

## CHAPTER 161. INTRODUCTION TO PART 145 REPAIR STATIONS

### SECTION 1. BACKGROUND

**1. PURPOSE.** This chapter defines relevant terms for Title 14 of the Code of Federal Regulations (14 CFR) part 145, Repair Stations. It also explains the policies and procedures applicable to repair stations, regardless of their geographic location.

### 3. GENERAL.

#### A. Definitions.

(1) *Air Agency Certificate.* Federal Aviation Administration (FAA) Form 8000-4, Air Agency Certificate, is the authority granted by the FAA for a repair station to conduct business. The certificate states the following information:

- (a) Repair station number.
- (b) What the repair station's ratings are to include:
  - Class ratings
  - Limited ratings
  - Limited specialized service ratings
- (c) The location and name of the repair station.
- (d) The expiration date, as applicable.

(2) *Accountable Manager.* The person designated by the certificated repair station as responsible for and with authority over all repair station operations that are conducted under part 145. This person's duties include ensuring that repair station personnel follow the regulations and serving as the primary contact with the FAA.

**NOTE: The FAA Accountable Manager definition may differ from the Joint Aviation Authorities (JAA) Accountable Manager; however, one person may serve both positions. The operations specifications (OpSpecs) and Vital Information System (VIS) have been revised to include both.**

(3) *Article.* An aircraft, airframe, aircraft engine, propeller, appliance, or component part.

(4) *Class Ratings.* Ratings issued if the repair station can prove the capability to maintain a representative number of products under this rating. A class rating should not be issued and then restricted to a specific product. For such a case, a limited rating should be issued.

(5) *Contracting.* Entering into an agreement between two or more persons for the performance of maintenance functions on an article.

(6) *Correction.* An action taken to eliminate a detected nonconformity as it relates to the articles or maintenance processes.

(7) *Corrective Action.* An action taken to eliminate the cause of a detected nonconformity or other undesirable condition to prevent its recurrence.

(8) *Directly in Charge.* Responsible for the work of a certificated repair station that performs maintenance, preventive maintenance, alterations, or other functions affecting aircraft airworthiness. A person directly in charge doesn't need to physically observe and direct each worker constantly, but must be available for consultation on matters requiring instruction or decision from a higher authority.

(9) *Domestic Repair Station.* A term used in the automated OpSpecs to describe an FAA-certificated facility located within the United States that performs maintenance, preventive maintenance, or alterations on articles.

(10) *Foreign Repair Station.* A term used in the automated OpSpecs to describe an FAA-certificated facility located outside of the United States that performs maintenance, preventive maintenance, or alterations on articles.

**NOTE: The part 145 rule has removed the "foreign" and "domestic" terms; however, these terms are still valid when revising OpSpecs due to the current repair station certificate numbering system.**

(11) *Geographic Authorization.* An authorization that is issued to a certificated repair station located outside the United States to maintain U.S.-registered aircraft at a location where an appropriately rated repair station is not available. This provision is limited to repair stations located solely outside the United States that hold an airframe rating for an aircraft of the same make and model for which the repair station is rated.

(12) *Limited Ratings.* Ratings issued to repair stations for the performance of maintenance on particular makes and models of airframes, powerplants, propellers, radios, instruments, accessories, and/or parts.

(13) *Limited Specialized Service Ratings.* Ratings issued for a special maintenance function when the function is performed in accordance with a specification or data acceptable to the FAA. The OpSpecs must include the specifications or data used by the repair station to perform that service in accordance with part 145, § 145.61(c).

(14) *Line Station Maintenance.* Unscheduled maintenance resulting from unforeseen events, or scheduled checks that contain servicing and/or inspections that do not require specialized training, equipment, or facilities.

(15) *Maintenance Function.* A step or series of steps in the process of performing maintenance, preventive maintenance, or alterations, which may result in approving an article for return to service. Only persons authorized under part 145, §§ 145.157(a) and 145.213(d) may approve an article for return to service, perform a final inspection, or sign a maintenance release.

**NOTE: When repair station personnel are used as repairmen and their job duties include supervision of work performed, return to service, final inspection, or maintenance release of an aviation article, their repairman certificates must indicate those duties to satisfy the requirements of §§ 145.153(b)(1), 145.157(a), and 145.213(d). For example, the certificate might show: Certificate privileges of 14 CFR part 65, § 65.103 valid for “return to service,” “final inspection,” or “maintenance release,” while employed by repair station name, City, State and certificate number.**

**NOTE: Current repairman certificates do not need to be reissued to comply with**

**§§ 145.157(a) and 145.213(d) if these employees are otherwise qualified and listed on the repair station’s required roster(s). However, when these certificates are revised, the additional language for approval for return to service, final inspection, or maintenance release should be added to the limitations block of the certificate.**

(16) *Operations Specifications.* OpSpecs are issued by the FAA to indicate the authorizations and limitations to ratings as specified on the air agency certificate.

(17) *Quality Control Manual.* A manual that describes the inspection and quality control procedures used by the repair station.

(18) *Repair Station Manual.* A manual that describes the procedures and policies of a repair station’s operations.

(19) *Satellite Repair Station.* An additional certificated facility or location under the managerial control of another certificated repair station.

*B. Capability List.* A certificated repair station with a limited rating may perform maintenance, preventive maintenance, or alterations on an article if it is listed on a current capability list acceptable to the FAA or on the repair station’s OpSpecs.

(1) If the repair station chooses to use a capability list, the repair station manual must:

- Contain procedures for revising the list and notifying the certificate-holding district office (CHDO)
- Include how often the CHDO will be notified of revisions
- Contain procedures for the self-evaluation required under part 145, § 145.215(c) for revising the capability list
- Describe the methods and frequency of such evaluations
- Contain procedures for reporting the results to the appropriate manager for review and action

(2) The capability list itself may be included as part of the repair station manual or as a separate document; however, the procedures for revising the list and for performing the self-evaluation must be in the manual.

