



Airworthiness Directive

AD No.: 2018-0048R1

Issued: 31 March 2021

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, 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 DEUTSCHLAND Ltd & Co KG

Type/Model designation(s):

RB211 Trent 900 engines

Effective Date: Revision 1: 07 April 2021
Original issue: 07 March 2018

TCDS Number(s): EASA.E.012

Foreign AD: Not applicable

Revision: This AD revises EASA AD 2018-0048 dated 28 February 2018.

ATA 05 – Time Limits / Maintenance Checks – Engine Time Limits Manual – Amendment

Manufacturer(s):

Rolls-Royce plc

Applicability:

RB211 Trent 970-84, 970B-84, 972-84, 972B-84, 972E-84, 977-84, 977B-84 and 980-84 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 ALS: The airworthiness limitation section (ALS) for Rolls-Royce plc RB211 Trent 900 engines, as published in the Time Limits Manual (TLM) T-TRENT-9RR, Task 05-10-01-800-801 (Critical Group A Parts Lives) and Task 05-20-01-800-801 (Mandatory Inspections), including Temporary Revision (TR) No. 05-01 dated 23 February 2018.

The AMP: The approved Aircraft Maintenance Programme (AMP) on the basis of which the operator or the owner ensures the continuing airworthiness of each operated engine. For engines



installed on aircraft operated under EU regulation, compliance with the approved AMP is required by Commission Regulation (EU) [1321/2014](#), Part M.A.301, paragraph 3.

New and/or more restrictive tasks: This includes all tasks that are new and all tasks for which a threshold or interval was reduced, which were introduced into the ALS (as defined in this AD) since the previous ALS Revision that was (on 07 March 2018, the effective date of the original issue of this AD) incorporated in the AMP.

Reason:

The airworthiness limitations for the RB211 Trent 900 engines, which are approved by EASA, are currently defined and published in the ALS. These instructions have been identified as mandatory for continued airworthiness.

Failure to accomplish these instructions could result in an unsafe condition.

Rolls-Royce published TLM TR No.05-01 to provide inspection instructions for certain intermediate pressure (IP) compressor stages 1 to 8 rotor shafts, low pressure (LP) turbine disc seal fins and intermediate stage seal honeycomb. In addition, inspection instructions for tail bearing housing (TBH) that were previously contained in Rolls-Royce Trent 900 Non-Modification Service Bulletin (NMSB) RB211-72-AH154, as required by EASA AD 2016-0193, have been transferred to the ALS, but with relaxed accept/reject criteria. Consequently, Rolls-Royce cancelled that NMSB (Revision 7) to remove those instructions and include reference to the Trent 900 TLM.

For the reason described above, EASA issued AD 2018-0048 to require accomplishment of the actions specified in the ALS. EASA AD 2016-0193 was revised accordingly.

Since EASA AD 2018-0048 was issued, the definition of 'the ALS' was found to be incomplete and incorrect. Although there is no indication that the requirements were misunderstood, this AD is revised to clarify the intended requirements. This revised AD also introduces some editorial changes, applying the latest standards, without affecting the requirements or compliance times.

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

Required as indicated, unless accomplished previously:

Maintenance Tasks and Replacement of Life Limited Parts:

- (1) From 07 March 2018 [the effective date of the original issue of this AD], accomplish the following actions, as specified in the ALS, as defined in this AD, as applicable to engine model and depending on engine configuration:
 - (1.1) Replace each component before exceeding the applicable life limit, and
 - (1.2) Within the thresholds and intervals, taking into account the allowed one-time exceedance (so-called 'grace' period) for TBH, as specified in paragraph (2) of this AD, accomplish all applicable maintenance tasks.



One-time Grace Period:

- (2) For a TBH that, on 07 March 2018 [the effective date of the original issue of this AD], had accumulated more than 400 flight cycles (FC) since the last inspection (as previously required by EASA AD 2016-0193) during which the Top Core Vane leading edges were determined to be crack free, the next inspection can be deferred to 250 FC after 07 March 2018 [the effective date of the original issue of this AD].

Corrective Action(s):

- (3) In case of finding discrepancies (as defined in the ALS) during accomplishment of any task as required by paragraph (1) of this AD, within the compliance time specified in the ALS, accomplish the applicable corrective action(s) in accordance with the approved Rolls-Royce maintenance documentation. If no compliance time is identified in the ALS, accomplish the applicable corrective action(s) before next flight. If a detected discrepancy is not identified in the ALS, before next flight, contact Rolls-Royce for approved instructions and accomplish those instructions accordingly.

AMP Revision:

- (4) Within 12 months after 07 March 2018 [the effective date of the original issue of this AD], revise the approved AMP by incorporating the limitations, tasks and associated thresholds and intervals described in the ALS, as applicable to engine model and depending on engine configuration.

Credit:

- (5) If, before 07 March 2018 [the effective date of the original issue of this AD], the AMP has been revised to incorporate the maintenance tasks and life limitations as specified in the Rolls-Royce Trent 900 TLM T-TRENT-9RR, Task 05-10-01-800-801 and Task 05-20-01-800-801, dated 01 September 2017, that action ensures the continued accomplishment of those tasks and limitations.

Consequently, for an engine to which that AMP applies, it is acceptable to accomplish the new and/or more restrictive tasks and limitations, as applicable to engine model and depending on aeroplane configuration, as defined in, and within the compliance times as specified in, Rolls-Royce Trent 900 TLM TR No.05-01, to comply with paragraph (1) of this AD.

For that AMP, it is acceptable to incorporate the new and/or more restrictive tasks and limitations as defined in Rolls-Royce Trent 900 TLM TR No.05-01, as applicable to engine model and depending on engine configuration, into the AMP to comply with paragraph (3) of this AD.

- (6) An engine where the TBH did not pass the original accept criteria as previously specified in NMSB RB.211-72-AH154, affecting certain cracks in the Top Core Vanes (vane 1 and 14) LE, may be released to service, provided the TBH of that engine passes the new accept criteria as specified in the ALS.

Recording AD Compliance:

- (7) When the AMP of an aeroplane has been revised as required by paragraph (4) or (5) of this AD, as applicable, that action ensures continued accomplishment of the tasks as required by paragraphs (1) and (3) of this AD for an affected engine installed on that aeroplane.



Consequently, after revising the AMP, as required by paragraph (4) or (5) of this AD, as applicable, it is not necessary that accomplishment of individual action is recorded for demonstration of AD compliance on a continued basis.

Ref. Publications:

Rolls-Royce Trent 900 TLM T-TRENT-9RR dated 01 September 2017, including TR No.05-01 dated 23 February 2018.

The use of later approved revisions of the above-mentioned 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. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication.
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**.

