

10/30/02

SUBJ: AIRWORTHINESS INSPECTOR'S HANDBOOK

- 1. PURPOSE.** This change transmits new and revised portions of the handbook.
- 2. DISTRIBUTION.** This Change is distributed to all addresses on special distribution list ZFS-830. An electronic message will be disseminated to Flight Standards employees (largely the airworthiness aviation safety inspectors, whom this change affects) to indicate when this change is electronically published, which chapters are affected, and which bulletins are incorporated and will provide the Universal Resource Locator (URL): <http://www.faa.gov/avr/afs/8300/index.cfm>. The Change will be electronically published on the appropriate FAA Intranet site.
- 3. EXPLANATION OF CHANGES.** This change to the 8300.10 handbook uses change bars to indicate new or revised material. Significant areas of new direction, guidance, and policy included in this change are as indicated. Thirty-six chapters were originally coordinated as Change 15. Due to the Change being so large, the Division will publish the chapters in smaller segments with the next future changes. This Change includes only 6 chapters listed below.
 - a.** Editorial updates are incorporated and Federal Aviation Regulation (FAR) references are changed to 14 CFR.
 - b.** Four new chapters are included with new guidance under the maintenance implementation procedures (MIP) of a Bilateral Aviation Safety Agreement (BASA):
 - (1) Volume 2, Chapter 170,** International Field Office Initial Certification of Repair Stations under the Maintenance Implementation Procedures of a Bilateral Aviation Safety Agreement;
 - (2) Volume 2, Chapter 171,** International Field Office Responsibilities for Renewal/Amendment Procedures for Repair Stations under the Maintenance Implementation Procedures of a Bilateral Aviation Safety Agreement;
 - (3) Volume 2, Chapter 172,** International Field Office Process for Turnover of FAA-Certificated Foreign Repair Stations to a National Aviation Authority under a BASA/MIP; and
 - (4) Volume 3, Chapter 99,** International Field Office Procedures for Participating in Foreign National Aviation Authorities Internal Quality Audits and Sample Surveillance of Repair Stations under a BASA/MIP.

c. **Volume 2, Chapter 1**, Perform Field Approval of Major Repairs and Major Alterations, underwent a complete rewrite and contain handbook bulletins (HBAW):

(1) **HBAW 95-01**, Approval of Major/Minor Data by Transport Canada Aviation or Canadian Designated Airworthiness Representative;

(2) **HBAW 97-01A**, Revised Approval Criteria for Tundra Tire Installations;

(3) **HBAW 98-18**, Checklist for Instructions for Continued Airworthiness for Major Alterations Approved Under the Field Approval Process; and

(4) **HBAW 01-MSD**, Manufacturer's Service Documentation.

d. **Volume 2, Chapter 167**, Process the Application of a Repair Station for Acceptance under JAR 145, contains editorial changes.

4. DISPOSITION OF TRANSMITTAL. This transmittal is to be **RETAINED AND FILED IN THE BACK OF THIS HANDBOOK** until it is superseded by a new basic order.

PAGE CONTROL CHART

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/s/

James J. Ballough
Director, Flight Standards Service

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CHAPTER 1. PERFORM FIELD APPROVAL OF MAJOR REPAIRS AND MAJOR ALTERATIONS

SECTION 1. BACKGROUND

1. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES.

- A. *Maintenance*: 3414, 3416, 3446
- B. *Avionics*: 5414, 5416, 5446
- C. *JTA*: 1.3.19
- D. *ATOS Elements*: 1.2.2

3. OBJECTIVE. This chapter provides guidance in determining the category of a repair or alteration and ensuring that the aircraft, engine, or accessory can be returned to service in accordance with (IAW) the field approval process, regardless of the rules under which the aircraft is operated.

5. GENERAL.

A. *Definitions*:

(1) *Major/Minor Repair/Alterations*. See 14 CFR part 1.

(2) *Major/Minor Type Design Changes*. See §§ 21.93 and 21.113.

(3) *Substantiating*. To support and verify with proof or evidence.

(4) *Field Approval*. One of the means used by the Federal Aviation Administration (FAA) to approve technical data used to accomplish a major repair or major alteration. It is an approval, by the Administrator, through an authorized aviation safety inspector (ASI) (airworthiness), of technical data and/or installations used to accomplish a major repair or major alteration. Technical data so approved becomes “technical data approved by the Administrator.” This type of approval may be accomplished for one-time approval.

(5) *Acceptable Data*. The drawings and specifications necessary to define the configuration and design features of the repair or alteration. These drawings and specifications include information on weight, balance, operating limitations, flight characteristics, dimensions, materials, and processes

that are necessary to define the repair or alteration. The following are examples of acceptable data and may be used as a basis for developing approved data to substantiate repairs or alterations:

(a) Manufacturer’s manuals are acceptable data that may be used as a basis for developing approved data for major alterations.

(b) FAA Form 337, Major Repair and Alteration, when the specified data has been previously approved as a one-time alteration or repair, is acceptable data that may be used as a basis for developing approved data for subsequent alterations.

(c) Data contained in a Structural Repair Manual (SRM) that is not FAA-approved; Advisory Circular (AC) 43.13-2A, Acceptable Methods, Techniques, and Practices—Aircraft Alterations; and AC 43.13-1B, Acceptable Methods, Techniques, and Practices—Aircraft Inspection and Repair, as revised.

(6) *Approved Data*. Substantiating and descriptive technical data, used to make a major repair or alteration, that is approved by the Administrator. The following list, although not inclusive, contains sources of approved data:

- Type Certificate Data Sheets (TCDS)
- Supplemental Type Certificate (STC) data, provided it specifically applies to the item being repaired/alterated. Such data may be used in whole or part as included within the design data associated with the STC
- Appliance manufacturer’s manuals or instructions, unless specifically not approved by the Administrator, are approved for major repairs
- Airworthiness Directives (AD)
- FAA Form 337, which has been used to approve multiple identical aircraft, by the original modifier

NOTE: ASIs no longer approve data for use on multiple aircraft.

- U.S. Civil Airworthiness Authority (CAA) Form 337, dated before 10/1/55
- FAA-approved portions of SRMs
- Designated Engineering Representative (DER)-approved data, only when approval is authorized under his/her specific delegation
- Designated Alteration Station (DAS) FAA-approved data, when the major alteration is performed specific to the authorization granted
- Data in the form of Appliance Type Approval issued by the Minister of Transport Canada for those parts or appliances for which there is no current Technical Standard Order (TSO) available. The installation manual provided with the appliance includes the Transport Canada Civil Aviation (TCCA) certificate as well as the date of issuance and an environmental qualification statement (See paragraph 15)
- Repair data, under Special Federal Aviation Regulations (SFAR) 36
- Foreign bulletins, for use on U.S.-certificated foreign aircraft, when approved by the foreign authority
- Data describing an article or appliance used in an alteration which is FAA-approved under a TSO. As such, the conditions and tests required for TSO approval of an article are minimum performance standards. The article may be installed only if further evaluation by the operator (applicant) documents an acceptable installation which may be approved by the Administrator
- Data describing a part or appliance used in an alteration which is FAA-approved under a Parts Manufacturer Approval (PMA). (An STC may be required to obtain a PMA as a means of assessing airworthiness and/or performance of the part.)

NOTE: Installation eligibility for subsequent installation or reinstallation of such part or appliance in a Type Certificated (TC) aircraft,

other than the aircraft for which airworthiness was originally demonstrated, is acceptable, provided the part or appliance meets its performance requirements and is environmentally and operationally compatible for installation. The operator/applicant must provide evidence of previously approved installation by TC, STC, or field approval on FAA Form 337 that will serve as a basis for “follow-on” field approval.

- Any FAA-approved Service Bulletins (SB) and letters or similar documents, including DER approvals
- Foreign bulletins as applied to use on a U.S.-certificated product made by a foreign manufacturer located within a country with whom a Bilateral Agreement (BA) is in place and by letter of specific authorization issued by the foreign civil air authority
- Other data approved by the Administrator
- AC 43.13-1B, for FAA-approved major repairs on non-pressurized areas of aircraft only when the user determines that it is:

(a) Appropriate to the product being repaired;

(b) Directly applicable to the repair being made; and

(c) Not contrary to the airframe, engine, propeller, product, or appliance manufacturer’s data.

(7) *Approval for Return to Service.* The approval given by an appropriately rated person that enables an aircraft to be returned to service.

(8) *Return to Service.* The action of making an aircraft operational, after an appropriately rated person grants approval.

(9) *Meet the Minimum Standards Established in a TSO.* Means that the equipment need not have TSO approval, but only meet requirements set by the TSO.

NOTE: See Order 8300.10 volume 1, chapter 1 for other definitions.

B. ASI Qualifications and Responsibilities. The ASI must be trained and authorized in the methods, techniques, and materials involved in the major repair/major alteration.

(1) The ASI must determine if, by granting a field approval, the affected product can be expected to result in safe operation and conform to regulatory requirements.

(2) If the ASI is not thoroughly familiar with all aspects of the alteration or repair, or has any doubt about the expected airworthiness, an airworthiness determination must not be given. He/she will seek assistance to the extent necessary to enable him/her to reach a clear decision before approval or denial is given.

(3) Flight Standards District Offices (FSDO) must ensure that the lack of an ASI's experience or qualifications doesn't unnecessarily stop the approval process. The lack of ASI qualifications doesn't mean the FSDOs should deny a field approval and tell the applicant that they need an STC. The ASI can send the applicant to a DER or Aircraft Certification Office (ACO) or anyone else who may be authorized to sign a field approval, such as another ASI from another FSDO.

C. DER. If the applicant employs an appropriately authorized DER to provide supporting data for a field approval, then the ASI should coordinate activities with both the applicant and the DER. If the data addresses the entire alteration, and all of the requirements of part 21 and part 43 are met, there is no requirement for any further approval by the ASI. The DER may be limited to technical areas that do not fully cover the entire project. For specific DER authorization and limitations, reference FAA Order 8110.37, Designated Engineering Representative Guidance Handbook, FAA Order 8110.45, Use of Data Approved by Designated Engineering Representatives to Support Major Alterations, and AC 183.29-1, Designated Engineering Representatives Directory, as revised. The FAA must evaluate any area not covered by this approval.

NOTE: FAA Orders 8110.37 and 8110.45 address field approvals by reinforcing that although DERs are not authorized to approve alterations/repairs via a block 3 entry in FAA Form 337, DER data may still be used as the basis for an alteration in support of FAA Form 337. It also recommends inclusion of a note in the body of FAA Form 8110-3, Statement of Compliance with the Federal Aviation Regulations, stating, "This approval is for engineering design data only and is not an installation approval." DER data is not a field

approval, but is approved data which, like other approved data, can be used to perform major alterations or repairs without further approval.

D. Part 121 Air Carriers. Aircraft operated by 14 CFR part 121 air carriers, although not specifically prohibited from receiving field approvals, are not generally eligible for them. Field approvals may be performed on part 121 aircraft in rare instances for extenuating circumstances and each request must be evaluated on a case-by-case basis. If an ASI from a FSDO/certificate management office (CMO)/international field office (IFO) believes that a field approval request is appropriate, the FSDO/CMO/IFO will obtain concurrence from the Flight Standards Division regional office prior to performing the approval.

(1) The Flight Standards Division regional office will maintain a database of part 121 field approvals that it concurred or non-concurred with. This database will contain:

- A unique control number for each instance
- The date of concurrence or non-concurrence
- The name of the ASI assigned to field approve the alteration/repair
- The FSDO/CMO/IFO's routing symbol
- An indication of concurrence or non-concurrence
- The air carrier identifier
- The make/model of the aircraft
- A brief description of the requested approval

(2) Annually, the Flight Standards Division regional office will forward a report of the above information to AFS-300 by October 15.

7. REPLACEMENT AND MODIFICATIONS PARTS. Parts or appliances developed, manufactured, and shipped before the dates established by the policy published in the Federal Register on February 27, 1995, 60 FR 10480/10482, and installed or intended for installation in type-certificated aircraft by TC, STC, or field approval process, may continue to be considered approved upon removal from the aircraft in which it was originally approved, for the purpose of repair or resale including installation in a different TC'd aircraft. The intent of this paragraph is to protect the used value of previously installed parts

that were installed and approved through the field approval process prior to the Federal Register Notice.

9. ALTERATIONS NOT ELIGIBLE FOR FIELD APPROVAL. The following list describes typical projects that are not to be field approved. This list is not all-inclusive and each project should be examined on a case-by-case basis. Although these major alterations are not eligible for field approvals, they may still be processed in accordance with Part 43. The ASI should work with the applicant to seek other forms of data approval (i.e., DER approval) to return the aircraft back to service. If sufficient DER data has been obtained and the approval process applicable to the alteration is complete, the product can then be inspected for conformity and approved for return to service without further approval by an ASI signature in block 3. The person performing the alteration, not the DER, is then responsible for conforming and approving the installation. ASIs should review FAA Order 8110.46, Major Alterations that Require Supplemental Type Certificates, while working with the applicant for those major alterations that are beyond the scope of this section and require ACO approval. FAA Order 8110.46 defines those major alterations that are considered major changes to type design under §§ 21.19 or 21.113 and would require STCs or amended TC approvals and are not eligible for approval based on DER data alone.

A. Weight and Balance. Typical alterations that may appreciably affect the certificated weight and/or balance of a TC'd product include, but are not limited to, the following:

(1) Changes that increase the certificated maximum weight limits (increases in the maximum gross weight, increases in the maximum take-off or landing weights).

(2) Changes in the certificated center of gravity range limits (e.g., decreasing the forward limit or increasing the aft limit).

(3) Changes that alter 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, etc.).

B. Structural Strength. Typical alterations that may appreciably affect the structural strength of the product include, but are not limited to, the following:

(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) Substitution of engine, propeller, rotor, or airframe primary structure materials.

C. Reliability. Typical alterations that may appreciably affect reliability include, but are not limited to, the following:

(1) Changes to manifolding, air induction systems or air intake doors, engine cowling or baffle that have an effect on the flow of engine cooling air and carburetor/fire ignition heat rises.

(2) Change to the basic engine or propeller design, controls, and operating limitations.

(3) Changes that include engine/propeller adjustments and settings limitations that have an effect on power output.

(4) Modifications to approved avionics equipment that have an effect on reliability or airworthiness such as:

- Changes that deviate from the design environmental performance
- Changes that deviate from the component manufacturer's operating limitations
- Changes to software
- Changes to wire shielding that may affect High Intensity Radiated Fields (HIRF) and Electromagnetic Interference (EMI)

D. Operational Characteristics. Typical alterations that may appreciably affect operational characteristics include, but are not limited to, the following:

(1) Changes or relocation of systems (including hydraulic, oil, and fuel systems) and equipment that affects structural integrity, flight, ground handling characteristics, or noise/acoustics of the aircraft.

(2) Changes that alter the movable control surfaces that have an effect on the dynamic and/or static balance, alter the aerodynamic contour of moveable control surfaces, or make changes to 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.

(5) Installation of structures and/or appliances to the exterior (i.e., night sun, 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, etc.).

(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, etc.

E. Airworthiness. Typical alterations that may appreciably affect the airworthiness of the product include, but are not limited to, the following:

(1) Changes to landing gear and related components, such as internal parts of shock struts, length, geometry of members, changes to brake and brake systems, or additions.

(2) Changes to systems that have an effect on 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)

(3) Major deviations to STCs.

(4) Changes to oil, hydraulic, pneumatic, and fuel lines or systems that have an effect on 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

(5) Changes in fixed fire extinguisher or detector systems that have an effect on system effectiveness or reliability, such as:

- Relocation of discharge nozzle, detector units, or fixed fire extinguisher bottles
- Use of new or different detector components
- Decrease in amount or changes to type of extinguishing agents

(6) Changes that include the substitution of engine/APU/propeller/airframe materials that affect structural integrity, lightning protection, flight characteristics, or noise/acoustics. This also includes the substitution of fasteners.

(7) Any other complex special process that, if not properly performed, has a significant adverse effect on the integrity of the product.

(8) Major alterations to propellers.

F. Crashworthiness. Typical alterations that may appreciably affect the crashworthiness of the product include, but are not limited to, the following:

(1) Changes to the aircraft structure, cabin interiors, or equipment relocation that have an effect on crashworthiness.

(2) Changes that increase the certified seating capacity, excluding sport parachute jumping configuration.

(3) Changes that include the substitution of engine/propeller/airframe materials that affect fire protection, lightning protection, or flammability.

G. Other alterations, unless specifically identified by the Administrator as a candidate for the field approval process include, but are not limited to, the following:

(1) Installation of:

- Heads up displays used for primary navigation
- Traffic Alert and Collision Avoidance Systems (TCAS)
- Autopilots
- Flight data recorders (FDR)
- Ground proximity warning systems (GPWS)
- Electronic flight instrument systems (EFIS)

- Terrain Awareness and Warning Systems (TAWS)-A
- Emergency Vision Assurance Systems (EVAS)

NOTE: GPS installations may be approved per current guidance.

- (2) Changes in engine or flight control systems.
- (3) Installation of new or modification of existing icing protection systems.
- (4) Changes that alter dynamic components of rotorcraft (e.g., loads, vibration, fatigue, damage tolerance, flaw tolerance, characteristics of main or tail rotor system, transmission system, gear box, driveshafts, driveshaft support bearings, main and tail rotor blades.)

NOTE: RPM changes of main and tail rotor systems may affect handling performance characteristics and/or noise or acoustics.

- (5) Changes to TSO articles that do not meet the minimum standards of the TSO.
- (6) Changes that alter critical or life-limited parts, including engine/APU rotating parts.
- (7) Changes that are inconsistent with the required actions of an existing AD.
- (8) Changes that alter systems required for Extended Twin Engine Operations (ETOP) of approved aircraft.
- (9) Changes that increase the differential pressure limits of an atmospheric or climatic control system of aircraft interior compartments.
- (10) Alteration of passenger-carrying aircraft to an all-cargo or combi configuration.

11. PROJECTS THAT MAY REQUIRE ACO CONCURRENCE AND/OR REVIEW.

A. For purposes of this section the following major alterations are considered minor changes to type design and may use the field approval process. ACO or DER advice may be sought as identified in paragraph B. The Changed Product Rule, § 21.101, does not apply to minor changes in type design. It does apply to major changes that are accomplished using STCs or Amended Type Certificates (ATC); therefore, the Changed Product Rule does not cover field approvals.

B. Engineering assistance and advice may be requested when working in areas that include:

(1) Any alteration that requires a change to a flight manual or existing placards (unless specifically authorized) or operating limitations, Minimum Equipment Lists (MEL), or cargo loading instructions (see paragraph 17A and B);

(2) Any alteration that would require flight testing to show compliance with the regulations (N/A to operational check flights conducted under § 91.407 (b));

(3) Use of synthetic covering material;

(4) Substitution of parts;

(5) New titanium applications;

(6) Ceramic coatings;

(7) New magnesium applications;

(8) Use of synthetic resin glues;

(9) New plating coatings;

(10) Welding of certain types of propeller or engine parts;

(11) Any change to a required aircraft instrument system not specifically authorized by a bulletin, FAA Order, or an AC;

(12) Initial installation of litter systems;

(13) Changes that affect emergency exits (i.e., all cargo, cargo/passenger configurations, emergency medical services, and sport parachute jumping); and

(14) Changes to TC'd passenger seating configuration not listed in the TCDS or Flight Manual.

(15) Installation of structures and/or appliances to the exterior (i.e., FLIR, camera, spray/dusting equipment) on rotorcraft.

C. The ASI, not the operator, should make a request for engineering evaluation, assistance, and/or approval of non-approved engineering data for field approvals. When the alteration or repair data file is forwarded to engineering for review, a memorandum of transmittal must accompany the file. When necessary, the transmittal will provide pertinent and detailed information not contained in the submitted data, such as the ASI's (airworthiness) recommendations, viewpoints, and specific requests for advice. Notification in writing, which becomes an attachment to FAA Form 337, must be received from the ACO before proceeding with the field approval. When engineering assistance is requested for field approval purposes, the ASI who will complete the

field approval is expected to coordinate and implement the assistance requested by engineering. Be aware that the data evaluated by FAA engineering may not cover all the steps and procedures needed to accomplish the alteration or repair.

13. INCOMPLETE AND/OR PIECEMEAL INSTALLATIONS.

A. Incomplete or piecemeal installation field approvals are intended to approve partial-major alterations on aircraft that will be operated for an unspecified period of time. Aircraft having an incomplete equipment installation may be released for service only if the following has been accomplished:

(1) The alteration data has been FAA-approved;

(2) The incomplete/piecemeal alteration has been determined to not affect the safe operation of the aircraft;

(3) The equipment installed remains deactivated and has placards affixed to prevent use;

(4) The weight and balance reflects the incomplete installation; and

(5) The maintenance records have been completed and signed for the work that was actually accomplished.

NOTE: In order to maintain an effective Certificate of Airworthiness, the approval for return to service must be accomplished by an authorized person as defined in § 43.7.

B. The applicant must conduct a conformity inspection on the completed alteration. FAA approval of the piecemeal installation may provide for use of installed equipment if it can be determined that such equipment can be used safely (i.e., may require placards, Flight Manual Supplements, crew training.)

15. MAJOR REPAIR DESIGN APPROVALS BY TCCA AND CANADIAN DESIGN APPROVAL REPRESENTATIVE (DAR) (CANADIAN EQUIVALENT TO A U.S. DER). The FAA and Transport Canada Civil Aviation (TCCA) have agreed in a Memo of Understanding (MOU) that certain TCCA and TCCA delegate repair design approvals are considered to be FAA-approved data. FAA Notice 8110.88 implements this MOU and provides guidance for reciprocal acceptance of repair design approvals between FAA and TCCA. The following

information is provided for reference, but the Notice should be reviewed if additional guidance is required. TCCA publications are available at <http://www.tc.gc.ca/aviation/regserv/carac>.

A. For U.S.-held TCs, only repair design approvals issued by TCCA are considered to be approved data. Repair design approvals issued solely by a TCCA delegate are not approved data and to be used as such, require TCCA approval or direct approval by the FAA or FAA designee.

B. For Canadian-held TCs, repair design approvals issued by either TCCA or a TCCA delegate are considered to be approved data.

C. For TCs held by all other countries, TCCA or TCCA delegate repair design approvals are not considered to be approved data.

D. TCCA Repair Design Certificate (equivalent to FAA Form 8110-3, Statement of Compliance with Federal Aviation Regulations) can accompany data and can be signed by either a TCCA-approved DAR or TCCA airworthiness authority.

17. FLIGHT TEST/OPERATIONAL CHECK REQUIREMENTS AND LIMITATIONS.

A. An alteration requiring a § 21.191(b) flight test to show compliance with the regulations must be coordinated with the appropriate engineering office or flight test DER. An Experimental Airworthiness Certificate to show compliance must be authorized by the Manufacturing Inspection District Office (MIDO) IAW FAA Order 8130.2, Airworthiness Certification of Aircraft and Related Products, as revised. If the flight test is unsatisfactory, the applicant must develop additional data.

B. Alterations requiring a flight manual supplement or operations limitations changes must be coordinated with the ACO, unless specifically authorized for a Flight Standards inspector to sign.

C. Any alteration or repair that will appreciably change the aircraft flight characteristics or substantially affect its operation in flight must be operationally checked IAW § 91.407 and the results recorded on the aircraft records.

19. FAA FORM 337, MAJOR REPAIR AND ALTERATION.

A. *Types of Field Approval Data/Alteration Approvals.*

(1) Data/alteration approvals issued for one aircraft are applicable only to the aircraft described in Block I of FAA Form 337. The data/alteration may be used as acceptable data as a basis for obtaining approval on other aircraft.

NOTE: ASIs must not approve data for use on multiple aircraft.

(2) Data based on inspection or testing, such as approval of technical data by physical inspection (see section 2, paragraph 5D(3)).

B. Recording Data Deviation. Alterations that use data that does not differ appreciably from previously approved data do not require new or additional approval. Minor deviations that have no bearing on safety are acceptable without formal approval and without submission of a formal application by the applicant. A field approval is not required; however, the deviation should be recorded on FAA Form 337.

C. Disposition of FAA Form 337. Upon receipt of FAA Form 337, accomplish the following:

(1) Review the form to ensure that all airworthiness requirements are met;

(2) Ensure that all applicable sections, signatures, and dates are affixed to the form;

(3) Ensure that the office identifier and the inspector's initials are entered in the place provided, in the upper right-hand corner of the form; and

(4) Mail the form to Civil Aviation Registry, AFS-700, Oklahoma City, OK.

D. Alterations to Fuel Tanks and/or Systems. Within 24 hours of receipt of an FAA Form 337 that describes a modification to an aircraft fuel system or shows additional fuel tanks installed in the passenger or baggage compartment, review and mail as in C(1) through (4) above.

NOTE: Military aircraft, foreign-registered aircraft, and component parts not installed on an aircraft cannot have FAA Form 337 submitted to AFS-700. This is because they cannot be identified by aircraft make, model, serial number, and U.S. Registration Number.

21. INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICA).

A. Section 21.95 authorizes the field approval process. The Administrator has determined that the field approval data package must include ICAs. The

purpose of the ICA is to provide instructions on how to maintain aircraft that are altered and appliances that are installed IAW a field-approved major alteration. The ICA checklist (Figure 1-1) is a guide for both the applicant who creates the ICA and the FAA Flight Standards inspector who accepts the ICA. The ICA developed IAW this guidance constitutes methods, techniques, and practices acceptable to the Administrator. If the ICA for the submitted field approval major alteration is not acceptable to the FAA inspector, that inspector should not sign Block 3 of the applicant's FAA Form 337.

B. The ICA provides the aircraft owner/operator with the following advantages (Ref. Block 8 of Form 337):

(1) The major alteration and reference to ICA is contained in one document;

(2) The ICA becomes a permanent aircraft record as required by § 91.417(a)(2)(vi); and

(3) The owner/operator can contact FAA registry for a replacement FAA Form 337 if the ICA is lost or destroyed. The additional reference to the presence of ICA as part of the major alteration in the aircraft's maintenance entry will ensure that maintenance personnel appropriately address ICAs during future inspections.

C. The applicant is to develop the ICA and present it in conjunction with the field approval request. The FAA inspector accepts the ICA if it meets the applicable requirements in part 23, § 23.1529; part 25, § 25.1529; part 27, § 27.1529; part 29, § 29.1529; part 31, § 31.82; part 33, § 33.4; and part 35, § 35.4. The checklist in Figure 1-1 is a guide so the applicant can be assured that all applicable requirements are met.

D. For field-approved major alterations to aircraft, engines, and propellers certificated under the Civil Air Regulations (CAR), the ICA must meet the original type design requirements. In cases where the major alteration is a total new design, or a substantial complete redesign which the CAR did not address, the major alteration must meet the applicable 14 CFR. The checklist provides acceptable guidance for these types of installations.

