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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0289; Directorate Identifier 2013-NM-146-AD; Amendment 39-18016; AD 2014-22-11]

RIN 2120-AA64

Airworthiness Directives; the Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2012-13-08 for certain the Boeing Company Model 747-100, 747-100B, 747-200B, 747-200C, 747-200F, 747-400F, 747SR, and 747SP series airplanes, without a stretched upper deck or stretched upper deck modification. AD 2012-13-08 required inspections of tension ties and surrounding structure for cracking, and related investigative and corrective actions if necessary; modification of tension tie structure or tension tie and frame structure at specified stations; and post-modification inspections of some modified and unmodified areas, and repair if necessary. This new AD adds inspections in unmodified center section tension ties, and repair if necessary; post-modification inspections of modified and unmodified areas, and repair if necessary; a new modification of tension tie and frame structures; and inspections of tension ties and surrounding structure, and related investigative and corrective actions if necessary. This new AD reduces an inspection interval. This AD was prompted by widespread fatigue damage analysis that resulted in a determination that more inspections are necessary. We are issuing this AD to prevent tension ties from becoming severed or disconnected from the frames, which could lead to reduced structural integrity and sudden decompression of the airplane in flight.

DATES: This AD is effective December 17, 2014.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of December 17, 2014.

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of August 14, 2012 (77 FR 40481, July 10, 2012).

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of February 16, 2006 (71 FR 1947, January 12, 2006).

ADDRESSES: For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207;

telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0289; 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 (phone: 800-647-5527) is Docket 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: Nathan Weigand, Aerospace Engineer, Airframe Branch, ANM-120S, Seattle Aircraft Certification Office (ACO), FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6428; fax: 425-917-6590; email: Nathan.P.Weigand@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2012-13-08, Amendment 39-17110 (77 FR 40481, July 10, 2012). AD 2012-13-08 applied to certain The Boeing Company Model 747-100, 747-100B, 747-200B, 747-200C, 747-200F, 747-400F, 747SR, and 747SP series airplanes, without a stretched upper deck or stretched upper deck modification. The NPRM published in the Federal Register on May 29, 2014 (79 FR 30756). The NPRM was prompted by a widespread fatigue damage analysis conducted by Boeing that resulted in a determination that additional inspections are needed. The NPRM proposed to continue to require repetitive inspections of tension ties and surrounding structure for cracking, additional inspections for certain airplanes, and related investigative and corrective actions if necessary. The NPRM also proposed to continue to require modification of tension tie structure or tension tie and frame structure at specified stations, a post-modification inspection of any modified area for cracking, repetitive inspections for cracking in the unmodified areas of the tension tie structure and frame structure at certain stations, and repair if necessary. The NPRM proposed to add, for certain airplanes, surface HFEC inspections for cracking in unmodified center section tension ties, and repair if necessary; repetitive post-modification eddy current inspections for cracking of modified and unmodified areas, and repair if necessary; a new modification (replacement) of tension tie and frame structures; and repetitive inspections of tension ties and surrounding structure for cracking, and related investigative and corrective actions if necessary. The NPRM also proposed to reduce an inspection interval. We are issuing this AD to prevent tension ties from becoming severed or disconnected from the frames, which could lead to reduced structural integrity and sudden decompression of the airplane in flight.

Comments

We gave the public the opportunity to participate in developing this AD. We have considered the comment received. Boeing stated that it concurred with the contents of the NPRM (79 FR 30756, May 29, 2014).

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 30756, May 29, 2014) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 30756, May 29, 2014).

Costs of Compliance

We estimate that this AD affects 86 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection (retained from AD 2012-13-08, Amendment 39-17110 (77 FR 40481 , July 10, 2012))	8 work-hours per tension tie location, between 8 and 12 tension tie locations per airplane, depending on airplane configuration × \$85 per hour = between \$5,440 and \$8,160	\$0	Between \$5,440 and \$8,160 per inspection cycle	Between \$467,840 and \$701,760, per inspection cycle.
One-time inspection for Group 2 airplanes, (retained from AD 2012-13-08, Amendment 39-17110 (77 FR 40481 , July 10, 2012))	6 work-hours × \$85 per hour = \$510	None	\$510	\$43,860.
Modification (retained from AD 2012-13-08, Amendment 39-17110 (77 FR 40481 , July 10, 2012))	Between 24 and 130 work-hours, depending on station location × \$85 per hour = between \$2,040 and 11,050	Between \$18,657 and \$658,423	Between \$20,697 and \$669,473	Between \$1,779,942 and \$57,574,678.
Inspection for unmodified area (retained from AD 2012-13-08, Amendment 39-17110 (77 FR 40481 , July 10, 2012))	2 work-hours per tension tie location, between 8 and 12 tension tie locations per airplane, depending on airplane configuration × \$85 per hour = between \$1,360 and \$2,040	None	Between \$1,360 and \$2,040, per inspection cycle	Between \$116,960 and \$175,440.

