

(d) Allow the FAA to make any inspection or test, including any inspection or test at a supplier facility, necessary to determine compliance with this subchapter;

(e) Mark the product in accordance with part 45 of this chapter, including any critical parts;

(f) Identify any portion of that product (*e.g.*, sub-assemblies, component parts, or replacement articles) that leave the manufacturer's facility as FAA approved with the manufacturer's part number and name, trademark, symbol, or other FAA-approved manufacturer's identification; and

(g) Except as otherwise authorized by the FAA, obtain a production certificate for that product in accordance with subpart G of this part within 6 months after the date of issuance of the type certificate.

[Doc. No. FAA-2006-25877, Amdt. 21-92, 74 FR 53387, Oct. 16, 2009]

§ 21.125 [Reserved]

§ 21.127 Tests: aircraft.

(a) Each person manufacturing aircraft under a type certificate must establish an approved production flight test procedure and flight check-off form, and in accordance with that form, flight test each aircraft produced.

(b) Each production flight test procedure must include the following:

(1) An operational check of the trim, controllability, or other flight characteristics to establish that the production aircraft has the same range and degree of control as the prototype aircraft.

(2) An operational check of each part or system operated by the crew while in flight to establish that, during flight, instrument readings are within normal range.

(3) A determination that all instruments are properly marked, and that all placards and required flight manuals are installed after flight test.

(4) A check of the operational characteristics of the aircraft on the ground.

(5) A check on any other items peculiar to the aircraft being tested that can best be done during the ground or flight operation of the aircraft.

§ 21.128 Tests: aircraft engines.

(a) Each person manufacturing aircraft engines under a type certificate must subject each engine (except rocket engines for which the manufacturer must establish a sampling technique) to an acceptable test run that includes the following:

(1) Break-in runs that include a determination of fuel and oil consumption and a determination of power characteristics at rated maximum continuous power or thrust and, if applicable, at rated takeoff power or thrust.

(2) At least five hours of operation at rated maximum continuous power or thrust. For engines having a rated takeoff power or thrust higher than rated maximum continuous power or thrust, the five-hour run must include 30 minutes at rated takeoff power or thrust.

(b) The test runs required by paragraph (a) of this section may be made with the engine appropriately mounted and using current types of power and thrust measuring equipment.

[Doc. No. 5085, 29 FR 14568, Oct. 24, 1964, as amended by Amdt. 21-5, 32 FR 3735, Mar. 4, 1967]

§ 21.129 Tests: propellers.

Each person manufacturing propellers under a type certificate must give each variable pitch propeller an acceptable functional test to determine if it operates properly throughout the normal range of operation.

§ 21.130 Statement of conformity.

Each holder or licensee of a type certificate who manufactures a product under this subpart must provide, in a form and manner acceptable to the FAA, a statement that the product for which the type certificate has been issued conforms to its type certificate and is in a condition for safe operation.

[Doc. No. FAA-2006-25877, Amdt. 21-92, 74 FR 53387, Oct. 16, 2009]

Subpart G—Production Certificates

SOURCE: Docket No. FAA-2006-25877, Amdt. 21-92, 74 FR 53387, Oct. 16, 2009, unless otherwise noted.

§ 21.131

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§ 21.131 Applicability.

This subpart prescribes—

- (a) Procedural requirements for issuing production certificates; and
- (b) Rules governing holders of those certificates.

§ 21.132 Eligibility.

Any person may apply for a production certificate if that person holds, for the product concerned—

- (a) A current type certificate,
- (b) A supplemental type certificate, or
- (c) Rights to the benefits of that type certificate or supplemental type certificate under a licensing agreement.

§ 21.133 Application.

Each applicant must apply for a production certificate in a form and manner prescribed by the FAA.

§ 21.135 Organization.

Each applicant for or holder of a production certificate must provide the FAA with a document describing how its organization will ensure compliance with the provisions of this subpart. At a minimum, the document must describe assigned responsibilities and delegated authority, and the functional relationship of those responsible for quality to management and other organizational components.