E. The ICA requirements are the same for a field approval or STC. The vast majority of field-approved major alterations are simplistic in design and execution. Therefore the applicant's ICA may not

need as much detail as an ICA required for a complicated STC. If the manufacturers' instructions are not available, the applicant may use FAA publications such as AC 43.13-1B and AC 43.13-2A; appendix D of part 43, as revised; or other applicable aviation standards to develop the ICA.

F. Major alterations approved before 10-07-98 were not required to have ICAs. However, if an owner/operator wishes to formally incorporate an ICA for existing field-approved major alterations, they may do so using the revision process in the checklist's item number 16 in Figure 1-1.

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SECTION 2. PROCEDURES

1. PREREQUISITES AND COORDINATION REQUIREMENTS.

A. Prerequisites:

- Knowledge of the regulatory requirements of 14 CFR parts 21, 43, and 65
- Successful completion of the Airworthiness Inspector's Indoctrination Course for General Aviation and Air Carrier Inspections or previous equivalent FAA training
- Successful completion of the Aircraft Alterations and Repair Course
- Identification and authorization to perform field approvals by the Flight Standards District Office (FSDO) office manager, and the Regional Flight Standards manager in the form of a signed statement of authorization placed in the ASI's file or in the office manual (the authorization will state that the ASI is authorized to perform field approvals)

B. Coordination. This task may require coordination or assistance from FAA engineering, other technical personnel, and the operator. Direct communication between field personnel to permit a rapid exchange of technical information is recommended.

3. REFERENCES, FORMS, AND JOB AIDS.

A. References (current editions):

- 14 CFR parts 1, 21, 23, 25, 27, 29, 31, 33, 34, 35, 36, 39, and 91
- Applicable Special Federal Aviation Regulations (SFARs)
- FAA Order 8310.6, Airworthiness Compliance Check Sheet Handbook
- FAA Order 8340.1, Maintenance Bulletins
- FAA Order 8100.9, DAS, DOA, and SFAR 36 Authorization Procedures
- FAA Order 8000.50, Repair Station Production of Replacement or Modification Parts
- FAA Order 8110.37, Designated Engineering Representative (DER) Guidance Handbook
- FAA Order 8130.2, Airworthiness Certification of Aircraft and Related Products

- AC 20-114, Manufacturer's Service Documents
- AC 33.4-1, Instructions for Continued Airworthiness
- AC 43-9, Maintenance Records
- AC 43.9-1, Instructions for Completion of FAA Form 337 (OMB No. 2120-0020), Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance)
- AC 43.13-1, Acceptable Methods, Techniques, and Practices—Aircraft Inspection and Repair
- AC 43.13-2, Acceptable Methods, Techniques, and Practices—Aircraft Alterations
- CAR 3, 4a, 4b, 6, 7, and 8
- Bulletin 7A, 7H, and 8
- TCDS

B. Forms:

- FAA Form 337, Major Repair and Alteration
- FAA Form 8110-3, Statement of Compliance with the Federal Aviation Regulations
- FAA Form 8110-12, Application for Type Certificate, Production Certificate, or Supplemental Type Certificate

C. Job Aids:

- FAA Order 8310.6, Airworthiness Compliance Check Sheet Handbook.
- Figure 1-1, ICA Checklist
- Figure 1-2, Decision Flow Chart for Field Approval Process

5. PROCEDURES.

A. Review the Applicant's Request for a Field Approval. Ensure that the information supplied is complete enough and is appropriate to proceed with the field approval process for the proposed alteration or repair. The applicant should specify the certification rule used as a basis for the field approval (ref. § 21.101.)

(1) Review and evaluate the following before the operator starts the actual work, as applicable:

(a) A formal request submitted on one of the following:

- FAA Form 337 completed in duplicate (in triplicate for extended range fuel tanks)
- Other administrative forms used by a manufacturer or operator that are acceptable to the Administrator, such as engineering orders

(b) Proposed Flight Manual Supplements.

(c) FAA Form 8110-3.

(d) The description of the proposed alteration or repair to ensure that it correctly and accurately describes the alteration or repair.

(e) Methods, sketches, drawings, stress analyses, photographs, electrical load analyses, etc., to ensure that the operator has considered all applicable design standards and has analyses to substantiate the findings in this regard. The inspector must consider at least the following:

- The certification basis, including special conditions (fail safe, damage tolerance, etc.)
- The structural requirements that may be affected by the alteration or repair
- Any hazards that may affect the aircraft or its occupants
- Weight and balance computations
- Operating limitations
- Any other factors affecting safety or airworthiness

(f) Ensure that all ground and flight tests and operational checks meet applicable certification requirements to substantiate the alteration or repair.

(g) Instructions for continued airworthiness.

(2) If data is not complete, the operator must supply any additional information needed.

B. Evaluate the Proposal. Determine if the applicant has conducted a conformity evaluation to ensure that the proposed alteration will not impact the airworthiness of the aircraft. The applicant will provide verification that he/she has accomplished at least the following:

(1) Reviewed the aircraft records for previous alterations and repairs to ensure there is no effect on the proposed alteration or repair.

(2) Inspected the aircraft for:

- Previous alterations or repairs that may not have been recorded

- Compatibility of previous alterations or repairs with intended alterations or repairs

C. Evaluate Data Package.

(1) If a determination is made that the proposed alteration is beyond the scope of a field approval, advise the applicant that an STC is necessary. Assistance to the applicant will include the following:

- Furnish FAA Form 8110-12 application for an STC
- Advise that supporting data must be attached

(2) If assistance from engineering is needed for approving a major alteration/repair, contact FAA engineering. Coordination with the applicant will include the following:

(a) Request that the applicant provide all supporting data

(b) Caution against proceeding with the alteration/repair before receiving engineering approval

(c) Provide the applicant with proposed schedule for completion of the project that is consistent with available resources

(d) Specific Authorization:

- Flight Manual Supplement signature authority may be authorized by ACs, bulletins, or other written documentation
- Interior compliance inspections as authorized by an ACO
- Other written authorizations as requested by the ACO and MIDO during the coordination process

D. Data Package Accepted for Field Approval.

(1) If engineering assistance was requested, written ACO concurrence becomes an attachment to FAA Form 337.

(2) *Approval for Data Only.* If the repair or alteration data complies with regulations, record data approval by entering the appropriate statement and signing Block 3 of FAA Form 337; return both copies to the applicant. When recording FAA approval in Block 3, use the following statement for approval of technical data by examination of the data for use on only one aircraft:

“The technical data identified herein has been found to comply with applicable airworthiness requirements and is hereby approved for use only

on the above described aircraft, subject to conformity inspection by a person in § 43.7.”

(3) Approval of Technical Data by Physical Inspection. Schedule a physical inspection with the applicant to verify workmanship and compliance of the data submitted. If the repair or alteration complies with regulations, record alteration approval by entering the appropriate statement and signing Block 3 of FAA Form 337, and return copies to the applicant. When recording FAA approval in Block 3, use the following statement:

“The alteration or repair identified herein complies with the applicable airworthiness requirements and is approved for use only on the above described aircraft, subject to conformity inspection by a person in § 43.7.”

NOTE: ASIs must not approve data for use on multiple aircraft.

(4) Denial of Proposed Alteration/Repair. If the applicant is unwilling or unable to comply with the requirements to obtain the requested field approval, terminate the process by notification in writing to the applicant. This notification should include the reason for denial.

NOTE: The applicant should be given the opportunity to make corrections as necessary.

E. Instructions for Continued Airworthiness. ASIs will ensure that each major alteration that requires additional maintenance or inspections not covered by original manufacturer’s instructions approved under the field approval process will have ICA prepared IAW §§ 23.1529, 25.1529, 27.1529, 29.1529, 31.82, 33.4, or 35.4, as applicable. The ICA will be documented on FAA Form 337. The ASI will advise the applicant that the entry for the major alteration in the aircraft’s maintenance records required by § 43.9 will also include a reference to the ICA and identify FAA Form 337 where the instructions are documented. The form will be kept in the aircraft’s permanent records IAW § 91.417(2)(vi). The checklist in Figure 1-1 is a guide so the applicant can be assured that all applicable requirements are met.

7. TASK OUTCOMES.

A. File PTRS Data Sheet.

B. Completion of this task can result in the approval of the data, alteration, or repair, reference to the ACO for an STC, or denial of a request for a field approval.

9. FUTURE ACTIVITIES. None.

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FIGURE 1-1. ICA CHECKLIST

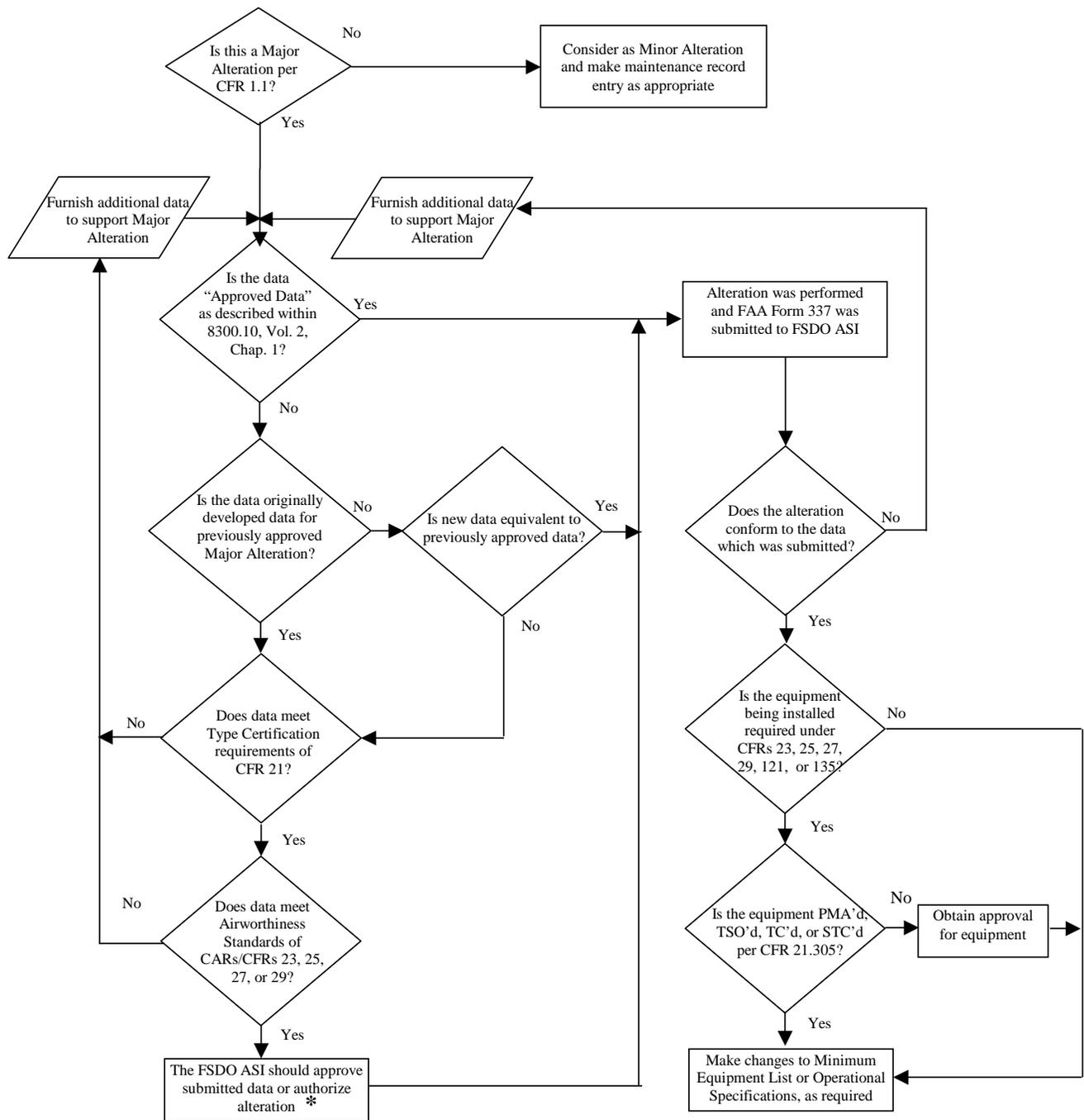
A/C Make: _____ Model: _____ S/N: _____ Reg. # N: _____
 Revision: _____ Date: _____
 System: _____

Item	Subject
1.	Introduction: This section briefly describes the aircraft, engine, propeller, or component that has been altered. Include any other information on the content, scope, purpose, arrangement, applicability, definitions, abbreviations, precautions, units of measurement, referenced publications, and distribution of the ICA as applicable.
2.	Description: Of the major alteration, its functions, including an explanation of its interface with other systems, if any.
3.	Control, operation information: Or special procedures, if any.
4.	Servicing information: Such as types of fluids used, servicing points, and location of access panels, as appropriate.
5.	Maintenance instructions: Such as recommended inspection/maintenance periods in which each of the major alteration components are inspected, cleaned, lubricated, adjusted, tested, including applicable wear tolerances and work recommended at each scheduled maintenance period. This section can refer to the manufacturers' instructions for the equipment installed where appropriate (e.g., functional checks, repairs, inspections). It should also include any special notes, cautions, or warnings, as applicable.
6.	Trouble shooting information: Information describing probable malfunctions, how to recognize those malfunctions, and the remedial actions to be taken.
7.	Removal and replacement information: This section describes the order and method of removing and replacing products, parts and any necessary precautions. This section should also describe or refer to manufacturer's instructions to make required tests, trim checks, alignment, calibrations, center of gravity changes, lifting or shoring, etc., if any.
8.	Diagrams: Of access plates and information, if needed, to gain access for inspection.
9.	Special inspection requirements: Such as X-ray, ultrasonic testing, or magnetic particle inspection, if required.
10.	Application of protective treatments: To the affected area after inspection and/or maintenance, if any.
11.	Data: Relative to structural fasteners such as type, torque, and installation requirements, if any.
12.	List of special tools: Special tools that are required, if any.
13.	For commuter category aircraft: The following additional information must be furnished, as applicable: <ul style="list-style-type: none"> A. Electrical loads. B. Methods of balancing flight controls. C. Identification of primary and secondary structures. D. Special repair methods applicable to the airplane.
14.	Recommended overhaul periods: Are required to be noted on the ICA when an overhaul period has been set by the manufacturer of a component, or equipment. If there is no overhaul period, the ICA should state for item 14: "No additional overhaul time limitations."

FIGURE 1-1. (Continued)

Item	Subject
15.	Airworthiness limitation section: Include any “approved” airworthiness limitations identified by the manufacturer or FAA Type Certificate Holding Office (e.g., an STC incorporated in a larger field approved major alteration may have an airworthiness limitation.) The FAA inspector shall not establish, alter, or cancel airworthiness limitations without coordinating with the appropriate FAA Type Certificate Holding Office. If there are no changes to the airworthiness limitations, the ICA should state for item 15: “No additional airworthiness limitations” or “Not Applicable.”
16.	Revision: This section should include information on how to revise the ICA. For example, a letter will be submitted to the local FSDO with a copy of the revised FAA Form 337 and revised ICA. The FAA inspector accepts the change by signing block 3 and including the following statement: “The attached revised/new Instructions for Continued Airworthiness (date _____) for the above aircraft or component major alteration have been accepted by the FAA, superseding the Instructions for Continued Airworthiness (date_____).” Once the revision has been accepted, a maintenance record entry will be made, identifying the revision, its location, and date of the Form 337.

FIGURE 1-2. DECISION FLOW CHART FOR FIELD APPROVAL PROCESS



*** NOTE: ASIs should see guidance in section 1, paragraph 9 of this chapter to determine when additional coordination with a DER or the ACO may be necessary.**

CHAPTER 167. PROCESS THE APPLICATION OF A REPAIR STATION FOR ACCEPTANCE UNDER JAR 145

SECTION 1. BACKGROUND

1. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES.

A. *Maintenance:* 3377, 3669, 3771

B. *Avionics:* 5377, 5669, 5771

3. OBJECTIVE. This chapter describes the procedures to process an application of a repair station certificated under Title 14 of the Code of Federal Regulations (14 CFR) part 145 for acceptance under Joint Aviation Requirements (JAR) 145.

5. GENERAL.

A. JAR 145 is a set of requirements established by the Joint Aviation Authorities (JAA) that are similar to 14 CFR part 145. JAR 145 has been adopted by all JAA-member National Aviation Authorities (NAA) and includes those requirements that a repair station must comply with to qualify as a JAA-accepted maintenance organization. JAR 145 also includes requirements specifying that the maintenance of all aircraft registered in JAA-member countries and used in commercial air transport operations be performed by a maintenance organization approved or accepted by the JAA.

B. A repair station certificated under 14 CFR part 145 located in the U.S. may qualify for acceptance by the JAA as a maintenance organization in accordance with (IAW) JAR 145.10. JAR 145.10 permits organizations located outside the territories of the JAA-member countries to be accepted when working IAW the conditions detailed in an international maintenance agreement (for example, a Bilateral Aviation Safety Agreement (BASA) containing Maintenance Implementation Procedures (MIP)). JAR 145.10 also permits these organizations to be accepted before an international maintenance agreement has been signed, subject to certain conditions and limitations.

C. As a result of these provisions, a repair station certificated under 14 CFR part 145 may be accepted by the JAA on behalf of the JAA-member NAA if the repair station complies with specific additional

conditions beyond those required by 14 CFR part 145. These conditions are specified in the MIP to a BASA and are further described in JAA Maintenance Leaflet No. 22, JAA Acceptance of American Repair Stations. A repair station accepted by the JAA may perform work on any aircraft registered in a JAA-member country. A repair station accepted by the JAA has the acceptance of all JAA-member NAA's and does not require independent certification by a JAA-member NAA.

D. The United States has concluded BASA's with the following JAA-member countries: Austria, France, Germany, Ireland, the Netherlands, Sweden, Switzerland, and the United Kingdom. Of these countries, an MIP only has been concluded with Germany.

7. JAR 145 ACCEPTANCE PROCESS. The JAR 145 acceptance process provides for interaction between the applicant and the FAA during initial inquiry, JAR 145 acceptance, and the renewal process. It ensures that the intended methods of compliance with JAR 145 are reviewed, evaluated, and tested thoroughly. The JAR 145 acceptance process consists of the following five phases:

- Preapplication Phase
- Formal Application Phase
- Document Compliance Phase
- Demonstration and Inspection Phase
- JAA Acceptance Phase

A. *Preapplication Phase.*

(1) *Preliminary Inquiry.* A repair station certificated under 14 CFR part 145 seeking to apply for initial acceptance or renewal of acceptance under JAR 145 should inform the Flight Standards District Office (FSDO) with certificate oversight responsibility of its intent to seek JAA acceptance under JAR 145.

(2) *Inspector Response.* The Aviation Safety Inspector processing a request for JAR 145 initial acceptance or renewal should be the Principal Inspector (PI), Principal Maintenance Inspector (PMI),

or Principal Avionics Inspector (PAI) for the applicant. Upon receipt of the preliminary inquiry, the inspector should send an instruction packet to the applicant that includes Advisory Circular (AC) 145-8, Acceptance of Repair Stations by the JAA and JAA-member NAA's Under the Maintenance Implementation Procedures of a Bilateral Aviation Safety Agreement, and JAA Maintenance Leaflet No. 22. JAA Maintenance Leaflet No. 22 describes the conditions the applicant must meet for JAA acceptance and contains an application for JAA acceptance (JAA Form 16) and a sample JAA Supplement. An inspector need not provide these documents to a repair station seeking renewal of acceptance if the documents have not been revised since the issuance of the repair station's previous acceptance.

B. Document Preparation/Preapplication Discussions. After the applicant has reviewed the information sent by the inspector, preapplication discussions may be held to resolve any questions the applicant has regarding the application package. Because the applicant already has a 14 CFR part 145 certificate, the inspector should be familiar with the applicant. Any questions regarding the preparation of the application may be resolved verbally. During preapplication discussions with a new applicant, the requirements for the completion of the JAA Supplement to the applicant's Inspection Procedures Manual (IPM) should be discussed specifically. The applicant should be encouraged to use JAA Maintenance Leaflet No. 22 for guidance in developing the JAA Supplement to their IPM. The applicant must fill out JAA Form 16, obtain evidence of its need for JAA acceptance, and prepare their own JAA Supplement based on the sample contained in JAA Maintenance Leaflet No. 22. The applicant must also make any required payments.

C. Formal Application Phase. To begin the formal application phase, the inspector will receive the applicant's completed JAA Form 16, JAA Supplement, and evidence of need for JAA acceptance. The inspector should meet with the applicant after receiving the formal application package. All questions regarding the proposed operations as a JAA-accepted maintenance organization, the formal application, and the JAA Supplement should be resolved in this phase.

D. Document Compliance Phase. In this phase, the application and JAA Supplement are reviewed

by the inspector thoroughly for acceptance or rejection. This review ensures conformity with applicable JAA requirements, special conditions, and safe operating practices. This phase is performed by the inspector in the FSDO.

E. Demonstration and Inspection Phase. In this phase, the inspector verifies that the applicant's proposed procedures are effective and that its facilities and equipment meet Federal Aviation Administration (FAA) regulatory requirements and JAA special conditions before forwarding the application to the JAA for acceptance.

F. JAA Acceptance Phase. Once the applicant has met the regulatory requirements of 14 CFR part 145 and the JAA special conditions, the inspector will recommend JAA acceptance of the applicant on JAA Form 9. The inspector will send JAA Form 16 and copies of the applicant's 14 CFR part 145 certificate and FAA Operations Specifications (OpSpecs) to the JAA Maintenance Division for issuance of JAA acceptance under JAR 145. The JAA will issue the acceptance directly to the applicant and will provide a copy to the inspector. A JAA acceptance is valid for two years and may be renewed for subsequent two-year periods.

9. CONTINUED VALIDITY OF JAA/NAA ACCEPTANCE.

A. Continued validity of a repair station's JAA acceptance is dependent upon the repair station's efforts to meet the conditions for JAA acceptance, including compliance with 14 CFR part 145 and the JAA special conditions and successful completion of regularly scheduled FAA inspections. The FAA, the JAA, and the JAA-member NAA must be satisfied that the repair station meets these conditions.

B. During the two-year period the repair station's JAA acceptance is valid, the inspector will report to the JAA any change in the status of the repair station's 14 CFR part 145 certificate, such as its surrender, suspension, or revocation, and any serious failure of the repair station to comply with 14 CFR part 145 that could result in enforcement action. The inspector will report this information on JAA Form 9. For reporting of uncorrected findings or discrepancies, the inspector will leave the date corrected and file reference columns blank. Revocation of a repair station's

14 CFR part 145 certificate automatically invalidates its JAA acceptance.

NOTE: Notification to the JAA of a violation does not relieve an inspector of the responsibility to process a violation for FAA enforcement action. An FAA inspector, however, cannot process an action for enforcement if the basis for the action is a violation of the JAR or JAA special conditions but not a violation of the 14 CFR.

C. The inspector will also report to the JAA any failure of the repair station to comply with its JAA Supplement and any other significant findings and discrepancies. This notification is especially critical in those instances when a repair station fails to use design engineering data approved by the JAA for major repairs or when a repair station fails to carry out internal audits and maintain an independent quality monitoring system. These reports for the JAA are made on JAA Form 9.

D. If the JAA or the JAA-member NAA determines there is a safety failure or a significant failure to comply with the conditions of acceptance, there may be a complete or partial revocation of a repair station's JAR 145 acceptance certificate.

E. Any repair station wishing to contest the revocation of its acceptance certificate will have the right of appeal within 21 days against the JAA-member NAA by persons not associated with the

revocation or limitation of acceptance subject to evidence being submitted at the time of the appeal. Any appeal to the JAA is addressed to the attention of the JAA Maintenance Director. The repair station's JAA acceptance will remain in temporary suspension awaiting the outcome of any appeal. Should a special audit be necessary, the repair station will incur a separate fee for the cost of this audit. There is no right of appeal to the FAA when the JAA revokes or limits a repair station's JAR 145 acceptance.

11. ACCEPTANCE OF AIR CARRIER LINE STATIONS. While the JAR 145 acceptance procedure primarily is intended for the acceptance of 14 CFR part 145 certificated repair stations located in the U.S., it can be extended to the line stations of a U.S. air carrier that holds a 14 CFR part 145 certificate. U.S. air carrier line stations located in the U.S. can receive JAA acceptance if the air carrier holds a 14 CFR part 145 certificate for at least one of its base maintenance facilities that is valid for all operated aircraft types, and is able to show that its quality monitoring system covers operations conducted under both certificates and at the line stations. The line stations of a U.S. air carrier located outside the U.S. should submit their request for JAA acceptance to their PMI. The PMI will then contact the JAA Headquarters Division of Maintenance and confirm that the foreign line station is acceptable to the JAA.

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SECTION 2. PROCEDURES

1. PREREQUISITES AND COORDINATION REQUIREMENTS.

A. Prerequisites:

- Knowledge of the regulatory requirements of 14 CFR parts 43 and 145
- Knowledge of the requirements of JAA Maintenance Leaflet No. 22
- Successful completion of the Airworthiness Inspector Indoctrination Course or equivalent
- Successful completion of the JAR 145 Application to Domestic Repair Stations Training computer-based instruction
- Previous experience with certification or surveillance of 14 CFR part 145 repair stations

B. *Coordination.* This task requires coordination with the following:

- Applicant (repair station)
- Applicant's PMI or PAI
- FAA Regional JAA Coordinator
- FAA regional and district offices, as appropriate

3. REFERENCES, FORMS, AND JOB AIDS.

A. References:

- 14 CFR parts 43 and 145
- FAA Order 8300.10, Airworthiness Inspector's Handbook, vol. 2, chapters 161, 162, 164, 168, and 169
- JAA Maintenance Leaflet No. 22, JAA Acceptance of American Repair Stations
- AC 145-8, Acceptance of Repair Stations by the JAA and JAA-Member NAA's Under the Maintenance Implementation Procedures of a Bilateral Aviation Safety Agreement

B. Forms:

- FAA Form 8000-4, Air Agency Certificate
- FAA Form 8000-4-1 or FAA Form 8000-8, Repair Station Operations Specifications
- JAA Form 9, FAA Status Report on a 14 CFR Part 145 Repair Station JAA Accepted or Applicant for JAA Acceptance, Form 9 is located on the AVR

web page at URL: <http://afscentral.faa.gov/publications.htm>.

- JAA Form 16, USA Repair Station Application for Initial/Renewal/Amendment of JAA Acceptance IAW JAR 145

C. *Job Aids.* None.

5. PREAPPLICATION PHASE.

A. Respond to the Preliminary Inquiry.

(1) Upon receipt of a preliminary inquiry from a repair station seeking to apply for initial acceptance under JAR 145, the PI should send the applicant an application packet that includes AC 145-8 and JAA Maintenance Leaflet No. 22. The PI does not need to provide these documents to an applicant seeking renewal of its JAA acceptance if the documents have not been revised since the issuance of the applicant's previous acceptance. JAA Maintenance Leaflet No. 22 includes the following:

- Guidance on complying with JAA Special Conditions
- A sample JAA Supplement

(2) The preliminary inquiry may be made electronically or by letter or facsimile. An applicant is not required to submit an FAA Form 8400-6, Preapplication Statement of Intent (PASI).

