

parameters for the aircraft and must be limitations.

A minimum takeoff temperature limitation will be determined by testing to establish the minimum cold-soaked temperature at which the airplane can operate. The minimum operating temperature will be determined by testing to establish the minimum operating temperature acceptable after takeoff from the minimum takeoff temperature. If low temperature limits are not established by testing, then a minimum takeoff and operating fuel temperature limit of 5 °F above the gelling temperature of Jet A will be imposed along with a display in the cockpit of the fuel temperature. Fuel temperature sensors will be located in the coldest part of the tank if applicable.

**13. Powerplant Installation—Vibration levels:** Vibration levels throughout the engine operating range must be evaluated and:

(1) Vibration levels *imposed on the airframe* must be less than or equivalent to those of the gasoline engine; or

(2) Any vibration level that is higher than that imposed on the airframe by the replaced gasoline engine must be considered in the modification and the effects on the technical areas covered by the following paragraphs must be investigated:

14 CFR part 23, §§ 23.251; 23.613; 23.627; 23.629 (or CAR 3.159, as applicable to various models); 23.572; 23.573; 23.574 and 23.901.

Vibration levels imposed on the airframe can be mitigated to an acceptable level by utilization of isolators, dampers, clutches and similar provisions, so that unacceptable vibration levels are not imposed on the previously certificated structure.

**14. Powerplant Installation—One cylinder inoperative:** It must be shown by test or analysis, or by a combination of methods, that the airframe can withstand the shaking or vibratory forces imposed by the engine if a cylinder becomes inoperative. Diesel engines of conventional design typically have extremely high levels of vibration when a cylinder becomes inoperative.

No unsafe condition will exist in the case of an inoperative cylinder before the engine can be shut down. The resistance of the airframe structure, propeller, and engine mount to shaking moment and vibration damage must be investigated. It must be shown by test or analysis, or by a combination of methods, that shaking and vibration damage from the engine with an inoperative cylinder will not cause a catastrophic airframe, propeller, or engine mount failure.

**15. Powerplant Installation—High Energy Engine Fragments:** It may be possible for diesel engine cylinders (or portions thereof) to fail and physically separate from the engine at high velocity (due to the high internal pressures). This failure mode will be considered possible in engine designs with removable cylinders or other non-integral block designs. The following is required:

(1) It must be shown by the design of the engine, that engine cylinders, other engine components or portions thereof (fragments) cannot be shed or blown off of the engine in the event of a catastrophic engine failure; or

(2) It must be shown that all possible liberated engine parts or components do not have adequate energy to penetrate engine cowlings; or

(3) Assuming infinite fragment energy, and analyzing the trajectory of the probable fragments and components, any hazard due to liberated engine parts or components will be minimized and the possibility of crew injury is eliminated. Minimization must be considered during initial design and not presented as an analysis after design completion.

Issued in Kansas City, Missouri on July 27, 2006.

**James E. Jackson,**  
*Acting Manager, Small Airplane Directorate,*  
*Aircraft Certification Service.*

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**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. 97-ANE-44-AD; Amendment 39-14705; AD 2006-16-05]

RIN 2120-AA64

#### **Airworthiness Directives; Pratt & Whitney PW4164, PW4168, and PW4168A Series Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is superseding an existing airworthiness directive (AD) for Pratt & Whitney PW4164, PW4168, and PW4168A series turbofan engines. That AD currently requires initial and repetitive torque checks for loose or broken front pylon mount bolts made from INCO 718 material and MP159 material, and initial and repetitive visual inspections of the primary mount thrust load path. This AD requires the

same actions, but at reduced intervals for front pylon mount bolts made from MP159 material. This AD results from analysis by the manufacturer that the MP159 material pylon bolts do not meet the full life cycle torque check interval requirement, in a bolt-out condition. We are issuing this AD to prevent front pylon mount bolt and primary mount thrust load path failure, which could result in an engine separating from the airplane.

**DATES:** This AD becomes effective September 8, 2006. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of September 8, 2006. The Director of the Federal Register previously approved the incorporation by reference of certain publications listed in the regulations as of February 6, 2003 (68 FR 28, January 2, 2003).

**ADDRESSES:** Contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; telephone (860) 565-7700, fax (860) 565-1605 for the service information identified in this AD.

You may examine the AD docket at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA. You may examine the service information, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

**FOR FURTHER INFORMATION CONTACT:** Barbara Caufield, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; telephone (781) 238-7146, fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** The FAA proposed to amend 14 CFR part 39 with a proposed AD. The proposed AD applies to Pratt & Whitney PW4164, PW4168, and PW4168A series turbofan engines. We published the proposed AD in the *Federal Register* on December 29, 2005 (70 FR 77075). That action proposed to require initial and repetitive torque checks for loose or broken front pylon mount bolts made from INCO 718 material and MP159 material. That action also proposed to require initial and repetitive visual inspections of the primary mount thrust load path, but at reduced intervals from AD 2000-16-02R1 for front pylon mount bolts made from MP159 material.

