



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2023-0437; Project Identifier MCAI-2022-01358-E; Amendment 39-22480; AD 2023-12-21]

RIN 2120-AA64

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

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

**ACTION:** Final rule.

**SUMMARY:** The FAA is superseding Airworthiness Directive (AD) 2021-26-13, which applied to all Rolls-Royce Deutschland Ltd & Co KG (RRD) Model Trent 1000-A2, Trent 1000-AE2, Trent 1000-C2, Trent 1000-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, and Trent 1000-L2 engines. AD 2021-26-13 required revision of the engine Time Limits Manual (TLM) life limits of certain critical rotating parts and direct accumulation counting (DAC) data files. Since the FAA issued AD 2021-26-13, RRD has revised the TLM with more restrictive airworthiness limitations, including updated life limits for certain critical parts and updated DAC data files. This AD was prompted by the manufacturer revising the engine TLM life limits of certain critical rotating parts, updating the DAC data files, and updating certain maintenance tasks. This AD requires revising the existing approved maintenance or inspection program, as applicable, to incorporate more restrictive airworthiness limitations, 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 35 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 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:**

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-0437; 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 address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

*Material Incorporated by Reference:*

- For 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](mailto:ADs@easa.europa.eu); website: [easa.europa.eu](https://easa.europa.eu).

- You may view this material 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 in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-0437.

**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](mailto:sungmo.d.cho@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2021-26-13, Amendment 39-21872 (86 FR 72840, December 23, 2021), ("AD 2021-26-13"). AD 2021-26-13 applied to all RRD Model Trent 1000-A2, Trent 1000-AE2, Trent 1000-C2, Trent 1000-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, and Trent 1000-L2 engines. AD 2021-26-13 required operators to update the airworthiness limitations section (ALS) of their approved maintenance and inspection program by incorporating the latest revision of the engine TLM life limits of certain critical rotating parts and updating DAC data files for each affected model engine. The FAA issued AD 2021-26-13 to prevent the failure of critical rotating parts.

The NPRM published in the Federal Register on March 23, 2023 (88 FR 17426). The NPRM was prompted by EASA AD 2022-0210, dated October 17, 2022 (referred to after this as "the MCAI"), issued by EASA, which is the Technical Agent for the Member States of the European Union. The MCAI states the manufacturer published a revised TLM introducing new or more restrictive tasks and limitations. These new or more restrictive tasks and limitations include updating declared lives of certain critical parts and updating DAC data files.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-0437.

In the NPRM, the FAA proposed to require revising the existing approved maintenance or inspection program, as applicable, to incorporate more restrictive airworthiness limitations, as specified in EASA AD 2022-0210. The FAA is issuing this AD to address the unsafe condition on these products.

### **Discussion of Final Airworthiness Directive**

## **Comments**

The FAA received a comment from one commenter, The Boeing Company (Boeing). Boeing supported the NPRM without change.

## **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 comment received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, this AD is adopted as proposed in the NPRM.

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

The FAA reviewed EASA AD 2022-0210. EASA AD 2022-0210 specifies instructions for accomplishing the actions specified in the applicable TLM, including performing maintenance tasks, replacing life-limited parts, and revising the existing approved maintenance or inspection program, as applicable, by incorporating the limitations, tasks, and associated thresholds and intervals described in the TLM.

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.

## **Differences Between this AD and the MCAI**

Where paragraph (3) of EASA AD 2022-0210 specifies revising the approved Aircraft Maintenance Programme within 12 months after the effective date of EASA AD 2022-0210, this AD requires revising the ALS of the existing approved maintenance or inspection program, as applicable, within 90 days after the effective date of this AD.

## Costs of Compliance

The FAA estimates that this AD affects 32 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
Revise the continuous airworthiness maintenance program	1 work-hours x \$85 per hour = \$85	\$0	\$85	\$2,720

## 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 has 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 that this AD:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) 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 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:

a. Removing Airworthiness Directive 2021-26-13, Amendment 39-21872 (86 FR 72840, December 23, 2021); and

b. Adding the following new airworthiness directive:

**2023-12-21 Rolls-Royce Deutschland Ltd & Co KG:** Amendment 39-22480; Docket No. FAA-2023-0437; Project Identifier MCAI-2022-01358-E.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD replaces AD 2021-26-13, Amendment 39-21872 (86 FR 72840, December 23, 2021).

**(c) Applicability**

This AD applies to Rolls-Royce Deutschland Ltd & Co KG Model Trent 1000-A2, Trent 1000-AE2, Trent 1000-C2, Trent 1000-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, and Trent 1000-L2 engines, all serial numbers.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7200, Engine (Turbine/Turboprop).

**(e) Unsafe Condition**

This AD was prompted by the manufacturer revising the engine Time Limits Manual life limits of certain critical rotating parts, updating the direct accumulation counting data files, and updating certain maintenance tasks. The FAA is issuing this AD to prevent the failure of critical rotating parts. The unsafe condition, if not addressed, could result in failure of one or more engines, loss of thrust control, and loss of the airplane.

**(f) Compliance**

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

**(g) Required Actions**

Except as specified in paragraph (h) of this AD: Perform all required actions within the compliance times specified in, and in accordance with, European Union Aviation Safety Agency (EASA) AD 2022-0210, dated October 17, 2022 (EASA AD 2022-0210).

#### **(h) Exceptions to EASA AD 2022-0210**

(1) Where EASA AD 2022-0210 defines the AMP as the approved Aircraft Maintenance Programme on the basis of which the operator or the owner ensures the continuing airworthiness of each operated engine, this AD defines the AMP as the Aircraft Maintenance Program on the basis of which the operator or the owner ensures the continuing airworthiness of each operated airplane.

(2) Where EASA AD 2022-0210 refers to its effective date, this AD requires using the effective date of this AD.

(3) This AD does not require compliance with paragraph (1) of EASA AD 2022-0210.

(4) This AD does not require compliance with paragraph (2) of EASA AD 2022-0210.

(5) Where paragraph (3) of EASA AD 2022-0210 specifies revising the approved AMP within 12 months after the effective date of EASA AD 2022-0210, this AD requires revising the existing approved maintenance or inspection program, as applicable, and airworthiness limitations section within 90 days after the effective date of this AD.

(6) This AD does not adopt the “Remarks” paragraph of EASA AD 2022-0210.

#### **(i) Provisions for Alternative Actions and Intervals**

After performing the actions required by paragraph (g) of this AD, no alternative actions and associated thresholds and intervals, including life limits, are allowed unless they are approved as specified in the provisions of the “Ref. Publications” section of EASA AD 2022-0210.

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

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

responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k) of this AD and email to: ANE-AD-AMOC@faa.gov. 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 2022-0210, dated October 17, 2022.

(ii) [Reserved]

(3) For EASA AD 2022-0210, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: ADs@easa.europa.eu; website: easa.europa.eu. This EASA AD may be found in the AD docket at regulations.gov under Docket No. FAA-2023-0437.

(4) You may view this service information at the 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](mailto:fr.inspection@nara.gov), or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

Issued on June 28, 2023.

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

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