Airworthiness Directive

AD No.: 2026-0117R1

Issued: 12 August 2026

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: Revision 1: 19 August 2026
Original issue: 03 July 2026

TCDS Number(s): EASA.E.036

Foreign AD: Not applicable

Revision: This AD revises EASA AD 2026-0117 dated 19 June 2026 which superseded EASA AD 2020-0195R1 dated 15 May 2024.

ATA 72 – Engine – Low Pressure Turbine Discs – Inspection

Manufacturer(s):
Rolls-Royce plc

Applicability:
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.

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-AK416 Revision 2. The NMSB has an 'A' (Alert) in the number, but a later revision may not have that 'A'. This kind of change does not effectively alter the publication references.

Affected part: Low pressure (LP) turbine stage 3 discs, having Part Number (P/N) KH36323, and LP turbine stage 4 discs, having P/N KH33943.

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Serviceable part: An affected part which is new (never installed); or an affected part which passed an inspection in accordance with the instructions of the NMSB (no crack detected, or the defect rectified, see paragraph (4) of this AD); or a part, eligible for installation in accordance with Rolls-Royce instructions, which is not an affected part.

Groups: Group 1 engines are those that have an affected part installed.
Group 2 engines are those that do not have an affected part installed.

Reason:

Analysis of certain LP turbine discs in service has determined that, due to rubbing contact with interstage static seals, cracks may initiate in the front seal fins which could lead to cracks in the disc of the affected parts, as defined in this AD.

This condition, if not detected and corrected, could lead to crack propagation, possibly resulting in LP turbine disc failure and high-energy debris release, with consequent damage to, and reduced control of, the aeroplane.

To address this potential unsafe condition, Rolls-Royce published the original issue of NMSB TRENT 1000 72-AK416 and EASA issued AD 2020-0195 (later revised) to require repetitive ultra-high sensitivity fluorescent penetrant inspections of the seal fins of the affected parts and, depending on findings, replacement of affected parts.

NMSB TRENT 1000 72-AK416 was originally issued to ensure timely inspection of Inter Stage Seal (ISS) 3 and 4 seal fins of certain Trent 1000 engines at engine refurbishment level, preventing overfly of calculated crack-propagation lives. Subsequent introduction of Service Bulletin (SB) Trent 1000 72-K771 incorporated the later standard ISS 3 and 4 hardware onto certain Trent 1000 engines, providing increased clearances and improved rub-tolerance characteristics. Although SB rent 1000 72-K771 establishes an improved seal interface, discs which have been operated previously in the pre-SB Trent 1000 72-K771 configuration are subject to continued control of potential rub distress and associated crack initiation risks.

Consequently, Rolls-Royce issued the NMSB, as defined in this AD, revising compliance criteria for those engines which have embodied SB Trent 1000 72-K771 to inspect the LP turbine stage 3 disc and the LP turbine stage 4 disc as per the Cleaning, Inspection and Repair (CIR) task every 7 800 Engine Flight Cycles (EFC).

The criteria revision ensures that engines incorporating the new ISS hardware continue to be inspected to a standard consistent with the updated design assumptions, thereby maintaining the intended level of safety. Consequently, EASA issued AD 2026-0117 superseding EASA AD 2020-0195R1 and required mandatory removal and inspection, together with associated installation limitations, to ensure timely detection and correction of cracking of the LP turbine stage 3 and stage 4 discs and to prevent their failure.

Since that AD was issued, it has been determined that credit can be given to inspections accomplished in accordance with Rolls-Royce Alert NMSB TRENT 1000 72-AK416 original issue or Revision 1. This AD is revised accordingly.

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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) For Group 1 engines in post-SB Trent 1000 72-K771 configuration: Before exceeding 7 800 EFC accumulated by any of the affected part since new (first installation on an engine) and thereafter at interval not to exceed 7 800 EFC inspect each affected part in accordance with the instructions of the NMSB.