NOTE: An applicant seeking acceptance under JAR 145 must hold a valid repair station certificate issued under 14 CFR part 145 and be located in the U.S. An applicant may not apply concurrently for a repair station certificate and JAA acceptance.

B. *Conduct Preapplication Discussions.* An applicant should conduct a thorough review of the material contained in the application packet to determine the personnel, facility, equipment, procedural, and documentation requirements they must address. After the applicant has reviewed the packet, the inspector should resolve any questions the applicant may have regarding JAA requirements. The applicant already has a 14 CFR part 145 certificate; therefore, the inspector should be familiar with the applicant, and any questions regarding the preparation of the application may be resolved verbally.

(1) *Completion of the JAA Supplement.* During any preapplication discussions, the requirements for the completion of the JAA Supplement to the applicant's IPM should be reviewed. The applicant should be encouraged to use JAA Maintenance Leaflet No. 22 for guidance in developing the JAA Supplement to its IPM. Guidance for evaluating a JAA Supplement is contained in volume 2, chapter 168. The JAA Supplement should allow the user to understand its content without further explanation and must not contradict any regulatory requirements.

NOTE: It is the applicant's responsibility to develop a supplement that ensures safe operating practices and compliance with the JAA requirements and guidance material. The inspector can offer suggestions for improvement but must not write the material.

(2) *Evidence of Need.* The applicant should obtain evidence of their need for JAA acceptance. This evidence may be a letter of intent, contract, or work order from a JAR 145-approved maintenance organization, a JAA-accepted 14 CFR part 145 repair station located in the U.S., a JAA-accepted Transport Canada Civil Aviation AM573 certificated maintenance organization located in Canada, or a European airline or air taxi operation.

(3) *JAA Form 16 and Payments.* The applicant should complete JAA Form 16 and submit any required payments.

7. FORMAL APPLICATION PHASE.

A. *Receive the Formal Application.* The PI must ensure all documents have been submitted and are complete.

(1) *Initial Application.* For an initial application for JAA acceptance, the applicant must submit JAA Form 16 in duplicate. The applicant also should submit two copies of their JAA Supplement to their IPM and evidence of their need for JAA acceptance. The proposed JAA Supplement should conform with the sample JAA Supplement contained in JAA Maintenance Leaflet No. 22.

(2) *Renewal of Acceptance.* For a renewal of JAA acceptance, the applicant must submit JAA Form 16 in duplicate and evidence of their continued need for JAA acceptance. The applicant should not submit a new JAA Supplement if their current procedures and activities are reflected in their current supplement and the document has been

submitted previously to the FAA. An applicant seeking renewal should check that their JAA Supplement reflects their current procedures and activities. Any changes will require a revision of the supplement and resubmission to the FAA. All documentation submitted by an applicant seeking renewal, including, if appropriate, any amendment to its JAA Supplement, should be sent to the supervising FSDO at least 60 days before the expiration of their current JAA acceptance. Unless significant changes have taken place since the applicant's last JAA acceptance, this will ensure continuity of the applicant's JAA acceptance.

(3) *Amendment of Acceptance.* The FAA procedures for processing a request for an amendment of JAA acceptance are similar to those used to process a request for initial JAA acceptance, except that evidence of the applicant's need for JAA acceptance does not need to be submitted. The applicant must submit two copies of JAA Form 16 and any corresponding revisions to their JAA Supplement. An amendment of acceptance is necessary for changes to a repair station's name, ownership, location, or ratings.

NOTE: Revisions to the repair station's JAA Supplement that reflect changed procedures, but do not change the nature of the repair station's JAR 145 acceptance, must be submitted by the repair station to the inspector for review before implementation. Submission of JAA Form 16 is not required for such revisions.

(4) *Fees.* For an applicant seeking initial JAA acceptance, the initial fee specified on the current version of JAA Form 16 should be sent to the JAA account specified on the form at least 30 days before the date initial acceptance is needed. For an applicant seeking renewal of JAA acceptance, the renewal fee should be sent to the same account at least 30 days before the expiration of the current acceptance certificate. Electronic transfers should quote the information on page 2 of JAA Form 16. The fee transfer information may also be obtained from the JAA web site "http://www.jaa.nl/maintenance/documents/tgl_frame.html". The fees are nonrefundable. No fee is required for the amendment of an existing JAA acceptance; therefore, the fee section of JAA Form 16 is not applicable.

NOTE: The inspector should ensure that the applicant is aware that application for JAA acceptance requires payment of a fee;

however, the inspector is not required to determine if the applicant has paid the fee.

B. Evaluate the Application Package. The inspector must determine whether to continue with the JAA acceptance process based on an initial survey of the application package. The inspector should ensure the applicant has submitted a completed JAA Form 16, JAA Supplement, and evidence of its need for JAA acceptance, if applicable.

NOTE: JAA acceptance will not permit an applicant to perform work outside the scope of their current 14 CFR part 145 rating.

C. Conduct Further Application Discussions. Any open questions concerning the package must be answered before proceeding to the next phase. This can be accomplished through meetings, correspondence, or any other effective means.

9. DOCUMENT COMPLIANCE PHASE.

A. Review the Application Package. The inspector must review the content of each submitted document for compliance with JAA requirements. The JAA Supplement to the applicant's IPM should be reviewed IAW JAA Maintenance Leaflet No. 22 (see volume 2, chapter 168 of this order to determine the requirements of the JAA Supplement). The inspector should review the applicant's JAA Form 16 for completion and ensure that evidence of the applicant's need for JAA acceptance has been included, if required.

B. Document Any Deficiencies. If deficiencies are found in any document, the inspector should return it to the applicant with a letter outlining the deficient areas. The inspector also should inform the applicant that the application process will not continue until all document deficiencies have been corrected.

11. DEMONSTRATION AND INSPECTION PHASE.

A. Initial Acceptance.

(1) The assigned inspector will perform an inspection of the applicant for compliance with 14 CFR parts 43 and 145 and the JAA Supplement. The inspector is not required to check for compliance with 14 CFR parts 43 and 145 if the applicant was

subject to an inspection within the past 90 days and no findings or discrepancies were found.

(2) The inspector must review the applicant's compliance with those items specified on JAA Form 9, specifically the following:

- The applicant complies with 14 CFR part 145
- The applicant complies with 14 CFR part 43
- FAA access to the applicant is satisfactory
- The applicant's JAA Supplement contains the signature of the organization's current accountable manager
- Work orders used by the applicant are clear
- Work orders used by the applicant are followed
- FAA-approved data is used, except when the use of JAA-member NAA data is required
- FAA Airworthiness Directives (AD) are used on original U.S. type-certificated products
- Foreign AD's are used on original foreign type-certificated products
- Additional JAA-member NAA AD's are used on any type-certificated product
- Major repairs performed on JAA products are JAA-member NAA-approved
- Major alterations performed on JAA products are JAA-member NAA-approved
- Component maintenance releases are complete
- FAA Form 8130-3 is used for component releases
- The applicant is aware of Airworthiness Certificate validity
- Aircraft maintenance releases are complete
- The applicant complies with procedures to report serious defects to the JAA
- The applicant's Quality Monitoring System is working
- JAA-regulated aircraft are hangared during the performance of work
- The aircraft components used comply with the requirements of appendix 4 to the applicant's JAA Supplement

(3) The inspector will also perform the following:

(a) Confirm that the applicant's JAA Supplement generally is available throughout the facility; and

(b) Confirm whether any work has been performed for a JAA customer since the last inspection. If work has been or currently is being performed for a JAA customer, the inspector will:

- Sample the work for satisfactory standards and the associated maintenance records for clarity and completeness, or if the product has been returned to the customer, sample the associated maintenance records. The inspector should pay particular attention to the approved data used for major repairs and modifications for aircraft components and ensure that an FAA Form 8130-3 approval for return-to-service document always is issued by the applicant.
- Evidence of need shown.
- Confirm that aircraft maintenance only is performed in the hangar, except in the case of line maintenance performed by an applicant also operating as a 14 CFR part 121 air carrier.
- Confirm that the applicant is performing internal quality audits and correcting any findings or discrepancies identified.
- When reviewing the findings of the repair station's Quality Monitoring System (QMS) internal quality audits findings, the inspector should regard the QMS findings as a self-disclosure process and should not process violations on these findings. The inspector should recommend to the repair station that they submit the identified findings in accordance with FAA voluntary disclosure procedures. However, if the inspector notes findings that represent intentional violations or systemic problems within the repair station, normal FAA investigation procedures should be followed.

B. Renewal of Acceptance.

(1) For a repair station seeking renewal of its JAR 145 acceptance, the inspector must ensure the repair station has been subject to two complete inspections during the preceding two-year period to determine compliance with 14 CFR part 145 and JAA Special Conditions. The inspector should identify the dates of each annual inspection on JAA Form 9 in the block that states "FAA Annual Audits." Inspections conducted before the effective date of this chapter do not need to indicate compliance with JAA Special Conditions. Before completing JAR Form 9, the inspector must be satisfied that the repair station is in compliance with both 14 CFR parts 43 and 145, and the JAA Supplement conditions. Any significant findings/discrepancies found during the preceding two-year period must be listed together with the corrective action taken on JAR Form 9 and forwarded to the JAA Maintenance Division with a copy to the FAA Regional JAA Coordinator.

(2) If any repair station elects not to renew their JAA acceptance, the PMI/PAI will complete a JAA Form 9 with the name, address, and certificate number in the appropriate section. In the FAA oversight section write NON-RENEWAL and complete the non-recommendation block. The JAA Form 9 will be forwarded to the JAA using the address specified in par. 13B.

(3) Inspections of repair stations seeking renewal of their JAA acceptance will be aligned with the existing repair station facility inspection program of the inspector. Should this result in the inspector not being able to process the JAA Form 9 recommendation for renewal before the expiration of the JAA acceptance, the JAA acceptance renewal date may need to be adjusted to ensure reasonable alignment with the inspector's program. The inspector must coordinate with the JAA through the FAA Regional JAA Coordinator to extend the JAA acceptance renewal date to allow for the accomplishment of the facility inspection at the date specified in the inspector's program.

C. Amendment of Acceptance. Depending on the nature of the proposed amendment, it may be necessary for the FAA to perform a limited inspection of the applicant seeking an amendment of their JAR 145 acceptance.

D. Analyze and Document any Deficiencies.

(1) If deficiencies are noted, the inspector must brief an appropriate representative of the applicant at the end of the inspection, confirm any findings, notify the applicant in writing within two weeks, and if appropriate, meet with the applicant to review the deficiencies in detail.

(2) For an initial application, all deficiencies noted by the inspector must be corrected within 60 days of the inspector's notification to the applicant. If the deficiencies have not been corrected within 60 days, the inspector will terminate the application. The inspector may extend the 60-day period if the applicant demonstrates an ability and willingness to correct the noted deficiencies.

(3) For an application for renewal or amendment, the inspector may allow the applicant to submit a plan for corrective action, depending on the nature of the deficiencies. If the plan for corrective action is satisfactory, the inspector will submit the corrective action plan along with the JAA Form 9 recommendation for acceptance. If the applicant for renewal fails to correct the deficiencies or to provide a plan for corrective action prior to the expiration of its JAA acceptance, the inspector will terminate the renewal application and submit JAA Form 9 to the JAA with a non-recommendation for acceptance. In the event of unusual circumstances (for example, a short period of time between the inspection and the expiration date), the JAA may extend the duration of the applicant's JAA acceptance for a reasonable period of time. If an applicant for amendment fails to correct the deficiencies or to provide a plan for corrective action within the 60-day time period, the inspector will terminate the application and submit JAA Form 9 to the JAA with a non-recommendation for acceptance.

(4) If corrective action must be taken for the certification process to continue, the inspector must be notified in writing by the applicant when all deficiencies have been corrected. Each deficiency and corrective action must be documented and recorded in the applicant's certification file. The inspector must notify the FAA Regional JAA Coordinator of all deficiencies that have not been corrected, any problem that may result in denial of initial JAA acceptance or nonrenewal of JAA acceptance, any issue that requires

consultation with the JAA, or any other actions that must be coordinated with the JAA by the applicant.

13. JAA-ACCEPTANCE PHASE.

A. Preparation of JAA Form 9.

(1) To recommend JAA acceptance of an applicant, the inspector should be satisfied with the proposed JAA Supplement; any amendments, if applicable; and any inspections the FAA has performed. The inspector will recommend acceptance of the applicant to the JAA by preparing JAA Form 9.

(2) For an applicant seeking a renewal of acceptance, the inspector must include on JAA Form 9 a list of the significant findings/discrepancies found during the preceding two-year period. These findings/discrepancies also should have been reported previously IAW section 1, paragraphs 9B and C of this chapter.

NOTE: Prepare JAA Form 9 with items 9, 10, 11, and 12 marked "yes." Previously the JAA has received the completed form with these items marked "N/A." The JAA wants these items marked with a yes to ensure that the repair station procedures require customers to provide this information.

(3) Inspectors must not delay or submit JAA Form 9 with a non-recommendation based on pending enforcement actions or an enforcement action that has not been dispositioned by FAA legal council. The inspector must submit a recommendation for renewal and describe the potential violation of the findings in the Discrepancy area of JAA Form 9.

B. JAA Policy Regarding JAA Form 9 Reporting Requirements. Any change to the status of the repair station part 145 certificate, such as surrender, suspension, or revocation and any serious failure of the repair station to comply with part 145 that could result in enforcement action. The inspector will report this information on JAA Form 9. For reporting of uncorrected findings or discrepancies, the inspector will leave the date-corrected column blank. Revocation of a repair station part 145 certificate automatically invalidates its JAA acceptance.

(1) Recommendation. The JAA recommends the following items are reportable as recommendations when the repair station has taken corrective action, or has submitted a plan for corrective action that the FAA has accepted. Any enforcement action taken as a

result of the findings/discrepancies will not effect the FAA providing the JAA with a recommendation for renewal. The corrective action plan must be attached to the Form 9.

- Serious failure to comply with NAA requirements
- Overall failure to comply with the JAA supplementary conditions
- Failure to use FAA-approved data for major repairs/alterations/modifications
- Failure of the repair station to maintain a working quality monitoring system

(2) *Non-Recommendation.* The FAA should provide the JAA with a non-recommendation when the FAA has found significant safety issues using the criteria above and corrective action has not been taken or a plan for corrective action has not been accepted by the FAA. The JAA may elect not to renew or amend a JAA acceptance until corrective action has taken place or a plan for corrective action has been accepted by the FAA and submitted with the Form 9.

NOTE: Withdrawal of FAA certification will result in automatic withdrawal of JAA acceptance, because JAA acceptance is based on compliance with part 145 and JAA Special Conditions.

C. Process the Recommendation for JAA Acceptance.

(1) The inspector will send the following items by mail, facsimile, or electronic mail (Telephone 31-23-5679711; Facsimile 31-23-5621714) to the JAR 145 Coordinator, JAA Maintenance Division, Saturnusstraat 8-10, P.O. Box 3000, 2130 KA Hoofddorp, Netherlands.

- JAA Form 9
- JAA Form 16
- A copy of the applicant's FAA OpSpecs
- Any line station appendix from the JAA Supplement, if appropriate

NOTE: Any items submitted previously that have not been revised do not need to be resubmitted.

NOTE: The privileges of the JAR 145 acceptance must not exceed the applicant's FAA certificate ratings and limitations. Acceptance by the JAA and JAA-member NAA's also will be limited by the FAA OpSpecs

issued to the applicant.

(2) For an initial application, the inspector must not forward JAA Form 9 or any accompanying material to the JAA until the applicant corrects all significant findings/discrepancies. If the applicant is applying for initial acceptance and has an alleged finding/discrepancy being processed for possible enforcement action, the inspector will advise the JAA of the enforcement action on JAA Form 9 but cannot withhold JAA recommendation. If the applicant is applying for a renewal or amendment of their JAA acceptance and an alleged finding/discrepancy is being processed for possible enforcement action, the inspector will advise the JAA on JAA Form 9 IAW section 1, paragraph 9B of this chapter.

D. JAA Acceptance. After the JAA receives a completed recommendation from the FAA, is satisfied that the applicant meets all regulatory requirements, and obtains proof of any required fee payment, it will forward a JAR 145 acceptance certificate to the applicant and inspector. The JAA will list the applicant as JAA-accepted in JAA Administrative and Guidance Material. A JAR 145 acceptance certificate is valid for up to two years.

15. TASK OUTCOMES.

A. File PTRS Data Sheet.

B. Completion of the Task. Completion of the task will result in the following:

(1) For a successful application:

(a) Issuance of a JAR 145 acceptance to the applicant by the JAA and its inclusion in the applicant's JAA Supplement;

(b) Revision of paragraph A001, Issuance and Applicability, of a new applicant's OpSpecs to include the following (or equivalent) language: "The repair station specified on these OpSpecs is performing maintenance and/or alteration of aircraft and/or aeronautical products to be installed on aircraft under the terms and conditions of BASAs and associated MIPs between the FAA and JAA-member countries.";

(c) Updating of the Vital Information System (VIS) by completing all relevant data fields to indicate that the applicant is JAA-accepted;

(d) Return of the JAA Supplement to the applicant, if provided; and

(e) Filing of a copy of the JAA Supplement and JAA acceptance in the applicant's office file.

(2) For an unsuccessful application, because the applicant terminated the process or failed an inspection:

(a) The return of all copies of the JAA Supplement, if provided, and JAA Form 16 to the applicant with a letter explaining all deficiencies, including what must be corrected and resubmitted to proceed with the process of seeking JAA acceptance, renewal, or amendment; and

(b) The completion of correspondence describing the situation to the FAA Regional JAA Coordinator.

C. Document Task. File all supporting paperwork in the applicant's office file and update the VIS. The inspector also will enter on the applicant's file that the applicant will be FAA-certificated, JAA-accepted, and add JAA Supplement aspects to all future FAA inspections of the applicant's facility. A copy of the applicant's JAA Supplement together with its 14 CFR part 145 IPM will be maintained at the FSDO.

The JAA does not require a copy of either the applicant manual or JAA Supplement.

17. FUTURE ACTIVITIES.

A. Surveillance Planning. When the JAR 145 acceptance process is complete, surveillance planning and scheduling for the applicant must be revised to include surveillance and inspections for compliance with 14 CFR part 145 and JAA special conditions.

B. Maintenance International Standardization Team (MIST) Visits. Although JAA MIST visits are separate from the inspections discussed earlier in this chapter, they will provide information valuable to inspectors. Such teams will visit each FAA region every one to two years to sample standards of compliance achieved by 14 CFR part 145 applicants who are JAA-accepted under the BASA/MIP process. In most cases, the MIST performs a snapshot audit of a number of 14 CFR part 145 applicants, but may perform a more in-depth inspection in any particular case. The PI assigned to an applicant being visited by a MIST will accompany the MIST during the visit.

CHAPTER 170. INTERNATIONAL FIELD OFFICE INITIAL CERTIFICATION OF REPAIR STATIONS UNDER THE MAINTENANCE IMPLEMENTATION PROCEDURES OF A BILATERAL AVIATION SAFETY AGREEMENT

SECTION 1. BACKGROUND

1. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES.

A. Maintenance: 3045, 3240, 3650, 3679

B. Avionics: 5045, 5240, 5650, 5679

3. OBJECTIVE. This chapter must be used in conjunction with advisory circular (AC) 145-7, as revised, Issuance of Repair Station Certificates to Foreign Approved Maintenance Organizations Under the Maintenance Implementation Procedures of a Bilateral Aviation Safety Agreement. The AC describes the steps to certificate an approved maintenance organization (AMO) located outside the territory of the United States as a Federal Aviation Administration (FAA) repair station in accordance with (IAW) the Maintenance Implementation Procedures (MIP) of a Bilateral Aviation Safety Agreement (BASA). At the time of publication, this chapter applies to Germany, Ireland, and France because each of these countries has signed a BASA/MIP with the United States. The Flight Standards Service (AFS) will list the status of countries on the electronic bulletin boards at: <<http://www.faa.gov/avr/afs/300/leorns.htm>> and/or the Aircraft Certification Service (AIR-4) website at: <http://www.faa.gov/certification/aircraft/BAA-BASA_Listing.stm>.

NOTE: Implementation Procedures (IP) are inclusive and cover Simulator Implementation Procedures (SIP), MIPs, and IPs Airworthiness.

5. GENERAL.

A. FAA-certificated repair stations located outside the United States are under the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 145. The certification of foreign repair stations is a response to the need to perform maintenance on or an alteration/modification of aeronautical products subject to U.S. airworthiness regulations in foreign countries. The need to maintain aircraft and components outside

the United States has grown with the corresponding increase of international air travel and the number of FAA-approved foreign-manufactured aeronautical products used by U.S. operators.

B. Similarly, other countries also have experienced an increase in the use of U.S. facilities to perform maintenance, alteration, or modification of aeronautical products subject to their National Regulations. The FAA and the National Aviation Authorities (NAA) have developed a system to eliminate duplicate activities because both the FAA and NAA have extensive inspection, surveillance, evaluation, and certification programs for their repair facilities. This is accomplished through the implementation of a BASA and its accompanying MIP.

C. The MIP is based on an FAA and NAA evaluation of part 145 and the NAA-compatible AMO regulations. This evaluation identified the areas where these regulations and guidance agree and where they differ. The requirements in part 145 that are not in NAA regulations and guidance for AMOs are in FAA Special Conditions in the MIP, and the NAA regulations and guidance that are not in part 145 are in the NAA Special Conditions in the MIP. As a result, an NAA AMO complying with NAA regulations and guidance for AMOs and FAA Special Conditions in the MIP is in compliance with part 145.

D. Changes to NAA regulations and guidance material, part 145, and FAA Special Conditions will be reviewed by the appropriate FAA Headquarters office with responsibility for the subject matter to determine the impact on the BASA/MIP process and this handbook chapter. Changes that affect the BASA/MIP process will be reviewed by an FAA committee established under § 4.3 of the MIP. This committee will advise FAA International Field Offices (IFO) of the impact of such changes and any resolutions.

E. Background.

(1) As part of the pre-MIP assessments and evaluation program, the FAA made a determination

that the NAA's processes and procedures met or exceeded the FAA's requirements. The FAA and NAA will provide each other with regulations, policies, guidance, practices, and interpretations relevant to these IPs, and will ensure that such documents are updated in a timely manner. In addition, any FAA or NAA proposal to amend such documents should be provided to the other authority for review prior to the amendment being effected, consistent with their national laws and administrative procedures. FAA Aviation Safety Inspectors (ASI) should note that this guidance would be applicable to many different countries; therefore, the surveillance report documents are referred to by a variety of different names, titles, and/or numerical identifications. In this document, we will reference Joint Aviation Authorities (JAA) Form 6, Surveillance/Inspection Report, as the surveillance document. As part of the assessment, the FAA and JAA agreed upon an FAA Annex to JAA Form 6. In some cases, the NAA inspector must submit the forms and associated documents to the NAA regional or headquarters offices for review and conversion into the English language. The FAA agrees that the time frame for such translations is at the NAA's discretion but should be completed in a timely manner.

(2) Under the BASA/MIP agreement, the AMO is responsible for remaining in compliance with JAR 145 and FAA Special Conditions. Under the BASA/MIP concept, the FAA will perform 10 percent maximum annual sampling inspections of repair stations located within a country that has signed a BASA/MIP with the United States. The FAA will also be part of internal audit programs in the NAA that are covered under the BASA/MIP process.

(3) The FAA has determined that the combination of scheduled sampling inspections and participation in NAA internal audits will allow the FAA to make a determination of NAA and repair station compliance with the terms and conditions of a BASA/MIP. This is a systems approach and complies with the FAA's Air Transportation Oversight System (ATOS) policy.

(4) Under the terms and conditions of the MIP, it is now the NAA's responsibility to confirm compliance with the MIP to the FAA, thereby reducing redundant surveillance, duplication of effort, and bureaucratic procedures by both agencies. The FAA confirmed during the MIP development process that the turnover of repair station surveillance will not compromise safety. The FAA is transferring the burden

of surveillance and procedures to the NAA and recognizing their system. In turn, the NAA is recognizing the FAA's system in the domestic United States. This system allows the FAA to retain enforcement capability while recognizing the procedures and abilities of the NAA.

(5) The FAA will continue to perform sample surveillance of repair stations to ensure continued compliance with the MIP by both the NAA and the repair station as described in this chapter. Periodically, the FAA will also participate in the NAA's internal evaluation process. In the case of the JAA, this is accomplished by participation in JAA MAST visit.

F. The following acronyms and definitions are used in this chapter:

(1) AMC — Acceptable Means of Compliance. JAA guidance material similar to FAA ACs.

(2) AMO — Approved Maintenance Organization. Many countries use this term in place of Certificated Repair Station.

(3) Appropriate Surveillance Form — FAA Annex to NAA surveillance report, which identifies MIP Special Conditions. (This will be identified in future FAA publications.)

(4) ASI — Aviation Safety Inspector.

(5) BASA — Bilateral Aviation Safety Agreement. Department of State and FAA format for international government-to-government agreements.

(6) CFRS — FAA-Certificated Foreign Repair Station.

(7) CL — Capabilities List. Identifies by make, model, and part number (if applicable) each component that the AMO/CFRS is authorized to maintain/alter.

(8) FAA — Federal Aviation Administration.

(9) FAA Annex to JAA Form 6 — FAA/NAA status report on a JAR-145/part 145 organization identifying MIP FAA Special Condition items.

(10) 14 CFR — Title 14 of the Code of Federal Regulations.

(11) IFO — FAA International Field Office.

(12) JAA — Joint Aviation Authorities. European-member National Aviation Authorities.

(13) JAA Form 6 — JAA AMO compliance checklist/surveillance/inspection report.

(14) JAR — Joint Aviation Requirements.

(15) IEM — Interpretive Explanatory Material. JAA guidance material considered to be part of the requirements for the purposes of the BASA/MIP.

(16) MIP — Maintenance Implementation Procedures. NAA-to-FAA agreement.

(17) MOE — Maintenance Organization Exposition. JAA AMO manual equivalent to the Inspection Procedures Manual required by the FAA.

(18) MME — Maintenance Management Exposition. (Contains MOE and JAR operator exposition.)

(19) NAA — National Aviation Authorities. Similar to the member countries of the JAA.

(20) NAA Required Manual — NAA-equivalent of FAA Inspection Procedures Manual.

(21) NAA Regulations — National regulation for AMOs identified as similar to 14 CFR.

(22) NAA Requirements — NAA guidance material similar to FAA advisory or guidance material.

(23) TGL — Temporary Guidance Leaflet. Interim policy guidance published by the JAA.

