VOLUME 2 AIR OPERATOR AND AIR AGENCY CERTIFICATION AND APPLICATION PROCESS

CHAPTER 11 CERTIFICATION OF A TITLE 14 CFR PART 145 REPAIR STATION

Section 4 Safety Assurance System: Evaluate a Part 145 Repair Station Manual and Quality Control Manual or Revision

2-1291 REPORTING SYSTEM(S).

A. Program Tracking and Reporting Subsystem (PTRS) Activity Codes. Use Program Tracking and Reporting Subsystem (PTRS) activity codes: 3230, 3371, 3372, 5230, 5371, and 5372.

B. Safety Assurance System (SAS) Automation. This section is related to SAS Element 1.4.3 (RS 4) Manuals.

2-1292 OBJECTIVE. This section provides guidance for evaluating, accepting, or rejecting all Title 14 of the Code of Federal Regulations (14 CFR) part 145 Repair Station Manual (RSM) and/or Quality Control Manual (QCM) original submissions or revisions.

2-1293 GENERAL.

A. SAS. When evaluating a manual or revision, the principal inspector (PI) has the ability to use the SAS Element Design Data Collection Tool (ED DCT), and/or Custom Data Collection Tool (DCT) based on the scope and nature of the revision. When evaluating an RSM and/or QCM multiple elements are involved. See Volume 10.

B. Currency of a QCM. Before issuing an Air Agency Certificate, the applicant's RSM and/or QCM must reflect the applicant's current procedures and be acceptable to the Federal Aviation Administration (FAA).

NOTE: If the training program required by part 145, § 145.163 is included in either of these manuals, that portion must be FAA approved.

C. Revision of an Existing Manual. The certificate-holding district office (CHDO) must be notified when a certificate holder revises an existing manual.

D. Manual Content. The manuals submitted by a certificate holder or applicant may be separate or may be combined into a single manual. The format should be consistent and all regulatory requirements must be included. The aviation safety inspector (ASI) must ensure that the procedures used in the performance of maintenance, preventive maintenance, or alterations are reflected accurately in the manuals. It is expected that, to fully describe the repair station's inspection/quality system, there will be some procedures that may not be regulatory.

E. Original Certification Versus Revision. When evaluating a manual as part of an original certification, each entire manual will be submitted prior to certification. If this task is performed as a revision, only the portion of the manual that is revised must be submitted.

F. RSM and QCM. Each certificated repair station must maintain a current RSM and QCM.

G. Accessibility of Manual. A certificated repair station's current RSM/QCM must be accessible for use by repair station personnel. All repair station employees on all shifts must have access to the manual, regardless of the media used (electronic, CD-ROM, etc.).

H. CHDO. A certificated repair station must provide to its CHDO the current RSM/QCM in a format acceptable to the FAA. If the manuals or manual submitted are in electronic media format, they must be compatible with FAA electronic capabilities and free of any programs that would adversely affect that capability.

I. Recommendations for Manual Development. There are some recommendations included in this handbook referenced from the current edition of Advisory Circular (AC) 145-9, Guide for Developing and Evaluating Repair Station and Quality Control Manuals, which are not required by the regulations. They have been included to assist the inspector and certificate holder/applicant in developing a more complete description of the repair station's overall functions, responsibilities, and quality control (QC) procedures.

J. Maintenance and Alterations in Accordance With an Air Carrier's Manuals. For certificate holders under 14 CFR parts 121, 125, and 135, and for foreign air carriers or foreign persons operating a U.S. registered aircraft in common carriage under 14 CFR part 129, maintenance, preventive maintenance, and alterations must be performed in accordance with applicable sections of that air carrier's manuals.

K. Principle Inspectors (PI). PIs with certificate management responsibilities for part 145 Repair Stations identifying themselves as a Hazardous Materials (hazmat) Employer, defined in Title 49 of the Code of Federal Regulations (49 CFR) part 171, § 171.8, should ensure the procedures outlined in Volume 2, Chapter 2, Section 6, subparagraph 2-247A, are included in the RSM/QCM.

2-1294 REPAIR STATION AUTHORIZATION TO MAINTAIN CANADIAN AIRCRAFT.

