

Evaluating Alterations

A Requirement of the US – Canadian MIP

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AIRCRAFT ELECTRONICS
ASSOCIATION

MAINTENANCE IMPLEMENTATION PROCEDURES

Under the Agreement
Between the Government of the
United States of America
and the
Government of Canada
for Promotion of Aviation Safety

RECIPROCAL ACCEPTANCE OF FINDINGS OF COMPLIANCE

- **CHAPTER 2.**

- **2.0. GENERAL.**

- **a.** The FAA and the TCCA agree, subject to the terms of this MIP to accept each other's inspections and monitoring for findings of compliance with their respective requirements as the basis for the acceptance of eligible repair stations/AMOs/AMEs and FAA-certificated airmen.

RECIPROCAL ACCEPTANCE OF FINDINGS OF COMPLIANCE

- **CHAPTER 2. 2.0. GENERAL.**

- **b.** Maintenance and alterations performed on a civil aeronautical product under the regulatory control of the TCCA may be accomplished and that product returned to service by an FAA-certificated repair station or FAA-certificated airman that is properly trained, qualified, and authorized to perform that work when the product is located in the United States.

RECIPROCAL ACCEPTANCE OF FINDINGS OF COMPLIANCE

- **CHAPTER 2.**

- **2.0. GENERAL.**

- **c.** Maintenance and alterations or modifications performed on a civil aeronautical product under the regulatory control of the FAA may be accomplished and that product returned to service by a TCCA AMO or AME that has been certificated by the TCCA and is properly trained, qualified, and authorized to perform the work when the product is located in Canada.

ELIGIBILITY REQUIREMENTS

- **2.1.**
 - **a.** The FAA agrees that an AMO or AME that has been approved or rated for maintenance and alteration or modification work by the TCCA in accordance with CARs 571 and 573, and complies with the special conditions set forth in chapter 3, paragraph 3.1, will be eligible to perform maintenance, preventive maintenance, and alteration work on aeronautical products under the regulatory authority of the FAA.

SPECIAL CONDITIONS

3.0. SPECIAL CONDITIONS APPLICABLE TO ANY PERSON REQUIRED TO COMPLY WITH THIS MIP.

- a. Only FAA or TCCA-approved or acceptable parts or components as applicable are used to perform maintenance, preventive maintenance, or alterations to United States or Canadian aeronautical products.

SPECIAL CONDITIONS

3.0. SPECIAL CONDITIONS APPLICABLE TO ANY PERSON REQUIRED TO COMPLY WITH THIS MIP.

- **b.** Maintenance, preventive maintenance, and alterations must be performed in accordance with current ICA or manufacturers' recommendations that will return the aeronautical product to its original or properly altered condition.

SPECIAL CONDITIONS

3.0. SPECIAL CONDITIONS APPLICABLE TO ANY PERSON REQUIRED TO COMPLY WITH THIS MIP.

- **c.** Maintenance or alterations must be certified by an approval for return to service or a maintenance release that meets the requirements of 14 CFR part 43, sections 43.9 and 43.11 or CAR 571.10, as applicable, for aircraft and the use of the FAA Form 8130–3 or TCCA Authorized Release Certificate for aircraft components, and any other information required by the owner or operator, as appropriate. For the purposes of compliance with this MIP, the requirements of 14 CFR part 43, sections 43.9, 43.11, and CAR 571.10 are considered equivalent.

SPECIAL CONDITIONS

3.0. SPECIAL CONDITIONS APPLICABLE TO ANY PERSON REQUIRED TO COMPLY WITH THIS MIP.

- **d.** Where maintenance or alterations are performed by a maintenance organization, the maintenance organization must hold a valid FAA repair station certificate or Canadian AMO certificate issued in accordance with the most current 14 CFR part 145 issued as a final rule, or applicable CAR.

SPECIAL CONDITIONS

3.0. SPECIAL CONDITIONS APPLICABLE TO ANY PERSON REQUIRED TO COMPLY WITH THIS MIP.

- e. Major repairs and alterations on U.S. aeronautical products must be recorded on FAA Form 337 and a copy provided to the owner/operator of the aircraft and a copy sent to the FAA by mail or electronic means within 48 hours of the aircraft's return to service.

