[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-1212; Project Identifier MCAI-2022-00423-E]

RIN 2120-AA64

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

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for all Rolls-Royce Deutschland Ltd. & Co. KG (RRD) Model RB211 Trent 768-60, 772-60, and 772B-60 engines. This proposed AD was prompted by reports of cracks on affected intermediate-pressure compressor (IPC) rotor shaft balance lands. This proposed AD would require repetitive on-wing or in-shop borescope inspections (BSIs) of the affected IPC rotor shaft balance land for cracks, replacement of any IPC rotor shaft if necessary, and would prohibit the installation of an affected IPC rotor shaft on any engine, as specified in a European Union Aviation Safety Agency (EASA) AD, which is proposed for incorporation by reference (IBR). The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this NPRM 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 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.

AD Docket: You may examine the AD docket at regulations.gov under Docket No. FAA-2023-1212; or in person at Docket Operations 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), any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

• For EASA service information that is proposed for IBR in this NPRM, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: ADs@easa.europa.eu; website: easa.europa.eu. You may find this material on the EASA website at ad.easa.europa.eu. It is also available at regulations.gov under Docket No. FAA-2023-1212.

• You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

FOR FURTHER INFORMATION CONTACT: Sungmo Cho, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (781) 238-7241; email: sungmo.d.cho@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include

"Docket No. FAA-2023-1212; Project Identifier MCAI-2022-00423-E" at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Sungmo Cho, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

EASA, which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2022-0055, dated March 23, 2022 (EASA AD 2022-0055)

(also referred to as the MCAI), to correct an unsafe condition for all RRD Model RB211 Trent 768-60, 772-60, 772B-60, and 772C-60 engines. The MCAI states that cracking on the IPC rotor shaft balance land has been historically observed on RRD Model Trent 700 engines. To address this unsafe condition, Roll-Royce (RR) originally developed Modification 72-AG402, which introduced a revised balancing method that removed the original balancing weights from the IPC rotor shaft balance land and published RR Service Bulletin (SB) RB.211-72-AG402 to provide instructions for an in-service modification. In addition, RR published Non-Modification Service Bulletin (NMSB) RB.211-72-AG085, Revision 3, dated August 27, 2021, to provide instructions for an in-shop eddy current inspection (ECI) of the IPC rotor shaft balance land. Consequently, EASA issued EASA AD 2018-0049R2, dated September 13, 2021 (EASA AD 2018-0049R2).

Since EASA issued EASA AD 2018-0049R2, RR determined that some RRD Model Trent 700 engines (post-RR SB RB.211-72-AG402) were not inspected in accordance with RR NMSB RB.211-72-AG085 during engine refurbishment due to the policy applied previously from RR NMSB RB.211-72-AG085, Revision 2. RR identified the affected batch of IPC rotor shaft balance lands and published RR NMSB RB.211-72-AK706, Initial Issue, dated November 24, 2021, which describes procedures to perform a BSI of the IPC rotor shaft balance land until the in-shop ECI is accomplished in accordance with RR NMSB RB.211-72-AG085. To address this, EASA issued the MCAI. This condition, if not addressed, could lead to IPC rotor shaft failure and consequent uncontained high-energy debris, possibly resulting in damage to the airplane.

You may examine the MCAI in the AD docket at regulations.gov under Docket No. FAA-2023-1212.

Related Service Information under 1 CFR Part 51

The FAA reviewed EASA AD 2022-0055, which specifies procedures for performing repetitive on-wing or in-shop BSIs of the IPC rotor shaft balance land and, if any discrepancies are detected, accomplishing the applicable corrective actions or replacing the IPC rotor shaft. The MCAI also specifies prohibiting the installation of an affected IPC rotor shaft on any engine and that accomplishing an in-shop ECI of the IPC rotor shaft balance land or replacing the IPC rotor shaft constitutes as terminating action for the repetitive BSIs.

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 ADDRESSES.

FAA's Determination

These products have been approved by the aviation authority of another country and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI described above. The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Proposed AD Requirements in this NPRM

This proposed AD would require accomplishing the actions specified in the MCAI described previously, except for any differences identified as exceptions in the regulatory text of this proposed AD and except as discussed under "Differences Between this Proposed AD and the MCAI."

