



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2020-0364; Project Identifier MCAI-2019-00119-E]**

**RIN 2120-AA64**

**Airworthiness Directives; Rolls-Royce Deutschland Ltd & Co KG (Type Certificate Previously Held by Rolls-Royce plc) Turbofan 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 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 model turbofan engines. This proposed AD was prompted by the manufacturer revising the engine Time Limits Manual (TLM) life limits of certain critical rotating parts and direct accumulation counting (DAC) data files. This proposed AD would require operators to revise the airworthiness limitation section (ALS) of their approved maintenance program by incorporating the revised tasks of the applicable TLM for each affected engine model. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA 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 <https://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, 15827 Blankenfelde-Mahlow, Germany; phone: +49 (0) 33 708 6 0; email: <https://www.rolls-royce.com/contact-us.aspx>. You may view this service information at the FAA, Engine and 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 <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0364; 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. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Stephen Elwin, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7236; fax: 781-238-7199; email: [stephen.l.elwin@faa.gov](mailto:stephen.l.elwin@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 the ADDRESSES section.

Include “Docket No. FAA-2020-0364; Project Identifier MCAI-2019-00119-E” at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

Except for Confidential Business Information 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 <https://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this NPRM.

#### **Confidential Business Information**

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 Stephen Elwin, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

## **Discussion**

The European Union Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2019-0058R1, dated April 2, 2019 (referred to after this as “the MCAI”), to address the unsafe condition on these products. The MCAI states:

The airworthiness limitations and/or certification maintenance instructions for certain Trent 1000 engines (also known as ‘Package C’), which are approved by EASA, are defined and published in TLM T-Trent-10RRC. These instructions have been identified as mandatory for continued airworthiness.

Failure to accomplish these instructions could result in an unsafe condition.

Rolls-Royce recently revised the TLM, updating declared lives of certain critical parts and updating Direct Accumulation Counting (DAC) Data Files.

For the reason described above, this [EASA] AD requires accomplishment of the actions specified in the TLM.

This [EASA] AD is revised to clarify that only tasks contained in two specific chapters of Rolls-Royce TLM T-Trent-10RRC are required by this [EASA] AD.

You may obtain further information by examining the MCAI in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0364.

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

The FAA reviewed Chapter 05-10 of Rolls-Royce (RR) Trent 1000-A2 RR TLM T-Trent-10RRC, RR Trent 1000-AE2 RR TLM T-Trent-10RRC, RR Trent 1000-C2 RR TLM T-Trent-10RRC, RR Trent 1000-CE2 RR TLM T-Trent-10RRC, RR Trent 1000-D2 RR TLM T-Trent-10RRC, RR Trent 1000-E2 RR TLM T-Trent-10RRC, RR Trent 1000-G2 RR TLM T-Trent-10RRC, RR Trent 1000-H2 RR TLM T-Trent-10RRC, RR Trent 1000-J2 RR TLM T-Trent-10RRC, RR Trent 1000-K2 RR TLM T-Trent-10RRC, and RR Trent 1000-L2 RR TLM T-Trent-10RRC (referred to after this as “RR Trent 1000 RR TLM T-Trent-10RRC, Chapter 05-10”), all dated December 12, 2018. RR Trent 1000 RR TLM T-Trent-10RRC, Chapter 05-10, differentiated by engine model, identifies the reduced life limits of certain critical rotating parts and the latest DAC data files to include within the DAC life-usage calculator tool.

The FAA also reviewed Chapter 05-20 of RR Trent 1000-A2 RR TLM T-Trent-10RRC, RR Trent 1000-AE2 RR TLM T-Trent-10RRC, RR Trent 1000-C2 RR TLM T-Trent-10RRC, RR Trent 1000-CE2 RR TLM T-Trent-10RRC, RR Trent 1000-D2 RR TLM T-Trent-10RRC, RR Trent 1000-E2 RR TLM T-Trent-10RRC, RR Trent 1000-G2 RR TLM T-Trent-10RRC, RR Trent 1000-H2 RR TLM T-Trent-10RRC, RR Trent 1000-J2 RR TLM T-Trent-10RRC, RR Trent 1000-K2 RR TLM T-Trent-10RRC, and RR Trent 1000-L2 RR TLM T-Trent-10RRC (referred to after this as “RR Trent 1000 RR TLM T-Trent-10RRC, Chapter 05-20”), all dated March 1, 2018. RR Trent 1000 RR TLM T-Trent-10RRC, Chapter 05-20, differentiated by engine model, identifies the critical rotating part inspection thresholds and intervals.

