



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2017-0719; Product Identifier 2017-NE-22-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Pratt & Whitney Division**

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for all Pratt & Whitney Division (PW) PW4074, PW4074D, PW4077, PW4077D, PW4084D, PW4090, and PW4090-3 turbofan engines. This proposed AD was prompted by the discovery of multiple cracked outer diffuser cases. This proposed AD would require initial and repetitive inspections to detect cracks in the outer diffuser case and removal from service of cases that fail inspection. We are proposing this AD to address the unsafe condition on these products.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Pratt & Whitney Division, 400 Main St., East Hartford, CT 06118; phone: 800-565-0140; fax: 860-565-5442. You may view this service information at the FAA, Engine and Propeller Standards Branch, Policy and Innovation Division, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0719; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Jo-Ann Theriault, Aerospace Engineer, FAA, ECO Branch, Compliance and Airworthiness Division, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7105; fax: 781-238-7199; email: [jo-ann.theriault@faa.gov](mailto:jo-ann.theriault@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2017-0719; Directorate Identifier 2017-NE-22-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all

comments received by the closing date and may amend this NPRM because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this NPRM.

### **Discussion**

We were notified of the discovery of multiple cracked outer diffuser cases. This proposed AD requires initial and repetitive inspections to detect cracks in the outer diffuser case and removal from service of cases that fail inspection. This condition, if not corrected, could result in failure of the outer diffuser case, uncontained case release, damage to the engine, and damage to the airplane.

### **Related Service Information under 1 CFR part 51**

We reviewed PW Service Bulletin (SB) No. PW4G-112-A72-347, dated March, 31, 2017. This PW SB provides guidance on performing outer diffuser case fluorescent penetrant inspections (FPI). This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **Other Related Service Information**

We reviewed PW4000 Series (112 Inch) Engine Cleaning, Inspection and Repair (CIR) Manual, Part Number 51A750, Revision Number 74, section 72-41-13, Inspection/Check-02, dated July 15, 2017. This manual section provides guidance on performing the high sensitivity FPI of the outer diffuser case at piece-part exposure.

### FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

### Proposed AD Requirements

This proposed AD would require initial and repetitive inspections to detect cracks in the outer diffuser case and removal from service of cases that fail inspection.

### Costs of Compliance

We estimate that this proposed AD affects 121 engines installed on airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

#### Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Tt3 boss inspection	3.5 work-hours X \$85 per hour = \$297.50	\$0	\$297.50	\$35,997.50

We estimate the following costs to do any necessary replacements that would be required based on the results of the proposed inspection. We estimate six cases will need to be replaced in the domestic fleet.

#### On-condition costs

Action	Labor cost	Parts cost	Cost per product
FPI Inspection of outer diffuser case	10 work-hours X \$85 per hour = \$850.00	\$0	\$850.00
Replacement of outer diffuser case	\$0	\$750,000	\$750,000

### **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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) 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.

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

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

**The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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 adding the following new airworthiness directive (AD):

**Pratt & Whitney Division:** Docket No. FAA-2017-0719; Product Identifier 2017-NE-22-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all Pratt & Whitney Division (PW) PW4074, PW4074D, PW4077, PW4077D, PW4084D, PW4090, and PW4090-3 turbofan engines with outer diffuser case, part number (P/N) 50J775 or P/N 50J930, installed.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7240, Turbine Engine Combustion Section.

**(e) Unsafe Condition**

This AD was prompted by the discovery of multiple cracked outer diffuser cases. We are issuing this AD to prevent failure of the outer diffuser case. The unsafe condition, if not corrected, could result in failure of the outer diffuser case, uncontained case release, damage to the engine, and damage to the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

(1) Perform an initial high sensitivity fluorescent penetrant inspection (FPI) of the outer diffuser case T3 thermocouple probe boss (Tt3 boss) prior to accumulating 13,000 cycles since new (CSN), or within 1,000 flight cycles from the effective date of this AD, whichever occurs later. If the case CSN is unknown, inspect within 1,000 flight cycles from the effective date of this AD.

(2) Thereafter, repeat the high sensitivity FPI of the outer diffuser case Tt3 boss within 2,000 flight cycles since the last FPI.

(3) If a crack is found during the inspections required by paragraphs (g)(1) or (2) of this AD, re-inspect or remove the outer diffuser case from service as follows:

(i) For engines installed on-wing, re-inspect or remove in accordance with Part A, 1.G., of PW Service Bulletin (SB) No. PW4G-112-A72-347, dated March 31, 2017.

(ii) For assembled engines not installed on-wing, re-inspect or remove in accordance with Part B, 1.C., of PW SB No. PW4G-112-A72-347, dated March 31, 2017.

(iii) For disassembled engines, remove from service before further flight.

(4) Within 30 days of the effective date of this AD, update the mandatory inspections of the Airworthiness Limitations Section (ALS) of your Instructions for Continued Airworthiness to include the piece-part inspections of the diffuser case as defined in Figure 1 to paragraph (g) of this AD.

**Figure 1 to paragraph (g) – Addition to ALS**

<b>Description</b>	<b>Part Number</b>	<b>CIR Manual Section</b>	<b>CIR Manual Inspection</b>	<b>CIR Manual</b>
Case, Diffuser, Outer	All	72-41-13	Inspection/Check (I/C-02)	P/N 51A750

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, FAA, ECO Branch, Compliance and Airworthiness Division, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ECO Branch, send it to the attention of the person identified in paragraph (i)(1) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(i) Related Information**

(1) For more information about this AD, contact Jo-Ann Theriault, Aerospace Engineer, FAA, ECO Branch, Compliance and Airworthiness Division, 1200 District

Avenue, Burlington, MA 01803; phone: 781-238-7105; fax: 781-238-7199; email: joann.theriault@faa.gov.

(2) For service information identified in this AD, contact Pratt & Whitney Division, 400 Main St., East Hartford, CT 06118; phone: 800-565-0140; fax: 860-565-5442. You may view this referenced service information at the FAA, Engine and Propeller Standards Branch, Policy and Innovation Division, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on August 18, 2017.

Robert J. Ganley,  
Manager, Engine and Propeller Standards Branch,  
Aircraft Certification Service.

[FR Doc. 2017-17827 Filed: 8/24/2017 8:45 am; Publication Date: 8/25/2017]