Inspection for modified area (retained from AD 2012-13-08, Amendment 39-17110 (77 FR 40481 , July 10, 2012))	2 work-hours per tension tie location, between 8 and 12 tension tie locations per airplane, depending on airplane configuration × \$85 per hour = between \$1,360 and \$2,040	None	Between \$1,360 and \$2,040	Between \$116,960 and \$175,440.
Modification (new action; 1 U.S. - registered airplane)	Up to 387 work-hours, depending on station location × \$85 per hour = up to \$32,895	Up to \$658,423	Up to \$691,318	Up to \$691,318.
Post-modification eddy current inspection of all areas (new action)	18 work-hours × \$85 per hour = \$1,530 for each tension tie	None	\$1,530 for each tension tie, per inspection cycle	\$131,580 for each tension tie, per inspection cycle.
Surface high frequency eddy current inspection of unmodified tension tie center sections (new action)	Up to 120 work-hours, depending on airplane configuration × \$85 per hour = Up to \$10,200	None	Up to \$10,200	Up to \$877,200.

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in 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 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),
- (3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

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 FAA amends § 39.13 by removing Airworthiness Directive (AD) 2012-13-08, Amendment 39-17110 (77 FR 40481, July 10, 2012), and adding the following new AD:



2014-22-11 The Boeing Company: Amendment 39-18016; Docket No. FAA-2014-0289; Directorate Identifier 2013-NM-146-AD.

(a) Effective Date

This AD is effective December 17, 2014.

(b) Affected ADs

This AD replaces AD 2012-13-08, Amendment 39-17110 (77 FR 40481, July 10, 2012).

(c) Applicability

This AD applies to The Boeing Company Model 747-100, 747-100B, 747-200B, 747-200C, 747-200F, 747-400F, 747SR, and 747SP series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by an analysis by the manufacturer indicating that tension ties are susceptible to widespread fatigue damage. The actions were developed to support the airplane's limit of validity of the engineering data that support the established structural maintenance program. We are issuing this AD to prevent tension ties from becoming severed or disconnected from the frames, which could lead to reduced structural integrity and sudden decompression of the airplane in flight.

(f) Compliance

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

(g) Retained Actions for Group 1 and Groups 3 Through 6 Airplanes

This paragraph restates the requirements of paragraph (g) of AD 2012-13-08, Amendment 39-17110 (77 FR 40481, July 10, 2012). For Group 1, and Groups 3 through 6 airplanes identified in Boeing Special Attention Service Bulletin 747-53-2502, dated April 21, 2005: At the applicable time in paragraph (g)(1) or (g)(2) of this AD, do detailed and high frequency eddy current (HFEC) inspections for cracking of each affected tension tie and of the surrounding structure. If any cracking is found: Before further flight, do all applicable corrective and related investigative actions. Do all actions in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-53-2502, dated April 21, 2005; or Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010. Where Boeing Special Attention Service Bulletin 747-53-2502, dated April 21, 2005; or Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17,

2010; specifies to contact Boeing for repair instructions: Before further flight, repair the area using a method approved in accordance with the procedures specified in paragraph (n) of this AD. As of August 14, 2012 (the effective date of AD 2012-13-08), only Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010, may be used to accomplish the actions required in this paragraph.

(1) For airplanes identified in Boeing Special Attention Service Bulletin 747-53-2502, dated April 21, 2005, as Groups 1, 3, and 6 airplanes: Do the first inspections before the accumulation of 20,000 total flight cycles, or within 1,000 flight cycles after February 16, 2006 (the effective date of AD 2006-01-07, Amendment 39-14446 (71 FR 1947, January 12, 2006)), whichever occurs later; and repeat the inspections thereafter at intervals not to exceed 4,000 flight cycles until the modification required by paragraph (j) of this AD is accomplished.

(2) For airplanes identified in Boeing Special Attention Service Bulletin 747-53-2502, dated April 21, 2005, as Groups 4 and 5 airplanes: Do the first inspections before the accumulation of 17,000 total flight cycles, or within 1,000 flight cycles after February 16, 2006 (the effective date of AD 2006-01-07, Amendment 39-14446 (71 FR 1947, January 12, 2006)), whichever occurs later; and repeat the inspections thereafter at intervals not to exceed 3,000 flight cycles until the modification required by paragraph (j) of this AD is accomplished.

