



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0008; Directorate Identifier 2011-NE-43-AD]

RIN 2120-AA64

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

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt 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 proposed 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 proposed AD would require 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 proposing this AD to prevent failure of the LP compressor booster rotor, uncontained engine failure, and damage to the airplane.

DATES: We must receive comments on this proposed AD by [insert date 60 days after date of publication in the FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.

- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- Fax: (202) 493-2251.

For service information identified in this proposed 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. You may review copies of the referenced 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 Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (phone: 800-647-5527) is the same as the Mail address provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

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;
e-mail: mark.riley@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-0008; Directorate Identifier 2011-NE-43-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this proposed AD. Using the search function of the Web site, anyone can find and read the comments in any of our dockets, including, if provided, the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78).

Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA Airworthiness

Directive 2011-0232, dated December 13, 2011 (referred to after this as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI 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 the MCAI in the AD docket.

Relevant Service Information

RRD has issued Alert Service Bulletin No. SB-BR700-72-A900503, Revision 4, dated June 16, 2011, and RRD SB No. SB-BR700-72-101683, dated September 20, 2010.

The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

FAA’s Determination and Requirements of This Proposed AD

This product has been approved by EASA and is approved for operation in the United States. Pursuant to our bilateral agreement with the European Community, EASA has notified us of the unsafe condition described in the MCAI and service information

referenced above. We are proposing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design.

Costs of Compliance

Based on the service information, we estimate that this proposed AD would affect about 96 engines installed on airplanes of U.S. registry. We also estimate that it would 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 proposed 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 proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 proposed regulation:

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 proposed AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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 AD:

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

(a) Comments Due Date

We must receive comments by [insert date 60 days after date of publication in the FEDERAL REGISTER].

(b) Affected Airworthiness Directives (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 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 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.(3) of Accomplishment Instructions of RRD Alert Service Bulletin (ASB) No. SB-BR700-72-A900503, Revision 4, dated June 16, 2011.

Table 1 – 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.(3) of Accomplishment Instructions of RRD ASB No. 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 paragraphs 3.A. through 3.F. of Accomplishment Instructions of RRD Service Bulletin 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) Definition

(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 of this AD is defined in RRD BR715 Time Limits Manual, T-715-3BR, Section 05-00, Task 05-00-02-800-001, Hawaiian Flight Mission Profile, Figure 05-00-02-990-008 (Fig. 8).

(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; e-mail: mark.riley@faa.gov.

(2) Refer to MCAI EASA Airworthiness Directive 2011-0232, dated December 13, 2011; RRD Alert ASB No. SB-BR700-72-A900503, Revision 4, dated June 16, 2011; and RRD SB No. SB-BR700-72-101683, dated September 20, 2010, for related information.

(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. You may review copies of the referenced 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.

Issued in Burlington, Massachusetts, on February 13, 2012.

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

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