



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2015-1984; Directorate Identifier 2015-NM-022-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 supersede Airworthiness Directive (AD) 2005-01-09, which applies to 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, and 747SR series airplanes. AD 2005-01-09 requires a one-time detailed inspection for discrepancies of the frame web and inner chords on the forward edge frame of the number 5 main entry door cutout, and corrective action if necessary. Since we issued AD 2005-01-09, additional cracking was found in the same area after completion of the one-time detailed inspection. This proposed AD would add repetitive high frequency eddy current inspections for cracking of the frame inner chords (forward and aft), and corrective action if necessary. We are proposing this AD to detect and correct discrepancies of the frame web and inner chords, which could result in cracking, subsequent severing of the frame, and consequent rapid depressurization of the airplane.

**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; 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. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-1984.

### **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-2015-1984; 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:** Nathan Weigand, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6428; fax: 425-917-6590; email: nathan.p.weigand@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2015-1984; Directorate Identifier 2015-NM-022-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**

On December 27, 2004, we issued AD 2005-01-09, Amendment 39-13933 (70 FR 1340, January 7, 2005), 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, and 747SR series airplanes. AD 2005-01-09 requires a one-time inspection for discrepancies of the frame web and inner chords on the forward edge frame of the number 5 main entry door cutout, and corrective action if necessary. AD 2005-01-09 resulted from a report of cracking of the frame web and inner chords on the forward edge frame of the number 5 main entry door. We issued AD 2005-01-09 to find and fix

discrepancies of the frame web and inner chords, which could result in cracking, subsequent severing of the frame, and consequent rapid depressurization of the airplane.

**Actions Since AD 2005-01-09, Amendment 39-13933 (70 FR 1340, January 7, 2005), Was Issued**

Since we issued AD 2005-01-09, Amendment 39-13933 (70 FR 1340, January 7, 2005), additional cracking was found in the same area after completion of the one-time detailed inspection required by AD 2005-01-09.

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

We reviewed and approved Boeing Alert Service Bulletin 747-53A2494, Revision 1, dated January 9, 2015. The service information describes procedures for a one-time detailed inspection and repetitive surface high frequency eddy current inspections of the Station 2231 frame inner chords (forward and aft), and repair of discrepancies. 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 NPRM.

**Related AD**

On August 16, 2013, we issued AD 2013-17-08, Amendment 39-17572 (78 FR 57053, September 17, 2013), 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, and 747SR series airplanes. AD 2013-17-08 requires repetitive inspections to find cracking of the web, strap, inner chords, inner chord angle of the forward edge frame of the number 5 main entry door cutouts; the frame segment between stringers 16 and 31; repair if necessary; and repetitive inspections for cracking of repairs. AD 2013-17-08 resulted from multiple reports of cracking outside of the previous inspection areas and a report of a crack that initiated at the aft edge of the inner chord rather than initiating at a fastener location. We issued AD 2013-17-08 to detect and

correct such cracks, which could cause damage to the adjacent body structure and could result in depressurization of the airplane in flight.

### **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**

Although this proposed AD does not explicitly restate the requirements of AD 2005-01-09, Amendment 39-13933 (70 FR 1340, January 7, 2005), this proposed AD would retain all of the requirements. Those requirements are referenced in the service information identified previously, which, in turn, is referenced in paragraph (g) of this proposed AD. This proposed AD would require accomplishing the actions specified in the service information described previously, except as discussed under “Difference Between this Proposed AD and the Service Bulletin.” Refer to this service information for information on the procedures and compliance times.

### **Difference Between this Proposed AD and the Service Bulletin**

Although Boeing Alert Service Bulletin 747-53A2494, Revision 1, dated January 9, 2015, specifies that operators may contact the manufacturer for disposition of certain repair conditions, this proposed AD would require repairing those conditions in one of the following ways:

- In accordance with a method that we approve; or
- Using data that meet the certification basis of the airplane, and that have been approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) whom we have authorized to make those findings.

### **Costs of Compliance**

We estimate that this proposed AD affects 174 airplanes of U.S. registry.