SPECIAL CONDITIONS

3.0. SPECIAL CONDITIONS APPLICABLE TO ANY PERSON REQUIRED TO COMPLY WITH THIS MIP.

- f. Major repairs or alterations performed on a Canadian aeronautical product must be recorded on FAA Form 337 or in accordance with Standard 571, appendix L, and sent to the TCCA within 48 hours by mail or electronic means.

SPECIAL CONDITIONS

3.0. SPECIAL CONDITIONS APPLICABLE TO ANY PERSON REQUIRED TO COMPLY WITH THIS MIP.

- **g.** Maintenance, preventive maintenance, or alterations performed on an aeronautical product under the control of a 14 CFR part 121 or 135 air carrier must be performed in accordance with that air carrier's manual.

SPECIAL CONDITIONS

3.0. SPECIAL CONDITIONS APPLICABLE TO ANY PERSON REQUIRED TO COMPLY WITH THIS MIP.

- **h.** Any serious defects or unairworthy conditions on civil aeronautical products must be reported to the FAA or TCCA, as applicable.

SPECIAL CONDITIONS

3.0. SPECIAL CONDITIONS APPLICABLE TO ANY PERSON REQUIRED TO COMPLY WITH THIS MIP.

- i. AMOs should submit reports to the FAA under the FAA Suspected Unapproved Parts (SUP) program detailed in Advisory Circular (AC) 21-29, Detecting and Reporting Suspected Unapproved Parts, in respect of any such parts found on a U.S. aeronautical product, in accordance with AC 21-29. SUP information should be reported on FAA Form 8120-11, Suspected Unapproved Parts Notification.

SPECIAL CONDITIONS

3.0. SPECIAL CONDITIONS APPLICABLE TO ANY PERSON REQUIRED TO COMPLY WITH THIS MIP.

- j. FAA-approved repair stations should submit reports of any suspected unapproved parts found on Canadian aeronautical products to the air operator concerned, for reporting to Transport Canada in accordance with the operator's approved procedures.

3.5. FAA SPECIAL CONDITIONS APPLICABLE TO CANADIAN-BASED AMOS AND AMES.

- **3.5.1.** The FAA agrees that a TCCA AMO or AME may perform maintenance, preventive maintenance, and alterations (with exception of annual inspections) on an aeronautical product under the regulatory control of the FAA and approve that product for return to service if the AMO or AME complies with all of the following special conditions.
 - **a.** The AMO or AME must hold a valid AMO certificate or AME license issued by the TCCA in compliance with the most current CARs, and be rated for the maintenance, preventive maintenance, or alterations to be performed.

3.5. FAA SPECIAL CONDITIONS APPLICABLE TO CANADIAN-BASED AMOS AND AMES.

- **3.5.1.**

- **b.** The AMO employee or AME responsible for supervision or final inspection and return to service of a civil aeronautical product must be able to read, write, and understand English.

3.5. FAA SPECIAL CONDITIONS APPLICABLE TO CANADIAN-BASED AMOS AND AMES.

- **3.5.1.**

- **c.** All repairs and alterations as defined by FAA requirements must be accomplished in accordance with data approved by or acceptable to the FAA.

3.5. FAA SPECIAL CONDITIONS APPLICABLE TO CANADIAN-BASED AMOS AND AMES.

- **3.5.1.**

- **d.** In the case of work performed by an AMO, the work will not exceed the scope of the ratings and limitations contained in the CAR 573 certificate and the MPM.

3.5. FAA SPECIAL CONDITIONS APPLICABLE TO CANADIAN-BASED AMOS AND AMES.

- **3.5.1.**

- **e.** In the case of work performed and certified by an AME, the work will not exceed the AME's privileges specified in CAR 571.

3.5. FAA SPECIAL CONDITIONS APPLICABLE TO CANADIAN-BASED AMOS AND AMES.

- **3.5.1.**

- **f.** In the case of a major repair or alteration, the AME who approves the product for return to service shall not have been involved in the performance of the work.

3.5. FAA SPECIAL CONDITIONS APPLICABLE TO CANADIAN-BASED AMOS AND AMES.

- **3.5.1.**

- **g.** In the case of maintenance or alterations performed on aircraft operated under 14 CFR part 121 or 135 air carriers in commercial operations, the work shall be performed by an AMO that meets the additional requirements specified in paragraphs 3.6 and 3.7.

3.6. AMOs PERFORMING MAINTENANCE, PREVENTIVE MAINTENANCE, AND ALTERATIONS FOR 14 CFR PART 121 OR 135 AIR CARRIERS IN COMMERCIAL OPERATIONS.

