[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0498; Directorate Identifier 2011-NM-212-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 747-400, -400D, and -400F series airplanes. This proposed AD was prompted by reports of crown frame web cracking at left buttock line (LBL) 15.0, station (STA) 320. This proposed AD would require a measurement of the web at STA 320 and, depending on findings, various inspections for cracks and missing fasteners, web and fastener replacement, and related investigative and corrective actions. We are proposing this AD to prevent complete fracture of the crown frame assembly, and consequent damage to the skin and in-flight decompression of the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to http://www.regulations.gov. Follow the instructions for submitting comments.

• Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@boeing.com; Internet https://www.myboeingfleet.com. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Bill Ashforth, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6432; fax: 425-917-6590; e-mail: Bill.Ashforth@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-0498; Directorate Identifier 2011-NM-212-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory,

economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to http://www.regulations.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We have received five reports of crown frame web cracking at left buttock line (LBL) 15.0, station (STA) 320. One airplane crack length was not specified and reported at 9,456 flight cycles. Three cracks of 0.65 inch in length were reported after 9,354 flight cycles on one airplane, 12,851 flight cycles on the second airplane, and 29,866 flight cycles on the third airplane. A crack of 0.85 inch was reported at 29,956 flight cycles on another airplane.

Investigation revealed that in these airplanes, the web was made from 0.08-inch thick material and did not conform to production drawings. Also, an operator reported missing fasteners from locations common to the frame web and lower chord on the first delivered Model 747-400 after 10,317 flight cycles. This airplane also had a web made from 0.08-inch thick material and did not conform to production drawings.

This condition, if not corrected, could result in complete fracture of the crown frame assembly, and consequent damage to the skin and in-flight decompression of the airplane.

Relevant Service Information

We reviewed Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011. For information on the procedures and compliance times, see this

service information at http://www.regulations.gov by searching for Docket No. FAA No. FAA-2012-0498.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information identified previously, except as discussed under "Differences Between the Proposed AD and the Service Information." This proposed AD also provides options for accomplishing the actions that are required for airplanes on which no cracking is found in the crown frame web.

The phrase "related investigative actions" is used in this proposed AD. "Related investigative actions" are those actions that are identified as follow-on actions that are: (1) related to the preceding required action, and (2) are on-condition actions that further investigate the nature of any condition found. Related investigative actions could include, for example, inspections and operational tests.

In addition, the phrase "corrective actions" is used in this proposed AD. "Corrective actions" are those actions that are on-condition actions that correct or address any condition found. Corrective actions could include, for example, repairs, removal and replacement, and modifications.

Accomplishment of the inspection required by AD 2009-19-05, Amendment 39-16022 (74 FR 48138, September 22, 2009), would terminate the requirements of the post-replacement inspections required by paragraph (j) of this proposed AD.

Differences Between the Proposed AD and the Service Information

Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011, specifies to contact the manufacturer for instructions on how to repair certain conditions, but this proposed AD would require repairing those conditions in one of the following ways:

• In accordance with a method that we approve; or

• Using data that meet the certification basis of the airplane, and that have been approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) whom we have authorized to make those findings.

Costs of Compliance

We estimate that this proposed AD affects 29 airplanes of U.S. registry.

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

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Measurement	1 work-hour X $85 per hour = $85	$0	$85	$2,465
Inspection and web replacement	208 work-hours X $85 per hour = $17,680	Up to $21,887	Up to $39,567	Up to $1,147,443
Post-replacement inspection	135 work-hours X $85 per hour = $11,475 per inspection cycle	$0	$11,475 per inspection cycle	$332,775 per inspection cycle

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

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska, and

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

List of Subjects in 14 CFR Part 39

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

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

The Boeing Company: Docket No. FAA-2012-0498; Directorate Identifier 2011-NM-212-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 747-400, -400D, and -400F series airplanes, certificated in any category, as specified in Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Unsafe Condition

This AD was prompted by reports of crown frame web cracking at left buttock line (LBL) 15.0, station (STA) 320. We are proposing this AD to prevent complete fracture of the crown frame assembly, and consequent damage to the skin and in-flight decompression of the airplane.

(f) Compliance

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

(g) Crown Frame Web Measurement

At the applicable compliance time specified in paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011, except as specified in paragraph (k)(1) of this AD, measure the thickness of the crown frame web at station (STA) 320, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011. For airplanes with a 0.136 to 0.145-inch-thick web, no further action is required by this AD.

(h) Detailed Inspection and Web Replacement with No Web Repair Doubler

For airplanes on which the web measures 0.078- to 0.083-inch thick during the measurement required by paragraph (g) of this AD, and on which repair doubler is not installed: At the applicable time specified in paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011, except as specified in paragraph (k)(1) of this AD, do a detailed inspection for cracks and a general visual inspection for missing fasteners of the crown frame web at STA 320; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011, except as specified in paragraph (k)(2) of this AD. Do the applicable related investigative and corrective actions at the applicable times in paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2784, Revision 1, dated

September 14, 2011, except as specified in paragraph (k)(1) of this AD. Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011, provides options for accomplishing the actions that are required for airplanes on which no cracking is found in the crown frame web.

(i) Detailed Inspection and Web Replacement with Web Repair Doubler

For airplanes on which the web measures 0.078- to 0.083-inch thick during the measurement required by paragraph (g) of this AD, and on which a repair doubler is installed: At the applicable compliance time specified in paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011, except as specified in paragraph (k)(1) of this AD, do the actions specified in paragraphs (i)(1) and (i)(2) of this AD, and do all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011, except as provided by paragraph (k)(2) of this AD. Do all applicable corrective actions before further flight.

(1) Replace the web with a new web and do all applicable related investigative actions.

(2) Do a detailed inspection for cracks in the upper or lower chord of the crown frame web at STA 320.

(j) Post-Replacement Repetitive Inspections of Replaced Web

Following any web replacement required by this AD, at the times specified in paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011: Do a detailed inspection for cracks of the web, upper chord, lower chord, and lower chord splice, and do all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011, except as provided by paragraph (k)(2) of this AD. Do all applicable corrective actions before further flight. If no crack is

found, repeat the inspection thereafter at the intervals specified in paragraph 1.E., "Compliance," of Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011. Accomplishment of the inspections required by AD 2009-19-05, Amendment 39-16022 (74 FR 48138, September 22, 2009), terminates the requirements of this paragraph.

(k) Exceptions to the Service Information

(1) Where Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011, specifies a compliance time "after the original issue date of the service bulletin," this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011, specifies to contact Boeing for appropriate action, accomplish applicable actions before further flight using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

(l) 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 the Related Information section of this AD. Information may be e-mailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

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

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

(m) Related Information

(1) For more information about this AD, contact Bill Ashforth, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle ACO, 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6432; fax: 425-917-6590; e-mail: Bill.Ashforth@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@boeing.com; Internet https://www.myboeingfleet.com. You may also review the referenced service information in the docket at www.regulations.gov (refer to

Docket No. FAA-2012-0498). You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on May 31, 2012.

Michael Kaszycki,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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