(3) If the repair station elects to maintain a separate capability list, it must perform a self-evaluation before adding an article to the capability list. The individual(s) performing the self-evaluation should be qualified to perform an audit to determine compliance with part 145. The self-evaluation procedures in the repair station manual should ensure that the repair station has the appropriate limited rating; adequate housing and facilities; the recommended tools, equipment, and materials; current technical data; and sufficient qualified personnel.

(4) The results of the self-evaluation must be reported to the appropriate repair station manager for review. If the self-evaluation was satisfactory, the capability list may be revised. The revised list and any other necessary technical data can be submitted with a transmittal document to the principal inspector (PI) at the CHDO.

**NOTE: Transmittal documents include cover letters, memos, e-mails, faxes, or any other media acceptable to the Flight Standards District Office (FSDO).**

(5) If the capabilities are maintained on the OpSpecs, each article will be listed by make, model, or manufacturer's name under each limited rating. If the repair station maintains a separate capability list, the OpSpecs will indicate that the certificate holder is authorized to use a capability list as revised.

(6) If the repair station does not maintain the necessary tools, equipment, housing, facilities, and trained personnel to perform the required maintenance on the article(s) listed on the capability list, the article(s) should be deleted from the capability list.

**NOTE: The repair station must maintain, or provide written evidence that they can obtain, the tools and equipment required to maintain the articles on the capability list.**

*C. Additional Fixed Locations.* A repair station may have additional fixed locations (facilities) without certificating each facility as a stand-alone or satellite repair station. This authorization may be granted if all of the facilities are localized and within a defined area, such as several buildings or hangars, which may be on or near the same airport or at or near the address stated on the repair station certificate. All locations will be operated under the authority of a single repair station certificate.

(1) Additional locations are *not* separate facilities and must collectively be considered one repair station. A geographic authorization or other repair station certificate is not required. However, the repair station must have procedures in its manual to describe how it will operate in this manner and remain in compliance with its manual and with the requirements of part 145. This situation is not considered work away from the station.

**NOTE: The aviation safety inspector (ASI) and repair station accountable manager must collaborate when making a determination that additional locations are required for repair station operations. A primary concern to the FAA is that all the facilities be localized and within a defined area of operation. ASIs must be assured reasonable access to all locations and not be inconvenienced by extended travel distances. It is expected that extended travel between facilities may have an adverse impact on FAA oversight and surveillance capabilities.**

(2) Multiple locations may be particularly useful when other federal laws or local ordinances require a repair station to use remote sites when performing some maintenance actions, such as functional testing of turbine engines. Local laws and noise abatement programs may force a repair station to another work site. The FAA may find that the additional locations do not have a significant impact on the maintenance performed, provided the manual has sufficient procedures to ensure the airworthiness of articles being maintained.

(3) All additional locations must be under the full control of the primary facility. It is not necessary that each location be completely equipped since tools, equipment, parts, etc., can be transported between facilities.

(4) The repair station must apply for the use of additional locations and have that request approved before exercising the privileges of its certificate and ratings at these facilities. The application must list each facility and the physical address of the facilities. The repair station must submit a revision to its manuals detailing the procedures it will follow when transporting equipment or parts, how it will ensure adequate and appropriate personnel are available at each site when needed, and how it will continue to meet the requirements of part 145.

**NOTE: Under normal circumstances, additional fixed locations should not be authorized across FSDO or regional boundaries since ASIs are responsible to oversee the entire operation. Consideration of additional fixed locations outside the FSDO's area of responsibility must be coordinated with the Aircraft Maintenance Division, AFS-300, via the Flight Standards regional office.**

*D. Maintenance Functions.*

(1) Maintenance functions must be approved by the FAA prior to a certificated repair station contracting out the performance of maintenance, preventative maintenance, or alterations of an article. Maintenance functions requiring approval are those items for which a repair station is rated to maintain but chooses to outsource as referenced in part 145, § 145.201(a) to a non-certificated maintenance provider.

(2) Maintenance function approval is not required for the following contract providers:

(a) Certificated repair stations listed on the repair station's contract maintenance list.

(b) Certificated or non-certificated facilities performing maintenance on an article for which the repair station is not rated.

**NOTE: The repair station rule already prohibits a repair station from maintaining any article for which it is not rated. Outsourcing of these maintenance functions will not require approval since the repair station cannot approve the article for return to service.**

*E. Contract Maintenance.* A repair station must have the material and equipment necessary to perform the functions appropriate to its rating. However, it need not have the tools and equipment for functions it is authorized to contract out pursuant to its FAA-approved list of maintenance functions. The repair station must request approval before it can contract a maintenance function to a non-certificated provider. If the FAA approves the contracted maintenance function, the repair station can determine who will perform the maintenance.

**NOTE: A repair station may contract maintenance functions to both FAA-certificated and non-FAA certificated facilities. The FAA only approves the maintenance**

**functions contracted to a non-certificated facility that are within the scope of its ratings.**

(1) If a repair station contracts a maintenance function to another FAA-certificated repair station, the repair station performing the maintenance function is responsible for providing the approval for return to service of maintenance performed on each article. The originating repair station must determine that the contracted repair station is properly rated to perform the maintenance. The contracted repair station performing the maintenance must approve the article for return to service for the work they perform. Articles received from a certificated facility must be properly processed through the repair station's receiving inspection procedures before further maintenance is performed.

