VOLUME 2  AIR OPERATOR AND AIR AGENCY CERTIFICATION AND APPLICATION PROCESS

CHAPTER 4  THE CERTIFICATION PROCESS—TITLE 14 CFR PART 135

Section 8  Safety Assurance System: Evaluate a Part 135 (Nine or Less) Certificate Holder/Applicant’s Maintenance Requirements

2-506  OBJECTIVE. This section provides information, policy, and guidance on the aircraft maintenance requirements a person must meet to operate under Title 14 of the Code of Federal Regulations (14 CFR) part 135 with aircraft type certificated (TC) for a passenger seating configuration, excluding any pilot seat, of nine seats or less. Inspectors should use this section with other applicable sections in Volume 2, Chapter 4.

2-507  BACKGROUND.

A. Part 135 Maintenance Requirements. The primary factor in determining the applicable maintenance, preventive maintenance, and alterations requirements for aircraft operated under part 135 is the number of TC’d passenger seats configured for the aircraft. Part 135, § 135.411(a)(1) contains the requirements for aircraft TC’d for a passenger seating configuration, excluding any pilot seat, of nine seats or less. Section 135.411(a)(2) contains the requirements for aircraft TC’d for a passenger seating configuration, excluding any pilot seat, of 10 seats or more. In practice, the number of seats installed in an aircraft as manufactured will differ from the maximum capacity approved as part of the aircraft’s type design. Some manufacturers may approve passenger seating “configurations” as part of the type design with fewer number of passenger seats specified than the maximum “capacity” allowed by that type design. To determine which maintenance program under § 135.411(a) applies to a particular aircraft, one would compare the number of seats and as configured interior to those listed, or referenced, on either the Type Certificate Data Sheet (TCDS) or the type certificate (TC) (refer to 14 CFR part 21, § 21.41 for the definition of a TC). For the purpose of this section, certificate holders may elect to configure their aircraft in accordance with any of those TC’d passenger seating configurations.

B. Distinction Between 9 or Less and 10 or More. The Federal Aviation Administration (FAA) made the 9 or less and 10 or more distinctions in 1978 when amending part 135. The preambles to both the Notice of Proposed Rulemaking (NPRM) and the Final Rule make clear that it is the TC’d passenger seating configuration (meaning the actual numbers of seats listed in the TC or Supplemental Type Certificate (STC) as an approved configuration) of an aircraft, not its size or complexity, that determines which of the above two alternative maintenance programs applies to a particular aircraft (42 FR 43536, August 29, 1977, and 43 FR 46779, October 10, 1978). As further discussed below, this means that the passenger seating configuration and the actual numbers of seats of the particular aircraft at issue must be included in the TC (which may be referenced on the TCDS, or approved section of the Aircraft Flight Manual (AFM)/pilot’s operating handbook (POH), or approved through an STC).

C. Part 135 Maintenance Provisions. For the purposes of § 135.411(a), an aircraft’s maximum seating capacity does not necessarily determine the applicable maintenance provisions.
of this section. Some design approval holders (DAH) may obtain an FAA-issued TC for an aircraft without providing or referencing an interior seating configuration on the TCDS. Based on an engineering analysis and proof of regulatory compliance, they will often place an “up to” or “maximum passenger capacity” limitation on the TCDS for that aircraft. This TCDS number is relevant because the DAH will generally demonstrate compliance to the applicable certification standards by specifying the maximum number of passenger seats allowed, giving consideration to such things such as weight, balance, floor loading, and passenger egress, for example. However, this figure does not generally represent the TC’d seating configuration and actual number of seats approved (i.e., TC’d) for a particular aircraft. Instead, it generally represents the maximum passenger capacity allowed for that particular type design.

D. Removal of Passenger Seats. The FAA considered that some certificate holders could remove one or two seats from the aircraft that carried slightly more than 10 passengers to avoid the otherwise applicable regulation. However, the FAA believed this was unlikely to cause a problem because seat removal precluded the realization of the aircraft’s full productivity potential and resulted in a significant economic penalty to the certificate holder. The FAA noted that the trend at the time was to operate aircraft with more seats, not less.