Explanation of Required Compliance Information

In the FAA's ongoing efforts to improve the efficiency of the AD process, the FAA developed a process to use some civil aviation authority (CAA) ADs as the primary

source of information for compliance with requirements for corresponding FAA ADs. The FAA has since coordinated with other manufacturers and CAAs to use this process. As a result, the FAA proposes to incorporate by reference EASA AD 2022-0055 in the FAA final rule. This proposed AD would, therefore, require compliance with EASA AD 2022-0055 in its entirety through that incorporation, except for any differences identified as exceptions in the regulatory text of this proposed AD. Using common terms that are the same as the heading of a particular section in the EASA AD does not mean that operators need comply only with that section. For example, where the AD requirement refers to "all required actions within the compliance times," compliance with this AD requirement is not limited to the section titled "Required Action(s) and Compliance Time(s)" in EASA AD 2022-0055. Service information required by the EASA AD for compliance will be available at regulations.gov by searching for and locating Docket No. FAA-2023-1212 after the FAA final rule is published.

Differences Between this Proposed AD and the MCAI

EASA AD 2022-0055 applies to RRD Model RB211 Trent 768-60, 772-60, 772B-60, and 772C-60 engines. This proposed AD would not apply to RRD Model RB211 Trent 772C-60 engines, as this model engine does not have an FAA type certificate.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 62 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
BSI of IPC rotor shaft balance land	4.5 work-hours x $85 per hour = $382.50	$0	$382.50	$23,715

The FAA estimates the following costs to do any necessary replacements that would be required based on the results of the proposed inspection. The agency has no way of determining the number of aircraft that might need these replacements:

On-condition costs

Action	Labor Cost	Parts Cost	Cost per product
Replace IPC rotor shaft	50 work-hours x $85 per hour = $4,250	$2,120,000	$2,124,250

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.

The FAA is 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

The FAA 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) Would not affect intrastate aviation in Alaska, and

(3) Would 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:

Rolls-Royce Deutschland Ltd. & Co. KG: Docket No. FAA-2023-1212; Project Identifier MCAI-2022-00423-E.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) 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 Model RB211 Trent 768-60, 772-60, and 772B-60 engines.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by reports of cracks on the intermediate-pressure compressor (IPC) rotor shaft balance land. The FAA is issuing this AD to detect cracks on the IPC rotor shaft balance land. The unsafe condition, if not addressed, could lead to IPC rotor shaft failure and consequent uncontained high-energy debris, possibly resulting in damage to the airplane.

(f) Compliance

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

(g) Required Actions

Except as specified in paragraphs (h) and (i) of this AD: Perform all required actions within the compliance times specified in, and in accordance with, European Union Aviation Safety Agency (EASA) AD 2022-0055, dated March 23, 2022 (EASA AD 2022-0055).

(h) Exceptions to EASA AD 2022-0055

(1) Where EASA AD 2022-0055 refers to its effective date, this AD requires using the effective date of this AD.

(2) This AD does not adopt the Remarks paragraph of EASA AD 2022-0055.

(3) Where the service information referenced in EASA AD 2022-0055 specifies to use certain tooling, equivalent tooling may be used.

(i) No Reporting Requirement

Although the service information referenced in EASA AD 2022-0055 specifies to notify the manufacturer or supply pictures to the manufacturer of any cracks, dents, or nicks, this AD does not include that requirement.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation 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 International Validation Branch, send it to the attention of the person identified in paragraph (k) of this AD and email 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) Additional Information

For more information about this AD, contact Sungmo Cho, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (781) 238-7241; email: sungmo.d.cho@faa.gov.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) European Union Aviation Safety Agency AD 2022-0055, dated March 23, 2022.

(ii) [Reserved]

(3) For EASA AD 2022-0055, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: ADs@easa.europa.eu; website: easa.europa.eu. You may find this EASA AD on the EASA website at ad.easa.europa.eu.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on June 8, 2023.

Michael Linegang, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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