(2) If the repair station contracts to non-FAA certificated facilities, the repair station must include provisions that allow the FAA to inspect and observe the work performed on those articles at the non-certificated facilities. The individual in charge of the contract maintenance program may be required to accompany the FAA during these inspections. These inspections may determine if the repair station is able to continue to contract the maintenance functions to this source and ensures that:

- The non-FAA certificated facility follows a quality control program equivalent to the FAA-certificated repair station's system with respect to the work being performed for the certificated repair station
- The work performed on the article is verified by testing and/or inspection
- The article is airworthy with respect to the work performed by the non-certificated source
- The repair station manual should include a procedure ensuring that contracts contain a provision for FAA inspections

(3) The repair station is responsible for approving for return to service any article on which work has been performed and for ensuring the article's airworthiness. Inspection procedures within the manual must enable the repair station to determine the airworthiness of the work performed on each article received. If the repair station cannot determine the quality of the contracted work by inspection or test, the work can be contracted only to an FAA-certificated

facility that is able to inspect the work performed for compliance with part 43.

**NOTE: It is not enough for the contracting repair station to give its quality control manual to the non-certificated contractor and assume the proper procedures will be followed. The certificated repair station must provide adequate surveillance to ensure its quality control procedures are followed.**

(4) *Contracting to Canadian Approved Maintenance Organizations.* Part 43, § 43.17(c) authorizes an approved maintenance organization (AMO) whose system of quality control has been approved by Transport Canada to perform maintenance on U.S. aeronautical products. Section 43.17(d) requires that this maintenance be performed in accordance with part 43, §§ 43.13, 43.15, and 43.16.

(a) These are the same regulations that must be followed by a U.S.-certificated repair station. Section 43.17(e)(1) requires the AMO to approve the article for return to service after performing maintenance. Section 43.17(d) states that the work must be performed and recorded in accordance with part 43. The Canadian form, TCCA Form 24-0078, Authorized Release Form, is similar to our FAA Form 8130-3, Airworthiness Approval Tag, and meets the recording requirements when filled out properly.

(b) Since their quality control system is approved by Transport Canada, the organization is viewed as similar to the U.S.-certificated repair station system. We do not have any U.S. foreign repair stations in Canada because we have a bilateral maintenance agreement with Canada.

(c) Although not FAA-certificated repair stations, Canadian AMOs performing work per § 43.17 comply with the same requirements that U.S. repair stations must when performing maintenance, preventive maintenance, or alterations. Because of the similarities, an on-site inspection would not be required.

(5) *Contracting to a Certificated Mechanic.* Part 43 authorizes a certificated mechanic to provide approval for return to service after performing maintenance, preventive maintenance, or alterations. This person is also held to the same performance requirements as the repair station. The mechanic approves the article for return to service by providing documentation that complies with part 43, § 43.9. The

repair station would not be required to conduct an on-site inspection of the mechanic's facilities.

**NOTE: This situation may be used by repair stations to contract maintenance functions that are outside the scope of their ratings. For example, an avionics facility without a limited airframe rating installing a Supplemental Type Certificate (STC) may contract the airframe portion to a certificated person.**

*F. Work Performed at Another Location.* A repair station may perform work away from its fixed location for a one-time special circumstance or on a recurring basis.

(1) A repair station may perform work away from its fixed location for a one-time special circumstance, such as an aircraft on the ground or in preparation for a ferry flight.

- The rule further states that the FAA determines these special circumstances
- The repair station manual does not need to include a specific procedure, since the FAA must approve the request to work at another location before the repair station engaging in this type of maintenance
- The CHDO will review the request and inform the repair station of any parameters that must be followed to perform the work

(2) A repair station may perform work away from its fixed location on a recurring basis when necessary, such as to perform mobile field services. This will allow work away from the repair station's fixed location as a part of everyday business rather than under special circumstances only.

- If the repair station intends to perform maintenance at places other than its fixed location, the manual must include procedures for accomplishing the maintenance, preventive maintenance, alterations, or specialized services
- The procedures must address issues related to transportation, tools, equipment, personnel, technical data, and records
- These procedures should ensure the repair station at the remote location remains in compliance with part 145 and its manual, just as if the work was performed at the repair station's fixed location

(3) A repair station may perform work away from its fixed location for extended periods of time if it meets certain criteria. This type of operation may not necessarily meet the intent of § 145.203 or the line maintenance authorization because the contracted work may require several months to complete. Additionally, this type of operation does not constitute the establishment of another repair station or a satellite repair station because it is temporary in nature. After the contracted maintenance is completed, the repair station must transport its tools, equipment, and personnel back to its fixed location. This type of operation must be requested by the certificate holder, and requests will be evaluated on a case-by-case basis. The repair station must meet the following criteria to work away from its fixed location for extended periods of time:

- The contracted maintenance must be for at least 60 days but must not exceed 1 year
- The repair station must furnish its own tools and equipment, unless it has procedures for leasing or contracting tools and equipment that comply with the regulations and with the procedures in the repair station manual
- The request to the CHDO must include the aircraft (make/model/series), the project to be accomplished, the duration of the work, the location of the work, and a statement that the temporary facilities are suitable for the repair station's work

**NOTE: Housing that is suitable for one repair station's use may not automatically be suitable for the purposes and scope of work for another repair station's ratings, privileges, or limitations. The repair station requesting to work away from its fixed location for extended periods of time must evaluate the housing and facilities where the maintenance will take place to ensure the location meets the requirements of the rule.**

- If additional time is needed, the repair station must submit another request updating the original information and providing any new details on the contracted maintenance

**NOTE: This type of operation must not be allowed to become a permanent operation. After the specific project or contract is**

**completed, the repair station must return to performing maintenance at its fixed location. If maintenance must occur at this location on a continuing basis, the repair station must apply for a repair station or a satellite repair station certificate.**

*G. Taking Corrective Actions on Deficiencies.* Part 145, § 145.211(c)(1)(ix) states that the quality control manual 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, Guide for Developing and Evaluating Repair Station and Quality Control Manuals, for additional guidance.)

**NOTE: The repair station is not required at this time to have an internal evaluation program, quality assurance program, or a continuous improvement program.**

(1) Corrective action requires that a fact-based investigation determine the root cause or causes in order 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.