7. THE CERTIFICATION PROCESS—GENERAL INFORMATION.

A. *General.* The guidance provided in this chapter must be used in conjunction with AC 145-7, as revised. A maintenance organization, approved under NAA regulations and guidance (or JAR-145), that has signed a BASA/MIP with the United States can apply for a part 145 repair station certificate using the procedures described in this chapter and AC 145-7, as revised. As a result of the BASA/MIP between the United States and the country in which the applicant AMO is located, many of the actions the FAA would have accomplished in a part 145 certification process for a foreign repair station are now accomplished by the applicant AMO's NAA. During the application procedure, the applicant AMO's NAA provides an application package to the AMO and is responsible for processing all the documentation required for part 145 certification. Up to the final certification phase, the FAA will have limited involvement in the certification process.

NOTE: All documents the applicant AMO provides to the FAA via the NAA must be in English.

B. NAA Responsibilities.

(1) *Certification Process.* The applicant AMO can request initial part 145 certification using the guidance provided in AC 145-7, as revised. Guidance for renewing or amending an existing part 145 certification can be found in volume 2, chapter 171. The BASA/MIP agreement allows the FAA to accept the certification system of the BASA/MIP country. This allows the NAA the flexibility to process an initial/renewal/amended repair station application IAW their system.

(2) *Preapplication Phase.* An AMO should inform its NAA of its intent to seek certification as a repair station under part 145 and the BASA/MIP agreement. On receipt of the preliminary inquiry, the NAA will provide the applicant AMO with a copy of AC 145-7, as revised. The NAA or applicant will inform the FAA of the potential applicant by providing the FAA with the information identified in AC 145-7, as revised, paragraph 7a(3)(a), (VIS information). The applicant must supply the NAA with a statement of continuing need to maintain or alter U.S.-registered aircraft and/or aeronautical products being installed on U.S.-registered aircraft (see AC 145-7, as revised, for criteria of need requirements).

NOTE: The FAA has no responsibilities in the preapplication phase. However, the NAA should alert the IFO of the potential application. The IFO must establish an office file (a pending list) for each applicant in order to keep an accurate record of pending applications. It is acceptable for this to be accomplished by a telephone call or FAX from the NAA or applicant.

(3) *Formal Application Phase.* The FAA has no responsibility in this phase. The AMO will provide the NAA with all the required documents identified in AC 145-7, as revised.

(4) *Document Compliance Phase.* The FAA has no responsibility in this phase until the completed package has been forwarded to the FAA as discussed in section 2. The NAA will review the documents submitted by the applicant AMO to ensure they conform to applicable NAA requirements, FAA Special Conditions, and safe operating practices (as

described in AC 145-7, as revised) such as those involving suspected unapproved parts (SUP). (The NAA may have regulations requiring an SUP's reporting procedure. In the case of the JAA, compliance with JAR 145.60, Reporting of Unairworthy Conditions, and the JAR-required incoming inspection procedures meet the intent of the FAA SUP program.)

NOTE: Beginning in FY 02, the required item on PTRS for SUP surveillance will be deleted.

(5) Demonstration and Inspection Phase.

The NAA has primary responsibility in the demonstration and inspection phase. The inspection of the facility will be done IAW the NAA procedures. The FAA will review the required documents during the certification phase. The NAA will process the required documents and inspection/surveillance report IAW AC 145-7, as revised.

C. FAA Responsibilities.

(1) Certification Phase. Once the NAA determines that the applicant AMO meets their AMO requirements and FAA Special Conditions, the NAA will recommend FAA certification. The NAA will complete the appropriate form that includes a signed endorsement/recommendation and the FAA Annex to JAA Form 6 or FAA/NAA-accepted equivalent documentation, which should include an NAA-signed endorsement to the FAA that the applicant AMO meets the NAA requirements and FAA Special Conditions. The FAA inspector who has geographic responsibility for the country in which the applicant AMO is located should receive the following documents from the NAA:

(a) The appropriate NAA surveillance form (or FAA Annex to JAA Form 6) that includes FAA Special Conditions and an NAA recommendation. There should be no outstanding findings for initial certification.

(b) FAA Form 8310-3, Application for Repair Station Certification and/or Rating, including a list of maintenance functions to be performed for the applicant AMO under contract by another maintenance organization.

(c) A copy of the NAA Approval Certificate, including Operations Specifications (OpSpecs) or the official NAA document that identifies the ratings and limitations authorized (JAA Form 3, including Approval Schedule).

(d) A copy of the CL procedures.

(e) The applicant AMO's brochure providing a physical description of the facility with accompanying photographs. The NAA may forward to the FAA one copy of the brochure and photographs provided it retains a copy on file and makes it available to the FAA on request.

NOTE: Effective April 2003, the brochure will no longer be required. The new part 145 requires that a written description or photographs be submitted in its place.

(2) Issuance of Certificate. Once the FAA has received and reviewed the above documents and determined that the applicant AMO has met the BASA/MIP requirements and has paid the appropriate fee, the FAA will issue FAA Form 8000-4, Air Agency Certificate, and either FAA Form 8000-4-1, Repair Station Operations Specifications, or Automated Repair Station Operations Specifications, listing all applicable limitations. The FAA under the BASA/MIP has recognized the NAA rating system. Therefore, the OpSpec will reference the NAA rating and certificate number in the limitation section. The FAA certificate should reflect the appropriate FAA rating, which will be discussed later in this chapter. The FAA certificate and OpSpec must contain the appropriate BASA/MIP statement. The FAA will forward these forms to the NAA for distribution to the AMO.

9. CONTINUING VALIDITY OF PART 145 REPAIR STATION CERTIFICATE.

A. After initial certification, the continuing validity of a part 145 repair station certificate depends on FAA satisfaction that the repair station continues to comply with NAA (or JAR-145) requirements and FAA Special Conditions. The MIP provides the FAA with the ability to recognize the corrective action of the NAA with no additional FAA action. The NAA inspector must provide the FAA with a recommendation on the appropriate surveillance form indicating any of the findings/discrepancies listed below when these findings/discrepancies have been corrected or a plan for corrective action has been accepted by the NAA. Enforcement action being taken by the NAA as a result of findings/discrepancies will not affect the recommendation. The following are reportable issues that should be described on the NAA surveillance form:

- Serious failure to comply with national regulations and guidance (in the case of the JAA, JAR-145)

- Overall failure to comply with FAA Special Conditions identified in the MIP and AC 145-7, as revised
- Failure to use FAA-approved data for major repairs, alterations, or modifications
- Failure to maintain a working quality control system (in the case of the JAA, JAA-approved Quality Monitoring System or internal self-audit system)

B. The NAA should provide the FAA with a non-recommendation when the NAA has found significant safety issues using the above criteria and corrective action has not been taken.

C. The NAA will promptly notify the FAA of any investigation into noncompliance that could result in the loss of an AMO's certification, suspension, or penalty (in the case of the JAA, removal from JAA listing and/or the suspension of its JAR-145 approval/certification).

D. A basic MIP requirement is compliance with both NAA and JAA requirements; therefore, withdrawal of NAA approval/certification will result in withdrawal of FAA certification by the FAA as a result of noncompliance with the MIP and approved OpSpecs.

E. The FAA may undertake investigations or enforcement actions under FAA regulations and directives if not satisfied with JAA/NAA action.

F. The AMO must cooperate with any FAA investigation or enforcement action.

G. Any failure to comply with applicable requirements may result in enforcement action.

11. FAA-CERTIFICATED REPAIR STATIONS WITH EXEMPTIONS. FAA-certificated repair stations granted exemptions under 14 CFR part 11 will continue to follow the BASA/MIP process for renewal, provided the NAA has been informed by the FAA of the details of the exemption and provided with a current copy of the exemption.

13. APPROVED MAINTENANCE ORGANIZATIONS WITH DEVIATIONS.

AMOs that have deviations/exemptions from NAA regulations and guidance (JAR-145) may qualify for an FAA certificate. Such candidates represent unusual circumstances and a copy of the application and NAA deviation should be forwarded directly to FAA Headquarters, AFS-300, for review and coordination prior to certification. Such deviations may require an exemption from 14 CFR.

15. PROTECTION OF PROPRIETARY DATA AND FREEDOM OF INFORMATION ACT (FOIA) REQUESTS.

A. Proprietary Data. Data submitted by an applicant AMO may be the property of that AMO or another entity. Release of those data by the FAA and the NAA (in the case of the JAA, JAA-member NAA) is restricted under § 4.7(a) of the MIP. The FAA and the NAA (JAA-member NAA) will not copy, release, or show proprietary data obtained from either authority to anyone outside the FAA or NAA without written consent of the owner of the proprietary data.

B. Freedom of Information Act (FOIA) Requests. The FAA often receives requests from the public, under FOIA, to release information in its possession. Any information the FAA has in its possession must be disclosed under FOIA unless it falls within certain exceptions, including trade secrets or financial or commercial data considered confidential or privileged. When the FAA receives a request for the release of information related to an AMO located in a country covered by a BASA/MIP, the FAA will advise the NAA of the AMO regarding any information that might be released. The FAA also may request the NAA's assistance, in cooperation with the AMO, in determining if the submitter would object to the release of this information, and which portions of the information received from the submitter or generated by the NAA might be withheld under FOIA exceptions (if any).

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SECTION 2. PROCEDURES

1. PREREQUISITES AND COORDINATION REQUIREMENTS.

A. Prerequisites:

- Knowledge of the regulatory requirements of 14 CFR parts 43 and 145
- Completion of the Airworthiness Inspector's Indoctrination Course or equivalent
- Previous experience with certification or surveillance of part 145 repair stations
- Completion of FAA-approved computer-based instruction training, course number 27012, when implemented
- Completion of the foreign repair station course or equivalent, course number 22601, as revised

B. *Coordination.* This task requires coordination with:

- The applicant AMO
- The NAA of the country in which the applicant AMO is located
- FAA Headquarters, AFS-50/300

3. REFERENCES, FORMS, AND JOB AIDS.

A. References:

- 14 CFR parts 43 and 145
- Order 8300.10, Airworthiness Inspector's Handbook, volume 2, chapters 161, 163, 164, and 165
- AC 145-7, as revised

B. Forms:

- FAA Form 8000-4, Air Agency Certificate
- FAA Form 8000-4-1, Repair Station Operations Specifications (or Automated Repair Station Operations Specifications)
- FAA Form 8310-3, Application for Repair Station Certification and/or Rating
- FAA Form 8400-6, Preapplication Statement of Intent (PASI) to be completed by FAA inspector based on information provided by the NAA
- NAA Approval Certificate and OpSpec or documentation defining the AMO's

limitations (JAA Form 3, Approval Certificate and Approval Schedule)

NOTE: In some cases, the NAA has approved procedures for the AMO to make changes to its limitations or approved the use of a CL. In these cases, the applicant must submit the NAA-approved revision procedures. (See AC 145-7, as revised, for additional details.)

- NAA surveillance/inspection report (or FAA Annex to JAA Form 6), NAA Surveillance Report, and Recommendation for FAA Certification/Renewal/Amendment

C. *Job Aids.* None.

5. INITIAL CERTIFICATION APPLICATION.

A. *Preapplication Phase (Initial).* Limited action required of FAA. The NAA should alert the FAA IFO that has geographic responsibility for the country in which the applicant AMO is located. The NAA will provide the FAA with the name, address, and rating being applied for. The FAA must establish an accurate list of pending applicants.

NOTE: An AMO seeking certification under part 145 must hold a valid NAA Approval Certificate or JAR-145 approval/certification and be located in a JAA-member country that has concluded a BASA/MIP with the United States. An AMO may not apply concurrently for a part 145 repair station certificate and JAA approval/certification.

B. *Formal Application Phase (Initial).* No action required of FAA. Review and acceptance of these documents is now the responsibility of the NAA. Documents submitted to the FAA are discussed under the certification phase.

C. *Document Compliance Phase (Initial).* No action required of FAA. Review and acceptance of these documents is now the responsibility of the NAA. Documents submitted to the FAA are discussed under the certification phase.

D. *Demonstration and Inspection Phase (Initial).* No action required of FAA. Review and acceptance of these documents is now the responsibility of the NAA. Documents submitted to the FAA are discussed under the certification phase.

E. Certification Phase (Initial).

(1) If the NAA oversight audit indicates that the applicant AMO is IAW NAA requirements/JAR-145 and FAA Special Conditions, the NAA will complete the appropriate NAA surveillance form (reference office file for appropriate form (TBD)), including a recommendation for FAA certification, and forward the complete application package to the appropriate FAA IFO. The FAA inspector will review all the documents in the application package to ensure they are acceptable and there are no outstanding issues involving corrective action.

(2) The FAA inspector must receive the following documents from the NAA:

(a) FAA Form 8310-3, to include a list of maintenance functions to be performed for the applicant AMO under contract by another maintenance organization.

(b) A copy of the applicant AMO's NAA approval certificate and OpSpec or the appropriate NAA document (JAA Form 3 and JAA Approval Schedule) that identifies the AMO's limitations. In some cases, the NAA has approved procedures for the AMO to make changes to its limitations by approving the use of a CL. In these cases, the NAA must submit the AMO's approved revision procedures. The FAA will not approve the revision procedures but will recognize the NAA's approval. FAA inspectors are to review the procedures to ensure they meet the basic requirements, such as AMO internal audit procedures that verify the AMO has the trained personnel, tools and equipment, data/manuals, and facilities to accommodate any revision to the CL. (See AC 145-7, as revised, for additional information.)

(c) A copy of the appropriate completed NAA surveillance form that includes FAA Special Conditions with an NAA recommendation, the FAA Annex to JAA Form 6, or FAA/JAA-accepted equivalent documentation. (See office files for sample.)

(d) A copy of the brochure providing a physical description of the applicant AMO's facility.

NOTE: Effective April 2003, the brochure will no longer be required. The new part 145 requires that a written description or photographs be submitted in its place.

7. REVIEW OF DOCUMENTS.

A. *Review of FAA Form 8310-3.* Form 8310-3 must include a list of maintenance functions to be performed for the applicant AMO under contract by another maintenance organization. The FAA inspector will review Form 8310-3 to ensure it is complete and accurate, paying particular attention to the following:

(1) Form 8310-3, part 1, should contain the applicant AMO's official name, doing-business-as name (if applicable), business address, and mailing address.

(2) Form 8310-3, part 3, should contain all FAA ratings for which the applicant AMO has applied and be compatible with the applicant AMO's NAA ratings (or JAR-145 ratings and its JAA Form 3 Approval Schedule). (Reference AC 145-7, as revised.)

(3) Form 8310-3, part 4, should include a list of any functions performed for the applicant AMO by a contractor as authorized in its FAA Supplement to its manual (in the case of the JAA, to the MOE part 7). The FAA inspector should note that the JAA allows the AMO to appoint a person at an uncertificated facility to act on behalf of the AMO, provided that person is under the Quality Monitoring System of the AMO. The FAA does not recognize this procedure and caution should be used when reviewing the contracting functions to ensure this process is not included as FAA-acceptable.

(4) Form 8310-3, part 5, should include the applicant AMO's corporate information, as specified, and contain an authorized signature. It may be either an original or a copy.

B. *Review of Surveillance Form.* The FAA inspector must:

(1) Ensure the form includes a copy of the appropriate completed NAA surveillance form that includes FAA Special Conditions with an NAA recommendation, the FAA Annex to JAA Form 6, or FAA/JAA-accepted equivalent documentation.

NOTE: The information on the certification surveillance form need not all come from a single visit to the facility but may be an accumulation of information from multiple visits by the NAA.

(2) Review the NAA-submitted form, the FAA Annex to JAA Form 6, or FAA/NAA-accepted

equivalent documentation to ensure that it has been completed and that the NAA recommendation has been signed.

NOTE: For initial certification the FAA inspector should ensure the NAA oversight audit was completed within 90 days of the NAA's certification recommendation. However, if the applicant AMO successfully completed an NAA surveillance for a regulations and guidance/JAR-145 oversight audit within the preceding 12 months, then the NAA is not required to conduct a review for compliance with the NAA regulations and guidance. However, the NAA will conduct an oversight audit for compliance with FAA Special Conditions.

(3) Review the appropriate NAA surveillance form (see office file for appropriate form) to ensure the form or attachments contain a summary of findings and corrective action noted during the surveillance. This is an initial certification so there should be no outstanding discrepancies/findings, nor should there be plans for corrective action.

(4) Ensure the appropriate NAA surveillance form (see office file for appropriate form) includes a signed recommendation by the NAA to the FAA that the applicant AMO meets NAA regulations and guidance/JAR-145 and FAA Special Conditions. The signed recommendation must include the statements listed below, as appropriate (the FAA will not issue a certification without a recommendation from the NAA).

(a) Recommendation. This maintenance organization is considered to be in compliance with NAA requirements (in the case of the JAA, JAR-145) and FAA Special Conditions with no significant findings/discrepancies outstanding at this time. It is therefore recommended that the FAA certificate this maintenance organization or renew the maintenance organization certificate IAW part 145, as appropriate.

(b) Non-recommendation. When termination of the initial certification process is recommended by the NAA, the NAA will provide the necessary information to terminate the process.

(5) Use PTRS codes 3679/5679 to open and close this job task, using the comment codes when appropriate. PTRS codes 3679/5679 will only be used when the NAA is doing surveillance on behalf of the

FAA. PTRS codes 3650/5650 will only be used when the FAA performs the facility inspection.

C. Review of NAA Approval Certificate and Limitations Document. OpSpecs or JAA Form 3, JAR-145, Approval Certificate, and Approval Schedule. (See office file for sample approval certificate.)

(1) General. The FAA inspector must review the applicant AMO's NAA certificate and limitations document. The FAA inspector will add the appropriate rating to the FAA certificate (Form 8000-4) by using the cross-reference chart in AC 145-7, as revised. This is normally a broad rating; the FAA OpSpecs will contain the limitations. The inspector will add the NAA rating as the limitation to the FAA OpSpecs.

(2) Capabilities List (CL). A CL is a limitations document that identifies articles by make, model, and part number, although in some cases it may be referred to by other names. It is located or referenced in the AMO's manual. When the NAA has approved the procedures for use and revision to a CL, the FAA recognizes the NAA approval. However, the FAA will review the procedures document to confirm the rating applied for and verify that the procedures follow the Quality Monitoring System/Internal Evaluation Program approved by the NAA. This review applies to initial issuance of a CL. The FAA approval of the CL is accomplished by incorporating specific statements into the OpSpec (see (3)(a)). When determining FAA ratings that will apply to the FAA certificate, the OpSpec will use the NAA certificate number in addition to the statement under (3)(a) that references a CL. (See AC 145-7, as revised, for scope and detail of CL.)

NOTE: The FAA inspector must be aware that, under the provisions of a BASA/MIP, the FAA will not issue a repair station certificate and accompanying rating(s) with privileges that exceed the scope of work permitted under the NAA approval limitations, JAR-145, or the scope of any JAA certificate, rating(s), or Approval Schedule issued to an AMO.

(3) Capabilities Document Description.

(a) The use of a CL for both class and limited ratings is an effective way of identifying all articles for which an AMO has an established repair capability. Articles included on the list must be identified by make, model, and part number or assembly number, as applicable. Once the component

or subassembly is identified on the CL, there is no need to list the individual parts contained in that component or subassembly. The AMO must have the proper equipment, personnel, materials, and technical data to maintain each article listed in the CL. The CL is an extension of the AMO's OpSpecs, and its use depends on the AMO establishing procedures for conducting self-audits of its facility and capabilities that are approved by the AMO's NAA and accepted by the NAA on behalf of the FAA. The self-audit programs are normally identified as Quality Monitoring Systems or Internal Evaluation Programs and are authorized by the FAA when the following statement is added to the AMO's FAA OpSpecs:

- "Maintenance or alteration functions limited to those make and model components shown on [AMO's] approved Capabilities Document number [XX], dated [XX/XX/XX], as revised."

NOTE: Do not change the original issuance date.

(b) Once approved, a CL is identified by date and title on the repair station OpSpecs and becomes legally binding.

(4) *Procedures for Accepting Revisions to a CL.*

(a) In cases where the NAA has approved the AMO's Internal Evaluation Program and procedures, the AMO is authorized to revise the CL without additional approvals from the NAA and, as a result, the FAA. This approval will remain in effect unless otherwise notified by FAA. The AMO will be authorized to perform maintenance and alteration on those items added to the CL without any additional FAA or NAA approvals.

(b) When reviewing the NAA-approved procedures for the AMO to use a CL, the FAA inspector should confirm that:

- The AMO's procedures for revisions do not exceed the AMO's FAA rating
- The self-audit is complete for the articles being added, ensuring that the AMO has the technical data, equipment, and material

- There are trained personnel for the article being added, and the AMO has provided the NAA with a statement of perceived need IAW AC 145-7

NOTE: Once part 145 is revised and published, there will be no requirement to demonstrate a need for the certificate.

- The AMO retains a record of its audit that verifies the above
- The procedures contain a provision to provide the FAA with a copy of the audit upon request

9. SPECIAL PROVISIONS FOR REPAIR STATIONS LOCATED OUTSIDE THE UNITED STATES. FAA inspectors must be aware of the following special provisions and situations.

A. Line Stations. Although the NAA may have issued an applicant AMO a single NAA certificate for facilities that include line stations, the FAA normally will issue a separate repair station certificate for each maintenance organization facility. However, under the BASA/MIP agreement, the FAA will recognize line stations that are listed in the AMO manual; within the boundaries of the MIP country; meet all NAA requirements and FAA Special Conditions; and use the same AMO manual. These line stations will be under the surveillance purview of the NAA. Line stations that are located outside the BASA/MIP country will remain under the surveillance purview of the FAA and must obtain an individual repair station certificate or apply for a geographic authorization following the procedures in AC 145-7, as revised.

B. Additional Facilities/Locations.

(1) An AMO does not require a geographic authorization if it is seeking to work at another site within the same airport terminal, provided the AMO has procedures in its FAA Supplement and has full management control over the work performed at the other site (this situation is not considered work away from station).

(2) In the case of a large organization with multiple facilities located in the same area, such as an airport location with multiple hangars, all sites can operate under one certificate. In cases where a facility, such as an engine test cell facility, is located away from the primary facility, the separate facility may

operate under the primary facility's certificate, provided that the separate facility:

- Does not significantly impact the maintenance performed, as determined by the FAA
- Address is listed on its OpSpecs and IPM/manual procedures
- Is under the full control of the primary facility
- Is in reasonable proximity to the primary facility (an FAA inspector must be able to reach the separate facility using ground transportation and without major expense or inconvenience)
- Is located within the BASA/MIP country

(3) A line station may apply for a separate part 145 repair station certificate and rating. The line station must meet all the same NAA (JAR-145) requirements and FAA Special Conditions; however, it may use the same manual and FAA Supplement (MOE part 7) the AMO uses. In some cases, a geographic authorization may be more appropriate but would only apply to an airframe-rated AMO.

C. Geographic Authorizations. The FAA's geographic authorization policy is located in AC 145-7. Processes and procedures for issuing geographic authorization are located in chapter 162.

NOTE: The geographic authorization policy is currently under review and may change.

D. Specialized Services Ratings/Processes.

(1) The FAA inspector may issue an equivalent specialized services rating to an applicant AMO under the provisions of a BASA/MIP if:

(a) The applicant AMO's NAA certificate and limitations (JAA Form 3) indicates that its scope of work includes a specialized services rating.

(b) The NAA assessment of the technical data used by the applicant AMO indicates that it originates from an FAA-approved source.

(2) A specialized services rating is usually issued to permit the performance of work requiring equipment and skills not ordinarily found at a repair station. All work performed under the provisions of a specialized services rating must be done IAW FAA-

approved data; therefore, FAA issuance of a specialized services rating requires FAA-approved process specifications. The FAA inspector must ensure only FAA-approved process specifications are being used on U.S.-registered aircraft or aeronautical products intended for installation on U.S.-registered aircraft. This may require coordination with the appropriate FAA Aircraft Certification Office.

(3) Approval of hydrostatic testing is a responsibility of the U.S. Department of Transportation (DOT). The NAA will surveil/audit these facilities to ensure the organization meets the NAA requirements and FAA Special Conditions. The NAA will also ensure that the organization has the appropriate current U.S. DOT Office of Research and Special Projects Administration (RSPA) approval.

E. FAA Supplement to AMO's Manual (MOE Part 7). No FAA action is required in review of the supplement. The NAA reviews and accepts the manual and FAA Supplement on behalf of the FAA. The NAA is responsible for ensuring the FAA Supplement and all subsequent revisions are in compliance with AC 145-7, as revised.

F. Brochure. The AMO must provide a brochure with a physical description of the facility, so the FAA inspector may review the facility brochure to ensure the facilities described support the ratings for which the AMO applied. The NAA provides the FAA with only a single copy of an applicant AMO's facility brochure, although they may require several copies to be submitted for application. (The JAA requires a maintenance organization to submit three copies of its facility brochure upon application for approval under JAR-145.) Submission of a single facility brochure including photographs to the FAA satisfies the duplicate copy submission requirements of part 145, because the FAA inspector may obtain a second copy of an applicant AMO's facility brochure directly from the NAA upon request.

NOTE: Effective April 2003, the brochure will no longer be required. The new part 145 requires that a written description or photographs be submitted in its place.

G. Fees.

(1) The FAA inspector will notify the applicant AMO, in writing, of the fee for processing the part 145

repair station certificate. The applicant AMO will send this fee IAW the procedures prescribed by that IFO.

(2) The fee will be calculated as specified in AC 187-1, Flight Standards Service Schedule of Charges Outside of the United States.

H. Unsatisfactory Application. If the FAA inspector finds the documentation supporting an applicant AMO's initial application unsatisfactory, the inspector will prepare a memorandum to the NAA indicating the deficiencies noted. The NAA, in turn, will notify the applicant AMO of the FAA's findings. All deficiencies noted by the FAA must be corrected within 60 days of the FAA's notification to the NAA for the application process to continue. If the application process is terminated, the FAA inspector must close out all remaining open PTRS files.

11. CERTIFICATION (INITIAL) DOCUMENT PREPARATION.

A. FAA Form 8310-3.

(1) Once the FAA inspector has determined the applicant AMO's application package is acceptable, the FAA inspector will complete Form 8310-3, parts 6 through 10.

(a) Part 6 will include a statement as follows: "The Repair Station Certificate Operations Specifications were issued under the Terms and Conditions of the BASA/MIP between the United States and [insert name of country]."

(b) Part 7 will be completed to indicate the FAA's findings and recommendation.

(c) Part 8 will be completed to indicate the date the NAA oversight audit was completed.

(2) *The inspector will issue:*

(a) FAA Form 8000-4 (see office file); and

(b) FAA Form 8000-4-1, or Automated Repair Station Operations Specifications (see office files).

NOTE: The OpSpec must include the appropriate NAA certificate number. An FAA inspector must not issue an FAA Air Agency Certificate or Repair Station OpSpecs until the inspector confirms the prescribed fee has been received.

