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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2005-20915; Directorate Identifier 2005-NM-042-AD; Amendment 39-14053; AD 2005-08-01]**

**RIN 2120-AA64**

# Airworthiness Directives; Boeing Model 747-100, -100B, 100B SUD, -200B, -200C, -200F, and -300 Series Airplanes; and Model 747SP and 747SR Series Airplanes

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

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

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**SUMMARY:** The FAA is superseding two existing airworthiness directives (ADs) that apply to certain Boeing Model 747-100, -100B, 100B SUD, -200B, -200C, -200F, and -300 series airplanes; and Model 747SP and 747SR series airplanes. One of those ADs currently requires inspections for cracked body frames, skin, and other internal structure in fuselage section 41; and repair of any cracked frame, skin, or other internal structure. For certain airplanes, the other AD currently requires inspections for cracked skin or loose or missing fasteners of the body skin between body stations 420 and 460 and between stringers S-8 and S-12; an inspection for cracked body frames if necessary; and repair of any cracked frame or skin and replacement of any loose or missing fastener. This new AD adds inspections and removes a one-time deferral of an inspection. This AD is prompted by reports of large cracks common to fuselage frames in the upper deck area, and severed or nearly severed adjacent frames. We are issuing this AD to detect and correct fatigue cracks in the body frames, skin and other internal structure in fuselage section 41, which could lead to rapid decompression and loss of the structural integrity of the airplane.

**DATES:** Effective April 26, 2005.

The incorporation by reference of Boeing Service Bulletin 747-53A2265, Revision 7, dated January 25, 1990, is approved by the Director of the Federal Register as of April 26, 2005.

On March 9, 2005 (70 FR 10485, March 4, 2005), the Director of the Federal Register approved the incorporation by reference of Boeing Alert Service Bulletin 747-53A2265, Revision 9, dated February 17, 2005.

We must receive any comments on this AD by June 10, 2005.

**ADDRESSES:** Use one of the following addresses to submit comments on this AD.

- DOT Docket Web site: Go to *http://dms.dot.gov* and follow the instructions for sending your comments electronically.

- Government-wide rulemaking Web site: Go to *http://www.regulations.gov* and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street SW., Nassif Building, Room PL-401, Washington, DC 20590.
- Fax: (202) 493-2251.
- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street SW., Washington, DC, 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.

You can examine the contents of this AD docket on the Internet at *http://dms.dot.gov*, or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., room PL-401, on the plaza level of the Nassif Building, Washington, DC. This docket number is FAA-2005-20915; the directorate identifier for this docket is 2005-NM-042-AD.

**Examining the Docket**

You can examine the AD docket on the Internet at *http://dms.dot.gov*, or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the DOT street address stated in the ADDRESSES section. Comments will be available in the AD docket shortly after the DMS receives them.

**FOR FURTHER INFORMATION CONTACT:** Ivan Li, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6437; fax (425) 917-6590.

**SUPPLEMENTARY INFORMATION:** On May 7, 1991, we issued AD 91-11-01, amendment 39-6997 (56 FR 22306, May 15, 1991), for certain Boeing Model 747 series airplanes. That AD requires repetitive inspections for cracking of the frame structure and skin in fuselage section 41, and repair, if necessary. That AD also provided for an optional terminating action for the repetitive inspections. We issued that AD to prevent such cracking, which, if not detected and corrected, could result in sudden decompression of the fuselage.

On February 25, 2005, we issued AD 2005-04-51, amendment 39-13995 (70 FR 10485, March 4, 2005). That AD applies to certain Boeing Model 747-100B SUD, -200B, -200C, -200F, and -300 series airplanes. That AD requires repetitive external detailed inspections for cracked skin or loose or missing fasteners of the body skin between body stations (BS) 420 and 460 inclusive and between stringers S-8 and S-12 inclusive on the left and right sides of the airplane, and high frequency eddy current (HFEC) inspection for cracked frames if necessary. That AD also requires repair of any cracked frame or skin and replacement of any loose or missing fastener. That AD was prompted by reports of large cracks common to fuselage frames in the upper deck area, and severed or nearly severed adjacent frames. The actions specified in that AD are intended to detect and correct fatigue cracks in the frames and body skin between BS 420 and 460 inclusive and between stringers S-8 and S-12 inclusive, which could lead to severed frames, and consequent rapid decompression and loss of the structural integrity of the airplane.

