



Airworthiness Directive

AD No.: 2023-0203

Issued: 20 November 2023

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, or Annex Vb Part ML.A.301, as applicable, 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 Annex Vb Part ML.A.303, as applicable] 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):

RB211-535E4 engines

Effective Date: 04 December 2023

TCDS Number(s): EASA.E.061

Foreign AD: Not applicable

Supersedure: None

ATA 72 – Engine – Critical Parts – Recalculation / Replacement

Manufacturer(s):

Rolls-Royce plc

Applicability:

RB211-535E4-37, RB211-535E4-B-37 and RB211-535E4-C-37 engines, all serial numbers (s/n).

These engines are known to be installed on, but not limited to, Boeing 757 series 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-AH972 Revision 4. The NMSB has an 'A' (Alert) in the number, but 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.

Affected part: Engine parts listed by Part Number and s/n in Appendix 1 of the NMSB.

Serviceable part: Any engine part, eligible for installation, which is not an affected part; or an affected part, the 'Total Life Consumed' of which has been recalculated in accordance with the instructions of the NMSB and which has not exceeded its Declared Safe Cyclic Life (DSCL) defined in Rolls-Royce RB211-535E4 Time Limits Manual (TLM) T-211(535)-6RR.



Reason:

A review of operational flight data has revealed that some RB211-535 engines may have been operated beyond the flight profile (FP) assumed by the operator when establishing the DSCL limits within which the corresponding critical parts are allowed to remain installed.

This condition, if not corrected, may lead to critical part failure, possibly resulting in release of high energy debris, damage to the aeroplane and/or injury to the occupants.

Prompted by these findings, EASA issued AD 2015-0058, later superseded by EASA AD 2015-0148, to require re-assessment of engine operation against the published FP ('A' and 'B'), identification of additional affected parts, recalculation of 'Total Life Consumed', and removal from service of parts before exceeding the applicable DSCL in accordance with the instructions of Revision 2 of Rolls-Royce NMSB RB.211-72-AH972. After that AD was issued, most of the instructions of Revision 2 of the Rolls-Royce NMSB RB.211-72-AH972 were transferred into Rolls-Royce TLM T-211(535)-6RR. Prompted by this development, EASA issued AD 2022-0235 to require accomplishment of the instructions of Rolls-Royce TLM T-211(535)-6RR and superseding, among others, EASA AD 2015-0148.

Since EASA AD 2022-0235 was issued, it was determined that the list of critical parts that require life recalculation as a result of possible FP exceedances when operated in FP 'A' or 'B' was not transferred into Rolls-Royce TLM T-211(535)-6RR. Additionally, Rolls-Royce Deutschland (the type certificate holder since 2019) issued the NMSB, as defined in this AD, to provide updated and re-arranged instructions.

For the reasons described above, this AD requires recalculation of the 'Total Life Consumed' of the affected parts and, depending on that recalculation, replacement. This AD also (re)introduces part installation requirements.

EASA AD 2022-0235 is not superseded by this AD.

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

Required as indicated, unless accomplished previously:

Recalculation:

- (1) Within 60 days after the effective date of this AD, re-calculate the 'Total Life Consumed' of each affected part in accordance with the instructions of the NMSB.

Replacement:

- (2) Based on the re-calculation(s) as required by paragraph (1) of this AD, before exceeding the DSCL defined in Rolls-Royce TLM T-211(535)-6RR for affected parts, replace each affected part with a serviceable part (see paragraph (4) of this AD) in accordance with the instructions of Rolls-Royce engine manual E-211(535E)-6RR.



Credit:

- (3) Recalculation of a 'Total Life Consumed' of the affected parts on an engine, accomplished before the effective date of this AD in accordance with the instructions of Revision 2 or Revision 3 of Rolls-Royce NMSB RB.211-72-AH972, is acceptable to comply with the requirements of paragraph (1) of this AD for that engine.

Parts Installation:

- (4) From the effective date of this AD, it is allowed to install an affected part on an engine, or to install on an aeroplane a replacement engine with an affected part installed, provided that, prior to installation, it has been determined that the affected part is a serviceable part, as defined in this AD.

Ref. Publications:

Rolls-Royce Alert NMSB RB.211-72-AH972 Revision 2 dated 20 July 2015, or Revision 3 dated 28 August 2015, or Revision 4 dated 09 February 2023.

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**.

