Airworthiness Directive

AD No.: 2025-0233

Issued: 23 October 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 Ltd & Co KG

Type/Model designation(s):
Trent 1000 engines

Effective Date: 06 November 2025

TCDS Number(s): EASA.E.036

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2024-0122 dated 28 June 2024.

ATA 72 – Engine – High-Pressure Compressor / Mini-Disc Anti-Rotation Block – Inspection / Modification

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Manufacturer(s):
Rolls-Royce plc

Applicability:
Trent 1000-A, Trent 1000-AE, Trent 1000-C, Trent 1000-CE, Trent 1000-D, Trent 1000-E, Trent 1000-G and Trent 1000-H engines that have Rolls-Royce Service Bulletin (SB) 72-G319 or SB 72-G893 embodied (known as Trent 1000 'Pack B' engine models Trent 1000-A/01, Trent 1000-A/01A, Trent 1000-AE/01, Trent 1000-AE/01A, Trent 1000-C/01, Trent 1000-C/01A, Trent 1000-CE/01, Trent 1000-CE/01A, Trent 1000-D/01, Trent 1000-D/01A, Trent 1000-E/01, Trent 1000-E/01A, Trent 1000-G/01, Trent 1000-G/01A, Trent 1000-H/01, Trent 1000-H/01A), except those that have embodied Rolls-Royce modification (mod) 72-AK645 in production.

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:

The NMSB: Rolls-Royce Alert Non-Modification Service Bulletin (NMSB) TRENT 1000 72−AK540 Revision 2.

The modification SB: Rolls-Royce Alert TRENT 1000 72−AK645 Revision 1.

Where, in this AD, reference is made to a Rolls-Royce mod, SB or 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: High-pressure compressor (HPC) mini-disc anti-rotation block.

Reason:

Rolls-Royce identified a possibility of release of an affected part into the HPC assembly stage 5 and stage 6 discs and cone rotor rear shaft (HPC rear drum) during engine operation.

This condition, if not detected and corrected, could lead to reduction of the safe life of the impacted parts, possibly resulting in structural failures of engine critical parts.

To address this potential unsafe condition, Rolls-Royce issued the NMSB to provide inspection instructions and EASA issued AD 2024-0122 to require repetitive borescope inspections and, depending on finding, removal of the engine from service. That AD also allowed an alternative method to borescope inspection for operators using Rolls-Royce Engine Health Monitoring (EHM) service.

Since that AD was issued, Rolls-Royce issued the modification SB introducing a design change that includes a revised bolting arrangement at the HPC rotor shaft to high-pressure turbine rotor disc interface featuring modified spacer assemblies, balancing washers and attaching bolts. This modification eliminates the unsafe condition addressed by this AD by preventing the release of affected parts into the HPC assembly, thereby ensuring the safe life of the affected components.

For the reasons described above, this AD retains the requirements of EASA AD 2024-0122, which is superseded, and requires modification of the engine.

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

Required as indicated by this AD, unless the action(s) required by this AD have been already accomplished:

Inspections:

(1) Within 800 engine flight cycles (EFC) after 12 July 2024 [the effective date of EASA AD 2024-0122] and, thereafter at intervals not to exceed 800 EFC, accomplish borescope inspections of the HPC rear drum cavity and cavities between each HPC rotor disc in accordance with the instructions of the NMSB.

Corrective Action(s):

(2) If, during any inspection of an engine, as required by paragraph (1) of this AD, any missing or loose affected part; or any foreign object is detected, before next flight remove that engine from service and, before release to service, contact Rolls-Royce for applicable repair instructions and accomplish those instruction accordingly.

Alternative Method:

(3) Operation of an engine using Rolls-Royce EHM service and meeting the criteria of section 1.D(1)(b) 'Compliance Method B' of the instructions of the NMSB is an acceptable method to comply with the requirements of paragraph (1) of this AD for that engine, provided that after receipt of a Rolls-Royce EHM notification for vibration or anti-rotation plate release, all the corrective actions are accomplished within the compliance time and in accordance with the instructions contained in that notification.

Modification:

(4) Within 67 months after the effective date of this AD, modify the engine in accordance with the instructions of the modification SB.

Terminating Action:

(5) Modification of an engine, as required by paragraph (4) of this AD, constitutes terminating action for the repetitive inspections as required by this AD for that engine.

Credit:

(6) Modification of an engine, before the effective date of this AD, in accordance with the instructions of the original issue Rolls-Royce Alert TRENT 1000 72−AK645 is an acceptable method to comply with the modification requirement as required by paragraph (4) of this AD for that engine.

Ref. Publications:

Rolls-Royce Alert NMSB TRENT 1000 72−AK540 Revision 2 dated 22 April 2024.

Rolls-Royce Alert TRENT 1000 72−AK645 original issue dated 10 January 2023, and Revision 1 dated 22 August 2025.

The use of later approved revisions of the above-mentioned documents 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 15 September 2025 as PAD 25-143 for consultation until 13 October 2025. 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.

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 https://www.rolls-royce.com/contact-us/civil-aerospace.aspx identifying the correspondence as being related to **Airworthiness Directives**.