In the preamble to AD 2005-04-51, we indicated that the actions required by that AD were considered "interim action" and that further rulemaking action was being considered. We now have determined that further rulemaking action is indeed necessary, and this AD follows from that determination.

**Other Relevant Rulemaking**

On May 16, 1990, we issued AD 90-06-06, amendment 39-6490 (55 FR 8374, March 7, 1990), for certain Boeing Model 747 series airplanes. That AD requires incorporation of certain structural modifications. We issued that AD to prevent degradation in the structural capabilities of the affected airplanes. One of the required modifications incorporates a modification (reference Boeing Service Bulletin 747-53-2272, Revision 12, dated December 22, 1988) that ends the repetitive inspections of certain structure required by this new AD.

**Relevant Service Information**

We have reviewed Boeing Alert Service Bulletin 747-53A2265, Revision 9, dated February 17, 2005. Among other actions, the service bulletin describes procedures for repetitive surface HFEC inspections, detailed inspections, and general visual inspections for cracks in the body frames, skin, and other internal structure in fuselage section 41; and related investigative and corrective actions if necessary. The related investigative action is a close internal and external visual inspection for possible related skin and frame cracks. The corrective actions include repairing any cracked body frames, skin, and other internal structure; contacting the airplane manufacturer for special repair instructions; or replacing any cracked part with a new part. The service bulletin also provides for an optional terminating action, which would eliminate the need for inspections of certain zones of the fuselage section 41.

The service bulletin specifies that the fuselage section 41 inspections are to be done in stages at 8,000, 10,000, 13,000, 16,000, and 19,000 total flight cycles (referred to as "Flight Limits" in the service bulletin). For areas that are not modified in accordance with Boeing Service Bulletin 747-53-2272, the service bulletin specifies that, after the 19,000 flight limit inspections, repetitive inspections are to be done at intervals between 1,000 flight cycles and 3,000 flight cycles.

Accomplishing the actions specified in the service information is intended to adequately address the unsafe condition.

**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. This AD is being issued to supersede ADs 91-11-01 and 2005-04-51. This new AD retains certain requirements of the existing ADs. This new AD adds inspections, and removes a one-time deferral of an inspection of the right side of the upper deck at body stations 340 to 400. The actions are required to be done in accordance with the service information described previously, except as discussed under "Differences Between the AD and the Service Bulletin."

**Differences Between This AD and the Service Bulletin**

For Group 7 airplanes that have accumulated 8,000 or more total flight cycles, the service bulletin does not specify a grace period for the new 8,000 total flight-cycle internal detailed inspection between BS 420 and 460 inclusive. This AD specifies a compliance time of prior to the accumulation of 8,750 total flight cycles or within 50 flight cycles after the effective date of this AD; whichever occurs later. This compliance time represents an appropriate interval of time for affected airplanes to continue to operate without compromising safety.

For Group 2 and Group 7 through 11 airplanes, the service bulletin does not specify a grace period for the 10,000 total flight cycle internal detailed inspection at BS 440 through 520 inclusive. For Group 2 airplanes, this AD specifies a compliance time of prior to the accumulation of 10,000 total flight cycles, or within 1,000 flight cycles after the effective date of this AD, whichever occurs later. For Group 7 through 11 airplanes, this AD specifies a compliance time of prior to the

accumulation of 10,000 total flight cycles, or within 50 flight cycles after the effective date of this AD, whichever occurs later. These compliance times represent an appropriate interval of time for affected airplanes to continue to operate without compromising safety.

The service bulletin also does not specify a grace period for the repetitive supplemental detailed and HFEC inspections between BS 420 and 460 inclusive. For airplanes that have accumulated 8,000 or more total flight cycles, this AD specifies a compliance time of within 750 flight cycles after the last inspection required by paragraph (f) of this AD; or within 50 flight cycles after the effective date of this AD; whichever occurs later. For airplanes that have accumulated less than 8,000 total flight cycles, this AD specifies a compliance time of within 1,000 flight cycles after accomplishing the initial inspection required by paragraph (l) of this AD. These compliance times represent an appropriate interval of time for affected airplanes to continue to operate without compromising safety.

The service bulletin allows operators to determine the number of landings as equal to the number of pressurization cycles where the cabin differential pressure was greater than 2.0 pounds per square inch (psi). However, this AD does not include this provision. We do not consider it appropriate to include various provisions in an AD applicable to a single operator's unique use of an affected airplane. Paragraph (t) of this AD provides for operators' requests for approval of alternative methods of compliance to address these types of unique circumstances.

