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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2011-0026; Directorate Identifier 2010-NM-104-AD; Amendment 39-16673; AD 2011-09-11]**

**RIN 2120-AA64**

#### **Airworthiness Directives; The Boeing Company Model 777-200 and -300 Series Airplanes Equipped With Pratt and Whitney Engines**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above. This AD requires repetitive inspections for hydraulic fluid contamination of the interior of the strut disconnect assembly; repetitive inspections for discrepancies of the interior of the strut disconnect assembly, if necessary; repetitive inspections of the exterior of the strut disconnect assembly for cracks, if necessary; and corrective action if necessary. This AD also provides an optional terminating action for the inspections. This AD was prompted by reports of system disconnect boxes that have been contaminated with hydraulic fluid and, in one incident, led to subsequent cracking of titanium parts in the system disconnect assembly. We are issuing this AD to detect and correct hydraulic fluid contamination, which can cause cracking of titanium parts in the system disconnect assembly, resulting in compromise of the engine firewall. A cracked firewall can allow fire in the engine area to enter the strut and can lead to an uncontained engine strut fire if flammable fluid is present. Cracking of the disconnect box may also reduce the effectiveness of the fire extinguishing system in the engine compartment and could contribute to an uncontained engine fire. In addition, a cracked disconnect box can leak flammable fluids into the engine core, which can initiate an engine fire, and lead to one or both fire conditions discussed above.

**DATES:** This AD is effective June 6, 2011.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of June 6, 2011.

**ADDRESSES:** For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@boeing.com; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; 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:** Kevin Nguyen, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue, SW., Renton, Washington 98057-3356; phone: 425-917-6501; fax: 425-917-6590; e-mail: [kevin.nguyen@faa.gov](mailto:kevin.nguyen@faa.gov).

### **SUPPLEMENTARY INFORMATION: Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to the specified products. That NPRM published in the Federal Register on January 20, 2011 (76 FR 3566). That NPRM proposed to require repetitive inspections for hydraulic fluid contamination of the interior of the strut disconnect assembly; repetitive inspections for discrepancies of the interior of the strut disconnect assembly, if necessary; repetitive inspections of the exterior of the strut disconnect assembly for cracks, if necessary; and corrective action if necessary. That NPRM also provided an optional terminating action for the inspections.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We have considered the comment received. Boeing concurs with the NPRM.

### **Conclusion**

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting the AD as proposed.

### **Costs of Compliance**

We estimate that this AD affects 53 airplanes of U.S. registry. We also estimate that it takes about 48 work-hours per product to comply with this AD. The average labor rate is \$85 per work-hour. Required parts cost about \$122,617 per product. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$6,714,941, or \$122,697 per product.

## **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, 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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**2011-09-11 The Boeing Company:** Amendment 39-16673; Docket No. FAA-2011-0026;  
Directorate Identifier 2010-NM-104-AD.

**Effective Date**

(a) This AD is effective June 6, 2011.

**Affected ADs**

(b) None.

**Applicability**

(c) This AD applies to The Boeing Company Model 777-200 and -300 series airplanes, certificated in any category; equipped with Pratt and Whitney engines; as identified in Boeing Service Bulletin 777-54A0024, Revision 1, dated November 4, 2010.

**Subject**

(d) Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 54: Nacelles/Pylons.

**Unsafe Condition**

(e) This AD was prompted by reports of system disconnect boxes that have been contaminated with hydraulic fluid, in which one case a crack was found. We are issuing this AD to detect and correct hydraulic fluid contamination, which can cause cracking of titanium parts in the system disconnect assembly, resulting in compromise of the engine firewall. A cracked firewall can allow fire in the engine area to enter the strut and can lead to an uncontained engine strut fire if flammable fluid is present. Cracking of the disconnect box may also reduce the effectiveness of the fire extinguishing system in the engine compartment and could contribute to an uncontained engine fire. In addition, a cracked disconnect box can leak flammable fluids into the engine core, which can initiate an engine fire and lead to one or both fire conditions discussed above.

