[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0821; Directorate Identifier 2010-NE-30-AD; Amendment 39-17183; AD 2012-18-07]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding an existing airworthiness directive (AD) for all Rolls-Royce plc (RR) RB211-Trent 875-17, RB211-Trent 877-17, RB211-Trent 884-17, RB211-Trent 884B-17, RB211-Trent 892-17, RB211-Trent 892B-17, and RB211-Trent 895-17 turbofan engines. That AD currently requires initial and repetitive ultrasonic inspections (UIs) of certain low-pressure (LP) compressor blades identified by serial number (S/N). This new AD requires the same actions but expands the population of blades. This AD was prompted by the need to add the inspections of the LP compressor blades listed by S/N in Appendices 3H through 3L of RR plc Alert Service Bulletin (ASB) No. RB.211-72-AG244, Revision 4, dated December 22, 2011. We are issuing this AD to prevent multiple LP compressor blades from failing due to blade root cracks, which could lead to uncontained engine failure and damage to the airplane.

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 a certain publication listed in the AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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 e-mail:http://www.rolls-royce.com/contact/civil_team.jsp. 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; 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; 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 2012-06-23 (77 FR 20508, April 5, 2012). That AD applies to the specified products. The NPRM published in the Federal Register on May 3, 2012 (77 FR 26216). That NPRM proposed to continue to require initial and repetitive UIs of certain LP compressor blades identified by S/N. This AD requires the same actions but expands the population of blades.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal and the FAA's response to each comment.

Request to Modify Initial Inspection Thresholds

Commenters RR and The Boeing Company (Boeing) requested that the initial inspection thresholds listed in Table 1 of the proposed AD be the same as those in RR ASB RB.211-72-AG244. Alternatively, RR and Boeing asked that we adjust the calendar months after the effective date of the AD to make them equivalent to the calendar dates in the ASB. RR claims that allowing parts to remain on wing longer than the times specified in the ASB will increase the risk of a fan blade failure before a crack is detected.

We do not agree. The number of months for compliance after the effective date of this AD is the same as in the EASA AD 2012-0025, dated February 8, 2012. Also, shortening the initial inspection thresholds now would require renotice and therefore delay implementation of the AD. We did not change the AD.

Request to Revise Unsafe Condition Statement

RR asked that we change the unsafe condition statement in the AD to indicate that the AD is being issued to prevent multiple blades from the same engine from failing. RR indicated that this change is needed because a single blade failure from the root is, by design, a contained event.

We agree because multiple blades in an engine may develop cracks and fail if not inspected. We changed the AD by revising the unsafe condition statement in paragraph (d) of the AD from: "We are issuing this AD to prevent LP compressor blades from failing due to blade root cracks, which could lead to uncontained engine failure and damage to the airplane" to "We are issuing this AD to prevent multiple LP compressor blades from failing due to blade root cracks, which could lead to uncontained engine failure and damage to the airplane."

Request to Revise Compliance Paragraph (e)(3)

Commenter American Airlines (American) requested that we change paragraph (e)(3) from "…and paragraphs 1. through 3.B. of Appendix 1 of that ASB, or paragraphs 3.B.(1) through 3.B.(3) of Accomplishment Instructions of RR ASB No. RB.211–72–AG244…," to "…and paragraphs 1. through 3.B. of Appendix 1 of that ASB, or paragraph 3.B.(3) of Accomplishment Instructions of RR ASB No. RB.211–72–AG244….". American argued that paragraphs 3.B.(1) and 3.B.(2), which require removal of the air intake fairing/spinner and spinner extension and annulus fillers, are not needed to resolve the unsafe condition noted in the AD.

