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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0522; Directorate Identifier 2014-NM-087-AD; Amendment 39-18100; AD 2015-03-04]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain 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. This AD was prompted by reports of fuselage skin cracks at the lower forward corner of the main entry door (MED) 1 cutout. This AD requires repetitive inspections of the fuselage skin of the MED 1 cutout for cracking, and repair if necessary; and also provides an optional terminating modification, including post-repair or post-modification fuselage skin inspections for cracking, and corrective actions if necessary. We are issuing this AD to detect and correct skin cracking, which can become large and could adversely affect the structural integrity of the airplane.

DATES: This AD is effective March 25, 2015.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of March 25, 2015.

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. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0522.

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-2014-0522; 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 by adding an AD that would apply to certain 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. The NPRM published in the Federal Register on August 5, 2014 (79 FR 45385). The NPRM was prompted by reports of fuselage skin cracks at the lower forward corner of the MED 1 cutout. The NPRM proposed to require repetitive inspections of the fuselage skin of the MED 1 cutout for cracking, and repair if necessary. The NPRM also provided optional terminating modification, including post-repair or post-modification inspections for cracking of the fuselage skin, and corrective actions if necessary. We are issuing this AD to detect and correct skin cracking, which can become large and could adversely affect the structural integrity of the airplane.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM (79 FR 45385, August 5, 2014) and the FAA's response to each comment.

Support for the NPRM (79 FR 45385, August 5, 2014)

UPS stated that it agrees with the intent of the NPRM (79 FR 45385, August 5, 2014).

Request To Withdraw the NPRM (79 FR 45385, August 5, 2014)

Mr. Jerry Adams requested that we withdraw the NPRM (79 FR 45385, August 5, 2014). Mr. Adams stated that the manufacturer's analysis and subsequent action referred to in Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014, should be sufficient. Mr. Adams stated that the cost of compliance does not include the increased cost of airframes that the customer must pay for, and that will subsequently be passed along to the traveling consumer. Mr. Adams asserted that this AD action would be counterproductive to business and the cost of transportation to the general public.

We agree with the comment that the actions described in Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014, are sufficient to correct the identified unsafe condition. However, we do not agree with the commenter's request to withdraw the NPRM (79 FR 45385, August 5,

2014). We have identified an unsafe condition that is likely to exist or develop in other products. Therefore, we must issue an airworthiness directive to correct the identified unsafe condition, as required by section 39.5 of the Federal Aviation Regulations (14 CFR 39.5). We accomplish this by mandating specified actions described in Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014, by AD action. We have not changed this AD in this regard.

We also note that although the commenter stated that the cost of airframes was not included in the NPRM (79 FR 45385, August 5, 2014), this AD does not require replacing airframes. The costs of accomplishing the actions required by this AD, as specified in Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014 (inspection, repair if necessary, and optional modification), are included in the Costs of Compliance section of this AD.

Request To Revise the Description of the Location Where Cracking Was Identified

Boeing requested that we revise the SUMMARY and Discussion sections of the preamble, and paragraphs (e), (g), and (i) in the proposed AD (79 FR 45385, August 5, 2014) to clarify that the cracking occurs in the fuselage skin, which would match the title of Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014.

We agree with the commenter's request because this change will help clarify the cracking location. We have revised this AD accordingly.

Request To Revise Service Information and Cost Estimate

UPS requested that we revise the service information used in this AD. UPS stated that the power panels and other equipment outboard of the main equipment center (MEC) must be removed in order to access the repair or modification area specified in the NPRM (79 FR 45385, August 5, 2014). UPS stated that these removals are currently not included in the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014, and will require significantly greater manpower than specified in the NPRM.

We disagree with the commenter's request. We have determined it is not appropriate to delay this AD to incorporate revised service information that might be published sometime in the future. Note 10, in the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014, states:

If it is necessary to remove more parts for access, you can remove those parts. If you can get access without removing identified parts, it is not necessary to remove all of the identified parts. Jacking and shoring limitations must be observed.

Therefore, operators are already permitted to alter the way they gain access to the required areas for inspections/repairs/modifications specified in this AD. We have received no definitive data that would enable us to provide cost estimates for the MEC removal. We have not changed this AD in this regard.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 45385, August 5, 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 45385, August 5, 2014).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information Under 1 CFR Part 51

We reviewed Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014. The service information describes procedures for inspection, repair, and modification at the lower forward corner of the fuselage main entry door 1. This service information is reasonably available; see ADDRESSES for ways to access this service information.

Costs of Compliance

We estimate that this AD affects 165 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 (per door)	11 work-hours × \$85 per hour = \$935 per inspection cycle	\$0	\$935 per inspection cycle	\$154,275 per inspection cycle.
Optional modification (per door)	Up to 66 work-hours × \$85 per hour = \$5,610	0	Up to \$5,610	Up to \$925,650.
Post-repair or -modification inspection (per door)	11 work-hours × \$85 per hour = \$935 per inspection cycle	0	\$935 per inspection cycle	\$154,275 per inspection cycle.

We estimate the following costs to do any necessary repair that would be required based on the results of the inspection. We have no way of determining the number of airplanes that might need this repair:

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Repair (per door)	66 work-hours × \$85 per hour = \$5,610	\$7,380 or \$9,360	\$12,990 or \$14,970.

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),
- (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 adding the following new airworthiness directive (AD):



2015-03-04 The Boeing Company: Amendment 39-18100 ; Docket No. FAA-2014-0522;
Directorate Identifier 2014-NM-087-AD.

(a) Effective Date

This AD is effective March 25, 2015.

(b) Affected ADs

None.

(c) Applicability

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, as identified in Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by reports of fuselage skin cracks at the lower forward corner of the main entry door (MED) 1 cutout. We are issuing this AD to detect and correct skin cracking, which can become large and could adversely affect the structural integrity of the airplane.

(f) Compliance

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

(g) Repetitive Inspections and Corrective Actions

Except as specified in paragraph (j)(1) of this AD, at the applicable time specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014: Do a detailed inspection and a surface high frequency eddy current inspection for cracking of the fuselage skin at the applicable MED 1 cutout, and do all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014. Do all applicable corrective actions before further flight. Repeat the inspections of the applicable MED 1 cutout thereafter at the applicable intervals specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014. Accomplishing the corrective actions required by this paragraph terminates the repetitive inspection requirements of this paragraph.

(h) Optional Terminating Action

For airplanes on which no crack is found during the initial inspections required by paragraph (g) of this AD: Installing the preventive modification in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014, terminates the repetitive inspections required by paragraph (g) of this AD.

(i) Post-Repair or Post-Modification Repetitive Inspections and Corrective Actions

For airplanes on which the corrective actions required by paragraph (g) of this AD have been done, or airplanes that have installed the preventive modification specified in paragraph (h) of this AD: At the applicable time specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014, do a detailed inspection for cracking of the fuselage skin at the applicable MED 1 cutout, and do all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014, except as specified in paragraph (j)(2) of this AD. Do all applicable corrective actions before further flight. Repeat the inspection of the fuselage skin at the applicable MED 1 cutout thereafter at the intervals specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014.

(j) Exceptions to Service Information

(1) Where paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014, specifies a compliance time "after the Original issue date of this service bulletin," this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) If any cracking is found during any inspection required by this AD, and Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014, specifies to contact Boeing for appropriate action: Before further flight, repair the cracking using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

(k) 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 (l)(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.

(l) Related Information

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.

(m) 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.

(i) Boeing Alert Service Bulletin 747-53A2863, dated March 11, 2014.

(ii) Reserved.

(3) For Boeing 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>.

(4) 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.

(5) 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 February 2, 2015.

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