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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0953; Directorate Identifier 2013-NE-32-AD; Amendment 39-17877; AD 2014-13-02]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Rolls-Royce plc (RR) RB211-Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, and 895-17 turbofan engines. This AD requires inspection of the affected low-pressure (LP) turbine bearing support and exhaust case assembly and, if necessary, its replacement with a part eligible for installation. This AD was prompted by thin-walled LP turbine bearing support and exhaust case assemblies having been delivered into service. We are issuing this AD to prevent failure of the LP turbine bearing support and exhaust case assembly, which could lead to engine separation and damage to the airplane.

DATES: This AD becomes effective August 5, 2014.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of August 5, 2014.

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: 011-44-1332-249936; email: http://www.rolls-royce.com/contact/civil_team.jsp; Internet: <https://www.aeromanager.com>. 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.

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-2013-0953; 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 mandatory continuing airworthiness information (MCAI), 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: Eugene Triozzi, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: (781) 238-7148; fax: (781) 238-7199; email: eugene.triozzi@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 March 3, 2014 (79 FR 11719). The NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Rolls-Royce has identified that limitations in the drawing definition for the Trent 800 low-pressure (LP) turbine bearing support and exhaust case assembly (EIPC 72-52-51, 03-300, also known as the tail bearing housing or TBH) may have resulted in thin-wall section parts being delivered into service. Further analysis has concluded that under certain circumstances, the structural integrity of a thin-walled part may be insufficient to withstand a fan blade failure event.

This condition, if not detected and corrected, could, in case of fan blade failure, lead to a loss of integrity of the TBH and leave the engine unsupported at the rear mount, possibly resulting in damage to, or reduced control of, the aeroplane.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received. The commenters support the NPRM (79 FR 11719, March 3, 2014).

Conclusion

We reviewed the available data, including the comments received, 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 110 engines installed on airplanes of U.S. registry. We also estimate that it will take about 1 hour per engine to comply with this AD. The average labor rate is \$85 per hour. Required parts cost about \$9,250 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$92,600.

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.

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):



2014-13-02 Rolls-Royce plc: Amendment 39-17877; Docket No. FAA-2013-0953, Directorate Identifier 2013-NE-32-AD.

(a) Effective Date

This AD becomes effective August 5, 2014.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Rolls-Royce plc (RR) RB211-Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, and 895-17 turbofan engines, except those that have been reworked in accordance with RR Service Bulletin (SB) No. RB.211-72-G604, dated March 18, 2013.

(d) Reason

This AD was prompted by the identification by RR of limitations in the drawing definition for the Trent 800 low-pressure (LP) turbine bearing support and exhaust case assembly, which resulted in thin-wall section parts being delivered into service. We are issuing this AD to prevent failure of the LP turbine bearing support and exhaust case assembly, which could lead to engine separation and damage to the airplane.

(e) Actions and Compliance

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

(1) For engines that have an LP turbine bearing support and exhaust case assembly identified by part number (P/N) and serial number (S/N) in Table 1 to paragraph (e) of this AD, installed, at the next engine shop visit after the effective date of this AD, but not later than June 30, 2017, replace the assembly with one that is eligible for installation.

(2) For engines with an LP turbine bearing support and exhaust case assembly not identified by P/N and S/N in Table 1 to paragraph (e) of this AD, installed, at the next piece-part exposure of the LP turbine bearing support and exhaust case assembly after the effective date of AD:

(i) Inspect the hub to conical panel weld line thickness using paragraphs 3.B.(3)(a) through 3.B.(3)(d)(iii) of RR Alert Service Bulletin (ASB) No. RB.211-72-AG644, dated April 30, 2013; and

(ii) Inspect the hub to conical panel flange thickness using paragraphs 3.B.(4)(a) through 3.B.(4)(c)(v) of RR ASB No. RB.211-72-AG644, dated April 30, 2013.

(iii) If the LP turbine bearing support and exhaust case assembly does not pass the inspections required by paragraphs (e)(2)(i) and (e)(2)(ii) of this AD, replace the LP turbine bearing support and exhaust case assembly with one that is eligible for installation.

Table 1 to Paragraph (e)–LP Turbine Bearing Support and Exhaust Case Assembly P/Ns and S/Ns

P/Ns	S/Ns
FK31446	118-01
FK31446	209-01
FK31446	216-01
FK31446	232-01
FK32232	113-01
FK32085	268-01
FK32085	269-01
FK31446	022-01
FK31446	028-01

(f) Definitions

The following definitions apply for the purpose of this AD:

(1) An LP turbine bearing support and exhaust case assembly is eligible for installation if it has passed the inspections of paragraphs (e)(2)(i) and (e)(2)(ii) of this AD; or has been reworked in accordance with RR SB No. RB.211-72-G604, dated March 18, 2013.

(2) "Piece-part exposure" occurs whenever the LP turbine bearing support and exhaust case assembly is sufficiently exposed to do the inspections required by paragraphs (e)(2)(i) and (e)(2)(ii) of this AD.

(3) An "engine shop visit" is the induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine flanges, except that the separation of engine flanges solely for the purposes of transportation without subsequent engine maintenance is not an engine shop visit.

(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 Eugene Triozzi, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: (781) 238-7148; fax: (781) 238-7199; email: eugene.triozzi@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2013-0223, dated September 19, 2013, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2013-0953.

(i) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Rolls-Royce plc Service Bulletin No. RB.211-72-G604, including Supplement, dated March 18, 2013.

(ii) Rolls-Royce plc Alert Service Bulletin No. RB.211-72-AG644, dated April 30, 2013.

(3) For RR 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: 011-44-1332-249936; email: http://www.rolls-royce.com/contact/civil_team.jsp; Internet: <https://www.aeromanager.com>.

(4) You may view this service information at 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.

(5) You may view this service information at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on June 16, 2014.

Colleen M. D'Alessandro,
Assistant Directorate Manager, Engine & Propeller Directorate,
Aircraft Certification Service.