**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2023-1808; Project Identifier MCAI-2023-00906-E; Amendment 39-22537; AD 2023-17-11]**

**RIN 2120-AA64**

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

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

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

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all Rolls-Royce Deutschland Ltd & Co KG (RRD) Model BR700-715A1-30, BR700-715B1-30, and BR700-715C1-30 engines. This AD was prompted by reports of malformed scallop edge geometry and surface conditions at the front flange scallops of affected low-pressure compressor (LPC) booster rotors. This AD requires repetitive fluorescent penetrant inspections (FPIs) of the front flange scallops of the LPC booster rotor for any cracks, replacement or repair of the LPC booster rotor if necessary and, as an optional terminating action to the repetitive FPIs, a visual inspection for malformed scallop edge geometry and malformed surface conditions, as specified in a European Union Aviation Safety Agency (EASA) AD, which is incorporated by reference (IBR). The FAA is issuing this AD to address the unsafe condition on these products.

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

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The FAA 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 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-2023-1808; 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 final rule, 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 identified in this final rule, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: ADs@easa.europa.eu. You may find this material on the EASA website at ad.easa.europa.eu.

• 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. It is also available at regulations.gov under Docket No. FAA-2023-1808.

**FOR FURTHER INFORMATION CONTACT:** Sungmo Cho, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: (781) 238-7241; email: sungmo.d.cho@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2023-1808; Project Identifier MCAI-2023-00906-E" at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, 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 final rule 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 final rule.

**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 AD 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 AD, 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 AD. Submissions containing CBI should be sent to Sungmo Cho, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198. 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 2023-0152, dated July 25, 2023 (EASA AD 2023-0152) (also referred to after this as the MCAI), to correct an unsafe condition for all RRD Model BR700-715A1-30, BR700-715B1-30, and BR700-715C1-30 engines. The MCAI states that occurrences have been reported of finding malformed scallop edge geometry and surface conditions at the front flange of scallops of certain LPC booster rotors. To address this unsafe condition, the manufacturer published service information that specifies procedures for inspecting the front flange scallops of the LPC booster rotors with accept and reject criteria.

Prior to the issuance of EASA AD 2023-0152, the FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to RRD Model BR700-715A1-30, BR700-715B1-30, and BR700-715C1-30 engines. The NPRM published in the *Federal Register* on June 14, 2023 (88 FR 38762). The NPRM was prompted by EASA AD 2022-0252, dated December 16, 2022 (later revised to EASA AD 2022-0252R1, dated April 28, 2023 (EASA AD 2022-0252R1)). The NPRM proposed to require repetitive FPIs of the front flange scallops of the LPC booster rotor for any cracks, replacement or repair of the LPC booster rotor if necessary and, as an optional terminating action to the repetitive FPIs, a visual inspection for malformed scallop edge geometry and malformed surface conditions to prevent failure of the LPC booster rotor. However, since the NPRM was issued, the FAA has reviewed the MCAI which supersedes EASA AD 2022-0252R1 and includes both reduced compliance

times for certain engines and extended compliance times for certain other engines. Therefore, the FAA has determined that it is necessary to withdraw the NPRM under a separate action; and instead issue this final rule to address the unsafe condition.

For further information, you may examine the MCAI in the AD docket at regulations.gov under Docket No. FAA-2023-1808.

**Discussion of Notice of Proposed Rule Making**

**Comments**

The FAA received comments from four commenters. Commenters included Hawaiian Airlines (Hawaiian), Delta Air Lines (Delta), The Boeing Company, and Air Line Pilots Association, International (ALPA). Boeing and ALPA supported the NPRM without change. However, comments from Hawaiian and Delta identified concerns with the NPRM. The FAA has determined that it is necessary to withdraw the NPRM and instead issue this final rule to address the unsafe condition. The following presents the comments received on the NPRM and the FAA's response to each comment.

**Requests to Revise the NPRM**

Delta suggested that the instructions for the FPI referenced in EASA AD 2022-0252 do not provide procedures for the application of non-aqueous aerosol developer (NAD). Additionally, Delta requested that the FAA include an exception to the AD to allow this NAD or industry equivalent for the FPI procedure.

