[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0235; Product Identifier 2018-NE-08-AD]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce Deutschland Ltd & Co KG Tay 620-15 Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for Rolls-Royce Deutschland Ltd & Co KG (RRD) Tay 620-15 turbofan engines. This AD limits service life of the low-pressure compressor (LPC) fan blades based on the number of dry-film lubricant (DFL) treatments. The AD was prompted by reports of LPC fan blade retention lug failures. We are proposing this AD to correct the unsafe condition on these products.

DATES: We must receive comments on this proposed 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. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12 140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Rolls-Royce Deutschland Ltd & Co KG, Eschenweg 11, Dahlewitz, 15827 Blankenfelde-Mahlow, Germany; phone: +49 (0) 33-7086-1883; fax: +49 (0) 33-7086-3276. You may view this service information at the FAA, Engine & Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

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-2018-0235; 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 NPRM, the mandatory continuing airworthiness information (MCAI), the regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone: 800-647-5527) is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Robert Green, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7754; fax: 781-238-7199; email: Robert.Green@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2018-0235; Product Identifier 2018-NE-08-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM 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 we receive about this NPRM.

Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2018-0013, dated January 17, 2018 (referred to after this as the MCAI), to address the unsafe condition on these products. The MCAI states:

> Fractures of low pressure compressor (LPC) fan blade retention lugs were reported on engines subjected to a high number of Dry Film Lubrication (DFL) treatments. Subsequent investigation determined that, as a consequence, the retention lugs of the affected LPC (fan) blades had been exposed to excessive high stress cycles.
>
> This condition, if not detected or corrected, could lead to failure of LPC fan blade retention lug(s), high vibration, reduced thrust, or in-flight shut down, possibly resulting in reduced control of the aeroplane.
>
> To address this potential unsafe condition, Rolls Royce Deutschland (RRD) issued Alert Non-Modification Service Bulletin (NMSB) TAY-72-A1834 (hereafter referred to as 'the NMSB') to provide identification and replacement instructions.
>
> For the reasons described above, this [EASA] AD requires determination of number of DFL treatments applied to the LPC fan blades and, based on that determination, replacement. This AD also introduces a maximum allowable number of DFL treatments applicable to the LPC fan blades.

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-2018-0235.

Related Service Information under 1 CFR Part 51

We reviewed RRD ALERT Non-Modification Service Bulletin (NMSB) TAY-72-A1834, dated November 17, 2017. The Alert NMSB describes procedures for reviewing the maintenance records and replacing the LPC fan blade with a serviceable part. 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.

Other Related Service Information

We reviewed RRD NMSB TAY-70-1050, Revision 9, dated July 14, 2010. This NMSB defines a basic engine life management program suitable for Tay engines in aircraft that are engaged in non-airline operations.

FAA's Determination

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. This proposed AD would require reviewing the engine maintenance records and replacing the LPC fan blade with a serviceable part if the DFL treatment limit is exceeded.

Requirements of the Proposed AD

This proposed AD would require reviewing the engine maintenance records and replacing the LPC fan blade with a serviceable part if the DFL treatment limit is exceeded.

Costs of Compliance

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

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Record search to establish number of LPC blade DFL applications	1.5 work-hours X $85 per hour = $127.50	0	$127.50	$3,187.50
Lost life for a LPC blade set and replacement of blades	4.0 work-hours X $85 per hour = $340	$16,550	$16,890	$422,250

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 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),

(3) Will not affect intrastate aviation in Alaska, 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.

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 airworthiness directive (AD):

Rolls-Royce Deutschland Ltd & Co KG; Docket No. FAA-2018-0235; Product Identifier 2018-NE-08-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 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) Tay 620-15 turbofan engines with low-pressure compressor (LPC) fan blades, having part numbers (P/Ns) JR30649, JR31702, JR31983, JR33863, or JR33864, installed.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by reports of LPC fan blade retention lug failures. We are issuing this AD to prevent failure of the LPC fan blade retention lug. The unsafe condition, if not addressed, could result in loss of engine thrust control and reduced control of 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 the number of DFL treatments that were applied to the LPC fan blade by reviewing the maintenance records or using an alternative method in steps C or N, as applicable, of the Accomplishment Instruction, paragraph 3, of RRD ALERT Non-Modification Service Bulletin (NMSB) TAY-72-A1834, dated November 17, 2017.

(2) Depending on the results of the records review, do the following, as applicable:

(i) If the number of DFL treatments is fewer than 13, mark the LPC fan blade dovetail root with a suffix code during the next scheduled LPC fan blade removal using steps H or R, as applicable, of the Accomplishment Instruction, paragraph 3, of RRD ALERT NMSB TAY-72-A1834, dated November 17, 2017.

(ii) If the number of DFL treatments is 13 or more, replace the affected LPC fan blade with a part eligible for installation within 500 flight hours after effective date of this AD.

(h) Installation Prohibition

After the effective date of this AD, do not install an affected LPC fan blade on any engine unless it has been determined that the LPC fan blade has had fewer than 13 DFL treatments and has been marked in accordance with the instructions of RRD ALERT NMSB TAY-72-A1834, dated November 17, 2017.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards

District Office, as appropriate. If sending information directly to the manager of the ECO Branch, send it to the attention of the person identified in paragraph (j)(1) of this AD. 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.

(j) Related Information

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

(2) Refer to European Aviation Safety Agency (EASA) AD 2018-0013, dated January 17, 2018, for more information. You may examine the EASA AD in the AD docket on the Internet at http://www.regulations.gov by searching for and locating it in Docket No. FAA-2018-0235.

(3) For service information identified in this proposed AD, contact Rolls-Royce Deutschland Ltd & Co KG, Eschenweg 11, Dahlewitz, 15827 Blankenfelde-Mahlow, Germany; phone: +49 (0) 33-7086-1883; fax: +49 (0) 33-7086-3276. You may view this referenced service information at the FAA, Engine & Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Issued in Burlington, Massachusetts, on April 25, 2018.

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

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