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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-0136; Directorate Identifier 2008-NM-171-AD; Amendment 39-16022; AD 2009-19-05]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747 Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Boeing Model 747 airplanes. This AD requires repetitive inspections for cracking of the fuselage frames in section 41, and corrective actions if necessary. This AD results from reports of cracking in fuselage frames made of 2024 aluminum alloy that were installed during previous modification of the frames in section 41 and during production. We are issuing this AD to detect and correct frame cracks, which could result in cracking of the adjacent fuselage skin and consequent rapid decompression of the airplane.

DATES: This AD is effective October 27, 2009.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of October 27, 2009.

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

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to certain Boeing Model 747 airplanes. That NPRM was published in the Federal Register on February 23, 2009 (74 FR 8034). That NPRM proposed to require repetitive inspections for cracking of the fuselage frames in section 41, and corrective actions if necessary.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

Requests To Delay or Withdraw NPRM

Japan Airlines (JAL) asks that we delay issuing the AD until Boeing revises the referenced service information. JAL states that Boeing Alert Service Bulletin 747-53A2753, dated August 28, 2008, does not include access and restoration information for the frame structure inspection. JAL adds that without this information operators are caused an undue burden such as engineering costs and validation. JAL notes that it asked Boeing to develop access and restoration procedures and Boeing agreed to revise the service information to include those procedures.

We do not agree to delay issuing the AD to wait for revised service information, nor has Boeing informed us of its intent to issue revised service information to include the procedures discussed by the commenter. We have determined that although Boeing Alert Service Bulletin 747-53A2753, dated August 28, 2008, does not include access information for the frame inspection, the majority of operators have their own acceptable access and closing procedures. Although this AD does not mandate a particular method of doing the access and closing procedures, operators can obtain those procedures directly from Boeing if necessary. We have not changed the AD in this regard.

Northwest Airlines (NWA) would like the NPRM to be withdrawn. NWA states that, in view of the reported damage findings and service information specified in the preamble of the NPRM, there is no justification to support issuing an NPRM which covers a much broader area than where the crack damage was found. NWA states that the inspection for cracking of certain critical regions of the body section 41 structure is also addressed in the supplemental structural inspection document (SSID) inspection program. NWA notes that the SSID inspection program is mandated in previously issued rulemaking and should be used to determine if mandated inspections of the entire body section 41 structure are necessary. NWA adds that additional justification is needed to support mandating those inspections.

Although we understand NWA's concern, we do not agree to withdraw the NPRM. We have received several reports of significant cracking of certain fuselage frames in section 41; the cracked frames were found when the airplanes had accumulated relatively low flight cycles. As the fuselage frames on the airplanes affected by this AD are of similar type design, we have determined that all fuselage frames in section 41 are susceptible to the same unsafe condition.

We are aware that the Boeing Model 747 SSID inspection program, as mandated by AD 2004-07-22 R1, amendment 39-15326 (73 FR 1052, January 7, 2008), requires repetitive inspections of the fuselage frames in section 41. However, analysis by the manufacturer shows that a repetitive inspection interval significantly reduced from the interval specified in the SSID inspection program is

required to ensure safety. Rather than revising AD 2004-07-22 R1, which is complex and includes numerous inspections, we have determined that this new AD is appropriate and must be issued without further delay.

Request To Correct Paragraph Identifiers

Boeing requests a correction to the paragraph identifiers specified in paragraph (g) of this AD—i.e., to specify paragraphs (h) and (i) instead of paragraphs (g) and (h).

We agree with the Boeing comment. The paragraph identifiers were incorrectly identified in the NPRM; therefore, we have changed those identifiers in paragraph (g) of this AD accordingly.

Change to AD Preamble

The Costs of Compliance paragraph has been revised to note that for certain airplanes, it may be necessary to accomplish more than one Part of Boeing Alert Service Bulletin 747-53A2732, dated August 28, 2008, depending on airplane configuration.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the change described previously. We also determined that this change will not increase the economic burden on any operator or increase the scope of the AD.

Costs of Compliance

We estimate that this proposed AD would affect 165 airplanes of U.S. registry. The following table provides the estimated costs for U.S. operators to comply with this proposed AD. For airplanes on which Boeing Alert Service Bulletin 747-53A2732, dated August 28, 2008, must be done, accomplishment of more than one Part of the alert service bulletin may be required, depending on airplane configuration.