(2) If a deficiency is found before the article is approved for return to service, the repair station should follow their procedures describing how the corrective work will be accomplished. If the deficiency is noted after the article is approved for return to service, the repair station should follow their procedures to notify the CHDO and the owner/operator of any potential problems and recall any unairworthy product. The objective of the investigation into the cause of the deficiency and the corrective actions taken is to prevent a recurrence of the same or similar problems.

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

## SECTION 2. PROCEDURES

### 1. PREREQUISITES AND COORDINATION REQUIREMENTS.

#### A. Prerequisites:

- Knowledge of the regulatory requirements of 14 CFR part 145
- Successful completion of Airworthiness Inspector Indoctrination course(s) or equivalent
- Successful completion of the Airworthiness Inspection/Surveillance of Foreign/Domestic Repair Stations Course and the on-the-job training (OJT) program related to part 145
- Successful completion of the Operations Specifications Subsystem course

*B. Coordination.* These tasks require coordination among the ASIs (maintenance and avionics). Regional coordination may be required.

*C. Electronic Media.* Air Agencies that elect to use electronic media (CD-ROM, LAN-based or internet-based systems) must be allowed to use those systems without interference or extra procedures. It is incumbent upon the air agency to ensure its CHDO is equipped for the media it selects to ensure delays or other hindrances do not occur. To ensure a consistent approach to document and manual submissions and revisions, the requirement for signing the title page or revision page will be replaced by transmittal documents.

**NOTE: Transmittal documents include cover letters, memos, e-mails, faxes, and any other media acceptable to the FSDO.**

(1) This procedure must be followed for the remaining submissions discussed in this chapter.

(2) Repair stations and applicants will submit documents for FAA acceptance or approval accompanied by a transmittal document with the information captured in the note below.

(3) ASIs will accept, approve, or reject submissions using a transmittal document with the information captured in the note below.

**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. ASIs will accept or approve submissions with a transmittal document indicating the date; document, manual, or revision number; and an acceptance or approval statement. Additionally, ASIs will reject a certificate holder's submission using a transmittal document that indicates the date; document, manual, or revision number; and a detailed explanation of the discrepancies or non-conformances noted. A copy of the acceptance or approval letter should remain with the office.**

*D. Use of Electronic Transmissions (E-mail or Facsimile).* E-mail 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 be found acceptable to the FAA.

### 3. CAPABILITY LIST.

#### A. Review an air agency capability list.

(1) Review the capability list to ensure the repair station is rated for the articles identified on the list.

(2) Review the repair station manual procedure for:

- The revision process, including CHDO notification
- Where and how the list will be maintained
- Frequency and method of revising the list
- Reporting self-evaluation results to the appropriate manager

(3) Review the self-evaluation process for:

- Individual qualifications of persons performing the self-evaluations
- Performance of the self-evaluation before modifying the capability list

- Adequately identifying the tools, equipment, materials, technical data, adequate housing and facilities, and qualified personnel that are available before modifying the capability list

B. If the submission or revision is found acceptable, ASIs will:

(1) If a paper revision, remove the affected pages and insert the revised pages in the capability list or replace the list in its entirety, if that is the method used by the repair station, and file the transmittal documents in the appropriate office file.

(2) If in electronic format, replace the outdated disk or file with the current capability list or revised pages and place a copy of the acceptance letter in the certificate holder's office file.

C. Reject the capability list or revision by doing the following:

(1) Initiate a transmittal document indicating the date, document, and revision number of the capability list or revision being rejected.

(2) Return all copies to the applicant with an explanation of discrepancies that must be corrected and instructions for resubmitting the documents.

## 5. ADDITIONAL FIXED LOCATIONS.

A. A repair station may request additional fixed locations be added to its OpSpecs by submitting the request on FAA Form 8310-3, Application for Repair Station Certificate and/or Rating. The repair station must:

(1) List the physical address of all additional fixed locations to be added to its OpSpecs.

(2) Submit repair station and quality control manual revisions, to include how it will continue to meet the requirements of part 145 and its manual at each additional location.

(3) ASIs must approve the additional locations prior to the repair station exercising the privileges of its certificate at the additional facility. Supply any additional information needed by the FAA to consider the request.

B. The PI receives the application, manual revisions, and any other information necessary to

determine the appropriateness of the request. The inspector must:

(1) Review and accept the manual revisions that detail how the repair station will perform maintenance at the additional location.

(2) Review any other material or information submitted to assist the inspector in completing their review.

(3) Inspect the additional location to ensure it meets the following criteria:

- It is within the local commuting area and does not pose an inconvenience to the inspector for traveling to all locations
- It is appropriate for the work to be accomplished under the repair station's certificate and ratings as listed on the OpSpecs
- It is under the full control of the repair station

C. The PI approves the additional fixed location address by adding it to the repair station's OpSpecs.

## 7. CONTRACT MAINTENANCE.

**NOTE: With the removal of appendix A from part 145, the prohibition of limited-rated repair stations to contract out work has also been removed. The FAA does not intend to allow "virtual repair stations" that provide only the approval for return to service. This means that ASIs must be attentive to the maintenance functions they are approving for each facility. Although a list such as appendix A was a convenient way to maintain certain levels of maintenance for each repair station, it was impossible to maintain it in a current status without this rule being in constant revision.**

A. *Maintenance Functions.* When receiving a repair station's contract maintenance list, the repair station must submit, and have approved, the maintenance functions it intends to contract out to non-certificated providers. Repair stations can submit their maintenance functions in any manner acceptable to the FAA, but cannot contract certain maintenance functions to non-certificated sources until they have been approved. Repair station manuals must contain a procedure that describes how the repair station will submit its maintenance functions to the CHDO. The

repair station manual must also describe how the repair station will revise the list of maintenance functions.

(1) Maintenance functions must be approved if:

(a) The maintenance function is within the scope of the repair station rating, and

(b) The maintenance function is contracted to a non-certificated provider.

