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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0342; Directorate Identifier 2013-NE-14-AD; Amendment 39-17750; AD 2014-03-16]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce Deutschland Ltd & Co. KG Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for all Rolls-Royce Deutschland Ltd & Co. KG (RRD) Tay 620-15, 650-15, and 651-54 turbofan engines. This AD requires replacement of low-pressure compressor (LPC) fan blades. This AD was prompted by the discovery that the LPC fan blades leading edges erode in service and create an unacceptable blade flutter margin. We are issuing this AD to prevent LPC fan blade failure, damage to the engine, and damage to the airplane.

DATES: This AD becomes effective March 18, 2014.

ADDRESSES: The Docket Operations office is located at Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2013-0342; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the mandatory continuing airworthiness information (MCAI), the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (phone: 800-647-5527) is provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Anthony W. Cerra, Jr., Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7128; fax: 781-238-7199; email: anthony.cerra@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to the specified products. The NPRM was published in the Federal Register on September 26, 2013 (78 FR 59291). The NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Service history of Tay series engines discovered that low pressure compressor (LPC) fan blade leading edge is exposed to excessive deterioration. The LPC fan blade leading edge profile influences the LPC aerodynamic characteristics and stability. This condition, if not corrected, could reduce fan flutter margin and, in some cases, could lead to fan blade failure, possibly resulting in uncontained release of high energy debris with consequent damage to, and/or reduced control of, the aeroplane.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2013-0342-0002>.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comment received. The commenter supports the NPRM (78 FR 59291, September 26, 2013).

Conclusion

We reviewed the available data, including the comment received, and determined that air safety and the public interest require adopting the AD as proposed.

Costs of Compliance

We estimate that this AD will affect about 52 engines of U.S. registry. We also estimate that it will take about six hours per product to comply with this AD. The average labor rate is \$85 per hour. Required parts will cost about \$11,000 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$598,520.

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 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 this AD:

- (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),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) 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 regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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 (AD):



2014-03-16 Rolls-Royce Deutschland Ltd & Co. KG (formerly Rolls-Royce plc): Amendment 39-17750; Docket No. FAA-2013-0342; Directorate Identifier 2013-NE-14-AD.

(a) Effective Date

This AD becomes effective March 18, 2014.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Rolls-Royce Deutschland Ltd & Co. KG (RRD) Tay 620-15, 650-15, and 651-54 turbofan engines.

(d) Reason

This AD was prompted by the discovery that the low-pressure compressor (LPC) fan blade leading edges erode in service and create an unacceptable blade flutter margin. We are issuing this AD to prevent LPC fan blade failure, damage to the engine, and damage to the airplane.

(e) Actions and Compliance

Unless already done, do the following actions:

(1) For Tay 620-15 engines, replace the complete set of LPC fan blades with a set eligible for installation as follows:

(i) If on the effective date of this AD, the LPC fan blades:

(A) Have less than 10,000 flight cycles since new (FCSN) or flight cycles since last repair (FCSLR), replace the blades before accumulating 12,000 FCSN or FCSLR.

(B) Have 10,000 or more FCSN or FCSLR, replace the blades within 2,000 flight cycles (FC).

(ii) Thereafter, replace the LPC fan blades within 12,000 FCSN or FCSLR.

(2) For Tay 650-15 and Tay 651-54 engines, replace the complete set of LPC fan blades with a set eligible for installation as follows:

(i) If on the effective date of this AD, the LPC fan blades:

(A) Have less than 8,000 FCSN or FCSLR, replace the blades before accumulating 10,000 FCSN or FCSLR.

(B) Have 8,000 or more FCSN or FCSLR, replace the fan blades within 2,000 FC.

(ii) Thereafter, replace the LPC fan blades within 10,000 FCSN or FCSLR.

(f) Definitions

(1) For the purpose of this AD, a repair is one that was performed in accordance with RRD Alert Non-Modification Service Bulletin (NMSB) No. Tay-72-A1782, Revision 2, dated May 30, 2013, or earlier versions of this Alert NMSB.

(2) LPC fan blades eligible for installation are:

(i) For Tay 620-15 engines, LPC fan blades with less than 12,000 FCSN or FCCLR; and

(ii) For Tay 650-15 and Tay 651-54 engines, LPC fan blades with less than 10,000 FCSN or FCCLR.

(g) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs to this AD. Use the procedures found in 14 CFR 39.19 to make your request.

(h) Related Information

(1) For more information about this AD, contact Anthony W. Cerra, Jr., Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7128; fax: 781-238-7199; email: anthony.cerra@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2013-0143, dated July 12, 2013, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2013-0342-0002>.

(3) RRD Alert NMSB No. Tay-72-A1782, Revision 2, dated May 30, 2013, pertains to the subject of this AD and can be obtained from RRD, using the contact information in paragraph (h)(4) of this AD.

(4) For service information identified in this AD, contact Rolls-Royce Deutschland Ltd & Co. KG, Eschenweg 11, Dahlewitz, 15827 Blankenfelde-Mahlow, Germany; phone: 49 0 33-7086-1200 (direct 1016); fax: 49 0 33-7086-1212.

(5) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

(i) Material Incorporated by Reference

None.

Issued in Burlington, Massachusetts, on January 30, 2014.

Colleen M. D'Alessandro,

Assistant Directorate Manager, Engine & Propeller Directorate,
Aircraft Certification Service.