
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Rolls Royce Turbine Engines - RB211 Series

AD/RB211/37 Engine - Low Pressure Turbine Shaft 3/2008

Applicability: 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 RB211-524D4XB-19 engines, all serial numbers.

Note 1: These engines are known to be installed on, but not limited to, Boeing 747 series aircraft; and Lockheed L-1011 series aircraft.

Note 2: 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.

Requirement: 1. Inspect the LPT shaft in accordance with the accomplishment instructions of Rolls-Royce NMSB 72-AF336 unless previously accomplished.

 2. Repeat the inspection detailed in Requirement 1 of this AD.

 3. All LPT shafts inspected according to Rolls Royce NMSB 72-AF336 and found to be cracked must be replaced with serviceable LPT shafts.

Note 3: EASA AD 2007-0310R1 dated 8 January 2008 refers.

Compliance: 1. 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 reprotected with corrosion resistant coating; prior to installing the engine on an aircraft.

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.

2. Following initial inspection of an LPT shaft in accordance with Requirement 1 of this AD, in accordance with the following schedule:

Rolls Royce Turbine Engines - RB211 Series

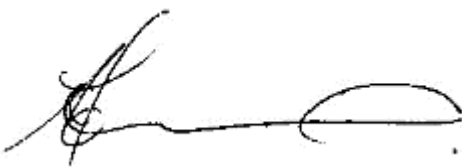
AD/RB211/37 (continued)

Engine Model	Maximum Time Between Inspections (engine cycles)
RB211-22B Series	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

3. Before installing the engine on an aircraft.

This Airworthiness Directive becomes effective on 13 March 2008.

Background: 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. This AD requires the inspection of the affected engines' LPT shafts and replacement of the shaft, as necessary.



Charles Lenarcic
Delegate of the Civil Aviation Safety Authority

21 January 2008