(2) Repair stations will submit the list of maintenance functions for approval to the CHDO with a transmittal document that describes the document being submitted and shows the date and/or revision number of the document. The repair station may also wish to provide a method for which a maintenance function can be added to its FAA-approved list on an emergency basis. ASIs should ensure that the procedure accepted in the repair station manual regarding these emergency procedures sufficiently addresses the following issues:

- How the maintenance function would be added
- How the FAA approval would be obtained in a short period of time

(3) ASIs will approve or reject the maintenance function list by:

- Initiating a transmittal document identifying the document, date, revision number, and stating the function is either approved or rejected
- Filing a copy of the transmittal in the repair station folder and providing a copy to the certificated repair station by mail or electronic media

(4) ASIs should provide a reason for rejecting the maintenance functions to assist repair stations in determining which functions would be allowed. Some reasons for rejecting maintenance functions include:

- Too much “core business” contracted out, leaving the repair station to provide little, if any, actual maintenance on the articles it is rated to work on
- Continually using contracting out as a means to keep staffing below adequate levels for the work the repair station is obligated to accomplish
- Contracting out a maintenance function without prior approval

**NOTE: Contracting out maintenance functions should not be used to replace the need for adequately staffed and trained maintenance personnel. ASIs should be cautious of repair stations that constantly revise the maintenance function list on an emergency basis in order to complete work in a timely manner. ASIs should ensure that repair stations have the necessary trained personnel for the scope and complexity of the ratings they hold.**

*B. Contract Maintenance.* Repair stations that do not intend to contract out maintenance functions must have the housing, facilities, material, and equipment necessary to perform the functions appropriate to their ratings. The tools, equipment, and technical data must be available at the time the work is performed. Repair stations wishing to contract maintenance functions out to non-certificated providers must submit a list of those maintenance functions for approval to the FAA.

(1) The repair station must make available a list that includes the maintenance functions, the name of the contractor that will perform the function(s), and their physical address.

(2) The ASI must determine:

- That the repair station manual has adequate procedures that dictate how the maintenance functions will be submitted and revised
- How the repair station will qualify and/or inspect non-certificated contractors
- How the approval for return to service will be applied once an article returns from a contractor’s facility

(3) A certificated repair station may not provide only approval for return to service of a type-certificated article following maintenance, preventive maintenance, or alterations.

**NOTE: A certificated repair station may not contract out to a non-certificated person unless it provides in its contract that the FAA may conduct inspections or observe maintenance functions that are being performed for the repair station. If a non-certificated person refuses to allow the FAA access, the certificated repair station cannot approve the articles for return to service.**

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### SECTION 3. REPAIR STATION RATINGS

#### 1. AIRFRAME RATINGS AND CLASSIFICATIONS UNDER PART 145, § 145.59.

##### A. Airframe Maintenance or Alteration.

(1) Repair stations performing maintenance or alterations on articles such as seats, seat belts, berths, galleys, lavatories, cabinetry, aircraft composite components, cabin/cockpit interior foam and fabric upholstered parts, electrical wiring harnesses, dividers, curtains, windows, and any other interior structure require an appropriate airframe rating. (See Table 161-1, Airframe Ratings and Classifications Under § 145.59.) Additionally, repair stations performing maintenance or alterations on external aircraft structures or fuselage articles such as aircraft painting, landing gear removal and installation, doors and the attaching components, fuselage repairs or alterations, or flight controls and attaching hardware require an appropriate airframe rating.

(2) Similarly, articles of all-cargo configured aircraft, such as unit loading devices, cargo pallets or containers, bulkheads, ball mats, floor roller tracks, and floor or side locks, are considered part of the airframe and require an appropriate airframe rating. An appropriate airframe rating is also required to perform maintenance or alterations on articles associated with an emergency medical support installation, such as stretchers, litters, and supporting hardware or structures.

##### B. Limited Ratings.

(1) Limited ratings listed in part 145, § 145.61 have long been interpreted as being limited to all the functions on a particular make and model of aircraft, powerplant, or propeller. Although this interpretation was appropriate when the current rating system was developed in the 1950s, the repair and maintenance industry has developed numerous “niche” businesses that are limited to not only a particular article make or model, but also to certain maintenance functions on a particular make or model.

(2) The current OpSpecs allow the limitation of make and models, as well as maintenance functions, to be properly identified in the “Limitations” section. Limitations must not be vague and undefined. If painting, for instance, is the only maintenance function a repair station intends to do, the limitation should read,

“Limited to painting airframe structure and components on Boeing 737 series aircraft,” or similar language. If the repair station is limited to performing maintenance on only a certain part of the airframe, that language should specify the manufacturer, make, and model of the component, and describe *exactly* what the repair station is limited to do.

**NOTE: ASIs must ensure that the limitations of repair stations adequately address the capabilities of the repair station both by the make and model of the aircraft, powerplant, propeller, or component part of those articles, and by the maintenance capabilities for which it has the tools, equipment, housing, data, and trained personnel to maintain. At no time should a repair station be issued a rating if it does not have the required supporting components (tools, equipment, etc.) to perform the maintenance required of the rating.**

(3) A repair station may apply for and, if it meets the eligibility requirements of the rule, be issued a repair station certificate and rating for a limited airframe for line maintenance.

(a) The limited airframe is needed to perform inspections and minor flight line repairs to air carrier aircraft. The OpSpecs should list all the aircraft, the airlines for which the repair station is contracted to perform line maintenance, and the locations where line maintenance is to be performed.

**NOTE: A repair station must not perform line maintenance on articles that are outside the scope of its repair station certificate and ratings. Additionally, a repair station that is certificated to perform line maintenance must not operate at a location that is not listed in its OpSpecs.**

(b) Repair stations certificated to perform only line maintenance must meet all of the eligibility requirements of the rule—including the requirement for suitable housing. The housing need not be on the airport grounds, but must adequately support the maintenance that the repair station is authorized to accomplish. However, the housing should adequately hold the repair station’s tools, equipment, technical data, and any owner/operator or spare parts to be installed in aircraft.