NOTE: In accordance with 14 CFR part 43, § 43.3(i), for aircraft conducting operations under the provisions of part 135 (with nine or less passenger seats), the pilot of that certificate holder may perform the removal and reinstallation of approved aircraft cabin seats, provided that pilot has satisfactorily completed an approved training program and is authorized in writing by the certificate holder to perform that task. The certificate holder must have written procedures available for the pilot to evaluate the accomplishment of the task.

E. TC’d Passenger Seating Configuration. To determine which maintenance program under § 135.411(a) applies to a particular aircraft, one would compare the number of seats and as configured interior to those listed, or referenced, on the TCDS. Different configurations may also have been approved during the type certification process, but are not always provided to the owner/certificate holder through TCDS; these configurations may reside only in the DAH’s drawings. Accordingly, if an aircraft is being operated under part 135, and is configured with any one of a number of passenger seating configurations that are included in the TC (e.g., drawings that are approved as part of the type design), the passenger seating configuration and number of seats installed on that particular aircraft determine whether § 135.411(a)(1) or § 135.411(a)(2) applies for purposes of determining the aircraft’s maintenance program. A DAH may also provide the FAA with one or more seating configuration(s) and seat numbers, at the time of certification, that are within the maximum capacity limitation. Generally, these configurations are referenced on the TCDS, and provide the various configurations through either of the approved sections of the AFM or POH. The various configurations in the approved sections of the AFM/POH are an extension of the TC and may include both “9 or less” and “10 or more” approved seating configurations. In this case, whichever seating configuration the certificate holder chooses will determine how they will be required to maintain their aircraft per § 135.411(a)(1) or § 135.411(a)(2). If the certificate holder decides to switch from one seating configuration to another seating configuration (e.g., “9 or less” to “10 or more,” “10 or more” to “9 or less,” or with the same seats but a different configuration), they should have procedures in place on how they will maintain the aircraft in the new seating configuration (e.g., Weight and
Balance (W&B) determinations, etc.). If there are any questions on whether the seating configurations located in the AFM or POH are approved or not, contact the Aircraft Certification Office (ACO) in your geographic area for assistance.

F. Maintenance Programs for Custom Type Designs. Occasionally, owners/certificate holders elect to customize the interior configurations of their aircraft, with configurations that are not included in the approved type design, to meet their needs. In order to use these seating configurations when determining which maintenance program should be used (e.g., whether § 135.411(a)(1) or § 135.411(a)(2) applies), either the DAH would have to amend the type design to include the owner/certificate holder’s configuration, or the configuration would require approval through the STC process.

G. Operation Versus Maintenance. Whereas removing passenger seats without an STC or TC amendment, blocking passenger seats, or using place cards restricting the use of passenger seats may be acceptable for aircraft operations, it does not constitute an acceptable means of qualifying the aircraft for maintenance requirements under § 135.411(a)(1). These methods do not change the TC’d passenger seating configuration.

2-508 OPERATIONS SPECIFICATIONS (OPSPECS).

A. Commuter Operations. The certificate holder that conducts commuter operations under part 135 must obtain the OpSpecs listed in 14 CFR part 119, § 119.49(a).

B. On-Demand Operations. The certificate holder that conducts on-demand operations under part 135 must obtain the OpSpecs listed in § 119.49(c).

C. Additional Maintenance Requirements. Section 119.49(c)(9) requires the certificate holder conducting on-demand operations to obtain the following OpSpecs for additional maintenance requirements under part 135, § 135.421, as applicable:

- OpSpec D101, Additional Maintenance Requirements—Aircraft Engine, Propeller, and Propeller Control (Governor);
- OpSpec D102, Additional Maintenance Requirements—Rotorcraft;
- OpSpec D103, Additional Maintenance Requirements—Single-Engine Instrument Flight Rules (SEIFR); and

NOTE: OpSpecs D101-D104 may not require the listing of every item on the aircraft with a time limit as OpSpec D088, Maintenance Time Limitations Authorization, or OpSpec D089, Maintenance Time Limitations Section, do. However, this does not relieve the certificate holder from tracking and complying with time-limit-related regulations such as 14 CFR part 91, §§ 91.403(c) and 91.409(e).

2-509 MAINTENANCE AND INSPECTION REQUIREMENTS—§ 135.411(a)(1).

