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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-0981; Directorate Identifier 2008-NM-073-AD; Amendment 39-16352; AD 2010-14-07]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Model 747 Airplanes

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

ACTION: Final rule.

SUMMARY: The FAA is superseding an existing airworthiness directive (AD), which applies to certain Model 747 airplanes. That AD currently requires repetitive inspections of the body station (BS) 2598 bulkhead, and corrective actions if necessary. That AD also currently requires a terminating modification for certain repetitive inspections and a post-modification inspection of the modified area. This new AD continues to require those actions using revised service information. For certain airplanes, this AD requires new repetitive inspections, an interim modification, and post-interim modification inspections. For certain airplanes, this AD requires replacing any previously repaired aft inner chord and reinstalling the terminating modification. For airplanes that are converted to the Model 747-400 large cargo freighter (LCF) configuration, this new AD reduces the threshold and repeat intervals of certain post-modification inspections. For all airplanes, this new AD also requires certain inspections of the upper aft outer chords and diagonal brace attachment fittings, flanges, and rods to continue after the terminating modification. This AD results from reports of cracked aft inner chords on airplanes after certain requirements of the existing AD were done. We are issuing this AD to prevent fatigue cracking of the BS 2598 bulkhead structure, which could result in inability of the structure to carry horizontal stabilizer flight loads, and loss of controllability of the airplane.

DATES: This AD becomes effective August 5, 2010.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of August 5, 2010.

On April 13, 2006 (71 FR 12125, March 9, 2006), the Director of the Federal Register approved the incorporation by reference of certain other publications listed in the AD.

On October 27, 2003 (68 FR 54990, September 22, 2003), the Director of the Federal Register approved the incorporation by reference of a certain other publication listed in the AD.

On August 16, 2001 (66 FR 36443, July 12, 2001), the Director of the Federal Register approved the incorporation by reference of a certain other publication listed in the AD.

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

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 address for the Docket Office (telephone 800-647-5527) is the Document 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: 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

The FAA issued a supplemental notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that supersedes AD 2006-05-06, Amendment 39-14503 (71 FR 12125, March 9, 2006). The existing AD applies to certain Model 747 airplanes. That supplemental NPRM was published in the Federal Register on February 24, 2010 (75 FR 8279). That supplemental NPRM proposed to continue to require repetitive inspections of the body station (BS) 2598 bulkhead, and corrective actions if necessary; and a terminating modification for the repetitive inspections and a post-modification inspection of the modified area; using revised service information. For certain airplanes, the supplemental NPRM proposed to require new repetitive inspections, an interim modification, and post-interim modification inspections. For certain airplanes, the supplemental NPRM also proposed to require replacing any previously repaired aft inner chord and reinstalling the terminating modification. The supplemental NPRM proposed to reduce the threshold and repeat intervals of certain post-modification inspections for airplanes that are converted to the Model 747-400 large cargo freighter (LCF) configuration. For all airplanes, the supplemental NPRM proposed that certain inspections of the upper aft outer chords and diagonal brace attachment fittings, flanges, and rods continue after the terminating modification.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comments that have been received on the supplemental NPRM.

Support for the Supplemental NPRM

Boeing concurs with the contents of the supplemental NPRM.

Request To Delay the AD Pending Revised Service Information

All Nippon Airways requests that we delay issuing the AD until Boeing revises Service Bulletin 747-53A2427 to Revision 6 (we referred to Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009, in the supplemental NPRM as the appropriate source of service information for certain actions). All Nippon Airways explains that it has asked Boeing to clarify an alternate material and filler thickness, which it asserts were not reflected in Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009. All Nippon Airways also state that Boeing will make the necessary changes in Revision 6 of Boeing Service Bulletin 747-53A2427. All Nippon Airways states that not including this information in the AD will be a burden on operators, causing them to request alternative methods of compliance (AMOCs) once the supplemental NPRM is mandated.

We do not agree to delay this AD until additional service information is issued. We do not consider that further delaying this action until after the release of the manufacturer's planned service bulletin is warranted, since sufficient information currently exists to accomplish the applicable required actions within the specified compliance time. However, under the provisions of paragraph (x) of the final rule, we will consider requests for approval of an AMOC if sufficient data are submitted to substantiate that the change would provide an acceptable level of safety. We have not changed the AD in this regard.