We agree in part. We agree to remove the references to paragraphs 3.B.(1) and 3.B.(2) from the AD because it is not necessary to mandate the procedures used to remove the air intake fairing/spinner and spinner extension and annulus fillers. We disagree that removal of these parts does not need to be mentioned in the AD because these parts need to be removed before performing the UI. We therefore revised paragraph (e)(3) in the AD from: "Use paragraph 3.A.(2) of Accomplishment Instructions of RR ASB No. RB.211-72-AG244, Revision 4, dated December 22, 2011, and paragraphs 1. through 3.B. of Appendix 1 of that ASB, or paragraphs 3.B.(1) through 3.B.(3) of Accomplishment Instructions of RR ASB No. RB.211-72-AG244, Revision 4, dated December 22, 2011, and paragraphs 1. through 3.C. of Appendix 2 of that ASB, to perform the UIs." to "Use paragraph 3.A.(2) of Accomplishment Instructions of RR ASB No. RB.211–72–AG244, Revision 4, dated December 22, 2011, and paragraphs 1. through 3.B. of Appendix 1 of that ASB, or paragraphs 3.B.(3) of Accomplishment Instructions of RR ASB No. RB.211–72–AG244, Revision 4, dated December 22, 2011, and paragraphs 1. through 3.C. of Appendix 2 of that ASB, to perform the UIs. Prior to inspecting the blades per paragraph 3.B.(3) of the Accomplishment Instructions remove the air intake fairing/spinner and spinner extension and annulus fillers."

Request to Revise Compliance Paragraph (e)(6)

American requested that paragraph (e)(6) of the AD be revised to read: "After the effective date of this AD, do not install any affected LP compressor blade that has reached the initial inspection threshold in Table 1, unless it has passed the UI required by this AD." American indicated that the wording of the proposed AD implied that if a blade fails a visual inspection, it may not be reinstalled even if it passes a subsequent UI.

We agree. We revised the paragraph to read: “After the effective date of this AD, do not install any affected LP compressor blade that has reached the initial inspection threshold in Table 1 to paragraph (e), unless it has passed the UI required by this AD.” We also moved this paragraph to a separate Installation Prohibition paragraph (f).

Request to Revise Previous Credit Paragraph

American asked that the AD allow compressor blades inspected ultrasonically before the effective date of this AD using RR SB RB.211-72-E175, Revision 7, dated April 11, 2011, to be installed without further inspection. American indicated that the UI instructions in SB RB.211-E175, Revision 7, are identical to the UI instructions in ASB RB.211-72-AG244.

We agree. We changed the Credit for Previous Actions paragraph in the AD from, "You may take credit for the initial inspection that is required by paragraph (e)(1) of this AD if you performed the initial inspection before the effective date of this AD using RR ASB No. RB.211–72–AG244, dated August 7, 2009; ASB No. RB.211–72–AG244, Revision 1, dated January 26, 2010; ASB No. RB.211–72–AG244, Revision 2, dated August 18, 2011; or ASB No. RB.211–72–AG244, Revision 3, dated December 13, 2011," to "You may take credit for the initial inspection that is required by paragraph (e)(1) of this AD if you performed the initial inspection before the effective date of this AD using RR ASB No. RB.211–72–AG244, dated August 7, 2009; ASB No. RB.211–72–AG244, Revision 1, dated January 26, 2010; ASB No. RB.211–72–AG244, Revision

2, dated August 18, 2011, ASB No. RB.211–72–AG244, Revision 3, dated December 13, 2011 or RB.211-72-E175, Revision 7, dated April 11, 2011."

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We also determined that these changes will not increase the economic burden on any operator nor increase the scope of the AD.

Costs of Compliance

Based on the service information, we estimate that this AD affects about 158 engines installed on airplanes of U.S. registry. We also estimate that it will take about 3 hours per engine inspection and six inspections will be needed per year. The average labor rate is $85 per work-hour. We estimate that one LP compressor blade per year will need replacement at a cost of about $82,000. Based on these figures, we estimate the annual cost of the AD on U.S. operators to be $323,740. Our cost estimate is exclusive of possible warranty coverage.

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) 2012-06-23, Amendment 39-17004 (77 FR 20508, April 5, 2012), and adding the following new AD:

2012-18-07 **Rolls-Royce plc**: Amendment 39-17183; Docket No. FAA-2010-0821; Directorate Identifier 2010-NE-30-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 2012-06-23 (77 FR 20508, April 5, 2012).

