Branch at the FAA Academy; and Flight Standards International Aviation Field Offices.

3. WHAT THIS ORDER PERMITS AND APPLIES TO.

a. This order and the MOU cover only the reciprocal acceptance of repair design data approvals. The order does not cover manufacturing/production, return to service, installation acceptability, or export airworthiness approvals.

b. This order and the MOU apply only to Canadian or U.S.-registered aircraft, aircraft engines and propellers type certificated in or have been accepted by either Canada or the United States. The order includes appliances, components, and any parts installed on those type certificated aeronautical products.

c. Only properly authorized FAA or TCCA personnel and designees or delegates may approve repair design data. Neither this order nor the MOU supersede any specific designated engineering representative (DER) or delegate limitations.

d. Acceptance of repair design data approved per Title 14 of the Code of Federal Regulations (14 CFR), Special Federal Aviation Regulation (SFAR) 36 and/or FAA field approvals (using FAA Form 337, Major Repair and Alteration) will be handled according to the Bilateral Aviation Safety Agreement Implementation Procedures for Airworthiness (BASA IPA), Section III, Paragraph 3.3.3.

e. For repair data accepted under the provisions of the MOU, the FAA, TCCA, or a designee or delegate, as appropriate, may approve deviations to the approved manufacturer repair data through the appropriate form.

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f. You can accept any repair design data developed and documented per this order regardless of the date of approval. Treat submitted repair design data that is outside the criteria of the MOU according to the requirements of FAA Order 8110.4B, Type Certification, Section 2-15 c, which states the repair data requires a certain level of review and approval. In some cases, direct authority review and approval is required. See FAA Order 8300.10, Airworthiness Inspectors Handbook, as well.

4. BACKGROUND.

a. Since 1929, the United States and Canada have had an airworthiness bilateral relationship. Canada was the first country with which we had a reciprocal agreement to accept maintenance, preventive maintenance, and alteration of aeronautical products performed by non-U.S. certificated persons when performed in accordance with FAA requirements.

b. In 1994, a joint FAA/TCCA working group developed provisions for reciprocal acceptance of repair design approvals issued by either airworthiness authority for incorporation on the other country's aircraft. The design approvals could then be considered approved to perform repairs. Our intent was to use, as much as possible, the provisions of that bilateral agreement, and avoid duplication of review.

c. The FAA and TCCA originally signed an MOU for repair data in May 1998. The MOU outlined specific situations where repair design approvals issued by either authority, or their designees/delegates, were accepted by the other authority prior to installation on either U.S. or Canadian state of design aircraft or other aeronautical products.

d. Based on satisfactory experience gained from the repair procedures established under the Repair Design Approval MOU, and the continued close cooperation and support in regulatory and procedural development enjoyed by the two authorities, the MOU was revised in October 2003. It now includes:

(1) Acceptance of repair design data on products from states of design other than the United States or Canada, and

(2) Direct acceptance of designee/delegate design approvals for repair design data without further showing. Each authority, however, retains the right to review any data approved by the other authority.

5. ACCEPTANCE PROCEDURES.

a. **U.S. Acceptance Of Canadian Repair Design Data.** We consider the following Canadian repair design data approvals "technical data approved by the [FAA] Administrator" for performing a repair on a U.S.-registered aircraft or on other aeronautical products intended for installation on a U.S.-registered aircraft:

(1) For incorporation on Canadian and U.S. state of design products, we consider repair design data approvals issued by TCCA and their delegates “technical data approved by the [FAA] Administrator” under the terms of the MOU.

(2) For incorporation on state of design aeronautical products other than U.S. or Canadian (“third country”), we consider TCCA or TCCA delegate repair design approvals “technical data approved by the [FAA] Administrator” under the terms of the MOU, if the product is registered in the United States or used on U.S.-registered aircraft. See figure 1, Canada Repair Design Approval Documentation, for a list of representative TCCA repair design approval documents issued by TCCA or TCCA delegates.

(3) Taking into account the established similarity between Canadian Aviation Regulations (CARs) and our 14 CFR regulations, TCCA or their delegate may, for the design data approvals on U.S.-registered aircraft or any component installed on it, make statements of compliance in reference to either Canadian CAR or 14 CFR, or both. When the corresponding CAR may not cover the requirements per 14 CFR, TCCA or their delegate may be asked to make a statement to confirm compliance with those 14 CFR requirements.

b. Canadian Acceptance Of U.S. Repair Design Data. TCCA considers the following U.S. repair design data approvals “TCCA approved data” for incorporation on a Canadian registered aircraft, or on other aeronautical products intended for installation on Canadian registered aircraft.

