

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2015-0148
	Date: 23 July 2015 Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, 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 EU 748/2012, Part 21.A.3B. In accordance with 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 [EU 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].	
Design Approval Holder's Name: ROLLS-ROYCE plc	Type/Model designation(s): RB211-535E4 engines
TCDS Number:	EASA.E.061
Foreign AD:	Not applicable
Supersedure:	This AD supersedes EASA AD 2015-0103 dated 05 June 2015, including its Correction dated 12 June 2015.
ATA 72	Engine – Critical Parts – Identification / Replacement
Manufacturer(s):	Rolls-Royce plc (RR)
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.
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 operational limits (life 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, to require identification and removal from service of four specific parts. Subsequently, further information became available in relation to the remaining cyclic life of those parts, and the wider population of parts affected by the same condition. To address this unsafe condition, RR issued Alert Non-Modification Service Bulletin (NMSB) RB.211-72-AH972, which listed all parts that were believed to have been operated beyond the FP assumed by the operator when establishing the applicable operational limits (life limits), instructing operators to calculate the Total Life Consumed and establishing the resulting remaining life for some affected parts, to replace some affected parts within a specified compliance

	time, and introducing a new flight profile G. The parts previously required by EASA AD 2015-0058 to be removed from service were also listed in RR Alert NMSB RB.211-72-AH972 Revision 1. The original issue of NMSB RB.211-72-AH972 required correction and could therefore not be used. Consequently, EASA issued AD 2015-0103 (later corrected), superseding AD 2015-0058, to require re-assessment of engine operation against the published FP ('A' and 'B'), identification of additional affected parts, re-calculation of cyclic life, and removal from service of parts before exceeding the applicable (re-calculated) cyclic life. Since that AD was issued, it was found that Revision 1 of RR NMSB RB.211-72-AH972 also required correction, particularly in relation to the maximum approved lives applicable for FP 'G' published in Appendix 2 of NMSB RB.211-72-AH972 Revision 1. Revision 1 of the NMSB RB.211-72-AH972 should therefore not be used. In addition, all parts for which the compliance action was to "contact RR" are now subject to a different required action in Revision 2 of NMSB RB.211-72-AH972 (hereafter referred to as 'the NMSB' in this AD). For the reasons described above, this AD retains the requirements of EASA AD 2015-0103, which is superseded, but refers to the NMSB for different compliance time(s) and corrective action(s).
Effective Date:	06 August 2015
Required Action(s) and Compliance Time(s):	Note 1: Where, in this AD, reference is made to a RR SB or 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. Note 2: For the purpose of this AD, an 'affected part' is a part that has been operated beyond the FP assumed by the operator when establishing the applicable operational limits (life limits) within which the corresponding critical parts are allowed to remain installed. Affected parts are listed in Appendix 4 of the NMSB. Required as indicated, unless accomplished previously: (1) For each RB211-535E4-37 engine fleet or sub-fleet in service, within 21 days after the effective date of this AD, determine whether the engine has been, or is now, operated in excess of the currently applicable FP 'A' or 'B', and, depending on the results, re-calculate the cyclic life of each critical part installed on that engine and assign the appropriate life limit to each part, in accordance with the instructions of Appendix 6 of the NMSB, and with the new FP 'G' lives introduced in Appendix 2 of the NMSB. (2) For all engines, within 21 days after the effective date of this AD, determine whether any affected part, identified by Part Number (P/N) and s/n in Appendix 4 of the NMSB, is installed on the engine. (3) Based on the determinations and re-calculations as required by paragraphs (1) and (2) of this AD, within the applicable compliance time as specified in the NMSB, replace each affected part with a serviceable part (see paragraph (5) of this AD) in accordance with the instructions of the applicable engine manual. (4) For each affected part that is subject to an additional life consumed, but not to a compliance time as specified in the NMSB, within 21 days after the effective date of this AD, calculate the Total Life Consumed and resulting remaining life for that part and, before exceeding the newly calculated life limit, replace that part with a serviceable part (see paragraph (5) of this AD) in accordance with the instructions of the applicable engine manual.

	(5) From the effective date of this AD, it is allowed to install a part identified in Appendix 4 of the NMSB on an engine, or to install on an aeroplane a replacement engine with a part installed as listed in Appendix 4 of the NMSB, provided that, prior to installation, it has been determined that no part, identified by P/N and s/n in Appendix 4 of the NMSB has reached or exceeded its applicable compliance time or re-calculated life, as applicable, and as specified in the NMSB.
Ref. Publications:	Rolls-Royce Alert NMSB RB.211-72-AH972 Revision 2 dated 20 July 2015. The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD. RR Worldwide (WW) Communication WW/11174/2, dated 22 January 2015. RR WW/11196/1 dated 01 May 2015.
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 Safety Information Section, Certification Directorate, EASA. 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 Aeromanager account at www.aeromanager.com. If you do not have a designated representative or Aeromanager 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.