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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-29227; Directorate Identifier 2007-NM-100-AD; Amendment 39-15664; AD 2008-18-07]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-300, 747-400, 747-400D, and 747SR Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-300, 747-400, 747-400D, and 747SR series airplanes. For certain airplanes, this AD requires a material type inspection to determine if the lower forward corner reveal of the number 3 main entry doors (MEDs) is a casting. If the reveals are castings, this AD requires repetitive inspections of the reveals for cracking, and corrective action if necessary. If the reveals are not castings, this AD requires a detailed inspection of the reveals for a sharp edge and repetitive inspections of the reveals for cracking, and corrective action if necessary. For certain other airplanes, this AD requires only a detailed inspection of the reveals for a sharp edge and repetitive inspections of the reveals for cracking, and corrective action if necessary. For certain other airplanes, this AD requires repetitive inspections of the reveals for cracking only, and corrective action if necessary. This AD also allows a certain replacement as an optional action for the material type inspection for certain airplanes. This AD results from reports of cracking and/or a sharp edge in the lower forward corner reveal of the number 3 MEDs. We are issuing this AD to detect and correct fatigue cracking of the lower forward corner reveal of the number 3 MEDs, which could lead to the door escape slide departing the airplane when the door is opened and the slide is deployed, and consequent injuries to passengers and crew using the door escape slide during an emergency evacuation.

DATES: This AD is effective November 5, 2008.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of November 5, 2008.

ADDRESSES: For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207.

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 supplemental notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to certain Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-300, 747-400, 747-400D, and 747SR series airplanes. That supplemental NPRM was published in the Federal Register on May 22, 2008 (73 FR 29716). For certain airplanes, that supplemental NPRM proposed to require a material type inspection to determine if the lower forward corner reveal of the number 3 main entry doors (MEDs) is a casting. If the reveals are castings, that supplemental NPRM proposed to require repetitive inspections of the reveals for cracking, and corrective action if necessary. If the reveals are not castings, that supplemental NPRM proposed to require a detailed inspection of the reveals for a sharp edge and repetitive inspections of the reveals for cracking, and corrective action if necessary. For certain other airplanes, that supplemental NPRM proposed to require only a detailed inspection of the reveals for a sharp edge and repetitive inspections of the reveals for cracking, and corrective action if necessary. For certain other airplanes, that supplemental NPRM proposed to require repetitive inspections of the reveals for cracking only, and corrective action if necessary. That supplemental NPRM also proposed to allow a certain replacement as an optional action for the material type inspection for certain airplanes.

Comments

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

Support for the Supplemental NPRM

Boeing concurs with the supplemental NPRM.

Request To Revise Costs of Compliance

Northwest Airlines (NWA) requests that we revise the Costs of Compliance section in the supplemental NPRM. NWA points out that Boeing Special Attention Service Bulletin 747-53-2460, Revision 1, dated February 13, 2007 (which we referred to in the supplemental NPRM as the appropriate source of service information for doing the actions) specifies 11 hours to perform the

inspection. NWA also states that it plans 8 hours to perform the inspection per doorway or 16 hours to perform the inspection per airplane.

We disagree with the request to revise the Cost of Compliance section. The 11 hours estimate specified in Boeing Special Attention Service Bulletin 747-53-2460, Revision 1, includes time to open and close access. The four-hour estimate specified in this AD represents the time necessary to perform only the actions actually required by this AD. We recognize that, in doing the actions required by an AD, operators might incur incidental costs in addition to the direct costs. The cost analysis in AD rulemaking actions, however, typically does not include incidental costs such as the time required to gain access and close up, time necessary for planning, or time necessitated by other administrative actions. 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 the AD as proposed.

Costs of Compliance

There are about 715 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.

Estimated Costs					
Action	Work hours	Average labor rate per hour	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
Inspections	4	\$80	\$320, per inspection cycle	119	\$38,080, 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:



2008-18-07 Boeing: Amendment 39-15664. Docket No. FAA-2007-29227; Directorate Identifier 2007-NM-100-AD.

