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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2005-22426; Directorate Identifier 2005-NM-105-AD; Amendment 39-14519; AD 2006-06-10]

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), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-300, 747-400, 747-400D, and 747SR series airplanes. This AD requires a one-time inspection to determine whether any steel doubler (small or large) is installed at the lower forward and upper aft corners of the fuselage cutout at main entry doors (MEDs) number 3. Depending on the results of this inspection, this AD also requires repetitive inspections for cracks of the skin, bearstrap, and small steel doubler (if installed) at the applicable corner or corners of the fuselage cutouts, and related investigative/corrective actions if necessary. This AD also provides the optional terminating action for the repetitive inspections of installing a large steel doubler at the affected corners. This AD results from reports of cracks in the skin and bearstrap at the upper aft corner and at the lower forward corner of the fuselage cutout at MEDs number 3. We are issuing this AD to detect and correct cracks in the skin, bearstrap, and small steel doubler (if installed), which could propagate and result in rapid decompression of the airplane.

DATES: This AD becomes effective April 26, 2006.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of April 26, 2006.

ADDRESSES: You may examine the AD docket on the Internet at *http://dms.dot.gov* or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., Nassif Building, Room PL-401, Washington, DC.

Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Ivan Li, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6437; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Examining the Docket

You may examine the airworthiness directive (AD) docket on the Internet at *http://dms.dot.gov* or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the street address stated in the ADDRESSES section.

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to all Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-300, 747-400, 747-400D, and 747SR series airplanes. That NPRM was published in the Federal Register on September 16, 2005 (70 FR 54677). That NPRM proposed to require a one-time inspection to determine whether any steel doubler (small or large) is installed at the lower forward and upper aft corners of the fuselage cutout at main entry doors (MEDs) number 3. Depending on the results of this inspection, that AD also proposed to require repetitive inspections for cracks of the skin, bearstrap, and small steel doubler (if installed) at the applicable corner or corners of the fuselage cutouts, and related investigative/corrective actions if necessary. That AD also proposed the optional terminating action for the repetitive inspections of installing a large steel doubler at the affected corners.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

Request To Revise Paragraph (h) to Include Reference to Small Steel Doubler

Boeing requests that we revise paragraph (h) "Inspection for Steel Doublers" of the NPRM to include instructions to inspect the small steel doubler (if installed) for cracks. Boeing points out that this inspection is included in the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2512, Revision 1, dated August 11, 2005, which was referenced as the appropriate source of service information for accomplishing the required actions. Boeing suggests that we revise the second sentence of paragraph (h) to read: * * * "Do the applicable inspections for cracks in the skin, bearstrap, and small steel doubler (if installed) at the upper aft and lower forward corner."

We agree. The sentence, as it appeared in the NPRM, omitted the reference to the small steel doubler. Adding the words that Boeing suggests will ensure that the inspections are accomplished in accordance with the procedures in the service bulletin. We have changed paragraph (h) of the AD to include the reference to inspecting the small steel doubler for cracks.

Request To Clarify Paragraph (m) Regarding Installing Small Steel Doublers in Production

Boeing asks that we clarify paragraph (m) "Parts Installation" of the NPRM regarding the installation of small steel doublers in production. Boeing states that the wording of paragraph (m) in

the NPRM, "* * * no person shall install on any airplane a small steel doubler at the lower forward corner * * *" should read "no person shall install on any airplane a small steel doubler at the lower forward corner as a repair for cracks. * * *" Boeing points out that airplanes currently in production have the small steel doubler installed.

We agree. The paragraph as it is written in the NPRM implies that the small steel doubler may not be installed at any time after the effective date of the AD, including in production. Our intent was to ensure that the small steel doubler is not installed as a repair for cracks or as a modification. We have changed paragraph (m) of the AD to include the words "as a repair for cracks or as a modification at the lower forward corner of the fuselage cutout at MEDs number 3, in accordance with Boeing Service Bulletin 747-53-2218."

Request To Clarify Note 2 Regarding Installing Small Steel Doublers in Production

Boeing requests that we clarify Note 2, which follows paragraph (m) of the NPRM, regarding the installation of small steel doublers at the lower forward corner. Boeing states that Note 2 should add the words "as a repair for cracks" in reference to installing the small steel doublers. Boeing explains that airplanes currently in production have a small steel doubler installed.