A. Maintenance, Preventive Maintenance, and Modifications. The repair station may perform maintenance, preventive maintenance, and modifications to aircraft certificated in Canada. To perform this work, the repair station must continue to comply with part 145 and the special conditions imposed by the Bilateral Aviation Safety Agreement (BASA) Maintenance Implementation Procedures (MIP) (BASA/MIPs).

B. Implementing Required Procedures. The MIP agreement requires U.S. air agencies and Canadian Approved Maintenance Organizations (AMO) to develop and implement stringent controls and procedures at their repair stations. These procedures must become a part of the RSM or a supplement to the manual. The requirements for the supplement are contained in the current United States—Canadian BASA/MIPs.

C. Transport Canada Civil Aviation (TCCA) Inspections. The repair station must allow TCCA, or the FAA on behalf of TCCA, to inspect it for continued compliance with

part 145 and MIP special conditions. The repair station must make its manual and the required supplement available for inspection.

NOTE: Investigations and enforcement by the TCCA may be undertaken in accordance with TCCA rules and directives. The repair station must cooperate with any investigation or enforcement action.

2-1295 PREREQUISITES AND COORDINATION REQUIREMENTS. This task may require coordination with other specialty, regional, or district offices.

2-1296 REFERENCES, FORMS, AND JOB AIDS.

A. References (current editions):

- Title 14 CFR Parts 1, 39, 43, 65, 91, 121, 125, 129, 135, and 145.
- Canadian Aviation Regulations (CAR) Parts IV and VII.
- AC 145-9, Guide for Developing and Evaluating Repair Station and Quality Control Manuals.
- AC 43-10, United States—Canadian Bilateral Aviation Safety Agreement Maintenance Implementation Procedures.
- United States—Canadian BASA/MIPs.
- Volume 2, Chapter 11, Section 2, Procedures for Certificating Part 145 Repair Stations/Satellites Located Within the United States and Its Territories.
- Volume 2, Chapter 11, Section 3, International Field Office Procedures for Certificating/Renewing/Amending a Part 145 Repair Station Located Outside the United States and its Territories and not Under a Maintenance Implementation Procedure.
- Volume 2, Chapter 11, Section 5, Safety Assurance System: Evaluate Part 145 Repair Station Facilities and Equipment.

B. Forms. None.

C. Job Aids. None.

2-1297 RSM PROCEDURES.

A. Acceptable Formats. Receive the certificate holder or applicant's manual or revision as required by §§ 145.51, 145.207, and 145.211(c).

B. Manual or Revision Content. Review the submitted manual or revision to ensure that it meets the regulatory requirements of §§ 145.209 and 145.211. The manual or revision must include the following:

1) An organizational chart that identifies:

a) Each management position with authority to act on behalf of the repair station.

1. The organizational chart required by § 145.209 may identify management positions by title only.

2. Management includes, but is not limited to, the executive functions of planning, organizing, coordinating, directing, controlling, and supervising.

3. This does not eliminate the requirement in § 145.51 for an applicant to submit the names and titles of its management and supervisory personnel at the time of application.

b) The area of responsibility assigned to each management position, which is the area(s) in the repair station that the manager is directly accountable for and maintains decision authority over.

c) The duties, responsibilities, and authority of each management position.

2) Procedures for maintaining and revising the rosters required by § 145.161.

NOTE: Within five business days of the revision, the rosters required by this section must reflect changes caused by termination, reassignment, change in duties, scope of assignment, or addition of personnel.

3) A description of a repair station's operations describing how the repair station performs maintenance, where it would start, and how it progresses through the entire repair cycle for approval for return to service. Also include:

a) A description of the housing, which may include dimensions, construction method, heating and ventilation systems, lighting, door openings, and physical address.

b) A description of the facilities including the layout of the shop, hangar, or other work areas.

c) A description of the equipment, tooling, and materials used to perform maintenance.

NOTE: The "description of materials used to perform maintenance" should not be a physical description of the material, but rather an explanation of the repair station's handling and storage of the materials. If materials require specific environmental controls or cannot be stored next to certain chemicals or solvents, these should be identified. For example, it would not be acceptable to store oxygen equipment near petroleum products.

1. If the repair station does not own the equipment, the manual must include procedures that describe how the repair station will obtain the equipment (lease, rentals, etc.). The manual must also include where repair station personnel will use the equipment, how it will train personnel on the proper use of the equipment, and how the repair station will ensure that it addresses calibration issues, if any, after transporting the equipment.