The service bulletin specifies that you may contact the manufacturer for instructions on how to repair certain conditions, but this AD requires you to repair those conditions in one of the following ways:

- Using a method that we approve; or
- Using data that meet the certification basis of the airplane, and that have been approved by an Authorized Representative for the Boeing Delegation Option Authorization Organization whom we have authorized to make those findings.

The differences described above have been coordinated with Boeing.

**Change to Existing ADs**

This AD would retain certain requirements of AD 91-11-01 and AD 2005-04-51. Since AD 91-11-01 was issued, the AD format has been revised, and certain paragraphs have been rearranged. As a result, the corresponding paragraph identifiers from AD 91-11-01 have changed in this AD, as listed in the following table:

**AD 91–11–01—REVISED PARAGRAPH IDENTIFIERS**

| Requirement in AD 91–11–01 | Corresponding re-quirement in this AD |
|---|---|
| paragraph (a) | paragraph (f). |
| paragraph (b) | paragraph (h). |
| paragraph (d) | paragraph (g). |
| paragraph (e) | paragraph (i). |

We also revised the wording in paragraph (i) of the final rule (paragraph (e) in AD 91-11-01). For structure that has been replaced with new structure during previous airplane modification/repair, inspection thresholds are measured from the time of replacement of that structure. To clarify that this is the intent of paragraph (i) of the final rule, we revised the phrase "for structure that has been installed during previous airplane modification/repair * * *" from paragraph (e) of AD 91-11-01 to say, "for structure that has been replaced with new structure during previous airplane modification/repair. * * *"

In addition, the corresponding paragraph identifiers from AD 2005-04-51 have changed in this AD, as listed in the following table:

**AD 2005–04–51—REVISED PARAGRAPH IDENTIFIERS**

| Requirement in AD 2005–04–51 | Corresponding requirement in this AD |
|---|---|
| paragraph (f) | paragraph (j). |
| paragraph (g) | paragraph (k). |
| paragraph (h) | paragraph (s). |

**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 that affect flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to submit any relevant written data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2005-20915; Directorate Identifier 2005-NM-042-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the AD. We will consider all comments received by the closing date and may amend the AD in light of those comments.

We will post all comments we receive, without change, to *http://dms.dot.gov* including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of our docket Web site, anyone can find and read the comments in any of our dockets, including the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You can review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78), or you can visit *http://dms.dot.gov*.

**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. 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 FAA amends § 39.13 by removing amendment 39-6997 (56 FR 22306, May 15, 1991), and amendment 39-13995 (70 FR 10485, March 4, 2005), and adding the following new airworthiness directive (AD):

# AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

***We post ADs on the internet at "www.faa.gov"***



**2005-08-01 Boeing:** Docket No. FAA-2005-20915; Directorate Identifier 2005-NM-042-AD; Amendment 39-14053.

**Effective Date**

(a) This AD becomes effective April 26, 2005.

**Affected ADs**

(b) This AD supersedes AD 91-11-01, amendment 39-6997, and AD 2005-04-51, amendment 39-13995.

**Applicability**

(c) This AD applies to Boeing Model 747-100, -100B, -100B SUD, -200B, -200C, -200F, and -300 series airplanes; and Model 747SP and 747SR series airplanes; certificated in any category; as identified in Boeing Alert Service Bulletin 747-53A2265, Revision 9, dated February 17, 2005.

**Unsafe Condition**

(d) This AD was prompted by reports of large cracks common to fuselage frames in the upper deck area, and severed or nearly severed adjacent frames. We are issuing this AD to detect and correct fatigue cracks in the body frames, skin and other internal structure in fuselage section 41, which could lead to rapid decompression and loss of the 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.

**Requirements of AD 91-11-01**

**Existing Repetitive Inspections and Corrective Actions**

(f) Within the next 500 flight cycles after June 24, 1991 (the effective date of AD 91-11-01), or prior to accumulating the flight limit specified in Boeing Drawing 624U0001, Sheet 3, Revision A, dated December 14, 1989, whichever occurs later, accomplish the flight limit inspection contained in Boeing Service Bulletin 747-53A2265, Revision 7, dated January 25, 1990. The inspections required by this paragraph consist of flight limit inspections at 8,000, 10,000, 13,000, 16,000, and 19,000 total

flight cycles and repetitive inspections after the flight limit inspections. Do these inspections at intervals not to exceed those specified in the drawing, except as provided by paragraph (g) of this AD. As of the effective date of this AD, the inspections identified in Revision 7 of the service bulletin must be done in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2265, Revision 9, dated February 17, 2005.

