

---

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2007-0194; Directorate Identifier 2007-NM-306-AD; Amendment 39-15266;  
AD 2007-23-18]  
RIN 2120-AA64

**Airworthiness Directives; Boeing Model 747-100B SUD, 747-200B, 747-300, 747-400, and 747-400D Series Airplanes**

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

**ACTION:** Final rule; request for comments.

---

**SUMMARY:** The FAA is superseding an existing airworthiness directive (AD) that applies to all Boeing Model 747-100B SUD, 747-300, 747-400, and 747-400D series airplanes; and Model 747-200B series airplanes having a stretched upper deck. The existing AD currently requires repetitively inspecting for cracking or discrepancies of the fasteners in the tension ties, shear webs, and frames at body stations 1120 through 1220, and performing related investigative and corrective actions if necessary. This new AD reduces the repetitive interval for certain inspections. This AD results from new reports of multiple severed adjacent tension ties, in addition to the previous reports of cracked and severed tension ties, broken fasteners, and cracks in the frame, shear web, and shear ties adjacent to tension ties for the upper deck. We are issuing this AD to detect and correct cracking of the tension ties, shear webs, and frames of the upper deck, which could result in rapid decompression and reduced structural integrity of the airplane.

**DATES:** This AD becomes effective November 28, 2007.

On April 26, 2006 (71 FR 14367, March 22, 2006), the Director of the Federal Register approved the incorporation by reference of Boeing Alert Service Bulletin 747-53A2507, dated April 21, 2005.

We must receive any comments on this AD by January 22, 2008.

**ADDRESSES:** You may send comments 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 W12140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207.

### **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 street address for the Docket Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Ivan Li, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6437; fax (425) 917-6590.

### **SUPPLEMENTARY INFORMATION: Discussion**

On March 9, 2006, we issued AD 2006-06-11, amendment 39-14520 (71 FR 14367, March 22, 2006). That AD applies to all Boeing Model 747-100B SUD, 747-300, 747-400, and 747-400D series airplanes; and Model 747-200B series airplanes having a stretched upper deck. That AD requires repetitively inspecting for cracking or discrepancies of the fasteners in the tension ties, shear webs, and frames at body stations 1120 through 1220, and performing related investigative and corrective actions if necessary. That AD resulted from reports of severed tension ties, as well as numerous reports of cracked tension ties, broken fasteners, and cracks in the frame, shear web, and shear ties adjacent to tension ties for the upper deck. The actions specified in that AD are intended to detect and correct cracking of the tension ties, shear webs, and frames of the upper deck, which could result in rapid decompression of the airplane.

### **Actions Since AD Was Issued**

Since we issued that AD, two operators reported that, during a recent inspection of the tension ties, multiple adjacent tension ties were found severed. One operator reported three adjacent tension ties severed on a Model 747-300 series airplane with about 18,400 total flight cycles. The other operator reported two adjacent tension ties severed on another Model 747-300 series airplane with about 14,000 total flight cycles. Because of the high number of severed adjacent tension ties on these two airplanes, we have concluded that the repetitive interval for the Stage 1 inspection (repetitive detailed inspections for cracking of the tension ties and adjacent structure at body station (BS) 1120 through BS 1220), as required by AD 2006-06-11, does not adequately ensure the safety of the fleet. Therefore, we find it necessary to reduce the repetitive interval of the Stage 1 inspection. The Stage 2 inspection threshold and intervals are unchanged.

## **FAA's Determination and Requirements of This AD**

The unsafe condition described previously is likely to exist or develop on other airplanes of the same type design. For this reason, we are issuing this AD to supersede AD 2006-06-11. This new AD retains the requirements of the existing AD, but reduces the repetitive interval for the Stage 1 inspection. This new AD also requires sending the inspection results to Boeing.

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

To address the recent new inspection findings, this AD reduces the repetitive interval provided in Boeing Alert Service Bulletin 747-53A2507, dated April 21, 2005 (cited in the existing AD and this superseding AD as the appropriate source of service information for the inspections), for the Stage 1 inspection. Boeing concurs with this change.

## **Interim Action**

Because the extent of cracking in the fleet is not known, the required inspection reports will help determine the damage condition of the fleet. Based on the results of these reports, we may determine that further corrective action is warranted.