PART 121 OR 135 AIR CARRIERS

- **3.6.1.** In addition to the other requirements specified in this MIP, an AMO performing maintenance, preventive maintenance, or alterations for 14 CFR part 121 or 135 operators shall have:
 - **a.** Procedures to ensure compliance with 14 CFR part 121 or 135 air carriers' manuals.

PART 121 OR 135 AIR CARRIERS

- **3.6.1.**
 - **b.** Procedures to show separation of quality control functions from other maintenance functions, including the separation of maintenance from inspection on those items identified as required inspection items as defined by the 14 CFR part 121, or 135 air carrier/customer, in accordance with the requirements of 14 CFR part 121, subpart L, or 135, subpart J.
 - (Transport Canada Maintenance Staff Instruction (MSI) 58 specifies that the AMO must assign specified Aircraft Certification Authority (ACA) holders, who were not involved in the work, to perform an independent inspection on required inspection items, and sign a separate release).

PART 121 OR 135 AIR CARRIERS

- **3.6.1.**
 - **c.** Procedures to ensure compliance with the air operator's work order or contract, including FAA airworthiness directives mandatory requirements contained in 14 CFR part 121 or 135 air carriers' manuals;

- **3.6.1.**
 - **d.** Procedures for approval for release or approval for return to service for aircraft, and use of FAA Form 8130-3 or TCCA Authorized Release Certificate for components and all information required to be made or kept by the owner or operator, as appropriate. Such required information must be in English.

- **3.6.1.**
 - **e.** Procedures to ensure that all current airworthiness directives published by the FAA that are applicable to the work being performed are available to maintenance personnel.

- **3.6.1.**
 - **f.** Procedures to ensure that only FAA-approved or acceptable parts or components are used in the performance of preventive maintenance, or alterations to U.S. aeronautical products.

- **3.6.1.**
 - **g.** Procedures to ensure that major repairs and major alterations as defined in 14 CFR part 43, appendix A, are accomplished in accordance with data approved by the FAA.
 - This includes a repair or alteration that changes the operating limitations and/or flight data; the revised limitations/data must be set forth in the aircraft flight manual.
 - The major repair or alterations must be recorded on FAA Form 337 or the air carrier equivalent form.

- **3.6.1.**
 - **h.** Procedures for reporting to the FAA any serious defects or unairworthy conditions on civil aeronautical products.

- **3.6.1.**
 - i. Procedures to ensure that all current airworthiness directives published by the FAA that are applicable to the work being performed are available to maintenance personnel.

- **3.6.1.**
 - **j.** Procedures to ensure compliance with the manufacturer's maintenance manuals or ICA, and handling deviations.

- **3.6.1.**
 - **k.** A training program that ensures each employee assigned to perform maintenance, preventive maintenance, or alterations is capable of performing the assigned task. Records of such training must be retained for a minimum of 2 years.

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- **3.6.2.** In addition to the other requirements specified in this MIP, an AMO performing maintenance, preventive maintenance, or alterations on aircraft operating in commercial air service under 14 CFR part 121 or 135 must include in its manual a supplement that describes the procedures specified in par. 3.6.1, or explains where in the MPM those procedures are described, and which is approved by the TCCA.

3.7. TO HOLD AN AMO AUTHORIZATION TO MAINTAIN U.S. AERONAUTICAL PRODUCTS.

- **a.** The AMO must continue to comply with CAR 571, 573, and these special conditions.

3.7. TO HOLD AN AMO AUTHORIZATION TO MAINTAIN U.S. AERONAUTICAL PRODUCTS.

- **b.** The AMO shall allow the FAA, or the TCCA on behalf of the FAA, to inspect it for continued compliance with CAR 571, 573 and these special conditions and to make its AMO certificate, MPM, and the supplement required by these special conditions available for inspection.

3.7. TO HOLD AN AMO AUTHORIZATION TO MAINTAIN U.S. AERONAUTICAL PRODUCTS.

- **c.** Investigations and enforcement by the FAA may be undertaken in accordance with FAA rules and directives.

3.7. TO HOLD AN AMO AUTHORIZATION TO MAINTAIN U.S. AERONAUTICAL PRODUCTS.

- **d.** The AMO must cooperate with any investigation or enforcement action.



Evaluating Alterations

FAA Standards on Major/Minor Alterations


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Confused About Alterations?

