



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-0994; Directorate Identifier 2009-NE-39-AD; Amendment 39-16934; AD 2012-02-11]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc (RR) RB211-535 Series Turbofan Engine

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding an existing airworthiness directive (AD) for all RR RB211-535E4-37, -535E4-B-37, -535E4-B-75, and -535E4-C-37 turbofan engines. That AD currently requires performing initial and repetitive visual and fluorescent penetrant inspections (FPI) of the low-pressure (LP) turbine stage 1, 2, and 3 discs to detect cracks in the discs. This new AD continues to require those inspections and changes the definition of a shop visit to be less restrictive. This AD was prompted by our finding that the definition of shop visit in the existing AD was too restrictive. We are issuing this AD to revise the definition of shop visit and to detect cracks in the LP turbine stage 1, 2, and 3 discs, which could result in an uncontained release of LP turbine blades and damage to the airplane.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this AD, contact Rolls-Royce plc, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; phone: 011 44 1332 242424, fax: 011 44 1332 249936; or e-mail: http://www.rolls-royce.com/contact/civil_team.jsp, or download the publication from <https://www.aeromanager.com>. You may review copies of

the referenced service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Alan Strom, Aerospace Engineer, Engine Certification Office, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7143; fax: 781-238-7199; e-mail: alan.strom@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2011-11-08, amendment 39-16707 (76 FR 30529, May 26, 2011). That AD applies to the specified products. The NPRM was published in the Federal Register on October 25, 2011 (76 FR 65997). That NPRM proposed to continue to require performing an initial FPI on the LP turbine stage 1, 2, and 3 discs at the next engine shop inspection after the effective date of that AD. That NPRM also continued to require repetitive inspections at each engine shop visit after accumulating 1,500 cycles since last inspection of the LP turbine stage 1, 2, and 3 discs. That NPRM also proposed to change the definition of a shop visit to be less restrictive.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (76 FR 65997, October 25, 2011) or on the determination of the cost to the public.

Conclusion

We reviewed the relevant data and determined that air safety and the public interest require adopting the AD as proposed.

Costs of Compliance

We estimate that this AD affects about 588 RB211-535 series turbofan engines installed on airplanes of U.S. registry. We also estimate that it will take about 30 work-hours per product to comply with this AD. The average labor rate is \$85 per work-hour. No parts are required. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$1,499,400.

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 this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, 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.

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 removing airworthiness directive (AD) 2011-11-08, Amendment 39-16707 (76 FR 30529, May 26, 2011, and adding the following new AD:

2012-02-11 **Rolls-Royce plc**: Amendment 39-16934; Docket No. FAA-2009-0994; Directorate Identifier 2009-NE-39-AD.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD supersedes AD 2011-11-08, Amendment 39-16707 (76 FR 30529, May 26, 2011).

(c) Applicability

This AD applies to Rolls-Royce plc RB211-535E4-37, -535E4-B-37, -535E4-B-75, and -535E4-C-37 turbofan engines.

(d) Unsafe Condition

This AD was prompted by our determination that the definition of “shop visit” in the existing AD is too restrictive, in that it would require operators to inspect more often than required to ensure safety. We are issuing this AD to revise the definition of shop visit and to detect cracks in the low-pressure (LP) turbine stage 1, 2, and 3 discs, which could result in an uncontained release of LP turbine blades and damage to the airplane.

(e) Compliance

Comply with this AD within the compliance times specified, unless already done.

(1) Initial Inspection Requirements

At the next engine shop visit after the effective date of this AD, perform a visual and a fluorescent penetrant inspection of the LP turbine stage 1, 2, and 3 discs.

(2) Repeat Inspection Requirements

At each engine shop visit after accumulating 1,500 cycles since the last inspection of the LP turbine stage 1, 2 and 3 discs, repeat the inspections specified in paragraph (e)(1) of this AD.

(3) Remove Cracked Discs

If you find cracks, remove the disc from service.

(f) Definitions

For the purpose of this AD, an “engine shop visit” is induction of an engine into the shop for any purpose where:

- (1) All the blades are removed from the high-pressure (HP) compressor discs and the HP turbine disc, or
- (2) All the blades are removed from the intermediate pressure turbine disc.

(g) Alternative Methods of Compliance (AMOCs)

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

(h) Related Information

(1) Contact Alan Strom, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7143; fax: 781-238-7199; e-mail: alan.strom@faa.gov, for more information about this AD.

(2) Refer to MCAI European Aviation Safety Agency Airworthiness Directive 2009-0244, dated November 9, 2009, and Rolls-Royce plc Alert Service Bulletin No. RB.211-72-AG272 for related information. Contact Rolls-Royce plc, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; phone: 011 44 1332 242424, fax: 011 44 1332 249936; or e-mail: http://www.rollsroyce.com/contact/civil_team.jsp, for a copy of this service information or download the publication from <https://www.aeromanager.com>.

(i) Material Incorporated by Reference

None.

Issued in Burlington, Massachusetts on January 25, 2012.

Peter A. White,
Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

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