



# Advisory Circular

**Subject:** Installation of Used Aircraft Engines in New Production Aircraft

**Date:** 01/29/2010

**AC No:** 21-19B

**Initiated by:** AIR-200

**1. Purpose.** This advisory circular (AC) provides information about Title 14, Code of Federal Regulations (14 CFR), part 21, Certification Procedures for Products, Articles, and Parts. This AC describes the conditions in which used aircraft engines may be installed in new production aircraft. This AC is not mandatory and does not constitute a regulation. This AC describes an acceptable means, but not the only means, to comply with these requirements. However, if you use the means described in the AC, you must follow it in all important respects.

**2. Audience.** This AC affects manufacturers producing aircraft under a type certificate (TC) or production certificate (PC).

**3. Effective Date.** This AC is effective April 14, 2010.

**4. Explanation of Changes.** This revision updates regulatory references to reflect changes to part 21, and deletes references to newly overhauled and newly rebuilt.

**5. Cancellation.** This AC cancels, as of its effective date, AC 21-19A, dated July 2, 2003.

**6. Definitions.**

**a. Aircraft engine.** An engine used or intended to be used for propelling aircraft. It includes turbosuperchargers, appurtenances, and accessories necessary for its functioning, but does not include propellers. Refer to part 1, Definitions and Abbreviations.

**b. New production aircraft.** A new aircraft manufactured under a TC or PC.

**c. Rebuilt engine.** A used engine that has been completely disassembled, inspected, repaired as necessary, reassembled, tested, and approved in the same manner and to the same tolerances and limits as a new engine with either new or used parts. However, all parts used in it must conform to the production drawing tolerances and limits for new parts or be of approved oversized or undersized dimensions for a new engine. Refer to part 91, § 91.421, Rebuilt engine maintenance records.

**d. Used aircraft engine.** An aircraft engine that has accumulated time in service, including a rebuilt engine.

## **7. Related Publications.**

**a.** 14 CFR Part 1, Definitions and Abbreviations.

**b.** 14 CFR Part 21, Certification Procedures for Products, Articles, and Parts.

**c.** 14 CFR Part 39, Airworthiness Directives.

**d.** 14 CFR Part 43, Maintenance, Preventive Maintenance, Rebuilding, and Alteration.

**e.** 14 CFR Part 91, General Operating and Flight Rules.

**f.** 14 CFR Part 121, Operating Requirements: Domestic, Flag, and Supplemental Operations.

**g.** 14 CFR Part 135, Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons on Board Such Aircraft.

**h.** AC 43-9, Maintenance Records.

**8. Discussion.** Below is guidance for the following situations:

**a. If you are installing a used aircraft engine.**

**(1)** Include procedures on the installation of used aircraft engines in your quality system established in accordance with part 21, subpart G, Production Certificates. For aircraft produced under a type certificate, maintain information, records, and data necessary to verify proper installation of the engine.

**(2)** Verify the configuration of the used aircraft engine being installed, and that the engine is listed on the type certificate data sheet for the aircraft.

**(3)** Ensure that all ancillary installations that relate to the operation of the engine, and that are not part of the engine, conform to the type design for the aircraft and are in condition for safe operation. Such installations, if used, must have been maintained in accordance with part 43.

**(4)** Verify that the aircraft with a used aircraft engine installed meets the production flight test parameters established in the type design and the approved production flight test procedures. If any of the production flight test parameters cannot be met because of the condition of a used aircraft engine, the aircraft is not eligible for a standard airworthiness certificate. The engine should be repaired or replaced with one that enables the aircraft to meet all flight test requirements applicable to a new production aircraft.

(5) Ensure that the maintenance records for the used aircraft engine and, if applicable, the ancillary installations comply with § 91.417, Maintenance records, or part 121 or part 135, and satisfy the requirements of the applicable Instructions for Continued Airworthiness. Provide these records to the buyer of the aircraft, unless the buyer has furnished the engine for that aircraft. Information concerning maintenance records, including procedures to be used when records have been lost or destroyed, are in AC 43-9.

(6) Ensure that all applicable airworthiness directive and service bulletin information is incorporated in the maintenance records. Also, verify the incorporation of all applicable airworthiness directives affecting the used aircraft engine in accordance with part 39.

**b. If the type design of the aircraft calls out an aircraft engine no longer in production.** Used aircraft engines may be purchased to meet production needs. You should also follow the guidance provided in paragraph 8a above.

**c. If you are furnished with a used aircraft engine by the buyer of a new production aircraft for use in that aircraft.** You may install that engine and you should also follow the guidance provided in paragraph 8a above.

**d. If there is an agreement with the buyer to furnish a new aircraft with a used aircraft engine until a new engine becomes available.** You may install that engine and you should also follow the guidance provided in paragraph 8a above.

**9. Where to Find This AC.** You can find this AC at [http://www.faa.gov/regulations\\_policies/advisory\\_circulars/](http://www.faa.gov/regulations_policies/advisory_circulars/).

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