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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0755; Directorate Identifier 2010-NE-12-AD; Amendment 39-16956; AD 2012-04-01]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc (RR) RB211-Trent 800 Series Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding an existing airworthiness directive (AD) for all RR RB211-Trent 800 series turbofan engines. That AD currently requires removal from service of certain critical engine parts based on reduced life limits. This new AD reduces the life limits of additional critical engine parts. This AD was prompted by RR reducing the life limits of additional critical engine parts. We are issuing this AD to prevent the failure of critical rotating parts, which could result in uncontained failure of the engine and damage to the airplane.

DATES: This AD is effective March 28, 2012.

ADDRESSES: For service information identified in this AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE248BJ; phone: 011-44-1332-242424; fax: 011-44-1332-245418 or email from 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. 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, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7143; fax: 781-238-7199; email: alan.strom@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 to supersede airworthiness directive (AD) 2003-16-18, amendment 39-13271 (68 FR 49344, August 18, 2003). That AD applies to the specified products. That SNPRM published in the Federal Register on November 7, 2011 (76 FR 68663). The original NPRM (75 FR 45560, August 3, 2010) proposed to revise the Trent 800 Time limits Manual (TLM) of the Trent 800 engine maintenance manuals (EMMs). The SNPRM proposed to prohibit installation of one certain critical part and to increase the life of another critical part whose lives were previously reduced by that existing AD.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the SNPRM (76 FR 68663, November 7, 2011).

Conclusion

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

Costs of Compliance

Based on the service information, we estimate that this AD affects about 16 RB211-Trent 800 series turbofan engines of U.S. registry. The average labor rate is \$85 per work-hour, but no labor cost is associated with this AD because discs are replaced at scheduled maintenance intervals. Prorated cost of parts cost about \$45,000 per engine. Based on these figures, we estimate the cost of the AD on U.S. operators to be \$720,000.

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

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) 2003-16-18, Amendment 39-13271 (68 FR 49344, August 18, 2003) and adding the following new AD:



2012-04-01 Rolls-Royce plc: Amendment 39-16956; Docket No. FAA-2010-0755; Directorate Identifier 2010-NE-12-AD.

(a) Effective Date

This AD is effective March 28, 2012.

(b) Affected ADs

This AD supersedes AD 2003-16-18, Amendment 39-13271 (68 FR 49344, August 18, 2003).

(c) Applicability

This AD applies to Rolls-Royce plc (RR) RB211-Trent 895-17, 892-17, 892B-17, 884-17, 884B-17, 877-17, and 875-17 turbofan engines.

(d) Unsafe Condition

This AD was prompted by RR reporting changes to the lives of certain life-limited rotating parts. We are issuing this AD to prevent the failure of critical rotating parts, which could result in uncontained failure of the engine and damage to the airplane.

(e) Actions and Compliance

Compliance is required within 30 days after the effective date of this AD, unless already done.

(1) After the effective date of this AD, remove from service the parts listed in Table 1 of this AD before exceeding the new life limit indicated:

Table 1–Reduced Part Lives

Part nomenclature	Part No. (P/N)	Life in standard duty cycles	Life in cycles using the HEAVY profile
(i) Intermediate-pressure (IP) Compressor Rotor Shaft	FK24100	8,140	8,140
(ii) IP Compressor Rotor Shaft	FK24496	8,860	8,180
(iii) High-pressure (HP) Compressor Stage 1 to 4 Rotor Discs Shaft	FK24009	4,560	4,460
(iv) HP Compressor Stage 1 to 4 Rotor Discs Shaft	FK26167	6,340	6,000
(v) HP Compressor Stage 1 to 4 Rotor Discs Shaft	FK32580	8,550	6,850

(vi) HP Compressor Stage 1 to 4 Rotor Discs Shaft	FW11590	8,550	6,850
(vii) HP Compressor Stage 1 to 4 Rotor Discs Shaft	FW61622	8,550	6,850
(viii) HP Compressor Stage 5 and 6 Discs and Cone	FK25230	5,000	5,000
(ix) HP Compressor Stage 5 and 6 Discs and Cone	FK27899	5,000	5,000
(x) IP Turbine Rotor Disc	FK21117	11,610	10,400
(xi) IP Turbine Rotor Disc	FK33083	0	0

(f) Installation Prohibition

After the effective date of this AD, do not install any IP turbine rotor discs, P/N FK33083, into any engine.

(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) You may find additional information on calculating Standard Duty Cycles and/or using HEAVY Profile Cycles, in RR Time Limits Manual 05-00-01-800-801, Recording and Control of the Lives of Parts.

(2) For more information about this AD, 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; email: alan.strom@faa.gov.

(3) Refer to European Aviation Safety Agency Airworthiness Directive 2007-0003R1, dated January 15, 2009, and RR Alert Service Bulletin No. RB.211-72-AE935, Revision 7, dated January 19, 2009, for related information.

(4) For service information identified in this AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; phone: 011-44-1332-242424; fax: 011-44-1332-249936; email from http://www.rolls-royce.com/contact/civil_team.jsp; or Web: <https://www.aeromanager.com>.

(i) Material Incorporated by Reference

None.

Issued in Burlington, Massachusetts, on February 10, 2012.
Peter A. White,
Manager, Engine & Propeller Directorate,
Aircraft Certification Service.