[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0363; Directorate Identifier 2014-NE-08-AD; Amendment 39-18887; AD 2017-10-13]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding airworthiness directive (AD) 2015-17-19 for all Rolls-Royce plc (RR) RB211 Trent 768-60, 772-60, and 772B-60 turbofan engines. AD 2015-17-19 required inspection of the fan case low-pressure (LP) fuel tubes and associated clips and the fuel oil heat exchanger (FOHE) mounts and associated hardware. This AD requires an engine modification, which terminates the repetitive inspections. This AD was prompted by fractures on the LP fuel return tube at mid-span locations that were found with resulting fuel leaks. We are issuing this AD to correct the unsafe condition on these products.

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

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, 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, 1200 District Avenue, 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 mandatory continuing airworthiness information, 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, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7134; fax: 781-238-7199; email: wego.wang@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2015-17-19, Amendment 39-18252 (80 FR 55232, September 15, 2015), ("AD 2015-17-19"). AD 2015-17-19 applied to the specified products. The NPRM published in the Federal Register on December 1, 2016 (81 FR 86630). The NPRM proposed to retain the requirements of AD 2015-17-19, and require an engine modification, which terminates the repetitive inspections.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comment received.

Request to Delay Issuance

American Airlines (AA) requested a delay of the issuance of this AD until the issues related to RR Alert Service Bulletin (ASB) RB.211-73-AJ366, Initial Issue and Supplement, dated May 3, 2016, are resolved. AA is concerned that the difficulty of incorporating RR ASB RB.211-73-AJ366 might put an airliner at risk of hydraulic fluid loss and that the production output of RR might not meet the demand of required replacements in response to an anticipated aircraft-level AD that would mandate the replacement of single-welded dampers with double-welded dampers.

We disagree. We have determined that there are currently no issues with ASB RB.211-73-AJ366, Initial Issue and Supplement, dated May 3, 2016. We have also determined that complying with ASB RB.211-73-AJ366, Initial Issue and Supplement, dated May 3, 2016, will not increase the risk of hydraulic fluid loss. Additionally, RR has

determined that it has the capacity to meet the demand for replacement parts. We did not change this AD.

Conclusion

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

Related Service Information under 1 CFR Part 51

RR has issued Alert Non-Modification Service Bulletin (NMSB) RB.211-73-AH522, Revision 4, dated January 18, 2016; Alert NMSB RB.211-73-AH837, Revision 1, dated November 6, 2015; and ASB RB.211-73-AJ366, Initial Issue and Supplement, dated May 3, 2016. Alert NMSB RB.211-73-AH522, Revision 4, dated January 18, 2016 describes procedures for inspecting and, if necessary, replacing worn rubber sections of the P-clip. Alert NMSB RB.211-73-AH837, Revision 1, dated November 6, 2015 describes procedures for inspecting and, if necessary, replacing the P-clip attaching bracket, supporting hardware, and LP fuel tube. ASB RB.211-73-AJ366, Initial Issue and Supplement, dated May 3, 2016 describes procedures for modification of the routing of fuel, oil, and hydraulic tube assemblies. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

RR has issued Service Bulletin RB.211-73-F343, Revision 4, dated May 26, 2011. This service information describes procedures for replacing the fuel tube assemblies and supporting hardware.

Costs of Compliance

We estimate that this AD affects 108 engines installed on airplanes of U.S. registry. We also estimate that it would take about 6 hours per engine to perform the inspections in this AD. The average labor rate is $85 per hour. We also estimate that 54 of the engines will fail the inspections required by this AD. Replacement parts cost about $4,031 per engine.

We also estimate that it would take about 50 hours per engine to modify each engine. The modification would cost about $150,000 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be $16,931,754.

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 part 39 of the Federal Aviation Regulations (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) AD 2015-17-19, Amendment 39-18252 (80 FR 55232, September 15, 2015) and adding the following new AD:

2017-10-13 **Rolls-Royce plc**: Amendment 39-18887; Docket No. FAA-2014-0363; Directorate Identifier 2014-NE-08-AD.

(a) Effective Date

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

(b) Affected ADs

This AD supersedes AD 2015-17-19, Amendment 39-18252 (80 FR 55232, September 15, 2015), ("AD 2015-17-19").

(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) RB.211-73-F343, Revision 4, dated May 26, 2011.