(c) Applicability

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

(d) Unsafe Condition

This AD was prompted by the need to add the inspections of the low-pressure (LP) compressor blades listed by serial number (S/N) in Appendices 3H through 3L of Rolls-Royce plc Alert Service Bulletin (ASB) No. RB.211-72-AG244, Revision 4, dated December 22, 2011. We are issuing this AD to prevent multiple LP compressor blades from failing due to blade root cracks, which could lead to uncontained engine failure and damage to the airplane.

(e) Compliance

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

(1) Perform an initial ultrasonic inspection (UI) of the affected LP compressor blades identified by S/N in Appendices 3A through 3L of RR ASB No. RB.211-72-AG244, Revision 4, dated December 22, 2011. Use Table 1 to paragraph (e) of this AD to determine your initial inspection threshold.

Table 1 to Paragraph (e) – Initial Inspection Thresholds

Appendix Number of RR ASB No. RB.211-72-AG244, Revision 4, that Identifies Affected LP Compressor Blades by S/N	Initial Inspection Threshold
3A and 3B	Within 70 flight cycles after the effective date of this AD.
3C	Within 10 months after the effective date of this AD.
3D	Within 22 months after the effective date of this AD.
3E	Within 34 months after the effective date of this AD.
3F	Within 46 months after the effective date of this AD.
3G	Within 58 months after the effective date of this AD.
3H	Within 70 months after the effective date of this AD.
3I	Within 82 months after the effective date of this AD.
3J	Within 94 months after the effective date of this AD.
3K	Within 106 months after the effective date of this AD.
3L	Within 118 months after the effective date of this AD.

(2) Thereafter, perform repetitive UIs of the affected LP compressor blades within every 100 flight cycles.

(3) Use paragraph 3.A.(2) of Accomplishment Instructions of RR ASB No. RB.211–72–AG244, Revision 4, dated December 22, 2011, and paragraphs 1. through 3.B. of Appendix 1 of that ASB, or paragraphs 3.B.(3) of Accomplishment Instructions of RR ASB No. RB.211–72–AG244, Revision 4, dated December 22, 2011, and paragraphs 1. through 3.C. of Appendix 2 of that ASB, to perform the UIs. Prior to inspecting the blades per paragraph 3.B.(3) of the Accomplishment Instructions remove the air intake fairing/spinner and spinner extension and annulus fillers.

(4) Do not return to service any engine with blades that failed the inspection required by this AD.

(5) For blades that are removed from the engine and pass inspection, re-apply dry film lubricant before re-installing the blades.

(f) Installation Prohibition

After the effective date of this AD, do not install any affected LP compressor blade that has reached the initial inspection threshold in Table 1 to paragraph (e) of this AD, unless it has passed the UI required by this AD.

(g) Credit for Previous Actions

You may take credit for the initial inspection that is required by paragraph (e)(1) of this AD if you performed the initial inspection before the effective date of this AD using RR ASB No. RB.211–72–AG244, dated August 7, 2009; RR ASB No. RB.211–72–AG244, Revision 1, dated January 26, 2010; RR ASB No. RB.211–72–AG244, Revision 2, dated August 18, 2011; RR ASB No. RB.211–72–AG244, Revision 3, dated December 13, 2011; or RR RB.211-72-E175, Revision 7, dated April 11, 2011.

(h) 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.

(i) Related Information

(1) 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; e-mail: alan.strom@faa.gov.

(2) Refer to European Aviation Safety Agency AD 2012-0025, dated February 8, 2012, for related information.

(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 Alert Service Bulletin No. RB.211-72-AG244, Revision 4, including appendices 1, 2, and 3A through 3L, dated December 22, 2011.

(ii) Reserved.

(3) 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; e-mail: http://www.rolls-royce.com/contact/civil_team.jsp.

(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 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 29, 2012.

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

[FR Doc. 2012-23442 Filed 09/21/2012 at 8:45 am; Publication Date: 09/24/2012]