Airworthiness Directive

AD No.: 2025-0190
[Correction: 04 September 2025]

Issued: 04 September 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):
RB211 Trent 900 engines

Effective Date: 18 September 2025

TCDS Number(s): EASA.E.012

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2021-0056 dated 25 February 2021.

ATA 72 – Engine – Low Pressure Turbine Seal Panel – Modification / Inspection

Manufacturer(s):
Rolls-Royce plc

Applicability:
RB211 Trent 970-84, Trent 972-84 and Trent 972E-84 engines, all serial numbers.

These engines are known to be installed on, but not limited to, Airbus A380 aeroplanes.

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

The NMSB: Rolls-Royce Alert Non-Modification Service Bulletin (NMSB) RB.211-72-AK637 Revision 1.
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.

The modification SB: Rolls-Royce Service Bulletin (SB) RB211-72-K661.

Affected part: Low pressure turbine (LPT) seal panels, having Part Number (P/N) FW33370, P/N FW52161, or P/N KH20207.

Serviceable part: An affected part that is new (never previously installed on an engine); or an affected part that has not exceeded 6 500 flight cycles (FC) since first installation on an engine, and that, prior to installation, has passed an inspection (no crack detected) in accordance with the instructions of the NMSB.

Qualified shop visit: Any shop visit where the rear of the intermediate pressure turbine module is exposed.

Groups: Group 1 engines are those having an affected part installed. Group 2 engines are those which do not have an affected part installed. Engines in post-modification SB configuration are considered Group 2 engines.

Reason:

The Trent 900 LPT seal panel has a thermal gradient between inner area of the stiffener and outer area of the seal panel, leading to high stress at the stiffener's outer weld. Analysis has shown that this may lead to cracking of the seal panel.

This condition, if not detected and corrected, could lead to LPT seal panel failure, possibly resulting in release of high-energy debris, with consequent damage to, and/or reduced control of, the aeroplane.

To address this potential unsafe condition, Rolls-Royce published the original issue of the NMSB RB.211-72-AK637, providing inspection instructions and introducing a life limit for the affected parts and, consequently, EASA issued AD 2021-0056 to require repetitive in-shop inspections of the outer weld of the affected parts and, depending on findings, replacement. That AD also introduced a life limit for all affected parts.

Since that AD was issued, Rolls-Royce developed improved design of the LPT stage 1 nozzle guide vane front support seal panel assembly demonstrating higher thermal stress resistance and issued the modification SB providing in-service embodiment instructions. Additionally, Rolls-Royce issued the NMSB reducing the service life of the affected parts.

For the reasons described above, this AD partially retains the requirements of EASA AD 2021-0056, which is superseded, requires removal from service of engines reaching the reduced life limit of the affected parts and modification of an engine.

This AD is re-issued to correct a typo in the effective date of this AD.

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:

Modification:

(1) For Group 1 engines: From the effective date of this AD, before an affected part installed on an engine exceeds 6 500 flight cycles (FC) since its first installation on an engine (see Note 1 of this AD), or within 30 days after the effective date of this AD, whichever occurs later, remove that

engine from service and, before release to service of that engine, modify the engine in accordance with the instructions of the modification SB.

Note 1: The information provided in the NMSB, section 3.A.(1)(a) NOTE and Appendix 2, can be used by operators to start tracking each affected part.

In-Shop Inspections:

(2) For Group 1 engines: During each qualified shop visit after the effective date of this AD, inspect the outer weld of the affected part in accordance with the instructions of the NMSB; or before the affected part exceeds 6 500 FC since its first installation on an engine modify the engine in accordance with the instructions of the modification SB, as applicable.

For an engine that, on the effective date of this AD, is in a qualified shop visit where substantial rebuild has not yet started, before release to service of that engine, inspect the affected part in accordance with the instructions of the NMSB, unless the engine is modified during that shop visit in accordance with the instructions of the modification SB.

Corrective Action(s):

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

Terminating Action:

(4) Modification of a Group 1 engine in accordance with the instructions of the modification SB constitutes terminating action for repetitive in-shop inspections of the outer weld of the affected part (see Note 2 of this AD) as required by paragraph (2) of this AD for that engine.

Note 2: After modification of the Group 1 engine in accordance with the instructions of the modification SB the engine becomes a Group 2 engine.

Acceptable Method:

(5) Modification of an engine in accordance with the instructions of the modification SB is an acceptable method to comply with the requirement of paragraph (3) of this AD for that engine.

Part(s) Installation:

(6) For Group 1 engines: From the effective date of this AD, in lieu of the modification, as required by paragraph (1) of this AD, it is allowed to install on any engine an affected part, provided that the part is a serviceable part, as defined in this AD, and that, following installation, the affected part is inspected as required by paragraph (2) of this AD and the engine is modified as required by paragraph (1) of this AD, or as specified by paragraph (2) of this AD.

(7) For Group 2 engines: From the effective date of this AD, do not install on an engine an affected part.

Engine Installation:

(8) For Group 1 engines: From the effective date of this AD, it is allowed to install on any aeroplane an engine, provided that the affected part is new (not previously installed), or the affected part has not exceeded 6 500 FC since first installation on an engine, and that, following engine

installation, the affected part is inspected as required by paragraph (2) of this AD or an engine is modified as required by paragraph (1) of this AD, or as specified by paragraph (2) of this AD.

Ref. Publications:

Rolls-Royce Alert NMSB RB.211-72-AK637 Revision 1 dated 29 July 2025.

Rolls-Royce SB RB211-72-K661 original issue dated 17 January 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 30 July 2025 as PAD 25-116 for consultation until 27 August 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**.