## **FAA's Determination of the Effective Date**

An unsafe condition exists that requires the immediate adoption of this AD; therefore, providing notice and opportunity for public comment before the AD is issued is impracticable, and good cause exists to make this AD effective in less than 30 days.

## **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not provide you with notice and an opportunity to provide your comments before it becomes effective. However, we invite you to send any written data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2007-0194; Directorate Identifier 2007-NM-306-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this 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 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 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 the 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); and
3. 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

## 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 part 39 of the Federal Aviation Regulations (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 Federal Aviation Administration (FAA) amends § 39.13 by removing amendment 39-14520 (71 FR 14367, March 22, 2006) and adding the following new airworthiness directive (AD):



**2007-23-18 Boeing:** Docket No. FAA-2007-0194; Directorate Identifier 2007-NM-306-AD; Amendment 39-15266.

### Effective Date

- (a) This AD becomes effective November 28, 2007.

### Affected ADs

- (b) This AD affects the following ADs:

- (1) This AD supersedes AD 2006-06-11.

(2) As of the effective date of this AD, for the areas inspected in accordance with this AD, accomplishment of the requirements of paragraph (f) or (i) of this AD terminates the corresponding inspection requirements for the upper deck tension ties as required by paragraphs (c) and (d) of AD 2004-07-22, amendment 39-13566, as those paragraphs apply to inspections of structural significant item (SSI) F-19A, as identified in Boeing Document No. D6-35022, "Supplemental Structural Inspection Document," Revision G, dated December 2000. All other requirements of AD 2004-07-22 continue to apply.

### Applicability

(c) This AD applies to all Boeing Model 747-100B SUD, 747-300, 747-400, and 747-400D series airplanes; and Model 747-200B series airplanes having a stretched upper deck; certificated in any category.

### Unsafe Condition

(d) This AD results from new reports of multiple severed adjacent tension ties, in addition to the previous reports of cracked and severed tension ties, broken fasteners, and cracks in the frame, shear web, and shear ties adjacent to tension ties for the upper deck. We are issuing this AD to detect and correct cracking of the tension ties, shear webs, and frames of the upper deck, which could result in rapid decompression and reduced structural integrity of the airplane.

### Compliance

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

### Repetitive Stage 1 Inspections

(f) Do detailed inspections for cracking or discrepancies of the fasteners in the tension ties, shear webs, and frames at body stations 1120 through 1220, and related investigative and corrective actions as applicable, by doing all actions specified in and in accordance with "Stage 1 Inspection" of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2507, dated April 21, 2005, except as provided by paragraph (j) of this AD. Do the Stage 1 inspections at the applicable times specified in paragraphs (g) and (h) of this AD, except as provided by paragraphs (f)(1) and (f)(2) of

this AD. Any applicable related investigative and corrective actions must be done before further flight.

(1) Where paragraph 1.E., "Compliance," of the service bulletin specifies a compliance time relative to the original issue date of the service bulletin, this AD requires compliance before the specified compliance time after April 26, 2006 (the effective date of AD 2006-06-11).

(2) For any airplane that reaches the applicable compliance time for the initial Stage 2 inspection (as specified in Table 1, Compliance Recommendations, under paragraph 1.E. of the service bulletin) before reaching the applicable compliance time for the initial Stage 1 inspection: Accomplishment of the initial Stage 2 inspection eliminates the need to do the Stage 1 inspections.

### **Compliance Time for Initial Stage 1 Inspection**

(g) Do the initial Stage 1 inspection at the earlier of the times specified in paragraphs (g)(1) and (g)(2) of this AD.

(1) At the earlier of the times specified in paragraphs (g)(1)(i) and (g)(1)(ii) of this AD.

(i) At the applicable time specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2507, dated April 21, 2005.

(ii) Before the accumulation of 10,000 total flight cycles, or within 250 flight cycles after the effective date of this AD, whichever occurs later.

(2) At the later of the times specified in paragraphs (g)(2)(i) and (g)(2)(ii) of this AD.

(i) Before the accumulation of 12,000 total flight cycles.

(ii) Within 50 flight cycles or 20 days, whichever occurs first, after the effective date of this AD.