#### **Examining the AD Docket**

You may examine the AD Docket (including any comments and service information), by appointment, between 8 a.m. and 4:30 p.m., Monday through

Friday, except Federal holidays. See **ADDRESSES** for the location.

### Comments

We provided the public the opportunity to participate in the development of this AD. We received no comments on the proposal or on the determination of the cost to the public.

### Bolt Life Limit Clarification

For clarification, we removed three bolt life limit references from paragraphs (f)(1), (f)(2), and (f)(3) and added paragraph (f)(4). The added paragraph states to remove from service front pylon mount bolts P/N 54T670, at or before reaching the life limit of 11,000 CSN.

### Conclusion

We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD with the changes described previously.

### Costs of Compliance

About 60 engines installed on airplanes of U.S. registry are affected by this AD. We estimate that it will take about four work-hours per engine to perform the actions, and that the average labor rate is \$65 per work-hour. Required parts will cost about \$26,500 per engine. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$1,605,600.

### Special Flight Permits Paragraph Removed

Paragraph (g) of the AD we are superseding, AD 2000-16-02R1, contains a paragraph pertaining to special flight permits. Even though this final rule does not contain a similar paragraph, we have made no changes with regard to the use of special flight permits to operate the airplane to a repair facility to do the work required by this AD. In July 2002, we published a new Part 39 that contains a general authority regarding special flight permits and airworthiness directives. See Docket No. FAA-2004-8460, Amendment 39-9474 (69 FR 47998, July 22, 2002). Thus, when we now supersede ADs we will not include a specific paragraph on special flight permits unless we want to limit the use of that general authority granted in section 39.23.

### Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII,

Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in subtitle VII, part A, subpart III, section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under **ADDRESSES**. Include "AD Docket No. 97-ANE-44-AD" in your request.

### List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### Adoption of the Amendment

■ Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends 14 CFR part 39 as follows:

### PART 39—AIRWORTHINESS DIRECTIVES

■ 1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

#### § 39.13 [Amended]

■ 2. The FAA amends § 39.13 by removing Amendment 39-12989 (68 FR

28, January 2, 2003) and by adding a new airworthiness directive, Amendment 39-14705, to read as follows:

**2006-16-05 Pratt & Whitney:** Amendment 39-14705. Docket No. 97-ANE-44-AD.

### Effective Date

(a) This AD becomes effective September 8, 2006.

### Affected ADs

(b) This AD supersedes AD 2000-16-02R1.

### Applicability

(c) This AD applies to Pratt & Whitney (PW) PW4164, PW4168, and PW4168A series turbofan engines, with front pylon mount bolts, part number (P/N) 54T670 or 51U615, installed. These engines are installed on, but not limited to, Airbus A330 series airplanes.

### Unsafe Condition

(d) This AD results from analysis by the manufacturer that MP159 material pylon bolts do not meet the full life cycle torque check interval requirement, in a bolt-out condition. We are issuing this AD to prevent front pylon mount bolt and primary mount thrust load path failure, which could result in an engine separating from the airplane.

### Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

### INCO 718 Material Bolts Torque Checks

(f) Perform initial and repetitive torque checks of INCO 718 material front pylon mount bolts, P/N 54T670, and replace, if necessary, with new bolts, using the Accomplishment Instructions of PW Alert Service Bulletin (ASB) PW4G-100-A71-9, Revision 1, dated November 24, 1997, as follows:

(1) For front pylon mount bolts, P/N 54T670, with fewer than 1,000 cycles-since-new (CSN) on the effective date of this AD, do the following using Part (A) of the Accomplishment Instructions of the ASB:

(i) Perform an initial torque check before accumulating 1,250 CSN or at the next engine removal for cause, whichever occurs sooner.

(ii) Thereafter, perform torque checks at intervals of no fewer than 750 or no more than 1,250 cycles-in-service (CIS) since last torque check.

(2) For front pylon mount bolts, P/N 54T670, with 1,000 CSN or more but fewer than 5,750 CSN on the effective date of this AD, do the following using Part (A) of the Accomplishment Instructions of the ASB:

(i) Perform an initial torque check within 250 CIS after the effective date of this AD, or at the next engine removal for any cause, whichever occurs sooner.

(ii) Thereafter, perform torque checks at intervals of no fewer than 750 or no more than 1,250 CIS since last torque check.

(3) For front pylon mount bolts, P/N 54T670, with 5,750 CSN or more on the effective date of this AD, do the following using Part (B) of the Accomplishment Instructions of the ASB:

(i) Perform an initial torque check within 250 CIS after the effective date of this AD, or before the next engine removal for any cause, whichever occurs sooner.

(ii) Thereafter, perform torque checks at intervals of no fewer than 750 or no more than 1,250 CIS since last torque check.