We partially agree. We agree that the AD should not prohibit installing a small steel doubler in production. We disagree with revising Note 2, because the note refers only to installation of the small steel doubler done in accordance with Boeing Service Bulletin 747-53-2218, Revision 4, dated November 9, 1989. Therefore, Note 2 does not affect the installation of the small steel doubler in production. We have not changed the AD in this regard.

Request To Clarify Paragraph (g)(2)

Boeing requests that we clarify paragraph (g)(2), under the heading "Inspection for Steel Doublers," to ensure that the upper aft corners of all airplanes are inspected, regardless of which steel doubler (if any) is installed at the lower forward corner. Boeing explains that the paragraph currently reads, "For all doubler configurations except those specified in paragraph (g)(1) of this AD. * * *" Boeing notes that paragraph (g)(1) includes airplanes with either a large steel doubler or no steel doubler installed at the lower forward corner. Therefore, Boeing states that it can be interpreted that an airplane that does not have a steel doubler, or that has a large steel doubler installed at the lower forward corner, does not require inspection at the upper aft corner. Boeing points out that Boeing Alert Service Bulletin 747-53A2512, Revision 1, requires an inspection at the upper aft corner, regardless of which steel doubler (if any) is installed at the lower forward corner.

We partially agree. We agree that the upper aft corner requires inspection, regardless of which steel doubler (if any) is installed at the lower forward corner. We disagree with revising paragraph (g)(2) because paragraph (g) of the NPRM already requires the inspection of both the lower forward and upper aft corners for all airplanes that are subject to the requirements of the AD. Paragraphs (g)(1) and (g)(2) do not describe inspections; they describe what to do according to the results of inspection required by paragraph (g). These two paragraphs apply to the configuration of specific cutout corners that will be revealed by the inspection required by paragraph (g), as noted by the phrase "no further action is required by this AD for that cutout corner" in paragraph (g)(1). Paragraph (g)(1) applies to the corner if the inspection in paragraph (g) reveals a cutout corner where a large steel doubler is installed or a lower forward cutout corner where no steel doubler is installed. Paragraph (g)(2) applies to cutout corners with doubler configurations other than those described in paragraph (g)(1). We have not changed the AD in this regard.

Request To Refer to Additional Service Bulletin in ''Other Relevant Rulemaking'' Section

Boeing requests that we list Boeing Service Bulletin 747-53A2500 (which the commenter indicates is part of AD 2004-07-22, amendment 39-13566 (69 FR 18250, April 17, 2004) in the "Other Relevant Rulemaking" section. Boeing states that this section already refers to Boeing Service Bulletin 747-53-2349, dated June 27, 1991, which applies to Boeing Model 747-100, -200, and -300 airplanes that don't have a nose cargo door. Boeing points out that Boeing Service Bulletin 747-53A2500, dated December 21, 2004, is similar to Boeing Service Bulletin 747-53-2349, except that it applies to Boeing Model 747-400 airplanes, and airplanes with a nose cargo door.

We partially agree. We agree that this AD is related to Boeing Service Bulletin 747-53A2500 as well as to Boeing Service Bulletin 747-53-2349. We note that Boeing Service Bulletin 747-53A2500 is not the subject of AD 2004-07-22, but is the subject of another NPRM, Docket No. FAA-2005-22526, Directorate Identifier 2005-NM-008-AD (70 FR 56860, September 29, 2005). That NPRM proposes the inspection of the MEDs number 3 cutout surround structure for certain airplanes affected by this AD. However, since the "Other Relevant Rulemaking" section of the preamble does not reappear in the final rule, we have not changed the AD in this regard.

Request To Revise the ''Relevant Service Information'' Section To Refer to a Detailed Visual Inspection

Boeing requests that we revise the fifth sentence in the second paragraph of the "Relevant Service Information" section of the NPRM to read: "do a general visual inspection to determine which steel doubler (if any) is installed and to determine if there are any previous repair trimouts in the skin and/or bearstrap. If a small steel doubler is installed, do a detailed visual inspection of the steel doubler for cracks. If previous repair trimouts are present, do an X-ray inspection for cracks in the skin or bearstrap at the edges of the trimouts, or alternatively remove the small steel doubler and do a high-frequency eddy current (HFEC) inspection of the edges of the trimouts for cracks." Boeing states that in Boeing Alert Service Bulletin 747-53A2512, Revision 1, a general visual inspection is used to determine which steel doubler, if any, is installed. If a small doubler is installed, a detailed visual inspection is used to detect cracks. Boeing further states that a general visual inspection is also used to determine if previous repair trimouts are present in the skin and/or bearstrap, and if there are, an X-ray inspection is used to inspect the edges of the trimouts.