**NOTE: All certificated repair stations must have suitable housing and facilities. Although part 145, § 145.205(d) allows some deviation from the housing requirement, that requirement is based on the repair station having suitable housing at another location that meets the requirements of part 145. If line maintenance is the only maintenance a repair station is certificated to perform, the repair station must still meet the housing and all other requirements of part 145.**

*C. Limited "Other" Category.* With the implementation of the final part 145 rule on January 31, 2004, the limited "other" category rating was eliminated. This action was necessary because there were no limitations directing ASIs to ensure that this rating was being directed to articles to which part 43 applied. ASIs need to be aware that all repair station ratings must apply to an aircraft, powerplant, propeller, or component part thereof. If an applicant's request does not meet this criteria, a repair station certificate and rating is not appropriate.

**NOTE: Repair stations and applicants are receiving requests from air carriers, Department of Defense maintenance contractors, or other repair stations to obtain part 145 certification. Although these requests may seem reasonable, part 145 certification is not required and does not apply to public aircraft operated by Federal, State, or local governments. Also, air carriers are requesting part 145 certification for the performance of certain functions on articles where part 43 doesn't apply using engineering orders or other documents as "approved data." Though these items may be used in or carried on the operator's aircraft during revenue flights, this does not mean these items meet the part 43 applicability requirements. These items may include galley utensils/items, portable medical oxygen bottles, and so forth.**

*D. Line Maintenance Authorization.*

(1) A repair station may apply for and, if it meets the eligibility requirements for the rule, be issued a repair station certificate with a limited airframe rating to perform line maintenance. A limited airframe rating will be needed to perform inspections and minor flight line repairs to aircraft listed on its OpSpecs.

(2) A repair station that also desires to perform flight line maintenance to powerplants must also apply for, and meet the eligibility requirements for, a limited powerplant rating. The limited airframe rating allows the repair station to inspect powerplants installed on aircraft and to install powerplants, but does not authorize maintenance that exceeds the scope of its ratings.

**NOTE: A repair station must not perform line maintenance on articles that are outside the capabilities of its ratings or the limitations listed in its OpSpecs. Additionally, a repair station that is certificated to perform line maintenance must not operate at a location not listed in its OpSpecs.**

(3) The OpSpecs should list all aircraft types, makes, and/or models; the operators for which the repair station is contracted to perform line maintenance; and the location(s) where the line maintenance is to be performed.

(a) Inspectors should not rely solely on manual procedures to detail a repair station's privileges and limitations. Privileges and limitations should be included in the appropriate sections of the repair station's OpSpecs and be detailed enough to identify the capabilities of the certificate holder.

(b) Inspectors should review the maintenance or inspection cards to ensure the requirements that must be met are within the scope and definition of line maintenance. For example, some repair stations have submitted requests to perform "B" checks for air carriers under a line maintenance authorization. Some "B" checks are more complex than others and could result in critical areas of the airframe being exposed to the environment or other contamination if the repair station has no housing or facilities available at the location. These inspections must be performed in an enclosed environment so that collateral damage is not introduced into the aircraft, airframe, powerplant, or components.

(4) Repair stations certificated to perform line maintenance must meet all of the eligibility requirements of the rule, including the requirement for suitable housing. The housing need not be on the airport, but must adequately support the maintenance that the repair station is authorized to perform.

(a) The repair station's housing should provide adequate storage for the repair station's tools,

equipment, technical data, and any owner/operator spare parts or components to be installed on aircraft.

(b) Repair stations performing line maintenance do not need a hangar. Housing facilities located near the airport are acceptable provided they meet the requirements of § 145.103.

**NOTE: All certificated repair stations must have suitable permanent housing and facilities. Although § 145.205(d) allows some deviation from the housing requirement, that requirement is based upon the repair station having suitable housing at another location that meets the requirements of part 145. If line maintenance is the only maintenance a repair station is certificated to perform, the repair station must still meet the housing and all other applicable requirements of part 145. Housing need not be on the airport where the line maintenance is performed, but the street address must be listed on the repair station OpSpecs.**

(5) Repair stations must maintain the tools and equipment needed to perform line maintenance. Seldom-used tools may be leased as specified in § 145.51(b) and not maintained if the repair station has a signed contract from the owner of the tool or equipment. As with all repair stations, the required

tools and equipment must either be on the premises and in use when the work is being performed, or the repair station must have a contract that stipulates that the recommended tools are available.

(6) Certificating or adding a rating to authorize a repair station to perform line maintenance will follow the same certification procedures found in FAA Order 8300.10, Airworthiness Inspector's Handbook, vol. 2, ch. 162 or 163, as appropriate.

(7) Repair stations that may desire to perform line maintenance at more than one location must apply for, and provide the airport and operator information for, each location for which they perform line maintenance. Locations will be listed in the repair station's OpSpecs.

**NOTE: During surveillance activities, ASIs must ensure that repair stations performing line maintenance are using the correct data from the correct operator, are operating from a location authorized in their OpSpecs, and are in compliance with part 145. The repair station manual must reflect how it operates at each location and, if the repair station has elected to use other rule provisions such as work away from the fixed location, that there are procedures contained in the manual that detail these operations.**

**TABLE 161-1. AIRFRAME RATINGS AND CLASSIFICATIONS UNDER § 145.59**

Rating	Class	Definitions and Notes
<b>Airframe</b>	<i>Class 1: Composite construction of small aircraft</i>	<p>May perform maintenance and alterations of airframes and airframe components in accordance with part 43 on any article for which it is rated and within the limitations in its OpSpecs. This rating also allows the removal and installation of powerplants, propellers, radios, instruments, and passenger convenience items, but not the performance of maintenance to internal sections of these components.</p> <p>Airframe: Fuselage, booms, nacelles, cowlings, fairings, airfoil surfaces (including rotors but excluding propellers and rotating airfoils of engines) and landing gear of an aircraft and their accessories and controls.</p> <p>Large Aircraft: Gross takeoff weight of more than 12,500 lbs. Typically considered transport-category aircraft.</p> <p>Small Aircraft: Gross takeoff weight of 12,500 pounds or less. Typically considered general aviation aircraft.</p>
	<i>Class 2: Composite construction of large aircraft</i>	
	<i>Class 3: All-metal construction of small aircraft</i>	
	<i>Class 4: All-metal construction of large aircraft</i>	