Are you measuring major alterations by the FAA standard or by the TCCA standard?

Are you “over-regulating” yourself?

What does a Major Alteration require?

What does a Major Alteration require?

- Approved data
- Recording of a FAA Form 337
- Log book entry

What does a Minor alteration require?

What does a Minor alteration require?

- Acceptable data
- Log book entry

Alteration criteria in Part 43...

- Addresses
 - Performance
 - Recordkeeping
- Does Not Address
 - Approval

How is a Major change to the type design approved?

How is a Major change to the type design approved?

- Application for an STC
 - STC (Approved data)
 - Recorded on FAA Form 337
 - Log book entry

How is a Minor change in type design approved?

How is a Minor change in type design approved?

- In a method acceptable to the Administrator.

How is a Minor change in type design approved?

- In a method acceptable to the Administrator.
 - For a major alteration (less than an STC):
 - Approved data
 - FAA Form 337
 - Log book entry
 - For a minor alteration:
 - Acceptable data
 - Log book entry

Who determines Major/Minor?

Who determines Major/Minor?

The Installer!

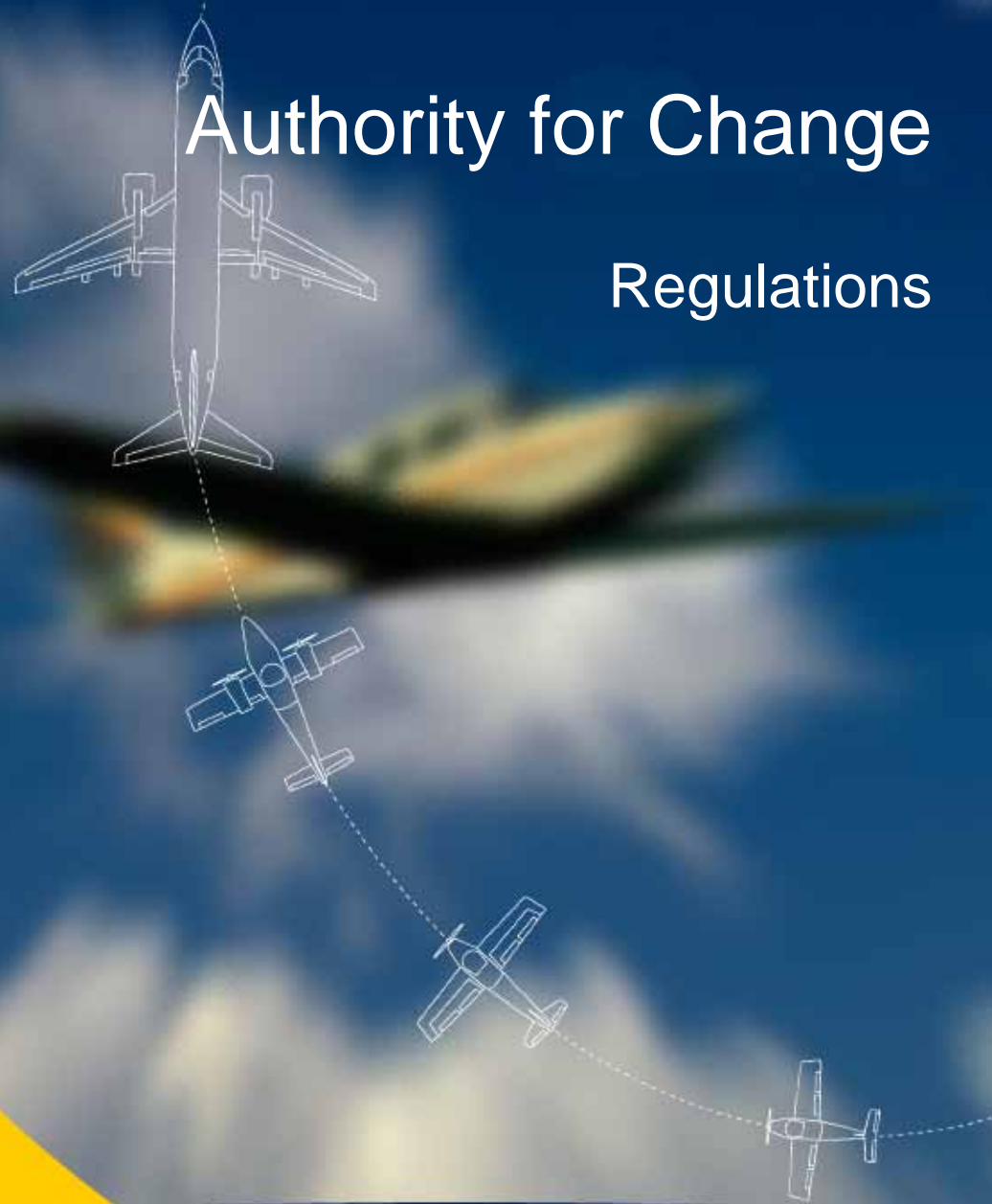
What is the FAA's role?