Request for Clarification of Certain Requirements

Japan Airlines requests that we clarify the requirements specified in paragraph (q)(2)(ii) of the supplemental NPRM. Japan Airlines states that the inspection description specified in that paragraph is not clear, because Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009, contains many inspections. Therefore, Japan Airlines suggests that we use the same wording between the supplemental NPRM and the service information, that we add the table number containing the requirement in the service information into the supplemental NPRM, and that we more clearly state the purpose of the inspection in the supplemental NPRM.

We recognize that the actions specified in Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009, and this AD are complex. We point out that the wording used in this AD was taken directly from Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009. Operators should note that paragraph (q)(2)(ii) of this AD must be read in concert with paragraph (q)(2) of this AD. The content of paragraph (q)(2)(ii) of this AD was meant to clarify the content of paragraph (q)(2) of this AD, which contains more detailed information. However, while there is no table number to associate with the requirements specified in paragraph (q)(2)(ii) of this AD, we can refer to the specific paragraph(s) of the Accomplishment Instructions of the service information, which contain the required actions. We have revised paragraphs (q)(2)(i) and (q)(2)(ii) of this AD to specify the applicable paragraph of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009, for accomplishing the required actions specified in those paragraphs. Because the purpose of the inspection provided in paragraph (q)(2)(ii) of this AD is provided in paragraph (q)(2) of this AD, we find that no additional clarification is necessary in that regard.

Conclusion

We have carefully reviewed the available data, including the comments that have been received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Explanation of Change to Costs of Compliance

Since issuance of the supplemental NPRM, we have increased the labor rate used in the Costs of Compliance from \$80 per work-hour to \$85 per work-hour. The Costs of Compliance information, below, reflects this increase in the specified hourly labor rate.

Costs of Compliance

There are about 998 airplanes of the affected design in the worldwide fleet. The following table provides the estimated costs for U.S. operators to comply with this AD. The average labor rate is \$85 per work hour.

Table – Estimated costs of compliance

Action	Work hours	Parts	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
Surface high frequency eddy current (HFEC) inspections (required by AD 2006-05-06) and open-hole HFEC inspections (new required action)	2	None	\$170, per inspection cycle	162	\$27,540, per inspection cycle
Detailed inspections (required by AD 2006-05-06)	2	None	\$170, per inspection cycle	162	\$27,540, per inspection cycle
Terminating modification (partially required by AD 2006-05-06; additional modification requirements in this new action)	126	\$52,218	\$62,928	162	\$10,194,336
Interim modification (new required action)	4	\$4,000	\$4,340	162	\$703,080
Replacement of previously repaired aft inner chords (new required action)	2	None	\$170	162	\$27,540
Support Frame upper Corner Fastener Inspection (new required action)	8	None	\$680	162	\$110,160
Post-modification inspection (new required action)	4	None	\$340	162	\$55,080

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); 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 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 39-14503 (71 FR 12125, March 9, 2006) and by adding the following new airworthiness directive (AD):



2010-14-07 The Boeing Company: Amendment 39-16352. Docket No. FAA-2008-0981; Directorate Identifier 2008-NM-073-AD.

Effective Date

(a) This AD becomes effective August 5, 2010.

Affected ADs

(b) This AD supersedes AD 2006-05-06, Amendment 39-14503.

Applicability

(c) 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, line numbers 1 through 1307 inclusive.

Subject

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

Unsafe Condition

(e) This AD results from reports of cracked aft inner chords on airplanes after certain requirements of the existing AD were done. We are issuing this AD to prevent fatigue cracking of the body station (BS) 2598 bulkhead structure, which could result in inability of the structure to carry horizontal stabilizer flight loads, and loss of controllability of the airplane.