B. FAA Form 8000-4. The FAA inspector will complete Form 8000-4 IAW the guidance in

chapters 164 and 165, paying particular attention to the following:

(1) The applicant AMO's FAA ratings will be indicated on Form 8000-4. The FAA inspector should ensure that the appropriate FAA rating is applied to the certificate using the cross-reference chart in AC 145-7, as revised.

(2) The FAA inspector must adjust the renewed part 145 certificate's expiration date to coincide with the AMO's NAA or JAR-145 certificate expiration date. However, the date to be indicated after "shall continue in effect" should not be more than 12 months from the original (initial) certificate issue date. For initial certification, a certificate can only be issued for a period of 12 months. After the initial certification, certificate renewals will be issued for 24 months unless there is a need to issue a short-term certificate to accommodate alignment to the NAA renewal date.

(3) The language at the bottom of the form, "Any alteration of this . . . or both," should be crossed out IAW chapter 161.

(4) Where a geographic authorization was issued to an applicant AMO to support a U.S. air carrier or part 129 operator, such authorization will be indicated on the Air Agency Certificate and Repair Station OpSpecs IAW the procedures in chapter 162.

C. FAA Form 8000-4-1 or Automated Repair Station OpSpecs. The FAA inspector will complete either Form 8000-4-1 or the Automated Repair Station OpSpecs IAW the guidance in chapter 161, paying particular attention to the following:

(1) A statement will be included on the OpSpecs as follows: "The repair station specified on these OpSpecs is performing maintenance on and/or alteration of aircraft and/or aeronautical products to be installed on aircraft under the terms and conditions of BASA and the associated MIP between the U.S. Government and the Government of [insert name of country]."

(2) A statement will be included on FAA's OpSpecs that "the privileges of a line station, as set forth by any NAA or, in the case of the JAA, line station rating, are not authorized when located outside the BASA/MIP country."

(3) For those geographic authorizations outside the country, the Repair Station OpSpecs will be

annotated to indicate that surveillance responsibility remains with the FAA.

(4) FAA-approved process specifications will be recorded on the AMO's Repair Station OpSpecs.

(5) For OpSpecs that reference a CL, the following (or a similarly worded statement) should be included under the appropriate rating: "Maintenance or alteration functions limited to those make and model components shown on [AMO's] approved Capabilities Document number [XX], dated [XX/XX/XX], as revised."

D. NAA Acceptance of Surveillance. The NAA is required to acknowledge, in writing, its acceptance of the responsibility for the future surveillance and recertification inspections of the applicant AMO.

E. Prepare the Certification Report.

(1) The FAA inspector will prepare and file a Certification Report in the IFO's official file that includes:

- A copy of FAA Form 8400-6
- A copy of the functions the repair station intends on contracting/sub-contracting
- A completed FAA Form 8310-3, including a copy of the NAA-approved procedures for the AMO to use and revise a CL
- A completed copy of the appropriate NAA surveillance form (FAA Annex to JAA Form 6) that includes FAA Special Conditions with a recommendation
- A copy of the NAA approval certificate and limitations (JAA Form 3 and Approval Schedule)

- A copy of the AMO's brochure providing a physical description of the AMO's facility with accompanying photographs, as appropriate
- A copy of FAA Form 8000-4
- A copy of the issued FAA Form 8000-4-1 or Automated Repair Station OpSpecs

(2) The FAA inspector will send the applicant AMO's NAA:

- A copy of FAA Form 8310-3
- The original FAA Form 8000-4
- The original FAA Form 8000-4-1 or Automated Repair Station OpSpecs

F. The FAA inspector will:

(1) Complete the appropriate PTRS file:

(a) Using PTRS codes 3679/5679 when the NAA has performed the surveillance on behalf of the FAA. The FAA inspector should use the comment codes for any significant comments when appropriate.

(b) Using PTRS codes 3045/5045 for review of documentation and processing. The FAA inspector should use the comment codes for any significant comments when appropriate.

NOTE: PTRS codes 3650/5650 may be used when the FAA performs the surveillance as part of the quality audit required by the MIP. The FAA inspector should use the comment codes for any significant comments when appropriate.

(2) Establish the Vital Information Subsystem (VIS) data file as appropriate from information gathered during the certification phase.

CHAPTER 171. INTERNATIONAL FIELD OFFICE RESPONSIBILITIES FOR RENEWAL/AMENDMENT PROCEDURES FOR REPAIR STATIONS UNDER THE MAINTENANCE IMPLEMENTATION PROCEDURES OF A BILATERAL AVIATION SAFETY AGREEMENT

SECTION 1. BACKGROUND

1. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES.

A. Maintenance: 3045, 3240, 3376, 3650, 3679

B. Avionics: 5045, 5240, 5376, 5650, 5679

3. OBJECTIVE. This chapter must be used in conjunction with advisory circular (AC) 145-7, as revised, Issuance of Repair Station Certificates to Foreign Approved Maintenance Organizations Under the Maintenance Implementation Procedures of a Bilateral Aviation Safety Agreement. It describes the process to renew or amend a Federal Aviation Administration (FAA) repair station certificate for stations located outside the territory of the United States in accordance with (IAW) the Maintenance Implementation Procedures (MIP) of a Bilateral Aviation Safety Agreement (BASA). At the time of publication, this chapter applies to Germany, Ireland, and France because each of these countries has signed a BASA/MIP with the United States. The Flight Standards Service (AFS-50/300) will list the status of countries on the electronic bulletin board at <<http://www.faa.gov/avr/afs/300/leonrs.htm>> or the Aircraft Certification Service (AIR-4) website at <http://www.faa.gov/certification/aircraft/BAA-BASA_Listing.stm>.

NOTE: Implementation Procedures (IP) are inclusive and cover Simulator Implementation Procedures (SIP), MIPs, and IPs Airworthiness.

5. GENERAL.

A. FAA-certificated repair stations located outside the United States are under the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 145. The certification of foreign repair stations is a response to the need to perform maintenance on or an alteration or modification of aeronautical products subject to U.S. airworthiness regulations in foreign countries. (See Chapter 170, section 1, paragraph 5 for additional

general information and paragraph 5F for definitions and acronyms.)

B. Background.

(1) As part of the pre-MIP assessments and evaluation program, the FAA made a determination that the National Aviation Authorities' (NAA) process and procedures met or exceeded FAA requirements. FAA Aviation Safety Inspectors (ASI) should note that this guidance will apply to many different countries; therefore, the surveillance report documents are referred to by a variety of different names, titles, and/or numerical identifications. In this document we will reference Joint Aviation Authorities (JAA) Form 6, Surveillance/Inspection Report, as the surveillance document. As part of the assessment, the FAA and JAA agreed upon an FAA annex to JAA Form 6. In some cases, the NAA inspector must submit the forms and associated documents to the NAA regional or headquarters offices for review and conversion into the English language. The FAA agrees that the time frame for such translations is at the NAA's discretion, but they should be completed in a timely manner.

(2) The FAA has developed some unique policies that pertain specifically to foreign repair stations and are applicable under a BASA/MIP. The FAA has determined that the affected policies will be located in AC 145-7, as revised.

7. RENEWAL AND AMENDMENT PROCESS.

A. The applicant Aircraft Maintenance Organization (AMO) may request renewal or amendment to an existing part 145 certification when the AMO is located in a country that has signed a BASA/MIP with the United States using the procedures located in AC 145-7, as revised. The BASA/MIP allows the FAA to accept the certification system of the BASA/MIP country. The guidance provided in this chapter allows the FAA inspector to accept the surveillance and recommendations required for renewal or amendments to a part 145 certificate by

recognizing the process and procedures of the NAA when following the terms and conditions of the MIP.

NOTE: A preapplication phase is not required for renewal or amendment to a part 145 certificate.

B. Formal Application Phase. The FAA has no responsibility in this phase. The applicant will follow the procedures of the NAA and must meet the requirements of AC 145-7, as revised.

C. Document Compliance Phase. The FAA has no responsibility in this phase. The applicant must comply with the requirements in AC 145-7, as revised. The

NAA will review all documents submitted for compliance with AC 145-7, as revised, using NAA procedures.

D. Demonstration and Inspection Phase. The FAA has no responsibility in this phase. The NAA will perform facility inspections for compliance with AC 145-7, as revised.

E. Certification Phase. The FAA is responsible for issuing the certificate and FAA operations specifications (OpSpecs) when they receive the appropriate documents and NAA recommendation. (See section 2 for details.)

SECTION 2. PROCEDURES

1. PREREQUISITES AND COORDINATION REQUIREMENTS.

A. Prerequisites:

- Knowledge of the regulatory requirements of 14 CFR parts 43 and 145
- Completion of the Airworthiness Inspector's Indoctrination Course or equivalent
- Previous experience with certification or surveillance of part 145 repair stations
- Completion of FAA-approved computer-based instruction training, course number 27012, when implemented
- Completion of the foreign repair station course or equivalent, course number 22601, as revised

B. *Coordination.* This task requires coordination with:

- The applicant AMO
- The NAA of the country in which the applicant AMO is located
- FAA Headquarters, AFS-300

3. REFERENCES, FORMS, AND JOB AIDS.

A. References:

- 14 CFR parts 43 and 145
- Order 8300.10, Airworthiness Inspector's Handbook, vol. 2, chapters 161, 163, 164, 165, 170, and 172; and vol. 3, chapter 99
- AC 145-7, as revised

B. Forms:

- FAA Form 8000-4, Air Agency Certificate
- FAA Form 8000-4-1, Repair Station Operations Specifications, or Automated Repair Station Operation Specifications
- FAA Form 8310-3, Application for Repair Station Certification and/or Rating
- NAA approval certificate and OpSpecs document defining the AMO's limitations (in the case of the JAA, use JAA Form 3, Approval Certificate and Approval Schedule)

NOTE: In some cases, the NAA has approved procedures for the AMO to make changes to its

limitations or approved the use of a Capabilities List (CL) (see chapter 170 for a description of a CL or AC 145-7, as revised). In these cases, the applicant must submit the NAA-approved revision procedures if any changes have been made since its last renewal.

- NAA surveillance/inspection report (or FAA annex to JAA Form 6), NAA Surveillance Report and Recommendation for FAA Certification/Renewal/Amendment
- NAA internal evaluation report (or JAA Form 7, Maintenance Airworthiness Standardization Team, MAST Visit Report), if applicable

C. *Job Aids.* None.

5. PROCEDURES.

A. *Renewal Application: NAA Responsibilities.*

(1) *Preapplication Phase (not applicable under a BASA/MIP).* There are no FAA actions required.

(2) *Formal Application Phase.*

(a) To renew its FAA repair station certification, an AMO will submit the documents below to its NAA IAW NAA procedures. The 14 CFR requires the AMO to submit the documents to the FAA via the NAA no later than 30 days before the expiration of the current part 145 certificate. However, the FAA recommends submission at least 60 days before the expiration date to allow the NAA and FAA sufficient time to process the application.

i. FAA Form 8310-3. If the AMO has revised its list of maintenance functions to be performed for the AMO under contract by another maintenance organization since its last renewal, the revision must be included.

ii. A statement of continuing need to maintain or alter U.S.-registered aircraft and/or aeronautical products being installed on U.S.-registered aircraft since the AMO's last certification/renewal (see AC 145-7, as revised, for criteria of need requirement). If the AMO is unable to establish the continuing need requirement, the FAA will renew the AMO's certificate based on its previous continuing need statement. However, the AMO and its NAA will be advised in writing that, if at the time of its next renewal the AMO is still unable to show a

continuing need, the FAA will not renew the AMO's FAA certificate.

(b) *FAA Guidance.*

i. If the AMO does not apply for a renewal of its FAA repair station certification before the certificate expiration date, it must follow the procedures for applying for an initial certificate, except it does not have to submit copies of its facility brochure.

NOTE: The FAA recognizes that during the initial turnover process, there may be some confusion and misunderstandings. Therefore, on request and recommendation from the NAA, the FAA will extend any additional time needed to apply. The FAA also recognizes that the multiple languages involved in the BASA/MIP turnover process may require additional allowances at the NAA's request.

ii. During this phase, the FAA inspector is not required to take any actions other than to answer questions posed by the NAA.

(3) *Document Compliance Phase.* There is normally no FAA action required. Under the BASA/MIP process, it is the NAA's responsibility to review all documents submitted before forwarding them to the FAA.

(a) The NAA will review the AMO's renewal application and the results of previous audits/inspections.

(b) Any deficiencies noted during the NAA review of the documents are handled IAW NAA procedures. If the AMO's part 145 repair station certificate expires during the recommended 60-day renewal application period, or in the event of unusual circumstances as discussed in the above note, the NAA will advise the FAA. The FAA inspector may either issue a short-term certificate or, depending on the nature of the deficiencies, amend the repair station's ratings, provided the AMO demonstrates an ability and willingness to correct the noted deficiencies. The short-term certificate typically is issued for 1 to 3 months, depending on circumstances. This process will require close coordination with the NAA and is only used when requested by the NAA.

(4) *Demonstration and Inspection Phase.* There is no FAA action required. Under the BASA/MIP, this is the NAA's responsibility.

(a) If the information the AMO submits is acceptable, the NAA will conduct surveillance using the appropriate NAA surveillance form (or JAA Form 6, including the FAA annex), an oversight audit of the AMO for compliance with NAA requirements (or Joint Aviation Regulations (JAR)-145), and FAA Special Conditions. A series of partial NAA audits using the appropriate surveillance forms (or JAA Form 6) may collectively fulfill the requirement to perform a complete JAA Form 6 audit, including the FAA annex.

(b) Any deficiencies the NAA notes during the oversight audit are handled as specified in paragraph 5B(3)(a). The FAA inspector will become involved in this phase only in the event of unusual circumstances or upon request by the NAA.

B. Certification Phase: FAA Responsibilities.

(1) If the NAA oversight audit indicates that the AMO is in continued compliance with NAA requirements (or JAR-145) and FAA Special Conditions, the NAA will complete the appropriate NAA surveillance form (FAA annex to JAA Form 6) or FAA/NAA-accepted equivalent documentation, along with the NAA recommendation, and forward the complete renewal application to the appropriate FAA International Field Office (IFO) no later than 30 days before the expiration date of the AMO's part 145 repair station certificate.

(2) The FAA inspector must receive the following documents from the NAA:

- FAA Form 8310-3, to include a list of maintenance functions to be performed for the AMO under contract by another maintenance organization if the AMO has revised the list since its last renewal
- A copy of the appropriate NAA surveillance form (FAA annex to JAA Form 6) or FAA/NAA-accepted equivalent documentation, with the NAA recommendation
- Copy of the NAA approval certificate and limitations (or JAA Form 3) and the Approval Schedule
- A statement of perceived need (see AC 145-7, as revised, for criteria of need requirement)

(3) The FAA inspector must review all the documents in the renewal application package to

ensure they are complete and acceptable. The FAA inspector also will ensure there are no outstanding issues involving corrective action by reviewing the NAA's findings in the recommendations section of the surveillance form (or FAA annex to JAA Form 6). The FAA will follow the corrective action policy identified as follows:

(a) The MIP allows the FAA to recognize the corrective action of the NAA without additional FAA action. The NAA inspector must provide the FAA with a recommendation on the appropriate surveillance form indicating any of the findings/discrepancies listed below. When the findings/discrepancies have been corrected or a plan for corrective action has been accepted by the NAA, any enforcement action taken by the NAA as a result of the findings/discrepancies will not affect the recommendation. The NAA must attach the plan for corrective action to the appropriate surveillance form when submitted to the FAA. The following are reportable issues that should be described on the NAA surveillance form:

- Serious failure to comply with national regulations and requirements (or JAR-145)
- Overall failure to comply with FAA Special Conditions identified in the MIP and AC 145-7, as revised
- Failure to use FAA-approved data for major repairs, alterations, or modifications
- Failure of the repair station to maintain a working quality control system (or JAA-approved Quality Monitoring System) or internal self-audit system

(b) When the NAA finds significant safety issues using the criteria above, they should provide the FAA with a non-recommendation if no corrective action has been taken and no plan for corrective action has been accepted by the NAA. The FAA may decline to renew the repair station certificate until corrective action has taken place or an NAA-approved plan for corrections has been submitted with the appropriate surveillance form. There may be occasions when a short-term certificate is issued while corrective action is taking place. In those cases, the short-term certificate should be issued for no more than 90 days and only with the agreement of the NAA. As a second option, the FAA may reduce the rating of the repair station pending corrective action. Once all corrective actions have been completed to both the FAA's and the NAA's satisfaction, the certificate should be renewed for the

balance of the remaining 24 months from its original renewal date in order to keep the renewal dates aligned with NAA renewal dates.

(c) *Unsatisfactory Application.* If the FAA inspector finds the documentation supporting an AMO's renewal application is unsatisfactory, the inspector will prepare a memorandum to the NAA indicating any deficiencies noted. The NAA, in turn, will notify the AMO of the FAA's findings. For the application process to continue, all noted deficiencies should be corrected within 60 days of the FAA's notification to the NAA, or within the time period specified in an NAA/FAA accepted corrective action plan that the AMO submits.

(4) The FAA will advise the AMO of the total fee due. The fee should be calculated using AC 187-1, Flight Standards Service Schedule of Charges Outside of the United States, and should be restricted to administrative cost.

(5) The FAA determines that the fee has been paid IAW office procedures.

(6) The FAA inspector determines that the application package is correct and complete; the AMO has received a positive recommendation from the NAA; and the AMO meets all the requirements for certificate renewal. The FAA inspector will complete FAA Form 8310-3.

(7) Once the FAA inspector has determined the applicant AMO's application package is acceptable, the inspector will complete Form 8310-3, parts 6 through 10, paying particular attention to the following items:

(a) Part 6 will include a statement as follows: "The Repair Station Certificate Operations Specifications were issued under the Terms and Conditions of the BASA/MIP between the United States and [insert name of country]."

(b) Part 7 will be completed to indicate the NAA's findings and recommendation.

(c) Part 8 will be completed to indicate the date the NAA oversight audit was completed.

(8) The inspector will issue:

(a) FAA Form 8000-4, Air Agency Certificate. The certificate must contain the appropriate FAA rating (i.e., limited airframe). The NAA certificate number will be listed in the limitations section of the OpSpecs.

(b) FAA Form 8000-4-1, Repair Station Operations Specifications, or Automated Repair Station Operation Specifications (see office files for example).

NOTE: The OpSpecs must include the appropriate NAA certificate number and rating. The number and NAA rating will be listed in the limitations section of the OpSpecs. In the case of the JAA, the inspector must use the JAA certificate number and rating listed on JAA Form 3, and the Approval Schedule. An FAA inspector must not issue an FAA Air Agency Certificate or Repair Station OpSpecs until the inspector confirms the prescribed fee has been received.

(9) The FAA inspector will complete Form 8000-4 IAW the guidance in chapters 164 and 165, paying particular attention to the following:

(a) The applicant AMO's FAA ratings will be indicated on Form 8000-4. The FAA inspector should ensure that the appropriate FAA rating is applied to the certificate, i.e., Limited Airframe, Limited powerplant, etc., using the cross-reference chart located in the appendix to AC 145-7, as revised.

(b) The FAA inspector must adjust the renewed part 145 certificate's renewal expiration date to coincide with the AMO's NAA or JAR-145 certificate expiration date. However, the date to be indicated after "shall continue in effect" should not be more than 24 months from the original certificate renewal date and must align with the NAA renewal date, unless there is a need to issue short-term certificates as per paragraph 5B(3)(b).

(c) The language at the bottom of Form 8000-4 stating "Any alteration of this . . . or both" should be crossed out IAW chapter 161.

(d) Where a geographic authorization was issued to an applicant AMO to support a U.S. air carrier or part 129 operator, such authorization will be indicated on the Air Agency Certificate and Repair Station OpSpecs. (See AC 145-7, as revised, for geographic policy.)

(e) The privileges of the part 145 certification should not exceed the AMO's NAA rating (JAA approval, ratings, and limitations). Therefore, FAA certification will be limited by the JAA Approval Schedule (JAA Form 3, issued to the AMO).

(10) The FAA inspector will complete either Form 8000-4-1, or the Automated Repair Station

OpSpecs IAW the guidance in chapter 161, paying particular attention to the following:

(a) Statements will be included on the OpSpecs as follows:

- "The repair station specified on these OpSpecs is performing maintenance on and/or alteration of aircraft and/or aeronautical products to be installed on aircraft under the terms and conditions of BASA and the associated MIP between the U.S. Government and the Government of [insert name of country]."
- "The privileges of a line station located outside the geographic boundaries of the MIP country, as set forth by any NAA line station rating, are not authorized."

(b) The line stations authorized by the NAA will be listed in the FAA supplement to the repair station manual (in the case of the JAA, in the Maintenance Organization Exposition (MOE) FAA supplement).

(c) Geographic authorizations located outside the MIP country (Automated OpSpecs paragraph B050). Authorized locations and their limitations will be identified on the Repair Station OpSpecs under "Ratings" as "Limited Geographic Authorization," and will be under the surveillance of the FAA. See AC 145-7, as revised, for FAA policy on geographic authorization and Chapter 162 for the procedures for issuing geographic authorization.

(d) For OpSpecs that reference a CL, the following statement (or one similarly worded) should be included under the appropriate rating:

- "Maintenance or alteration functions limited to those make and model components shown on [AMO's] approved Capabilities Document number [XX], dated [XX/XX/XX], as revised."

(11) The FAA inspector will retain for inclusion in the repair station (AMO) certification office file:

- A completed FAA Form 8310-3
- A copy of FAA Forms 8000-4 and 8000-4-1
- The appropriate NAA surveillance form (or FAA annex to JAA Form 6), including

any plan for corrective action (see paragraph 5B(3) of this chapter)

- A copy of the NAA approval certificate and ratings (or JAA Form 3 and Approval Schedule)
- Copies of all appropriate communications with NAA to ensure a proper document trail
- Copy of activity report/type documents
- Copy of AMO's line station listing, as listed in the FAA supplement (if revised or not previously authorized)

(12) The FAA inspector will send the AMO's NAA:

- A copy of FAA Form 8310-3
- The originals of FAA Forms 8000-4 and 8000-4-1

(13) The FAA inspector will complete the appropriate PTRS file using:

(a) PTRS codes 3679/5679 when the NAA has performed the surveillance on behalf of the FAA. The FAA inspector should use the comment codes for any significant comments when appropriate.

(b) PTRS codes 3045/5045 for review of documentation and processing. The FAA inspector should use the comment codes (in the PTRS Database?) for any significant comments when appropriate.

NOTE: PTRS codes 3650/5650 may be used when the FAA performs the surveillance as part of the sampling audit required by the MIP (see vol. 3, chapter 99). The inspector should use the appropriate comment codes for any significant comments.

(c) Update the Vital Information Subsystem (VIS) data file as appropriate from information gathered during the certification phase.

7. AMENDMENT APPLICATION.

A. Preapplication Phase. There are no FAA actions required under this phase.

B. Formal Application Phase.

(1) Each of the following actions require a part 145 certificate holder to apply for a change in a repair station certificate:

- A change in the location, housing, or facilities of the repair station (see AC 145-7, as revised, for details)
- A request to add, revise, or amend a rating
- A change in ownership or name change. If the holder of a repair station certificate sells or transfers its assets, the new owner or the new certificate holder who has made the name change must apply for an amended certificate.

(2) The extent of FAA approval is in the AMO's part 145 Air Agency Certificate and Repair Station OpSpecs. If an AMO seeks to perform work outside the scope of its part 145 repair station certification and its NAA requirements (or JAR-145 certification), it first must obtain an amendment of its NAA approval certificate and limitations (or its JAR-145 certificate and Approval Schedule) to permit the performance of the intended work, before amending its part 145 repair station certificate.

C. NAA Responsibilities.

(1) Revisions to an AMO's FAA supplement to its manual that reflect changed procedures but do not change the nature of the AMO's part 145 certificate or ratings will be submitted to the NAA for review before implementation. Under the BASA/MIP process, it is the NAA's responsibility to review and ensure that any revision meets the requirements of AC 145-7, as revised. The NAA is not required to forward these revisions to FAA.

(2) Title 14 CFR requires a new application when the holder of a repair station certificate sells or transfers its assets. The FAA inspector must recommend a new certificate number because of the possibility of the release of information under the Freedom of Information Act (FOIA). However, should the new owner stipulate in writing that there is a clear understanding of the potential for release of information under FOIA when retaining the old certificate number, the number may be retained.

(3) *Scope of Work.* Requests for revisions to an AMO's NAA certificate and/or limitations document (or JAA Form 3 and Limitation Schedule) will be submitted to its NAA. A copy will be forwarded to the

FAA for review to ensure no change in ratings is required. If changes are required, the FAA will notify the AMO via the NAA to submit FAA Form 8310-3.

(4) An AMO requesting to amend its part 145 certificate should submit the following documents to its NAA:

- A statement of continuing need to maintain or alter U.S.-registered aircraft and/or aeronautical products being installed on U.S.-registered aircraft
- FAA Form 8310-3 and any supporting documentation required by the change
- Documentation demonstrating the show-a-need requirements identified in AC 145-7, as revised, for initial certification (when requesting added ratings)
- A copy of the AMO's revised facility brochure, if necessary

(5) During the formal amendment application phase, the FAA inspector is not required to take any action other than to answer questions the NAA poses regarding compliance with FAA procedures or requirements.

D. Document Compliance Phase. The FAA has no responsibilities in this phase. This is the responsibility of the NAA per the BASA/MIP.

(1) The NAA will review the AMO's amendment application package for continued compliance with FAA Special Conditions in the MIP.

(2) The NAA will immediately inform the FAA inspector immediately of all proposed changes to the location, housing, or facilities of the repair station that would affect the conditions of the AMO's current certificate (see AC 145-7, as revised, for criteria). After discussions with the FAA inspector, the NAA may recommend that the FAA allow the AMO to continue operating as a part 145 repair station while the proposed changes are being implemented. The NAA will inform the AMO of any conditions and immediately notify the FAA when the permitted changes have been implemented.

E. Demonstration and Inspection Phase. The FAA has no responsibilities in this phase. This is the responsibility of the NAA per the BASA/MIP.

(1) For all requests involving a change in the AMO's rating or facilities, if the information submitted by the AMO is acceptable, the NAA will conduct an

on-site audit of the AMO's change using the appropriate NAA surveillance form, including FAA Special Conditions (or FAA annex to JAA Form 6) or FAA/NAA-accepted equivalent documentation. An audit conducted within the previous 90 days is acceptable if it covers the requested change.

(2) If the NAA determines the AMO is in compliance with NAA requirements (or the JAR-145) and FAA Special Conditions, the NAA will complete the appropriate surveillance form (or FAA annex to JAA Form 6) or FAA/JAA-accepted equivalent documentation, and forward the complete amendment package to the appropriate FAA IFO.

