



U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Part 135: Additional Maintenance Requirements for Aircraft Type Certificated for Nine or Less Passenger Seats

Date: 8/11/16

AC No: 135-7B

Initiated by: AFS-300

Change:

1 PURPOSE.

1.1 Additional Maintenance Requirements Compliance. This advisory circular (AC) provides information for establishing methods acceptable to the Administrator for compliance with the additional maintenance requirements of Title 14 of the Code of Federal Regulations (14 CFR) part 135, § 135.421 for certain air carriers and commercial operators. In addition, this AC provides information related to other regulatory maintenance requirements applicable to part 135 aircraft type certificated (TC) for nine or less passenger seats.

1.2 Compliance Methods for Part 135 Certificate Holders. This AC gives part 135 certificate holders an acceptable means to comply with the regulations; however, it is not the only means. This AC is not mandatory and does not constitute a regulation. When this AC uses mandatory language (e.g., “must” or “may not”) it is paraphrasing a regulatory requirement or prohibition. When this AC uses permissive language (e.g., “should” or “may”) it describes an acceptable means, but not the only means, for complying with regulations. If you use the methods described in this AC to comply with a regulatory requirement, you must follow them in all respects.

2 APPLICABILITY. The information in this AC applies only to part 135 certificate holders who use aircraft that are TC’d for nine or less passenger seats, excluding the pilot seat, and maintained under § 135.411(a)(1). The additional maintenance requirements do not apply to aircraft subject to, and/or maintained under § 135.411(a)(2).

3 CANCELLATION. AC 135-7A, Part 135: Additional Maintenance Requirements for Aircraft Type Certificated for Nine or Less Passenger Seats, dated March 28, 2008, is canceled.

4 DEFINITION. The term “maintenance,” as used in this AC and in § 135.421, means inspection, overhaul, repair, preservation, and the replacement of parts. The definition excludes “preventive maintenance,” as defined in 14 CFR part 1.

5 RELATED CFR PARTS. Title 14 CFR parts 1, 23, 25, 27, 29, 33, 35, 43, 91, 119, and 135.

- 6 RELATED READING MATERIAL.** Federal Aviation Administration (FAA) Order 8900.1, Flight Standards Information Management System (FSIMS):
- Volume 2, Chapter 4, Section 8, Safety Assurance System: Evaluate a Part 135 (Nine or Less) Operator's/Applicant's Maintenance Requirements.
 - Volume 3, Chapter 18, Section 6, Parts D and E Maintenance OpSpecs/MSpecs/LOAs.
 - Volume 3, Chapter 38, Section 1, Safety Assurance System: Evaluate and Approve an Approved Aircraft Inspection Program.
- 7 BACKGROUND.** The FAA amendment to part 135 became effective on December 1, 1978. The amended part 135 requires certificate holders who operate aircraft TC'd for a passenger seating configuration, excluding any pilot seat, of nine or less seats to 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. Part 119, § 119.49(c)(9) requires certificate holders to obtain operation specifications (OpSpec) containing additional maintenance items required by the Administrator under § 135.421. Prior to the amendment, part 135 only required an aircraft to be inspected in accordance with the provisions of part 91 or an approved inspection program under part 135. In addition to the inspection requirements, the amended rule sets forth the requirement to perform maintenance recommended by the manufacturer that may include the overhaul, inspection, and/or replacement of parts at specific time intervals, as well as maintenance following nonscheduled occurrences, such as prop strikes or engine sudden stoppage.
- 8 DISCUSSION.** Section 135.421 sets forth additional maintenance requirements for each item of required emergency equipment and each aircraft engine, propeller, and rotor. The manufacturer of an aircraft, aircraft engine, propeller, or rotor is required by 14 CFR part 21, § 21.50 to make available manuals or instructions that it considers essential for proper maintenance of its product. Section 135.421 requires a certificate holder to maintain equipment in accordance with a maintenance program recommended by the manufacturer. It also allows a certificate holder to use a program other than the manufacturer's, if approved by the Administrator. This provision allows an operator to use its experience from maintaining equipment to adjust inspection and overhaul times different than those recommended by the manufacturer of the referenced products.
- 8.1 Manufacturer's Recommended Maintenance Program.** The maintenance requirements in part 135 are additional to the requirements in parts 43 and 91. Certificate holders may accomplish the additional maintenance requirements in accordance with other maintenance required by the regulations. The additional requirements are not intended to duplicate any existing inspection requirements. In most cases, the manufacturer's recommended maintenance program frequencies may be the same as those required by a specific regulation (e.g., part 91, § 91.409 requires an aircraft to have a 100-hour inspection when it is used to carry persons for hire). If a manufacturer's program recommends a 100-hour inspection, certificate holders may perform the

inspection of the additional maintenance and work items concurrently with the 100-hour inspection.

8.2 Inspections. After coordinating with the FAA certificate-holding district office (CHDO), presenting sufficient justification, and receiving concurrence, the certificate holder may substitute the following inspection programs for those recommended by the manufacturer:

- A progressive inspection program established under § 91.409(d).
- An inspection program required by § 91.409(e).
- An approved aircraft inspection program under § 135.419.