We partially agree. We note that the description of inspection requirements provided by the commenter is mostly accurate, except that the service bulletin also specifies a general visual inspection for cracks in the small steel doubler in addition to a detailed visual inspection. Step (3) of Figures 1, 9, 13, and 21 in Boeing Service Bulletin 747-53A2512, Revision 1, which is the appropriate source of information for the referenced inspection, specifies a general visual inspection of the small steel doubler for cracks. Therefore, the "Relevant Service Information" section of the NPRM accurately reflects the service bulletin. In addition, that section of the preamble does not reappear in the final rule. We have not changed the AD in this regard.

Request To Change Reference to Inspection in Summary

Boeing requests that we change the phrase "one-time inspection to determine whether any steel doubler (large or small) is installed * * *" to read "general visual inspection to determine." Boeing explains that a general visual inspection is done each time the inspection is accomplished. The follow-on actions depend on what type of steel doubler (if any) is installed at the time. Boeing further explains that neither Boeing Alert Service Bulletin 747-53A2512, Revision 1, nor the instructions in the body of the NPRM specify a one-time inspection.

We disagree with changing the Summary section to include a reference to a "general visual inspection." The summary is intended to give an overview of the proposed requirements, and is not

intended to define the inspection methods. The remainder of the preamble to the NPRM and the body of the AD define the inspection methods. In addition, users of ADs have requested in the past that we include in the Summary section whether their obligation in fulfilling the inspection requirements of the AD will include repetitive or one-time inspections; we intended to propose a one-time inspection in the NPRM and stated so in the summary. The NPRM proposed to prohibit any future installation of a small steel doubler at the lower forward corner as a repair for cracks or as a modification; we have determined that further inspection for doubler configuration is not necessary. We have not changed the AD in this regard.

Request To Postpone Issuing AD

Boeing forwarded a comment from an airplane operator. The airplane operator requests that we postpone issuing the AD until the manufacturer improves the availability of repair kits, and after the manufacturer clarifies the modification procedures referenced in Boeing Alert Service Bulletin 747-53A2512, Revision 1. Boeing states that the clarification to the procedures is due to be released in a new structural repair manual section.

We disagree with postponing the AD based on parts availability. We have identified an unsafe condition on the affected airplanes, and this unsafe condition must be corrected within the compliance times specified in the AD. In addition to these kits being available from Boeing, these kits may also be fabricated by the operator, as the repair doublers are machined from steel sheets. We will consider alternative methods of compliance in accordance with the procedures in paragraph (n) of this AD. We have not changed the AD in this regard.

Request To Revise Cost Estimate

The Air Transport Association and Northwest Airlines point out that the cost estimate in the NPRM includes only the time it would take for operators to verify whether large, small, or no doubler(s) exist at the lower forward and upper aft corners. The commenters state that most airplanes currently in operation that are affected by the NPRM are likely to have small doublers installed at both lower forward and upper aft corners. The commenters state that the 1-work-hour figure per airplane that is cited in the NPRM gives a misleading view of the scope of the work associated with performing the additional inspection tasks for airplanes that have doublers installed. Therefore, the commenters recommend that the labor estimate be adjusted to 12 work-hours, as specified in Boeing Alert Service Bulletin 747-53A2512, Revision 1.

We do not agree. The costs of compliance discussed in NPRMs represent only the time necessary to perform the specific actions actually proposed by the NPRM. These figures typically do not include on-condition costs, such as related investigative and corrective actions following an initial inspection finding; nor do they include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions. Although we agree that the work-hours required for an operator to comply with the requirements of the AD may be more than the hours reflected in the cost estimate, we cannot predict on-condition costs for the entire fleet. We have not changed the AD in this regard.

Clarification of Alternative Method of Compliance (AMOC) Paragraph

We have revised this action to clarify the appropriate procedure for notifying the principal inspector before using any approved AMOC on any airplane to which the AMOC applies.

Conclusion

We have carefully reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Costs of Compliance

There are about 710 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	Parts	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
One-time general visual inspection	1	$65	None	$65	170	$11,050

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); 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

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 Federal Aviation Administration (FAA) amends § 39.13 by adding the following new airworthiness directive (AD):

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

www.faa.gov/aircraft/safety/alerts/

2006-06-10 Boeing: Amendment 39-14519. Docket No. FAA-2005-22426; Directorate Identifier 2005-NM-105-AD.

Effective Date

(a) This AD becomes effective April 26, 2006.