F. Certification Phase.

(1) The FAA inspector must receive the following documents from the NAA:

- FAA Form 8310-3, if the amendment affects the list of maintenance functions to be performed for the AMO under contract by another maintenance organization (if revised, must be included)
- A copy of the appropriate NAA surveillance form (or FAA annex to JAA Form 6) or FAA/JAA-accepted equivalent documentation, with the NAA recommendation
- A copy of the NAA AMO's amended certificate and limitations (or the amended JAA Form 3 and Approval Schedule)
- A copy of the AMO's revised facility brochure, if necessary (see AC 145-7, as revised, for additional details)

(2) The FAA inspector will review the amendment application package and supporting documentation and ensure that the NAA surveillance form (or FAA annex to JAA Form 6) is complete and contains the NAA recommendation.

(3) *Unsatisfactory Application.* If the FAA finds the documentation supporting an AMO's application for amendment is unsatisfactory, the FAA inspector will prepare a memorandum to the NAA indicating the deficiencies noted. The NAA, in turn, will notify the AMO of the FAA's findings. For the application process to continue, all deficiencies the FAA noted should be corrected within 60 days of FAA's notification to the NAA, or within the time period specified in an NAA-approved corrective action plan.

(4) Findings or discrepancies noted by the NAA on the surveillance form should be handled in the same manner as described in paragraph 3B(3).

G. Certification: FAA Responsibilities.

(1) Based on the NAA recommendation, once the FAA inspector determines the AMO meets all the requirements for the amendment, the inspector will complete FAA Form 8310-3 and issue a revised part 145 Air Agency Certificate and a revised Repair Station OpSpec to the AMO as specified in subparagraphs (2) and (3) below. Note this difference: on FAA Form 8000-4, the date any new ratings are added should be included, in parentheses, after the ratings.

(2) The FAA inspector will retain the following for inclusion in the AMO's certification file:

- A completed Form 8310-3
- A copy of Form 8000-4
- A copy of Form 8000-4-1, or the Automated Repair Station OpSpecs
- The appropriate NAA surveillance form, including FAA Special Conditions (or FAA annex to JAA Form 6) or FAA/NAA-accepted equivalent documentation, with NAA recommendation
- A copy of the AMO's amended certificate and limitations document (or JAA Form 3 and amended Approval Schedule)

- A copy of the AMO's revised facility brochure, if changes have been made to the facility (see AC 145-7, as revised, for details of brochures)

(3) The FAA inspector will send the AMO's NAA:

- A copy of FAA Form 8310-3
- The originals of FAA Forms 8000-4 and 8000-4-1

(4) The FAA inspector will:

(a) Complete the appropriate PTRS file using:

- PTRS codes 3679/5679 when the NAA has performed the surveillance on behalf of the FAA
- PTRS codes 3045/5045 for review of documentation and processing, when appropriate

NOTE: PTRS codes 3650/5650 may only be used when the FAA performs the surveillance as part of the quality audit required by the MIP. FAA quality audit requirements are contained in Order 8300.10, vol. 3, chapter 99. The FAA inspector should use the comment codes in (INSERT PTRS DATABASE WHEN FINISHED?) for any significant comments when appropriate.

(b) Update the VIS data file as appropriate.

CHAPTER 172. INTERNATIONAL FIELD OFFICE PROCESS FOR TURNOVER OF FAA-CERTIFICATED FOREIGN REPAIR STATIONS TO A NATIONAL AVIATION AUTHORITY UNDER A BASA/MIP

SECTION 1. BACKGROUND

1. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES.

A. *Maintenance*: 3045, 3240, 3650, 3679

B. *Avionics*: 5040, 5045, 5650, 5679

3. OBJECTIVE.

A. This chapter must be used in conjunction with advisory circular (AC) 145-7, as revised, Issuance of Repair Station Certificates to Foreign Approved Maintenance Organizations Under the Maintenance Implementation Procedures of a Bilateral Aviation Safety Agreement. It describes the procedures for turnover of Federal Aviation Administration (FAA) certificated foreign repair stations (CFRS) located outside the territory of the United States to a National Aviation Authority (NAA) in accordance with (IAW) the Maintenance Implementation Procedures (MIP) of a Bilateral Aviation Safety Agreement (BASA). At the time of publication, this chapter applies to Germany, Ireland, and France because each of these countries has signed a BASA/MIP with the United States. The Flight Standards Service (AFS-50/300) will list the status of countries on the electronic bulletin boards at: <<http://www.faa.gov/avr/afs/300/leonrs.htm>> and/or the Aircraft Certification Service (AIR-4) website at: <http://www.faa.gov/certification/aircraft/BAA-BASA_Listing.stm>.

NOTE: Implementation Procedures (IP) are inclusive and cover Simulator Implementation Procedures (SIP), MIPs, and IPs Airworthiness.

B. This chapter will describe the requirements and procedures necessary to effectively and efficiently turn over surveillance and certification procedures to a NAA that has signed a BASA/MIP with the United States.

5. GENERAL. Initial certification requirements under a BASA/MIP are contained in Chapter 170 and AC 145-7, as revised. Procedures for renewal/ amendment of an FAA-CFRS under a BASA/MIP are located in vol. 2, chapter 171 of FAA Order 8300.10, and AC 145-7, as revised. FAA surveillance procedures and requirements are located in vol. 3, chapter 99.

7. BACKGROUND.

A. FAA-CFRSs are under the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 145. The certification of foreign repair stations is a response to the need to perform maintenance on or an alteration/ modification of aeronautical products subject to U.S. airworthiness regulations in foreign countries. (See vol. 2, chapter 170, section 1, paragraph 5 for additional general information and paragraph 5F for definitions and acronyms.)

B. The FAA has developed some unique policies that pertain specifically to foreign repair stations and are applicable under a BASA/MIP. The FAA has determined that the affected policies will be located in AC 145-7, as revised.

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SECTION 2. PROCEDURES

1. PREREQUISITES AND COORDINATION REQUIREMENTS.

A. Prerequisites:

- Knowledge of the regulatory requirements of 14 CFR parts 43 and 145
- Successful completion of the Airworthiness Inspector's Indoctrination Course or equivalent
- Previous experience with certification or surveillance of part 145 repair stations
- Completion of FAA-approved computer-based instruction training, course number 27012, when implemented
- Successful completion of the foreign repair station course or equivalent, course number 22601, as revised

B. *Coordination.* This task requires coordination with:

- The applicant Approved Maintenance Organization (AMO)
- The NAA of the country in which the applicant AMO is located
- FAA Headquarters, AFS-300

3. REFERENCES, FORMS, AND JOB AIDS.

A. References:

- 14 CFR parts 43 and 145
- Order 8300.10, Airworthiness Inspector's Handbook, vol. 2, chapters 161, 163, 164, 165, and 170, and vol. 3, chapter 99
- AC 145-7, as revised, Issuance of Repair Station Certificates to Foreign Approved Maintenance Organizations Under the Maintenance Implementation Procedures (MIP) of a Bilateral Aviation Safety Agreement (BASA)

B. Forms:

- FAA Form 8000-4, Air Agency Certificate
- FAA Form 8000-4-1, Repair Station Operations Specifications (or Automated Repair Station Operations Specifications (OpSpecs))
- FAA Form 8310-3, Application for Repair Station Certification and/or Rating

- NAA approval certificate and OpSpecs or documentation defining the AMO's limitations (in the case of the Joint Aviation Authorities (JAA), JAA Form 3, Approval Certificate and Approval Schedule)

NOTE: In some cases, the NAA has approved procedures for the AMO to make changes to its limitations or approved the use of a Capabilities List (CL) (see AC 145-7, as revised). If any changes have been made since its last renewal, the applicant must submit the NAA-approved revision procedures.

- NAA surveillance/inspection report (or FAA Annex to JAA Form 6), NAA Surveillance Report and Recommendation for FAA Certification/Renewal/Amendment
- NAA internal evaluation report (in the case of the JAA, JAA Form 7, Maintenance Airworthiness Standardization Team, MAST Visit Report)
- Documentation supporting continuing need (i.e., activity report)

C. *Job Aids.* None.

5. PRE-TURNOVER PROCESS.

A. Before signing the MIP, both the NAA and FAA must have worked together to align repair station/AMO renewal dates. This process must start as early as possible to facilitate a smooth and efficient turnover process.

B. Before signing the MIP, the FAA International Field Office (IFO) must identify the repair stations that will be turned over to the NAA. Any repair station that has a significant violation history with the IFO within a 2-year period prior to handover will remain under FAA surveillance and will not be turned over until the FAA is satisfied that the CFRS can meet the MIP requirements. The IFO will establish a list of eligible repair stations and coordinate that list with the NAA.

C. Once the potential candidate CFRSs/AMOs are identified and agreed on by the NAA, inspectors should request that each CFRS develop an FAA Annex to their NAA-approved manual (in the case of the JAA, Maintenance Organization Exposition (MOE)), IAW AC 145-7, as revised. This will eliminate a dual review and acceptance on the FAA Annex when it comes time for turnover to the NAA.

7. TURNOVER PROCEDURES.

A. Once the MIP is signed, the FAA IFO has a 2-year window in which to turn over the surveillance of CFRSs to the applicable NAA. To ensure a smooth transition, it is essential that the responsibilities of the FAA IFO and the NAA be agreed to as outlined below.

B. *Manual Requirements.* It must be understood that the initial turnover of FAA CFRSs in an MIP country involves the FAA turning over existing FAA CFRSs to the NAA. Therefore, the FAA should have accepted the FAA manual supplement before the effective turnover date. This is accomplished by the FAA initialing and dating the list of effective pages.

C. *Renewal Dates.* Renewal dates should have been aligned during the MIP development discussions.

D. *Records.* The transfer of records should only involve the FAA turning over records of FAA surveillance to the NAA, not the NAA turning over their records to FAA. The CFRSs have been under FAA surveillance for a given period of time; therefore, the FAA should be assured that the CFRS is in compliance at the time of turnover. There should be no need for NAA records (reference MIP § 5.0). AC 145-7, as revised, requires the NAA to retain the certification renewal package for a minimum of 2 years.

E. *Time Frame.* Once the MIP is signed, the FAA and NAA will formulate a schedule identifying AMOs/CFRSs to be turned over and will establish a target date for each. An agreed-upon list will be developed and submitted for approval to FAA AFS-300 and NAA Headquarters (HQ). (In the case of the JAA, a copy should be forwarded to the JAA maintenance division to monitor progress.) This process is intended to avoid misunderstandings and reduce unnecessarily lengthy turnover procedures. Once the NAA has informed the IFO that the NAA inspectors have been adequately trained in FAA Special Conditions, the turnover process should be a simplified process. In addition to formal JAA training, the FAA may provide further technical assistance, clarification, or minor on-the-job training as agreed to during the MIP process.

F. *FAA Responsibilities/Actions.*

(1) *The FAA will:*

- Ensure the FAA Principal Inspector (PAI) has appropriate FAA training in BASA/MIP procedures
- Establish a line of communication with the appropriate NAA representative to ensure any issues/concerns regarding BASA/MIP turnover are resolved
- Align FAA and NAA certificate renewal dates
- Ensure all outstanding findings/concerns have been satisfied
- Identify information to be turned over
- Establish the current revision status of the AMO's manual supplement (in the case of the JAA, MOE and the AMO's FAA Supplement to the MOE part 7)
- Coordinate a list including target dates of CFRSs to be turned over to the NAA
- Submit the turnover list to AFS-300 for approval once the list of CFRSs/AMOs is agreed upon

(2) It will not be necessary to review the AMO's FAA manual supplement or MOE supplement if the AMO has had previous FAA approval of the manual supplement or MOE supplements prior to the turnover process. This is now the responsibility of the NAA to review and accept FAA manual supplements and revisions on behalf of the FAA.

G. *NAA Responsibilities/Actions.*

(1) *The NAA will:*

- Designate an NAA representative to serve as a liaison to the FAA IFO in the resolution of any concerns/issues arising from the BASA/MIP turnover
- Ensure the NAA representative and inspector/surveyor have NAA training in BASA/MIP procedures and FAA Special Conditions (in the case of the JAA, JAA training)
- Establish a line of communication with the FAA PAI
- Review FAA documentation on the AMO to be turned over
- Review the current revision status of the AMO's manual/FAA supplement (in the case of the JAA, the MOE and the AMO's FAA supplement to the MOE part 7)

- Establish and coordinate a list that includes target dates of CFRSs/AMOs to be accepted for turnover
- Work with the FAA in aligning FAA and NAA certificate renewal dates
- Submit the agreed-upon list of CFRSs/AMOs to NAA HQ for approval (in the case of the JAA the NAA MIP signature country, a copy should be forwarded to the JAA maintenance division to monitor progress)

(2) If an issue or concern cannot be resolved between the FAA Principal Inspector and the NAA representative, it should be raised to the next management level for resolution. Issues or concerns of a policy nature should be addressed to the FAA/JAA Committee charged with review of the effectiveness of MIP implementation IAW the provisions of MIP § 4.0.

9. TURNOVER OF REPAIR STATION PROCEDURES.

A. The FAA will:

(1) Prepare and sign an “Agreement for the Turnover of Certificated Foreign Repair Stations Under BASA/MIP” that reflects the turnover conditions specified above;

(2) Provide a copy of the most current documentation for the AMO being turned over (the Air Agency Certificate, Repair Station OpSpecs, and, if completed before the turnover, the manual FAA supplement (in the case of the JAA, the MOE and the FAA supplement to MOE part 7));

(3) Amend FAA OpSpecs if necessary to reflect the NAA certificate number and limitations before turnover (the OpSpecs must include the appropriate NAA certificate number and limitations);

(4) Wait until the prescribed fee has been received before issuing an FAA Air Agency Certificate or Repair Station OpSpecs;

(5) Provide all required FAA Forms to the NAA, to include:

- Form 8310-3 with turnover statement on back
- Current copy of AMO certificate/OpSpecs with turnover statement on back
- Copy of NAA turnover information letter

- Copy of letter requesting NAA surveillance responsibility
- Surveillance records for the past 2 years on the AMO
- Record of findings and trends identified
- Record of the current revision status of the MOE/Supplement part 7
- Copy of current Vital Information Subsystem (VIS) with turnover statement

(6) Conduct a joint surveillance of the AMO with the NAA, at the discretion of the authorities, to ensure any outstanding findings have been resolved and that there are no new findings.

(7) The MIP provides the FAA with the ability to recognize the corrective action of the NAA without additional FAA action. The NAA inspector must provide the FAA with a recommendation on the appropriate surveillance form indicating any findings/discrepancies listed below. When the NAA's findings/discrepancies have been corrected or a plan for corrective action has been accepted by the NAA, any enforcement action being taken by the NAA as a result of the findings/discrepancies will not affect the recommendation. The plan for corrective action must be attached to the appropriate surveillance form when submitted to the FAA.

(a) The following are reportable issues that should be described on the NAA surveillance form:

- Serious failure to comply with national regulations and requirements (in the case of the JAA, Joint Aviation Regulations (JAR)-145)
- Overall failure to comply with FAA Special Conditions identified in the MIP and AC 145-7, as revised
- Failure to use FAA-approved data for major repairs/alterations/modifications
- Failure of the repair station to maintain a working quality control system (in the case of the JAA, JAA-approved Quality Monitoring System) or internal self-audit system

(b) The NAA should provide FAA with a non-recommendation when the NAA has found significant safety issues using the criteria above and corrective action has not been taken or a plan for corrective action has not been accepted by the NAA.

The FAA may elect not to renew or amend a repair station certificate until corrective action has taken place or a plan for corrective action has been approved by the NAA and submitted with the appropriate surveillance form.

(c) There may be occasions when a short-term certificate may be issued while corrective action is taking place. In those cases, the short-term certificate should be issued for no more than 90 days and only with the agreement of the NAA. As a second option, the FAA may reduce the rating of the repair station pending corrective action. Once all corrective action has been completed to the satisfaction of the FAA and NAA, the certificate should be renewed for the balance of the remaining 24 months from its original renewal date.

(8) Coordinate with NAA inspectors and discuss the turnover process during the actual turnover.

(9) Identify a target transfer date and sign correspondence indicating both the FAA and the NAA agree to the turnover of surveillance for the AMO.

B. The NAA will:

(1) Sign the “Agreement for the Turnover of Certificated Foreign Repair Stations Under BASA/MIP.”

(2) Accept surveillance responsibilities for each AMO turned over.

(3) Conduct a biennial (2 years) audit as described in chapter 171. Every 2 years, the NAA will provide the FAA a copy of the appropriate surveillance form(s), including FAA Special Conditions (in the case of the JAA, the FAA Annex to JAA Form 6) or FAA/NAA-acceptable equivalent documentation as described in AC 145-7, as revised.

(4) Promptly notify the FAA of each failure of the AMO to comply with AC 145-7, as revised, and the reporting requirements (in the case of the JAA, JAR-145 and/or FAA Special Conditions) or any investigation into noncompliance that can result in the loss of the AMO’s JAA listing and/or suspension of its JAR-145 approval/certification.

NOTE: The FAA will continue to have certification, inspection, and surveillance responsibility for geographic authorizations and line stations outside a country that has concluded a BASA/MIP with U.S. exemptions.

C. FAA Responsibilities. The inspector will issue:

(1) *FAA Form 8000-4.* The certificate must contain the appropriate FAA rating (i.e., limited airframe). The NAA certificate number and rating on the OpSpecs will be the limitation. The FAA inspector will complete the form IAW the guidance in chapters 164 and 165, paying particular attention to the following:

(a) The applicant AMO’s FAA ratings are indicated on Form 8000-4. The FAA inspector should ensure that the appropriate FAA rating is applied to the certificate using the cross-reference chart located in appendix 4 of AC 145-7, as revised.

(b) The FAA inspector must adjust the expiration date of the part 145 certificate renewal to coincide with the AMO’s NAA certificate expiration date (in the case of the JAA, JAR-145 expiration date). The date indicated after “shall continue in effect” should not exceed 24 months from its renewal date; however, it may be less than 24 months. The date must align with the NAA renewal date, unless there is a need to issue short-term certificates to ensure discrepancies are corrected. (See AC 145-7, as revised, and chapter 171 for reporting requirements.)

(c) The language at the bottom of the form, “Any alteration of this . . . or both” should be crossed out IAW chapter 161.

(d) Where a geographic authorization was issued to an applicant AMO to support a U.S. air carrier or part 129 operator, such authorization will be indicated on the Air Agency Certificate and Repair Station OpSpecs. (See AC 145-7, as revised, for geographic policy.)

(e) The privileges of part 145 certification should not exceed the AMO’s NAA rating (JAA approval, ratings, and limitations). Therefore, certification by the FAA will be limited by the JAA Approval Schedule (JAA Form 3, issued to the AMO).

(2) *FAA Form 8000-4-1 or Automated Repair Station OpSpecs.* The FAA inspector will complete either Form 8000-4-1 or the Automated Repair Station OpSpecs IAW the guidance in chapter 161, paying particular attention to the following:

(a) A statement will be included on the OpSpecs as follows:

- “The repair station specified on these OpSpecs is performing maintenance on and/or alteration of aircraft and/or

aeronautical products to be installed on aircraft under the terms and conditions of BASA and associated MIP between the U.S. Government and the Government of [insert name of country]"

(b) A statement will be included on the FAA OpSpecs that "the privileges of a line station located outside the geographic boundaries of the MIP country, as set forth by any NAA line station rating, are not authorized." The line stations authorized by the NAA will be listed in the FAA supplement to the repair station manual (in the case of the JAA in the AMO, MOE FAA supplement).

(c) If the AMO has been issued a geographic authorization rating (automated OpSpecs paragraph B050) for line stations located outside the geographic boundaries of the MIP country, it will have the authorized locations and their corresponding limitations identified on its Repair Station OpSpecs under "Ratings" as "Limited Geographic Authorization," and will be under the surveillance of the FAA.

(d) The OpSpec must include the appropriate NAA certificate number in the limitations section. An FAA inspector must not issue an Air Agency Certificate or Repair Station OpSpecs until the inspector confirms the prescribed fee has been received.

(e) FAA-approved process specifications will be recorded on the AMO's Repair Station OpSpecs.

(f) For OpSpecs that reference a CL, the following or similarly worded statement should be included under the appropriate rating:

- "Maintenance or alteration functions limited to those make and model components shown on the AMO's approved Capabilities Document number [XX], dated [XX/XX/XX], as revised"

(3) The FAA inspector will retain for inclusion in the repair station AMO's certification file:

- A completed Form 8310-3
- A copy of Form 8000-4
- A copy of Form 8000-4-1
- Documentation supporting continuing need (submitted by the AMO accompanied by JAA Form 1 with dual 14 CFR/JAR-145 release)

- The appropriate NAA surveillance form (in the case of the JAA, FAA Annex to JAA Form 6), including any plan for corrective action
- A copy of the NAA approval certificate and ratings (in the case of the JAA, JAA Form 3 and Approval Schedule)
- Copies of all appropriate communications with the NAA to ensure a proper document trail that has traceability back to the original FAA MIP assessments program

(4) The FAA inspector will send the AMO's NAA the following:

- A copy of Form 8310-3
- The original Form 8000-4
- Air Agency Application FAA Form 8310-3 with turnover statement on back
- Current copy of AMO certificate/original OpSpecs Form 8000-4-1 with turnover statement on back
- Copy of NAA turnover information letter
- Copy of letter requesting NAA surveillance responsibility
- Surveillance records for the past 2 years on the AMO
- Record of findings and trends identified
- Record of the current revision status of the MOE/Supplement part 7
- Copy of current VIS with turnover statement

(5) The FAA inspector will:

(a) Complete the appropriate PTRS file:

i. Using PTRS codes 3679/5679 when the NAA has performed the surveillance on behalf of the FAA. The FAA inspector should use the appropriate comment codes for any significant comments.

ii. Using PTRS codes 3045/5045 for review of documentation and processing.

iii. Using the PTRS codes 3650/5650 when the FAA performs the surveillance as part of the quality audit required by the MIP. The FAA inspector should use the comment codes for any significant comments when appropriate.

(b) Update the VIS data file as appropriate.

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CHAPTER 99. INTERNATIONAL FIELD OFFICE PROCEDURES FOR PARTICIPATING IN FOREIGN NATIONAL AVIATION AUTHORITIES INTERNAL QUALITY AUDITS AND SAMPLE SURVEILLANCE OF REPAIR STATIONS UNDER A BASA/MIP

SECTION 1. BACKGROUND

1. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES.

A. *Maintenance*: 3045, 3650, 3679

B. *Avionics*: 5045, 5650, 5679

3. OBJECTIVE. This chapter describes the requirements and procedures necessary for the Federal Aviation Administration (FAA) to effectively and efficiently participate as observers in National Aviation Authority (NAA) internal quality audits and conduct sampling surveillance of FAA-certificated repair stations located outside the territory of the United States in accordance with (IAW) the Maintenance Implementation Procedures (MIP) of a Bilateral Aviation Safety Agreement (BASA). The Flight Standards Service (AFS) will list the status of countries on the electronic bulletin boards at <<http://faa.gov/avr/afs/300/leonrs.htm>> and/or the Aircraft Certification Service (AIR) website at <http://www.faa.gov/certification/aircraft/BAA-BASA_Listing.stm>.

NOTE: Implementation Procedures (IP) are inclusive and cover Simulator Implementation Procedures (SIP), MIPs, and IPs Airworthiness.

5. GENERAL. Initial certification requirements under a BASA/MIP are in FAA Order 8300.10,

Airworthiness Inspector's Handbook, vol. 2, chapter 170 and advisory circular (AC) 145-7, as revised, Issuance of Repair Station Certificates to Foreign Approved Maintenance Organizations Under the Maintenance Implementation Procedures of a Bilateral Aviation Safety Agreement. Procedures for renewal/amendment of an FAA-certificated foreign repair station under a BASA/MIP are in vol. 2, chapter 171 and AC 145-7, as revised. FAA procedures for turnover of repair stations to a BASA/MIP NAA are in vol. 2, chapter 172.

7. BACKGROUND.

A. FAA-certificated repair stations located outside the United States under the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 145 foreign repair stations, respond to the need to perform maintenance on or alteration/modification to aeronautical products subject to U.S. airworthiness regulations in foreign countries.

NOTE: See FAA Order 8300.10, vol. 2, chapter 170, section 1, for additional general information, definitions, and acronyms.

B. The FAA developed unique policies pertaining specifically to foreign repair stations that are applicable under a BASA/MIP. These policies are located in AC 145-7, as revised.

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SECTION 2. PROCEDURES

1. PREREQUISITES AND COORDINATION REQUIREMENTS.

A. Prerequisites:

- Knowledge of the regulatory requirements of 14 CFR parts 43 and 145
- Successful completion of the Airworthiness Inspector's Indoctrination Course or equivalent
- Previous experience with certification or surveillance of part 145 repair stations
- Completion of FAA-approved computer-based instruction training course, number 27012, when implemented
- Successful completion of the Certificated Foreign Repair Station (CFRS) course, number 22601 or equivalent

B. Coordination. This task requires coordination with:

- The applicant's Approved Maintenance Organization (AMO)
- The NAA of the country in which the applicant AMO is located
- FAA Headquarters, AFS-50/300

3. REFERENCES, FORMS, AND JOB AIDS.

A. References:

- 14 CFR parts 43 and 145
- FAA Order 8300.10, Airworthiness Inspector's Handbook, vol. 2, chapters 161, 163, 164, 165, 170, 171, and 172
- AC 145-7, as revised, Issuance of Repair Station Certificates to Approved Maintenance Organizations Under the Maintenance Implementation Procedures of a Bilateral Aviation Safety Agreement

B. Forms:

- FAA Form 8000-4, Air Agency Certificate
- FAA Form 8000-4-1, Repair Station Operations Specifications, or Automated Repair Station Operations Specifications
- FAA Form 8310-3, Application for Repair Station Certificate and/or Rating
- NAA approval certificate and operation specifications/document defining the AMO's limitations (in the case of the Joint

Aviation Authorities, JAA Form 3, Approval Certificate and Approval Schedule)

- In some cases, the NAA has approved procedures for the AMO to make changes to its limitations or approved the use of a Capabilities List (CL) (See vol. 2, chapter 170 for a description of a CL or see AC 145-7, as revised, for scope and details)
- NAA surveillance/inspection report (or in the case of the JAA, FAA Annex to JAA Form 6) and recommendation for FAA certification/renewal/amendment
- NAA internal evaluation report (in the case of the JAA, JAA Form 7, Maintenance Airworthiness Standardization Team (MAST) Visit Report)

C. Job Aids. None.

5. FAA SURVEILLANCE RESPONSIBILITIES AND PROCEDURES OF REPAIR STATIONS UNDER A BASA/MIP.

A. Independent Sampling Inspections. In conjunction with the NAA, the FAA may perform inspections of a representative sample of AMOs located in countries that have concluded a BASA/MIP with the United States. The International Field Office (IFO) should plan a maximum of 10 percent yearly sampling inspections of AMOs that have been turned over IAW BASA/MIP in cooperation with the NAA. The IFO should work closely with the NAA in developing an annual audit sampling schedule. The focus of an FAA inspection will be centered on compliance with the MIP FAA Special Conditions.