A. Maintenance and Inspection. Section 135.411(a)(1) requires certificate holders utilizing aircraft that are TC’d for a passenger seating configuration, excluding any pilot seat, of
nine seats or less to maintain the aircraft under parts 43 and 91, including §§ 135.415, 135.417, 135.421, and 135.422. Section 135.411(a)(1) also provides the certificate holder the option of using the Approved Aircraft Inspection Program (AAIP) under § 135.419 to inspect its aircraft in lieu of using an inspection listed under § 91.409. Additionally, § 135.411(b) provides a third option to the certificate holder, which is to maintain its aircraft under a Continuous Airworthiness Maintenance Program (CAMP) under § 135.411(a)(2). The FAA evaluates and authorizes a CAMP in accordance with the guidance in Volume 3, Chapter 43, Section 1. Because of these variables/options for maintaining aircraft with nine or less seats, the certificate holder and inspector must read, understand, and follow the applicable regulations for maintaining the aircraft.

B. Authority to Perform and Approve Maintenance. The certificate holder that maintains its aircraft under § 135.411(a)(1) is not a maintenance entity and is not authorized under part 135 to perform and approve maintenance on its aircraft under its certificate.

NOTE: The authority to perform and approve maintenance as provided in § 135.427 only applies to the certificate holder that maintains its aircraft under § 135.411(a)(2). Therefore, the certificate holder maintaining its aircraft under § 135.411(a)(1) must use persons listed in §§ 43.3 and 43.7 authorized to perform maintenance and approve the aircraft for return to service.

C. Manual Requirements. The certificate holder that maintains its aircraft under § 135.411(a)(1) is not required to comply with the manual requirements specified in § 135.427. However, this does not relieve the certificate holder from having the programs, instructions, and manuals required elsewhere in the regulations, such as in § 91.409(d). Except for single-pilot and single pilot-in-command (PIC) operations, all certificate holders, regardless of how they maintain their aircraft, are required to have the manual specified in § 135.21. Although this manual is commonly referred to as the operations manual, it contains some maintenance-related items, such as the AAIP, when applicable.

D. Part 135 Included. Under § 135.411(a)(1), the certificate holder is required to comply with the following maintenance related sections of part 135, which are discussed later in this section:

- Section 135.415;
- Section 135.417;
- Section 135.419 (only required for AAIP);
- Section 135.421; and
- Section 135.422.

2-510 MAINTAINING AIRCRAFT UNDER PART 91.

A. Part 91. Unless stated otherwise in the regulation, the part 91 maintenance regulations referenced in § 135.411(a)(1) are those listed in part 91 subpart E, Maintenance, Preventive Maintenance, and Alterations, and § 91.207. Instead of restating each part 91 subpart E regulation, this section will address those regulations that have caused the most confusion.
B. Responsibility. Section 135.413(a) makes the certificate holder that maintains its aircraft under § 135.411(a)(1) primarily responsible for the airworthiness of its aircraft. However, responsibility for the performance of maintenance is shared between the certificate holder and the mechanic performing the maintenance. This is consistent with the part 91 and part 43 regulation under which the aircraft is maintained, such as §§ 91.403, 91.405, 43.13, and 43.15.

C. Part 91 Inspections. If the certificate holder does not choose the AAIP or CAMP options under § 135.411 for its nine or less aircraft, it must inspect its aircraft in accordance with § 91.409. The inspector should advise the certificate holder to read § 91.409 carefully, starting at the beginning to determine which inspection is appropriate for their type of operation. Some types of inspections listed under § 91.409 are optional and some are required. If requested, the inspector may provide assistance to the certificate holder by explaining the inspections listed in § 91.409 applicable to the certificate holder.

D. Annual Inspections. Section 91.409(a) states that, except as provided in § 91.409(c), no person may operate an aircraft unless, within the preceding 12 calendar-months, it has had an annual inspection in accordance with part 43 and has been approved for return to service by a person authorized by § 43.7. The certificate holder that inspects its aircraft under the annual inspection must include all of the items listed in Part 43 Appendix D, Scope and Detail of Items (as Applicable to the Particular Aircraft) To Be Included in Annual and 100-Hour Inspections, that apply to the certificate holder’s particular aircraft. The certificate holder may include more items in its inspections than those listed in part 43 appendix D.