Compliance

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

Restatement of Requirements of AD 2006-05-06

Repetitive High Frequency Eddy Current (HFEC) Inspections of the Bulkhead Frame Supports

(g) Before the accumulation of 10,000 total flight cycles, or within 1,000 flight cycles after August 16, 2001 (the effective date of AD 2001-14-07, Amendment 39-12318, which was superseded by AD 2006-05-06), whichever occurs later: Do an open-hole HFEC inspection to find cracking of the bulkhead frame support under the hinge support fittings of the horizontal stabilizer on the left and right sides at BS 2598, in accordance with Figure 2 of the Accomplishment Instructions of Boeing Service Bulletin 747-53A2449, Revision 1, dated May 24, 2001; or Revision 2, dated March 14, 2002. Repeat the inspection after that at intervals not to exceed 3,000 flight cycles. Inspections

accomplished before August 16, 2001, per Boeing Alert Service Bulletin 747-53A2449, dated June 8, 2000, are considered acceptable for compliance with the applicable inspection specified in this paragraph.

Repair of Any Cracked Bulkhead Frame Support

(h) If any cracking is found during any inspection required by paragraph (g) of this AD, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (x) of this AD.

Repetitive Inspections of Inner Chords, Frame Support Fitting, and Splice Fitting

(i) Do a surface HFEC inspection of the forward and aft inner chords, the frame support, and the splice fitting of the forward inner chord of the upper corners of the station 2598 bulkhead to find cracking, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2427, Revision 2, dated October 5, 2000; Revision 3, dated September 27, 2001; or Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009; at the latest of the times specified in paragraphs (i)(1) and (i)(2) of this AD, as applicable. Repeat the inspection after that at intervals not to exceed 1,500 flight cycles. After the effective date of this AD, Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009, must be used.

(1) For airplanes having line numbers 1 through 1241 inclusive:

(i) Before the accumulation of 6,000 total flight cycles.

(ii) Within 500 flight cycles after August 28, 2001 (the effective date of AD 2001-15-03, Amendment 39-12337, which was superseded by AD 2006-05-06).

(iii) For airplanes inspected before August 28, 2001, in accordance with Boeing Alert Service Bulletin 747-53A2427, dated December 17, 1998 (including inspections of the splice fitting); or Revision 1, dated October 28, 1999: Within 1,500 flight cycles after accomplishment of the last inspection done in accordance with the original service bulletin or Revision 1, as applicable.

(2) For airplanes having line numbers 1242 through 1307 inclusive:

(i) Before the accumulation of 16,000 total flight cycles.

(ii) Within 500 flight cycles after August 28, 2001.

(iii) For airplanes inspected before August 28, 2001, in accordance with Boeing Alert Service Bulletin 747-53A2427, dated December 17, 1998 (including inspections of the splice fitting), or Revision 1, dated October 28, 1999: Within 1,500 flight cycles after accomplishment of the last inspection done in accordance with Boeing Alert Service Bulletin 747-53A2427, dated December 17, 1998; or Revision 1, dated October 28, 1999; as applicable.

Repair of Any Cracked Inner Chord, Frame Support, or Splice Fitting

(j) If any cracking is found during the inspections required by paragraph (i) of this AD, before further flight, repair in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2427, Revision 2, dated October 5, 2000; Revision 3, dated September 27, 2001; or Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009. After the effective date of this AD, Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009, must be used. Where Boeing Alert Service Bulletin 747-53A2427, Revision 2, dated October 5, 2000; Revision 3, dated September 27, 2001; or Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009; specifies that the manufacturer may be contacted for disposition of certain repair conditions, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (x) of this AD.

Repetitive Detailed Inspections of BS 2598 Bulkhead

(k) Before the accumulation of 10,000 total flight cycles, or within 1,000 flight cycles after October 27, 2003 (the effective date of AD 2003-19-08, Amendment 39-13311, which was superseded by AD 2006-05-06), whichever is later: Do a detailed inspection of the BS 2598 bulkhead for discrepancies (cracking, elongated fastener holes) of the areas specified in paragraphs (k)(1) and (k)(2) of this AD, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2467, dated July 26, 2001; or Boeing Service Bulletin 747-53A2467, Revision 1, dated April 28, 2005. Repeat the inspections after that at intervals not to exceed 3,000 flight cycles, except as required by paragraph (m) of this AD. Doing the modification specified in paragraph (m) or (q) of this AD terminates the inspection of the area specified in paragraph (k)(1) of this AD.