Effective Date

(a) This airworthiness directive (AD) is effective November 5, 2008.

Affected ADs

(b) Certain requirements of this AD terminate certain requirements of AD 2007-12-11, amendment 39-15089.

Applicability

(c) This AD applies to Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-300, 747-400, 747-400D, and 747SR series airplanes, certificated in any category, as identified in Boeing Special Attention Service Bulletin 747-53-2460, Revision 1, dated February 13, 2007, except airplanes that have been converted to an all-cargo configuration. The requirements of this AD also become applicable at the time when a converted airplane operating in an all-cargo configuration is converted back to a passenger or passenger/cargo configuration.

Unsafe Condition

(d) This AD results from reports of cracking and/or a sharp edge in the lower forward corner reveal of the number 3 main entry doors (MEDs). We are issuing this AD to detect and correct fatigue cracking of the lower forward corner reveal of the number 3 MEDs, which could lead to the door escape slide departing the airplane when the door is opened and the slide is deployed, and consequent injuries to passengers and crew using the door escape slide during an emergency evacuation.

Compliance

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

Service Bulletin Reference

(f) The term "service bulletin," as used in this AD, means the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-53-2460, Revision 1, dated February 13, 2007.

Actions for Group 3 Airplanes

(g) For airplanes identified as Group 3 airplanes in the service bulletin: Before the accumulation of 10,000 total flight cycles, or within 1,000 flight cycles after the effective date of this AD, whichever occurs later, do a detailed inspection for cracking of the lower forward corner reveals in accordance with Part 8 of the service bulletin.

(1) If no cracking is found, repeat the inspection thereafter at intervals not to exceed 6,000 flight cycles until a new or reworked two-piece reveal is installed in accordance with Part 2 of the service bulletin. No further action is required by this paragraph for that location only after the replacement.

Note 1: For the purpose of this AD, a one-piece machined aluminum reveal may be reworked into a two-piece reveal in accordance with Part 7 of the service bulletin after it was verified to be crack free and without a sharp edge in accordance with Part 5 of the service bulletin, or after it was confirmed to be crack free in accordance with Part 5 of the service bulletin and reworked to remove a sharp edge in accordance with Part 6 of the service bulletin.

(2) If cracking is found, do the replacement specified in paragraph (g)(2)(i) or (g)(2)(ii) of this AD.

(i) Before further flight, replace the reveal with a new or reworked two-piece reveal in accordance with Part 2 of the service bulletin. No further action is required by this paragraph for that location only after the replacement.

(ii) Before further flight, replace the reveal with a new or reworked one-piece machined aluminum reveal without a sharp edge in accordance with Part 3 of the service bulletin. Before the accumulation of 10,000 flight cycles on the replacement reveal since new, do the inspection for cracking specified in Part 8 of the service bulletin and repeat the inspection thereafter at intervals not to exceed 6,000 flight cycles until a new or reworked two-piece reveal is installed in accordance with Part 2 of the service bulletin. If any cracking is found during any inspection required by this paragraph, before further flight, do the action specified in paragraph (g)(2) of this AD. No further action is required by this paragraph for that location only after the replacement with a two-piece reveal.

Note 2: For the purpose of this AD, a one-piece machined aluminum reveal with a sharp edge may be reworked into a one-piece machined aluminum reveal without a sharp edge in accordance with Part 6 of the service bulletin after it is confirmed to be crack free in accordance with Part 5 of the service bulletin. After the sharp edge is removed, the one-piece machined aluminum reveal without a sharp edge may be further reworked into a two-piece reveal in accordance with Part 7 of the service bulletin.

Actions for Group 2 Airplanes and Group 1, Configuration 2 Airplanes

(h) For airplanes identified as Group 2 airplanes in the service bulletin: Before the accumulation of 1,500 total flight cycles, or within 1,000 flight cycles after the effective date of this AD, whichever occurs later, do the inspection specified in paragraph (j) of this AD.