8.3 CHDO Approval. If time deviations are involved, the CHDO may approve the programs in lieu of the manufacturer's recommended program if the operator supplies the proper justification with its request. The CHDO usually bases its acceptance on satisfactory service or industry experience, and a determination that the deviation will not adversely affect the airworthiness of the aircraft.

9 MANUFACTURER RECOMMENDED PROGRAMS.

9.1 Maintenance Program Recommendations. A maintenance program might be recommended by either:

- The manufacturer of the aircraft;
- The manufacturer of each item of required emergency equipment; or
- The manufacturer of each aircraft engine, propeller, propeller governor, and rotor.

9.2 Necessary Maintenance. In most cases, the aircraft manufacturer's maintenance manual contains the frequency and the extent of maintenance necessary for the aircraft engine, propellers, and rotors. It may also include the frequency of overhauls and the life limit of components that would require replacement.

9.3 Manufacturer-Issued Instructions. If the aircraft manufacturer's maintenance manual does not contain all the maintenance and inspection requirements, then certificate holders should use the instructions issued by the manufacturer of the aircraft engine or propeller. Part 33, § 33.5 requires the manufacturer of the aircraft engine to provide instructions for the installation, servicing, and maintenance of its product; part 35, § 35.3 imposes the same requirement on the propeller manufacturer.

9.4 Exceptions and Special Conditions. An emergency equipment manufacturer does not always have to provide maintenance programs with its equipment, but in most cases the manufacturer recommends a maintenance program for its product. This program may be acceptable for use by a certificate holder after review by the CHDO. Certain emergency equipment items are required by other rules or Federal regulations to be maintained, inspected, and tested at specific periods (e.g., emergency locator transmitter (ELT),

high-pressure cylinders). Certificate holders should include those intervals in the maintenance program for emergency equipment.

- 10 PROGRAMS APPROVED BY THE ADMINISTRATOR.** Section 135.421 allows for the use of a maintenance program other than one recommended by the manufacturer with approval from the Administrator. This provision allows a certificate holder to develop a program for each aircraft engine, propeller, rotor, and each item of emergency equipment.
- 10.1 Certificate Holder Requests.** A certificate holder may request approval to use only part of a manufacturer's recommended program. A certificate holder may request an increase in the time between overhauls, or may request an extension of specific inspection items to make those items compatible with an inspection program established for its aircraft.
- 10.2 Changes in Time Limitations.** The FAA normally considers changes in time limitations based on satisfactory service or industry experience (when sufficient justification can be furnished), and whether the change will adversely affect the aircraft's airworthiness.
- 10.3 Emergency Equipment.** The inspection period established for emergency equipment should ensure that it is serviceable, and that all components of the emergency equipment are complete. The emergency equipment is expected to remain in that condition until the next inspection or when an emergency situation arises.
- 10.4 Life-Limited Parts.** Parts listed as life limited on the FAA Type Certificate Data Sheets (TCDS), in the Aircraft Flight Manual (AFM), or in other documents, are not eligible for a time increase. The responsible Aircraft Certification Office (ACO) can write reduced life limits or new or different inspection requirements to address an unsafe condition directly into an Airworthiness Directive (AD).
- 11 SINGLE-ENGINE AIRCRAFT USED IN PASSENGER-CARRYING INSTRUMENT FLIGHT RULES (IFR) OPERATIONS.** Section 135.411(c) requires the air carrier that uses a single-engine aircraft in passenger-carrying IFR operations to maintain the aircraft in accordance with § 135.421(c), (d), and (e).
- 11.1 Maintenance Program Requirements.** Section 135.421(c) requires that, for each single-engine aircraft used in passenger-carrying IFR operations, the air carrier must incorporate into its maintenance program either:
- 11.1.1 Manufacturer's Trend-Monitoring Program.** The manufacturer's recommended engine trend monitoring program, which includes an oil analysis, if appropriate; or
- 11.1.2 FAA-Approved Trend-Monitoring Program.** 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.
- 11.2 Written Maintenance Instructions.** 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.