(g) For Model 747SR series airplanes: Based on continued mixed operation of lower cabin differentials, the flight limit and repetitive inspection intervals specified in paragraph (f) of this AD may be multiplied by a 1.2 adjustment factor for the next inspection required by that paragraph after the effective date of this AD. Subsequent inspections identified in Boeing Service Bulletin 747-53A2265, Revision 7, dated January 25, 1990, must be done at the intervals specified in Revision 9 of Boeing Alert Service Bulletin 747-53A2265, dated February 17, 2005 (the 1.2 adjustment factor is not allowed in any subsequent inspections).

(h) If any cracking is found during any inspection required by paragraph (f) of this AD: Prior to further flight, repair in accordance with FAA-approved procedures. Concurrent with performing any repair, visually inspect adjacent structures in accordance with Section III of Boeing Service Bulletin 747-53A2265, Revision 7, dated January 25, 1990; and before further flight, repair any cracks in accordance with FAA-approved procedures. After the effective date of this AD, the actions must be done in accordance with paragraph (q) of this AD.

(i) For structure that has been replaced with new structure during previous airplane modification/repair, the inspection thresholds referenced in paragraph (f) of this AD are measured from the time of replacement of that structure.

**Requirements of AD 2005-04-51**

**Repetitive External Detailed Inspections**

(j) For Boeing Model 747-100B SUD, -200C, -200F, and -300 series airplanes, line numbers 1 through 685 inclusive; and Boeing Model 747-200B series airplanes, line numbers 271, 276, 336, 344, 369, 389, 397, 474, 491, 518, 521, and 539: Before the accumulation of 8,000 total flight cycles, or within 10 flight cycles after March 9, 2005 (the effective date of AD 2005-04-51), whichever occurs later, do an external detailed inspection for cracked skin or loose or missing fasteners of the body skin between BS 420 and 460 inclusive and between stringers S-8 and S-12 inclusive on the left and right sides of the airplane. Repeat the external detailed inspection thereafter at intervals not to exceed 25 flight cycles until the initial high frequency eddy current (HFEC) inspection required by paragraph (k), (n), or (o) of this AD is done.

**Note 1:** For the purposes of this AD, a detailed inspection is: "An intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirror, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate procedures may be required."

**Corrective Actions**

(k) If any cracked skin or loose or missing fastener is detected during any external detailed inspection required by paragraph (j) of this AD, before further flight, do an internal surface HFEC inspection for cracks in the frames between BS 420 and 460 inclusive and between stringers S-8 and S-12 inclusive on the left and right sides of the airplane, in accordance with paragraph 2. and Notes 2

and 3 of Figure 17 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2265, Revision 9, dated February 17, 2005, except as provided by Note 1 of Figure 17 of the service bulletin. Accomplishing the surface HFEC inspection ends the repetitive inspections required by paragraph (j) of this AD.

(1) If no cracked frame is found, before further flight, repair the cracked skin and replace the loose or missing fasteners with new fasteners, as applicable, in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or in accordance with data meeting the certification basis of the airplane approved by an Authorized Representative (AR) for the Boeing Delegation Option Authorization (DOA) 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 reference this AD.

(2) If any cracked frame is found, before further flight, repair the cracked frame and skin and replace the loose or missing fasteners with new fasteners, as applicable, in accordance with a method approved by the Manager, Seattle ACO, FAA; or in accordance with data meeting the certification basis of the airplane approved by an AR for the Boeing DOA 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 reference this AD.

**New Requirements of This AD**

**8,000 Total Flight-Cycle (Flight Limit) Detailed Inspection Between BS 420 and 460 Inclusive**

(l) For Group 1 through 11 airplanes identified in Boeing Alert Service Bulletin 747-53A2265, Revision 9, dated February 17, 2005: At the time specified in paragraph (l)(1), (l)(2), or (l)(3) of this AD, as applicable; do an internal detailed inspection for cracks of the left and right side body frames and adjacent skin between BS 420 and 460 inclusive and between stringers S-8 and S-12 inclusive, in accordance with the Figures 11 through 16, as applicable, of the Accomplishment Instructions of the service bulletin. Accomplishment of the 10,000 total flight-cycle (flight limit) inspection required by paragraphs (f) and (m) of this AD, or the initial inspection required by paragraph (o) of this AD, as applicable, is considered acceptable for compliance with the requirements of this paragraph.