2. If the repair station chooses to use equipment, tools, or materials other than those recommended by the manufacturer, the manual must include a procedure used by the repair station to determine the equivalency of that equipment, tool, or material.

NOTE: When the repair station is adding a rating or an applicant has applied for certification, all required equipment for the rating it seeks must be in place for inspection by the FAA. This provides the ASI with the opportunity to evaluate its placement and use, and to verify that repair station personnel are trained to operate it.

4) Capability list procedures used to:

a) Revise the capability list provided in § 145.215 and notify the CHDO of revisions to the list, including how often the repair station will notify the CHDO of revisions; and

b) Develop and perform the self-evaluation required by § 145.215(c) for revising the capability list, including the methods and frequency of such evaluations and procedures for reporting the results to the appropriate manager for review and action.

5) Procedures for revising the training program and submitting revisions to the CHDO for approval, which should include:

- The title of the person authorized to make a training program revision;
- The method of submitting a revision (electronic, hardcopy, disk, etc.); and
- A procedure for recording a revision and a method of identifying the revised material or text.

6) Procedures for accomplishing work performed at a location other than the repair station's fixed location, which should contain the following:

a) Title of the person responsible for determining that the location is appropriate for the work performed.

b) Title of the person responsible for initiating such work and assigning the personnel necessary to perform inspections and supervise the work.

c) Procedures for communication between responsible repair station personnel at the fixed location and the maintenance personnel working away from the station. This should include the transfer of parts, supplies, tools/equipment, technical data, and trained personnel.

d) Procedures that maintenance personnel will use when away from the repair station if they deviate from established procedures used at the fixed location. The repair station must ensure that maintenance personnel accomplish all work performed while exercising the privileges of its certificate, per the appropriate maintenance manual and its RSM or QCM. The determination for performing work at another location must meet the following requirements:

1. The work is necessary due to a special circumstance, such as a one-time occurrence, as determined by the FAA; or

2. It is necessary to perform such work on a recurring, but not continuous, basis and the RSM includes the procedures for accomplishing maintenance, preventive maintenance, alterations, or specialized services at a place other than the repair station's fixed location.

NOTE: The FAA must make the determination regarding the performance of work at another location prior to the performance of any maintenance, preventive maintenance, or alterations away from the repair station's fixed location unless the manual includes an acceptable procedure.

7) Procedures for performing maintenance, preventive maintenance, and alterations for certificate holders under parts 121, 125, and 135, and for foreign air carriers or foreign persons operating a U.S.-registered aircraft in common carriage under part 129.

a) The FAA requires that maintenance under a Continuous Airworthiness Maintenance Program (CAMP) be performed in accordance with the operator's manual. It is the operator's responsibility to ensure that the work performed on its behalf is in accordance with its approved maintenance program.

b) The certificated repair station that performs maintenance, preventive maintenance, or alterations for an air carrier or commercial operator that has a CAMP under part 121 or 135 must follow the air carrier or commercial operator's maintenance program or applicable sections of its maintenance manual.

c) A certificated repair station that performs inspections for a certificate holder conducting operations under part 125 must follow the operator's FAA-approved inspection program.

d) A certificated repair station that performs maintenance, preventive maintenance, or alterations for a foreign air carrier or foreign operator operating a U.S.-registered aircraft under part 129 must follow the operator's FAA-approved maintenance program.

e) The FAA may authorize a certificated repair station to perform line maintenance on any aircraft of an air carrier certificated under part 121 or 135, or of a foreign air carrier or foreign operator operating a U.S.-registered aircraft in common carriage under part 129, provided the certificated repair station:

- Has the appropriate ratings to perform the maintenance or preventive maintenance on transport category aircraft;
- Performs such line maintenance in accordance with the operator's manual and approved maintenance program;

- Has the necessary equipment, trained personnel, and technical data to perform such line maintenance; and
- Has operations specifications (OpSpecs) that include an authorization to perform line maintenance.

NOTE: A repair station must be appropriately rated to perform line maintenance for an air carrier. This would normally require an airframe rating to accomplish scheduled checks, daily inspections, or the servicing of articles. However, a repair station with the appropriate ratings may accomplish unscheduled maintenance and repairs. This could include avionics facilities limited to avionics functions such as troubleshooting electrical or electronic systems, or replacing defective electronic articles.