E. 100-Hour Inspections. Section 91.409(b) states that, except as provided in § 91.409(c), no person may operate an aircraft carrying any person (other than a crewmember) for hire unless, within the preceding 100 hours of time in service, the aircraft has received an annual or 100-hour inspection and has been approved for return to service in accordance with part 43 of this chapter, or has received an inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter. Part 43 appendix D lists the scope and detail of the 100-hour inspection. The certificate holder that inspects its aircraft under the 100-hour inspection must include all of the items listed in part 43 appendix D that apply to the certificate holder’s particular aircraft. The certificate holder may include more items in its inspections than those listed in part 43 appendix D. The certificate holder may exceed the 100-hour limitation by no more than 10 hours while en route to reach a place where the inspection can be done. However, this provision does not apply to Airworthiness Directives (AD) or airworthiness limitations (AL) in the manufacturer’s maintenance manual or instructions for continued airworthiness (ICA). In computing the next 100 hours of time in service, the certificate holder must include the excess time it used to reach the place where the inspection took place.
F. Annual/100-Hour Applicability. Section 91.409(c) states that § 91.409(a) and (b) do not apply to the following:

- An aircraft that carries a special flight permit (SFP), a current experimental certificate, or a light-sport or provisional airworthiness certificate;
- An aircraft inspected in accordance with an AAIP under part 135 and so identified by the registration number in the OpSpecs of the certificate holder having the approved inspection program (AIP);
- An aircraft subject to the requirements of § 91.409(d) or (e); or
- Turbine-powered rotorcraft when the certificate holder elects to inspect that rotorcraft in accordance with § 91.409(e).

G. Progressive Inspection. Section 91.409(d) provides that each registered owner or certificate holder of an aircraft desiring to use a progressive inspection program must submit a written request to the responsible Flight Standards office and shall provide the following:

1) A certificated mechanic holding an Inspection Authorization (IA), a certificated airframe repair station, or the manufacturer of the aircraft to supervise or conduct the progressive inspection.

2) A current inspection procedures manual available and readily understandable to pilot and maintenance personnel containing, in detail:

- An explanation of the progressive inspection, including the continuity of inspection responsibility, the making of reports, and the keeping of records and technical reference material;
- An inspection schedule specifying the intervals, in hours or days, for routine and detailed inspections that includes instructions for exceeding an inspection interval by not more than 10 hours while en route, and for changing an inspection interval because of service experience;
- Sample routine and detailed inspection forms and instructions for their use;
- Sample reports, records, and instructions for their use;
- Enough housing and equipment for necessary disassembly and proper inspection of the aircraft; and
- Appropriate current technical information for the aircraft.

H. Progressive Inspection Advantages. A progressive inspection allows the certificate holder to inspect the aircraft progressively. It breaks down the large task of conducting a major inspection, such as an annual inspection, into smaller tasks that a certificate holder can accomplish periodically without taking the aircraft out of service for an extended period of time. The certificate holder normally gains the advantage of the progressive inspection when the aircraft operates beyond a minimum number of hours per year, usually established by the manufacturer.
I. **Progressive Inspection Review.** The Airworthiness inspector will verify the following criteria:

1) The certificate holder has submitted their written request to use the progressive inspection.

2) The certificate holder is within the Flight Standards office’s area of responsibility.

3) The certificate holder’s request contains the name of one of the persons listed under § 91.409(d)(1). If the certificate holder provides the name of a mechanic, the inspector will verify the mechanic’s certificate and IA. If the certificate holder provides the name of a repair station, the inspector will verify the repair station is rated to conduct the inspection.

4) The certificate holder provides a current inspection procedures manual that contains in detail all the requirements listed under § 91.409(d)(2) and the last paragraph under § 91.409(d).

5) The inspection procedures manual is available and readily understandable to the pilot and maintenance personnel.

6) The certificate holder provides enough housing and equipment for necessary disassembly and proper inspection of the aircraft.

7) The certificate holder provides appropriate current technical information for the aircraft.

8) The certificate holder is aware of the regulatory requirements for discontinued use of the progressive inspection.