What is the FAA's role?

- To oversee
- To ensure compliance with the regulations.
- To insure the work is performed to appropriate standards.

Authority for Change

Regulations



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§ 21.113 Requirement of supplemental type certificate.

- Any person who alters a product by introducing a major change in type design, not great enough to require a new application for a type certificate under § 21.19, shall apply to the Administrator for a supplemental type certificate,

Approval of Alterations

§ 21.95 Approval of minor changes in type design.

Minor changes in a type design may be approved under a method acceptable to the Administrator ...

14 Code of Federal Regulations (CFR)

- Section 43.17 Maintenance, preventive maintenance, and alterations performed on U.S. aeronautical products by certain Canadian persons.

14 CFR Section 43.17

- Definitions. For purposes of this section:
 - Aeronautical product means any civil aircraft or airframe, aircraft engine, propeller, appliance, component, or part to be installed thereon.
 - Canadian aeronautical product means any aeronautical product under airworthiness regulation by Transport Canada Civil Aviation.
 - U.S. aeronautical product means any aeronautical product under airworthiness regulation by the FAA.

14 CFR Section 43.17

- (c) Authorized persons.
 - (1) A person holding a valid Transport Canada Civil Aviation Maintenance Engineer license and appropriate ratings may, with respect to a U.S.-registered aircraft located in Canada, perform maintenance, preventive maintenance, and alterations in accordance with the requirements of paragraph (d) of this section and approve the affected aircraft for return to service in accordance with the requirements of paragraph (e) of this section.

14 CFR Section 43.17

- (c) Authorized persons.
 - (2) A Transport Canada Civil Aviation Approved Maintenance Organization (AMO) holding appropriate ratings may, with respect to a U.S.-registered aircraft or other U.S. aeronautical products located in Canada, perform maintenance, preventive maintenance, and alterations in accordance with the requirements of paragraph (d) of this section and approve the affected products for return to service in accordance with the requirements of paragraph (e) of this section.

14 CFR Section 43.17

- (d) Performance requirements. A person authorized in paragraph (c) of this section may perform maintenance (including any inspection required by § 91.409 of this chapter, except an annual inspection), preventive maintenance, and alterations, provided--
 - (1) The person performing the work is authorized by Transport Canada Civil Aviation to perform the same type of work with respect to Canadian aeronautical products;

14 CFR Section 43.17

- (d) Performance requirements.
 - (2) The maintenance, preventive maintenance, or alteration is performed in accordance with a Bilateral Aviation Safety Agreement between the United States and Canada and associated Maintenance Implementation Procedures that provide a level of safety equivalent to that provided by the provisions of this chapter;

14 CFR Section 43.17

- (d) Performance requirements.
 - (3) The maintenance, preventive maintenance, or alteration is performed such that the affected product complies with the applicable requirements of part 36 of this chapter; and