8) Procedures for performing maintenance, preventive maintenance, and modifications on Canadian aeronautical products.

a) An FAA certificated repair station may perform maintenance, preventive maintenance, and modifications (with the exception of annual inspections) on a civil aeronautical product under the regulatory control of TCCA. The repair station may approve that product for return to service if the repair station complies with the special conditions stated in the BASA/MIPs between the United States and Canada.

b) In addition to the other requirements specified in the MIPs, a repair station performing maintenance, preventive maintenance, or modifications on aircraft operating in commercial air service under TCCA CAR part IV or VII must include in its manual a supplement describing the procedures listed in the current edition of AC 43-10, Appendix 3, paragraph 3.2, or explain where in the RSM those procedures are described. These procedures must be accepted by the FAA.

9) Procedures for maintaining and revising the contract maintenance information, including the submission of revisions to the CHDO for approval and how often the repair station will notify the FAA of revisions.

a) The FAA must approve the maintenance functions contracted to noncertificated providers.

b) The repair station must maintain a list of each facility that it contracts maintenance functions with, including the type of certificate and ratings (if any) held by each facility.

c) The manual does not need to include the maintenance function list, but the manual should include the location or office where the repair station maintains the list.

NOTE: Maintenance functions are a step or series of steps in the process of performing maintenance, preventive maintenance, or alterations that result in approving an article for return to service. It is not the intent of this rule to create “virtual repair stations” that provide only an approval for return to service. ASIs

must evaluate the amount of work a repair station desires to contract out versus the work it performs in house.

10) A description of the recordkeeping system used by the repair station to obtain, store, and retrieve the records required by part 43. These records must be in English.

11) Procedures for revising the RSM and notifying its CHDO of revisions to the manual, including how often the repair station will notify the FAA of revisions. The procedure must include:

- The title of the person authorized to make a revision;
- The method of submitting a revision (electronic, hardcopy, disk, etc.);
- A procedure for recording a revision and a method of identifying the revised material or text; and
- A description of the system used to identify and control sections of the RSM.

C. Service Difficulty Reports (SDR) and Suspected Unapproved Parts (SUP). The manual should include the following:

1) Procedures for submitting an SDR; a certificated repair station must report to the FAA within 96 hours after it discovers any serious failure, malfunction, or defect of an article in accordance with § 145.221 and in a format acceptable to the FAA. This is usually in the form of an SDR. If the repair station performs maintenance, preventive maintenance, or alterations for an air carrier, the manual should also contain procedures on how it will notify the operator when submitting reports. The reporting requirement of part 121, § 121.703(d) will be served when an aircraft is scheduled out of service for more than 72 hours due to maintenance, preventive maintenance, or alteration activities. Occurrences and deficiencies must be reported 96 hours after the work on the aircraft is approved for return to service, unless the condition has been reported under another part or section of 14 CFR (e.g., 14 CFR part 21, § 21.3 or § 145.221).

2) Procedures for detecting and reporting SUPs.

2-1298 QCM PROCEDURES.

NOTE: The QCM may be separate from the RSM or included in that manual as a separate section or volume.

A. Documentation, Inspections, and Training. A certificated repair station must prepare and keep current a QCM in a format acceptable to the FAA. Depending upon the size, complexity, and rating(s) of the repair station, that manual should include a description of the system and procedures used for:

1) Receiving and documenting articles, standard parts, and raw materials.

2) Performing incoming inspections of raw materials and standard parts that check for:

- Proper documentation, identification, and traceability;

- Conformity to a specification and acceptable quality;
- Shelf life;
- Contamination;
- Shipping damage; and
- State of preservation.

3) Performing a preliminary inspection of all articles that are maintained or altered to check for:

- Proper documentation, identification, and traceability;
- Shipping damage and contamination;
- State of preservation;
- Life limits;
- Airworthiness Directives (AD) and Service Bulletins (SB);
- Functional test or teardown inspections;
- FAA approval/acceptance of articles; and
- Determination of what repairs are necessary.