J. **Large Airplanes, Turbojet Multiengine Airplanes, Turbopropeller-Powered Multiengine Airplanes, and Turbine-Powered Rotorcraft.** Section 91.409(e) pertains to large airplanes (more than 12,500 pounds maximum takeoff weight (MTOW); see Volume 2, Chapter 2, Section 2, subparagraph 2-129C for modified aircraft), turbojet multiengine airplanes, turbopropeller-powered multiengine airplanes, and turbine-powered rotorcraft. The inspector will verify the following:

- The certificate holder’s aircraft conforms to the requirement for replacement of life-limited parts specified in the aircraft specifications, TCDS, or other documents approved by the Administrator.
- The certificate holder has a method, means, and controls for tracking life-limited parts and ensuring their replacement.
- The certificate holder selects an inspection program under § 91.409(f) and inspects the aircraft including the airframe, engines, propellers, rotors, appliances, survival equipment, and emergency equipment in accordance with the program.

**NOTE:** The certificate holder operating a turbine-powered rotorcraft may elect to use the inspection provisions of § 91.409(a), (b), (c), or (d) in lieu of an inspection option of § 91.409(f).
K. Identify Inspection Program. The inspector will verify that the certificate holder identifies the inspection program it selected under § 91.409(f) in the aircraft maintenance records. The inspector will also verify the certificate holder includes in its program the name and address of the person responsible for scheduling the inspections required by the program. The inspector will verify that the certificate holder makes a copy of that program available to the person performing inspections on the aircraft and, upon request, to the Administrator. The following is a list of programs under § 91.409(f) that the certificate holder may select from.

NOTE: The inspection listed in § 91.409(f)(4) is the only inspection listed under § 91.409(f) that requires FAA approval.

1) If the certificate holder selects a continuous airworthiness inspection program, it must show that it is part of a CAMP currently in use by a person holding an air carrier operating certificate or an operating certificate issued under 14 CFR part 121 or 135 and operating that make and model aircraft under part 121, or operating that make and model under part 135 and maintaining it under § 135.411(a)(2).

NOTE: A continuous airworthiness inspection program is not the same thing as a CAMP. The inspection program is only one element of the maintenance program. The inspector will verify what the certificate holder has submitted is correct.

2) If the certificate holder chooses the AAIP program, it must show that it is approved under § 135.419 and currently in use by a person holding an operating certificate issued under part 135. The inspector will verify what the certificate holder has submitted is correct. The inspector does not approve the AAIP again. However, once authorized, any changes must be FAA-approved.

3) If the certificate holder selects a current inspection program recommended by the manufacturer, it must provide the manufacturer’s document that shows and describes the program. The inspector will verify that the program submitted is current, applicable, and complete.

NOTE: Normally, the manufacturer’s inspection program applies to the aircraft as it was configured when it left the factory. If the aircraft was altered after it left the factory, the certificate holder must account for the manufacturer’s inspection requirements for the alteration.

4) Any other inspection program established by the registered owner or certificate holder of that airplane or turbine-powered rotorcraft and approved by the Administrator under § 91.409(g). However, the Administrator may require revision of this inspection program in accordance with the provisions of § 91.415. The inspector will use the manufacturer’s recommended inspection program as the basis for approving this program. The inspector should be aware that the manufacturer’s inspection program might not cover all the equipment installed on the aircraft after it was manufactured.

L. Changes to Inspection Program. Section 91.409(h) requires that, when the certificate holder changes from one inspection program under § 91.409(f) to another, the time in
service, calendar times, or cycles of operation accumulated under the previous program must be applied in determining inspection due times under the new program.

M. FAA Changes to AIPs. Section 91.415 provides the authority to the FAA to make changes to the certificate holder’s FAA-approved inspection program under § 91.409(f)(4). The FAA must find that the revisions are necessary for the continued adequacy of the program.

N. Maintenance Records. Section 91.417 contains the maintenance records requirements for the certificate holder maintaining its aircraft under § 135.411(a)(1). For additional information on maintenance records, see Volume 6, Chapter 1, Section 3.

2-511 MAINTAINING AIRCRAFT UNDER PART 43.

A. Part 43. The part 43 regulations referenced in § 135.411(a)(1) are all those listed in part 43, unless stated otherwise in each section of part 43. Instead of restating each part 43 regulation, this section will address those regulations that have caused the most confusion.

B. Authority to Perform Maintenance. A certificate holder that is subject to § 135.411(a)(1) is not authorized to perform maintenance and must use persons authorized as specified in §§ 43.3 and 43.7. Sections 43.3 and 43.7 list persons authorized to perform and approve maintenance on the certificate holder aircraft maintained under § 135.411(a)(1). The inspector should note that the reference to the certificate holder in §§ 43.3(f) and 43.7(e), respectively, does not apply because the provision in § 135.437 to perform and approve maintenance only applies to the certificate holder that maintains its aircraft under § 135.411(a)(2).

