



Airworthiness Directive

AD No.: 2018-0291R1

Issued: 24 February 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 700 engines

Effective Date: Revision 1: 03 March 2025
Original issue: 04 January 2019

TCDS Number(s): EASA.E.042

Foreign AD: Not applicable

Revision: This AD revises EASA AD 2018-0291 dated 21 December 2018.

ATA 72 – Engine – High Pressure Turbine Blades – Replacement

Manufacturer(s):

Rolls-Royce plc (RR)

Applicability:

RB211 Trent 768-60, 772-60, 772B-60 and 772C-60 engines, engine serial numbers (ESN) as identified in Table 1 of Appendix 1 of the NMSB, except engines on which Rolls-Royce Service Bulletin (SB) RB211 72-K414 has been embodied in service.

These engines are known to be installed on, but not limited to, Airbus A330 aeroplanes.

Definitions:

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

Where, in this AD, reference is made to an RR 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.

The NMSB: RR Trent 700 Alert Non-Modification Service Bulletin (NMSB) RB.211-72-AK165.



Affected blade: High pressure (HP) turbine blades having Part Number (P/N) FK20719 (pre-SB RB.211-72-B577 standard), P/N FK26045 (SB RB.211-72-B577 standard), P/N FK29685 (SB RB.211-72-C632 standard), P/N FW15759 (SB RB.211-72-D304 standard) and P/N KH57573 (SB RB.211-72-J313 standard).

Serviceable blade: An affected blade which has not exceeded the applicable component life, as defined in the NMSB, and that, before installation, has passed an inspection in accordance with the instructions of Engine Manual (EM) inspection task 72-41-52-200-800; or an affected blade that is new; or a HP turbine blade which is not an affected part.

Reason:

The affected blades on a number of RB211 Trent 700 engines have been subject to high levels of corrosion fatigue, leading to blade cracking and eventual release. This has caused a number of aborted take-off and in-flight shut-down events. Sampling has identified that corrosion fatigue affects blades at varying rates, likely dependent on environmental, operational and individual blade conditions.

This condition, if not corrected, could lead to failure of affected blades and subsequent increased risk of high energy debris release, possibly resulting in damage to, and reduced control of, the aeroplane.

To address this potential unsafe condition, RR issued the original issue of the NMSB RB.211-72-AK165 and EASA issued AD 2018-0291, to provide instructions for removal from service of certain engines where a higher level of corrosion exposure was expected for the affected blades.

Since that AD was issued, RR issued Revision 4 of the NMSB RB.211-72-AK165 removing certain engines from Table 1 of its Appendix 1. Additionally, it was determined that removal from service of engines listed in Table 2 of the of Appendix 1 of the NMSB RB.211-72-AK165 is no longer necessary and that engines in post-SB RB211 72-K414 configuration are not susceptible for the unsafe condition addressed by this AD.

For the reasons described above, this AD is revised to reduce the Applicability by excluding engines in post-SB RB211 72-K414 configuration, removing reference to Table 2 of the of Appendix 1 of the NMSB RB.211-72-AK165 and introducing Revision 4 of the NMSB RB.211-72-AK165. This revision also introduces an optional terminating action for the repetitive replacements required by this AD.

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) Before exceeding the compliance times specified in Section 1.D of the NMSB, as applicable to ESN identified in Table 1 of Appendix 1 of the NMSB, and depending on the Component Life as defined in the NMSB, 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, remove and replace the affected blades with serviceable blades, as defined in this AD. This can be accomplished in accordance with the applicable instructions of the EM, task 72-41-00 Page block 501 – HP System Module – Disassembly, and task 72-41-00 Page block 1001 – HP System Module – Assembly.

Terminating Action:

- (3) Modification of an engine in accordance with the instructions of the Rolls-Royce RB211 72-K414 by replacing all the affected parts with HP turbine blades having P/N KH96341 constitutes terminating action for repetitive replacements of the affected blades required by this AD for that engine, provided that the engine remains in post-SB RB211 72-K414 configuration.

Ref. Publications:

Rolls-Royce Trent 700 Alert NMSB RB.211-72-AK165 original issue dated 26 November 2018, or Revision 1 dated 11 September 2019, or Revision 2 dated 25 November 2020, or Revision 3 dated 09 March 2022, or Revision 4 dated 31 January 2024.

Rolls-Royce Trent 700 Engine Manual E-Trent-1RR, dated 10 September 2018.

Rolls-Royce Trent 700 SB RB211 72-K414 original issue dated 21 July 2021, or Revision 1 dated 21 June 2024.

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 27 November 2018 as PAD 18-161 for consultation until 11 December 2018. 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 http://www.rolls-royce.com/contact/civil_team.jsp identifying the correspondence as being related to **Airworthiness Directives**.