Table – Estimated costs

Inspection	Work hours	Average labor rate per hour	Cost per product	Number of U.S-registered airplanes	Fleet cost
Boeing Alert Service Bulletin 747-53A2732, Part 1	50	\$80	Up to \$4,000, per inspection cycle	94	Up to \$376,000, per inspection cycle
Boeing Alert Service Bulletin 747-53A2732, Part 2	650	\$80	Up to \$52,000, per inspection cycle	94	Up to \$4,888,000, per inspection cycle
Boeing Alert Service Bulletin 747-53A2732, Part 3	6	\$80	\$480, per inspection cycle	94	Up to \$45,120, per inspection cycle
Boeing Alert Service Bulletin 747-53A2732, Part 4	51	\$80	Up to \$4,080, per inspection cycle	94	Up to \$383,520, per inspection cycle

Boeing Alert Service Bulletin 747-53A2732, Part 5	11	\$80	Up to \$880, per inspection cycle	94	Up to \$82,720, per inspection cycle
Boeing Alert Service Bulletin 747-53A2732, Part 6	52	\$80	Up to \$4,160, per inspection cycle	94	Up to \$391,040, per inspection cycle
Boeing Alert Service Bulletin 747-53A2732, Part 7	13	\$80	Up to \$1,040, per inspection cycle	94	Up to \$97,760, per inspection cycle
Boeing Alert Service Bulletin 747-53A2732, Part 8	54	\$80	Up to \$4,320, per inspection cycle	94	Up to \$406,080, per inspection cycle
Boeing Alert Service Bulletin 747-53A2753	244	\$80	Up to \$19,520, per inspection cycle	71	Up to \$1,385,920, per inspection cycle

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

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.

You can find our regulatory evaluation and the estimated costs of compliance in the AD Docket.

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 adding the following new AD:



2009-19-05 Boeing: Amendment 39-16022. Docket No. FAA-2009-0136; Directorate Identifier 2008-NM-171-AD.

Effective Date

(a) This airworthiness directive (AD) is effective October 27, 2009.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Boeing Model 747 airplanes, certificated in any category, as specified in paragraph (c)(1) or (c)(2) of this AD, as applicable.

(1) Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747SR, and 747SP series airplanes, as identified in Boeing Alert Service Bulletin 747-53A2732, dated August 28, 2008.

(2) Boeing Model 747-400, 747-400D, and 747-400F series airplanes, as identified in Boeing Alert Service Bulletin 747-53A2753, dated August 28, 2008.

Subject

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

Unsafe Condition

(e) This AD results from reports of cracking in fuselage frames made of 2024 aluminum alloy that were installed during previous modification of the frames in section 41 and during production. We are issuing this AD to detect and correct frame cracks, which could result in cracking of the adjacent fuselage skin and consequent rapid decompression of the airplane.

Compliance

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

Repetitive Inspections and Corrective Actions

(g) At the applicable compliance time specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2732 or 747-53A2753, both dated August 28, 2008, as applicable, do the detailed inspection for cracking of the fuselage frames in section 41, and do all applicable corrective actions, by accomplishing all the actions specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2732 or 747-53A2753, both dated August 28, 2008, as applicable; except as provided by paragraphs (h) and (i) of this AD. Repeat the inspection at intervals not to

exceed those specified in paragraph 1.E. of Boeing Alert Service Bulletin 747-53A2732 or 747-53A2753, both dated August 28, 2008, as applicable. If any crack is found, do all corrective actions before further flight.

Note 1: As specified in Boeing Alert Service Bulletins 747-53A2732 and 747-53A2753, both dated August 28, 2008, an optional special detailed inspection behind the P14 and P15 electrical terminal panels using the borescope may be done.

(h) Where Boeing Alert Service Bulletins 747-53A2732 and 747-53A2753, both dated August 28, 2008, recommend an initial inspection threshold relative to the date on Boeing Alert Service Bulletins 747-53A2732 and 747-53A2753, both dated August 28, 2008; this AD requires the initial inspection threshold relative to the effective date of this AD.

(i) If any crack is found during any inspection required by this AD, and Boeing Alert Service Bulletins 747-53A2732 and 747-53A2753, both dated August 28, 2008, specify to contact Boeing for appropriate action: Before further flight, repair the cracking using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

Alternative Methods of Compliance (AMOCs)

(j)(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. 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. Or, e-mail information 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 an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization who has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

Material Incorporated by Reference

(k) You must use Boeing Alert Service Bulletin 747-53A2732 dated August 28, 2008; or Boeing Alert Service Bulletin 747-53A2753, dated August 28, 2008; as applicable; to do the actions required by this AD, unless the AD specifies otherwise.

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

(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>.

(3) 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 or 425-227-1152.

(4) 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 September 1, 2009.
Ali Bahrami,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.