Affected ADs

(b) Installing a large steel doubler at the lower forward corner of the fuselage cutout at main entry doors (MEDs) number 3 in accordance with AD 92-27-04, amendment 39-8437, terminates the inspection requirements of this AD for that area only.

Applicability

(c) This AD applies to all 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.

Unsafe Condition

(d) This AD was prompted by reports of cracks in the skin and bearstrap at the upper aft corner and at the lower forward corner of the fuselage cutout at MEDs number 3. We are issuing this AD to detect and correct cracks in the skin, bearstrap, and small steel doubler (if installed), which could propagate and result in rapid decompression of the airplane.

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 Alert Service Bulletin 747-53A2512, Revision 1, dated August 11, 2005.

Inspection for Steel Doublers

(g) Prior to 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 general visual inspection of the lower forward

and upper aft corners of the fuselage cutout at MEDs number 3 to determine whether a small, a large, or no steel doubler is installed, and do the applicable action in paragraphs (g)(1) and (g)(2) of this AD. Do all actions in accordance with the service bulletin.

(1) If a large steel doubler is installed, or if no steel doubler is installed at the lower forward corner, no further action is required by this AD for that cutout corner, except the requirements of paragraph (m) of this AD continue to apply.

Note 1: Boeing Alert Service Bulletin 747-53A2512 refers to Boeing Service Bulletin 747-53-2218, Revision 5, dated March 26, 1992, as an additional source of service information for inspecting airplanes that are determined by the inspection required by paragraph (g) of this AD to have no steel doubler (large or small) installed at the lower forward corner of the fuselage cutout at MEDs number 3.

(2) For all doubler configurations except those specified in paragraph (g)(1) of this AD, do the actions in paragraph (h) of this AD at the applicable time in that paragraph.

Inspections for Cracks, and Related Investigative and Corrective Actions

(h) For the doubler configurations specified in paragraph (g)(2) of this AD, at the times specified in paragraph 1.E. "Compliance" of the service bulletin (except as required by paragraph (i) of this AD): Do the applicable inspections for cracks in the skin, bearstrap, and small steel doubler (if installed), at the upper aft corner and at the lower forward corner of the fuselage cutout at MEDs number 3, and do all applicable related investigative actions and corrective actions before further flight by doing all the actions in accordance with the service bulletin. Repeat the inspections thereafter at the intervals specified in paragraph 1.E, "Compliance" of the service bulletin. Where the service bulletin specifies to contact the manufacturer for instructions on how to repair certain conditions, do the repair using a method approved in accordance with the procedures specified in paragraph (n) of this AD.

(i) Where the service bulletin specifies compliance times relative to the date of issuance of the service bulletin, this AD requires compliance relative to the effective date of this AD.

Terminating Action

(j) Installing a large steel doubler in accordance with the service bulletin terminates the repetitive inspection requirements of this AD for the corner of the fuselage cutout at MEDs number 3 at which the large steel doubler is installed.

No Reporting Required

(k) Although the service bulletin referenced in this AD specifies to submit certain information to the manufacturer, this AD does not include that requirement.

Actions Done in Accordance With Original Issue of Service Bulletin

(l) Actions done before the effective date of this AD in accordance with Boeing Alert Service Bulletin 747-53A2512, dated May 5, 2005, are acceptable for compliance with the corresponding actions of this AD.

Parts Installation

(m) After the effective date of this AD, no person may install on any airplane a small steel doubler as a repair for cracks or as a modification at the lower forward corner of the fuselage cutout of MEDs number 3, in accordance with Boeing Service Bulletin 747-53-2218.

Note 2: Although AD 92-27-04, amendment 39-8437, has a terminating action of installing a small steel doubler in accordance with Boeing Service Bulletin 747-53-2218, that action is not allowed after the effective date of this AD.

Alternative Methods of Compliance (AMOCs)

(n)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) Before using any AMOC approved in accordance with § 39.19 on any airplane to which the AMOC applies, notify the appropriate principal inspector in the FAA Flight Standards 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 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

(o) You must use Boeing Alert Service Bulletin 747-53A2512, Revision 1, dated August 11, 2005, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of this documents in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for a copy of this service information. You may review copies at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Room PL-401, Nassif Building, Washington, DC; on the Internet at *http://dms.dot.gov*; or at the National Archives and Records Administration (NARA). For information on the availability of this material at the 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 March 9, 2006.
Kalene C. Yanamura,
Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.
[FR Doc. 06-2676 Filed 3-21-06; 8:45 am]
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