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.


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.


Subpart G—Production Certificates


§ 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.


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