

## CHAPTER 9. PROVING AND VALIDATION TESTS

### SECTION 3. PROVING TEST REQUIREMENTS

**1579. GENERAL.** Each applicant must demonstrate the ability to operate safely by conducting proving tests in accordance with the operating, maintenance, aircraft dispatch, flight release, and flight-locating requirements of either Part 121 or Part 135, as appropriate. Proving tests must be conducted in a manner that closely simulates the regulatory conditions that will apply after approval has been granted.

*A. Types of Flights.* The only types of flights that can be credited towards proving test requirements are described in the following subparagraphs:

(1) *Representative En Route Flights.* Representative en route flights are conducted in compliance with either Part 121 or Part 135, applicable sections of Part 91, and other applicable rules, including Part 108, Airplane Operator Security, and Title 49, Part 178, Hazardous Materials. Before an applicant may conduct these flights, the test team must be satisfied that the applicant's phase three review has been completed.

(2) *Ferry Flights or Flights of Provisionally Certificated Aircraft.* Ferry flights conducted under Part 91 and authorized under the provisions of FAR 21.197(a)(2) or (5) may be credited towards proving test requirements. In rare situations, an applicant may propose to use a provisionally certificated aircraft during proving flights under Part 121. To obtain FAA approval, the applicant must show that no feature, characteristic, or condition of the aircraft would make it unsafe when operated in accordance with FAR 91.317 and FAR 121.207 (for further information, see paragraph 1597 of this section).

(3) *Training Flights.* Training flights may be credited towards proving test requirements, provided that each flight is observed by an FAA inspector.

(4) *Positioning Flights.* A positioning flight is a flight conducted to move an airplane over a non-representative route, such as from the aircraft factory to the applicant's main base.

*B. Additional Requirements.* To credit ferry hours, hours flown in provisionally certificated aircraft, or training flight hours towards proving test require-

ments, the applicant's phase three review must have been completed. Also, the applicable manual must be in a state of completion that is acceptable to the test team for that applicant. Flights must be conducted in accordance with the following:

- Proposed Part 121 or Part 135 operations manual
- Proposed Part 121 or Part 135 inspection or maintenance programs
- Proposed minimum equipment list (MEL)
- Flight control requirements (dispatch, flight following, or locating) of Part 121 or Part 135
- Operations and maintenance recordkeeping requirements of Part 121 or Part 135

#### **1581. SITUATIONS REQUIRING PROVING TESTS.**

Part 121 and Part 135 require aircraft proving tests for the following situations:

- During the certification process of an applicant proposing to conduct operations under Part 121
- During the certification process when a Part 135 applicant proposes to operate a type of turbojet aircraft or a type of aircraft for which two pilots are required for operations under visual flight rules (VFR)
- When a Part 121 applicant proposes to operate an aircraft that the applicant has not previously used
- When a Part 135 applicant proposes to add to its operations specifications (OpSpecs) an aircraft not previously used by the applicant and that is one of the following types: a turbojet aircraft or an aircraft for which two pilots are required for operations under VFR
- When a Part 121 applicant proposes to use an aircraft that has been materially altered in design
- When a Part 135 applicant proposes to use an aircraft that has been materially altered in design and that is one of the following types: a turbojet

aircraft or an aircraft for which two pilots are required for operations under VFR

- When an operator applies for a class of operations not currently authorized by the operator's OpSpecs (For example, an operator may request to transition from supplemental passenger to domestic passenger operations, or from supplemental cargo to supplemental passenger operations.)

**1583. PART 121 APPLICANT PROVING TEST REQUIREMENTS.** Requirements for newly manufactured aircraft, aircraft new to the applicant, and materially altered aircraft are as follows:

*A. Newly Manufactured Aircraft.* FAR 121.163(a) requires at least 100 hours of proving tests (in addition to aircraft certification tests) before a new type of aircraft can initially be introduced into Part 121 operations. This requirement applies to either new aircraft manufactured in the U.S. or to any foreign-manufactured aircraft that has not been operated previously by a U.S. certificate holder.

*B. Aircraft New to the Applicant.* FAR 121.163(b) requires that at least 50 hours of proving tests be conducted by an applicant proposing to use a type of aircraft for the first time when that type of aircraft has been previously proven by another operator in Part 121 operations.

*C. Materially Altered Aircraft.* FAR 121.163(b) requires an applicant to conduct at least 50 hours of proving tests when the type of aircraft to be used has been materially altered in design. Examples of materially altering an aircraft design include the following:

- Installation of engines that are a different type from those originally installed on the aircraft for type certification (for example, reciprocating-powered engines to turbine-powered engines, or low by-pass jet engines to high by-pass jet engines)
- Any design alterations that significantly affect flight characteristics (Principal operations inspectors (POI) may contact AFS-510 for guidance, if necessary, at (703) 661-0333.)