(i) For airplanes identified as Group 1, Configuration 2 airplanes in the service bulletin: Within 1,500 flight cycles after the lower forward corner reveal was last replaced or 1,000 flight cycles after the effective date of this AD, whichever occurs later, do the inspection specified in paragraph (j) of this AD.

(j) At the applicable times specified in paragraphs (h) and (i) of this AD: Do a detailed inspection of the lower forward corner reveals for cracking and a sharp edge in accordance with Part 5 of the service bulletin.

(1) If no cracking and no sharp edge are found, before the accumulation of 10,000 flight cycles on the lower forward corner reveal since new, or within 6,000 flight cycles after doing the inspection required by paragraph (j) of this AD, whichever occurs later, do the detailed inspection for cracking in accordance with Part 8 of the service bulletin and inspect thereafter at intervals not to exceed 6,000 flight cycles, until a new or reworked two-piece reveal is installed in accordance with Part 2 of the

service bulletin. If any cracking is found during any inspection required by this paragraph, before further flight, do the action specified in paragraph (j)(3) of this AD. No further action is required by this paragraph for that location only after the replacement with a two-piece reveal.

(2) If no cracking is found but a sharp edge is found, do the action specified in paragraph (j)(2)(i) or (j)(2)(ii) of this AD.

(i) Before further flight, replace the lower forward corner reveal with a new or reworked two-piece reveal, in accordance with Part 2 of the service bulletin. No further action is required by this paragraph for that location only after the replacement.

(ii) Before further flight, replace the reveal with a new or reworked one-piece machined aluminum reveal without a sharp edge, in accordance with Part 3 of the service bulletin. Before the accumulation of 10,000 flight cycles on the replacement reveal since new, do the inspection for cracking in accordance with Part 8 of the service bulletin and inspect thereafter at intervals not to exceed 6,000 flight cycles, until a new or reworked two-piece reveal is installed in accordance with Part 2 of the service bulletin. If any cracking is found during any inspection required by this paragraph, before further flight, do the action required by paragraph (j)(3) of this AD. No further action is required by this paragraph for that location only after the replacement with a two-piece reveal.

(3) If cracking is found, do the action specified in paragraph (j)(3)(i) or (j)(3)(ii) of this AD.

(i) Before further flight, replace the reveal with a new or reworked two-piece reveal, in accordance with Part 2 of the service bulletin. No further action is required by this paragraph for that location only after the replacement.

(ii) Before further flight, replace the lower forward corner reveal with a new or reworked one-piece machined aluminum reveal without a sharp edge, in accordance with Part 3 of the service bulletin. Before the accumulation of 10,000 flight cycles on the replacement reveal since new, do the inspection for cracking in accordance with Part 8 of the service bulletin and inspect thereafter at intervals not to exceed 6,000 flight cycles, until a new or reworked two-piece reveal is installed in accordance with Part 2 of the service bulletin. If any cracking is found during any inspection required by this paragraph, before further flight, do the action required by paragraph (j)(3) of this AD. No further action is required by this paragraph for that location only after the replacement with a two-piece reveal.

Actions for Group 1, Configuration 1 Airplanes

(k) For airplanes identified as Group 1, Configuration 1 airplanes in the service bulletin: Before the accumulation of 1,500 total flight cycles, or within 1,000 flight cycles after the effective date of this AD, whichever occurs later, do a material type inspection to determine if the lower forward corner reveals are castings, in accordance with the service bulletin. As an alternative to the material type inspection, replacing a reveal with a new or reworked two-piece lower forward corner reveal in accordance with Part 2 of the service bulletin is terminating action for the requirements of this paragraph for that location only.

(1) If the forward corner reveal is not a casting: Before further flight, do the actions specified in paragraph (j) of this AD except for the inspection for a sharp edge.

