

VOLUME 6 SURVEILLANCE
CHAPTER 14 TECHNICAL DATA

Section 1 Inspect a Maintenance Provider's Technical Data

6-2956 PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES.

A. Maintenance: 3656.

B. Avionics: 5656.

6-2957 OBJECTIVE. This section provides guidance for inspecting the data used by persons performing maintenance, preventive maintenance, and alterations to which Title 14 of the Code of Federal Regulations (14 CFR) part 43 applies. This review will confirm the following regarding that data:

- Definitions of technical data, methods, techniques, and practices acceptable to the Federal Aviation Administration (FAA); and
- Verification of when technical data must be approved and the availability, currency, and appropriateness of the work being performed.

6-2958 GENERAL. Persons performing maintenance, preventive maintenance, or alterations must use methods, techniques, and practices acceptable to the Administrator (refer to part 43, § 43.13(a)). However, persons approving work on an article for return to service following a major repair or alteration must ensure that the FAA approved the technical data supporting the methods, techniques, and practices (refer to 14 CFR part 43, §§ 43.7(d) and 43.17(e)(2); part 65, § 65.95(a)(1); part 121, § 121.379(b); part 135, § 135.437(b); and part 145, § 145.201(c)).

A. Maintenance Providers. Persons authorized to perform maintenance, preventive maintenance, and alterations are defined in § 43.3. They include individuals certificated under part 65, certain air carriers certificated under parts 121 and 135, and repair stations certificated under part 145. A manufacturer may approve any aircraft, airframe, aircraft engine, propeller, appliance, or component part for return to service that the manufacturer has worked on under § 43.3(j), however, that manufacturer may not perform maintenance or preventive maintenance without another certificate.

B. Technical Data. The FAA has determined that technical data consists of the drawings and specifications, including a list of drawings and specifications, necessary to define the configuration and design features of a particular article, repair, or alteration. Typically, this includes information on materials, dimensions, and processes that are necessary to define structural strength, any required airworthiness limitations (AL), and any other data that is necessary to determine the airworthiness, noise characteristics, fuel venting, and exhaust emissions (as applicable) of the altered or repaired aircraft. Technical data also includes test data, engineering analyses, and other engineering information, such as engineering handbooks or approved military or industry specifications. It may also include operational and service experience, maintenance and alteration experience, reliability data, and other documented factual

information that are directly applicable to the airworthiness of the article (refer to 14 CFR part 21, § 21.31).

1) The FAA approves technical data through the certification process under part 21 when the FAA issues a design approval. Design approvals include, but are not limited to, type certificates (TC), Supplemental Type Certificates (STC), Parts Manufacturer Approvals (PMA), Technical Standard Order Authorizations (TSOA), and other approvals issued under § 21.8.

2) Technical data that supports the methods, techniques, and practices used to perform maintenance, preventive maintenance, and alterations can be approved. The approval takes place as part of the certificate process or in support of major repairs and alterations. Examples include a field approval by an FAA inspector authorizing the approval in block 3 of FAA Form 337, Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance), by a Designated Engineering Representative (DER) on FAA Form 8110-3, Statement of Compliance with Airworthiness Standards, or pertinent Organization Designation Authorization (ODA) on FAA Form 8100-9, Statement of Compliance with Airworthiness Standards.

3) In addition to producing technical data necessary for obtaining a design approval, the holder of a design approval issued after January 28, 1981 must prepare instructions for continued airworthiness (ICA) that contain certain methods, techniques, and practices for performing maintenance, preventive maintenance, and alterations. While some portions of the ICAs are specifically approved, such as the “Airworthiness Limitations” section, most of the ICAs do not require separate FAA approval, rather, the agency understands that those documents contain the acceptable methods, techniques, and practices referenced in § 43.13(a).

4) Manufacturers’ service documents (i.e., maintenance manuals, service bulletins, and service letters) communicate useful information on alterations, repair inspections, etc. Also, the manufacturer may provide service documents to the operator/applicant, upon request, that include statements that the data is “DER approvable” or that the manufacturer has “no technical objection” with the operator/applicant’s request. It is the air carrier’s responsibility to ensure that technical data is acceptable for minor repairs/alterations or approved for major repairs/alterations before implementing the information in these service documents. “No technical objection” and “DER approvable” letters, in most cases, are issued by the manufacturer’s technical representative and have no formal approval process within a manufacturer’s system. The FAA does not accept statements such as “DER approvable” or “no technical objection” without additional supporting data.

5) Prior to approving a major repair or alteration on an article (aircraft, aircraft engine, propeller, appliance, or component part) for return to service, a maintenance provider (including an air carrier) must ensure that the work was done in accordance with technical data approved by the FAA.

6) The technical data that supports a major repair or alteration are informally referred to as “approved technical data.” In spite of similarity to the term “acceptable data,” the term “approved technical data” refers to a fundamentally different genre of information. While “acceptable data” refers to how-to instructions, “approved technical data” refers to the design

and other engineering information used to show compliance with the airworthiness standards contained in the certification rules applicable to the product.