§ 21.137 Quality system.

Each applicant for or holder of a production certificate must establish and describe in writing a quality system that ensures that each product and article conforms to its approved design and is in a condition for safe operation. This quality system must include:

- (a) *Design data control.* Procedures for controlling design data and subsequent changes to ensure that only current, correct, and approved data is used.
- (b) *Document control.* Procedures for controlling quality system documents and data and subsequent changes to ensure that only current, correct, and approved documents and data are used.
- (c) *Supplier control.* Procedures that—
 - (1) Ensure that each supplier-furnished product or article conforms to its approved design; and

- (2) Require each supplier to report to the production approval holder if a product or article has been released from that supplier and subsequently found not to conform to the applicable design data.

- (d) *Manufacturing process control.* Procedures for controlling manufacturing processes to ensure that each product and article conforms to its approved design.

- (e) *Inspecting and testing.* Procedures for inspections and tests used to ensure that each product and article conforms to its approved design. These procedures must include the following, as applicable:

- (1) A flight test of each aircraft produced unless that aircraft will be exported as an unassembled aircraft.

- (2) A functional test of each aircraft engine and each propeller produced.

- (f) *Inspection, measuring, and test equipment control.* Procedures to ensure calibration and control of all inspection, measuring, and test equipment used in determining conformity of each product and article to its approved design. Each calibration standard must be traceable to a standard acceptable to the FAA.

- (g) *Inspection and test status.* Procedures for documenting the inspection and test status of products and articles supplied or manufactured to the approved design.

- (h) *Nonconforming product and article control.* (1) Procedures to ensure that only products or articles that conform to their approved design are installed on a type-certificated product. These procedures must provide for the identification, documentation, evaluation, segregation, and disposition of nonconforming products and articles. Only authorized individuals may make disposition determinations.

- (2) Procedures to ensure that discarded articles are rendered unusable.

- (i) *Corrective and preventive actions.* Procedures for implementing corrective and preventive actions to eliminate the causes of an actual or potential nonconformity to the approved design or noncompliance with the approved quality system.

- (j) *Handling and storage.* Procedures to prevent damage and deterioration of

each product and article during handling, storage, preservation, and packaging.

(k) *Control of quality records.* Procedures for identifying, storing, protecting, retrieving, and retaining quality records. A production approval holder must retain these records for at least 5 years for the products and articles manufactured under the approval and at least 10 years for critical components identified under §45.15(c) of this chapter.

(l) *Internal audits.* Procedures for planning, conducting, and documenting internal audits to ensure compliance with the approved quality system. The procedures must include reporting results of internal audits to the manager responsible for implementing corrective and preventive actions.

(m) *In-service feedback.* Procedures for receiving and processing feedback on in-service failures, malfunctions, and defects. These procedures must include a process for assisting the design approval holder to—

(1) Address any in-service problem involving design changes; and

(2) Determine if any changes to the Instructions for Continued Airworthiness are necessary.

(n) *Quality escapes.* Procedures for identifying, analyzing, and initiating appropriate corrective action for products or articles that have been released from the quality system and that do not conform to the applicable design data or quality system requirements.

§ 21.138 Quality manual.

Each applicant for or holder of a production certificate must provide a manual describing its quality system to the FAA for approval. The manual must be in the English language and retrievable in a form acceptable to the FAA.

§ 21.139 Location of or change to manufacturing facilities.

(a) An applicant may obtain a production certificate for manufacturing facilities located outside of the United States if the FAA finds no undue burden in administering the applicable requirements of Title 49 U.S.C. and this subchapter.

(b) The production certificate holder must obtain FAA approval before making any changes to the location of any of its manufacturing facilities.

(c) The production certificate holder must immediately notify the FAA, in writing, of any change to the manufacturing facilities that may affect the inspection, conformity, or airworthiness of its product or article.

§ 21.140 Inspections and tests.