(1) The lower aft inner chords.

(2) The upper aft outer chords, and the diagonal brace attachment fittings, flanges, and rods.

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 mirrors magnifying lenses, etc. may be necessary. Surface cleaning and elaborate procedures may be required."

Repair of Any Cracked BS 2598 Bulkhead

(l) If any discrepancy is found during any inspection required by paragraph (k) of this AD: Before further flight, repair in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2467, dated July 26, 2001; or Boeing Service Bulletin 747-53A2467, Revision 1, dated April 28, 2005. If Boeing Alert Service Bulletin 747-53A2467, dated July 26, 2001; or Boeing Service Bulletin 747-53A2467, Revision 1, dated April 28, 2005; specifies to contact Boeing for appropriate action: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (x) of this AD.

Terminating Modification With New Compliance Time for Certain Airplanes for the Inspection Specified in Paragraph (k)(2) of This AD

(m) Except as provided by paragraph (q) of this AD: Before the accumulation of 20,000 total flight cycles, or within 48 months after April 13, 2006 (the effective date of AD 2006-05-06), whichever occurs later, modify the bulkhead by doing all applicable actions including surface and open-hole HFEC inspections for cracking of the upper forward inner chords, aft inner chords, upper splice fittings, and frame support fittings, as specified in the Accomplishment Instructions of Boeing Service Bulletin 747-53-2473, dated March 24, 2005; Revision 1, dated February 20, 2007; or Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009. Repair any cracks before further flight, in accordance with Boeing Service Bulletin 747-53-2473, dated March 24, 2005; Revision 1, dated February 20, 2007; or Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009. Where Boeing Service Bulletin 747-53-2473, dated March 24, 2005; Revision 1, dated February 20, 2007; or Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009; specifies that the manufacturer may be contacted for disposition of certain repair conditions: Before further flight, repair the cracks using a method approved in accordance with the procedures specified in paragraph (x) of this AD. Accomplishment of the modification terminates the requirements of paragraphs (g), (i), and (k)(1) of this AD. After the effective date of this AD, Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009, must be used for the actions specified in this paragraph. For airplanes that are converted to the Model 747-400 Large

Cargo Freighter (LCF) configuration, repeat the inspection specified in paragraph (k)(2) of this AD thereafter at intervals not to exceed 1,800 flight cycles.

Post-Modification Inspection and Repair

(n) Except as provided by paragraphs (q) and (r) of this AD: Within 20,000 flight cycles after doing the modification required by paragraph (m) of this AD, inspect the BS 2598 bulkhead for cracks, and repair any cracks before further flight, in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO).

New Requirements of This AD

Terminating Repair for Repetitive Surface HFEC Inspections

(o) As of the effective date of this AD, accomplishing the aft inner chord repair required by paragraph (j) of this AD in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009, ends the repetitive surface HFEC inspections required by paragraph (i) of this AD for that side of the bulkhead only.

Replacement of Previously Repaired Aft Inner Chord and Reinstallation of Terminating Modification

(p) For airplanes on which the terminating modification required by paragraph (m) of this AD has been done in accordance with Boeing Service Bulletin 747-53-2473, dated March 24, 2005: Within 1,500 flight cycles after doing the modification, or within 1,000 flight cycles after the effective date of this AD, whichever occurs later, do a one-time general visual inspection for repairs installed previously on the left and right side aft inner chords. For airplanes with previously installed repairs, before further flight, do rework (i.e., replace any previously repaired aft inner chord with a new aft inner chord and reinstall the terminating modification), using a method approved in accordance with the procedures specified in paragraph (x) of this AD.

Revised Terminating Modification

(q) Doing the applicable modification required by paragraph (q)(1) or (q)(2) of this AD at the applicable time terminates the requirements of paragraph (m) of this AD and the repetitive inspections required by paragraphs (g), (i), and (k)(1) of this AD. For airplanes that are converted to the Model 747-400 LCF configuration, the inspection specified in paragraph (k)(2) of this AD must be repeated thereafter at intervals not to exceed 1,800 flight cycles.