(h) Retained Inspections for Group 2 Airplanes

This paragraph restates the requirements of paragraph (h) of AD 2012-13-08, Amendment 39-17110 (77 FR 40481, July 10, 2012). For Group 2 airplanes identified in Boeing Alert Service Bulletin 747 53A2502, Revision 1, dated June 17, 2010: At the applicable times specified in paragraphs (h)(1) and (h)(2) of this AD, do detailed and HFEC inspections for cracking of each affected tension tie and of the surrounding structure, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-53-2502, dated April 21, 2005; or Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010. If any cracking is found: Before further flight, do all applicable corrective and related investigative actions. Do all actions in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-53-2502, dated April 21, 2005; or Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010. Where Boeing Special Attention Service Bulletin 747-53-2502, dated April 21, 2005; or Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010; specify to contact Boeing for repair instructions: Before further flight, repair the area using a method approved in accordance with the procedures specified in paragraph (n) of this AD. As of August 14, 2012 (the effective date of AD 2012-13-08, Amendment 39-17110 (77 FR 40481, July 10, 2012)), only Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010, may be used to accomplish the actions required by this paragraph. Repeat the inspections thereafter at intervals not to exceed 3,000 flight cycles until the modification required by paragraph (j) of this AD is accomplished.

(1) For stations (STA) 780 through 940: Before the accumulation of 17,000 total flight cycles, or within 1,000 flight cycles after February 16, 2006 (the effective date of AD 2006-01-07, Amendment 39-14446 (71 FR 1947, January 12, 2006)), whichever occurs later.

(2) For STA 720, 740, and 760: At the earlier of the times specified in paragraph (h)(2)(i) or (h)(2)(ii) of this AD.

(i) Before the accumulation of 17,000 total flight cycles, or within 1,000 flight cycles after February 16, 2006 (the effective date of AD 2006-01-07, Amendment 39-14446 (71 FR 1947, January 12, 2006)), whichever occurs later.

(ii) Before the accumulation of 8,000 total flight cycles, or within 1,000 flight cycles after August 14, 2012 (the effective date of AD 2012-13-08, Amendment 39-17110 (77 FR 40481, July 10, 2012)), whichever occurs later.

(i) Retained One-Time Inspection for Group 2 Airplanes

This paragraph restates the requirements of paragraph (i) of AD 2012-13-08, Amendment 39-17110 (77 FR 40481, July 10, 2012). For airplanes identified in Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010, as Group 2 airplanes: Before the accumulation of 8,000 total flight cycles, or within 1,000 flight cycles after August 14, 2012 (the effective date of AD 2012-13-08), whichever occurs later, do a general visual inspection for correct configuration, as identified in Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010, of each affected tension tie and of the surrounding structure, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010.

(1) If all tension ties match the correct configurations specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010, no further work is required by this paragraph.

(2) If any incorrect configuration is found, before further flight, do detailed and open fastener-hole HFEC inspections for cracking in the tension tie and frame, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010.

(i) If no crack is found during the inspections required by paragraph (i)(2) of this AD: Before further flight, install the correct configuration for the tension ties at locations where the incorrect configuration was found, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010; except where Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010, specifies to contact Boeing for installation instructions, use a method approved in accordance with the procedures specified in paragraph (n) of this AD.

(ii) If any crack is found during the inspections required by paragraph (i)(2) of this AD, before further flight, do the actions specified in paragraphs (i)(2)(ii)(A) and (i)(2)(ii)(B) of this AD.

(A) Repair the crack in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010; except where Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010, 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 (n) of this AD.

(B) Install the correct configuration for the tension ties at locations where the incorrect configuration was found, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010; except where Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010, specifies to contact Boeing for installation instructions, use a method approved in accordance with the procedures specified in paragraph (n) of this AD.

(j) New Tension Tie and Frame Modification and Inspections

(1) For Groups 1 through 16, Configuration 1, airplanes identified in Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013: At the applicable compliance time specified in table 1 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013, except as required by paragraph (l)(1) of this AD, do tension tie and frame modifications, in accordance with Part 1, and surface HFEC inspections for cracks, in accordance with Part 4, of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013. Accomplishment of these modifications terminates the repetitive inspections required by paragraphs (g) and (h) of this AD. If any crack is found, before further flight, repair the crack using a method approved in accordance with the procedures specified in paragraph (n) of this AD.

(2) For Groups 17 and 18 airplanes identified in Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013: At the applicable time specified in table 6 or table 7, as applicable,

of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013, do a tension tie and frame modification (replacement of tension ties and frame structure), in accordance with Part 5 or Part 6, as applicable, of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013. Accomplishment of these modifications terminates the repetitive inspections required by paragraph (g) of this AD.

(k) New Repetitive Post-Modification Detailed Inspections of Unmodified Areas; Repetitive Post-Modification HFEC Inspections of Modified and Unmodified Areas

(1) For Groups 1 through 16 airplanes identified in Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013: At the applicable time specified in table 2 or table 3 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013, do a detailed inspection for cracking in the unmodified areas of the tension ties, in accordance with Part 2 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013. If any cracking is found, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (n) of this AD. Repeat the detailed inspection thereafter at the applicable time specified in table 2 or table 3 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013.