### **Compliance Times for Repetitive Stage 1 Inspections**

(h) Repeat the Stage 1 inspection specified in paragraph (f) of this AD at the time specified in paragraph (h)(1) or (h)(2), as applicable. Repeat the inspection thereafter at intervals not to exceed 250 flight cycles, until the initial Stage 2 inspection required by paragraph (i) of this AD has been done.

(1) For airplanes on which the initial Stage 1 inspection had not been accomplished as of the effective date of this AD: Do the next inspection before the accumulation of 10,000 total flight cycles, or within 250 flight cycles after the initial Stage 1 inspection done in accordance with paragraph (f) of this AD, whichever occurs later.

(2) For airplanes on which the initial Stage 1 inspection had been accomplished as of the effective date of this AD: Do the next inspection at the applicable time specified in paragraph (h)(2)(i) or (h)(2)(ii) of this AD.

(i) For airplanes that had accumulated fewer than 12,000 total flight cycles as of the effective date of this AD: Do the next inspection before the accumulation of 10,000 total flight cycles, or within 250 flight cycles after the effective date of this AD, whichever occurs later.

(ii) For airplanes that had accumulated 12,000 total flight cycles or more as of the effective date of this AD: Do the next inspection at the later of the times specified in paragraphs (h)(2)(ii)(A) and (h)(2)(ii)(B) of this AD.

(A) Within 250 flight cycles after accomplishment of the initial Stage 1 inspection.

(B) Within 50 flight cycles or 20 days, whichever occurs first, after the effective date of this AD.

### **Repetitive Stage 2 Inspections**

(i) Do detailed and high frequency eddy current inspections for cracking or discrepancies of the fasteners in the tension ties, shear webs, and frames at body stations 1120 through 1220, and related investigative and corrective actions as applicable, by doing all actions specified in and in accordance with "Stage 2 Inspection" of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2507, dated April 21, 2005, except as provided by paragraph (j) of this AD. Do the initial and



repetitive Stage 2 inspections at the applicable times specified in paragraph 1.E., "Compliance," of the service bulletin. Any applicable related investigative and corrective actions must be done before further flight. Accomplishment of the initial Stage 2 inspection ends the repetitive Stage 1 inspections.

### **Exception to Corrective Action Instructions**

(j) If any discrepancy; including but not limited to cracking, or broken, loose, or missing fasteners; is found during any inspection required by this AD, and Boeing Alert Service Bulletin 747-53A2507, dated April 21, 2005, specifies to contact Boeing for appropriate action: Before further flight, repair the discrepancy using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

### **Reporting Requirement**

(k) At the applicable time specified in paragraph (k)(1) or (k)(2) of this AD, submit a report of the findings (both positive and negative) of each Stage 1 inspection required by this AD to Boeing Commercial Airplanes; Attention: Manager, Airline Support; P.O. Box 3707 MC 04-ER; Seattle, Washington 98124-2207; fax (425) 266-5562. The report must include the inspection results, a description of any discrepancies found, the inspections performed, the airplane serial number, and the number of total accumulated flight cycles on the airplane. Under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501, et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements contained in this AD and has assigned OMB Control Number 2120-0056.

(1) For any inspection done after the effective date of this AD: Submit the report within 30 days after the inspection.

(2) For any inspection done before the effective date of this AD: Submit the report within 30 days after the effective date of this AD.

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

(1)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(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 an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization who 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 previously for repairs for compliance with AD 2006-06-11 are approved as AMOCs for the corresponding provisions of this AD provided that the repaired areas are inspected at the times specified in this AD, and the inspections are done in accordance with this AD.

### **Material Incorporated by Reference**

(m) You must use Boeing Alert Service Bulletin 747-53A2507, dated April 21, 2005, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of this document on April 26, 2006 (71 FR 14367, March 22, 2006). Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington

98124-2207, for a copy of this service information. You may review copies at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or 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 November 15, 2007.  
Ali Bahrami,  
Manager, Transport Airplane Directorate, Aircraft Certification Service.  
[FR Doc. 07-5794 Filed 11-21-07; 8:45 am]  
BILLING CODE 4910-13-P

SUPERSEDED