
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.

Pratt and Whitney Turbine Engines - JT8D Series**AD/JT8D/43****Front Compressor Hub****12/2009**

Applicability: Pratt & Whitney Aircraft JT8D-1, -1A, -7, and -7A turbofan engines using Front Compressor Front Hub Part Nos. 504101 and 515201.

Note 1: Pratt & Whitney Aircraft Alert Service Bulletin (ASB) No. 2944 Revision No. 13 dated 22 October 2008 lists the engine and hub serial numbers affected by this AD.

- Requirement:**
1. To preclude failure of the front compressor front hub as a result of (a) possible surface defects in the blade slots or (b) possible loss of effectiveness of shotpeening in the blade slots accomplish the following on hubs listed in tables I and II of the above ASB.
 - a. Visually inspect the rear face and overhung shelf of the hub rim for cracks emanating out of the base of the acute corner of the dovetail slots, or
 - b. Inspect with an eddy current probe the rear overhung shelf of the hub rim for cracks emanating out of the base of the acute corner of the dovetail slots, or
 - c. Remove all first stage compressor blades and inspect the blade slots of the hub with an eddy current probe for cracks emanating out of the base of the acute corner of the dovetail slots.
 - d. If any crack is found during any of the foregoing inspections replace hub.

It is permissible to use any of the three inspection procedures at the end of the preceding inspection period.

2. To preclude failure of the front compressor front hub from lack of shotpeening, accomplish the following on hubs listed in table III of the above ASB.
 - a. Visually inspect to determine whether the rim area of the hub has been shotpeened.
 - b. If the inspection confirms that the hub has not been shotpeened then the hub is to be inspected in accordance with Requirements 1.a. through d. of this AD.

Pratt and Whitney Turbine Engines - JT8D Series

AD/JT8D/43 (continued)

Later revisions of the above SB, approved by the United States Federal Aviation Administration (FAA) as an Alternate Method of Compliance (AMOC) to FAA AD 71-07-01 are considered acceptable for compliance with the equivalent Requirements of this AD.

Note 2: FAA AD 71-07-01 Amdt. 39-1279 dated 7 September 1971 refers.

Compliance: Compliance required as indicated on all front compressor front hubs that have accumulated 6000 cycles or more in service.

For Requirement 1.a. - Within the next 150 cycles in service and every 150 cycles in service thereafter until the hub is removed.

For Requirement 1.b. - Within the next 150 cycles in service, unless already accomplished and every 400 cycles in service thereafter until the hub is removed.

For Requirement 1.c. - Within the next 150 cycles in service, unless already accomplished and every 1500 cycles in service thereafter.

For Requirement 1.d. - Before further flight.

For Requirement 2.a. - Within the next 150 cycles in service.

For Requirement 2.b. - At the intervals defined in Requirements 1.a. through 1.d. of this AD.

This Airworthiness Directive becomes effective on 19 November 2009.

Background: Surface defects found on certain front compressor hubs may lead to failure of the hub and subsequent damage or loss of control of the aeroplane.

This AD is issued following a review of airworthiness directives preceding changes to CASR 39. This AD was not previously issued however a review of the data indicates that the FAA AD referenced is still current. In addition the manufacturer recently issued an updated ASB referencing the FAA AD.



David Villiers
Delegate of the Civil Aviation Safety Authority

28 September 2009