

[Federal Register Volume 80, Number 167 (Friday, August 28, 2015)]

[Rules and Regulations]

[Pages 52177-52179]

From the Federal Register Online via the Government Publishing Office [www.gpo.gov]

[FR Doc No: 2015-21204]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2014-1130; Directorate Identifier 2015-NE-04-AD; Amendment 39-18250; AD 2015-17-17]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Pratt & Whitney Turbofan Engines**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for all Pratt & Whitney (PW) PW4164-1D, PW4168-1D, PW4168A-1D and PW4170 engines, and certain PW4164, PW4168, and PW4168A turbofan engines. This AD was prompted by fuel nozzle-to-fuel supply manifold interface fuel leaks. This AD requires inspecting fuel nozzles for signs of leakage, replacing hardware as required, and torquing to specified requirement. We are issuing this AD to prevent fuel leaks which could result in engine fire and damage to the airplane.

**DATES:** This AD is effective October 2, 2015.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of October 2, 2015.

**ADDRESSES:** For service information identified in this AD, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-8770; fax: 860-565-4503. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-1130.

#### **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-2014-1130; 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 AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of

Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Katheryn Malatek, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7747; fax: 781-238-7199; email: katheryn.malatek@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all PW PW4164-1D, PW4168-1D, PW4168A-1D and PW4170 engines, and certain PW4164, PW4168, and PW4168A turbofan engines. The NPRM published in the Federal Register on April 21, 2015 (80 FR 22140). The NPRM was prompted by reports of four fuel nozzle leaks in service and an additional six fuel nozzle leaks found during shop visits. The root cause is inadequate torque of the fuel nozzle-to-fuel supply manifold B-nuts for the temperatures that the fuel nozzles experience. The NPRM proposed to require inspecting fuel nozzles for signs of leakage, replacing hardware as required, and torquing B-nuts to specified requirement. We are issuing this AD to prevent fuel leaks which could result in engine fire and damage to the airplane.

### **Related Service Information Under CFR Part 51**

We reviewed PW Alert Service Bulletin (ASB) No. PW4G-100-A73-44, Revision 1, dated February 12, 2015. This ASB describes procedures for fuel supply manifold inspection and re-torque of the B-nut connection. 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 of this AD.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM (80 FR 22140, April 21, 2015) and the FAA's response to each comment.

### **Request To Change Referenced Service Information**

Korean Air requested that this AD mandate following PW ASB No. PW4G-100-A73-44 Revision 1, dated February 12, 2015 instead of PW ASB No. PW4G-100-A73-44, dated October 10, 2014. Korean Air would like to receive credit for service performed in accordance with the latest revision of the ASB.

We agree. We changed this AD to include PW ASB No. PW4G-100-A73-44 Revision 1, dated February 12, 2015 and added a Credit for Previous Action section to provide credit when PW ASB No. PW4G-100-A73-44, dated October 10, 2014 is followed, before the effective date of this AD.

### **Request To Add Service Information**

Korean Air requested that engines incorporating Special Instruction (SI) 129F-14 meet the requirement for compliance with this AD since SI 129F-14 provides the same instructions as PW ASB No. PW4G-100-A73-44, dated October 10, 2014 and PW ASB No. PW4G-100-A73-44 Revision 1, dated February 12, 2015.

We agree. We added SI 129F-14 to the Credit for Previous Action section.

## **Request To Change Mandatory Terminating Action**

Korean Air requested that the Mandatory Terminating Action section be changed to state that the actions listed are closing actions to the repetitive inspections defined in the Compliance section.

We agree. We changed the Mandatory Terminating Action section by adding, "As terminating action to the repetitive inspection requirements in paragraph (e)(1) of this AD do the following:".

## **Request To Change Applicability**

PW requested that engines incorporating PW Service Bulletin (SB) No. PW4G-100-72-220, Revision 4, dated September 30, 2011 be added to the Applicability section.

We disagree. Engines incorporating PW SB No. PW4G-100-72-220, Revision 4, dated September 30, 2011 are identified in the Applicability section by model designation. We did not change this AD.

## **Request To Redefine "Cycles"**

PW requested that the definition of cycles be changed from "cycles since new or cycles since the incorporation of PW SB No. PW4G-100-72-214, dated December 15, 2011 or SB No. PW4G-100-72-219, Revision 1, dated October 5, 2011" to "since new (1st run) or since last torque application to the B-nuts on the fuel nozzle installation." The justification for this request is that the B-nuts could have been torqued subsequent to the incorporation of the service bulletins.