(1) For incorporation on Canadian and U.S. state of design products, TCCA considers repair design data approvals issued by an FAA aircraft certification office (ACO) or engine certification office (ECO) or a duly authorized FAA designee “TCCA approved data” under the terms of the MOU.

(2) For incorporation on state of design aeronautical products other than U.S. or Canadian (“third country”), TCCA considers FAA aircraft certification office (ACO) or engine certification office (ECO) or duly authorized FAA designee repair design data approvals “TCCA approved data” under the terms of the MOU, if the product is registered in Canada or used on Canadian registered aircraft. See figure 2, U.S. Repair Design Approval Documentation, for a list of representative FAA repair design approval documents issued by us or our designees.

(3) Taking into account the established similarity between 14 CFR and CARs, the FAA or our designee may, for the design data approvals on Canadian registered aircraft or any component installed on it, make statements of compliance in reference to either 14 CFR or Canadian CAR, or both. Where the corresponding 14 CFR may not cover the requirements per the CAR, the FAA or our designee may be asked to make a statement to confirm compliance with those CARs.

c. Repair Design Data Approval for Aeronautical Products Type Certificated By Either Canada or the United States.

(1) Aeronautical Products That Are Type Certificated in the United States Only:

(a) Occasionally, situations may necessitate TCCA approval of repair design data for a U.S.-registered aircraft or an aeronautical product installed on a U.S.-registered aircraft, irrespective of its state of design, that has not been type certificated in Canada. In that case, the TCCA or their delegate may establish the applicable certification basis for the repair standard by comparative verification of CARs with the product certification basis per the corresponding 14 CFR standards.

(b) Furthermore, it is essential that the person issuing a repair design certificate (RDC) for an aeronautical product that is not type certificated in Canada but type certificated in the United States, is familiar with the same or similar products and has the necessary knowledge of the applicable design standards for that aeronautical product.

(c) For example:

1. TCCA or their delegate may issue an RDC for structural repair data approval on a U.S. TC holder's model aircraft, which is not type certificated in Canada. They may base the repair data on familiarity and knowledge of similar "Fail Safe structure design standards" applicable to that holder's other similar aircraft models already certificated in Canada.

2. Similar criteria may be applied for the issuance of RDC for repair of components that may be installed on U.S. type certificated aircraft not yet issued a Canadian TC, if that the familiarity and knowledge base exists at the component level.

(2) Aeronautical Products That Are Type Certificated in Canada Only:

(a) There may be situations where Transport Canada will ask us to approve repair design data on their behalf for a Canadian registered aircraft or an aeronautical product installed on a Canadian registered aircraft, irrespective of its state of design, that has not been type certificated in the United States. In this situation, the approval will be handled on a case-by-case basis between TCCA and us under the technical assistance provisions in the BASA IPA agreement. Transport Canada remains fully responsible for any such approvals.

d. Minor Repair Design Data.

(1) The FAA will accept minor repair data found acceptable under TCCA procedures, where the repairs are intended for incorporation on any U.S.-registered aircraft, or on any other aeronautical products intended for installation on U.S.-registered aircraft.

(2) TCCA will accept minor repair data found acceptable under FAA procedures, where the repairs are intended for incorporation on any Canadian registered aircraft, or on any other aeronautical products intended for installation on Canadian registered aircraft.

(3) In some cases, TCCA and our definition and classification of repairs (minor and major) might differ, which may result in a different classification of repair under each regulatory system. Therefore, it is imperative that the person performing the repair determines the

appropriate classification for the repair for the following as applicable:

(a) For repairs intended for incorporation on U.S.-registered aircraft or other products for use on U.S.-registered aircraft, the classification is based on 14 CFR, part 1 and part 43, Appendix A.

(b) For repairs intended for incorporation on a Canadian registered aircraft or other products, the classification is based on CARS Part 1 and airworthiness manual (AWM) Chapter 571, Appendix A.

6. REPAIRS TO ENGINES, PROPELLERS AND OTHER COMPONENTS, APPLIANCES, OR BOTH.

a. Repairs Incorporated On Engines And Propellers. The state of design of the engine or propeller determines the applicable MOU acceptance procedure (outlined in paragraph 4), *not* the state of design of the aircraft on which the engine or propeller may be installed.

b. Repairs To Aeronautical Products Lacking A Type Certificate Or TSO Approval. These products (or components) are approved as part of the aircraft, engine, or propeller type certificate or under a subsequent supplemental type certificate. MOU acceptance procedures are determined by the state of design for the type certified product (the aircraft, aircraft engine, or propeller) on which the component is installed. Acceptance procedures are not determined by the state of design of the repaired (non-type certified or non technical standard ordered) product itself.

