# Airworthiness Directive

**AD No.: 2016-0078**
**[Correction: 27 April 2016]**

**Issued: 20 April 2016**

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 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 (EC) 216/2008, Article 14(4) exemption].

**Design Approval Holder's Name:**
ROLLS-ROYCE plc

**Type/Model designation(s):**
RB211 Trent 800 engines

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| Effective Date: | 04 May 2016 |
| TCDS Number(s): | EASA.E.047 |
| Foreign AD: | Not applicable |
| Supersedure: | None |

## ATA 72 – Engine – High Pressure Compressor Stage 1-4 Drum – Inspection

**Manufacturer(s):**
Rolls-Royce plc (RR)

**Applicability:**
RB211 Trent 895-17, 892-17, 892B-17, 884-17, 884B-17, 877-17 and 875-17 engines, all serial numbers, except those that embody RR modification (mod) 72-J195 in production.

These engines are known to be installed on, but not limited to, Boeing 777 aeroplanes.

**Reason:**
Inspection of Trent 800 engines returned from service revealed flame eroded areas and axial cracking on the rear Stage 3 disc of the High Pressure Compressor (HPC) Stage 1-4 drum. This is considered to be the result of a localised fire originating from an excessive rub at the stage 3-4 forward seal fin.

This condition, if not detected and corrected, could lead to an uncontained engine failure and release of high energy debris, possibly resulting in damage to the aeroplane and injury to occupants.

To address this potential unsafe condition, RR developed mod 72-J195, which is also available as Service Bulletin (SB) RB.211-72-J195 for in-service accomplishment.

For the reasons described above, this AD requires repetitive inspections of the HPC Stage 1-4 drum on pre-mod 72-J195 engines and, depending on findings, replacement with a serviceable part. This AD also specifies SB RB.211-72-J195 as optional terminating action for these inspections.

This AD is republished to correct paragraph (1), where time since new (first installation of an affected HPC stage 1-4 drum on an engine) was inadvertently not included in the inspection threshold.

**Required Action(s) and Compliance Time(s):**
Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, an affected HPC Stage 1-4 drum has Part Number (P/N) FK24009, P/N FK26167, P/N FK32580, P/N FW11590, P/N FW61622, P/N FW88723, P/N FW88724 or P/N FW88725.

(1) Before exceeding 5 000 duty cycles (Standard, Heavy or Max, as applicable, see Note 2 of this AD) since first installation of the HPC stage 1-4 drum on an engine, or since the last HPC stage 1-4 drum piece-part inspection accomplished before the effective date of this AD, whichever occurs later, and, thereafter, at intervals not to exceed 5 000 duty cycles, accomplish concurrently the actions specified in paragraphs (1.1) and (1.2) of this AD.

Note 2: For the purpose of this AD, duty cycles are defined in the Airworthiness Limitations Section of the applicable RR Engine Manual (EM).

(1.1) Inspect the affected HPC stage 1-4 drum seal fin 41-3028 for evidence of wear. Accomplishment of this inspection in accordance with the applicable EM, task 72-41-31-200-801, is an acceptable method.

(1.2) Inspect the affected HPC stage 3 circumferential dovetail slot 7A & 7B (see Note 3 of this AD) for cracking and/or evidence of flame erosion. Accomplishment of this inspection in accordance with the applicable EM, Section 17, Sub-task 72-41-31-220-193 (for loading slot focus inspection areas, see Figure 72-41-31-990-008), is an acceptable method.

Note 3: Dovetail slot label for the affected HPC stage 3 disc is dependent on whether the drum is pre-SB RB211-72-B672 (pre-SB, see EM Fig 72-41-31-990-006-001) or post-SB RB.211-72-B672 (post-SB, see EM Fig 72-41-31-990-006-002). The pre-SB Stage 3 loading slot is labelled 7B and the post-SB Stage 3 loading slot is labelled 7A.

(2) If, during any inspection as required by paragraph (1) of this AD, any discrepancy is detected, before next flight, or before release to service of the engine, as applicable, replace the affected HPC stage 1-4 drum with a serviceable part.

(3) Replacement of the HPC stage 1-4 drum on an engine, as required by paragraph (2) of this AD, does not constitute terminating action for the repetitive inspection requirements of this AD for that engines, except as specified in paragraph (4) of this AD.

(4) Modification of an engine in accordance with the instructions of RR SB RB.211-72-J195 constitutes terminating action for the repetitive inspections as required by this AD for that engine.

**Ref. Publications:**
RR SB RB.211-72-J195 original issue dated 26 February 2016.

The use of later approved revisions of this document 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 29 February 2016 as PAD 16-031 for consultation until 28 March 2016. The Comment Response Document can be found at http://ad.easa.europa.eu.

3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.

4. 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**.