	EASA	AIRWORTHINESS DIRECTIVE				
		AD No : 2007-0310 R1 Date: 08 January 2008				
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 Registre						
	Type Approval Holder's Name :		Type/Model designation(s) :			
	Rolls-Royce plc		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 Pre	Engine – Low Pressure Turbine (LPT) Shaft – Inspection / Replacement			
┢	Manufacturer(s):	Rolls-Royce plc	Rolls-Royce plc			
	Applicability:	RB211-22B series e RB211-524B4-D-02 RB211-524D4-B39, numbers. These eng series aircraft; and L Note: Some RB211- listed in the reference not affected by the s those engines.	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. 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.			
	Reason:	Several low pressure from the rear cooling overhaul, by the star the associated engir corrosion pits. Propa shaft failure and sub For the reasons stat engines' LPT shafts This AD has been re Applicability and Cor	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. For the reasons stated above, this AD requires the inspection of the affected engines' LPT shafts and replacement of the shaft, as necessary. 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.			
	Effective Date:	02 January 2008	02 January 2008			

Compliance:	Required as indica 1. Initial Inspect	ated, unless accomplished prev	viously:		
	1. Initial Inspect	tion Requirements			
	() IC	1. Initial Inspection Requirements			
	(a) If on the e where the in accorda the Engin corrosion the LPT s instructior	effective date of this AD, the en LPT shaft has been completed ance with the appropriate disass e Manual and the LPT shaft ha resistant coating then, before i haft must be inspected in acco as of Rolls-Royce NMSB 72-AF	f this AD, the engine is undergoing a shop visit been completely disassembled to piece-part level ppropriate disassembly procedures contained in the LPT shaft has not been re-protected with ng then, before installing the engine on an aircraft, respected in accordance with the accomplishment rec NMSB 72-AF336;		
	(b) For all other engines, at the next engine shop visit after the effectiv this AD when the LPT shaft is completely disassembled to piece-pa in accordance with the appropriate disassembly procedures contain the Engine Manual, inspect the LPT Shaft in accordance with the accomplishment instructions of Rolls-Royce NMSB 72-AF336.				
	2. Repetitive Inspection Requirements – following initial inspection of an I shaft in accordance with paragraph 1 of this AD, the LPT shaft must be reinspected in accordance with the accomplishment instructions of Rolls-Roll-NMSB 72-AF336 and in accordance with the following schedule:				
	Engine Mode	əl	Maximum Time Between Inspections (engine cycles)		
	RB211-22B	Series, all models	3 500		
	RB211-524B	34-D-02	4 000		
	RB211-524D RB211-524D RB211-524D B-19	04-19, RB211-524D4-39, 04-B-19, RB211-524D4-B39, 04X-19 and RB211-524D4X-	normal shop visit interval		
	 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. 				
Ref. Publications:	Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin No. RB211-72-AF336 original issue.				
	The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.				
Remarks :	 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: <u>ADs@easa.europa.eu</u>. 				
	 4. 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/ 				
	Ref. Publications: Remarks :	(b) For all oth this AD w in accord accomplis 2. Repetitive Ins shaft in accord inspected in a NMSB 72-AF3 Engine Mode RB211-524E RB211-524E	(b) For all other engines, at the next engine this AD when the LPT shaft is completely in accordance with the appropriate disas the Engine Manual, inspect the LPT Sha accomplishment instructions of Rolls-Ro 2. Repetitive Inspection Requirements – folls shaft in accordance with paragraph 1 of this inspected in accordance with the accomplish NMSB 72-AF336 and in accordance with the Engine Model RB211-22B Series, all models RB211-524B4-D-02 RB211-524D4-19, RB211-524D4-39, RB211-524D4-8-19, RB211-524D4-39, RB211-524D4-8-19, RB211-524D4-839, RB211-524D4X-19 and RB211-524D4X- B-19 3. All LPT shafts inspected according to the scl cracked must be replaced with serviceable L engine on an aircraft. Ref. Publications: Rolls-Royce RB211 Propulsion System Non Moor RB211-72-AF336 original issue. The use of later approved revisions of this docum with the requirements of this AD. Remarks : 1. If requested and appropriately substantiated, Methods of Compliance for this AD. 2. The original issue of this AD. 2. The original issue of this AD. 3. Enquiries regarding this AD should be referre Certification Directorate, EASA. E-mail: ADs(4. For any question concerning the technical co AD, please contact: Rolls-Royce plc, Publication Services, P.O. E Kingdom; Telephone: #44 (0) 1332 242424, I Email: tech.help@rolls-royce.com or downloor https://www.aeromanager.com/		