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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2006-24034; Directorate Identifier 2006-NE-05-AD; Amendment 39-14959; AD 2007-04-26]**

**RIN 2120-AA64**

### **Airworthiness Directives; Pratt & Whitney PW4077D, PW4084D, PW4090, and PW4090-3 Turbofan Engines**

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

**ACTION:** Final rule.

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**SUMMARY:** The FAA is superseding an existing airworthiness directive (AD) for Pratt & Whitney PW4077D, PW4084D, PW4090, and PW4090-3 turbofan engines that were reassembled with previously used high pressure compressor (HPC) exit brush seal packs and new or refurbished HPC exit diffuser air seal lands. That AD currently requires replacing the HPC exit inner and outer brush seal packs with new brush seal packs, or replacing the HPC exit brush seal assembly with a new HPC exit brush seal assembly. This AD requires replacing the HPC exit inner and outer brush seal packs with new brush seal packs, using either original equipment manufactured (OEM) parts, or FAA-approved part manufacturer approval (PMA) parts. This proposed AD also applies to engines reassembled with a PMA HPC exit inner and or outer brush seal packs. This AD results from a request to include PMA HPC exit inner and outer brush seal packs and to include the engines with PMA parts already installed, in the AD. We are issuing this AD to prevent uncontained engine failure, damage to the airplane, and injury to passengers.

**DATES:** This AD becomes effective April 2, 2007.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://dms.dot.gov> or in Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Antonio Cancelliere, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5213; telephone (781) 238-7751; fax (781) 238-7199; e-mail: [antonio.cancelliere@faa.gov](mailto:antonio.cancelliere@faa.gov).

**SUPPLEMENTARY INFORMATION:** The FAA proposed to amend 14 CFR part 39 with a proposed AD. The proposed AD applies to Pratt & Whitney PW4077D, PW4084D, PW4090, and PW4090-3 turbofan engines that were reassembled with previously used HPC exit brush seal packs and new or refurbished HPC exit diffuser air seal lands. We published the proposed AD in the Federal Register on November 20, 2006 (71 FR 67073). That action proposed to require replacing the HPC exit inner and outer brush seal packs with new brush seal packs, using either OEM parts, or FAA-approved PMA parts. That action also proposed to apply to engines reassembled with a PMA HPC exit inner and or outer brush seal packs.

### **Examining the AD Docket**

You may examine the docket that contains the AD, any comments received, and any final disposition in person at the Docket Management Facility Docket Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone (800) 647-5227) is located on the plaza level of the Department of Transportation Nassif Building at the street address stated in ADDRESSES. Comments will be available in the AD docket shortly after the DMS receives them.

### **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

### **Request To Add Part Numbers in the AD Applicability**

One commenter, All Nippon Airways, requests that we add Pratt & Whitney and PMA part numbers in the AD applicability to avoid confusion as to what parts are to be removed and replaced.

We do not agree. We adequately identified the parts requiring replacement, as well as the unsafe condition, in the proposed AD. Pratt & Whitney part numbers can be found in Alert Service Bulletin No. PW4G-112-A72-280, Revision 2, dated January 12, 2007, which we refer to as additional information. We did not change the AD.

### **Request To Allow Installing an HPC Exit Brush Seal Assembly**

One commenter, Pratt & Whitney, requests that we also allow installing an HPC exit brush seal assembly, in lieu of installing an HPC exit brush seal pack, to comply with the AD.

We agree. Compliance with the AD can be achieved by installing either an HPC exit brush seal pack or an HPC exit brush seal assembly. Although installing an HPC exit brush seal assembly may be more costly for operators, it may be more convenient. We changed the AD compliance to allow for either replacement.

### **Used Part Prohibition**

For clarification, we added a used part prohibition paragraph in the compliance section. It states that engine reassembly with used OEM or used FAA-approved PMA HPC exit inner and outer brush seal packs with OEM or FAA-approved PMA new HPC exit inner and outer brush seal lands, is prohibited.

### **Conclusion**

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

We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

### **Costs of Compliance**

We estimate that this AD will affect 76 Pratt & Whitney PW4077D, PW4084D, PW4090, and PW4090-3 turboprop engines installed on airplanes of U.S. registry. We also estimate that it will take about 9 work-hours per engine to perform the parts replacement, and that the average labor rate is \$80 per work-hour. Required parts will cost about \$99,990 per engine. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$7,653,950.

### **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 at the address listed under ADDRESSES.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, 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 39-14729 (71 FR 49335, August 23, 2006), and by adding a new airworthiness directive, Amendment 39-14959, to read as follows:



**2007-04-26 Pratt & Whitney:** Amendment 39-14959. Docket No. FAA-2006-24034; Directorate Identifier 2006-NE-05-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective April 2, 2007.

**Affected ADs**

- (b) This AD supersedes AD 2006-17-08, Amendment 39-14729.

**Applicability**

(c) This AD applies to Pratt & Whitney PW4077D, PW4084D, PW4090, and PW4090-3 turbofan engines that were:

- (1) Reassembled with a previously used original equipment manufacturer (OEM) or part manufacturer approval (PMA) high pressure compressor (HPC) exit inner brush seal pack; and
- (2) Reassembled with a new or refurbished OEM or PMA HPC exit diffuser air seal inner land.
- (d) These engines are installed on, but not limited to, Boeing 777 airplanes.

**Unsafe Condition**

(e) This AD supersedure results from a request to include PMA HPC exit inner and outer brush seal packs and to include the engines with PMA parts already installed, in the AD. This AD action is the result of a report of oil leaking into the high pressure turbine (HPT) interstage cavity and igniting, leading to an engine case penetration and engine in-flight shutdown. We are issuing this AD to prevent uncontained engine failure, damage to the airplane, and injury to passengers.

**Compliance**

(f) You are responsible for having the actions required by this AD performed at the following compliance times, unless the actions have already been done.

(g) Replace the HPC exit inner and outer brush seal packs with OEM or FAA-approved PMA new HPC exit inner and outer brush seal packs, or an OEM or FAA-approved PMA new HPC exit brush seal assembly, as follows:

- (1) By 3,000 cycles-in-service (CIS) since a used HPC exit inner brush seal pack and a new or refurbished HPC exit diffuser air seal land were installed in the engine, or by March 31, 2007, whichever occurs later; however
- (2) If on March 31, 2007, the used HPC exit inner brush seal pack coupled with a new or refurbished HPC exit diffuser air seal inner land assembly has not accumulated 3,000 CIS, then by 3,000 CIS, or December 31, 2008, whichever occurs first.

## **Used Part Prohibition**

(h) Engine reassembly with used OEM or used FAA-approved PMA HPC exit inner and outer brush seal packs with OEM or FAA-approved PMA new HPC exit inner and outer brush seal lands, is prohibited.

(i) Information on replacing HPC exit inner and outer brush seal packs can be found in the Pratt & Whitney Alert Service Bulletin No. PW4G-112-A72-280, Revision 2, dated January 12, 2007, and in the engine overhaul manual.

## **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) Pratt & Whitney Alert Service Bulletin No. PW4G-112-A72-280, Revision 2, dated January 12, 2007, also pertains to the subject of this AD.

(l) Contact Antonio Cancelliere, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5213; telephone (781) 238-7751; fax (781) 238-7199; e-mail: antonio.cancelliere@faa.gov for more information about this AD.

Issued in Burlington, Massachusetts, on February 16, 2007.

Peter A. White,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. E7-3017 Filed 2-23-07; 8:45 am]