



Airworthiness Directive

AD No.: 2018-0291

Issued: 21 December 2018

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 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 plc

Type/Model designation(s):

Trent 700 engines

Effective Date: 04 January 2019

TCDS Number(s): EASA.E.042

Foreign AD: Not applicable

Supersedure: None

ATA 72 – Engine – High Pressure Turbine Blades – Replacement

Manufacturer(s):

Rolls-Royce plc (RR)

Applicability:

Trent 768-60, 772-60, 772B-60 and 772C-60 engines, serial numbers (ESN) as identified in Table 1 and Table 2 of Appendix 1 of the NMSB.

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, all Part Numbers.



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 (no crack detected) in accordance with the instructions of Engine Manual (EM) inspection task 72-41-52-200-800; or an affected blade that is new.

Reason:

HP turbine blades on a number of 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 blade failure 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 NMSB to provide instructions for removal from service of certain engines where a higher level of corrosion exposure is expected for the affected blades.

For the reason described above, this AD requires removal from service of certain engines, to be corrected in shop.

This AD is considered an interim action and further AD action may follow.

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

Required as indicated, unless accomplished previously:

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 and Table 2 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 HP turbine 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.

Ref. Publications:

Rolls-Royce Trent 700 Alert NMSB RB.211-72-AK165 original issue dated 26 November 2018.

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

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 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](#).
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**.