7. CANADIAN REPAIR DESIGN APPROVALS---TYPICAL DOCUMENTATION.

a. Figure 1 below shows the typical types of approval documentation issued by either TCCA or TCCA delegates to indicate approval of the data for repair designs on aeronautical products.

b. If you are uncertain of the format or acceptability of the Canadian repair design documentation provided, consult with the New York ACO.

Figure 1. Canadian Repair Design Approval Documentation

Organization Approving Repair Design (TCCA or TCCA Delegate)	Repair Design Approval Documentation		Comments
	Typical	Possible	
TCCA	➤ Repair design certificate (RDC)	➤ Transport Canada approval letter (for approvals issued before 1991)	May be based on a recommendation for approval from a TCCA delegate. Between 1 January 1991 and 1 December 1998, RDCs were called repair design approvals (RDAs).
Type Certificate Holder ➤ Design approval organization (DAO)	➤ Service bulletin, or ➤ Engineering order (or equivalent), or ➤ Revisions to instructions for continued airworthiness (TCCA approved portions of SRM, and so forth)	➤ RDC	Repair design data approvals issued by the type certificate holder (and its delegates) are considered "FAA approved" data under 14 CFR § 21.29.
Non-Type Certificate Holder: ➤ DAO ➤ Individual consultant / engineer, design approval representative (DAR) ➤ Airline / air carrier operator, ➤ Airworthiness engineering organization (AEO)	➤ RDC	➤ TCCA AE-100 (statement of compliance form) – issued for approvals <i>before 1991 only</i>	

c. An RDC may be issued to record the approval of repair design data for repeated incorporation during the repair or overhaul of aeronautical products or components thereof, identified by part numbers or other identification unique to these components.

d. If the approved repair design data affects or generates instructions for continued airworthiness, that information will be included in the documentation.

8. U.S. REPAIR DESIGN APPROVALS---TYPICAL DOCUMENTATION.

a. Figure 2 shows the typical types of approval documentation issued by either us or our designees to indicate approval of the data for repair designs on aeronautical products.

b. If a Canadian inspector is uncertain of the format or acceptability of the U.S. repair design or the documentation provided, they consult with TCCA Aircraft Certification, Regulatory Standards Division or any TCCA regional aircraft certification office.

Figure 2. U.S. Repair Design Approval Documentation

Organization Approving Repair Design (FAA or FAA designee/delegate)	Repair Design Approval Documentation		Comments
	Typical	Possible	
FAA	➤ FAA approval letter		May be based on a recommendation for approval from an FAA designee.
Type Certificate Holder ➤ Company designated engineering representative (DER) Delegation option authorization (DOA)	➤ FAA Form 8110-3, or ➤ Service bulletin, or ➤ Engineering order (or equivalent), or ➤ Instructions for continued airworthiness (FAA approved portions of SRM, and so forth)	➤ FAA Form 8100-9	Repair design approvals issued by the type certificate holder (and its designees/delegates) are considered "TCCA approved" data under CAR Part V, Subpart 71 and AWM section 571.06.
Non-Type Certificate Holder: ➤ Individual consultant / engineer (DER) or ➤ Repair stations / air carriers / operators / manufacturers (designated alteration station (DAS))	➤ FAA Form 8110-3	➤ Service bulletin ➤ FAA Form 8100-9	

c. Unlike Canadian RDC showing approval for repair design data on a single document, there may be more than one FAA Form 8110-3, Statement of Compliance with the Federal Aviation Regulations, issued for a single repair design data approval. If there are multiple forms issued for a single repair, each form will cross-reference the other applicable forms.

d. If the approved repair design data affects or generates instructions for continued airworthiness, that information should be included in the approval documentation.

9. RELATED PUBLICATIONS.

a. FAA regulations (Title 14, Code of Federal Regulations (14 CFR)):

- (1) 14 CFR part 1, Definitions and Abbreviations
- (2) 14 CFR part 21, Certification Procedures for Products and Parts.
- (3) 14 CFR § 43.17, Maintenance, preventive maintenance, and alterations performed on U.S. aeronautical products by certain Canadian persons, and 14 CFR part 43 Appendix A, Major Alterations, Major Repairs, and Preventive Maintenance.
- (4) 14 CFR Special Federal Aviation Regulation (SFAR) 36, Development of Major Repair Data.

b. FAA orders and guidance material:

- (1) Order 8110.4, Type Certification
- (2) Order 8300.10, Airworthiness Inspector's Handbook.

c. TCCA regulations, Canadian Aviation Regulations (CARs):

