
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/RB211/36 High Pressure Turbine Cooling Air Holes 9/2006

Applicability: Rolls Royce Models RB211-524-02, 524B2-19, 524B2-39, 524B-02, 524B3-02, 524C2-19, 524B4-02, 524B4-D-02, 524D4-19, 524D4-39, 524D4-B-19, 524D4-B-39, 524D4X-19, 524D4X-B-19, 524B-B-02, 524B2-B-19, 524C2-B-19, 524G2-19, 524G3-19, 524G2-T-19, 524G3-T-19, 524H-36, 524H2-19, 524H-T-36 and 524H2-T-19 installed on, but not limited to, Boeing 747, Boeing 767 and Lockheed L-1011 aircraft

Requirement: 1. Carry out an Eddy Current Inspection (ECI), as defined in Section 3., Accomplishment instructions of Rolls-Royce NMSB 72-AE969 or later EASA approved revision on the HP turbine discs identified in Sections 1.A.(3) and 1.A.(4) of Rolls-Royce NMSB 72-AE969 or later EASA approved revision.

2. Repeat the inspection as detailed in requirement 1 of this AD.

Note: EASA AD 2006-0180 dated 26 June 2006 refers.

Compliance: 1. In accordance with the following schedule:

By whichever is the soonest of the following conditions:

a) If the HP turbine disc cycles since new is greater than 2750 cycles on the effective date of this AD, then inspect the disc at next shop visit where the HP turbine blades have been removed from the HP turbine disc.

b) If the HP turbine disc cycles since new is greater than 2750 cycles on the effective date of this AD; and

- the HP turbine rotor is currently undergoing a shop visit, and
- has not yet been reinstalled into the Combustor Outer Case, and
- the HP turbine blades have been removed from the HP turbine disc, then the HP turbine disc must be inspected before fitment to an aeroplane.

If a HP turbine disc has previously passed inspection to the Eddy Current inspection procedure as defined in Rolls-Royce TSD594-J Overhaul Process Manual Task 70-00-00-200-223 and at a disc life above 2750 cycles since new that meets the criteria detailed in requirement 1 of this AD, then that inspection satisfies the requirements stated in requirement 1 of this AD.

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AD/RB211/36 (continued)

2. At every subsequent shop visit where the HP turbine blades have been removed from the HP turbine disc.

This Airworthiness Directive becomes effective on 31 August 2006.

Background: HPT Discs recently inspected in accordance with the Engine Manual have exhibited cracks in the disc rim. The discs have failed to meet the inspection acceptance criteria and have been returned to Rolls-Royce for engineering investigation. This investigation has concluded that the cracks have resulted from scores within the cooling air holes in the disc rim that could have been introduced during new part manufacture or during overhaul of the disc. The engineering investigation has also concluded that if this cracking was undetected then it could result in uncontained disc failure.



James Coyne
Delegate of the Civil Aviation Safety Authority

21 July 2006