



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0140; Product Identifier 2017-NE-05-AD; Amendment 39-19048; AD 2017-19-18]

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) model Tay 620-15 turbofan engines. This AD requires reducing the maximum approved life limit. This AD was prompted by RRD recalculating the life limit for certain high-pressure compressor (HPC) stage 12 rotor disks. We are issuing this AD to correct the unsafe condition on these products.

DATES: This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Rolls-Royce Deutschland Ltd & Co KG, Eschenweg 11-15827 Dahlewitz, Blankenfelde-Mahlow, Germany; phone: +49 0 33-7086-1944; fax: +49 0 33-7086-3276. You may view this service information at the FAA, Engine and Propeller Standards Branch, Policy and Innovation Division, 1200 District Avenue, Burlington, MA 01803. For information on

the availability of this material at the FAA, call 781-238-7125. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0140.

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-2017-0140; 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 Green, Aerospace Engineer, FAA, ECO Branch, Compliance and Airworthiness Division, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7754; fax: 781-238-7199; email: robert.green@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to the specified products. The NPRM was published in the *Federal Register* on May 26, 2017 (82 FR 24257). The NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Based on revised stress analysis and life calculation, Rolls-Royce Deutschland (RRD) determined new provisional life limits for HPC stage 12 rotor disc Part Number (P/N) JR18449, reducing the maximum approved life limit defined in the Tay 620-15 and Tay 620-15/20 engine Time Limits Manual (TLM), Chapter 05-10-01, Task 05-10-01-800-000, currently at revision dated 15 September 2014. Failure to replace a HPC stage 12 rotor disc P/N JR18449, before exceeding the thresholds defined by this AD, could lead to an uncontained HPC stage 12 rotor disc failure, possibly resulting in damage to, and/or reduced control of, the aeroplane.

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 Docket No. FAA-2017-0140.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (82 FR 24257, May 26, 2017) or on the determination of the cost to the public.

Conclusion

We reviewed the available data and determined that air safety and the public interest require adopting this AD as proposed.

Related Service Information

RRD has issued Alert Non-Modification Service Bulletin (NMSB) TAY-72-A1813, Revision 1, dated January 27, 2017. The Alert NMSB provides instructions to determine or re-calculate the consumed and remaining service life. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 25 engines installed on airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Pro-rated life	1 work-hour X \$85 per hour = \$85	\$3,858	\$3,943	\$98,575

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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has

delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

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.

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):

2017-19-18 **Rolls-Royce Deutschland Ltd & Co KG**: Amendment 39-19048; Docket No. FAA-2017-0140; Product Identifier 2017-NE-05-AD.

(a) Effective Date

This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Rolls-Royce Deutschland Ltd & Co KG (RRD) model Tay 620-15 turbofan engines with high-pressure compressor (HPC) modules M03100AA, or M03100AB, or M03100AC and HPC stage 12 rotor disk, part number (P/N) JR18449, installed.

(d) Subject

Joint Aircraft System Component (JASC) 7230, Turbine Engine Compressor Section.

(e) Reason

This AD was prompted by RRD recalculating the life limit for HPC stage 12 rotor disk, P/N JR18449. We are issuing this AD to prevent failure of the HPC stage 12 rotor

disk, uncontained HPC stage 12 rotor disk release, damage to the engine, and damage to the airplane.

(f) Compliance

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

(g) Required Actions

(1) Within 30 days after the effective date of this AD, determine whether the HPC stage 12 rotor disk has operated in both flight profiles A and B. If the rotor disk was operated, or is operating, in both flight profiles A and B, re-calculate the consumed cyclic life using 16,700 flight cycles (FC) as the maximum approved life limit for flight profile B.

(2) After the effective date of this AD, the maximum approved life limit for affected rotor disks operating in flight profile B is 16,700 FC. Calculate the consumed cyclic life accumulated since new using 16,700 FC as the maximum approved life limit for flight profile B.

(3) For those engines operating in flight profile B with an HPC stage 12 rotor disk, P/N JR18449, installed, that do not have an engine shop visit after the effective date of this AD before the re-calculated consumed cyclic life of the HPC stage 12 disk exceeds 16,700 FC, remove the affected rotor disk from service before the re-calculated consumed cyclic life exceeds the threshold(s) defined in Figure 1 to paragraph (g) of this AD.

Figure 1 to paragraph (g) – Remove Affected Rotor Disks from Service

Recalculated Consumed Cyclic Life on the effective date of this AD	Remove Affected Rotor Disks from Service
(i) less than 15,700 FC	Before exceeding 16,700 FC since new
(ii) 15,700 FC or more, but less than 16,700 FC	Either: (A) Within 1,000 FC or 19 months after the effective date of this AD, whichever occurs first; or (B) Before exceeding 16,700 FC since new, whichever occurs later.
(iii) 16,700 FC or more	Either: (A) Within 1,000 FC after the effective date of this AD, or (B) Before exceeding 20,000 FC since new, or (C) Within 19 months after the effective date of this AD, whichever occurs first.

(h) Installation Prohibition

After the effective date of this AD, installation of a serviceable spare engine or release to service of an engine after any shop visit, is allowed, provided the installed HPC stage 12 rotor disk, P/N JR18449, is a serviceable part.

(i) Definition

For the purpose of this AD, a serviceable part is an HPC stage 12 rotor disk, P/N JR18449, that has not exceeded 20,500 FC for flight profile A or 16,700 FC for flight profile B, as applicable to engine operation.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, FAA, ECO Branch, Compliance and Airworthiness Division, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

(1) For more information about this AD, contact Robert Green, Aerospace Engineer, FAA, ECO Branch, Compliance and Airworthiness Division, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7754; fax: 781-238-7199; email: Robert.Green@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2017-0010, dated January 16, 2017, for more information. 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-2017-0140.

(3) RRD Alert Non-Modification Service Bulletin TAY-72-A1813, Revision 1, dated January 27, 2017, which is not incorporated by reference in this AD, can be obtained from RRD, using the contact information in paragraph (k)(4) of this AD.

(4) For service information identified in this AD, contact Rolls-Royce Deutschland Ltd & Co KG, Eschenweg 11-15827 Dahlewitz, Blankenfelde-Mahlow, Germany; phone: +49 0 33-7086-1944; fax: +49 0 33-7086-3276.

(5) You may view this service information at the FAA, Engine and Propeller Standards Branch, Policy and Innovation Division, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

(l) Material Incorporated by Reference

None.

Issued in Burlington, Massachusetts, on September 13, 2017.

Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.
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