B. FAA Independent Inspections. In exceptional circumstances, the FAA may carry out independent inspections, should the need arise. These inspections may be related to accident/incident investigations or compliance and enforcement investigations. The FAA should notify the NAA of the independent inspection and request the NAA's participation.

C. FAA Participation in JAA/NAA. The FAA will also participate in NAA regional and headquarters audits to validate the NAA's ability to ensure compliance with the MIP (in the case of the JAA, this would be JAA MAST).

D. The FAA IFO manager will make the final determination on the number of AMOs to be inspected within the countries that have signed a BASA/MIP or will delegate this responsibility to an appropriate person within the office. The manager/delegate also will determine the scope and complexity of FAA surveillance activity using the most recent appropriate NAA surveillance form that includes FAA Special Conditions (in the case of the JAA, FAA Annex to JAA Form 6) or FAA/NAA-accepted equivalent documentation received from the NAA on the AMOs to be inspected. The manager/delegate also will determine the size and composition of any inspection team and may appoint a team leader, if necessary.

E. The team leader/inspector should invite the NAA principal maintenance inspector or principal avionics inspector and a representative from the NAA regional and/or headquarters office to participate in the inspection. This is normally accomplished by submitting to the NAA headquarter contact/coordinator a written yearly (suggested) schedule of activities, dates, times, and places of AMOs to be inspected. It is recommended that the NAA coordinator establish a schedule with the associated NAA principal inspector to accommodate the FAA team during its normal scheduled visits to the selected AMO. The FAA wishes to work with the NAA, using their normal surveillance schedule. This avoids duplication of effort and redundant inspections. The FAA team leader/inspector may request NAA assistance for travel information, recommendations for hotel accommodations, or any additional information needed to schedule the inspection. At the conclusion of the sampling inspection, time should be allocated to brief the NAA inspector as well as the NAA headquarters/regional management personnel, as appropriate.

NOTE: If the NAA is willing, the FAA may submit a list of repair stations to be visited, and the NAA may develop the itinerary and schedule. In most cases this is a more efficient and effective method of accomplishing this task.

F. *Fees.* The AMO will be advised that any applicable fees will be calculated IAW AC 187-1, Flight Standards Service Schedule of Charges Outside the United States. This inspection function is considered to be a sampling inspection of the AMO certificate and the fees should be calculated using

inspection time, travel, and per diem expenses as well as other expenses identified in AC 187-1.

G. The inspector/team leader may inform the AMO to be visited of the time and date of the FAA inspection. It is FAA policy to advise the organization to be visited in order to ensure the correct management personnel are available during the inspection. The team leader/inspector may request NAA assistance in scheduling the inspection in order to ensure NAA participation (see item E above). The FAA team leader may adjust the date and time of the visit to accommodate the availability of the AMO's management; however, the FAA's time is valuable also, and if rescheduling the inspection requires a major inconvenience to the FAA, the date and time selected by the team leader/inspector will prevail. The AMO management may appoint other people to represent them. The IFO is expected to be familiar with local holidays as well as local customs and should make every effort to accommodate the AMO being visited.

(1) IAW the MIP, FAA may request the manual supplement through the NAA before the inspection.

(2) The NAA on request should provide FAA with a copy of the AMO's FAA manual supplement in English before doing the inspection (or make arrangements to review the FAA manual supplement at the NAA or AMO's office before doing the inspection). In most cases, it would be more appropriate to review the manual supplement at the AMO or on site at the NAA office to avoid shipping the manual supplement from site to site. Time should be allocated to accomplish this at the appropriate site.

(3) The NAA is required to retain a copy of the FAA certification/renewal package for a 2-year period. The FAA should review this package and confirm a statement of continuing need to maintain or alter U.S.-registered aircraft and/or aeronautical products being installed on U.S.-registered aircraft (see AC 145-7, as revised).

(4) A review of the NAA's last appropriate surveillance form that includes the FAA Special Conditions should be conducted. This may be the entire form used for surveillance and not just the FAA Annex to the form (in the case of the JAA, JAA Form 6). The MIP requires the NAA to make this form available to the FAA on request. Ample time should be allowed for the NAA to provide the form before the FAA inspection. It may be more convenient

and efficient to review the surveillance form at the NAA office at the same time the manual review takes place.

(5) The FAA IFO responsible for certificate oversight of any AMO with noted deficiencies will work with the NAA (JAA) to ensure the AMO develops a plan for corrective action that is acceptable to the authorities involved.

H. Ensure that the NAA Understands Finding/Discrepancy Reporting Requirements. The MIP provides FAA with the authority to recognize the corrective action of the NAA without additional FAA action. The NAA inspector must provide FAA with a recommendation on the appropriate surveillance form indicating any of the findings/discrepancies listed below. When the NAA findings/discrepancies have been corrected or a plan for corrective action has been accepted by the NAA, any enforcement action being taken by the NAA as a result of the findings/discrepancies will not affect the recommendation. The plan for corrective action must be attached to the appropriate surveillance form when submitted to the FAA. The following are reportable issues that should be described on the NAA surveillance form:

(1) Serious failure to comply with national regulations and requirements (in the case of the JAA, Joint Aviation Requirements (JAR) 145).

(2) Overall failure to comply with FAA Special Conditions identified in the MIP and AC 145-7, as revised.

(3) Failure to use FAA-approved data forms for major repairs/alterations/modifications.

(4) Failure of the repair station to maintain a working quality control system (in the case of the JAA, JAA-approved Quality Monitoring System (QMS)) or internal self-audit system.

I. Non-Recommendation.

(1) The NAA should provide the FAA with a non-recommendation when the NAA has found significant safety issues using the criteria above and corrective action has not been taken or a plan for corrective action has not been accepted by the NAA. The FAA may elect to not renew or amend a repair station certificate until corrective action has taken place or a plan for corrective action has been approved

by the NAA and submitted with the appropriate surveillance form.

(2) The FAA and the NAA each will retain the right to take separate enforcement action, but in some cases, an authority may choose to consider a remedial action taken by the other authority. The enforcement consultation process under the BASA/MIP procedures will be subject to a regular joint review by the FAA and the NAA (in the case of MAST visits, the JAA). (MIP section 5.1.)

J. Review Before Inspection. The FAA team or inspector should review the FAA Manual Supplement before the inspection. The supplement should comply with the appropriate portions of the sample supplement in AC 145-7, as revised. If any deficiencies are noted they should be listed as a finding on the final report, of which a copy will be given to the NAA.

(1) A standard approach to performing inspections of AMOs/CFRSs consists of requesting the appropriate technical person of the AMO, normally the quality manager or a person responsible for final return to service, to accompany the team on the surveillance of the facility. As part of this inspection, the team should become familiar with the organization's process. It is beneficial to request the organization to walk one or more component/aeronautical products from incoming or receiving inspection through each step of the maintenance process. The FAA team should observe the inspection techniques, repair techniques, testing procedures, final inspection, return to service, and the data used to perform these functions. This is a sampling inspection and each shop in an organization need not be visited. The FAA is verifying through the review of the system that the organization is in compliance with the MIP. During the inspection, the following items should be observed and noted:

(a) Observe the documentation being used (i.e., work cards), noting if the document contains a reference to the manufacturer's manual, air carrier's manual, or other FAA-acceptable data. Normally, the FAA would expect the actual work documents to be in the national language. However, the work card should have a reference to an English language version of the manual that the work card was derived from. The team should also request that the organization interpret the work document and make a comparison to the English version.

(b) Note the calibration of equipment to ensure that the organization has a calibration procedure and is following that procedure.

(c) Ask if the same procedures are used when working under the CFRS certificate.

(d) Note whether the organization has all of the necessary tools and equipment to perform the tasks that it is rated for. This is a sampling, and several tools should be looked at to confirm that they are in good working order and properly maintained.

(e) Include a visit to the organization's tool room and material storage areas. The FAA team should observe that tools and materials are properly stored and in a condition for use.

(f) Observe the handling of the products from station to station, noting whether proper contamination protections are applied.

(g) Include a visit to the organization's stock room to ensure that the products are properly identified, segregated, and protected from contamination and handling damage. Procedures for expiration dates of life-limited products should be confirmed and observed as appropriate.

(2) At the conclusion of the inspection, the following should take place:

(a) The team members, including the NAA representative, should privately discuss their findings and recommendations. This should be an open discussion informing the NAA representative and team members of the inspection results. Any disagreements should be resolved during the private discussions. This will avoid any lengthy discussions and conflicts when briefing the AMO management.

(b) Any questions or concerns the FAA team has noted should be discussed with the appropriate management personnel. This will allow the organization's management time to respond if additional research is needed before the team departs.

NOTE: The above items represent only a few of the areas that should be observed and are not intended to limit the inspector's observation. It also should be noted that many of the areas intended to serve as a reminder are addressed in (3) and (4) below and can also be addressed during the inspection.

(3) The FAA inspection should focus on no more than three of the specific areas described below. The inspection should be limited to 2 days at the facility, depending on the size of the organization. This is a sampling inspection to ensure that the organization and the NAA are applying FAA Special Conditions

IAW AC 145-7, as revised. The team should use the following inspection items as a guide and select 2 or 3 items to focus on in the inspection. Not all areas need to be covered at each AMO.

(4) It is preferred that the focus change with each AMO visited to provide FAA with an overall annual picture on the compliance posture of the MIP country. Some MIP countries require a QMS/internal audit system. These systems are inclusive in the MIP and are considered part of a quality control system.

(a) Sample the QMS/internal audit system and verify that the FAA Special Conditions are contained in the QMS.

(b) Ensure that the QMS is completed annually (in the case of the JAA, IAW JAA requirements).

(c) Ensure that the QMS has a follow-up action procedure for findings. It may be necessary to review findings and/or corrective actions to confirm that the system is working. The objective and benefit of the QMS is for the AMO to find and correct discrepancies in the AMO's operations before the FAA or NAA finds the problems. This is considered proprietary information, and 14 CFR violations should not be pursued based on the QMS findings.

K. FAA-Approved Data and Airworthiness Directives (AD). Ensure that only FAA-approved data and/or FAA ADs are used when the organization is working on aeronautical products to be installed on U.S.-registered aircraft. Also, sample the shops to ensure that the data is available to the personnel performing the task. It is important to note that some organizations convert the AD into work cards or work orders. This is acceptable, as long as the documents are traceable to the AD. (Ref. AC 145-7, as revised.) (In the case of the JAA, JAR section 145.45 has similar requirements and can be found acceptable when FAA-approved data is identified on the records.)

L. Compliance with Air Carrier's Maintenance Program. A sampling of the organization's manuals should include a review of the organization's procedures to ensure compliance with the appropriate portions of the air carrier's maintenance program. The organization is only required to have the air carrier's maintenance program applicable to the work it performs. (Ref. appendix 2 of AC 145-7, as revised.) It is also important to note that the NAA has similar requirements that require the AMO to perform the work IAW the customer's work order. (In the case of

the JAA, JAR 145.65 has a similar requirement. Therefore, if the AMO can show it meets the JAR, it should meet this requirement of the MIP.)

M. Required Inspection Items (RII). A review of the personnel training records should indicate that the organization has a qualified RII inspector trained by the air carrier. Review the organization's procedures to validate if the organization has requested RII training from the air carrier when necessary. (Ref. appendix 2 of AC 145-7, as revised.) Also, ensure that the qualified RII inspector reports to the quality control organization and not the production organization.

N. Contracting/Subcontracting. Review the list of organizations that the facility uses to perform subcontracting work on its behalf. Ensure compliance with AC 145-7, as revised. It is important to note that the JAA authorizes the AMO to appoint a representative to act on the AMO's behalf at a non-certificated source as long as the AMO has that person under their QMS system. This practice is not recognized by the FAA, and the inspector should ensure that this practice is not performed on aeronautical products being maintained or altered for use on U.S.-registered aircraft. The AMO should also have records of audits (QMS) relating to auditing its contractor/subcontractors. A sampling of these records should be reviewed to ensure they meet the requirements of their QMS. (In some cases, the NAA's subcontracting requirements are different (see AC 145-7, as revised). Therefore, on the AMO's list of subcontractors, the subcontractors used for the FAA repair station should be identified differently.)

O. Approval for Return to Service. The inspector should review records and ensure that when the appropriate NAA/AMO return to service document is used (in the case of the JAA, JAA Form One) for aeronautical products to be installed on U.S.-registered aircraft, it contains the appropriate statement that includes the FAA repair station certificate number. All the appropriate information should be contained on the form or attachments; i.e., FAA Form 337. (Ref. appendix 2 of AC 145-7, as revised.)

P. Receiving Inspection. A sampling of the organization's incoming inspection procedures should be observed to ensure compliance with appendix 2 of AC 145-7, as revised.

Q. Qualified Personnel Requirements. A review of personnel records should validate that the organization

complies with appendix 2 of AC 145-7, as revised. The inspector should observe a sampling of a final inspection and a return to service to verify whether the personnel responsible for final inspection and return to service can read, write, and understand English for aeronautical products that are intended to be installed on U.S.-registered aircraft. The review of the organization's personnel records should also identify the RII-qualified personnel and indicate whether the air carrier has provided the RII training.

R. Equipment and Material. During the inspection of the shops, the inspector should visually note if the AMO has the appropriate equipment and material for the tasks they are rated for. (Ref. appendix 2 of AC 145-7, as revised.)

S. Major Repair and Alterations. The inspector should sample records to ensure that major repairs and/or alterations applied to aeronautical products intended for use on U.S.-registered aircraft have the appropriate reference to FAA-approved data. This can also be accomplished while reviewing return to service documents. The inspector should verify that the AMO has the data on hand at the facility by reviewing at least one document that indicates it is FAA-approved (Supplemental Type Certificate, Structural Repair Manual, etc.). (Ref. appendix 2 of AC 145-7, as revised.)

T. Reporting Unairworthy Conditions to the FAA. The inspector should verify, by sampling records of reports, that the AMO has a system for reporting unairworthy conditions to the FAA. (In the case of the JAA/NAA, the JAR 145.60 requires the AMO to report unairworthy conditions to the authority for U.S.-registered aircraft.) If in some cases the AMO reports the finding to the NAA and, in turn, the NAA notifies FAA, this is an acceptable means of compliance. The rule's intent is that the FAA receive the correct information; it is not concerned with the information's format. (Ref. appendix 2 of AC 145-7, as revised.)

U. Hidden Damage Inspection. The inspector can observe this requirement while observing or receiving inspection procedures and, if possible, following a part through the system. (Ref. appendix 2 of AC 145-7, as revised.)

V. Display of FAA Certificate. The FAA certificate should be located in a place of public view. (Not required after April 2003.)

W. Advertising an FAA Certificate. Ensure that the AMO has a procedure that complies with appendix 2 of AC 145-7, as revised.

X. Suspected Unapproved Parts (SUP).

This function may also be observed during review and observation of incoming inspection techniques. The inspector should ensure that the AMO has established a process for reporting SUPs. (In the case of the JAA, JAR 145.60 also contains a requirement for reporting SUPs. Although not specifically identified as SUPs, JAR 145.60 relates to the same criteria for reporting.) This also can be verified while reviewing compliance for reporting of unairworthy conditions identified above.

Y. In the case of an airframe-rated AMO that has been rated for an entire aircraft, a different approach would be taken. There would be some additional areas to be covered, such as work away from the facility, geographic authorizations, or line stations within the MIP country. In these instances, a review of the AMO's QMS to ensure that these areas are covered in the AMO's annual audits should be sufficient; however, a visit to 1 or 2 line stations may be necessary to confirm compliance.

7. BRIEF THE NAA AND FINAL REPORT/ ENFORCEMENT. On completion of each AMO inspection, the inspector or team leader will brief the AMO and the NAA inspectors and inform the AMO and NAA of any findings. The inspector or team leader also will provide the AMO and the NAA with an appropriate period of time to ensure any deficiencies have been corrected. Any findings not disclosed during the AMO/NAA briefing will not be used as a finding in the final report.

A. Briefing. Appropriate NAA personnel should attend the briefing. In some cases, it may be the local office, regional office, or headquarters. This should be determined by the most cost-effective method. The briefing should disclose all findings and an open discussion between the FAA and the NAA should take place. This is a learning process for all concerned persons and should be approached with open minds. At the briefing, the FAA and NAA should agree to a time frame for the NAA to require corrective action by the AMO. This is a systems approach, and the NAA

should be given every opportunity to ensure that the AMO takes corrective action.

(1) Minor infractions (e.g., procedural, manual) should be listed as findings. The FAA expects the NAA to monitor the AMO for corrective action or, in some cases, the submission of a corrective action plan.

(2) The AMO is expected to provide the NAA and the FAA with a written response to each finding.

(3) Care must be given to respect the ability and national pride of the NAA in the final report and comment section. Factual information that can be established by physical evidence is the only acceptable information.

B. Final Report. If the inspector or team leader determines that a finding affects safety, section 4.6 of the MIP allows the FAA the freedom to recognize the enforcement capability of the NAA. Therefore, consideration must be given to any enforcement/sanctions that the NAA has or is in the process of taking; care must be taken not to take additional action aside from remedial action such as a letter of corrections to acknowledge that the CFRS has been involved in an enforcement action. When a significant finding such as a safety of flight issue is noted, the FAA inspector or team leader will process the action IAW FAA Order 2150.3, Compliance and Enforcement Program, as revised. FAA enforcement action should be discussed with the NAA as an educational tool so that the NAA becomes familiar with what the FAA considers serious safety issues. (See vol. 2, chapter 171 for a description of the disposition of findings.)

NOTE: The MIP provides the FAA with the ability to recognize the corrective action of the NAA without additional FAA action. This type of finding can be closed out by the FAA as “no action required,” but the office will retain a record of the findings and corrective action for future reference. In the future, if the same findings continue to be reported, then the FAA should take appropriate action IAW FAA Order 2150.3, as revised.

C. Preparing the Report. The inspector or team leader will prepare and maintain an inspection report in the operator's file and forward a copy to the NAA.

(1) Inspection final reports on each repair station should contain the name and address of the AMOs and the country visited.

(2) Attach a copy of the repair station certificates (includes FAA certificate number and rating) to the report.

(3) Identify FAA and NAA inspectors involved by name, position, and office address.

(4) Identify the NAA office where the certificate is held.

(5) Identify a sample of which U.S. customers the repair station is performing work for, if available.

(6) Identify areas inspected and a list of findings.

D. Sampling Inspections/Findings. An annual summary of all sampling inspections and findings within the MIP country should be sent to FAA headquarters, AFS-50/300. The inspector or team leader will also provide a comment section that will give an overall opinion of the process and the NAA's abilities to comply with the MIP. This will establish if the NAA work force will need additional training or guidance. This will also aid the FAA and the NAA in determining the effectiveness of each other's inspection techniques. The end result should establish continued confidence in the MIP process.

(1) If upon completion of the sampling inspection, the team/inspector verifies that there are some compliance concerns that involve safety issues, the team/inspector will notify the IFO manager and request a meeting with the management of the NAA to discuss any additional joint inspections that may be required to satisfy the concerns. Section 5.1 of the MIP provides for the FAA to conduct independent investigations as necessary.

(2) The inspector or team leader will file appropriate PTRS data sheets and input all appropriate Vital Information Subsystem (VIS) data. The FAA performs this surveillance IAW the MIP. This surveillance will be recorded in PTRS as code 3650/5650 using the appropriate comment codes.

(3) The FAA will advise the AMO of any applicable fees based on the fee schedule in AC 187-1, and will provide instructions for payment.

9. FAA PARTICIPATION AS OBSERVERS ON NAA INTERNAL AUDITS (OR IN THE CASE OF THE JAA, MAST VISITS).

A. Most NAAs conduct internal assessments of their organization. The FAA will participate in the NAA internal evaluations following the procedures stated below. Internal evaluation visits (in the case of the JAA, MAST) are separate from the inspections discussed above and may provide valuable information to FAA inspectors. MAST and NAA teams will visit each regional and/or district office, as the situation warrants (in the case of the JAA, each JAA-member country), every 1 to 2 years to sample standards and application of the National regulations and guidance (JAR compliance by NAAs and AMOs). The team will normally visit a regional office and/or district office to evaluate the office's ability to implement the NAA and to ensure standard application. The team normally visits one or more AMOs under the supervision of the NAA regional and/or district office to ensure the AMO is being adequately inspected and the NAA offices are providing the AMO with assistance regarding NAA regulations and guidance. This process is conducted similar to an FAA field office or region evaluation. The internal audit process is generally a learning process for the FAA and the NAA. The FAA inspector must exercise caution during the visit. The NAA may not have procedures identical to the FAA; however, during the BASA/MIP evaluation process, the FAA deems whether the NAA process meets FAA needs. Any critique or discussion of an issue should be held in reserve until the team meets privately or at the out-briefing of the NAA. The FAA inspector should be advised of the many cultural differences and must exercise good judgment when an opinion is requested.

B. The FAA will continue to participate in NAA internal audits (in the case of the JAA, MAST visits as observers) because compliance with part 145 is based, in part, on compliance with NAA regulations and guidance (in the case of the JAA, JAR 145). The FAA IFO manager will appoint an inspector to participate in any NAA internal audit/MAST visits to a country that has concluded a BASA/MIP with the United States.

C. The FAA inspector assigned to an audit or MAST will:

(1) Contact the appropriate NAA team leader and request all pertinent information, i.e., contact

phone numbers, hotel arrangements, travel information, and itinerary for the audit.

(2) Attend all NAA in-briefings and out-briefings as necessary.

(3) Observe the NAA internal audit procedures (in the case of the JAA, MAST procedures) and document any deviations of the audit team from established procedures and any possible violations by any AMO inspected.

(4) Inform the NAA MAST at the out-briefing of any deviations from established procedures in the NAA internal audit MAST that were noted by the FAA and any possible violations by an AMO visited.

D. Provide a report of findings to the FAA IFO manager, headquarters (AFS-50/300), and a copy to the JAA maintenance director. The report will contain:

(1) An introduction identifying the NAAs participating in the audit MAST, the AMOs visited, and the names of the team members. This information can be provided using the NAA internal audit document (MAST team report—see JAA Form 7);

(2) NAA audits (MAST), which typically focus on a particular area during each visit to the AMO and NAA offices;

(3) Any observations made by the inspector; and

(4) An assessment of the NAA internal audit procedures by the inspector, including an assessment of its effectiveness.

11. TASK OUTCOMES AND NAA INTERNAL AUDIT PROCESS (JAA, MAST PROCESSES).

A. File PTRS Data Sheet. The FAA inspector will file a PTRS data sheet and input VIS data for all tasks completed.

(1) When the NAA has performed the surveillance on behalf of the FAA, PTRS codes 3679/5679 must be used. The FAA inspector should use the comment codes for any significant comments when appropriate.

(2) When processing documentation (for example, reports, applications, JAA Form 6, FAA Annex to Form 6, and MAST reports (JAA Form 7)), PTRS codes 3045/5045 must be used. The FAA inspector should use the appropriate comment codes.

B. Document Task. The FAA inspector will file all supporting paperwork in the certificate holder's and/or applicant AMO's office file. In the case of MAST reports and other pertinent written communication with the NAA, each FAA IFO will establish an office file for each NAA in the FAA IFO's area of jurisdiction in which FAA has signed a BASA/MIP. All such communication will be retained in the FAA IFO's NAA file for a period of 5 years.

[CHAPTERS 100 THROUGH 104 RESERVED]

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APPENDIX 1. ACRONYMS AND ABBREVIATIONS

This appendix contains many acronyms and abbreviations for both old as well as new Airworthiness terms that are used throughout this Handbook. Inspectors can refer to the following alphabetical listing of frequently used acronyms and abbreviations and their meanings when using this Handbook.