14 CFR Section 43.17

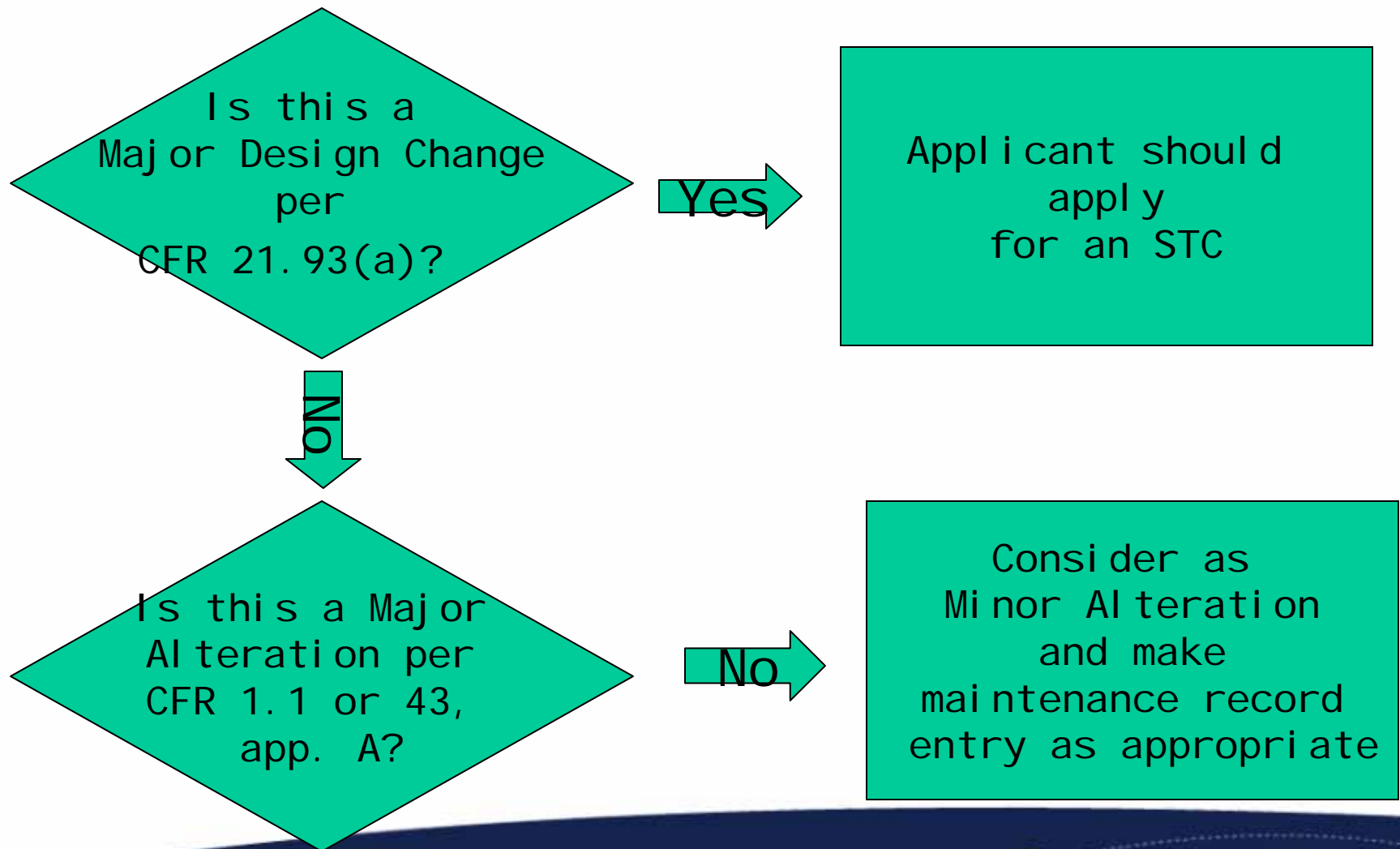
- (d) Performance requirements.
 - (4) The maintenance, preventive maintenance, or alteration is recorded in accordance with a Bilateral Aviation Safety Agreement between the United States and Canada and associated Maintenance Implementation Procedures that provide a level of safety equivalent to that provided by the provisions of this chapter.

Determining Major/Minor



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FLOW CHART FOR FIELD APPROVAL PROCESS



All alteration are evaluated to the same standard

Major Change in Type Design

(§ 21.95)

- Does the proposed alteration have an appreciable effect on the:
 - [certificated] weight (of the type certificated product)?
 - [certificated] balance (of the type certificated product)?

Yes to any: This is a major change to type design and requires an application for a supplemental or amended type certificate.

No to all: Continue.

Weight and Balance

(Order 8110.46)
(Rescinded)

- Typical alterations that may appreciably affect Weight and Balance include, but are not limited to:
 - (1) Changes that increase the certificated maximum weight limits (increases in the maximum gross weight, maximum take-off, or landing weights).
 - (2) Changes in the certificated center of gravity range limits (for example decreasing the forward limit or increasing the aft limit).
 - (3) Changes that increase the operational limits (maximum speed limits such as V_A , V_{FE} , V_{NE} ; minimum speed limitations such as stall speed; increases in service ceiling, and so forth).

Major Change in Type Design

(§ 21.95)

- Does the proposed alteration have an appreciable effect on the:
 - structural strength (of the type certificated product)?

