

[Federal Register Volume 80, Number 178 (Tuesday, September 15, 2015)]
[Rules and Regulations]
[Pages 55232-55234]
From the Federal Register Online via the Government Publishing Office [www.gpo.gov]
[FR Doc No: 2015-21458]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0363; Directorate Identifier 2014-NE-08-AD; Amendment 39-18252; AD 2015-17-19]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

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ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for all Rolls-Royce plc (RR) RB211 Trent 768-60, 772-60, and 772B-60 turbofan engines. This AD was prompted by fuel leaks caused by damage to the fan case low-pressure (LP) fuel tube. This AD requires inspection of the fan case LP fuel tubes and associated clips and the fuel oil heat exchanger (FOHE) mounts and associated hardware. We are issuing this AD to prevent failure of the fan case LP fuel tube, which could lead to an in-flight engine shutdown, loss of thrust control, and damage to the airplane.

DATES: This AD is effective October 20, 2015.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of October 20, 2015.

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; Web site: <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. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0363.

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-2014-0363; 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: Wego Wang, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7134; fax: 781-238-7199; email: wego.wang@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 by adding an AD that would apply to all RR RB211 Trent 768-60, 772-60, and 772B-60 turbofan engines. The SNPRM published in the Federal Register on April 21, 2015 (80 FR 22137). We preceded the SNPRM with a notice of proposed rulemaking (NPRM) that published in the Federal Register on July 3, 2014 (79 FR 37965). The NPRM proposed to require inspection of the fan case LP fuel tubes and associated clips and the FOHE mounts and associated hardware. The NPRM was prompted by fuel leaks caused by damage to the fan case LP fuel tube. We are issuing this AD to prevent failure of the fan case LP fuel tube, which could lead to an in-flight engine shutdown, loss of thrust control, and damage to the airplane.

Related Service Information Under 1 CFR Part 51

We reviewed RR Alert Non-Modification Service Bulletin (NMSB) No. RB.211-73-AH522, Revision 2, dated July 18, 2014; and RR Alert NMSB No. RB.211-73-AH837, dated September 9, 2014. This service information describes procedures for inspecting, and replacing if required, the fan case LP fuel tube and clips and the FOHE mounts and hardware. This service information is reasonably available because the interested parties have access to it through their normal course of business or see ADDRESSES for other ways to access this service information.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the SNPRM (80 FR 22137, April 21, 2015).

Conclusion

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

Costs of Compliance

We estimate that this AD affects about 50 engines installed on airplanes of U.S. registry. We also estimate that it will take about 6 hours per engine to comply with this AD. The average labor rate is \$85 per hour. We also estimate that 25 of the engines will fail the inspection required by this AD. Required parts cost about \$4,031 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$126,275.

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 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):



2015-17-19 Rolls-Royce plc: Amendment 39-18252; Docket No. FAA-2014-0363; Directorate Identifier 2014-NE-08-AD.

(a) Effective Date

This AD is effective October 20, 2015.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Rolls-Royce plc (RR) RB211 Trent 768-60, 772-60, and 772B-60 turbofan engines, if fitted with fuel tube, part number (P/N) FW53576, which was incorporated through RR production modification 73-F343 or which were modified in service in accordance with RR Service Bulletin (SB) No. RB.211-73-F343, Revision 4, dated May 26, 2011.

(d) Reason

This AD was prompted by fuel leaks caused by damage to the fan case low-pressure (LP) fuel tube. We are issuing this AD to prevent failure of the fan case LP fuel tube, which could lead to an in-flight engine shutdown, loss of thrust control, and damage to the airplane.

(e) Actions and Compliance

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

(1) Within 800 flight hours (FH) after the effective date of this AD, and thereafter at intervals not to exceed 800 FH, inspect the clip at the uppermost fan case LP fuel tube clip position, CP4881, and support bracket, P/N FW26692. Use Accomplishment Instructions, paragraph 3.A, of RR Alert Non-Modification Service Bulletin (NMSB) No. RB.211-73-AH837, dated September 9, 2014, or paragraph 3.A. or 3.B. of RR Alert NMSB No. RB.211-73-AH522, Revision 2, dated July 18, 2014, to do the inspection.