(1) For airplanes on which the terminating modification required by paragraph (m) of this AD has not been done as of the effective date of this AD: Before the accumulation of 20,000 total flight cycles, or within 18 months after the effective date of this AD, whichever occurs later, modify the bulkhead, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009; except that where Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009, specifies to contact Boeing for modification data, the modification data must be approved in accordance with the procedures specified in paragraph (x) of this AD, and the modification must be done within the times specified in this paragraph.

(2) For airplanes on which the terminating modification required by paragraph (m) of this AD has been done in accordance with Boeing Service Bulletin 747-53-2473, dated March 24, 2005; or Revision 1, dated February 20, 2007; as of the effective date of this AD: Within 1,000 flight cycles after the effective date of this AD, or within 1,500 flight cycles after doing the modification, whichever occurs later, do a general visual inspection of the applicable areas specified in paragraph (q)(2)(i) and (q)(2)(ii) of this AD to determine if certain fasteners are installed, and, before further

flight, do all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009; except where Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009, specifies to contact Boeing for repair or rework data, the data must be approved in accordance with the procedures specified in paragraph (x) of this AD and the repair or rework must be done before further flight.

(i) For airplanes modified in accordance with Boeing Service Bulletin 747-53-2473, dated March 24, 2005: Inspect the upper forward inner chord, frame support fitting, and splice fitting, in accordance with paragraph 3.B.7.d. of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009.

(ii) For airplanes modified in accordance with Boeing Service Bulletin 747-53-2473, Revision 1, dated February 20, 2007: Inspect the frame web and upper shear deck aft side, and the upper forward inner chord, frame support fitting, and splice fitting, in accordance with paragraphs 3.B.7.c and 3.B.7.d of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009.

Post-Modification Inspection and Repair

(r) For airplanes on which the terminating modification has been done in accordance with paragraph (m) or (q) of this AD: Perform post-modification inspections of the BS 2598 bulkhead for cracking, in accordance with Parts 1, 2, and 3 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009. Do the inspections at the applicable times specified in Tables 6 through 9 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009; except where Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009, specifies a compliance time after the date of that service bulletin, this AD requires compliance within the specified compliance time after the effective date of this AD. If any cracking is found during any inspection required by this paragraph, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (x) of this AD. Repeat the inspections thereafter at the applicable times specified in Tables 6 through 9 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2473, Revision 2, dated August 28, 2009. Accomplishing the applicable inspections required by this paragraph terminates the requirements of paragraph (n) of this AD.

Open-Hole HFEC Inspection(s) and Terminating Repair

(s) For airplanes on which the terminating modification required by paragraph (m) or (q) of this AD has not been done: Do an initial open-hole HFEC inspection to detect cracks in the bulkhead splice fitting, frame support fitting, and forward and aft inner chords on the left and right sides of the BS 2598 bulkhead, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009. Do the initial inspection at the applicable time specified in Table 1 or 3 of paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009; except where Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009, specifies a compliance time after the date on that service bulletin, this AD requires compliance within the specified compliance time after the effective date of this AD.

(1) If no crack is detected, repeat the open-hole HFEC inspection thereafter at intervals not to exceed 1,500 flight cycles.

(2) If any crack is detected, before further flight, repair it in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009; except where Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009, specifies to contact Boeing for appropriate action, before further flight, repair the crack using a method approved in accordance with the procedures specified in paragraph (x) of this AD. Accomplishing the aft inner chord repair in accordance with the Accomplishment Instructions of

Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009, ends the repetitive surface and open-hole HFEC inspections required by paragraphs (i) and (s)(1), respectively, of this AD for that side of the bulkhead only.

Interim Modification

(t) For Group 1 airplanes, as identified in Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009, on which the repair required by paragraph (j) or (s)(2) of this AD has not been done; and on which the terminating modification required by paragraph (m) or (q) of this AD has not been done: Before the accumulation of 12,000 total flight cycles, or within 1,500 flight cycles after the effective date of this AD, whichever occurs later, install the interim modification for the aft inner chords, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009. Accomplishing the interim modification ends the repetitive surface and open-hole HFEC inspections required by paragraphs (i) and (s)(1), respectively, of this AD.