(4) Remove from service front pylon mount bolts P/N 54T670, at or before reaching the life limit of 11,000 CSN.

(5) Before further flight, replace all four bolts using Part (A), Paragraph 1(D) of the Accomplishment Instructions of the ASB, if any of the bolts are loose or broken.

**MP159 Material Bolts Inspections**

(g) Perform initial and repetitive torque checks of front pylon mount bolts, P/N 51U615, using the Accomplishment Instructions of PW ASB PW4G-100-A71-32, dated April 15, 2005, as follows:

(1) For front pylon mount bolts with fewer than 2,200 CSN on the effective date of this AD, perform the initial torque inspection before accumulating 2,700 CSN, or at the next engine removal for any cause, whichever occurs sooner.

(2) For front pylon mount bolts with 2,200 CSN or more on the effective date of this AD, perform the initial torque check within the next 500 CIS, or at the next engine removal for any cause, whichever occurs sooner.

(3) Thereafter, perform torque inspections at intervals not to exceed 2,700 CIS since last torque inspection.

(4) Before further flight, replace all four bolts using Paragraph 1.E. of the Accomplishment Instructions of the ASB, if any are loose or broken.

**Primary Mount Thrust Load Path Inspections**

(h) Perform initial and repetitive visual inspections of the primary mount thrust load path using the Accomplishment Instructions of PW ASB PW4G-100-A71-18, Revision 2, dated January 15, 2002, as follows:

(1) For forward engine mount assemblies with fewer than 1,000 CSN on the effective date of this AD, perform the initial visual inspection at the earlier of the following:

- (i) Before accumulating 1,250 CSN; or
- (ii) The next engine removal for any cause.

(2) For forward engine mount assemblies with 1,000 CSN or more on the effective date of this AD, perform the initial visual inspection within 250 CIS after the effective date of this AD, or the next engine removal for any cause, whichever occurs sooner.

(3) Thereafter, perform visual inspections at intervals of no fewer than 750 or no more than 1,250 CIS since-last-visual-inspection.

(4) Before further flight, replace all cracked parts with serviceable parts and inspect the primary thrust load path components using Paragraph 4 of the Accomplishment Instructions of the ASB.

**Terminating Action**

(i) Replacement of the forward engine mount bearing housing, P/N 59T794 or P/N 54T659 with P/N 52U420, using SB PW4G-100-71-22, dated January 15, 2002, constitutes terminating action to the inspection requirements of paragraph (h) of this AD.

**Alternative Methods of Compliance**

(j) The Manager, Engine Certification Office, has the authority to approve

alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

**Related Information**

(k) None.

**Material Incorporated by Reference**

(l) You must use the Pratt & Whitney service information specified in Table 1 of this AD to perform the actions required by this AD. The Director of the Federal Register approved the incorporation by reference of Pratt & Whitney Alert Service Bulletin (ASB) PW4G-100-A71-32, dated April 15, 2005, in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. The Director of the Federal Register previously approved the incorporation by reference of Pratt & Whitney ASB PW4G-100-A71-9, Revision 1, dated November 24, 1997, as of October 16, 2000, and, ASB PW4G-100-A71-18, Revision 2, dated January 15, 2002, and ASB PW4G-100-71-22, dated January 15, 2002, as of February 6, 2003. Contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; telephone (860) 565-7700, fax (860) 565-1605 for the service information identified in this AD. You may review copies at the Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-0001, on the Internet at <http://dms.dot.gov>, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

TABLE 1.—INCORPORATION BY REFERENCE

Alert Service Bulletin (ASB) or Service Bulletin (SB) No.	Page	Revision	Date
ASB PW4G-100-A71-9	1	1	November 24, 1997.
	2	Original	July 31, 1997.
	3	1	November 24, 1997.
	4-7	Original	July 31, 1997.
	8-9	1	November 24, 1997.
	10-11	Original	July 31, 1997.
	Total Pages: 11		
ASB PW4G-100-A71-18	1-2	2	January 15, 2002.
	3	1	December 9, 1999.
	4	2	January 15, 2002.
	5-6	Original	September 15, 1999.
	7	2	January 15, 2002.
	8-12	Original	September 15, 1999.
	ALL	Original	January 15, 2002.
	Total Pages: 12		
SB PW4G-100-71-22	ALL	Original	January 15, 2002.
Total Pages: 8			
ASB PW4G-100-A71-32	ALL	Original	April 15, 2005.
Total Pages: 9			

Issued in Burlington, Massachusetts, on July 27, 2006.

**Francis A. Favara,**

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 43**

**Removal of References to Part 123 From 14 CFR Part 43**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule; technical amendment.

**SUMMARY:** In the final rule, Certification and Operation Rules for Certain Large Airplanes, which the FAA published in the **Federal Register** on October 9, 1980, the FAA revoked part 123, effective January 1, 1983. However, references to part 123 remain in part 43. The purpose of this action is to remove those