



## Airworthiness Directive

**AD No.:** 2019-0286R2

**Issued:** 22 July 2025

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I Part M.A.301, or Annex Vb Part ML.A.301, as applicable, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I Part M.A.303, or Annex Vb Part ML.A.303, as applicable] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

**Design Approval Holder's Name:**

ROLLS-ROYCE DEUTSCHLAND GmbH & Co KG

**Type/Model designation(s):**

Trent 1000 engines

**Effective Date:** Revision 2: 29 July 2025  
Revision 1: 10 July 2024  
Original issue: 10 December 2019

**TCDS Number(s):** EASA.E.036

**Foreign AD:** Not applicable

**Revision:** This AD revises EASA AD 2019-0286R1 dated 03 July 2024.

### ATA 72 – Engine – Low Pressure Compressor Front Cases – Removal from Service

**Manufacturer(s):**

Rolls-Royce plc

**Applicability:**

Trent 1000-A, Trent 1000-A2, Trent 1000-AE, Trent 1000-AE2, Trent 1000-C, Trent 1000-C2, Trent 1000-CE, Trent 1000-CE2, Trent 1000-D, Trent 1000-D2, Trent 1000-E, Trent 1000-E2, Trent 1000-G, Trent 1000-G2, Trent 1000-H, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2 and Trent 1000-L2 engines, all serial numbers (ESN).

These engines are known to be installed on, but not limited to, Boeing 787 aeroplanes.

**Definitions:**

For the purpose of this AD, the following definitions apply:

**Affected part:** Low pressure compressor (LPC) front cases, having Part Number (P/N) KH26266 and a serial number (s/n) as listed in Appendix 1 of the NMSB.



**The NMSB:** Rolls-Royce Alert NMSB TRENT 1000 72-AK294. Appendix 1 of the NMSB contains the s/n of the affected parts, the ESN of the engines on which these are installed, and the ultimate date to remove each engine from service for inspection or replacement of the affected part.

Appendix 2 of the NMSB contains the s/n of the affected parts which are not eligible for an inspection, the ESN of the engines on which these are installed, and the ultimate date to remove each engine from service for replacement of the affected part.

Appendix 3 of the NMSB contains the s/n of the affected parts, the ESN of the engines on which these are installed, and the minimum acceptable thickness of the affected part for engines eligible for on-wing or off-wing inspections. This list was introduced in Revision 1 of the Rolls-Royce Alert NMSB 72-AK294 and has remained unchanged between Revisions 1 and 2.

Where, in this AD, reference is made to a Rolls-Royce Service Bulletin (SB) or Non-Modification SB (NMSB) with an 'A' (Alert) in the number, it should be recognised that an earlier or later revision may not have that 'A'. This kind of change does not effectively alter the publication references for the purpose of this AD.

**Groups:** Group 1 engines are those that have an ESN listed in Appendix 1 of the NMSB. Group 2 engines are those that have an ESN not listed in Appendix 1 of the NMSB.

#### Reason:

Preliminary engineering analysis had identified that 38 LPC front cases have non-optimal material properties. This number was revised to 26 in NMSB 72-AK294 at Revision 1 based on subsequent engineering analysis. Non-optimal material properties could inhibit the intended function of the LPC front case to contain certain engine failures.

This condition, if not corrected, could, in case of fan blade failure, lead to high energy debris release, possibly resulting in damage to, and reduced control of, the aeroplane.

To address this potential unsafe condition, Rolls-Royce developed an updated life management and ultrasonic measurement method published in original issue and later Revision 1 of NMSB TRENT 1000 72-AK294, identifying those ESNs that have an affected part installed, and providing the corresponding limit (date) for in-shop front fan case replacement. Consequently, EASA issued AD 2019-0286 (later revised) to require removal from service of the affected engines to replace the affected parts. AD 2019-0286R1 retained the prohibition of re-installation of affected parts, except parts listed in Appendix 3 of Revision 1 of the Rolls-Royce NMSB TRENT 1000 72-AK294.

Since that AD was issued, Rolls-Royce published Revision 2 of NMSB TRENT 1000 72-AK294 introducing instructions for on-wing thickness inspection for selected population of the affected parts (identified in Appendix 3 of the Revision 2 of NMSB TRENT 1000 72-AK294) allowing continuation of on-wing service of the engine instead of removal from an aeroplane.

This AD is revised to introduce provision for on-wing thickness inspection.



**Required Action(s) and Compliance Time(s):**

Required as indicated by this AD, unless the actions required by this AD have been already accomplished:

**Removal from Service:**

- (1) For Group 1 engines: Not later than the 'Required Removal Date' as specified in Appendix 1 of the NMSB, as applicable to ESN, remove the affected engine from service, except for engines which are equipped with an affected part listed in Appendix 3 of the Rolls-Royce NMSB TRENT 1000 72-AK294 at Revision 2 and which passed the thickness inspection (on-wing) in accordance with the instructions of Rolls-Royce NMSB TRENT 1000 72-AK294 at Revision 2.

**Corrective Action(s):**

- (2) After removing an engine from service as required by paragraph (1) of this AD, before release to service of that engine, replace the affected part, unless that affected part is listed in Appendix 3 of Rolls-Royce NMSB TRENT 1000 72-AK294 at Revision 1 (or later issue) and passed the thickness inspection in accordance with the instructions of Rolls-Royce NMSB TRENT 1000 72-AK294 at Revision 1 (or later issue).

**Part Installation:**

- (3) For Group 1 and Group 2 engines: From 10 December 2019 [the effective date of this AD at original issue], do not install (see Note 1 of this AD) an affected part on any engine, unless that affected part is listed in Appendix 3 of Rolls-Royce NMSB TRENT 1000 72-AK294 at Revision 1 (or later issue) and, before installation, passed the thickness inspection in accordance with the instructions of Rolls-Royce NMSB TRENT 1000 72-AK294 at Revision 1 (or later issue).

Note 1: Removal of an affected part from a Group 1 engine, for a purpose other than to comply with this AD, and re-installation of that affected part on that same engine during the same maintenance visit does not constitute 'install' for the purpose of paragraph (3) of this AD.

**Ref. Publications:**

Rolls-Royce Alert NMSB TRENT 1000 72-AK294 original issue dated 16 July 2019, or Revision 1 dated 04 June 2024, or Revision 2 dated 16 July 2025.

The use of later approved revisions of the above-mentioned document is acceptable for compliance with the requirements of this AD.

**Remarks:**

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. The original issue of this AD was posted on 11 October 2019 as PAD 19-189 for consultation until 08 November 2019. The Comment Response Document can be found in the [EASA Safety Publications Tool](#), in the compressed (zipped) file attached to the record for this AD.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).



4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the [EU aviation safety reporting system](#). This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
5. For any question concerning the technical content of the requirements in this AD, please contact your designated Rolls-Royce representative, or download the publication from your Rolls-Royce Care account at <https://customers.rolls-royce.com>.

If you do not have a designated representative or Rolls-Royce Care account, please contact **Corporate Communications** at **Rolls-Royce plc**, P.O. Box 31, Derby, DE24 8BJ, United Kingdom Telephone +44 (0)1332 242424,

or send an email through [http://www.rolls-royce.com/contact/civil\\_team.jsp](http://www.rolls-royce.com/contact/civil_team.jsp) identifying the correspondence as being related to **Airworthiness Directives**.