14 CFR	Title 14 of the Code of Federal Regulations	AFSC	Air Force Specialty Codes
49 CFR	Title 49 of the Code of Federal Regulations	AFSS	automated flight service station
49 U.S.C.	Title 49 of the United States Code	AFTN	aeronautical fix telecommunication
A/FD	Airport/Facility Directory	AH	alert height
A&P	Airframe and Powerplant	AGL	above ground level
AAD	Automatic Activation Device	AIDS	Accident Incident Data Subsystem
AAIP	Approved Aircraft Inspection Program	Air Oper VIS	Air Operator Vital Information Subsystem
AC	advisory circular	AIP	Aeronautical Information Publication
ACAT	Air Carrier Assessment Tool	ALS	Advance Life Support
ACCSS	air carrier cabin safety specialists	AMA	Aviation Mechanic Airframe
ACE	aerobatic competency evaluator	AMC	acceptable means of compliance
ACO	Aircraft Certification Office	AME	Aviation Medical Examiner
ACR	airman certification representative	AMG	Aviation Mechanic General
AD	Airworthiness Directives	AMO	Approved Maintenance Organization
ADA	Airline Deregulation Act	AMP	Aviation Mechanic Powerplant
ADF	automatic direction finding	AMT	Aviation Maintenance Technician
AEE	Office of Environment and Energy	AMTS	Aviation Maintenance Technician School
AEG	Aircraft Evaluation Groups	ANM	Seattle Aircraft Evaluation Group
AEM	Area Equivalent Method	AOD	Automatic Opening Device
AES	Automated Exemption System	AOG	Aircraft on the Ground
AFM	Approved Flight Manual	APP	Accident Prevention Program

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APPM	Accident Prevention Program Manager	CAM	Civil Aviation Manuals
APU	Auxiliary Power Unit	CAMI	Civil Aero Medical Institute
ARA	Airborne Radar Approach	CAMP	Continuous Airworthiness Maintenance Program
ARFF	Aircraft Rescue and Fire Fighting Equipment	CAN	Center Area NOTAM
ARINC	Aeronautical Radio, Inc.	CAR	Civil Air Regulations
ASAS	Aviation Safety Analysis System	CASE	Coordinating Agencies for Supplier's Evaluation
ASI	aviation safety inspector	CASFO	Civil Aviation Security Field Office
ASR	Airport Surveillance Radar	CASP	Continuous Analysis and Surveillance Program
AST	aviation safety technician	CBI	Computer Based Instruction
ASTM	American Society for Testing and Materials	CDL	Configuration Deviation List
ASW	Southwest Aircraft Evaluation	CE	commercial pilot examiner
AT	Air Traffic	CFI	certificated flight instructor
ATA	Air Transport Association	CFR	Code of Federal Regulations
ATC	air traffic control	CFRS	certificated foreign repair station
ATE	Automatic Test Equipment	CG	Center of Gravity
ATOS	Air Transportation Oversight System	CHDO	certificate-holding district office
ATP	airline transport pilot	CIRE	commercial and instrument rating examiner
ATPE	airline transport pilot examiner	CL	capabilities list
BA	Bilateral Agreement	CM	Condition Monitoring
BASA	Bilateral Aviation Safety Agreement	CMO	Certificate Management Office
BFA	Balloon Federation of America	CMP	Configuration Maintenance Procedures
BITE	Built-In Test Equipment	CMR	Certification Maintenance Requirements
BLS	Basic Life Support	CMT	Certificate Management Team
CAA	Civil Aviation Authority	COA	certificate of authority
CAB	Civil Aviation Board	COB	Close of Business
CAIS	Comprehensive Airmen Information Subsystem		

ConDOR	Constructed Dynamic Observation Reports	EAA	Experimental Aircraft Association
CPL	commercial pilot license	EIR	Enforcement Investigation Report
CPM	certification project manager	EIRS	Enforcement Investigative Reports
CRW	canopy relative work	EIS	Enforcement Information Subsystem
CSP	Comprehensive Surveillance Plan	EIS	Environmental Impact Statement
CVR	Cockpit Voice Recorder	EPI	Element Performance Inspections
CTA	control areas	ETOPS	Extended-Range Operation With Two-Engine Airplanes
d/b/a	doing business as	FAA	Federal Aviation Administration
DAR	Designated Airworthiness Representatives	FA Act	Federal Aviation Act of 1958
DAS	Designated Alteration Station	FAR	Federal Aviation Regulations
DBA	Other Business Names	FCAA	Foreign Civil Aviation Authority
DCT	Data Collection Tools	FCC	Federal Communications Commission
DER	Designated Engineering Representative	FD	flight director
DFDAU	digital flight data acquisition unit	FDC	flight data center
DH	decision height	FDR	Flight Data Recorder
DME	Designated Mechanic Examiners	FIE	flight instructor examiner
DME	distance measuring equipment	FIR	flight information regions
DNL	Decibel Noise Level	FIRC	flight instructor refresher clinic
DOD	Department of Defense	FL	flight level
DOT	Department of Transportation	ELT	Emergency Locator Transmitter
DPE	designated pilot examiner	FM	flight manual
DPRE	Designated Parachute Rigger Examiners	FMCS	flight management computer systems
DS	Discard	FMS	flight management system
EA	Environmental Assessment	FOI	fundamentals of instructing
EA/EO	Engineering Change Authorization/Order	FOIA	Freedom of Information Act
		FONSI	Finding of No Significant Impact

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FSAIC	Flight Standards Safety Analysis Information Center	IFSD	in-flight shut down
FSAS	Flight Standards Automation System	IGA	international general aviation
FSDO	Flight Standards District Office	IIC	inspector-in-charge
FSS	flight service station	ILS	instrument landing system
FTD	flight training device	IMC	instrument meteorological conditions
GM	General Manuals	IN/FC	Inspection/Functional check
GPS	global positioning system	INM	Integrated Noise Model
GSGC	Ground School Graduation Certificate	INS	inertial navigation system
GTD	ground training device	IP	implementation procedures
HAZMAT	hazardous material	IPM	Inspection Procedures Manual
HEL	Helicopter	IRA	Instrument Rating Airplane
HEMES	Helicopter Hospital Emergency Medical Evacuation	IRS	inertial reference systems
HF	high frequency	ISC	Industry Steering Committee
HIRF	High Intensity Radiated Fields	ISIS	Integrated Safety Information Subsystem
HT	Hard-Time	ISO	International Standards Organization
HUD	heads-up display	ISS	inertial sensor system
IAP	instrument approach procedures	JAA	Joint Aviation Authorities
IAW	in accordance with	JAD	Job Aid Disc
ICA	instructions for continued airworthiness	JAR	Joint Aviation Requirement
ICAO	International Civil Aviation Organization	JTA	Job Task Analysis
ICAS	International Council of Air Shows	LAHSO	land-and-hold-short operations
ICS	Intercom Systems	LEI	Letter of Investigation
IEM	Interpretive Explanatory Material	LIBRA	Logical Information Based on Reliability
IFO	International Field Office	LOA	letter of authorization
IFP	Instrument Foreign Pilot	LORAN	long-range navigation
IFR	instrument flight rules	LRN	long-range navigation

LRNS	long-range navigation system	MSG	Maintenance Steering Group
LRU	Line Replaceable Units	MSL	mean sea level
LU/SV	Lubrication/Serviceing	MTBF	Mean Time Between Failure
MAST	Maintenance Airworthiness Standardization Team	NAA	National Aviation Authority
MC/FPE	military competency/foreign pilot examiner	NAO	Noise Abatement Officer
MEL	minimum equipment list	NAS	National Airspace System
MEL	Multi-engine Land	NASIP	National Aviation Safety Inspection Program
MES	Multi-engine Sea	NAT	North Atlantic navaid navigational aid
MIDO	Manufacturing Inspection District Offices	NAT/MNPS	North Atlantic Minimum Navigation Performance Specifications
MIP	maintenance implementation procedures	NAVAID	Navigational Aid
MIS	Mechanical Interruption Summary Reports	NEPA	National Environmental Policy Act of 1969
MISR	Mechanical Interruption Summary Reports	NDB	nondirectional beacon
MIST	Maintenance International Standardization Team	NDI	Non-destructive Inspection
MLS	microwave landing system	NDPER	National Designated Pilot Examiner Registry
MME	maintenance management exposition	NEB	National Examiner Board
MMEL	Master Minimum Equipment List	NFDC	National Flight Data Center
MMF	Manufacturer Maintenance Facility	NFPA	National Fire Protection Association
MNPS	Minimum Navigation Performance Specification	NM	nautical miles
MOE	maintenance organization exposition	NOPAC	North Pacific
MOS	Military Occupational Speciality	NOTAM	Notice to Airmen
MRB	Maintenance Review Board	NTSB	National Transportation Safety Board
MRB	Material Review Board	OC	On-Condition
MRR	Mechanical Reliability Reports	OCA	oceanic control areas
		OEM	Original Equipment Manufacturer
		OJT	on-the-job training

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OpSpecs	operations specifications	RII	Required Inspection Items
OP/VC	Operational/Visual check	RNAV	Area Navigation
OST	Office of the Secretary of Transportation	ROC	Regional Operations Center
OTAC	Outside-the-Aircraft Check	RS	Restoration
PAI	principal avionics inspector	RPM	revolutions per minute
PAR	Precision Approach Radar	RT	Remedial Training
PASI	Preapplication Statement of Intent	RTCA	Radio Technical Commission of Aeronautics
PC	Production Certificate	RVR	runway visual range
PCA	Positive Control Area	RVSM	Reduced Vertical Separation Minimum
PCA	primary category aircraft	SA	selective availability
PE	private pilot examiner	SAE	Society of Automotive Engineers
PI	principal inspector	SAI	Safety Attribute Inspections
PIC	pilot-in-command	SAT	System Analysis Team
PMA	Parts Manufacturer Approval	SB	service bulletin
PMI	principal maintenance inspector	SDR	Service Difficulty Report
POI	principal operations inspector	SEL	Single Engine Land
PPE	proficiency pilot examiner	SES	Single Engine Sea
PPH	Policy Procedures Handbook	SFAR	Special Federal Aviation Regulations
PPM	PTRS Procedures Manual	SIC	second-in-command
PSRAB	Propulsion System Reliability Assessment Board	SIGMET/ AIRMET	Significant Meteorological Information Airmen's Meteorological Information
PTRS	Program Tracking and Reporting Subsystem	SIP	simulator implementation procedures
PTS	practical test standards	SODA	Statement of Demonstrated Ability
QMS	Quality Monitoring System	SOIR	simultaneous operations on intersecting runways (replaced by LAHSO)
RAIM	receiver autonomous integrity monitoring	SPAS	Safety Performance Analysis System
RFSD	Regional Flight Standards Division	SPG	Special Planning Group
		SRM	Structural Repair Manuals

SSID	Supplemental Structural Inspection Document	TSO	technical standard order
STC	supplemental type certificate	TSOA	Technical Standard Order Authorization
SUP	suspected unapproved parts	UHF	Ultra High Frequency
TAF	terminal weather forecasts	USNOF	United States NOTAM Office
TALTAR	Tactical Landing Approach Radar	USPA	United States Parachute Association
TBO	Time between overhauls	VFR	visual flight rules
TC	type certificate	VHF	very high frequency
TCA	Appliance Type Approval	VIS	Vital Information Subsystem
TCCA	Transport Canada Civil Aviation	VLF	very low frequency
TCDS	type certificate data sheet	VMC	minimum controllable airspeed
TCE	training center evaluator	VMC	visual meteorological conditions
TCO	training course outline	VOR	VHF omni-directional radio range
TGL	temporary guidance leaflet	Vref	approach speed
TRSB	Time Reference Scanning Beam	WINDOWS	Segmented Inspections and Built-In Inspection Tolerances

APPENDIX 2. INSPECTOR FEEDBACK

INFORMATION CURRENCY. The Aircraft Maintenance Division, AFS-300, has developed a revision process to ensure that the information contained in this handbook is current and correct. Any comments regarding content, whether to point out deficiencies or suggest improvements, should be directed to AFS-310. All comments will be reviewed and the handbook amended as appropriate. An inspector feedback sheet is provided on the following page for your convenience. If an issue requires immediate clarification, please fax to AFS-310 at (202) 267-5115, or simply mail to the following address:

Program Management and Information Branch, AFS-310
800 Independence Ave., SW
Washington, D.C. 20591

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INSPECTOR FEEDBACK SHEET

Subject:[X] Order 8300.10, Airworthiness Inspector's Handbook, Change No. _____

To: Program Management and Information Branch, AFS-310
800 Independence Ave., SW
Washington, D.C. 20591

Fax: (202) 267-5115

Please check all appropriate items. Attach a copy of the affected pages.

- An error (procedural or typographical) has been noted in volume _____, chapter _____, section _____, paragraph _____ on page _____.

- Recommend Volume _____, chapter _____, section _____, paragraph _____, page _____, be changed as follows: (Attach separate sheets if necessary).

- Recommend a change to national policy in volume _____, chapter _____, section _____, paragraph _____, on page _____ as follows:

- In a future change to this order, please cover the following subject (briefly describe what you want added):

- Regional handbook standardization representative recommendation:

- I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____

Telephone Number: _____ Routing Symbol: _____

Telemail Address: _____

APPENDIX 8. AIR TRANSPORT ASSOCIATION (ATA) SPECIFICATION 117

This appendix has been provided by the Air Transport Association of America (ATA) for official FAA use only. This document provide guidelines to be shared among industry in the short term for the improvement and formulation of wiring practices.

This appendix will be updated as ATA updates their document.

ATA Specification 117

Wiring Maintenance Practices/Guidelines

Revision 2001.1

Air Transport Association of America, Inc.
1301 Pennsylvania Ave., N.W., Suite 1100
Washington, D.C. 20004-1707

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E-mail: pubs@air-transport.org
1-202-626-4000
Fax: 1-202-626-4181

Highlights

Release History

Revision 2001.1: July 2000

Revision 2000.1: January 2000

Issued July 31, 1998

Revision 2001.1 (July 2000)

Location	Description of Change
Chapter 3	Editorial. Added Cleaning to "Causes of Wiring Degradation."
Chapter 4	Added Splices to "Wiring Installation Types" in 4-1. Expanded Primary Inspection Locations in 4-2
Chapter 5	Editorial. Enhanced protection of wiring from contamination and debris. Enhanced the concept of "clean-as-you-go." Corrected edge distance measurement in 5-1., and added metric version. Added Section 5-9, "Cleaning"

Chapter 1. Background

The **Federal Aviation Administration (FAA)** is developing an Aging Non-Structural Systems Plan in response to the **White House Commission on Aviation Safety and Security (WHCSS)** recommendations regarding aging non-structural systems. These recommendations state: "In cooperation with airlines and manufacturers, the FAA's **Aging Aircraft program** should be expanded to cover non-structural systems." The Commission was concerned that existing procedures, directives, quality assurance, and inspections may not be sufficient to prevent safety related problem, caused by the corrosive and deteriorating effects of non-structural components of commercial aircraft as they age. One area of special concern to the Commission was airplane wiring.

While preliminary industry findings indicate that wiring degradation is minimized when properly installed, it has been shown that vibration, moisture, contamination, etc. can negatively impact the condition of wiring. Consequently, inspections should focus on those areas where these environmental conditions exist.

Maintenance activity can vary greatly from aircraft to aircraft. The disruptive effects of maintenance activity can be more random than the environmental factors that can lead to wire degradation. Wiring should be viewed as an aircraft system, and maintenance practices should focus on maintaining the integrity of the wiring system.

FAA investigation results are similar to the preliminary findings from industry research: wire degradation seems to be principally caused by installation, environmental, and maintenance factors. Some specific findings and concerns raised during the FAA's recent wiring review are: drill shavings and other metal debris in bundles (with cut insulation); lint accumulations; chemicals of various types on wiring (corrosion-inhibitor, paint, hydraulic fluid, oil, grease, soft drinks, coffee, lavatory fluid, etc.); aging and deterioration of materials (cracks in wire insulation, clamp cushions crumbling, crumbled potting in pump connectors, cracked o-rings, etc.); extensive nicks, cuts, and chafes; workmanship issues; and compromised wiring segregation.

The FAA is composing a blueprint to address aging non-structural systems. The blueprint will form the basis of a joint FAA/industry plan that will be modeled after the FAA/industry aging aircraft work. This plan is viewed as a long-term initiative. It is ATA's intent that this document provide guidelines to be shared among industry in the short term for the improvement and formulation of wiring practices.

Chapter 2. Scope

This information is general guidance. Special inspections should be conducted as deemed appropriate by each operator, based on airplane maintenance experience. Any discrepancies found should be repaired per the aircraft maintenance manuals. Operators are encouraged to incorporate the following guidelines as a part of their current wiring maintenance practices.

These guidelines are a compilation of manufacturer investigations and operator experience through continuing analysis and surveillance programs. This guidance is not considered all-inclusive. Inspector/maintenance technician training requirements have been specifically omitted.

Chapter 3. Causes of Wiring Degradation

The following items are considered principal causes of wiring degradation and should be used to help focus maintenance programs:

Vibration - High vibration areas tend to accelerate degradation over time, resulting in "chattering" contacts and intermittent symptoms. High vibration can also cause tie-wraps, or string-ties to damage insulation. In addition, high vibration will exacerbate any existing problem with wire insulation cracking.

Moisture - High moisture areas generally accelerate corrosion of terminals, pins, sockets, and conductors. It should be noted that wiring installed in clean, dry areas with moderate temperatures appears to hold up well.

Maintenance - Maintenance activities, if done improperly, may contribute to long term problems and wiring degradation. Repairs made to minimum airworthiness standards may have limited durability and should be evaluated to ascertain if rework may be necessary. Repairs that conform to manufacturers recommended maintenance practices are generally considered permanent and should not require rework.

Metal shavings and debris have been discovered on wire bundles after maintenance or repairs have been conducted.

As a general rule, wiring that is undisturbed will have less degradation than wiring that is reworked. As wiring and components become more brittle with age, this effect becomes more pronounced.

Indirect Damage - Events such as pneumatic duct ruptures can cause damage that, while not initially evident, can later cause wiring problems. When such an event has occurred, surrounding wire should be carefully inspected to ensure no damage is evident.

Chemical Contamination - Chemicals such as hydraulic fluid, battery electrolytes, fuel, corrosion inhibiting compounds, waste system chemicals, cleaning agents, deicing fluids, paint, and soft drinks can contribute to degradation of wiring. Wiring in the vicinity of these chemicals should be inspected for damage or degradation. Recommended original equipment manufacturer cleaning instructions should be followed.

Hydraulic fluids, for example, require special consideration. Hydraulic fluid is very damaging to connector grommet and wire bundle clamps, leading to indirect damage, such as arcing and chafing. Wiring that may have been exposed to hydraulic fluid should be given special attention during wiring inspections.

Heat - Wiring exposed to high heat can accelerate degradation, insulation dryness, and cracking. Direct contact with a high heat source can quickly damage insulation. Even low levels of heat can degrade wiring over long periods of time. This type of degradation is sometimes seen on engines, in galleys, and behind lights.

Cleaning - Overzealous cleaning and use of inappropriate solvents can cause wiring degradation.

Chapter 4. Inspection Practices

This section provides inspection guidelines and is divided into installation issues and primary inspection considerations. The information is a compilation of ongoing industry research and analysis.

4-1. Wiring Installation Types

The following are types of installations that merit special attention during wiring inspections:

Clamping points - Wire chafing is aggravated by damaged clamps, clamp cushion migration, or improper clamp installations.

Connectors - Worn environmental seals, loose connectors, missing seal plugs, missing dummy contacts, or lack of strain relief on connector grommets can compromise connector integrity and allow contamination to enter the connector, leading to corrosion or grommet degradation. Drip loops should be maintained when connectors are below the level of the harness and tight bends at connectors should be avoided or corrected.

Terminations - Terminations, such as terminal lugs and terminal blocks, are susceptible to mechanical damage, corrosion, heat damage and chemical contamination. Also, the build up and nut torque on large-gauge wire studs is critical to their performance.

Backshells - Wires may break at backshells, due to excessive flexing, lack of strain relief, or improper build-up. Loss of backshell bonding may also occur due to these and other factors.

Sleeving and Conduits - Damage to sleeving and conduits, if not corrected, will often lead to wire damage.

Grounding Points - Grounding points should be checked for security (i.e. tightness), condition of the termination, cleanliness, and corrosion. Any grounding points that are corroded or have lost their protective coating should be repaired.

Splices - Both sealed and non-sealed splices are susceptible to vibration, mechanical damage, corrosion, heat damage, chemical contamination, and environmental deterioration.

4-2. Primary Inspection Locations

The following locations should receive special attention:

Wings - The wing leading and trailing edges are areas that experience difficult environments for wiring installations. The wing leading and trailing edge wiring is exposed on some aircraft models whenever the flaps or slats are extended. Other potential damage sources include slat torque shafts and bleed air ducts.

Engine, Pylon, and Nacelle Area - These areas experience high vibration, heat, frequent maintenance, and are susceptible to chemical contamination.

APU - Like the engine/nacelle area, the APU is susceptible to high vibration, heat, frequent maintenance, and chemical contamination.

Landing Gear and Wheel Wells - This area is exposed to severe external environmental conditions in addition to vibration and chemical contamination.

Electrical Panels and LRUs - Panel wiring is particularly prone to broken wires and damaged insulation when these high density areas are disturbed during troubleshooting activities, major modifications, and refurbishment. One repair facility has found that wire damage was minimized by tying wiring to wooden dowels. This reduced wire disturbance during modification. It is also recommended to remove entire disconnect brackets, when possible, instead of removing individual receptacles.

Batteries - Wires in the vicinity of all aircraft batteries should be inspected for corrosion and discoloration. Discolored wires should be inspected for serviceability.

Power Feeders - Operators may find it advantageous to inspect splices and terminations for signs of overheating and security. If any signs of overheating are seen, the splice or termination should be replaced. This applies to galley power feeders, in addition to the main and APU generator power feeders. The desirability of periodically retorquing power feeder terminations should be evaluated.

Under Galleys and Lavatories - Areas under the galleys, lavatories and other liquid containers are particularly susceptible to contamination from coffee, food, water, soft drinks and lavatory fluids, etc. Fluid drain provisions should be periodically inspected and repaired as necessary.

Cargo Bay/Underfloor - Damage to wiring in the cargo bay underfloor can occur due to maintenance activities in the area.

Surfaces, Controls, and Doors - Moving or bending harnesses should be inspected at these locations.

Access Panels - Harnesses near access panels may receive accidental damage and should have special emphasis inspections.

Under Doors - Areas under cargo, passenger and service entry doors are susceptible to fluid ingress from rain, snow and liquid spills. Fluid drain provisions and floor panel sealing should be periodically inspected and repaired as necessary.

Under Cockpit Sliding Windows - Areas under cockpit sliding windows are susceptible to water ingress from rain and snow. Fluid drain provisions should be periodically inspected and repaired.

Chapter 5. Wiring Maintenance Practices

All wiring should be maintained so that it is mechanically and electrically sound and neat in appearance. It is imperative to prevent or significantly reduce potential contamination or debris from coming into contact with the wiring and components during all maintenance, repairs and modifications. This begins with always being aware of potential wiring contamination, and remembering to install appropriate protection (e.g., plastic sheeting), as necessary, to cover avionics/electrical wiring and components. Furthermore, a "clean-as-you-go" attitude helps to maintain the integrity of the installation. In other words, care should be taken to protect wire bundles and connectors during work, and to ensure that all shavings, debris and contamination are cleaned up after work is completed.

Following maintenance, care should be taken to restore routing in accordance with manufacturers' documentation. The wiring must be adequately supported throughout its length. A sufficient number of supports must be provided to prevent undue vibration of the unsupported lengths. All wires and wire groups should be routed and installed to protect them from:

- Chafing or abrasion
- High temperature
- Being used as handholds
- Damage by personnel moving within the aircraft
- Damage from cargo stowage or shifting
- Damage from battery acid fumes, spray, or spillage
- Damage from solvents and fluids.

Specific routing and installation procedures are described in the aircraft maintenance/wiring diagram manuals. In general terms, the following items can be considered guidelines when conducting wiring maintenance:

5-1. Protection Against Chafing

Wires and wire groups should be protected against chafing or abrasion in those locations where contact with sharp surfaces or other wires would damage the insulation. Cable clamps should be used to support wire bundles and maintain spacing at each hole through a bulkhead. If wires come closer than 3/8 inch (10mm) to the edge of the hole, a suitable grommet should be used in the hole.

Sometimes it is also necessary to cut nylon or rubber grommets to facilitate installation. In these instances, after insertion, the grommet can be secured in place with general-purpose cement. The cut should be at the top of the hole, and made at an angle of 45 degrees to the axis of the wire bundle hole.

5-2. Protection Against High Temperature

To prevent insulation deterioration, wires should be kept separate from high-temperature equipment, such as resistors, exhaust stacks, or pneumatic ducts. The amount of separation is normally specified by engineering drawings. Some wires must invariably be run through hot areas. These wires must be insulated with high-temperature material. A low-temperature insulation wire should never be used to replace a high-temperature insulation wire.

Many coaxial cables have soft plastic insulation, such as polyethylene, which is especially subject to deformation and deterioration at elevated temperatures. All high-temperature areas should be avoided when installing cables insulated with plastic or polyethylene.

5-3. Protection Against Solvents and Fluids

One frequently encountered hindrance to inspections is dirt and grime. Consult the manufacturer's maintenance instructions for recommendation on materials suitable for cleaning electrical connectors and wires. For wire inspections, a soft cloth, such as a cotton glove, can be used to clean individual wires. With any cleaning process, care should be taken not to remove wire markings and ID tape. In addition, airplanes are often pressure washed with a general purpose detergent. Moderate pressure and a general purpose detergent are not harmful to wiring, but water under high pressure can penetrate components such as connectors and splices. Moisture penetration into components tends to increase with elevated water temperatures.

5-4. Engine and APU Wire Harnesses

Consideration should be given to the refurbishment of engine and APU wire harnesses during engine and APU maintenance visits due to the harsh environment.

5-5. Protection of Wires in the Wheel Well Area

Typically, wire bundles in this area should be mechanically protected. These wires and their protective devices should be inspected carefully at frequent intervals. There should be no strain on attachments when parts are fully extended, slack should not be excessive.

5-6. Routing Precautions

When wiring must be routed parallel to combustible fluid or oxygen lines for short distances, as much fixed separation as possible should be maintained. Specific separation standards should be available in manufacturer documentation. However, when such information is unavailable, a six-inch minimum separation may be used as a guideline, and no wire should be routed nearer than 1/2 inch to a plumbing line. The wires should be on the level with, or above, the plumbing lines. Clamps should be spaced so that if a wire is broken at a clamp, it will not contact the line. When a specified separation is not possible, both the wire bundle and the plumbing line can be clamped to the same structure to prevent any relative motion. A wire or wire bundle should not be supported from a plumbing line that carries flammable fluids or oxygen.

Wiring should be routed to maintain a manufacturer recommended minimum clearance from control cables. When a manufacturer-specified clearance is not given, coordinate with the **Original Equipment Manufacturer (OEM)**.

5-7. Connectors

A connector should be disconnected from a receptacle in the following manner:

1. Use connector pliers to loosen coupling rings, which are too tight to be loosened by hand.
2. Alternately pull on the plug body and unscrew the coupling ring until the connector is separated.
3. Protect disconnected plugs and receptacles to keep contamination from entering and causing faults.
4. Do not use excessive force, and do not pull on attached wires.

NOTE: When reconnecting, special care should be taken to ensure the connector body is fully seated, the jam nut is fully secured, and no tension is on the lines.
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5-8. Conduits

Conduits are used in aircraft installation for protection of wires and cables. Conduits are available in metallic and nonmetallic material, both in rigid and flexible form. When selecting conduit size, a general recommendation is to select the inside diameter of the conduit to be about 25% larger than the maximum diameter of the conductor bundle.

Conduits are vulnerable to abrasion at the ends. Suitable fittings are affixed to the conduit ends in such a manner that a smooth surface comes in contact with the conductor within the conduit. When fittings are not used, the conduit ends should be flared to prevent wire insulation damage. The conduit should be supported by clamps along its run.

Many of the common conduit problems can be avoided by proper attention to the following details:

1. Do not use a conduit as a handhold or footstep.
2. Ensure drain holes are provided at the lowest point in a conduit run and are clear. Drilling burrs should be carefully removed from the drain holes.
3. Ensure that the conduit is supported to prevent chafing against the structure and to avoid stressing its end fittings.

Damaged conduit sections should be repaired to prevent damage to the wires or wire bundle. The minimum acceptable tube bend radii for a rigid conduit as prescribed by the manufacturer's instructions should be followed. Kinked or wrinkled bends in a rigid conduit are normally not acceptable. Transparent adhesive tape is recommended when cutting flexible tubing with a hacksaw to minimize fraying of the braid.

5-9. Cleaning

Care must be taken whenever wiring is being cleaned, especially as the aircraft and its wiring age. In general, wire insulation may become brittle, so displacement or moving of wiring during cleaning must be kept to the absolute minimum. Careful identification of the most appropriate cleaning methodology is very important. Vacuuming, perhaps in combination with light sweeping of wiring and wire bundles with soft brushes, to remove dirt and debris may be preferred. Additionally, significant damage can be done to wire insulation and other electrical system components with the inappropriate use of cleaning solvents.

Annex 1.

Additional Readings

- [AC 43.13-1B] FAA Advisory Circular (AC) 43.13-1B, *Acceptable Methods, Techniques, and Practices, Aircraft Inspection and Repair, Chapter 11, Electrical Systems*, Federal Aviation Administration (<http://www.faa.gov>). Available for viewing online at <http://www.faa.gov/avr/afs/300/pdf/1a-cover.pdf>
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- [747-SL-20-048] Boeing 747 Service Letter 747-SL-20-048, *Inspection of Wiring on High Time Airplanes*, The Boeing Company, Technical Library, PO Box 3707, Seattle, WA, USA 98124
- [D6-54446] Document D6-54446 Chapter 20, *Standard Wiring Practices Manual*, The Boeing Company, Technical Library, PO Box 3707, Seattle, WA, USA 98124
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