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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0008; Directorate Identifier 2011-NE-43-AD; Amendment 39-17115; AD 2012-14-01]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce Deutschland Ltd & Co KG Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Rolls-Royce Deutschland Ltd & Co KG (RRD) BR700-715A1-30, BR700-715B1-30, and BR700-715C1-30 turbofan engines. This AD was prompted by the discovery of a manufacturing defect on certain part number (P/N) and serial number (S/N) low-pressure (LP) compressor booster rotors. This AD requires initial and repetitive fluorescent penetrant inspections of certain P/N and S/N LP compressor booster rotors and rework or replacement of them as terminating action to the repetitive inspections. We are issuing this AD to prevent failure of the LP compressor booster rotor, uncontained engine failure, and damage to the airplane.

DATES: This AD becomes effective October 19, 2012. The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of October 19, 2012.

ADDRESSES: The Docket Operations office is located at Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

FOR FURTHER INFORMATION CONTACT: Mark Riley, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7758; fax: 781-238-7199; email: mark.riley@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on February 24, 2012 (77 FR 11019). That NPRM proposed to correct an unsafe condition for the specified products. European Aviation Safety Agency (EASA) AD 2011-0232 states:

Several LP compressor booster rotors have been found non-compliant to original design.

The technical investigations carried out by Rolls-Royce Deutschland revealed that this discrepancy is due to a manufacturing defect and that only some specific LP compressor booster rotor serial numbers are affected.

This condition, if not corrected, could lead to an uncontained engine failure, potentially damaging the aeroplane and injuring its occupants, and/or injuring persons on the ground.

To address this condition, RRD has developed an inspection program and a rework for the affected LP compressor booster rotors.

For the reason described above, depending on engine type of operations, this AD requires repetitive fluorescent penetrant inspections of the LP compressor booster rotor and if any crack is found, replacement with a serviceable part. This AD also requires rework of all affected LP compressor booster rotors.

You may obtain further information by examining EASA AD 2011-0232 in the AD docket.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM.

Conclusion

We reviewed the available 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 96 engines installed on airplanes of U.S. registry. We also estimate that it will take about 5 work-hours per engine to perform one inspection and about 8 work-hours per engine to perform the rework. The average labor rate is \$85 per work-hour. Based on these figures, if all engines are reworked, we estimate the cost of the AD on U.S. operators to perform one inspection and to perform the rework to be \$106,080.

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); and
3. 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office 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 street address for the Docket Operations office (phone: (800) 647-5527) is provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

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):



2012-14-01 Rolls-Royce Deutschland Ltd & Co KG: Amendment 39-17115; Docket No. FAA-2012-0008; Directorate Identifier 2011-NE-43-AD.

(a) Effective Date

This AD becomes effective October 19, 2012.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Rolls-Royce Deutschland Ltd & Co KG (RRD) BR700-715A1-30, BR700-715B1-30, and BR700-715C1-30 turbofan engines, with a low-pressure (LP) compressor booster rotor, part number (P/N) BRH19215, or P/N BRH19871, with serial numbers (S/N) 118 to 255 inclusive, installed.

(d) Reason

This AD was prompted by the discovery of a manufacturing defect on certain P/N and S/N LP compressor booster rotors. We are issuing this AD to prevent failure of the LP compressor booster rotor, uncontained engine failure, and damage to the airplane.

(e) Actions and Compliance

Unless already done, do the following actions.

(1) At the applicable compliance time in Table 1 to paragraph (e) of this AD, perform an initial fluorescent penetrant inspection (FPI) of the LP compressor booster rotor, in accordance with paragraphs 3.D. through 3.H.(1) (except paragraphs 3.G.(1) and 3.G.(2)) of Accomplishment Instructions of RRD Alert Non-Modification Service Bulletin No. ALERT SB-BR700-72-A900503, Revision 4, dated June 16, 2011.

Table 1 to Paragraph (e)–Compliance Times

Engine type of operation	Initial FPI (whichever occurs later)	Repetitive FPI interval (not to exceed)
"Hawaiian" Flight Mission only	Before accumulating 36,000 engine cycles (EC) or within 500 EC after the effective date of this AD.	6,000 EC
Any other rating, or combination of ratings	Before accumulating 18,000 EC, or within 500 EC after the effective date of this AD.	4,000 EC

(2) Thereafter, at intervals not to exceed the applicable compliance time in Table 1 of this AD, perform repetitive FPIs of the LP compressor booster rotor, in accordance with paragraphs 3.D. through 3.H.(1) (except paragraphs 3.G.(1) and 3.G.(2)) of Accomplishment Instructions of RRD Alert Non-Modification Service Bulletin No. ALERT SB-BR700-72-A900503, Revision 4, dated June 16, 2011.

(3) Remove cracked LP compressor booster rotors before further flight.

