

[Federal Register: December 14, 2006 (Volume 71, Number 240)]
[Rules and Regulations]
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[DOCID:fr14de06-3]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2006-26414; Directorate Identifier 2006-NE-42-AD; Amendment 39-14854; AD 2006-25-13]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce Corporation AE 2100D3 Turboprop Engines

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for Rolls-Royce Corporation (RRC) AE 2100D3 turboprop engines. This AD requires removing certain part number (P/N) compressor cone shaft assemblies at a new reduced cyclic life limit of 5,000 engine cycles. This AD results from low-cycle-fatigue testing and analysis of certain P/N compressor cone shaft assemblies, by RRC. We are issuing this AD to prevent uncontained failure of the compressor cone shaft assembly, leading to engine shutdown and damage to the airplane.

DATES: This AD becomes effective December 29, 2006.

We must receive any comments on this AD by February 12, 2007.

ADDRESSES: Use one of the following addresses to comment on this AD:

- DOT Docket Web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.
- Governmentwide rulemaking Web site: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-0001.
- Fax: (202) 493-2251.
- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
Contact Rolls-Royce Corporation, P.O. Box 420, Indianapolis, IN 46206-0420; telephone (317) 230-6400; fax (317) 230-4243 for the service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Michael Downs, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, 2300 East Devon Avenue, Des Plaines, IL 60018-4696; telephone (847) 294-7870; fax (847) 294-7834.

SUPPLEMENTARY INFORMATION: RRC conducted low-cycle-fatigue testing, and strength and life analysis, of compressor cone shaft assemblies, P/Ns 23050728, 23070729, and 23076017. The study concluded that these compressor cone shaft assemblies have a lower fatigue life than originally calculated. This condition, if not corrected, could result in uncontained failure of the compressor cone shaft assembly, leading to engine shutdown and damage to the airplane.

FAA's Determination and Requirements of This AD

Although no airplanes that are registered in the United States use these RRC AE 2100D3 turboprop engines, the possibility exists that the engines could be used on airplanes that are registered in the United States in the future. The unsafe condition described previously is likely to exist or develop on other AE 2100D3 turboprop engines of the same type design. We are issuing this AD to prevent uncontained failure of the compressor cone shaft assembly, leading to engine shutdown and damage to the airplane. This AD requires removing compressor cone shaft assemblies, P/Ns 23050728, 23070729, and 23076017, at a new reduced cyclic life limit of 5,000 engine cycles. The original cyclic life limit was 20,000 engine cycles. RRC will revise Chapter 5 of the maintenance manual to show the new reduced cyclic life limit of 5,000 engine cycles.

FAA's Determination of the Effective Date

Since there are currently no domestic operators of this engine model, notice and opportunity for public comment before issuing this AD are unnecessary. A situation exists that allows the immediate adoption of this regulation.

Comments Invited

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to send us any written relevant data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "AD Docket No. FAA-2006-26414; Directorate Identifier 2006-NE-42-AD" in the subject line of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify it.

We will post all comments we receive, without change, to <http://dms.dot.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of the DMS Web site, anyone can find and read the comments in any of our dockets, including the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78) or you may visit <http://dms.dot.gov>.

Examining the AD Docket

You may examine the docket that contains the AD, any comments received, and any final disposition in person at the Docket Management Facility Docket Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone (800) 647-5227) is located on the plaza level of the Department of Transportation Nassif Building at the street address

stated in ADDRESSES. Comments will be available in the AD docket shortly after the DMS receives them.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary at the address listed under ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

Under the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:



2006-25-13 Rolls-Royce Corporation (formerly Allison Engine Company, Allison Gas Turbine Division, and Detroit Diesel Allison): Amendment 39-14854. Docket No. FAA-2006-26414; Directorate Identifier 2006-NE-42-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective December 29, 2006.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Rolls-Royce Corporation (RRC) AE 2100D3 turboprop engines with a compressor cone shaft assembly, part number 23050728, 23070729, or 23076017, installed. These engines are installed on, but not limited to, Lockheed Martin C-130J military transport airplanes.

Unsafe Condition

(d) This AD results from low-cycle-fatigue testing and analysis of the affected compressor cone shaft assemblies, by RRC. We are issuing this AD to prevent uncontained failure of the compressor cone shaft assembly, leading to engine shutdown and damage to the airplane.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

Removal of Compressor Cone Shaft Assemblies

(f) After the effective date of this AD, remove compressor cone shaft assemblies from service at the new reduced life limit of 5,000 engine cycles.

Alternative Methods of Compliance

(g) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

Related Information

(h) Rolls-Royce Corporation Alert Service Bulletin No. AE 2100D3-A-72-249, dated March 14, 2006, pertains to the subject of this AD.

Material Incorporated by Reference

(i) None.

Issued in Burlington, Massachusetts, on December 6, 2006.

Diane Cook,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. E6-21185 Filed 12-13-06; 8:45 am]