Delta pointed out that the manufacturer has published a revision to the service information that was referenced in EASA AD 2022-0252 and requested that the FAA include credit in the NPRM for actions accomplished using RRD Non-Modification Service Bulletin (NMSB) SB-BR700-72-A900738, Initial Issue, dated December 15, 2022. Delta mentioned that the inspections specified in RRD NMSB SB-BR700-72-A900738, Initial Issue, dated December 15, 2022, are equivalent to those contained in RRD NMSB SB-BR700-72-A900738, Revision 1, dated July 11, 2023. The FAA infers

that Delta is requesting that RRD NMSB SB-BR700-72-A900738, Revision 1, dated July 11, 2023, as the required service information for the actions specified in the NPRM.

Hawaiian stated that the materials necessary to accomplish the required actions listed in the NPRM are obsolete or otherwise unavailable for use in the United States. Hawaiian requested that the FAA revise the NPRM to include suitable materials for accomplishing the required actions.

After careful consideration of these comments, the FAA agrees to withdraw the NPRM. However, the FAA will accomplish the withdrawal of the NPRM as a separate action. The MCAI specified in this final rule refers to the revised service information, and both now adequately address the concerns Delta and Hawaiian. The FAA has updated this final rule to include the revised service information which also contains the change of materials necessary to support the required inspections.

**Conclusion**

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 referenced above. The FAA reviewed the relevant data, considered the comments received, and has determined to withdraw the NPRM. Instead of publishing the NPRM, the FAA has also determined that air safety requires adopting this final rule. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products.

**Related Service Information under 1 CFR Part 51**

The FAA reviewed EASA AD 2023-0152, which specifies procedures for accomplishing repetitive FPIs (on-wing or in-shop) of the front flange scallops of the affected part and, if any cracks are detected, removing the engine from service and contacting the manufacturer for approved corrective actions. EASA AD 2023-0152 also

specifies procedures for performing a visual inspection, taking photographs, and submitting photograph documentation of the LPC booster rotor front flange scallops for malformed scallop edge geometry and malformed surface conditions, including validation of the results from the manufacturer, as terminating action for the repetitive FPIs.

This material 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 referenced above. The FAA is issuing this AD after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

**AD Requirements**

This AD requires accomplishing the actions specified in the MCAI, except for any differences identified as exceptions in the regulatory text of this AD, and except as discussed under "Differences Between this AD and the MCAI." This AD requires sending certain inspection results, the Part C Accomplishment Form, and photographic evidence to the manufacturer if operators elect to perform the optional terminating action specified in Part C of the service information referenced in EASA AD 2023-0152.

**Differences Between this AD and the MCAI**

Where paragraphs (2) and (3) of EASA AD 2023-0152 specify to contact RRD for approved corrective action(s) and accomplish those actions accordingly, this AD requires replacement or repair of the LPC booster rotor.

Where paragraph (1) requires accomplishment of the initial inspection to be determined by certain flight missions and engine flight cycles (EFC), after the effective date of the EASA AD, but not later than August 31, 2023, this AD requires accomplishment of the initial inspection within 150 EFC after the effective date of this AD.

**Justification for Immediate Adoption and Determination of the Effective Date**

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) (5 U.S.C. 551 *et seq.*) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for "good cause," finds that those procedures are "impracticable, unnecessary, or contrary to the public interest." Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies forgoing notice and comment prior to adoption of this rule due to a reassessment performed by the manufacturer that determined an increased risk of a crack developing on the LPC booster. This unsafe condition may result in release of high-energy debris, with consequent engine in-flight shutdown, and reduced control of the airplane. Due to this increased risk, the FPI of the LPC booster for cracking must be accomplished within 150 flight cycles (which is equivalent to 30 days) after the effective date of this AD. Accordingly, notice and opportunity for prior public comment are impracticable and contrary to the public interest pursuant to 5 U.S.C. 553(b)(3)(B).

In addition, the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days, for the same reasons the FAA found good cause to forgo notice and comment.

**Regulatory Flexibility Act**

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because the FAA has determined that it has good cause to adopt this rule without prior notice and comment, RFA analysis is not required.

**Costs of Compliance**

The FAA estimates that this AD affects 148 engines installed on airplanes of U.S. registry.