(i) If the clip at the uppermost clip position, CP4881, fails inspection, replace the clip with a part eligible for installation and, before further flight, inspect the fan case LP fuel tube, P/N FW53576, for fretting, and clips for cracks or failure, according to Accomplishment Instructions, paragraph 3.A. of RR Alert NMSB No. RB.211-73-AH837, dated September 9, 2014, or paragraph 3.A. or 3.B. of RR Alert NMSB No. RB.211-73-AH522, Revision 2, dated July 18, 2014.

(ii) If the support bracket, P/N FW26692, fails inspection, replace the bracket before further flight with a part eligible for installation and inspect the fan case LP fuel tube, P/N FW53576, and clips for cracks or failure.

(2) Within 4,000 FH since new or 800 FH, whichever occurs later, after the effective date of this AD, and thereafter at intervals not to exceed 4,000 FH, inspect the fan case LP fuel tube, P/N FW53576, and clips, and the fuel oil heat exchanger (FOHE) mounts and hardware, for damage,

wear, or fretting. Use paragraph 3.A. or 3.B., Accomplishment Instructions, of RR Alert NMSB No. RB.211-73-AH522, Revision 2, dated July 18, 2014, to do the inspection.

(i) If the fan case LP fuel tube, P/N FW53576, fails inspection, before further flight, replace the fuel tube and clips with parts eligible for installation.

(ii) If any FOHE mount or hardware shows signs of damage, wear, or fretting, replace the damaged part before further flight with a part eligible for installation.

(3) At each shop visit after the effective date of this AD, inspect the fan case LP fuel tubes, P/Ns FW26589, FW36335, FW26587, FW53577, and FW53576, and clips, and the FOHE mounts and hardware, for damage, wear, or fretting. Use paragraphs 3.B.(1) and 3.B.(2) of RR Alert NMSB No. RB.211-73-AH522, Revision 2, dated July 18, 2014, to do the inspection.

(i) If any fan case LP fuel tube fails inspection, replace the fuel tube and clips before further flight with parts eligible for installation.

(ii) If any FOHE mount or hardware shows signs of damage, wear, or fretting, replace the damaged part before further flight with a part eligible for installation.

(4) If you replace any fan case LP fuel tube, clip, or FOHE mount or hardware as a result of the inspections in paragraphs (e)(1), (e)(2), or (e)(3) of this AD, you must still continue to perform the repetitive inspections in paragraphs (e)(1), (e)(2), and (e)(3) of this AD.

(5) Any reports requested in the Alert NMSB accomplishment instructions referenced in paragraphs (e)(1), (e)(2), and (e)(3) of this AD are not required by this AD.

(f) Credit for Previous Actions

If, before the effective date of this AD, you performed the inspections and corrective actions required by paragraph (e) of this AD using RR NMSB No. RB.211-73-G848, Revision 3, dated June 12, 2014; or RR Alert NMSB No. RB.211-73-AH837, dated September 9, 2014; or paragraph 3.A. or 3.B. of RR Alert NMSB No. RB.211-73-AH522, Revision 2, dated July 18, 2014; or earlier versions, you met the inspection requirements in paragraph (e) of this AD.

(g) Definitions

For the purposes of this AD:

(1) 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.

(2) The fan case LP fuel tubes and clips, and the FOHE mounts and hardware, are eligible for installation if they have passed the inspection requirements of paragraphs (e)(1), (e)(2), and (e)(3) of this AD.

(h) 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. You may email your request to: ANE-AD-AMOC@faa.gov.

(i) Related Information

(1) For more information about this AD, contact Wego Wang, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7134; fax: 781-238-7199; email: wego.wang@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2014-0243R1, dated December 10, 2014 for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2014-0363-0004>.

(3) RR NMSB No. RB.211-73-G848, Revision 3, dated June 12, 2014; RR Alert NMSB No. RB.211-73-AH837, dated September 9, 2014; and RR Alert NMSB No. RB.211-73-AH522, Revision 2, dated July 18, 2014, or earlier versions, which are not incorporated by reference in this AD, can be obtained from RR, using the contact information in paragraph (j)(3) of this AD.

(4) 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.

(j) 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 (RR) Alert Non-Modification Service Bulletin (NMSB) No. RB.211-73-AH522, Revision 2, dated July 18, 2014.

(ii) RR NMSB No. RB.211-73-AH837, dated September 9, 2014.

(3) For RR service information identified in this AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE24 8BJ; 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 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.

(5) You may view this service information that is incorporated by reference 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 August 20, 2015.

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