


EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007-0310 R1</p> <p>Date: 08 January 2008</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : Rolls-Royce plc	Type/Model designation(s) : RB211-22B and -524 Series Engines
TCDS Number: United Kingdom Engine TCDS No. 1039 and 1043	
Foreign AD: Not applicable	
Revision: This Airworthiness Directive (AD) revises and replaces AD 2007-0310 dated 19 December 2007.	
ATA 72	Engine – Low Pressure Turbine (LPT) Shaft – Inspection / Replacement
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>RB211-22B series engines, all models, all serial numbers; and RB211-524B4-D-02, RB211-524D4-19, RB211-524D4-39, RB211-524D4-B-19, RB211-524D4-B39, RB211-524D4X-19 and RB211-524D4X-B-19 engines, all serial numbers. These engines are known to be installed on, but not limited to, Boeing 747 series aircraft; and Lockheed L-1011 series aircraft.</p> <p>Note: Some RB211-524 series engines and all RB211-535 series Engines, although listed in the referenced Rolls-Royce Non Modification Service Bulletin (NMSB), are not affected by the same unsafe condition and therefore this AD does not apply to those engines.</p>
Reason:	<p>Several low pressure turbine (LPT) shafts have been found with cracks originating from the rear cooling air holes. The cracks were found at normal component overhaul, by the standard Magnetic Particle Inspection (MPI) technique defined in the associated engine manual. The cracks have been found to initiate from corrosion pits. Propagation of a crack from the rear cooling air holes may result in shaft failure and subsequently in an uncontained Low Pressure Turbine failure.</p> <p>For the reasons stated above, this AD requires the inspection of the affected engines' LPT shafts and replacement of the shaft, as necessary.</p> <p>This AD has been revised to delete Model RB211-524B4-02 engines from the Applicability and Compliance as it is not affected by the same unsafe condition.</p>
Effective Date:	02 January 2008

Compliance:	<p>Required as indicated, unless accomplished previously:</p> <p>1. Initial Inspection Requirements</p> <p>(a) If on the effective date of this AD, the engine is undergoing a shop visit where the LPT shaft has been completely disassembled to piece-part level in accordance with the appropriate disassembly procedures contained in the Engine Manual and the LPT shaft has not been re-protected with corrosion resistant coating then, before installing the engine on an aircraft, the LPT shaft must be inspected in accordance with the accomplishment instructions of Rolls-Royce NMSB 72-AF336;</p> <p>(b) For all other engines, at the next engine shop visit after the effective date of this AD when the LPT shaft is completely disassembled to piece-part level in accordance with the appropriate disassembly procedures contained in the Engine Manual, inspect the LPT Shaft in accordance with the accomplishment instructions of Rolls-Royce NMSB 72-AF336.</p> <p>2. Repetitive Inspection Requirements – following initial inspection of an LPT shaft in accordance with paragraph 1 of this AD, the LPT shaft must be re-inspected in accordance with the accomplishment instructions of Rolls-Royce NMSB 72-AF336 and in accordance with the following schedule:</p> <table border="1" data-bbox="560 882 1453 1207"> <tr> <th>Engine Model</th><th>Maximum Time Between Inspections (engine cycles)</th></tr> <tr> <td>RB211-22B Series, all models</td><td>3 500</td></tr> <tr> <td>RB211-524B4-D-02</td><td>4 000</td></tr> <tr> <td>RB211-524D4-19, RB211-524D4-39, RB211-524D4-B-19, RB211-524D4-B39, RB211-524D4X-19 and RB211-524D4X-B-19</td><td>normal shop visit interval</td></tr> </table> <p>3. All LPT shafts inspected according to the schedule above and found to be cracked must be replaced with serviceable LPT shafts before installing the engine on an aircraft.</p>	Engine Model	Maximum Time Between Inspections (engine cycles)	RB211-22B Series, all models	3 500	RB211-524B4-D-02	4 000	RB211-524D4-19, RB211-524D4-39, RB211-524D4-B-19, RB211-524D4-B39, RB211-524D4X-19 and RB211-524D4X-B-19	normal shop visit interval
Engine Model	Maximum Time Between Inspections (engine cycles)								
RB211-22B Series, all models	3 500								
RB211-524B4-D-02	4 000								
RB211-524D4-19, RB211-524D4-39, RB211-524D4-B-19, RB211-524D4-B39, RB211-524D4X-19 and RB211-524D4X-B-19	normal shop visit interval								
Ref. Publications:	<p>Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin No. RB211-72-AF336 original issue.</p> <p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p>								
Remarks :	<ol style="list-style-type: none"> If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. The original issue of this AD was posted on 20 November 2007 as PAD 07-212 for consultation until 18 December 2007. No comments were received during the consultation period. Enquiries regarding this AD should be referred to the AD Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu . For any question concerning the technical content of the requirements in this AD, please contact: Rolls-Royce plc, Publication Services, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; Telephone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936; Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com/ 								