



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2015-0935; Directorate Identifier 2014-NM-243-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

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

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

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series airplanes. This proposed AD was prompted by several reports of chafing of the wire bundles inside the electrical conduit of the forward and aft boost pumps of the numbers 1 and 4 main fuel tanks due to high vibration. These wire bundles can chafe through the wire sleeving into the insulation, exposing the wire conductors. This proposed AD would require replacing the wire bundles inside the electrical conduit of the forward and aft boost pumps of the numbers 1 and 4 main fuel tanks with new, improved wire bundles inserted into conduit liners. We are proposing this AD to prevent chafing of the wire bundles and subsequent arcing between the wiring and the electrical conduit creating an ignition source in the fuel tanks, which could result in a fire and consequent fuel tank explosion.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 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 proposed AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; phone 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. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-0935.

#### **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-2015-0935; 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 proposed AD, 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:** Tung Tran, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind

Avenue SW., Renton, WA 98057-3356; phone: 425-917-6505; fax: 425-917-6590; email: tung.tran@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-2015-0935; Directorate Identifier 2014-NM-243-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD 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 proposed AD.

### **Discussion**

We have received several reports of chafing of the wire bundles inside the electrical conduit of the forward and aft boost pumps of the numbers 1 and 4 main fuel tanks due to high vibration. These wire bundles can chafe through the wire sleeving into the insulation, exposing the wire conductors. These conditions, if not prevented, could result in arcing between the wiring and the electrical conduit creating an ignition source in the fuel tanks, which could result in a fire and consequent fuel tank explosion.

### **Related AD**

AD 2011-15-03, Amendment 39-16750 (76 FR 41659, July 15, 2011), superseded AD 97-26-07, Amendment 39-10250 (62 FR 65352, December 12, 1997), and continues to require repetitive inspections to detect damage of the sleeving and wire bundles of the

boost pumps of the numbers 1 and 4 main fuel tanks, and of the auxiliary tank jettison pumps (if installed); replacement of any damaged sleeving with new sleeving; and repair or replacement of any damaged wires with new wires. For airplanes on which any burned wires are found, AD 2011-15-03 also continues to require an inspection to detect damage of the conduit, and replacement of any damaged conduit with a serviceable conduit. AD 2011-15-03 reduced the initial compliance time and repetitive inspection interval in AD 97-26-07. AD 2011-15-03 was prompted by fleet information indicating that the repetitive inspection interval in AD 97-26-07 was too long because excessive chafing of the sleeving continued to occur much earlier than expected between scheduled inspections. Accomplishing the replacement specified in this proposed AD would terminate the repetitive inspections required by paragraph (n) of AD 2011-15-03.

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

We reviewed Boeing Alert Service Bulletin 747-28A2306, dated October 2, 2014. The service information describes procedures for replacing the wire bundles of the electrical conduit inside the electrical conduit of the forward and aft boost pumps of the numbers 1 and 4 main fuel tanks. This service information is reasonably available at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-0935. Or see ADDRESSES for other ways to access this service information.

#### **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 accomplishing the actions specified in the service information identified previously.

## Costs of Compliance

We estimate that this proposed AD affects 176 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
Replacement	Up to 53 work-hours X \$85 per hour = \$4,505	\$4,600	Up to \$9,105	Up to \$1,602,480

## 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 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):

**The Boeing Company:** Docket No. FAA-2015-0935; Directorate Identifier 2014-NM-243-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(b) Affected ADs**

This AD affects AD 2011-15-03, Amendment 39-16750 (76 FR 41659, July 15, 2011).

**(c) Applicability**

This AD applies to The Boeing Company Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 747-28A2306, dated October 2, 2014.

**(d) Subject**

Air Transport Association (ATA) of America Code 28, Fuel.

**(e) Unsafe Condition**

This AD was prompted by several reports of chafing of the wire bundles inside the electrical conduit of the forward and aft boost pumps of the numbers 1 and 4 main fuel tanks due to high vibration. These wire bundles can chafe through the wire sleeving into the insulation, exposing the wire conductors. We are issuing this AD to prevent chafing of the wire bundles and subsequent arcing between the wiring and the electrical conduit creating an ignition source in the fuel tanks, which could result in a fire and consequent fuel tank explosion.

**(f) Compliance**

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

**(g) Replacement**

Within 60 months after the effective date of this AD: Replace the wire bundles inside the electrical conduit of the forward and aft boost pumps of the numbers 1 and 4 main fuel tanks with new, improved wire bundles inserted into conduit liners, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-28A2306, dated October 2, 2014. Accomplishing the replacement required by this paragraph terminates the repetitive inspections required by paragraph (n) of AD 2011-15-03, Amendment 39-16750 (76 FR 41659, July 15, 2011).

**(h) 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 (i)(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.

**(i) Related Information**

(1) For more information about this AD, contact Tung Tran, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6505; fax: 425-917-6590; email: tung.tran@faa.gov.

(2) 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; phone 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.

Issued in Renton, Washington, on April 17, 2015.

Victor Wicklund,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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