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

**Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Detailed inspection	2 work-hours X \$85 per hour = \$170	\$0	\$170	\$29,580
HFEC inspections	4 work-hours X \$85 per hour = \$340	\$0	\$340 per inspection cycle	\$59,160 per inspection cycle

We have received no definitive data that would enable us to provide a cost estimate for the on-condition actions specified in this proposed AD.

**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 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 that the 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 removing Airworthiness Directive (AD) 2005-01-09, Amendment 39-13933 (70 FR 1340, January 7, 2005), and adding the following new AD:

**The Boeing Company:** Docket No. FAA-2015-1984; Directorate Identifier 2015-NM-022AD.

**(a) Comments Due Date**

The FAA must receive comments on this AD action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD replaces AD 2005-01-09, Amendment 39-13933 (70 FR 1340, January 7, 2005).

**(c) Applicability**

This AD applies to The Boeing Company Model 747-100, -100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, and 747SR series airplanes; certificated in any category; as identified in Boeing Alert Service Bulletin 747-53A2494, Revision 1, dated January 9, 2015.

**(d) Subject**

Air Transport Association (ATA) of America Code 53, Fuselage.

**(e) Unsafe Condition**

This AD was prompted by reports of additional cracking found in the same area after completion of the one-time detailed inspection. We are issuing this AD to detect and correct discrepancies of the frame web and inner chords, which could result in cracking, subsequent severing of the frame, and consequent rapid depressurization of the airplane.

**(f) Compliance**

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

**(g) Inspections**

Do the applicable actions specified in paragraphs (g)(1), (g)(2), (g)(3), and (g)(4) of this AD, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2494, Revision 1, dated January 9, 2015, except as required by paragraph (h)(2) of this AD.

(1) At the applicable time specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2494, Revision 1, dated January 9, 2015, do a detailed inspection for nicks, scratches, or gouges of the Station 2231 frame inner chords, forward and aft, at stringer 26 at the edge and side of the inner chords.

(2) At the applicable time specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2494, Revision 1, dated January 9, 2015, except as required by paragraph (h)(1) of this AD: Do a surface high frequency eddy current (HFEC) inspection for cracks of the frame inner chords, forward and aft.

(3) Based on the findings from the inspections specified in paragraphs (g)(1) and (g)(2) of this AD, do all applicable corrective actions, before further flight.

(4) Repeat the HFEC inspection specified in paragraph (g)(2) of this AD at the applicable time specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2494, Revision 1, dated January 9, 2015.

**(h) Exceptions to Service Bulletin Specifications**

(1) Where Boeing Alert Service Bulletin 747-53A2494, Revision 1, dated January 9, 2015, specifies a compliance time “after the release of Revision 1 of this service bulletin,” this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where Boeing Alert Service Bulletin 747-53A2494, Revision 1, dated January 9, 2015, specifies to contact Boeing for repair instructions: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

**(i) Credit for Previous Actions**

(1) This paragraph provides credit for inspections required by paragraph (g)(1) of this AD, if those inspections were performed before the effective date of this AD using Boeing Alert Service Bulletin 747-53A2494, dated September 18, 2003, which was incorporated by reference in AD 2005-01-09, Amendment 39-13933 (70 FR 1340, January 7, 2005).

(2) This paragraph provides credit for inspections required by paragraphs (g)(1) and (g)(2) of this AD, if those inspections were performed before the effective date of

this AD using Boeing Alert Service Bulletin 747-53A2450, Revision 7, dated November 2, 2011, which was incorporated by reference in AD 2013-17-08, Amendment 39-17572 (78 FR 57053, September 17, 2013).

**(j) 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 (k)(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.

(4) AMOCs approved for AD 2005-01-09, Amendment 39-13933 (70 FR 1340, January 7, 2005), are approved as AMOCs for the corresponding provisions of paragraph (g)(1) of this AD.

**(k) Related Information**

(1) For more information about this AD, contact Nathan Weigand, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601

Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6428; fax: 425-917-6590;  
email: nathan.p.weigand @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; 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, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on June 12, 2015.

Jeffrey E. Duven,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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