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

**Estimated costs**

| Action | Labor Cost | Parts Cost | Cost per product | Cost on U.S. operators |
|---|---|---|---|---|
| FPI front flange scallops of the LPC booster rotor | 5 work-hours x $85 per hour = $425 | $0 | $425 | $62,900 |

The FAA estimates the following costs to do any necessary replacement, repair, or visual inspection that would be required based on the results of the inspection. The agency has no way of determining the number of engines that might need this replacement, repair, or visual inspection:

**On-condition costs**

| Action | Labor Cost | Parts Cost | Cost per product |
|---|---|---|---|
| Replace the LPC booster rotor | 10 work-hours x $85 per hour = $850 | $461,897 | $462,747 |

| Action | Labor Cost | Parts Cost | Cost per product |
|---|---|---|---|
| Repair the LPC booster rotor | 10 work-hours x $85 per hour = $850 | $185,000 | $185,850 |
| Visual inspection and photograph documentation of the LPC booster rotor front flange scallops | 7 work-hours x $85 per hour = $595 | $0 | $595 |
| Send Accomplishment Form (Part C) and photographs to RRD | 1 work-hours x $85 per hour = $85 | $0 | $85 |

**Paperwork Reduction Act**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to take approximately 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

**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**

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, and

(2) Will not affect intrastate aviation in Alaska.

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**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:

**2023-17-11 Rolls-Royce Deutschland Ltd & Co KG**: Amendment 39-22537; Docket No. FAA-2023-1808; Project Identifier MCAI-2023-00906-E.

**(a) Effective Date**

This airworthiness directive (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 Deutschland Ltd & Co KG (RRD) Model BR700-715A1-30, BR700-715B1-30, and BR700-715C1-30 engines.

**(d) Subject**

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

**(e) Unsafe Condition**

This AD was prompted by reports of malformed scallop edge geometry and surface conditions at the front flange scallops of affected low-pressure compressor (LPC) booster rotors. The FAA is issuing this AD to prevent failure of the LPC booster rotor. The unsafe condition, if not addressed, could result in release of high-energy debris, with consequent engine in-flight shutdown, and reduced control of 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 2023-0152, dated July 25, 2023 (EASA AD 2023-0152).

**(h) Exceptions to EASA AD 2023-0152**

(1) Where EASA AD 2023-0152 requires compliance from its effective date, this AD requires using the effective date of this AD.

(2) This AD does not adopt the compliance times specified for the initial fluorescent penetrant inspection (FPI) in paragraph (1) and Table 1 of EASA AD 2023-0152. Instead, this AD requires the initial FPI within 150 engine flight cycles after the effective date of this AD.

(3) Where paragraph (1) of EASA AD 2023-0152 specifies "in accordance with the instructions of EM task 72-38-12-200-801" this AD requires replacing those words with "in accordance with the instructions of EM task 72-38-18-200-801 or equivalent FAA approved procedures."

(4) Where paragraphs (2) and (3) of EASA AD 2023-0152 specify to contact RRD for approved corrective action(s) and accomplish those actions accordingly, this AD requires replacement of the LPC booster rotor. In lieu of replacement of the affected LPC booster rotor, operators may repair the affected LPC booster rotor using a method approved by the Manager, International Validation Branch, FAA; or EASA; or RRD's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(5) Where the service information referenced in EASA AD 2023-0152 specifies to reject the engine if a crack is found, this AD requires replacement or repair of the LPC booster rotor.

(6) This AD does not adopt the Remarks paragraph of EASA AD 2023-0152.

**(i) Reporting Requirement**

Although the service information referenced in EASA AD 2023-0152 specifies to submit the Accomplishment Forms, Parts A and B, to the manufacturer, this AD does not include that requirement. If operators elect to perform the optional terminating action specified in Part C of the service information referenced in EASA AD 2023-0152, this AD requires submission of the Part C Accomplishment Form and photographic information to the manufacturer.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, AIR-520 Continued Operational Safety 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, 2200 South 216th Street, Des Moines, WA 98198; 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 2023-0152, dated July 25, 2023.

(ii) [Reserved]

(3) For EASA AD 2022-0252, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: ADs@easa.europa.eu. You may find EASA AD 2022-0252 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 August 25, 2023.

Victor Wicklund, Deputy Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2023-19164 Filed: 8/31/2023 4:15 pm; Publication Date: 9/5/2023]