(d) Unsafe Condition

This AD was prompted by fractures found on the low-pressure (LP) fuel return tube at mid span locations with resulting fuel leaks. 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) Compliance

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

(1) Within 800 flight hours (FH) after October 20, 2015 (the effective date of AD 2015-17-19), or prior to further flight, whichever occurs later, 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) RB.211-73-AH837, Revision 1, dated November 6, 2015, or paragraph 3.A. or 3.B. of RR Alert NMSB RB.211-73-AH522, Revision 4, dated January 18, 2016, to do the inspection.

(i) If the clip at the uppermost clip position, CP4881, fails inspection, before further flight, replace the clip with a part eligible for installation and 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 RB.211-73-AH837, Revision 1, dated November 6, 2015, or paragraph 3.A. or 3.B. of RR Alert NMSB RB.211-73-AH522, Revision 4, dated January 18, 2016.

(ii) If the support bracket, P/N FW26692, fails inspection, before further flight, replace the bracket with a part eligible for installation and inspect the fan case LP fuel tube, P/N FW53576, and clips for cracks or failure, according to Accomplishment Instructions, paragraph 3.A. of RR Alert NMSB RB.211-73-AH837, Revision 1, dated November 6, 2015, or paragraph 3.A. or 3.B. of RR Alert NMSB RB.211-73-AH522, Revision 4, dated January 18, 2016.

(2) Within 4,000 FH since new or 800 FH after October 20, 2015 (the effective date of AD 2015-17-19), or prior to further flight, whichever occurs later, 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 RB.211-73-AH522, Revision 4, dated January 18, 2016, 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, before further flight, replace the damaged part 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 RB.211-73-AH522, Revision 4, dated January 18, 2016, to do the inspection.

(i) If any fan case LP fuel tube 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, before further flight, replace the damaged part with a part eligible for installation.

(4) If you replace any fan case LP fuel tube, clip, FOHE mount, or hardware as a result of the inspections in paragraphs (e)(1), (2), or (3) of this AD, you must still continue to perform the repetitive inspections specified in paragraphs (e)(1), (2), and (3) of this AD, until you comply with paragraph (e)(6) of this AD.

(5) No reports requested in any of the Alert NMSBs that are referenced in paragraphs (e)(1), (2), and (3) of this AD are required by this AD.

(6) During the next shop visit after the effective date of this AD, modify the engine in accordance with the Accomplishment Instructions, paragraphs (B) and (C), Section 3, of RR Alert Service Bulletin (ASB) RB.211-73-AJ366, Initial Issue and Supplement, dated May 3, 2016.

(7) After the effective date of this AD, do not install an M07 module, unless it is modified in accordance with the Accomplishment Instructions, paragraphs (B) and (C), Section 3, of RR ASB RB.211-73-AJ366, Initial Issue and Supplement, dated May 3, 2016.

(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 RB.211-73-G848, Revision 3, dated June 12, 2014; or RR Alert NMSB RB.211-73-AH837, Revision 1, dated November 6, 2015; or paragraph 3.A. or 3.B. of RR Alert NMSB RB.211-73-AH522, Revision 4, dated January 18, 2016; or any earlier version of those NMSBs, you met the inspection requirements in paragraph (e) of this AD.

(g) Mandatory Terminating Action

Modification of an engine, as required by paragraph (e)(6) of this AD, constitutes terminating action for the repetitive inspections required by paragraphs (e)(1), (2), (3), and (4) of this AD.

(h) 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), (2), and (3) of this AD.

(i) 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.

(j) Related Information

(1) For more information about this AD, contact Wego Wang, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7134; fax: 781-238-7199; email: wego.wang@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency (EASA) AD 2016-0120, dated June 17, 2016, which supersedes EASA AD 2014-0243, Revision 1, dated December 10, 2014 and Correction dated March 23, 2015, 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-2014-0363.

(3) RR SB RB.211-73-F343, Revision 4, dated May 26, 2011, which is not incorporated by reference in this AD, can be obtained from Rolls-Royce plc, using the contact information in paragraph (k)(3) of this AD.

(5) You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

(k) 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) RB.211-73-AH522, Revision 4, dated January 18, 2016.

(ii) RR Alert NMSB RB.211-73-AH837, Revision 1, dated November 6, 2015.

(iii) RR Alert Service Bulletin RB.211-73-AJ366, Initial Issue and Supplement, dated May 3, 2016.

(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; Web site: https://www.aeromanager.com.

(4) You may view this service information at FAA, Engine & Propeller Directorate, 1200 District Avenue, 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 May 9, 2017.

Carlos A. Pestana,
Acting Assistant Manager, Engine & Propeller Directorate,
Aircraft Certification Service.
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