

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Part 39**

[Docket No. FAA-2008-0166; Directorate Identifier 2007-NM-329-AD]

RIN 2120-AA64

Airworthiness Directives; Boeing 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

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for all Boeing Model 747 airplanes listed above. This proposed AD would require repetitive inspections for broken or missing fasteners in the single-row hinge fasteners of the forward and aft cargo doors, and related investigative/corrective actions. This proposed AD results from reports of broken and missing fasteners in the hinges of the forward and aft cargo doors in both the body hinge segments and the door hinge segments. We are proposing this AD to detect and correct broken or missing fasteners in the hinge segments with a single fastener row, which could lead to opening of the cargo door during flight and result in rapid decompression of the airplane.

DATES: We must receive comments on this proposed AD by March 31, 2008.

ADDRESSES: You may send comments 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:* U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

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

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:**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the **ADDRESSES** section. Include "Docket No. FAA-2008-0166; Directorate Identifier 2007-NM-329-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 reports of broken fasteners in the hinge segments of the forward and aft cargo doors. Two operators have reported broken fasteners in both the body hinge segments and the door hinge segments. One operator of a Model 747-400 series airplane found three fractured fasteners at the aft cargo door, and a subsequent torque check showed that two other fasteners were also fractured. Another operator reported that all eight fasteners of a hinge segment at the forward cargo door of a Model 747-300 series airplane were fractured. This operator also reported finding four fractured fasteners in one hinge segment at the forward cargo door of a different airplane. Broken or

missing fasteners in the hinge segments, if not detected and corrected, could lead to opening of the cargo door during flight and result in rapid decompression of the airplane.

Relevant Service Information

We have reviewed Boeing Alert Service Bulletin 747-52A2287, dated October 25, 2007. The service bulletin describes procedures for a repetitive detailed inspection for broken or missing fasteners of the single-row hinge fasteners of the forward and aft cargo door hinge segments, and related investigative and corrective actions. If no broken fastener is found, the service bulletin specifies the related investigative action of applying torque to all the fasteners at that segment to detect any broken fastener. If any inspection or torque application shows a broken fastener, the service bulletin specifies the corrective action of replacing all fasteners in the hinge segment where the broken fastener is found.

FAA's Determination and Requirements of This Proposed AD

We are proposing this AD because we evaluated all relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design. This proposed AD would require accomplishing the actions specified in the service information described previously, except as discussed under "Difference Between the Proposed AD and the Service Bulletin."

Difference Between the Proposed AD and the Service Bulletin

The Accomplishment Instructions of the service bulletin do not state the action to take if there is a missing fastener. This proposed AD would require replacing all fasteners in any hinge segment that has one or more missing fasteners.

Interim Action

A Boeing investigation has not determined a specific root cause for the unsafe condition; therefore, we consider this proposed AD interim action. If final action is later identified, we might consider further rulemaking then.

Costs of Compliance

We estimate that this proposed AD would affect 165 airplanes of U.S. registry. The "Estimated Costs" table provides the estimated costs for U.S. operators to comply with this proposed AD.

ESTIMATED COSTS

Action	Work hours	Average labor rate per hour	Cost per product	Number of U.S.-registered airplanes	Fleet cost
Detailed inspection	3	\$80	\$240, per inspection cycle.	165	\$39,600, per inspection cycle.
Torque application (for any hinge segment with no broken or missing fastener).	7	80	\$560, per inspection cycle.	Up to 165	Up to \$92,400, 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

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), 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, 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 AD:

Boeing: Docket No. FAA-2008-0166; Directorate Identifier 2007-NM-329-AD.

Comments Due Date

- (a) We must receive comments by March 31, 2008.

Affected ADs

- (b) None.

Applicability

- (c) This AD applies to all Boeing 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.

Unsafe Condition

- (d) This AD results from reports of broken and missing fasteners in the hinges of the forward and aft cargo doors in both the body hinge segments and the door hinge segments. We are issuing this AD to detect and correct broken or missing fasteners in the hinge segments, which could lead to the cargo door opening during flight and result in rapid decompression of the airplane.

Compliance

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

Repetitive Inspection and Related Investigative/Corrective Actions

- (f) Before the accumulation of 7,200 total flight cycles or within 3,000 flight cycles after the effective date of this AD, whichever occurs later: Do a detailed inspection for broken or missing fasteners of the single-row hinge fasteners of the forward and aft cargo door hinge segments, and do all applicable related investigative (torque application) and corrective actions by accomplishing all the actions specified in the Accomplishment Instructions of Boeing Alert Service Bulletin

747-52A2287, dated October 25, 2007. Do all applicable related investigative and corrective actions before further flight. Repeat the inspection thereafter at intervals not to exceed 6,000 flight cycles. Where the service bulletin does not give an action to take if there is one or more fasteners missing from a hinge segment, replace all fasteners in the hinge segment before further flight in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-52A2287, dated October 25, 2007.

Alternative Methods of Compliance (AMOCs)

(g)(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.

Issued in Renton, Washington, on February 4, 2008.

Kevin Hull,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.
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