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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2014-0580; Directorate Identifier 2014-NM-081-AD; Amendment 39-18062; AD 2015-01-01]**

**RIN 2120-AA64**

#### **Airworthiness Directives; The Boeing Company Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are superseding Airworthiness Directive (AD) 2011-09-11, for certain The Boeing Company Model 777-200 and -300 series airplanes. AD 2011-09-11 required 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; corrective action if necessary; and an optional terminating action for the inspections. This new AD adds, for certain airplanes, an inspection of the side and top cover plates to determine if all cover plate attach fasteners have been installed, and installing any missing fasteners including doing an inspection for damage, and repair if necessary. This AD was prompted by reports of side and top cover plates installed with missing fastener bolts, which results in an unsealed opening on 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; and also to detect and correct missing fasteners, which results in unsealed openings on the system disconnect assembly. Both unsafe conditions can compromise the engine firewall and result in fire hazards for both the engine compartment and the strut.

**DATES:** This AD is effective February 26, 2015.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of February 26, 2015.

The Director of the Federal Register approved the incorporation by reference of certain other publications listed in this AD as of June 6, 2011 (76 FR 24354, May 2, 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, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>.

You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. 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> by searching for and locating Docket No. FAA-2014-0580; 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 Docket 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, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6501; fax: 425-917-6590; email: [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 supersede AD 2011-09-11, Amendment 39-16673 (76 FR 24354, May 2, 2011). AD 2011-09-11 applied to The Boeing Company Model 777-200 and - 300 series airplanes equipped with Pratt and Whitney engines. The NPRM published in the Federal Register on August 26, 2014 (79 FR 50877).

### **Comments**

We gave the public the opportunity to participate in developing this AD. We have considered the comments received. United Airlines and Boeing supported the NPRM (79 FR 50877, August 26, 2014).

### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD as proposed, except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 50877, August 26, 2014) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 50877, August 26, 2014).

### **Costs of Compliance**

We estimate that this AD affects 54 airplanes of U.S. registry.  
We estimate the following costs to comply with this AD:

### Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspections [retained actions from AD 2011-09-11, Amendment 39-16673 ( <a href="#">76 FR 24354</a> , May 2, 2011)]	18 work-hours × \$85 per hour = \$1,530	\$0	\$1,530	\$82,620
Inspection of cover plate fasteners [new action]	8 work-hours × \$85 per hour = \$680	0	680	36,720

We estimate the following costs to do any necessary repairs/replacements that will be required based on the results of the inspections. We have no way of determining the number of aircraft that might need these repairs/replacements:

### On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Replacement [retained actions from AD 2011-09-11, Amendment 39-16673 ( <a href="#">76 FR 24354</a> , May 2, 2011)]	35 work-hours × \$85 per hour = \$2,975	\$420,440	\$423,415
Inspection of electrical components and installation of new fasteners [new actions]	14 work-hours × \$85 per hour = \$1,190	458	1,648

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

### 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),
- (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 removing Airworthiness Directive (AD) 2011-09-11, Amendment 39-16673 (76 FR 24354, May 2, 2011), and adding the following new AD:



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**2015-01-01 The Boeing Company:** Amendment 39-18062; Docket No. FAA-2014-0580; Directorate Identifier 2014-NM-081-AD.

**(a) Effective Date**

This AD is effective February 26, 2015.

**(b) Affected ADs**

This AD replaces AD 2011-09-11, Amendment 39-16673 (76 FR 24354, May 2, 2011).

**(c) Applicability**

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 2, dated January 23, 2014.

**(d) Subject**

Air Transport Association (ATA) of America Code 54, Nacelles/Pylons.

**(e) Unsafe Condition**

This AD was prompted by reports of side and top cover plates installed with missing fastener bolts, which results in an unsealed opening on 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; and also to detect and correct missing fasteners, which results in unsealed openings on the system disconnect assembly. Both unsafe conditions can compromise the engine firewall and result in fire hazards for both the engine compartment and the strut.