We agree. We changed the Definition paragraph to define cycles as ". . . since new or cycles since last torque application to the B-nuts on the fuel nozzle installation."

## **Request To Change Compliance Time**

Asiana Airlines requested that the compliance time listed in this AD match the dates listed in the ASB. Asiana believes the compliance time listed in this AD is more restrictive than the dates listed in the ASB.

We disagree. Using cycles since the effective date of this AD instead of calendar dates provides greater fleet management flexibility to the operator while acceptably resolving the unsafe condition.

## **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

## **Costs of Compliance**

We estimate that this AD would affect about 72 engines installed on airplanes of U.S. registry. The average labor rate is \$85 per hour. We estimate that parts replacement will cost about \$1,356 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$391,392.

## **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**

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),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, 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.

### **Adoption of the Amendment**

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



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**2015-17-17 Pratt & Whitney:** Amendment 39-18250 ; Docket No. FAA-2014-1130; Directorate Identifier 2015-NE-04-AD.

**(a) Effective Date**

This AD is effective October 2, 2015.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all Pratt & Whitney (PW) PW4164-1D, PW4168-1D, PW4168A-1D and PW4170 engines; and all PW4164, PW4168, and PW4168A turbofan engines that have incorporated either PW Service Bulletin (SB) No. PW4G-100-72-214, dated December 15, 2011 or PW SB No. PW4G-100-72-219, Revision 1, dated October 5, 2011.

**(d) Unsafe Condition**

This AD was prompted by fuel nozzle-to-fuel supply manifold interface fuel leaks. We are issuing this AD to prevent fuel leaks which could result in engine fire and damage to the airplane.

**(e) Compliance**

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

(1) Within 800 flight hours after the effective date of this AD, and within every 800 flight hours since last inspection thereafter, inspect all fuel nozzle-to-fuel supply manifold interfaces for evidence of fuel leaks, soot, and coke formation. Use the Accomplishment Instructions, Part A, of PW Alert Service Bulletin (ASB) No. PW4G-100-A73-44, Revision 1, dated February 12, 2015 to do the inspections.

(2) Replace hardware that fails an inspection. Use the Accomplishment Instructions, Part A, of PW ASB No. PW4G-100-A73-44, Revision 1, dated February 12, 2015 to do the replacement.

**(f) Mandatory Terminating Action**

As terminating action to the repetitive inspection requirements in paragraph (e)(1) of this AD do the following:

(1) Inspect all fuel nozzle-to-fuel supply manifold interfaces for fuel leaks, soot, and coke formation, replace hardware that fails inspection, and re-torque all fuel nozzle-to-fuel supply manifold B-nuts as follows:

(i) For engines with fewer than 1,500 cycles on the effective date of this AD, before accumulating another 650 cycles, not to exceed 1,900 cycles.

(ii) For engines with 1,500 cycles or more, but less than 2,500 cycles on the effective date of this AD, before accumulating another 400 cycles, not to exceed 2,700 cycles.

(iii) For engines with 2,500 cycles or more on the effective date of this AD, before accumulating another 200 cycles.

(2) Use the Accomplishment Instructions, Parts B through E, of PW ASB No. PW4G-100-A73-44, Revision 1, dated February 12, 2015 to do the inspection, replacement, and retorquing.

**(g) Credit for Previous Action**

This paragraph provides credit for the actions required by paragraphs (e) and (f) of this AD, if the actions were performed before the effective date of this AD, using the procedures specified in PW ASB No. PW4G-100-A73-44, dated October 10, 2014 or Special Instruction 129F-14.

**(h) Definition**

For the purpose of this AD "cycles" is defined as cycles since new or cycles since last torque application to the B-nuts on the fuel nozzle installation.

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

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

**(j) Related Information**

For more information about this AD, contact Katheryn Malatek, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7747; fax: 781-238-7199; email: katheryn.malatek@faa.gov.

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Pratt & Whitney (PW) ASB No. PW4G-100-A73-44, Revision 1, dated February 12, 2015.

(ii) Reserved.

(3) For PW service information identified in this AD, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-8770; fax: 860-565-4503.

(4) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

(5) You may view this service information that is incorporated by reference 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>.

Issued in Burlington, Massachusetts, on August 18, 2015.  
Diane S. Romanosky,  
Acting Directorate Manager, Engine & Propeller Directorate,  
Aircraft Certification Service.