**Note 2:** For Groups 1, 3 through 6, and 8 through 11 airplanes, the 8,000 total flight-cycle detailed inspection in paragraph (l) of this AD is a new flight limit inspection in addition to those inspections specified in paragraph (f) of this AD. For Groups 2 and 7 airplanes, the 8,000 total flight-cycle inspection in paragraph (l) of this AD is an addition to the existing 8,000 total flight-cycle (flight limit) inspection.

(1) For Group 1 through 6 airplanes: Before the accumulation of 8,000 total flight cycles, or within 2,000 flight cycles after the effective date of this AD, whichever occurs later.

(2) For Group 7 through 11 airplanes that have accumulated less than 8,000 total flight cycles as of the effective date of this AD: Before the accumulation of 8,000 total flight cycles, or within 750 flight cycles after the effective date of this AD, whichever occurs later.

(3) For Group 7 through 11 airplanes that have accumulated 8,000 or more total flight cycles as of the effective date of this AD: Before the accumulation of 8,750 total flight cycles, or within 50 flight cycles after the effective date of this AD, whichever occurs later.

**10,000 Total Flight-Cycle (Flight Limit) Detailed Inspection Between BS 440 and 520 Inclusive**

(m) For Group 1 through 11 airplanes identified in Boeing Alert Service Bulletin 747-53A2265, Revision 9, dated February 17, 2005: At the time specified in paragraph (m)(1) or (m)(2) of this AD, as applicable, do an internal detailed inspection for cracks of the left and right side body frames and

adjacent skin/tear straps between BS 440 and 520 inclusive and between stringers S-6 and S-12 inclusive, in accordance with Figures 11 through 16, as applicable, of the Accomplishment Instructions of the service bulletin. Accomplishment of the 13,000 total flight-cycle (flight limit) inspection required by paragraph (f) of this AD is considered acceptable for compliance with the requirements of this paragraph.

**Note 3:** For Group 1 through 11 airplanes, the 10,000 total flight-cycle detailed inspection in paragraph (m) of this AD is in addition to the existing 10,000 total flight-cycle (flight limit) inspection.

(1) For Group 1 through 6 airplanes: Before the accumulation of 10,000 total flight cycles, or within 1,000 flight cycles after the effective date of this AD, whichever occurs later.
(2) For Group 7 through 11 airplanes: Before the accumulation of 10,000 total flight cycles, or within 50 flight cycles after the effective date of this AD, whichever occurs later.

**Repetitive HFEC Inspections Between BS 420 and 460 Inclusive**

(n) For Group 7 through 11 airplanes identified in Boeing Alert Service Bulletin 747-53A2265, Revision 9, dated February 17, 2005: At the time specified in paragraph (n)(1) or (n)(2) of this AD, as applicable; do an internal surface HFEC inspection for cracks of the left and right side body frames between BS 420 and 460 inclusive and between stringers S-8 and S-12 inclusive, in accordance with Figures 12 through 16, as applicable, of the Accomplishment Instructions of the service bulletin. Repeat the inspection thereafter at intervals not to exceed the applicable flight limits specified in the Accomplishment Instructions of the service bulletin. Accomplishment of the initial inspection required by paragraph (o) of this AD is considered acceptable for compliance with the initial inspection required by this paragraph.

**Note 4:** For Group 7 through 11 airplanes, the HFEC inspection in paragraph (n) of this AD is an addition to each of the flight limit inspections.

(1) For airplanes that have accumulated less than 8,000 total flight cycles as of the effective date of this AD: Do the inspection prior to the accumulation of 8,000 total flight cycles, or within 750 flight cycles after the effective date of this AD, whichever occurs later.
(2) For airplanes that have accumulated 8,000 or more total flight cycles as of the effective date of this AD: Do the inspection prior to the accumulation of 8,750 total flight cycles, or within 50 flight cycles after the effective date of this AD, whichever occurs later.

**Repetitive Supplemental Detailed and HFEC Inspections Between BS 420 and 460 Inclusive**

(o) For Group 7 through 11 airplanes identified in Boeing Alert Service Bulletin 747-53A2265, Revision 9, dated February 17, 2005: At the applicable times specified in paragraphs (o)(1) and (o)(2) of this AD, do internal detailed and surface HFEC inspections for cracks of the body frames and adjacent skin between BS 420 and 460 inclusive and between stringers S-8 and S-12 inclusive, in accordance with Figure 17 of the Accomplishment Instructions of the service bulletin. Repeat the inspections thereafter at intervals not to exceed 1,000 flight cycles until the next flight limit inspection required by paragraph (n) of this AD; and after each flight limit inspection, repeat the inspections required by this paragraph thereafter at intervals not to exceed 1,000 flight cycles until the next flight limit inspection; except as provided by paragraph (p) of this AD.