C. Approval for Return to Service. Sections 43.5 and 91.407 govern approval for return to service following the performance of maintenance on aircraft maintained under § 135.411(a)(1).

D. Content Form and Disposition of Records.

1) For Other Than Inspections. Section 43.9 contains the requirements for recording maintenance, preventive maintenance, rebuilding, and alterations for aircraft maintained under § 135.411(a)(1).

2) For Inspections. Section 43.11 contains the requirements for recording inspections performed under part 91 and §§ 135.411(a)(1) and 135.419.

E. Maintenance, Preventive Maintenance, and Alteration Performance Rules. Section 43.13 contains the performance rules for maintenance, preventive maintenance, and alterations for aircraft maintained under § 135.411(a)(1). The provision under § 43.13(c) for using the certificate holder’s manual does not apply to aircraft maintained under § 135.411(a)(1).

F. Additional Performance Rules for Inspections. Section 43.15 contains additional performance rules for inspections performed under parts 91 and 135 that are applicable to aircraft maintained under § 135.411(a)(1).
G. ALs. Section 43.16, which is applicable to the certificate holder that maintains its aircraft under § 135.411(a)(1), requires each person performing an inspection or other maintenance specified in an AL section of a manufacturer’s maintenance manual or ICA shall perform the inspection or other maintenance in accordance with that section, or in accordance with the OpSpecs approved by the Administrator under part 135, or an inspection program approved under § 91.409(e). Additional information on ICAs is available in the current edition of Advisory Circular (AC) 33.4-1, Instructions for Continued Airworthiness.

2-512 ADDITIONAL MAINTENANCE REQUIREMENTS.

A. Additional Requirements. Each certificate holder maintaining its aircraft under § 135.411(a)(1) must also comply with the additional maintenance requirements of § 135.421. Section 135.421 states that each certificate holder who operates an aircraft TC’d for a passenger seating configuration (excluding any pilot seat) of nine seats or less, must comply with the manufacturer’s recommended maintenance programs or a program approved by the Administrator for each aircraft engine, propeller, rotor, and each item of emergency equipment required by the regulations. It is important to note that the requirements are not just limited to inspections; they must include all requirements, such as cleaning, inspecting, adjusting, testing, and lubricating.

B. Manufacturer’s Maintenance Program. Section 135.421 specifies that a manufacturer’s maintenance program is one that is contained in the maintenance manual or maintenance instructions set forth by the manufacturer as required by the applicable regulations for the aircraft, aircraft engine, propeller, rotor, or item of emergency equipment. These added requirements are intended to ensure the performance of the manufacturer’s recommended maintenance programs on engines, propellers, rotors, and each item of required emergency equipment. These requirements do not apply to the airframe. For clarification on § 135.421(b), maintenance instructions are defined as something that would instruct (teach) how to perform a maintenance task or procedure. By adopting the manufacturer’s recommended maintenance program in § 135.421(a) in lieu of developing a program approved by the Administrator, the certificate holder is required to comply with all manufacturer’s recommended maintenance instructions. These maintenance instructions include completion of any manufacturer’s service publications (e.g., Service Bulletins (SB), Service Letters (SL), and service instructions (SI)) that specifically address a maintenance procedure. If the certificate holder adopts the manufacturer’s recommended maintenance program and states they will comply with the manufacturer’s program as of a specific date, then they must comply with all service publications that address maintenance procedures up to that specific date. If the certificate holder adopts the manufacturer’s recommended maintenance program and states they will comply with the manufacturer’s program “as revised,” then they would be required to comply with all service publications that address maintenance procedures that are currently applicable and that are developed by the manufacturer in the future.

C. Engines and Propellers. Engine requirements apply to the engine itself, including turbosuperchargers and accessories necessary to its function. They do not include aircraft provisions such as mounts or cowling, or accessories such as generators or starters. A propeller is defined in 14 CFR part 1 as including controls normally supplied by the manufacturer. Most
propeller TCDSs specify the applicable control unit, which a person should consider part of the propeller.

