EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2012-0060 **Date: 18 April 2012** 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 EC 1702/2003, Part 21A.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].

Type Approval Holder's Name :	**Type/Model designation(s) :**
Rolls-Royce plc	RB211-524 and RB211-535 Engines

TCDS Numbers:	United Kingdom No. 1046, 1048, 1044 and 1049
Foreign AD:	Not applicable
Supersedure:	None

ATA 73	**Engine – Intermediate Pressure Turbine Disc – Identification / Inspection / Replacement**
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. These engines are known to be installed on, but not limited to, Boeing 747 and Boeing 767 series aeroplanes. RB211-535E4-37, RB211-535E4-B-37, RB211-535E4-B-75 and RB211-535E4-C-37 engines, all serial numbers. These engines are known to be installed on, but not limited to, Boeing 757 and Tupolev Tu204 series aeroplanes.
Reason:	The inspection of several intermediate pressure (IP) turbine discs at past engine overhauls identified the presence of steel inclusions in these parts. Further investigation concluded that all affected parts were manufactured from billets produced before 1997 at a certain supplier who also melted steel in the same furnaces. Initial engineering evaluation concluded that the lives of the parts would not be affected by the presence of the said steel inclusions. This evaluation has been recently repeated, utilising improved structural analysis, and it is now concluded that the currently published lives of the components cannot be supported for some discs with a steel inclusion. This condition, if not corrected, could lead to an uncontained IP turbine disc failure, possibly resulting in damage to, and reduced control of, the aeroplane. For the reasons described above, this AD requires removal and inspection of certain IP turbine discs and, depending on findings, replacement with a serviceable part. This AD also prohibits (re)installation of certain IP turbine discs on an engine.
Effective Date:	02 May 2012

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

Required as indicated, unless accomplished previously:

(1) During the next engine shop visit after the effective date of this AD where the Module 05 is removed from the engine for disassembly where any casing is removed or, in case that, on the effective date of this AD, an engine happens to be in such a shop visit, identify the Part Number (P/N) and serial number (s/n) of the IP turbine disc installed on the engine.

(2) If a turbine disc is installed with a P/N as listed in Table 1 of this AD and a s/n as listed in Appendix 1 (for RB211-524G and -524H series engines) or Appendix 2 (for RB211-535E4 series engines), as applicable, of Rolls-Royce Propulsion Systems Non-Modification Service Bulletin (NMSB) RB211-72-AG493 Revision 1 (hereafter referred to as the NMSB), accomplish the following action, as applicable:

(2.1) If the accumulated life (in cycles) of the IP turbine disc exceeds the inspection threshold, but is below the maximum life as identified in the applicable Time Limits Manual, or below the maximum life as specified in Appendix 1 (for RB211-524G and -524H series engines) or Appendix 2 (for RB211-535E4 series engines) of the NMSB, as applicable, remove the IP turbine disc from the engine and accomplish an inspection in accordance with the instructions of Section 3 of the NMSB.

(2.2) If the accumulated life (in cycles) of the IP turbine disc is below the inspection threshold, before the IP turbine disc exceeds that inspection threshold, remove the IP turbine disc from the engine and accomplish an inspection in accordance with the instructions of Section 3 of the NMSB.

Note 1: As an alternative to the inspection required by paragraph (2.1) or (2.2) of this AD, as applicable, it is acceptable to replace the removed IP turbine disc with a serviceable part.

Table 1 – Affected IP Turbine Discs

Engine type	IP turbine disc P/N
RB211-524G and RB211-524H series engines	LK82335
	UL27958
	UL37681
	UL37721
RB211-524G-T and RB211-524H-T series engines	UL38383
	UL38384
	UL38467
	UL38929
	UL38930
RB211-535E4 series engines	UL17774
	UL19818
	UL27940

Note 2: A typographical error has been identified in Appendix 4 “SQUID inspection of RB211 IP Turbine Disc QCTP” of Rolls-Royce Propulsion Systems NMSB RB211-72-AG493 Revision 1, dated 11 November 2011. Part reference UL82335 should read **LK**82335, as in Table 1 of this AD.

	(3) If the results of an inspection as required by paragraph (2) of this AD do not meet the criteria as detailed in Appendix 4 of the NMSB, or if the affected IP turbine disc has reached or exceeded its life limit, as specified in Appendix 1 (for RB211-524G and -524H series engines) or Appendix 2 (for RB211-535E4 series engines) of the NMSB, as applicable, before returning the engine to service, replace the disc with a serviceable part. (4) From the effective date of this AD, do not install on any engine an IP turbine disc with a P/N as listed in Table 1 of this AD and a s/n as listed in Appendix 1 or Appendix 2 of the NMSB, as applicable to engine model, except in accordance with the inspection and replacement requirements of this AD.
Ref. Publications:	Rolls-Royce Propulsion Systems NMSB RB211-72-AG493 Revision 1, dated 11 November 2011. The use of later approved revisions of this 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. This AD was posted on 01 February 2012 as PAD 12-007 for consultation until 29 February 2012. 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, or contact at Rolls-Royce plc. Corporate Communications, 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**.