7) The how-to instructions contained in the design approval holder's (DAH) ICAs are based on technical data that was approved upon issuance of the design approval. Accordingly, the technical data in which the manufacturer's (the DAH) ICAs are based do not require further FAA approval prior to approving the work on an article for return to service following a major repair or alteration, provided the data is specific to that repair or alteration.

NOTE: Technical data alone, however, may not fulfill the requirements of the performance standards set forth in part 43. Drawings, specifications, and other engineering data seldom contain the how-to instructions (methods, techniques, and practices) for performing maintenance, preventive maintenance, rebuilding, or alterations. For example, it may not contain disassembly, inspection criteria, or repair procedures. A DAH's ICAs or maintenance information contains methods, techniques, and practices considered acceptable to the FAA based on technical data approved by the FAA.

C. Methods, Techniques, and Practices Acceptable to the Administrator.

Section 43.13(a) requires that maintenance, preventive maintenance, and alterations must be performed using "the methods, techniques, and practices prescribed in the current manufacturer's maintenance manual or Instructions for Continued Airworthiness prepared by its manufacturer, or other methods, techniques, and practices acceptable to the Administrator..."

1) The how-to instructions (methods, techniques, and practices) are informally referred to as "acceptable data."

2) While minor repairs or alterations do not need to be supported by FAA-approved technical data, they are usually based upon such data, particularly when contained in the manufacturer's ICAs or maintenance or alteration information.

3) The how-to instructions do not need to have any specific FAA acceptance or approval as long as the person using them has a reasonable expectation that the FAA will find it acceptable for the purpose for which it was created, when and if the FAA reviews it. In other words, all maintenance, preventive maintenance, rebuilding, and alterations must return an article to at least its original or properly altered condition with respect to the work performed. Therefore, the work must be done in an acceptable manner using methods, techniques, and practices acceptable to the FAA.

4) As stated in § 43.13(c), for air carriers operating under 14 CFR part 121, 129, or 135 holding operations specifications (OpSpecs) that require the use of a Continuous Airworthiness Maintenance Program (CAMP), the method techniques and practices contained in that carrier's maintenance manual (or the maintenance part of that air carrier's manual) are acceptable. Additionally, fractional ownership operators (14 CFR part 91 subpart K (91K)) being maintained under a CAMP must prepare a manual containing maintenance information and instructions in whole (or in part) that is acceptable to the FAA.

5) The current edition of Advisory Circular (AC) 43.13-1, *Acceptable Methods, Techniques, and Practices—Aircraft Inspection and Repair*, also contains acceptable methods, techniques, and practices.

D. Major Repairs and Alterations. In addition to the general performance rules contained in § 43.13, the regulations governing maintenance providers require that when approving work on an article for return to service following a major repair or alteration, the technical data used to support the methods, techniques, and practices must be approved by the FAA (refer to §§ 43.17(e)(2), 65.95(a)(1), 121.379(b), 135.437(b), and 145.201(c)).

6-2959 REFERENCES, FORMS, AND JOB AIDS.

A. References (current editions):

- Title 14 CFR Parts 21, 43, 65, 121, 135, 145, and 183; and
- FAA Order 8100.15, *Organization Designation Authorization Procedures*.

B. Forms:

- FAA Form 337, *Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance)*;
- Form 8100-9, *Statement of Compliance with Airworthiness Standards*; and
- Form 8110-3, *Statement of Compliance with Airworthiness Standards*.

C. Job Aids. None.

6-2960 PROCEDURES.

A. Performing Surveillance. When performing surveillance on a maintenance provider, the principal inspector (PI) should perform the following tasks:

1) Verify that the appropriate “acceptable data” (methods, techniques, and practices required by § 43.13(a)) are available to the maintenance provider.

a) *Manufacturer’s ICAs/Manuals/Data.* The manufacturer’s ICAs, manuals, and other maintenance or alteration information are developed using technical data that was approved during the product’s design approval. These manuals contain approved technical data as well as acceptable methods, techniques, and practices. If the manufacturer’s ICAs, manuals, and other maintenance or alteration information do not specifically cover a repair or alteration, then the maintenance provider must make a determination if the repair or alteration is major.

NOTE: If deviation from a manufacturer’s maintenance manual is necessary, an assessment will be required to determine if the deviation is major or minor in nature (i.e., would it constitute a major repair or alteration on its own?). Minor deviations will only require method, techniques, and practices that are acceptable to the Administrator. However, if the deviation is deemed major, that technical data must be approved by the FAA prior to approving the product for return to service.

b) Acceptance/Approval by the Air Carrier. If a maintenance provider is performing maintenance, preventive maintenance, or alterations for an air carrier, then the air carrier must either make the major/minor determination, or the maintenance provider must verify that the air carrier agrees with the determination.

c) Designee Approved Data. A properly authorized DER may approve technical data supporting major repairs or alterations developed by the maintenance provider. Technical data approved by a DER must contain all of the data necessary to show that the repaired or altered product conforms to the airworthiness standards applicable to that product. In addition, given the proper authorizations, an ODA may also approve technical data supporting major repairs or alterations.