4) Inspecting all articles that have been involved in an accident for hidden damage before maintenance, preventive maintenance, or alteration is performed. Ensure that items are disassembled as necessary and inspected for hidden damage in adjacent areas.

5) Performing in-progress inspections to ensure inspections, testing, and/or calibration are conducted at various stages while the work is in progress.

6) Performing final inspections and approvals for return to service.

a) Ensures that inspection, testing, and/or calibration of articles, including documentation, is accomplished at the completion of maintenance or an alteration.

b) The manual must include a procedure for approval for return to service.

7) Ensuring continuity of inspection responsibility.

a) Include procedures for ensuring that the responsibilities of any inspector are properly performed in their absence.

b) If the repair station has multiple shifts, include procedures to ensure the continuing responsibility for maintenance in progress through the use of a status book, shift turnover log, or similar documents.

8) Calibrating measuring and test equipment used in maintaining articles, including the intervals at which the equipment will be calibrated.

9) Taking corrective action on deficiencies related to repair station operation.

a) Section 145.211(c)(1)(ix) states that the QCM must include procedures used for taking corrective action on deficiencies. A corrective action is taken to remedy an undesirable situation. The correction of deficiencies is normally an integral part of a repair station's improvement process, and could include revisions to procedures that were not working properly (Refer to AC 145-9, paragraph 4-13 for additional guidance.).

NOTE: The repair station is not required at this time to have an Internal Evaluation Program (IEP), quality assurance (QA) program, or a continuous improvement program.

b) Corrective action requires that a fact-based investigation determine the root cause or causes to eliminate them. Corrective action would be applicable in two situations: before the article is approved for return to service and after the article has been approved for return to service.

c) If a deficiency is found before the article is approved for return to service, the repair station should follow its procedures describing how rework will be accomplished. If the deficiency is noted after the article is approved for return to service, the repair station should follow its procedures to notify the CHDO and the owner/operator of any potential problems and recall any unairworthy parts or products. The objective of the investigation into the cause of the deficiency and the corrective actions taken is to eliminate any potential safety threats posed by unapproved or improperly maintained parts or products and to prevent a recurrence of the same or similar problems.

NOTE: When the CHDO receives notification of a deficiency found after the article is approved for return to service, the PI must ensure the event is reviewed for possible noncompliance of parts 43 and/or 145. The review should be conducted using the AFS Compliance Action Decision Procedure in Volume 14, Chapter 1, Section 2. If improper maintenance is found, the ASI shall complete the PTRS records using code 3776/5776 as applicable. If unapproved parts are found, the ASI shall complete the PTRS records using code 3775/5775 as applicable. If the unapproved parts lead to an outside facility that manufactured the parts, an FAA Form 8120-11, Suspected Unapproved Parts Report, should be filed so an Aircraft Certification Service (AIR) investigation can be conducted. If the deficiency is found as a result of an inspection, audit, or evaluation of a maintenance facility located outside of the region, the inspector should contact the region or Flight Standards District Office (FSDO) responsible for the facility that completed the work. The investigating inspector completing the investigation on that facility shall complete the PTRS records using code 3776/5776, as applicable.

d) The procedures in the QCM should include a system for documenting any deficiencies and the corrective actions taken to prevent a recurrence. The system should let employees track any open corrective action requests and the date the corrective action is due. The program should also be tracked to include audits of the corrective action(s) taken to ensure it was effective. These audits should also be tracked to ensure that they are completed in a timely fashion.

10) Establishing and maintaining the proficiency of inspection personnel.

a) The procedure should ensure that inspection personnel are familiar with the applicable regulations and are proficient at inspecting the articles they are assigned to inspect.

b) Testing, formal training, recurrent training, or a combination of these methods could be used to maintain the proficiency of inspection personnel.

11) Establishing and maintaining current technical data for maintaining articles.

12) Revising the repair station's quality manual and notifying its CHDO of revisions to the manual, including how often the FAA will be notified of revisions. The procedure must include:

- The title of the person authorized to make a revision;
- The method of submitting revisions (electronic, SAS external portal, hardcopy, disk, etc.); and
- A procedure for recording revisions and a system for identifying revised material or text.