Yes to any: This is a major change to type design and requires an application for a supplemental or amended type certificate.

No to all: Continue.

Structural Strength

(Order 8110.46
(Rescinded))

- Typical alterations that may appreciably affect Structural Strength include:
 - (1) Changes to primary structures (structure that carries flight, ground, or pressure loads as defined in AC 25.571-1, Damage Tolerance and Fatigue Evaluation of Structure). *
 - (2) Substituting an engine, propeller, rotor or airframe primary structural materials (such as replacing a reciprocating engine with a turbine engine or increasing horsepower output by 10% or more).

Major Change in Type Design

(§ 21.95)

- Does the proposed alteration have an appreciable effect on the:
 - reliability (of the type certificated product)?

Yes to any: This is a major change to type design and requires an application for a supplemental or amended type certificate.

No to all: Continue.

Reliability

(Order 8110.46
(Rescinded))

- Typical alterations that may appreciably affect Reliability include:
 - (1) Changes to manifolding, air induction systems or air intake doors, engine cowling or baffle that affect the flow of engine cooling air and carburetor/fire ignition heat rises.
 - (2) Changing the basic engine or propeller design, controls, and operating limitations.
 - (3) Changes that include engine/propeller adjustments and settings limitations that affect power output.
 - (4) Modifications to approved avionics equipment that affect reliability or airworthiness, such as changes:
 - Deviating from the design environment performance.
 - Deviating from the component manufacturer's operating limitations.
 - To software.
 - To wire shielding that may affect High Intensity Radiated Fields (HIRF) and Electromagnetic Interference (EMI).

Major Change in Type Design

(§ 21.95)

- Does the proposed alteration have an appreciable effect on the:
 - operational characteristics (of the type certificated product)?

Yes to any: This is a major change to type design and requires an application for a supplemental or amended type certificate.

No to all: Continue.

Operational Characteristics

(Order 8110.46)
(Rescinded)

- Typical alterations that may appreciably affect Operational Characteristics include:
 - (1) Changes or relocation of systems (including hydraulic, oil, and fuel systems) and equipment that affect structural integrity, flight, ground handling characteristics, or noise/acoustics of the aircraft.
 - (2) Changes that alter the movable control surfaces that affect the dynamic and/or static balance, alter the aerodynamic contour of moveable control surfaces, or change the weight distribution.
 - (3) Changes in control surface travel, control system mechanical advantage, location of control system component parts, or direction of motion.
 - (4) Changes in basic dimensions or external aerodynamic contour/configuration of the aircraft such as wing and tail planform or incidence angles, canopy, cowlings, contour or radii, the location of wing and tail fairings, winglets, wing lift struts, tiptanks, windows, and doors.

Operational Characteristics

(Order 8110.46)
(Rescinded)

- Typical alterations that may appreciably affect Operational Characteristics include:
 - (5) Installation of structure and /or appliances to the exterior (that is, night sun beacon, camera, spray/dusting equipment) on rotorcraft only.
 - (6) Changes to flight-critical electrical/electronic systems such as electronic flight controls or the engine control system, Full Authority Digital Engine Control (FADEC), fly by wire, and so forth.
 - (7) Changes that affect aircraft performance, drag, engine power, revolutions per minute (RPM), or exhaust muffler.
 - (8) Changes affecting noise or flight characteristics.
 - (9) Rotorcraft items, such as external search lights, skis, baskets, and so forth.

Major Change in Type Design

(§ 21.95)

- Does the proposed alteration have an appreciable effect on the:
 - characteristics affecting the airworthiness (of the type certificated product)?

Yes to any: This is a major change to type design and requires an application for a supplemental or amended type certificate.

No to all: Continue.

Airworthiness

(Order 8110.46)
(Rescinded)

- Typical alterations that may appreciably affect the airworthiness include:
 - Changes to systems that affect aircraft airworthiness, such as:
 - Relocation of exterior fuel vents or battery vents.
 - Crew or passenger liquid oxygen (LOX) or on-board generating systems.
 - External critical access doors, Auxiliary Power Unit (APU) ram air, nacelle blowout doors, fuel drain.
 - Changes to oil, hydraulic, pneumatic, and fuel lines or systems that affect their operation or installation and flammability requirements, such as:
 - New types of hoses and/or hose fittings that may not meet installation requirements such as flow rate and flammability requirements.
 - Changes to fuel dump valves.
 - New oil/fuel/hydraulic line materials or sealants.
 - Change to, or addition of, permanent fuel tanks or fuel system components.