(2) If the forward corner reveal is a casting: Before the accumulation of 7,000 total flight cycles, within 2,000 flight cycles after the effective date of this AD, or within 3,000 flight cycles since the forward corner reveal was inspected in accordance with Boeing Service Bulletin 747-53A2378, whichever is latest, do a detailed inspection for cracking of the lower forward corner reveal, in accordance with Part 1 of Boeing Special Attention Service Bulletin 747-53-2460, Revision 1, dated February 13, 2007.

(i) If no cracking is found: Repeat the inspection specified in paragraph (k)(2) of this AD thereafter at intervals not to exceed 3,000 flight cycles until a new or reworked two-piece lower forward corner reveal is installed in accordance with Part 2 of the service bulletin. No further action is required by this paragraph for that location only after the replacement.

(ii) If cracking is found: Do the actions specified in paragraph (k)(2)(ii)(A), (k)(2)(ii)(B), or (k)(2)(ii)(C) of this AD.

(A) Before further flight, weld repair the reveal in accordance with Part 4 of the service bulletin. Repeat the inspection specified in paragraph (k)(2) of this AD thereafter at intervals not to exceed 3,000 flight cycles until a new or reworked two-piece reveal is installed in accordance with Part 2 of the service bulletin. No further action is required by this paragraph for that location only after the replacement.

(B) Before further flight, replace the reveal with a new or reworked two-piece reveal, in accordance with Part 2 of the service bulletin. No further action is required by this paragraph for that location only after the replacement.

(C) Before further flight, replace the reveal with a new or reworked one-piece machined aluminum reveal without a sharp edge, in accordance with Part 3 of the service bulletin. Before the accumulation of 10,000 flight cycles on the replacement reveal since new, do the inspection for cracking in accordance with Part 8 of the service bulletin and inspect thereafter at intervals not to exceed 6,000 flight cycles, until a new or reworked two-piece reveal is installed in accordance with Part 2 of the service bulletin. If any cracking is found during any inspection required by this paragraph, before further flight, do the action required by paragraph (k)(2)(ii)(B) or (k)(2)(ii)(C) of this AD. No further action is required by this paragraph for that location only after the replacement with a two-piece reveal.

Operator's Equivalent Procedure

(l) Although Step 5 of Figure 8 of the service bulletin specifies that operators may accomplish the actions in accordance with "an operator's equivalent procedure," this AD requires operators to accomplish Step 5 of Figure 8 in accordance with only the procedures specified in Boeing Standard Overhaul Practices Manual (SOPM) 20-20-02 as given in the service bulletin. An "operator's equivalent procedure" may be used only if approved as an alternative method of compliance in accordance with paragraph (p) of this AD.

Compliance With AD 2007-12-11, Amendment 39-15089, for MED 3 Only

(m) Accomplishment of the applicable repair required by this AD constitutes compliance with the repair of the lower forward corner casting (reveal) of the number 3 MEDs only, as required by paragraph (q)(2)(ii) of AD 2007-12-11 (which specifies the actions be done in accordance with Boeing Service Bulletin 747-53A2378, Revision 1, dated March 10, 1994; or Boeing Service Bulletin 747-53A2378, Revision 3, dated August 11, 2005). Accomplishment of the actions of this AD does not terminate the remaining requirements of AD 2007-12-11.

Parts Installation

(n) As of the effective date of this AD, no person may install a door lower forward corner reveal made of cast 356 aluminum on any airplane at a location specified by this AD.

(o) As of the effective date of this AD, no person may install a door lower forward corner reveal made of machined 6061 aluminum on any airplane at a location specified by this AD, unless it has been confirmed/reworked to be without a sharp edge in accordance with the service bulletin.

Alternative Methods of Compliance (AMOCs)

(p)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, ATTN: 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; has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

(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 appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(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

(q) You must use Boeing Special Attention Service Bulletin 747-53-2460, Revision 1, dated February 13, 2007, 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, P.O. Box 3707, Seattle, Washington 98124-2207.

(3) You may review copies of the service information incorporated by reference at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or 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 August 20, 2008.

Kevin Hull,
Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.
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