13) Qualifying and surveying noncertificated persons who perform maintenance, preventive maintenance, or alterations for the repair station. A certificated repair station may contract a maintenance function pertaining to an article to a noncertificated person, provided that:

- The noncertificated person follows a QC system equivalent to the system followed by the certificated repair station;
- The certificated repair station remains directly in charge of the work performed by the noncertificated person;
- The certificated repair station verifies, by testing and/or inspecting, that the work has been performed satisfactorily and that the article is Airworthy before approving it for return to service; and
- The noncertificated person's contract allows the FAA to inspect or observe work being performed on any articles for the certificated repair station.

NOTE: The ability to inspect a noncertificated person can only be accomplished while the contract is in force. This requirement does not give ASIs access to non-FAA certificated facilities if there is no work being performed under contract for a certificated repair station.

B. Manual References. Where applicable, the manual should contain references to the instructions for continued airworthiness (ICA), maintenance manuals, inspection standards, or other approved or accepted data specific to the article being maintained.

C. Inspection and Maintenance Forms. A sample of each of the inspection and maintenance forms used in the performance of maintenance and the instructions for completing those forms.

NOTE: These forms may be addressed in a separate accepted manual that is submitted to the CHDO and maintained in current condition by the repair station.

2-1299 TASK OUTCOMES.

A. Complete the PTRS Record.

B. Follow SAS Guidance Modules 4 and 5.

NOTE: Initial certification will require the certificate holder/applicant to use the SAS external portal to submit all applicable documents. Existing certificate holders have the option to use the SAS external portal for document transmittal. Refer to the SAS external portal users guide for more information.

C. Complete the Task. Completion of this task will result in the following actions:

- If no regulatory conflicts were found, the FSDO may send a transmittal document acknowledging receipt of the manuals.
- If conflicts with the rule are noted, the PI will detail those discrepancies in writing to the certificate holder.

NOTE: ASIs may inform the certificate holder that no deficiencies were noted. This should not be mistaken as an "acceptance" of the manuals.

NOTE: Federal agencies can no longer refuse electronic versions of manuals, forms, record systems, etc. Federal law prohibits agencies from making the use of electronic media more difficult, or from requiring additional steps or procedures for users of electronic media. Therefore, all repair station document submissions must be accompanied by a transmittal document that describes the submission and is signed by the appropriate manager.

1) Approve the training program or a revision by sending the certificate holder a letter indicating the date; document, manual, or revision number; and an approval statement. The PI should sign the transmittal document.

2) Accept the Canadian supplement or revision to the appropriate manual sections by sending the certificate holder a letter indicating the date, the document, manual, or revision number, and an acceptance statement. The ASI should sign the transmittal document. If the repair station elects to imbed their Canadian MIP requirements in their manual, the acceptance conveyance letter must quote each section of the manual where the Canadian requirements are found. The ASI is only accepting the Canadian requirements of the manual.

NOTE: A certificate holder using electronic media such as CD-ROM disks, local area network (LAN)-based manual systems, or internet based manual systems may scan the cover letters and insert them electronically into the applicable document if they do not wish to maintain a file of acceptance or approval letters.

D. Use of Electronic Transmissions (Email or Facsimile (fax)). Email or fax responses are an acceptable alternative to the cover letter if the repair station is equipped to transmit and receive any necessary attachments; this may include the use of electronic signatures. This method should be addressed in the repair station's procedures and found acceptable to the FAA.

E. Rejection. Reject the manual(s) or revisions by doing the following:

1) Initiate a cover letter indicating the date and document, manual, or revision number of the document or manual being rejected.

2) Return all copies to the applicant with an explanation of discrepancies that must be corrected and instructions for resubmitting the documents in order to proceed with the certification or revision process.

F. Posting Revisions. The applicant/certificate holder must provide revisions to the RSM and/or QCM, and the approved training program and/or manual, to the CHDO. The PI will file the revision in the certificate holder/applicant's office file.

1) If in a paper revision, the ASI will remove the affected pages and insert the revised pages in the manuals or the training program. The ASI will update the manual control system and file the cover letters in the appropriate office file.

2) If in an electronic format, the ASI will replace the outdated office copy version with the current submission in the format it was submitted.

G. Document the Task. File all supporting documents in the certificate holder/applicant's office file.

2-1300 FUTURE ACTIVITIES. Follow SAS guidance.

RESERVED. Paragraphs 2-1301 through 2-1315.