NOTE: Repair Specification DERs (RS-DER) and major repair, alteration, and airworthiness (MRA) functions ODA administrators have the authority to approve repair specifications. Repair specifications provide an alternative to the methods, techniques, and/or practices contained in a manufacturer's manuals, Service Bulletins (SB), or ICAs. They are required when the repair will be used for multiple-use, non-serial number-specific, non-DAH repairs. They include step-by-step, how-to instructions for performing the repair.

d) Air Carrier's Approved Technical Data. An air carrier may have a process for the FAA to approve technical data supporting major repairs or alterations. The air carrier has the responsibility to determine if the repair or alteration is major. Once the air carrier determines the repair or alteration to be major, it should provide the maintenance provider with documentation that the technical data supporting that repair or alteration has received approval.

e) FAA-Approved Technical Data. FAA data such as Airworthiness Directives (AD), field approvals, repair specifications, and installation instructions emanating from STCs are similar to manufacturer's maintenance manuals in that they generally contain not only approved technical data, but the methods, techniques, and practices necessary to complete a given maintenance or alteration procedure.

2) Verify that the technical data is appropriate for the maintenance or alteration being performed.

3) When performing surveillance on a part 145 certificate holder, verify that the repair station has a procedure under § 145.211(c)(1)(v) for determining that the data required by §§ 43.13(a) and 145.109(d) is current, accurate, and complete.

a) If the repair station has a contract with a provider for the documents listed in § 145.109(d), it should have instituted a system for ensuring currency and ability to conduct proper work with the new information.

1. The document/data should be reviewed for any necessary changes to:

- Housing,
- Facilities,

- Tools/tooling,
- Equipment (including test equipment),
- Materials,
- Technical training, and
- Routers/travelers.

2. If no changes are necessary, the new data should be implemented as soon as practicable.

3. If changes need to be implemented, they should be completed within a reasonable timeframe (e.g., 90 days after the receipt of the updated document or data). The implementation timeframe will depend on the complexity of the revision with respect to variables such as procurement of special test equipment, tooling, etc.

b) If the repair station does not have a contract with a provider of the listed documents and data, it should have instituted a system for ensuring currency and ability to conduct proper work with the new information. The system should ensure the following:

1. Regular review of the TC/Production Certificate (PC) holders' Web sites for current publication listings. If the document or data is not contained on or in the TC/PC holders' listing, the repair station should find the DAH/Production Approval Holder (PAH) (PMA, Technical Standard Order (TSO), etc.) that does list the document. These sources should be checked on a regular interval, but should not exceed a biannual review to determine the current revision level. If the DAH/PAH is no longer in business, the last revision it provided would be considered acceptable to the FAA.

2. The document/data should be reviewed for any necessary changes to:

- Housing,
- Facilities,
- Tools/tooling,
- Equipment (including test equipment),
- Materials,
- Technical training, and
- Routers/travelers.

3. If no changes are necessary, the new data should be implemented as soon as practicable.

4. If changes need to be implemented, they should be completed within a reasonable timeframe (e.g., 90 days after the receipt of the updated document or data). The implementation timeframe will depend on the complexity of the revision with respect to variables such as procurement of special test equipment, tooling, etc.

NOTE: The requirements of §§ 145.109(d) and 145.211(c)(1)(v) differ from the requirements of part 43. Due to the specific language in § 43.13(a) that allows use of "other methods, techniques, and practices" the FAA would have to show that

the use of the prior version was unacceptable in order to prove a violation. If the FAA could not show how the prior version was unacceptable, the FAA could not prove a violation of this section. The requirement for current data in § 145.109(d) is attained by the repair station by showing compliance with part 43 and having a system for ensuring that the data is not only current but used appropriately under § 145.211(c)(1)(v).

B. Manufacturer Repair Stations. Repair stations associated with (or part of) a PAH facility often use the DAH's technical data to perform repairs and alterations. This technical data may not meet the requirements of § 43.13(a) because it may not contain the how-to instructions (methods, techniques, and practices) necessary to complete the maintenance or alteration action. In addition, caution these repair stations that parts manufactured by the production side of the facility must receive FAA approval through a PMA, TSO, TC/PC, direct ship authority, or other means before being eligible for installation during maintenance or alteration activities.

6-2961 TASK OUTCOMES.

A. Complete the PTRS Record.

1) Section IV of the PTRS Record. Enter the appropriate code in the "Primary Area" block. List all deficiencies, findings, and irregularities noted during the inspection using the appropriate keywords that the drop-down menu of the "Keyword" block allows. For each keyword used, write a brief description of the concern in the "Comment" block.

2) PTRS Activity Code 3642/5642 or 3656/5656 (overall subsystem evaluation). In section I, the "Assessment" block, select 1–10 in the drop-down menu that best describes the condition of the maintenance provider for the completed inspection.

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

- Sending a letter to the operator confirming the result of the inspection and initiating an Enforcement Investigation Report (EIR), if necessary; or
- A satisfactory inspection with no deficiencies.

6-2962 FUTURE ACTIVITIES. Schedule and conduct follow-up inspections (as applicable).

RESERVED. Paragraphs 6-2963 through 6-2977.