Airworthiness

(Order 8110.46)
(Rescinded)

- Typical alterations that may appreciably affect the airworthiness include:
 - Changes in fixed fire extinguisher or detector systems that affect system effectiveness or reliability, such as:
 - Relocation of discharge nozzles, detector units, or fixed fire extinguisher bottles.
 - Using new or different detector components.
 - Decreasing the amount or changing the type of extinguishing agents.
 - Changes that include the substitution of engine/APU/propeller/airframe materials that affect structural integrity, lightning protection, flight characteristics, or noise/acoustics.
 - Any other complex special process that, if not properly performed, has a significant adverse effect on the integrity of the product.

Major Alterations (§ 1.1)

- Is it possible that the proposed alteration might have an appreciable effect on the:
 - certificated weight?
 - certificated balance?
 - structural strength?
 - reliability?
 - flight characteristics?
 - characteristics affecting the airworthiness?

Yes or maybe to any: The proposed change is a major alteration requiring approved data, recording of a FAA Form 377 and a log book entry.

Confirmed no to all: Continue.

Major Alterations

(43xA.(a)(1) Major airframe alterations)

- Airframe major alterations.
 - Alterations of the following parts and alterations of the following types, when not listed in the aircraft specifications issue by the FAA, are airframe major alterations:

Major Alterations

(43xA.(a)(1) Major airframe alterations)

- Does the proposed alteration alter the wings?
- Does the proposed alteration alter the tail surfaces?
- Does the proposed alteration alter the fuselage?
- Does the proposed alteration alter the engine mounts?
- Does the proposed alteration alter the control system?
- Does the proposed alteration alter the landing gear?

Yes to any: The proposed alteration is a major alteration.

No to all: Continue.



Major Alterations

(43xA.(a)(1) Major airframe alterations)

- Does the proposed alteration alter the hull or floats?
- Does the proposed alteration alter the elements of an airframe including spars, ribs, fittings, shock absorbers, bracing, cowling, fairings, and balance weights?
- Does the proposed alteration alter the hydraulic and electrical actuating system of components?
- Does the proposed alteration alter the rotor blades?

Yes to any: The proposed alteration is a major alteration.

No to all: Continue.

Major Alterations

(43xA.(a)(1) Major airframe alterations)

- Does the proposed alteration change the empty weight or empty balance which result in an increase in the maximum certificated weight or center of gravity limits of the aircraft?
- Does the proposed alteration change the basic design of the fuel, oil, cooling, heating, cabin pressurization, electrical, hydraulic, deicing, or exhaust systems.
- Does the proposed alteration change the wing or any fixed or movable control surfaces which affect flutter and vibration characteristics?

Yes to any: The proposed alteration is a major alteration.

No to all: Continue.



Major Alterations

- Repeat Procedures:
 - Part 43 Appendix A, Para (a) 2
 - Powerplant major alterations
 - Part 43 Appendix A, Para (a) 3
 - Propeller major alterations

Major Alterations

(43xA.(a)(4) Major appliance alterations)

- Changes in the basic design of radio communication and navigation equipment approved under type certification or a Technical Standard Order that have an effect on frequency stability, noise level, sensitivity, selectivity, distortion, spurious radiation, AVC characteristics, or ability to meet environmental test conditions and other changes that have an effect on the performance of the equipment are major alterations.

Major Alterations

(43xA.(a)(4) Major appliance alterations)

- Alterations of the basic design not made in accordance with recommendations of the appliance manufacturer or in accordance with an FAA Airworthiness Directive are appliance major alterations.

Yes to any: The proposed alteration is a major alteration.

No to all: Continue

Major Alterations

- Has the Administrator published an Advisory Circular which declares the alteration major?
 - An AC which allows a follow on installation?
- Has the Administrator published FAA inspector guidance that declares the major?
 - HBAW, FSAW, FAA Order?

Yes to any: The proposed alteration is treated as a major alteration.

No to all: The proposed change in a minor alteration allowing acceptable data and a log book entry.

Documentation

- Record your analysis.
- Document your findings.
 - Attach your analysis and finding to the work order.
- Enter your conclusion in the log book.
 - Make an entry in the log book declaring the alteration either major or minor.
- Follow procedures for appropriate level of alteration.

Questions?