(4) At the next piece part exposure of the LP compressor booster rotor during shop visit, remove the LP compressor booster rotor and either:

(i) Rework the LP compressor booster rotor in accordance with paragraph 3.D. of Accomplishment Instructions of RRD Service Bulletin (SB) No. SB-BR700-72-101683, dated September 20, 2010; or

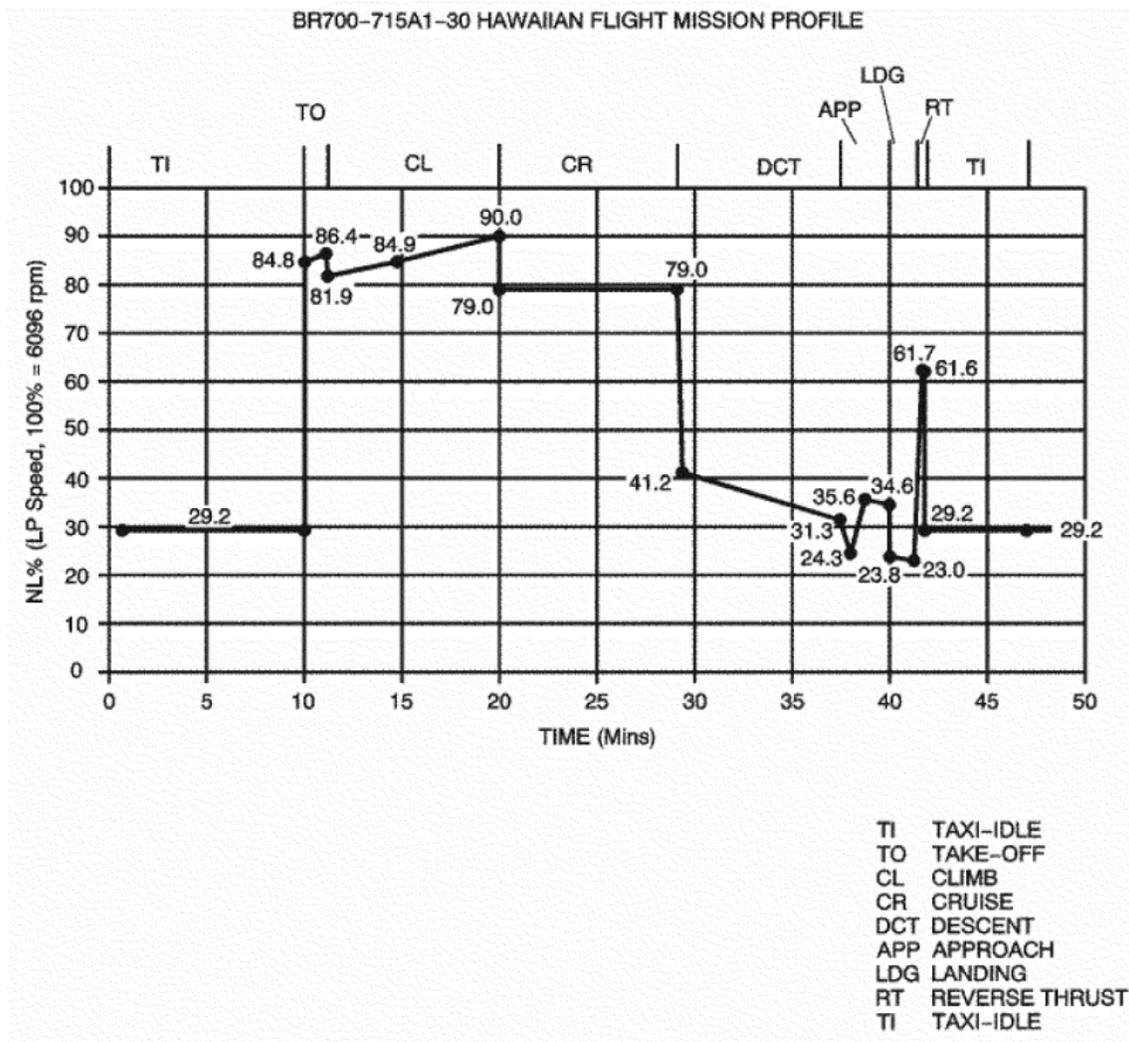
(ii) Replace the LP compressor booster rotor with one that is eligible for installation.

(f) Definitions

(1) For the purpose of this AD, an LP compressor booster rotor that is eligible for installation is one that is not listed in applicability paragraph (c) of this AD.

(2) The Hawaiian Flight Mission referenced in Table 1 to paragraph (e) is shown in Figure 1 to paragraph (f)(2):

Figure 1 to paragraph (f)(2)



(g) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, may approve AMOCs for 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 Mark Riley, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7758; fax: 781-238-7199; email: mark.riley@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency Airworthiness Directive 2011-0232, dated December 13, 2011, for related information.

(i) Material Incorporated by Reference

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

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

(i) Rolls-Royce Deutschland (RRD) Ltd & Co KG Alert Non-Modification Service Bulletin No. ALERT SB-BR700-72-A900503, Revision 4, dated June 16, 2011.

(ii) RRD Ltd & Co KG Service Bulletin No. SB-BR700-72-101683, dated September 20, 2010.

(3) For service information identified in this AD, contact Rolls-Royce Deutschland Ltd & Co KG, Eschenweg 11, Dahlewitz, 15827 Blankenfelde-Mahlow, Germany, telephone: +49 (0) 33-7086-1883, fax: +49 (0) 33-7086-3276.

(4) You may review 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 also review the 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 June 25, 2012.

Peter A. White,
Manager, Engine & Propeller Directorate,
Aircraft Certification Service.