### 3. POWERPLANT RATINGS AND CLASSIFICATIONS UNDER § 145.59.

A. Components and articles included in the powerplant rating are turbo-superchargers, magnetos, carburetors, appurtenances, and other articles necessary for the proper operation of the powerplant. Although “powerplant” is not defined in the regulations, “aircraft engine” is. This rating does not include removal and installation of the powerplant onto the aircraft. If a repair station wishes to maintain and also install the powerplant, it must obtain an appropriate limited airframe rating. (See Table 161-2, Powerplant Ratings and Classifications Under § 145.59.)

**NOTE: The guidance on limited ratings provided in paragraph 1B also applies to limited powerplant ratings.**

B. Limited powerplant ratings for certain maintenance functions must identify the powerplant manufacturer and make and model of the powerplant the repair station intends to maintain.

(1) This type of rating allows complete repair or alteration of powerplants limited to a particular make and model. However, powerplant maintenance has also found numerous “niche” businesses that may include the performance of a specific maintenance function on a wide variety of powerplants.

(2) The OpSpecs must identify all makes and models, as well as any limitations to its maintenance capabilities, such as, “*Limited to plasma spray operations on Pratt and Whitney series turbine blades.*” This rating allows the repair station to plasma

spray all Pratt and Whitney turbine blades, regardless of the make or model powerplant the blades came from. Additional manufacturers would need to be listed if they also had the technical data, tools, and equipment to perform this maintenance function on General Electric or Rolls Royce powerplants.

**NOTE: Because maintenance procedures, tools, equipment, and technical data may differ between manufacturers, ASIs must ensure that repair stations obtain the appropriate supporting requirements for the capabilities that they are requesting. Using tools, equipment, or data from another manufacturer conflicts with part 43 requirements and the FAA does not endorse this practice.**

C. Currently, confusion exists when determining the appropriate rating for auxiliary power units (APU). APUs are considered accessories by virtue of their function of providing power to the aircraft while it is not in flight. However, APUs are also used as powerplants for some of the newer models of aircraft, which further blurs the lines between what has been considered general aviation and corporate or commuter aircraft. Until a new rating system is developed, ASIs should consider those articles used as the primary means of propulsion for these newer aircraft as powerplants, not APUs, and repair stations should be rated appropriately. However, repair stations performing maintenance or alterations on APUs used strictly to produce auxiliary power for transport-category aircraft should obtain an accessory rating.

**TABLE 161-2. POWERPLANT RATINGS AND CLASSIFICATIONS UNDER § 145.59**

Rating	Class	Definitions and Notes
Powerplant	Class 1: Reciprocating engines of 400 horsepower or less	May perform maintenance and alterations of powerplants but not to adjoining airframe or propeller components. Repair stations may remove access panels, doors, and nacelles, as needed, to gain access to the powerplant.  This rating does not include the installation of powerplants to the aircraft. A powerplant-rated repair station will also need a limited airframe rating to remove or install powerplants on the aircraft.
	Class 2: Reciprocating engines of more than 400 horsepower	
	Class 3: Turbine engines	

**5. PROPELLER RATINGS AND CLASSIFICATIONS UNDER § 145.59.** See Table 161-3, Propeller Ratings and Classifications Under § 145.59.

**NOTE:** The guidance on limited ratings provided in paragraph 1B also applies to limited propeller ratings.

**NOTE:** Because maintenance procedures, tools, equipment, and technical data may differ

between manufacturers, ASIs must ensure that repair stations obtain the appropriate supporting requirements for the capabilities that the repair station is requesting. Using tools, equipment, or data from another manufacturer conflicts with part 43 requirements and the FAA does not endorse this practice.

**TABLE 161-3. PROPELLER RATINGS AND CLASSIFICATIONS UNDER § 145.59**

Rating	Class	Definitions and Notes
<b>Propeller</b>	<i>Class 1:</i> All fixed pitch and ground adjustable propellers of wood, metal, or composite construction	May perform maintenance and alterations on propellers, but not to adjoining airframe or powerplant components. Installation of propellers may be accomplished by a propeller, powerplant, or airframe-rated repair station.
	<i>Class 2:</i> All other propellers, by make	

## 7. PROPELLER RATINGS.

*A.* A repair station certificated as a propeller, powerplant, or airframe-rated repair station may install propellers and the attaching hardware.

*B.* Because the process of installing a propeller does not significantly differ between aircraft and powerplants versus a propeller test bench, repair stations with an airframe, powerplant, or propeller rating with appropriate privileges and limitations may install propeller assemblies.

technology also serves communication and/or navigation functions. The combination of functionality and operations of these articles may require the repair station to attain a rating for all three classes, depending on the complexity of the article.

*B.* The instrument rating is divided into four classes—mechanical, electrical, gyroscopic, and electronic—based on the article’s general principles of operation. Multiple class ratings may be necessary to perform repairs on these articles.

## 9. RADIO AND INSTRUMENT RATINGS AND CLASSIFICATIONS UNDER § 145.59.

*A.* The radio rating is divided into communication, navigation, and radar classes. (See Table 161-4, Radio and Instrument Ratings and Classifications Under § 145.59.) The first two classes, communication and navigation, are based on their intended function in the airplane, whereas the radar class is based on a specific technology or mode of operation. Modern avionics equipment typically integrates communications and navigation functions into a single appliance. Also, radar equipment or a radio that operates using pulse

**NOTE:** Because maintenance procedures, tools, equipment, and technical data may differ between manufacturers, ASIs must ensure that repair stations obtain the appropriate supporting requirements for the capabilities that they are requesting. Using tools, equipment, or data from another manufacturer conflicts with part 43 requirements and the FAA does not endorse this practice.

