



# Notification of a Proposal to issue an Airworthiness Directive

**PAD No.: 18-161**

**Issued: 27 November 2018**

Note: This Proposed Airworthiness Directive (PAD) 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.

In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below.

All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation date indicated.

**Design Approval Holder's Name:**

ROLLS-ROYCE plc

**Type/Model designation(s):**

Trent 700 engines

**Effective Date:** [TBD - standard: 14 days after AD issue date]

**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 that is new, or 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.

**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 Pageblock 501 – HP System Module – Disassembly, and task 72-41-00 Pageblock 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. This Proposed AD will be closed for consultation on 11 December 2018.
2. Enquiries regarding this PAD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).
3. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this PAD, and which may occur, or have occurred on a product, part or appliance not affected by this PAD, can be reported to the [EU aviation safety reporting system](#).
4. For any question concerning the technical content of the requirements in this PAD, 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](http://www.rolls-royce.com/contact/civil_team.jsp) identifying the correspondence as being related to **Airworthiness Directives**.