(2) For Groups 1 through 16 airplanes identified in Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013: At the applicable time specified in table 4 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013, do eddy current inspections for cracking in all areas of the tension ties (modified and unmodified), in accordance with Part 3 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013. If any cracking is found, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (n) of this AD. Repeat the eddy current inspections thereafter at the time specified in table 4 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013.

(3) For Groups 1 through 16, Configuration 2, airplanes identified in Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013: At the applicable time specified in table 5 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013, except as provided by paragraph (l)(1) of this AD, do surface HFEC inspections for cracking in the unmodified tension tie center sections, in accordance with Part 4 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013. If any cracking is found, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (n) of this AD. If no cracking is found, no further action is required until the repetitive inspections required by paragraphs (k)(1) and (k)(2) begin.

(4) For Groups 17 and 18 airplanes identified in Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013: At the applicable time specified in table 6 or table 7 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013, do detailed and HFEC inspections of the modified tension tie and frame structure for cracking, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010. Except as required by paragraph (l)(4) of this AD, if any cracking is found, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (n) of this AD. Repeat the detailed and HFEC inspections thereafter at the times specified in table 6 or table 7, as applicable, of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013.

(l) Service Information Clarifications and Exceptions

(1) Where paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013, specifies a compliance time "after the revision 3 date of this service bulletin," this AD requires compliance within the specified time after the effective date of this AD.

(2) Where Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013, specifies to contact Boeing for repair instructions, this AD requires repair before further flight using a method approved in accordance with the procedures specified in paragraph (n) of this AD.

(3) Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013, refers to Section 51-10-02 of the Boeing 747-400F Structural Repair Manual (SRM) and Section 51-10-01 of the Boeing 747-100/200/300 SRM as additional sources of guidance for removing small cracks and fatigue damage material from the existing holes in the unmodified center section of the tension tie channels. Where those SRM sections state that "zero-timing must only be used where specifically permitted in an SRM chapter-section-repair," this AD allows the zero-timing procedures specified in those SRM sections.

(4) Where Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013, specifies to contact Boeing for repair instructions, this AD requires repair before further flight using a method approved in accordance with the procedures specified in paragraph (n) of this AD.

(m) Credit for Previous Actions

(1) This paragraph restates the credit provided in paragraph (m) of AD 2012-13-08, Amendment 39-17110 (77 FR 40481, July 10, 2012). This paragraph provides credit for the actions required by paragraphs (j)(1) and (k)(1) of this AD, if those actions were performed before August 14, 2012 (the effective date of AD 2012-13-08) using Boeing Alert Service Bulletin 747-53A2605, dated December 8, 2009, which was incorporated by reference in AD 2012-13-08.

(2) For Groups 1 through 16 airplanes identified in Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013: This paragraph provides credit for the actions required by paragraphs (j)(1) and (k)(1) of this AD, if those actions were performed before the effective date of this AD using Boeing Alert Service Bulletin 747-53A2605, Revision 2, dated December 9, 2011, which is not incorporated by reference in this AD.

(n) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (o)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane.

(4) AMOCs approved for inspections required by AD 2012-13-08, Amendment 39-17110 (77 FR 40481, July 10, 2012) are approved as AMOCs for the corresponding inspection provisions of paragraphs (g), (h), and (i) of this AD.

(5) AMOCs approved for AD 2012-13-08, Amendment 39-17110 (77 FR 40481, July 10, 2012) that granted modification deviations are approved as AMOCs for the corresponding modification required by paragraph (j)(1) of this AD.

(o) Related Information

(1) For more information about this AD, contact Nathan Weigand, Aerospace Engineer, Airframe Branch, ANM-120S, Seattle Aircraft Certification Office (ACO), FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6428; fax: 425-917-6590; email: Nathan.P.Weigand@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (p)(6) and (p)(7) of this AD.

(p) Material Incorporated by Reference

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

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on December 17, 2014.

(i) Boeing Alert Service Bulletin 747-53A2605, Revision 3, dated July 10, 2013.

(ii) Reserved.

(4) The following service information was approved for IBR on August 14, 2012 (77 FR 40481, July 10, 2012).

(i) Boeing Alert Service Bulletin 747-53A2502, Revision 1, dated June 17, 2010.

(ii) Reserved.

(5) The following service information was approved for IBR on February 16, 2006 (71 FR 1947, January 12, 2006).

(i) Boeing Special Attention Service Bulletin 747-53-2502, dated April 21, 2005.

(ii) Reserved.

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

(7) You may view this service information at FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(8) You may view this 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/cfr/ibr-locations.html>.

Issued in Renton, Washington, on October 28, 2014.

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