

Airworthiness Directive

AD No.: 2019-0286

Issued: 26 November 2019

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, 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 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: 10 December 2019

TCDS Number(s): EASA.E.036

Foreign AD: Not applicable

Supersedure: None

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:

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.

Affected part: Low pressure compressor (LPC) front cases, having Part Number (P/N) KH26266 and an 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 serial numbers (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 replacement of the affected part.

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:

Engineering analysis has identified that 38 LPC front cases have non-optimal material properties. This 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 issued the NMSB, identifying those ESN that have an affected part installed, and providing the corresponding limit (date) for in-shop front fan case replacement.

For the reason described above, this AD requires removal from service of the affected engines to replace the affected parts. This AD also prohibits re-installation of affected parts.

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

Required as indicated, unless accomplished previously:

Removal from Service:

- (1) 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.

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.

Part Installation:

- (3) For Group 1 and Group 2 engines: From the effective date of this AD, do not install (see Note 1 of this AD) an affected part on any engine.

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.

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. 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 Programming and Continued Airworthiness Information Section, Certification Directorate. E-mail: 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](#).
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 identifying the correspondence as being related to **Airworthiness Directives**.