Post-Interim Modification/Repair Repetitive Surface and Open-Hole HFEC Inspections

(u) For airplanes on which the interim modification required by paragraph (t) of this AD has been done or the repair required by paragraph (j) or (s)(2) of this AD has been done; and on which the terminating modification required by paragraph (m) or (q) of this AD has not been done: At the applicable times specified in Table 1, 2, or 3 of paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009, do a surface HFEC inspection to detect cracks on the forward side (unmodified area) of the bulkhead, and open-hole and surface HFEC inspections to detect cracks in the modified or repaired area, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009. Repeat the open-hole and surface HFEC inspections thereafter at intervals not to exceed 1,500 flight cycles, until the modification required by paragraph (q) of this AD is done, as applicable; except that for airplanes on which the repair of any cracked aft inner chord has been done on only one side of the bulkhead in accordance with the applicable requirements specified in paragraph (j) or (s)(2) of this AD, the repetitive surface and open-hole HFEC inspections required by paragraphs (i) and (s)(1), respectively, of this AD must continue to be done for the other side of the bulkhead.

Repair of Any Cracked Inner Chord, Splice Fitting, or Frame Support Fitting

(v) If any crack is detected during any surface or open-hole HFEC inspection required by paragraph (u) of this AD, before further flight, repair any cracked inner chord, splice fitting, or frame support fitting, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009; except where Boeing Service Bulletin 747-53A2427, Revision 5, dated October 1, 2009, specifies to contact Boeing for appropriate action, before further flight, repair the crack using a method approved in accordance with the procedures specified in paragraph (x) of this AD.

Actions Accomplished According to Previous Issue of Service Bulletin

(w) Inspections, interim modification, and repairs accomplished before the effective date of this AD in accordance with Boeing Alert Service Bulletin 747-53A2427, Revision 4, dated March 6, 2008, are considered acceptable for compliance with the corresponding action specified paragraphs (i), (j), (s), (t), (u), and (v) of this AD.

Alternative Methods of Compliance (AMOCs)

(x)(1) The Manager, Seattle ACO, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Ivan Li, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle ACO, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone (425) 917-6437; fax (425) 917-6590. Information may be e-mailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(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 principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

(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 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 previously in accordance with AD 2006-05-06 are approved as AMOCs for the corresponding provisions of this AD.

Material Incorporated by Reference

(y) You must use the service information contained in Table 1 of this AD, as applicable, to do the actions required by this AD, unless the AD specifies otherwise.

Table 1 – All material incorporated by reference

Document	Revision	Date
Boeing Alert Service Bulletin 747-53A2467	Original	July 26, 2001
Boeing Alert Service Bulletin 747-53A2473	2	August 28, 2009
Boeing Service Bulletin 747-53A2427	5	October 1, 2009
Boeing Service Bulletin 747-53A2449	1	May 24, 2001
Boeing Service Bulletin 747-53A2449	2	March 14, 2002
Boeing Service Bulletin 747-53A2467	1	April 28, 2005

(1) The Director of the Federal Register approved the incorporation by reference of the service information contained in Table 2 of this AD under 5 U.S.C. 552(a) and 1 CFR part 51.

Table 2 – New material incorporated by reference

Document	Revision	Date
Boeing Alert Service Bulletin 747-53A2473	2	August 28, 2009
Boeing Service Bulletin 747-53A2427	5	October 1, 2009

(2) On April 13, 2006 (71 FR 12125, March 9, 2006), the Director of the Federal Register approved the incorporation by reference of Boeing Service Bulletin 747-53A2449, Revision 2, dated March 14, 2002; and Boeing Service Bulletin 747-53A2467, Revision 1, dated April 28, 2005.

(3) On October 27, 2003 (68 FR 54990, September 22, 2003), the Director of the Federal Register approved the incorporation by reference of Boeing Alert Service Bulletin 747-53A2467, dated July 26, 2001.

(4) On August 16, 2001 (66 FR 36443, July 12, 2001), the Director of the Federal Register approved the incorporation by reference of Boeing Service Bulletin 747-53A2449, Revision 1, dated May 24, 2001.

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

(6) You may review copies of the 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.

(7) You may also review copies of the 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/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on June 17, 2010.

Robert D. Breneman,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.