**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2013-0750; Directorate Identifier 2013-NE-25-AD; Amendment 39-17672; AD 2013-23-17]**

**RIN 2120-AA64**

# Airworthiness Directives; Rolls-Royce plc Turbofan Engines

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; request for comments.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for Rolls-Royce plc (RR) RB211-535E4-37, -535E4-B-37, -535E4-C-37, RB211Trent 768-60, 772-60, and 772B-60 turbofan engines. This AD requires removal of certain high-pressure (HP) and intermediate-pressure (IP) turbine discs before their accumulated cyclic lives have reached the revised limits. This AD was prompted by a report of an HP disc contaminated with a steel inclusion. We are issuing this AD to prevent failure of the HP or IP turbine disc, uncontained engine failure, and damage to the airplane.

**DATES:** This AD becomes effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

We must receive comments on this AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, 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: 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 AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, DE24 8BJ, UK; phone: 44–0-1332–242424; fax: 44–0-1332–249936; email: 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 01803. 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 AD, the mandatory continuing airworthiness information (MCAI), 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:** Frederick Zink, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238 7779; fax: 781-238 7199; email: frederick.zink@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2013-0155, dated July 18, 2013 (referred to herein after as "the MCAI"), to correct an unsafe condition for the specified products. The MCAI states:

> During a recent inspection of a high pressure (HP) turbine disc forged by a specific supplier, the disc was found to be contaminated with a steel inclusion, due to an inadequate cleaning procedure in the operation of the melt furnace, following a steel melt. Analysis of melt and inspection data concluded that all discs manufactured from the batch of material in which this steel inclusion was found, had a significant risk of containing steel inclusions. Rolls-Royce has carried out an analysis of the effect of the steel inclusions on the Declared Safe Cyclic Lives (DSCL) of the affected HP and intermediate pressure (IP) turbine discs. This analysis concluded that the currently published DSCL cannot be supported for several discs containing the subject inclusions.
>
> This condition, if not corrected, could lead to an uncontained HP or IP turbine disc failure, possibly resulting in damage to, and reduced control of, the aeroplane.
>
> For the reasons described above, this AD requires removal from service of certain HP and IP turbine discs before their accumulated cyclic lives have reached the revised limits.

You may obtain further information by examining the MCAI in the AD docket on the Internet at http://www.regulations.gov by searching for and locating it in Docket No. FAA-2013-0750.

**FAA's Determination and Requirements of this AD**

This product has been approved by the aviation authority of the United Kingdom 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 issuing 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.

**FAA's Determination of the Effective Date**

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule. Therefore, we determined that notice and opportunity for public comment before issuing this AD are impracticable and that good cause exists for making this amendment effective in fewer than 30 days.

**Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not precede it by notice and opportunity for public comment. We invite you to send any written relevant data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2013-0750; Directorate Identifier 2013-NE-25-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of 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 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).

**Costs of Compliance**

We estimate that this AD will affect 20 engines installed on airplanes of U.S. registry. We also estimate that it will take about 0 hours per engine to comply with this AD. The average labor rate is $85 per hour. Required parts will cost about $4,000 per engine. Based on these figures, we estimate the total cost of this AD to U.S. operators is $80,000.

**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),

(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.

We prepared a regulatory evaluation of the estimated costs to comply with this 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.

**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):

2013-23-17 **Rolls-Royce plc:** Amendment 39-17672; Docket No. FAA-2013-0750; Directorate Identifier 2013-NE-25-AD.

**(a) Effective Date**

This AD is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Rolls-Royce plc (RR) RB211-535E4-37, -535E4-B-37, 535E4-C-37, RB211 Trent 768-60, 772-60, and 772B-60 turbofan engines with turbine disc part numbers (P/Ns) and serial numbers (S/Ns) listed in Table 1 to paragraph (c) of this AD.

**Table 1 to Paragraph (c) – New Reduced Cyclic Life Limits for High-Pressure (HP)/Intermediate-Pressure (IP) Turbine Discs**

| Engine | P/Ns | S/Ns | New Reduced Cyclic Life Limit |
|---|---|---|---|
| RB211-535E4-37,-535E4-B-37, -535E4-C-37 | UL39767 | LDRCZ19900 | 11,400 flight cycles (FCs) |
| | UL39767 | LDRCZ19903 | |
| | UL39767 | LDRCZ19904 | |

| Engine | P/Ns | S/Ns | New Reduced Cyclic Life Limit |
|---|---|---|---|
| RB211 Trent 768-60, 772-60, and 772B-60 | FK26893 | LDRCZ19901 | 8,687 FCs |
| | FK26893 | LDRCZ20081 | |
| | FK26893 | LDRCZ20082 | |
| | FK26893 | LDRCZ20084 | |
| | FK26893 | LDRCZ20088 | |
| | FK26893 | LDRCZ20089 | |
| | FK26893 | LDRCZ20090 | |
| | FK26893 | LDRCZ20093 | |
| | FK26893 | LDRCZ20094 | |
| | FK26893 | LDRCZ20097 | |
| | FK26893 | LDRCZ20099 | |
| | FK26893 | LDRCZ20100 | |
| | FK20795 or FW53118 | LDREB12176 | 9,270 FCs |
| | FK20795 or FW53118 | LDREB12177 | |
| | FK20795 or FW53118 | LDREB12178 | |
| | FK20795 or FW53118 | LDREB12179 | |
| | FK20795 or FW53118 | LDREB12180 | |

**(d) Reason**

This AD was prompted by a report of an HP disc contaminated with a steel inclusion. We are issuing this AD to prevent failure of the HP or IP turbine disc, uncontained engine failure, and damage to the airplane.

**(e) Actions and Compliance**

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

(1) Remove from service, within 30 days, any HP or IP disc identified in Table 1 to paragraph (c) of this AD that has exceeded the new cyclic life limit, or before the disc

accumulates flight cycles that equal the new reduced cyclic life limit listed in Table 1 to paragraph (c) of this AD, whichever is later.

(2) Do not approve for return to service any engine with any installed HP or IP turbine disc listed in Table 1 to paragraph (c) of this AD, if the disc exceeds the new reduced cyclic life limit listed in Table 1 to paragraph (c) of this AD.

**(f) 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.

**(g) Related Information**

(1) For more information about this AD, contact Frederick Zink, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7779; fax: 781-238-7199; email: frederick.zink@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2012-0155, dated July 18, 2013. 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-2013-0750.

(3) Rolls-Royce plc, Alert Non-Modification Service Bulletin No. RB.211-72-AH215, dated December 6, 2012 and RB.211-72-AH152, Revision 1, dated July 3, 2013, which are not incorporated by reference in this AD, can be obtained from RR using the contact information in paragraph (g)(4) of this AD.

(4) For service information identified in this AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, DE24 8BJ, UK; phone: 44-0-1332-

242424; fax: 44–0-1332–249936; email:

http://www.rolls-royce.com/contact/civil_team.jsp.

(5) 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.

**(h) Material Incorporated by Reference**

None.

Issued in Burlington, Massachusetts, on November 8, 2013.

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

[FR Doc. 2013-28221 Filed 11/25/2013 at 8:45 am; Publication Date: 11/26/2013]