**D. Program Approved by Administrator.** Section 135.421 provides the applicant the option to use an FAA-approved maintenance program in lieu of the manufacturer’s recommended maintenance program for each aircraft engine, propeller, or rotor it intends to operate and each item of emergency equipment required by regulation. If the applicant chooses this option and submits a program for approval, the inspector will use the manufacturer’s recommended maintenance program as the basis for the review.

1) The inspector must inform the applicant prior to the review that he or she will only consider any deviation from the manufacturer’s program on the basis of the applicant submitting acceptable justification for the deviation. Additionally, the inspector may consider for approval a program submitted by the applicant that is based on a current approved program for another certificate holder for a similar make and model aircraft. However, the inspector must take into account such things as the applicant’s experience, operating environment, and maintenance support before approving the program.

2) Once approved, any changes made to the program must also receive FAA approval. Changes submitted by the certificate holder that are based on changes to the manufacturer’s program will not receive automatic approval. Again, the inspector will consider such things as the certificate holder’s experience, operating environment, and maintenance support prior to approving the changes.

**E. Single-Engine Aircraft Used in Passenger-Carrying Instrument Flight Rules (IFR) Operations.** Section 135.411(c) requires the certificate holder that uses a single-engine aircraft in passenger-carrying IFR operations to maintain the aircraft in accordance with § 135.421(c), (d), and (e).

1) Section 135.421(c) requires that, for each single-engine aircraft used in passenger-carrying IFR operations, the certificate holder must incorporate into its maintenance program either:

- The manufacturer’s recommended engine trend monitoring program (see subparagraph 2-513A), which includes an oil analysis, if appropriate; or
- An FAA-approved engine trend monitoring program that includes an oil analysis at each 100-hour interval or at the manufacturer’s suggested interval, whichever is more frequent (see subparagraph 2-513B).

2) Section 135.421(d) requires that, for single-engine aircraft to be used in passenger-carrying IFR operations, written maintenance instructions containing the methods, techniques, and practices necessary to maintain the equipment specified in §§ 135.105 and 135.163(f) and (h) are required.

3) Section 135.421(e) states that no certificate holder may operate a single-engine aircraft under passenger-carrying IFR operations unless the certificate holder records and
maintains in the engine maintenance records the results of each test, observation, and inspection required by the applicable engine trend monitoring program specified in § 135.421(c)(1) and (2).

2-513 ENGINE TREND MONITORING.

A. Manufacturer. Some aircraft/engine manufacturers have developed engine trend monitoring programs for their products. Additionally, there are third-party service providers that will provide engine trend monitoring services to their customers. The inspector should review the engine trend monitor program to ensure that it is applicable to the certificate holder’s aircraft/operations and that the certificate holder has the resources necessary to use the program (e.g., competent personnel, training, procedures, software (if applicable), equipment, and a recordkeeping system).

B. FAA-Approved. The current edition of AC 20-105, Reciprocating Engine Power-Loss Accident Prevention and Trend Monitoring, contains basic information on a trend monitoring program that the inspector should use to approve an engine trend monitoring program. Inspectors can seek assistance with approving the program from the applicable FAA Aircraft Evaluation Group (AEG).

2-514 AAIP. Section 135.411(a)(1) provides the certificate holder the option of using the AAIP under § 135.419 for its TC’d nine or less passenger seat aircraft. Additionally, under § 135.419, the FAA may require the certificate holder to use the AAIP for the reasons specified in the regulation. Regardless of the reason, the inspector will use Volume 3, Chapter 38, Section 1 to evaluate and approve the AAIP.

2-515 AGING AIRPLANE INSPECTIONS AND RECORDS REVIEWS FOR MULTIENGINE AIRPLANES CERTIFICATED WITH NINE OR LESS PASSENGER SEATS.

A. Applicability. Section 135.422 applies to multiengine airplanes certificated with nine or less passenger seats, operated by the certificate holder in a scheduled operation under part 135, except for those airplanes operated by the certificate holder in a scheduled operation between any point within the State of Alaska and any other point within the State of Alaska.

B. Compliance Dates. After the dates specified in § 135.422, the certificate holder may not operate a multiengine airplane in a scheduled operation under part 135 unless the Administrator has notified the certificate holder that the Administrator has completed the aging airplane inspection and records review required by § 135.422. During the inspection and records review, the certificate holder must demonstrate to the Administrator that the maintenance of age-sensitive parts and components of the airplane are adequate and timely enough to ensure the highest degree of safety.