**Note 5:** For Group 7 through 11 airplanes, the supplemental detailed and HFEC inspections in paragraph (o) of this AD are inspections to be done in between the flight limit inspections.

(1) For airplanes on which any inspection required by paragraph (f) of this AD has been done as of the effective date of this AD: Do the inspections at the later of the times specified in paragraphs (o)(1)(i) and (o)(1)(ii) of this AD.

(i) Within 750 flight cycles after the last inspection required by paragraph (f) of this AD.

(ii) Within 50 flight cycles after the effective date of this AD.

(2) For airplanes on which any inspection required by paragraph (f) of this AD has not been done as of the effective date of this AD: Within 1,000 flight cycles after doing any inspection required by paragraph (l) of this AD.

(p) In lieu of performing the repetitive detailed and surface HFEC inspections required by paragraph (o) of this AD at intervals not to exceed 1,000 flight cycles: Perform an internal detailed inspection for cracks of the body frame and adjacent skin between BS 420 and 460 inclusive and between stringers S-8 and S-12 inclusive, in accordance with Figure 17 of the Accomplishment Instructions of the service bulletin, at intervals not to exceed 750 flight cycles. Operators may alternate the inspection methods provided that the corresponding repetitive inspection interval is not exceeded.

**Corrective Action**

(q) If any crack is found during any inspection required by paragraph (l) through (p) of this AD, before further flight, do the related investigative and corrective actions in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2265, Revision 9, dated February 17, 2005, except as provided by paragraph (r) of this AD.

(r) Where Boeing Alert Service Bulletin 747-53A2265, Revision 9, dated February 17, 2005, specifies to contact Boeing for appropriate action: Before further flight, repair the cracked part in accordance with a method approved by the Manager, Seattle ACO, FAA; or in accordance with data meeting the certification basis of the airplane approved by an AR for the Boeing DOA 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 reference this AD.

**Terminating Action for Modified Structure Only**

(s) Modification in accordance with Boeing Service Bulletin 747-53-2272, dated January 12, 1987, through Revision 18, dated May 16, 2002, prior to the effective date of this AD, constitutes terminating action for the requirements of paragraphs (f), (j), and (l) through (p) of this AD for modified structure only. As of the effective date of this AD, the modification must be done in accordance with Boeing Service Bulletin 747-53-2272, Revision 18, dated May 16, 2002.

**Note 6:** Paragraph H of AD 91-11-01, amendment 39-6997, refers to Boeing Service Bulletin 747-53-2272, dated January 12, 1987, as the appropriate source of service information for accomplishing the optional terminating action in that AD. AD 90-06-06, amendment 39-6490, refers to Boeing Service Bulletin 747-53-2272, Revision 12, dated December 22, 1988; or earlier revisions; as an appropriate source of service information for accomplishing the mandatory terminating action in that AD.

**Alternative Methods of Compliance (AMOCs)**

(t)(1) The Manager, Seattle 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) 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 AR for the Boeing DOA 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.

(3) AMOCs approved previously according to ADs 91-11-01 or 2005-04-51 are approved as AMOCs for the corresponding requirements of this AD.

**Material Incorporated by Reference**

(u) You must use Boeing Service Bulletin 747-53A2265, Revision 7, dated January 25, 1990; and Boeing Alert Service Bulletin 747-53A2265, Revision 9, dated February 17, 2005; as applicable; to perform the actions that are required by this AD, unless the AD specifies otherwise.

(1) The incorporation by reference of Boeing Service Bulletin 747-53A2265, Revision 7, dated January 25, 1990, is approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(2) The incorporation by reference of Boeing Alert Service Bulletin 747-53A2265, Revision 9, dated February 17, 2005, was approved previously by the Director of the Federal Register as of March 9, 2005 (70 FR 10485, March 4, 2005).

(3) To get copies of the service information, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207. To view the AD docket, go to the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., room PL-401, Nassif Building, Washington, DC. To review copies of the service information, go to the National Archives and Records Administration (NARA). For information on the availability of this material at the NARA, call (202) 741-6030, or go to *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*.

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