(2) For Group 1 engines in pre-SB Trent 1000 72-K771 configuration: Within the compliance time defined in Table 1 of this AD inspect front seal fins of each affected part in accordance with the instructions of the NMSB.

Table 1 – Compliance Time referenced in paragraph (2) of this AD

A, **B**, **C** or **D**, whichever occurs first	
A	During each engine refurbishment shop visit as defined in Trent 1000 Engine Management Programme (RM1907)
B	During modification of an engine in accordance with the instructions of SB Trent 1000 72-K771
C	During each replacement of the LP turbine stage 3 disc P/N KH36323
D	Before exceeding 7 800 EFC accumulated by the LP turbine stage 4 disc P/N KH33943 since new (first installation on an engine)

Corrective Action(s):

(3) If, during any inspection, as required by paragraph (1) or (2) of this AD, as applicable, any crack indication is detected on an affected part, as defined in the NMSB, before release to service of the engine replace that affected part with a serviceable part in accordance with the instructions of the NMSB.

(4) Repair of an LP turbine stage 3 disc P/N KH36323 in accordance with the instructions of task 72-52-31-300-020 of the Rolls-Royce Cleaning, Inspection and Repair Manual CIR-TRENT-10RRC, “LP turbine stage 3 Rotor disc (Critical Part) - Repair the Micro Cracks on the Seal Fins (Special) FRSH970”; or in accordance with the instructions of Rolls-Royce approved Technical Variance (TV) is an acceptable alternative method to comply with the replacement requirement of paragraph (3) of this AD for that part.

Terminating Action(s):

(5) Modification of an engine in accordance with the instructions Rolls-Royce SB Trent 1000 72-K937 or SB Trent 1000 72-L306 constitutes terminating action for repetitive in-shop inspections as required by paragraph (1) or (2) of this AD; or constitutes an acceptable method for corrective action as required by (3) of this AD, as applicable, for LP turbine stage 3 rotor disc.

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(6) Modification of an engine in accordance with the instructions Rolls-Royce SB Trent 72-L305 constitutes terminating action for repetitive in-shop inspections as required by paragraph (1) or (2) of this AD, as applicable, for LP turbine stage 4 rotor disc.

(7) Repair of an LP turbine stage 3 disc P/N KH36323 in accordance with the instructions of Rolls-Royce approved TV does not constitute terminating action for repetitive in-shop inspections as required by paragraph (1) and (2) of this AD, as applicable, for that part, unless stated otherwise in that TV.

Part(s) Installation:

(8) For Group 1 and Group 2 engines: From 03 July 2026 [the effective date of the original issue of this AD], it is allowed to install an affected part on any engine provided that the part is a serviceable part and, following installation, is inspected as required by paragraph (1) or (2) of this AD, as applicable.

Credit:

(9) Accomplishment before 03 July 2026 [the effective date of the original issue of this AD] of an inspection of the front seal fins of the LPT stage 3 and LPT stage 4 discs and – depending on findings – the associated corrective actions(s) in accordance with the instructions of Rolls-Royce Alert NMSB TRENT 1000 72-AK416 original issue or Revision 1 is an acceptable method to comply with the initial inspection requirements of paragraphs (1) and (2) of this AD, as applicable.

Ref. Publications:

Rolls-Royce Alert NMSB TRENT 1000 72-AK416 original issue dated 29 June 2020, or Revision 1 dated 03 May 2024, or Revision 2 dated 24 March 2026.

Rolls-Royce SB Trent 1000 72-K771 original issue dated 24 May 2022.

Rolls-Royce SB Trent 1000 72-K937 original issue dated 16 August 2024, or Revision 1 dated 05 October 2024.

Rolls-Royce SB Trent 1000 72-L305 original issue dated 04 December 2025.

Rolls-Royce SB Trent 1000 72-L306 original issue dated 04 December 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. The original issue of this AD was posted on 13 May 2026 as PAD 26-065 for consultation until 10 June 2026. 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.

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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.

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