**(f) Compliance**

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

**(g) Retained Inspections and Corrective Actions With Revised Service Information**

This paragraph restates the requirements of paragraph (g) of AD 2011-09-11, Amendment 39-16673 (76 FR 24354, May 2, 2011), with revised service information. Within 12 months after June 6, 2011 (the effective date of AD 2011-09-11): 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; or Revision 2, dated January 23, 2014. As of the effective date of this AD, use only Boeing Service Bulletin 777-54A0024, Revision 2, dated January 23, 2014, for accomplishing the actions in this paragraph.

(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; or Revision 2, dated January 23, 2014. As of the effective date of this AD, use only Boeing Service Bulletin 777-54A0024, Revision 2, dated January 23, 2014, for accomplishing the actions in this paragraph.

(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; or Revision 2, dated January 23, 2014; and repeat the detailed inspection thereafter at intervals not to exceed 300 flight cycles. As of the effective date of this AD, use only Boeing Service Bulletin 777-54A0024, Revision 2, dated January 23, 2014, for accomplishing the actions in this paragraph.

(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; or Revision 2, dated January 23, 2014. As of the effective date of this AD, use only Boeing Service Bulletin 777-54A0024, Revision 2, dated January 23, 2014, for accomplishing the actions in this paragraph.

#### **(h) Retained Corrective Action With Revised Service Information**

This paragraph restates the requirements of paragraph (h) of AD 2011-09-11, Amendment 39-16673 (76 FR 24354, May 2, 2011), with revised service information. 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; or Revision 2, dated January 23, 2014. As of the effective date of this AD, use only Boeing Service Bulletin 777-54A0024, Revision 2, dated January 23, 2014, for accomplishing the actions in this paragraph.

#### **(i) Retained Optional Terminating Action With Revised Service Information**

This paragraph restates the requirements of paragraph (i) of AD 2011-09-11, Amendment 39-16673 (76 FR 24354, May 2, 2011), with revised service information. 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; or Revision 2, dated January 23, 2014; terminates the actions required by paragraphs (g) and (h) of this AD. As of the effective date of this AD, use only Boeing Service Bulletin 777-54A0024, Revision 2, dated January 23, 2014, for accomplishing the actions in this paragraph.

## **(j) New Inspection and Corrective Action**

For airplanes on which the system disconnect assembly has been replaced in accordance with Part 4 of the Accomplishment Instructions of Boeing Service Bulletin 777-54A0024, dated April 1, 2010; or Revision 1, dated November 4, 2010: Within 1,125 days after the effective date of this AD, do a detailed inspection of the cover plate fasteners to determine if all cover plate attach fasteners are installed, in accordance with Part 5 of the Accomplishment Instructions of Boeing Service Bulletin 777-54A0024, Revision 2, dated January 23, 2014. If any fastener is missing, before further flight, install fasteners (including doing a detailed inspection for damage of the electrical components and repairing any damaged components), in accordance with Part 6 of the Accomplishment Instructions of Boeing Service Bulletin 777-54A0024, Revision 2, dated January 23, 2014.

## **(k) Credit for Previous Actions**

This paragraph restates the credit provided by paragraph (j) of AD 2011-09-11, Amendment 39-16673 (76 FR 24354, May 2, 2011). This paragraph provides credit for the corresponding actions required by paragraphs (g), (h), and (i) of this AD, if those actions were performed before June 6, 2011 (the effective date of AD 2011-09-11) using Boeing Service Bulletin 777-54A0024, dated April 1, 2010, which is not incorporated by reference in this AD.

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

(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 paragraph (m)(1) of this AD. Information may be emailed 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.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

## **(m) Related Information**

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

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (n)(5) and (n)(6) of this AD.

## **(n) 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.

(3) The following service information was approved for IBR on February 26, 2015.

(i) Boeing Service Bulletin 777-54A0024, Revision 2, dated January 23, 2014.

(ii) Reserved.

(4) The following service information was approved for IBR on June 6, 2011 (76 FR 24354, May 2, 2011).

(i) Boeing Service Bulletin 777-54A0024, Revision 1, dated November 4, 2010.

(ii) Reserved.

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

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

(7) 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 Renton, Washington, on December 22, 2014.

Michael Kaszycki,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.