EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2013-0214 **Date: 16 September 2013** 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 EC 2042/2003 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 [EC 2042/2003 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:	**Type/Model designation(s):**
ROLLS-ROYCE plc	RB211 Trent 500 engines

TCDS Number:	EASA.E.060
Foreign AD:	Not applicable
Supersedure:	None

ATA 72	**Engine – Low Pressure Compressor Blade Leading Edge Profile – Rework / Restoration**

Manufacturer(s):	Rolls-Royce plc
Applicability:	Models RB211 Trent 553-61, 553A2-61, 556-61, 556A2-61, 556B-61, 556B2-61, 560-61 and 560A2-61 engines, all serial numbers. These engines are known to be installed on, but not limited to, Airbus A340-500 and A340-600 series aeroplanes.
Reason:	Erosion of the leading edge profile of Trent 500 engines' low pressure (LP) compressor blades is proven to contribute to fan flutter, a risk that is mitigated by regular restoration of the leading edge of these blades. Recently, Rolls-Royce have conducted a review regarding the in-service restoration of the leading edge profile of LP compressor blades. The results of this review concluded that not all LP compressor blades have been restored as intended. This condition, if not corrected, could lead to fan flutter, LP compressor blade cracking and uncontained LP compressor blade failures, possibly resulting in damage to, and reduced control of, the aeroplane. For the reasons described above, this AD requires initial and repetitive leading edge restoration of the LP compressor blades.
Effective Date:	30 September 2013

Required Action(s) and Compliance Time(s):	Required as indicated, unless accomplished previously: (1) Within the compliance time as specified in Appendix 1 of this AD, as applicable, restore the leading edge profile of the engine's LP compressor blades in accordance with the instructions of Section 3 of Rolls-Royce (RR) Non-Modification Service Bulletin (NMSB) RB.211-72-AH149, or in accordance with the instructions of Section 3 of RR NMSB RB.211-72-H464. Note: Application of RR NMSB RB.211-72-H464 is permitted only for the initial restoration of the leading edge profile of the engine's LP compressor blades as required by paragraph (1) of this AD. (2) Within 4000 FC after the initial leading edge profile restoration of the engine's LP compressor blades as required by paragraph (1) of this AD, and, thereafter, at intervals not to exceed 4 000 FC, restore the leading edge profile of the engine's LP compressor blades in accordance with the instructions of Section 3 of RR NMSB RB.211-72-AH149. (3) From the effective date of this AD, installation of LP compressor blades on an engine is allowed, provided that, prior to or following installation, as applicable, the leading edge profile of the blades is restored, within the compliance times as required by this AD.
Ref. Publications:	Rolls-Royce NMSB RB.211-72-AH149 original issue, dated 01 March 2013. Rolls-Royce NMSB RB.211-72-H464 original issue, dated 28 August 2013. The use of later approved revisions of these documents 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 30 April 2013 as PAD 13-062 and republished on 03 May 2013 as PAD 13-062R1 for consultation until 28 May 2013. The Comment Response Document can be found at http://ad.easa.europa.eu. 3. Enquiries regarding this AD should be referred to the Safety Information Section, Executive 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 e-mail through http://www.rolls-royce.com/contact/civil_team.jsp identifying the correspondence as being related to Airworthiness Directives.

Appendix 1 – Initial LP Compressor Blade (LPCB) Leading Edge Profile Restoration

Definitions used in the Table below:

L: accumulated FC of the LPCB since new, on the effective date of this AD

Lr: accumulated FC of the LPCB since the last leading edge profile restoration, on the effective date of this AD

NK: not known

NO: the leading edge profile of the LPCB has never been restored before

L (FC)	**Lr (FC)**	**Compliance time**
< 3 750	NK	Before exceeding 4 000 FC since new
	NO	
	< 3 750	Before exceeding 4 000 FC since last restoration
≥ 3 750 and < 4 400	NK	Within 250 FC after the effective date of this AD
	NO	
	≥ 3 750	
	< 3 750	Before exceeding 4 000 FC since last restoration
≥ 4 400	NK	Within 100 FC after the effective date of this AD
	NO	
	< 3 750	Before exceeding 4 000 FC since last restoration
	≥ 3 750 and < 4 400	Within 250 FC after the effective date of this AD
	≥ 4 400	Within 100 FC after the effective date of this AD
NK	NK or NO	Within 100 FC after the effective date of this AD