Each applicant for or holder of a production certificate must allow the FAA to inspect its quality system, facilities, technical data, and any manufactured products or articles and witness any tests, including any inspections or tests at a supplier facility, necessary to determine compliance with this subchapter.

§ 21.141 Issuance.

The FAA issues a production certificate after finding that the applicant complies with the requirements of this subpart.

§ 21.142 Production limitation record.

The FAA issues a production limitation record as part of a production certificate. The record lists the type certificate number and the model of every product that the production certificate holder is authorized to manufacture.

§ 21.143 Duration.

A production certificate is effective until surrendered, suspended, revoked, or the FAA otherwise establishes a termination date.

§ 21.144 Transferability.

The holder of a production certificate may not transfer the production certificate.

§ 21.145 Privileges.

(a) The holder of a production certificate may—

(1) Obtain an aircraft airworthiness certificate without further showing, except that the FAA may inspect the aircraft for conformity with the type design; or

(2) In the case of other products, obtain approval from the FAA for installation on type-certificated aircraft.

§21.146

(b) Notwithstanding the provisions of §147.3 of this chapter, the holder of a production certificate for a primary category aircraft, or for a normal, utility, or acrobatic category aircraft of a type design that is eligible for a special airworthiness certificate in the primary category under §21.184(c), may—

(1) Conduct training for persons in the performance of a special inspection and preventive maintenance program approved as a part of the aircraft's type design under §21.24(b), provided a person holding a mechanic certificate with appropriate airframe and powerplant ratings issued under part 65 of this chapter gives the training; and

(2) Issue a certificate of competency to persons successfully completing the approved training program, provided the certificate specifies the aircraft make and model to which the certificate applies.

§21.146 Responsibility of holder.

The holder of a production certificate must—

(a) Amend the document required by §21.135 as necessary to reflect changes in the organization and provide these amendments to the FAA.

(b) Maintain the quality system in compliance with the data and procedures approved for the production certificate;

(c) Ensure that each completed product or article for which a production certificate has been issued, including primary category aircraft assembled under a production certificate by another person from a kit provided by the holder of the production certificate, presented for airworthiness certification or approval conforms to its approved design and is in a condition for safe operation;

(d) Mark the product or article for which a certificate or approval has been issued. Marking must be in accordance with part 45 of this chapter, including any critical parts;

(e) Identify any portion of the product or article (e.g., sub-assemblies, component parts, or replacement articles) that leave the manufacturer's facility as FAA approved with the manufacturer's part number and name, trademark, symbol, or other FAA approved manufacturer's identification;

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(f) Have access to type design data necessary to determine conformity and airworthiness for each product and article produced under the production certificate;

(g) Retain its production certificate and make it available to the FAA upon request; and

(h) Make available to the FAA information regarding all delegation of authority to suppliers.

§21.147 Amendment of production certificates.

The holder of a production certificate must apply for an amendment to a production certificate in a form and manner prescribed by the FAA. The applicant for an amendment to a production certificate to add a type certificate or model, or both, must comply with the applicable requirements of §§21.137, 21.138, and 21.150.

§21.150 Changes in quality system.

After the issuance of a production certificate—

(a) Each change to the quality system is subject to review by the FAA; and

(b) The holder of a production certificate must immediately notify the FAA, in writing, of any change that may affect the inspection, conformity, or airworthiness of its product or article.

Subpart H—Airworthiness Certificates

SOURCE: Docket No. 5085, 29 FR 14569, Oct. 24, 1964, unless otherwise noted.

§21.171 Applicability.

This subpart prescribes procedural requirements for the issue of airworthiness certificates.

§21.173 Eligibility.

Any registered owner of a U.S.-registered aircraft (or the agent of the owner) may apply for an airworthiness certificate for that aircraft. An application for an airworthiness certificate must be made in a form and manner acceptable to the FAA, and may be submitted to any FAA office.

[Amdt. 21–26, 34 FR 15244, Sept. 30, 1969]