- 11.3 Required Maintenance Records.** Section 135.421(e) states that no air carrier may operate a single-engine aircraft under passenger-carrying IFR operations unless the air carrier 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).
- 12 AGING AIRPLANE INSPECTIONS AND RECORDS REVIEWS FOR MULTIENGINE AIRPLANES CERTIFICATED WITH NINE OR LESS PASSENGER SEATS.**
- 12.1 Exceptions for Operation Within the State of Alaska.** Section 135.422 applies to multiengine airplanes certificated with nine or less passenger seats, operated by the air carrier in a scheduled operation under part 135, except for those airplanes operated by the air carrier in a scheduled operation between any point within the state of Alaska and any other point within the state of Alaska.
- 12.2 Aging Airplane Inspection and Records Review.** After the dates specified in § 135.422, the air carrier may not operate a multiengine airplane in a scheduled operation under part 135 unless the Administrator has notified the air carrier that the Administrator has completed the aging airplane inspection and records review required by § 135.422. During the inspection and records review, the air carrier must demonstrate to the Administrator that the maintenance of age-sensitive parts and components of the airplane has been adequate and timely enough to ensure the highest degree of safety.
- 13 OTHER REGULATORY MAINTENANCE REQUIREMENTS.**
- 13.1 Emergency Locator Transmitter Test and Inspection.** Refer to § 91.207.
- 13.2 Altimeter System and Altitude Reporting Equipment Tests and Inspections.** Refer to § 91.411.
- 13.3 Air Traffic Control (ATC) Transponder Tests and Inspections.** Refer to § 91.413.
- 13.4 Airworthiness Directives Compliance.** Refer to 14 CFR part 39, § 39.11 and § 91.403.
- 13.5 Instructions for Continued Airworthiness (ICA) for Any Alterations or Repairs That Have Been Accomplished.** Refer to § 21.50 and part 43, § 43.13.
- 13.6 Manufacturer's Maintenance Manuals Having Airworthiness Limitations (AL) Sections.** Refer to §§ 21.50, 43.16, and 91.403.
- 13.7 Empty Weight and Center of Gravity (CG).** For multiengine aircraft, the current empty weight and CG must be calculated from values established by actual weighing of the aircraft within the preceding 36 calendar-months. Refer to § 135.185.
- 14 MANUFACTURERS' SERVICE PUBLICATIONS.** Refer to the current editions of AC 20-77, Use of Maintenance Manuals, and FAA Order 8620.2, Applicability and

Enforcement of Manufacturer's Data. These documents list situations when Service Bulletins (SB) would be regulatory.

15 OPSPECS—AIRCRAFT MAINTENANCE. Section 119.49(c)(9) outlines the requirement to show time limitations on OpSpecs for additional maintenance requirements. Section 135.421 requires that the certificate holder use a program that the manufacturer recommends, or use a program that the Administrator has approved. To comply with § 119.49(c)(9), the program that is used by a certificate holder should either be referenced or described on the certificate holder's OpSpecs. The certificate holder is responsible for providing the technical content for its OpSpecs and to submit them to the FAA. The FAA encourages certificate holders to have preliminary discussions with FAA inspectors during the development or amendment of its OpSpecs. In many instances, time and effort may be saved by informally resolving any items that could delay the formal approval of OpSpecs. It is also acceptable to have the additional maintenance items that are included in accepted or approved inspection programs referenced on the certificate holder's OpSpecs, including:

- 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; and/or
- OpSpec D104, Additional Maintenance Requirements—Emergency Equipment.

Note: OpSpecs D101, D102, D103, and/or D104 will only reference the requirements of § 135.421.

16 PREPARATION OF OPSPECS. Using the automated OpSpecs system, principal inspectors (PI) prepare OpSpecs with information the certificate holder provides.

16.1 Time Limitation Information for OpSpec. OpSpecs can either reference a manual (certificate holder manual, manufacturer's manual, progressive inspection manual, etc.) or it may list time limitations for overhaul, inspection, and checks of aircraft engines, propellers, etc.

16.2 References to Manufacturer's Data. When referencing a manufacturer's data, certificate holders should identify the manual or document by the manufacturer's code, symbol, chapter, and/or pages, or by any traceable identifier.

16.3 Additional Manufacturer Information for OpSpecs. When a referenced inspection program does not include the entire manufacturer's recommended checks, inspections, and overhaul time periods, those items may be included on the certificate holder's OpSpecs. It is important that the referenced documents and manuals identify all of the required components.

16.4 Certificate Holder Maintenance Program Information for OpSpecs. A certificate holder developing its own maintenance program must show the checks, inspections, and overhaul time limitations to be used in the OpSpecs. The items can be listed by referencing the major components of iSpec 2200 (formerly ATA-100) for the purpose of standardization. As mentioned earlier in this AC, a certificate holder may request approval to deviate from specific parts of a manufacturer's program. In cases where a change has been justified, the approval must be shown on the OpSpecs.

A handwritten signature in black ink, appearing to read "John Barbagallo". The signature is written in a cursive, somewhat stylized font. The first part of the signature is a large, looped "J", followed by "B", "a", "r", "b", "a", "g", "a", "l", "l", "o".

John Barbagallo
Deputy Director, Flight Standards Service

Advisory Circular Feedback Form

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by contacting the Aircraft Maintenance Division (AFS-300) at 9-AWA-AFS-300-Division-Directives@faa.gov or the Flight Standards Directives Management Officer.

Subject: AC 135-7B, Part 135: Additional Maintenance Requirements for Aircraft Type Certificated for Nine or Less Passenger Seats.

Date: _____

Please check all appropriate line items:

An error (procedural or typographical) has been noted in paragraph _____ on page _____.

Recommend paragraph _____ on page _____ be changed as follows:

In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

Other comments:

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

Submitted by: _____

Date: _____