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.

### **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. The FAA is proposing this AD because we evaluated all the relevant information provided by EASA and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

### **Proposed AD Requirements**

This proposed AD would require operators to revise the ALS of their approved maintenance program by incorporating the revised tasks of the applicable TLM for each affected model turbofan engine.

### **Costs of Compliance**

The FAA estimates that this proposed AD affects 20 engines installed on airplanes of U.S. registry.

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

#### **Estimated costs**

<b>Action</b>	<b>Labor Cost</b>	<b>Parts Cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Revise the TLM	1 work-hour x \$85 per hour = \$85	\$0	\$85	\$1,700

### **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) 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 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-2020-0364; Project Identifier MCAI-2019-00119-E.**

**(a) Comments Due Date**

The FAA 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 (Type Certificate previously held by Rolls-Royce plc) 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 model turbofan engines.

**(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 (TLM) life limits of certain critical rotating parts and direct accumulation counting (DAC) data files. 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**

Within 60 days after the effective date of this AD, revise the airworthiness limitation section (ALS) of the approved maintenance program by incorporating:

(1) Task 05-10-01-800-801, “Critical Part Mandatory Lives,” from Chapter 05-10 of the applicable Rolls-Royce (RR) Trent 1000 RR TLM T-Trent-10RRC, dated December 12, 2018, and

(2) Task 05-20-01-800-801, “Critical Parts Mandatory Inspections,” from Chapter 05-20 of the applicable RR Trent 1000 RR TLM T-Trent-10RRC, dated March 1, 2018.

**(h) Definition**

(1) For the purpose of this AD, the “approved maintenance program” is defined as the basis for which the operator or the owner ensures the continuing airworthiness of each operated airplane.

(2) For the purpose of this AD, the “applicable RR Trent 1000 RR TLM T-Trent-10RRC” refers to, depending on the affected model, the following engine models TLMs:

- (i) RR Trent 1000-A2 RR TLM T-Trent-10RRC;
- (ii) RR Trent 1000-AE2 RR TLM T-Trent-10RRC;
- (iii) RR Trent 1000-C2 RR TLM T-Trent-10RRC;
- (iv) RR Trent 1000-CE2 RR TLM T-Trent-10RRC;
- (v) RR Trent 1000-D2 RR TLM T-Trent-10RRC;
- (vi) RR Trent 1000-E2 RR TLM T-Trent-10RRC;
- (vii) RR Trent 1000-G2 RR TLM T-Trent-10RRC;
- (viii) RR Trent 1000-H2 RR TLM T-Trent-10RRC;
- (ix) RR Trent 1000-J2 RR TLM T-Trent-10RRC;
- (x) RR Trent 1000-K2 RR TLM T-Trent-10RRC; or
- (xi) RR Trent 1000-L2 RR TLM T-Trent-10RRC.

**(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 Stephen Elwin, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7236; fax: 781-238-7199; email: stephen.l.elwin@faa.gov.

(2) Refer to European Union Aviation Safety Agency AD 2019-0058R1, dated April 2, 2019, for more information. You may examine the EASA AD in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating it in Docket No. FAA-2020-0364.

(3) For service information identified in this AD, contact Rolls-Royce Deutschland Ltd & Co KG, Eschenweg 11, 15827 Blankenfelde-Mahlow, Germany; phone: +49 (0) 33 708 6 0; email: <https://www.rolls-royce.com/contact-us.aspx>. You may view this referenced service information at the FAA, Engine and 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 on April 3, 2020.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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