- (1) Part V, Subpart 11, Approval of the Type Design of an Aeronautical Product.
- (2) Part V, Subpart 13, Approval of Modification and Repair Designs.
- (3) Part V, Subpart 71, Aircraft Maintenance Requirements.

d. TCCA Airworthiness Manual Chapters (AWM):

- (1) Chapter 511, Approval of the Type Design of an Aeronautical Product.
- (2) Chapter 513, Approval of Modification and Repair Designs.
- (3) Chapter 571, Maintenance.

e. *BASA – Agreement between the Government of Canada and the Government of the United States of America for Promotion of Aviation Safety*, dated June 12, 2000.

f. *Implementation Procedures (IPA) for Design Approval, Production Activities, Export Airworthiness Approval, Post Design Approval Activities, and Technical Assistance between Authorities under the Agreement between the Government of the United States of America and the Government of Canada for Promotion of Aviation Safety*, dated October 18, 2000.

g. Schedule of Implementation Procedures, U.S./Canada Bilateral Airworthiness Agreement dated May 18, 1988. Chapter 4, Maintenance, Alteration, or Modification of Aeronautical Products.

h. *Memorandum of Understanding in Accordance with Section V of the U.S./Canada Bilateral Aviation Safety Agreement Implementation Procedures for Design Approval, Production Activities, Export Airworthiness Approval, Post Design Approval Activities, and Technical Assistance Between Transport Canada Civil Aviation and Federal Aviation Administration for Design Approval of Repairs to Aeronautical Products*, dated October 7, 2003.

10. REQUESTS FOR INFORMATION. For more information, or to ask questions about this order, contact the Aircraft Certification Service, Aircraft Engineering Division, Policy and Procedures Branch, AIR-110, at telephone (202) 267-9588.

11. SUGGESTIONS FOR IMPROVEMENT. If you find deficiencies, need clarification, or want to suggest improvements to this order, fill out and send FAA form 1320-19, Directives Feedback Information (available at <http://feds.faa.gov/>), to the Aircraft Certification Service, Planning and Financial Resources Management Branch, AIR-530, Attention: Directives Management Officer. You can also send a copy to the Aircraft Engineering Division, AIR-100, Attention: Comments to Order 8110.53. If you urgently need an interpretation contact AIR-110 at 202-267-9588. Always use Form 1320-19 to follow up each verbal conversation.

12. RECORDS MANAGEMENT. See FAA Orders 0000.1, FAA Standard Subject Classification System, 1350.14, Records Management; and 1350.15, Records, Organization, Transfer, and Destruction Standards, or see your office Records Management Officer/Directives Management Officer for guidance on retaining or disposing records.

David W. Hempe
Manager, Aircraft Engineering Division
Aircraft Certification Service

APPENDIX 1. ACRONYMS AND DEFINITIONS

1. ACRONYMS. (Parentheses identify which authority uses the acronym.)

ACO: Aircraft certification office (FAA)
AEO: Airworthiness engineering organization (TCCA)
DAO: Design approval organization (TCCA)
DAR: Design approval representative (TCCA)
DAS: Designated alteration station (FAA)
DER: Designated engineering representative (FAA)
DOA: Delegation option authorization (FAA)
ECO: Engine certification office (FAA)
FAA: Federal Aviation Administration
FSDO: Flight standards district office (FAA)
MOU: Memorandum of understanding
RDA: Repair design approval (TCCA)
RDC: Repair design certificate (TCCA)
SFAR: Special Federal Aviation Regulation (FAA)
TCCA: Transport Canada Civil Aviation

2. DEFINITIONS.

Aeronautical product: Any civil aircraft, or aircraft engine, propeller, appliance, material, part, or component to be installed thereon.

State of design: State having jurisdiction over the organization responsible for the type design. For example, the United States is the state of design for aeronautical products approved under type certificates issued to U.S. companies, such as Boeing, Raytheon, Cessna, and so forth. Canada is the state of design for aeronautical products approved under type certificates issued to Canadian companies, such as Bombardier, Pratt and Whitney Canada, and so forth.

State of registry: State on whose registry the aircraft is entered and is responsible for the airworthiness of the aircraft.

Third country product: Aeronautical product under the jurisdiction of a state other than the United States or Canada and either registered in the United States or Canada or used on U.S. or Canadian registered aircraft. For example, an Airbus aircraft (France is state of design) registered in the U.S. or Canada, or Rolls Royce engines (UK is state of design) used on a U.S. or Canadian registered aircraft; and so forth.

Repair design certificate: Records the approval of repair design data to restore to airworthy condition the original design characteristics of an aeronautical product, identified by serial number, that had sustained damage or deterioration beyond acceptable tolerance limits.