**NOTE:** The guidance on limited ratings provided in paragraph 1B also applies to limited radio and instrument ratings.

**TABLE 161-4. RADIO AND INSTRUMENT RATINGS AND CLASSIFICATIONS UNDER § 145.59**

Rating	Class	Definitions and Notes
<b>Radio</b>	<i>Class 1: Communication equipment</i>	Radio transmitting and/or receiving equipment used in an aircraft to send or receive communications in flight, including auxiliary and related aircraft inter-phone systems, electrical or electronic inter-crew signaling devices, and similar equipment. Does not include equipment for navigating or aiding navigation of aircraft.
	<i>Class 2: Navigational equipment</i>	A radio system used in an aircraft for en route or approach navigation. This does not include equipment operated on pulsed radio frequency principals, or equipment used for measuring altitude or terrain clearance.
	<i>Class 3: Radar equipment</i>	An aircraft electronic system operated on radar or pulsed radio frequency principles.
<b>Instrument</b>	<i>Class 1: Mechanical</i>	A diaphragm, bourdon tube, aneroid, optical, or mechanically-driven centrifugal instrument used on aircraft or to operate aircraft, including tachometers, airspeed indicators, pressure gauges drift sights, magnetic compasses, altimeters, or similar mechanical instruments.
	<i>Class 2: Electrical</i>	Self-synchronous and electrical indicating instruments and systems, including remote indicating instruments, cylinder head temperature gauges, or similar electrical instruments.
	<i>Class 3: Gyroscopic</i>	An instrument or system using gyroscopic principles and motivated by air pressure or electrical energy, including automatic pilot control units, turn and bank indicators, directional gyros, and their parts, and flux gate and gyrosyn compasses.
	<i>Class 4: Electronic</i>	An instrument whose operation depends on electron tubes, transistors, or similar devices, including capacitance type quantity gauges, system amplifiers, and engine analyzers.

**11. ACCESSORIES RATINGS AND CLASSIFICATIONS UNDER § 145.59.**

The accessory rating is divided into mechanical, electrical, and electronic classes, based on an article's principle of operation. (See Table 161-5, Accessories Ratings and Classifications Under § 145.59.) The combination of functionality and operations of these articles may require the repair station to attain a rating for all three classes, depending on the complexity of the article.

**NOTE: Because maintenance procedures, tools, equipment, and technical data may differ**

**between manufacturers, ASIs must ensure that repair stations obtain the appropriate supporting requirements for the capabilities that they are requesting. Using tools, equipment, or data from another manufacturer conflicts with part 43 requirements and the FAA does not endorse this practice.**

**NOTE: The guidance on limited ratings provided in paragraph 1B also applies to limited accessory ratings.**

**TABLE 161-5. ACCESSORIES RATINGS AND CLASSIFICATIONS UNDER § 145.59**

Rating	Class	Definitions and Notes
Accessory	<i>Class 1: Mechanical</i>	An accessory that depends on friction, hydraulics, mechanical linkage, or pneumatic pressure for operation, including aircraft wheel brakes, mechanically-driven pumps, carburetors, aircraft wheel assemblies, shock absorber struts, and hydraulic servo units.
	<i>Class 2: Electrical</i>	An accessory that depends on electrical energy for its operation, and a generator, including starters, voltage regulators, electric motors, electrically-driven fuel pumps, magnetos, or similar accessories.
	<i>Class 3: Electronic</i>	An accessory that depends on the use of an electron tube transistor, or similar device, including supercharger, temperature, air conditioning controls, or similar electronic controls.

### 13. LIMITED SPECIALIZED SERVICE RATINGS, § 145.61.

A. Limited specialized service ratings are issued to an applicant or a certificated repair station that performs specific processes associated with the maintenance, preventive maintenance, or alterations of an article. Generally, limited specialized service ratings are issued for maintenance functions which are performed in accordance with an approved process specification. A limited specialized service rating allows a repair station to perform specific processes associated with the maintenance, preventative maintenance, or alteration of articles, and approve them for return to service.

B. All repair stations that have a limited specialized service rating use process specifications, in lieu of manufacturer's maintenance data, in the performance of maintenance or alterations. However, just because a repair station uses a process specification does not mean the repair station needs a limited specialized service rating. It is inappropriate for an ASI to initiate action to alter a repair station's ratings and OpSpecs based solely on the repair station's use of a process specification.

C. The process specification must involve a repair process or work scheme that is novel, unique, or unusual in application, for which the manufacturer's data is not used for approving an article to its original condition, and that specifies repair limits. The repair station's OpSpecs must contain the specification used

in performing that specialized service. The specification could be a military-, civil-, or applicant-developed specification that was approved by the FAA. Specialized services would include, but not be limited to, welding, heat treating, plating, and plasma spraying.

**NOTE: An example of a novel and unique procedure for which a limited specialized service rating would be issued is the inspection of turbine blades using Krypton gas. This is a unique procedure not normally found or used in industry. The specialized service rating should only be given if the process or procedure is unique, as explained in this example.**

D. The limited specialized service rating would require a repair station to have the housing, facilities, equipment, tools, trained personnel, and data to perform the process on an aviation article. The process specification on the OpSpecs would set forth the minimum standards for performing the generic process (specialized service). For example, the process specification would include an explanation of the housing, facilities, equipment, tools, trained personnel, and data necessary for the overall process. The applicable manufacturer's maintenance manual, air carrier manual, or other data acceptable to or approved by the FAA would define the specific parameters associated with performing the process on the particular aviation article.