1) Airplanes exceeding 24 years in service on December 8, 2003; initial and repetitive inspections and records reviews. For an airplane that has exceeded 24 years in service on December 8, 2003, no later than December 5, 2007, and thereafter at intervals not to exceed 7 years.
2) Airplanes exceeding 14 years in service but not 24 years in service on December 8, 2003; initial and repetitive inspections and records reviews. For an airplane that has exceeded 14 years in service, but not 24 years in service, on December 8, 2003, no later than December 4, 2008, and thereafter at intervals not to exceed 7 years.

3) Airplanes not exceeding 14 years in service on December 8, 2003; initial and repetitive inspections and records reviews. For an airplane that has not exceeded 14 years in service on December 8, 2003, no later than 5 years after the start of the airplane’s 15th year in service and thereafter at intervals not to exceed 7 years.

C. Scheduling Conflicts. In the event of an unforeseen scheduling conflict for a specific airplane, the Administrator may approve an extension of up to 90 days beyond an interval specified in § 135.422(b).

D. Must Make Available. The certificate holder must make available to the Administrator each airplane for which an inspection and records review is required under § 135.422 in a condition for inspection specified by the Administrator, together with the records containing the following information:

- Total years in service of the airplane;
- Total time in service of the airframe;
- Date of the last inspection and records review required by this section;
- Current status of life-limited parts of the airframe;
- Time since the last overhaul of all structural components required to be overhauled on a specific time basis;
- Current inspection status of the airplane, including the time since the last inspection required by the inspection program under which the airplane is maintained;
- Current status of the applicable AD, including the date and methods of compliance and, if the AD involves recurring action, the time and date when the next action is required;
- A list of major structural alterations; and
- A report of major structural repairs and the current inspection status for these repairs.

E. Notification to the FAA. Each certificate holder must notify the Administrator at least 60 days before the date on which it will make the airplane and airplane records available for inspection and records review.

2-516 SERVICE DIFFICULTY REPORTS (SDR). Section 135.415 (which applies to all part 135 certificate holders, operations, and aircraft) requires the certificate holder to report the occurrence or detection of each failure, malfunction, or defect in an aircraft for the items listed under § 135.415. The inspector should use Volume 8, Chapter 5, Section 6 to evaluate the certificate holder’s compliance.
**2-517 MECHANICAL INTERRUPTION SUMMARY REPORT (MISR).** Section 135.417 (which applies to all part 135 certificate holders, operations, and aircraft) requires the certificate holder to mail or deliver, before the end of the 10th day of the following month, a summary report of the occurrences listed under § 135.417 in multiengine aircraft for the preceding month to the responsible Flight Standards office. The inspector should use Volume 3, Chapter 32, Section 14 to evaluate the certificate holder’s compliance.

**2-518 EXTENDED OPERATIONS (ETOPS).** Section 135.411(d) requires a certificate holder that elects to operate in accordance with § 135.364 to maintain its aircraft under § 135.411(a)(2) and the additional requirements of Part 135 Appendix G, Extended Operations (ETOPS). The inspector should use Volume 4, Chapter 6, Section 2 to evaluate the certificate holder’s compliance.

**2-519 MANUFACTURER’S SERVICE PUBLICATIONS.** Manufacturer’s service publications include but are not limited to SBs, SLs, and SIs. The current edition of FAA Order 8620.2, Applicability and Enforcement of Manufacturer’s Data, defines when the manufacturer’s data is acceptable and when it is mandatory.

**2-520 REFERENCES, FORMS, AND JOB AIDS.**

**A. References (current editions):**

- Title 14 CFR Parts 1, 21, 23, 25, 27, 29, 39, 43, 119 and 135.
- FAA Order 8620.2, Applicability and Enforcement of Manufacturer’s Data.
- Volume 3, Chapter 43, Section 1, Safety Assurance System: Evaluate a Part 121 and Part 135 Continuous Airworthiness Maintenance Program.
- AC 33.4-1, Instructions for Continued Airworthiness.
- OpSpecs D088, D089, D101, D102, D103, and D104.

**B. Forms.** None.

**C. Job Aids.** None.

**RESERVED.** Paragraphs 2-521 through 2-535.