*D. New Class of Operation.* FAR 121.163(b) requires an operator using an airplane that it has not previously demonstrated in that class to conduct 50 hours of proving tests. Classes of operations are defined as commercial, supplemental, domestic, and flag operations.

**NOTE: An operator authorized to conduct flag operations is also authorized to conduct domestic operations. An operator authorized to conduct flag and domestic operations is**

**automatically authorized to conduct supplemental operations (for more information, see volume 3, paragraph 63).**

*E. Nighttime Requirements.* In situations where applicants are required by FAR 121.163(a) to conduct 100 hours of aircraft proving tests, at least 10 of those proving test hours must be conducted at night. FAR 121.163(b) does not specifically require night flights in the 50-hour program. When the night-hour requirement is not specified in the FAR, this determination is left to the discretion of the test team.

**1585. PART 135 APPLICANT PROVING TEST REQUIREMENTS.** FAR 135.145 requires a minimum of 25 hours of proving tests (in addition to aircraft certification tests) to be conducted by an applicant when the applicant has not previously proven that aircraft or an aircraft of the same make and similar design in any operations under Part 135. In addition, FAR 135.145(a) requires at least 25 hours of proving tests when an aircraft used by the applicant has been significantly altered in design. Significant alterations in the design of an aircraft include the following:

- Installation of engines that are a different type than those originally installed on the aircraft for type certification (for example, reciprocating-powered engines to turbine-powered engines)
- Any design alterations that significantly affect flight characteristics (If necessary, POI's may contact AFS-510 at (703) 661-0333 for guidance.)

**NOTE: Nighttime proving flights are only required for those Part 135 applicants that will be authorized to conduct night operations. FAR 135.145(a) requires 5 hours of aircraft proving flights to be conducted at night. When the night-hour requirement is not specified in the FAR, this determination is left to the discretion of the test team.**

**1587. DEVIATIONS TO PROVING TEST REQUIREMENTS.** FAR 121.163 and 135.145 authorize the FAA to grant deviations to proving test requirements. The applicant must comply with all other proving test requirements. (See section 7 for further direction and guidance for processing requests from applicants concerning reductions in proving test hours.)

**1589. REPRESENTATIVE NUMBER OF FLIGHTS INTO AIRPORTS.** FAR 121.163 and FAR 135.145 require an applicant to conduct a representative number of proving flights into en route airports. These are airports which the applicant plans to use in scheduled operations or is likely to use in

non-scheduled operations. Representative airports must be within the applicant's proposed areas of en route operations. If an applicant plans to conduct overseas and/or international operations, the applicant must conduct proving flights into domestic, overseas, and/or international areas. A determination of what constitutes a representative airport or area of en route operation (and the number of representative airports and areas) must be made by the FAA test team. This determination should include a consideration of factors pertinent to the proposed type of operation. Some of these factors are the same as those considered when approving a reduction to the proving test hours. These considerations are discussed in section 7.

**1591. CARRIAGE OF PASSENGERS AND CARGO.**

Carriage of revenue passengers on proving flights is prohibited by FAR 121.163(e) and 135.145(b). The carriage of revenue cargo should be approved for any applicant that has appropriate Department of Transportation (DOT) economic authority to carry revenue cargo. Applicants seeking FAA certification that do not have appropriate DOT economic authority are not permitted to carry revenue cargo; however, the carriage of company or simulated cargo should be encouraged. It is FAA policy to encourage the carriage of cargo on representative en route proving flights, when possible. The carriage of cargo allows for a more comprehensive test of the applicant's capabilities.

**1593. CREW QUALIFICATIONS FOR PROVING TESTS.** Training flights may be credited

towards proving test requirements, provided crewmembers are undergoing training according to the applicant's initially approved flight training curriculum. Ferry flights may be credited towards proving tests, provided crewmembers and initial cadre check airmen have completed applicable proficiency, competency, and type-rating checks. Line checks and operating experience (OE) may be accomplished on proving flights.

**1595. WITHDRAWN--CHG 8.**

**1597. PROVISIONALLY CERTIFICATED AIRCRAFT.**

Provisionally certificated aircraft are aircraft in the process of receiving either a type certificate or an amendment to an existing type certification. The use of provisionally certificated aircraft involves extensive coordination between the Regional Flight Standards Division (RFSD) involved, FAA Headquarters in Washington, D.C., and the appropriate certification directorate. Each proposal is uniquely processed and is beyond the scope of this handbook. Each inspector approached by a manufacturer or applicant for approval to use a provisionally certificated aircraft during proving flights shall forward the request to the Flight Standards National Field Office (FSNFO) through the RFSD.

**NOTE: Part 135 does not contain an authorization to use provisionally certificated aircraft for proving flights.**

**1598.-1602. RESERVED.**

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