



Airworthiness Directive

AD No.: 2020-0059

Issued: 17 March 2020

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):

RB211-524 engines

Effective Date: 31 March 2020

TCDS Number(s): EASA.E.062

Foreign AD: Not applicable

Supersedure: None

ATA 72 – Engine – Low Pressure Turbine Stage 1 Discs – Life Reduction

Manufacturer(s):

Rolls-Royce plc

Applicability:

RB211-524G2-19, RB211-524G2-T-19, RB211-524G3-19, RB211-524G3-T-19, RB211-524H2-19, RB211-524H2-T-19, RB211-524H-36 and RB211-524H-T-36 engines, all serial numbers (ESN).

These engines are known to be installed on, but not limited to, Boeing 747 and Boeing 767 aeroplanes.

Definitions:

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

The NMSB: Rolls-Royce Alert Non-Modification Service Bulletin (NMSB) RB.211-72-AK422 Revision 1. The NMSB has an 'A' (Alert) in the number, but a later revision may not have that 'A'. This kind of change does not effectively alter the publication references.

Affected part: Low pressure turbine (LPT) Stage 1 discs, having Part Number (P/N) UL37606, P/N UL37607, P/N UL37608, P/N UL37722 or P/N UL37790, as identified in the NMSB, which also provides the corresponding Declared Safe Cyclic Limit (DSCL) for each part.



Groups: Group 1 engines are those that have an affected part installed. Group 2 engines are those that do not have an affected part installed.

Reason:

A review of operational flight data revealed that some RB211-524 engines may have been operated beyond the currently valid datum flight profile (FP) published in the applicable Aircraft Maintenance Manuals. The purpose of the datum FPs is to establish the operational limits (life limits) within which the corresponding critical parts are allowed to remain installed. In addition, as this FP exceedance was investigated, it was realised that the current life limits of certain P/N corresponding to reworked LPT Stage 1 discs (time since new, or since entry into service following rework) could no longer be supported.

This condition, if not corrected, could lead to disc failure, possibly resulting in engine in-flight shut-down and high energy debris release, with consequent damage to, and reduced control of, the aeroplane.

Prompted by these findings, Rolls-Royce published worldwide (WW) communication, reference WW11575-1, which identified certain parts, some of which were believed to have exceeded their respective safe cyclic life, to collect information in relation to the history of affected parts and to inform current operators and owners of the affected parts of an imminent life reduction. Rolls-Royce also published the NMSB, providing instructions for timely removal from service of the affected parts.

For the reasons described above, this AD requires removal from service of the affected parts. This AD also prohibits (re)installation of affected parts that have exceeded the new reduced limits.

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

Required as indicated, unless accomplished previously:

Removal from Service:

- (1) For Group 1 engines: Before an affected part reaches its DSCL as specified in the NMSB, or within 25 flight cycles after the effective date of this AD, whichever occurs later, remove the engine from service and, before release to service of the engine, replace that affected part with a serviceable part. This can be accomplished in accordance with the standard RB211 Engine Manual instructions.

Part(s) Installation:

- (2) For Group 1 and Group 2 engines: From the effective date of this AD, it is allowed to install an affected part on any engine, provided that the part has not exceeded the applicable DSCL, as specified in the NMSB, and, that, following installation, the affected part is replaced with a serviceable part as required by paragraph (1) of this AD.

Engine Installation:

- (3) For Group 1 engines: From the effective date of this AD, it is allowed to install an engine on an aeroplane, provided that no affected part installed on that engine has exceeded the applicable DSCL, as specified in the NMSB, and, that, following installation, the affected part on that engine is replaced with a serviceable part as required by paragraph (1) of this AD.



Ref. Publications:

Rolls-Royce NMSB RB.211-72-AK422 Revision 1 dated 02 March 2020.

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. The original issue of this AD was posted on 22 January 2020 as PAD 20-013 for consultation until 19 February 2020, and revised and republished on 04 March 2020 as PAD 20-013R1 for additional consultation until 11 March 2020. No comments were received during the consultation periods.
3. Enquiries regarding this AD should be referred to the EASA Programming and Continued Airworthiness 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 <https://www.rolls-royce.com/contact-us/civil-aerospace.aspx> identifying the correspondence as being related to **Airworthiness Directives**.