**Compliance**

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

**Inspections and Corrective Actions**

(g) Within 12 months after the effective date of this AD: Do a general visual inspection for hydraulic fluid contamination of the interior of the strut disconnect assembly, in accordance with Part 1 of the Accomplishment Instructions of Boeing Service Bulletin 777-54A0024, Revision 1, dated November 4, 2010.

(1) For airplanes on which no hydraulic fluid contamination is found (Condition 1): Repeat the general visual inspection required by paragraph (g) of this AD thereafter at intervals not to exceed 6,000 flight cycles or 750 days, whichever occurs first.

(2) For airplanes on which hydraulic fluid contamination is found (Condition 2): Before further flight, do a detailed inspection for discrepancies (e.g., hydraulic fluid coking, heat discoloration, cracks, and etching or pitting) of the interior of the strut disconnect assembly, in accordance with Part 2 of the Accomplishment Instructions of Boeing Service Bulletin 777-54A0024, Revision 1, dated November 4, 2010.

(i) For airplanes on which no discrepancy is found during the inspection required by paragraph (g)(2) of this AD (Condition 2A): Repeat the detailed inspection required by paragraph (g)(2) of this AD thereafter at intervals not to exceed 6,000 flight cycles or 750 days, whichever occurs first.

(ii) For airplanes on which hydraulic fluid coking or heat discoloration is found but no cracking, etching, or pitting is found during the inspection required by paragraph (g)(2) of this AD (Condition 2B): Do the actions required by paragraph (g)(2)(ii)(A) and (g)(2)(ii)(B) of this AD.

(A) Within 300 flight cycles after doing the inspection required by paragraph (g)(2) of this AD: Do a detailed inspection of the exterior of the strut disconnect assembly for cracks, in accordance with Part 3 of the Accomplishment Instructions of Boeing Service Bulletin 777-54A0024, Revision 1, dated November 4, 2010; and repeat the detailed inspection thereafter at intervals not to exceed 300 flight cycles.

(B) Within 6,000 flight cycles or 750 days after hydraulic fluid coking and/or heat discoloration was found during the inspection required by paragraph (g)(2) of this AD, whichever occurs first: Replace the titanium system disconnect assembly with an Inconel system, in accordance with Part 4 of the Accomplishment Instructions of Boeing Service Bulletin 777-54A0024, Revision 1, dated November 4, 2010.

(h) For airplanes on which any crack, etching, or pitting is found during any inspection required by paragraph (g)(2) or (g)(2)(ii)(A) of this AD (Condition 3): Before further flight, replace the titanium system disconnect assembly with an Inconel system, in accordance with Part 4 of the Accomplishment Instructions of Boeing Service Bulletin 777-54A0024, Revision 1, dated November 4, 2010.

### **Optional Terminating Action**

(i) Replacing the titanium system disconnect assembly with an Inconel system disconnect assembly in accordance with Part 4 of the Accomplishment Instructions of Boeing Service Bulletin 777-54A0024, Revision 1, dated November 4, 2010, terminates the actions required by this AD.

### **Credit for Actions Accomplished in Accordance With Previous Service Information**

(j) Actions accomplished before the effective date of this AD according to Boeing Alert Service Bulletin 777-54A0024, dated April 1, 2010, are considered acceptable for compliance with the corresponding actions specified in this AD.

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

(k)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, 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 ACO, send it to the attention of the person identified in the Related Information section of this AD. Information may be e-mailed to: 9-ANM-Seattle-ACO-AMOC-Requests@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.

### **Related Information**

(1) For more information about this AD, contact Kevin Nguyen, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue, SW., Renton, Washington 98057-3356; phone: 425-917-6501; fax: 425-917-6590; e-mail: kevin.nguyen@faa.gov.

### **Material Incorporated by Reference**

(m) You must use Boeing Service Bulletin 777-54A0024, Revision 1, dated November 4, 2010, to do the actions required by this AD, unless the AD specifies otherwise.

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

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@boeing.com; Internet <https://www.myboeingfleet.com>.

(3) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(4) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at an NARA facility, call 202-741-6030, or go to [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on April 12, 2011.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

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