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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-1202; Directorate Identifier 2012-NE-38-AD; Amendment 39-17816; AD 2014-07-02]

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 superseding airworthiness directive (AD) 2012-26-14 for all Rolls-Royce Deutschland Ltd & Co KG (RRD) BR700-715A1-30, BR700-715B1-30, and BR700-715C1-30 turbofan engines. AD 2012-26-14 required removal from service of certain high-pressure (HP) compressor stages 1 to 6 rotor disc assemblies before exceeding certain thresholds. This AD requires removal from service at those same thresholds but restricts the applicability to engines exposed to silver-plated nuts, and removes the terminating action statement required by AD 2012-26-14. This AD was prompted by RRD development of a new silver-free nut that, if installed with a new HP compressor stages 1 to 6 rotor disc assembly, would correct the unsafe condition identified in AD 2012-26-14. We are issuing this AD to prevent failure of the HP compressor stages 1 to 6 rotor disc assembly, which could lead to an uncontained engine failure and damage to the airplane.

DATES: This AD is effective May 8, 2014.

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-2012-1202; 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 (MCAI), 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: Robert Morlath, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: (781) 238-7154; fax: (781) 238-7199; email: robert.c.morlath@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2012-26-14, Amendment 39-17309 (78 FR 2195, January 10, 2013), ("AD 2012-26-14"). AD 2012-26-14 applied to the specified products. The NPRM published in the Federal Register on November 19, 2013 (78 FR 69316). The NPRM proposed to continue to require removal from service of certain HP compressor stages 1 to 6 rotor disc assemblies before exceeding certain thresholds. The NPRM also proposed to restrict the applicability to engines exposed to silver-plated nuts, and to remove the terminating action statement required by AD 2012-26-14.

Comments

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

Request To Include a Mandatory Terminating Action

RRD requested that we include the installation of a new HP compressor stages 1 to 6 rotor disc assembly with silver-free nuts, part number (P/N) U755872, as a necessary terminating action to the parts removal requirements of this AD, because this would eliminate the unsafe condition caused by silver nut corrosion.

We disagree. The flight cycle limits imposed by this AD on engines operating with silver-plated nuts provide an acceptable level of safety. Requiring operators to purchase a new HP compressor stages 1 to 6 rotor disc assembly and new silver-free nuts would be an undue economic burden. If an operator chooses to install a new HP compressor stages 1 to 6 rotor disc assembly and silver-free nuts, P/N U755872, this AD would no longer apply to that engine. We did not change this AD.

Request To Require the Replacement of Affected P/Ns at Listed Intervals

RRD requested that instead of requiring a one-time replacement of the HP compressor stages 1 to 6 rotor disc assembly installed with silver-plated nuts, we require replacement of the P/Ns at intervals published in European Aviation Safety Agency (EASA) AD 2012-0230, Initial Issue, dated October 30, 2012.

We disagree. Our proposed AD did not require a one-time replacement. This AD requires, for any HP compressor stages 1 to 6 rotor disc assembly that has ever been installed with silver-plated nuts, replacement at the cyclic limits stated in paragraphs (e)(1) and (e)(2) of this AD, which are equivalent to the cyclic limits stated in EASA AD 2012-0230, Initial Issue, dated October 30, 2012. We did not change this AD.

Request To Update Service Information References to the Most Recent Versions

RRD requested that we update references to service bulletins (SBs) to the most recent versions. We disagree. We do not reference any SBs in this AD. We did not change this AD.

Conclusion

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

Costs of Compliance

We estimate that this AD affects 255 engines installed on airplanes of U.S. registry. We also estimate that it will take about 20 hours per engine to comply with this AD. The average labor rate is \$85 per hour. Prorated parts life will cost about \$13,500 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$3,876,000.

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

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) 2012-26-14, Amendment 39-17309 (78 FR 2195, January 10, 2013) and adding the following new AD:



2014-07-02 Rolls-Royce Deutschland Ltd & Co KG (Type Certificate previously held by Rolls-Royce Deutschland GmbH and BMW Rolls-Royce Aero Engines): Amendment 39-17816;
Docket No. FAA-2012-1202; Directorate Identifier 2012-NE-38-AD.

(a) Effective Date

This AD is effective May 8, 2014.

(b) Affected ADs

This AD supersedes AD 2012-26-14, Amendment 39-17309 (78 FR 2195, January 10, 2013).

(c) Applicability

This AD applies to all Rolls-Royce Deutschland Ltd & Co KG (RRD) BR700-715A1-30, BR700-715B1-30, and BR700-715C1-30 turbofan engines with high-pressure (HP) compressor stages 1 to 6 rotor disc assemblies that were ever installed using nuts, part number (P/N) AS44862 or P/N AS64367.

(d) Unsafe Condition

This AD was prompted by a report of silver chloride-induced stress corrosion cracking of the HP compressor stages 1 to 6 rotor disc assembly. We are issuing this AD to prevent failure of the HP compressor stages 1 to 6 rotor disc assembly, which could lead to an uncontained engine failure and damage to the airplane.

(e) Compliance

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

(1) For BR700-715A1-30 turbofan engines operated under the Hawaiian Flight Mission only, remove the HP compressor stages 1 to 6 rotor disc assembly from service before exceeding 16,000 flight cycles since new (CSN) or before further flight after the effective date of this AD, whichever occurs later.

(2) For BR700-715A1-30, BR700-715B1-30, and BR700-715C1-30 turbofan engines (all flight missions except Hawaiian Flight Mission), remove the HP compressor stages 1 to 6 rotor disc assembly from service before exceeding 14,000 flight CSN or before further flight after the effective date of this AD, whichever occurs later.

(f) Prohibition Statement

After the effective date of this AD, do not install an HP compressor stages 1 to 6 rotor disk assembly into an engine, or an engine with an HP compressor stage 1 to 6 rotor disk assembly onto an aircraft, if the HP compressor stages 1 to 6 rotor disk assembly has ever been operated with nuts, P/N AS44862 or P/N AS64367, and has more CSN than specified in the applicable portion of the compliance section of this AD.

(g) Definition

For the purpose of this AD, flight cycles are defined as the total flight CSN on the HP compressor stages 1 to 6 rotor disc assembly, without any pro-rated calculations applied for different flight missions.

(h) 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.

(i) Related Information

(1) For more information about this AD, contact Robert Morlath, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: (781) 238-7154; fax: (781) 238-7199; email: robert.c.morlath@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2012-0230, Initial Issue, dated October 30, 2012, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2012-1202-0005>.

(j) Material Incorporated by Reference

None.

Issued in Burlington, Massachusetts, on March 27, 2014.
Robert J. Ganley,
Acting Assistant Directorate Manager, Engine & Propeller Directorate,
Aircraft Certification Service.