

[Federal Register: March 16, 2009 (Volume 74, Number 49)]  
[Rules and Regulations]  
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From the Federal Register Online via GPO Access [wais.access.gpo.gov]  
[DOCID:fr16mr09-7]

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2008-1072; Directorate Identifier 2008-NM-109-AD; Amendment 39-15838; AD 2009-06-02]

RIN 2120-AA64

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

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747SR, and 747SP series airplanes. This AD requires inspecting for skin cracks at the shear tie end fastener locations of the fuselage frames, and repairing cracks if necessary. This AD results from a widespread fatigue damage assessment of Model 747 airplanes. We are issuing this AD to detect and correct cracks in the fuselage skin that can propagate and grow, resulting in a loss of structural integrity and a sudden decompression of the airplane during flight.

**DATES:** This AD is effective April 20, 2009.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of April 20, 2009.

**ADDRESSES:** For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207; telephone 206-544-9990; fax 206-766-5682; e-mail [DDCS@boeing.com](mailto:DDCS@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 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747SR, and 747SP series airplanes. That NPRM was published in the Federal Register on October 8, 2008 (73 FR 58901). That NPRM proposed to require inspecting for skin cracks at the shear tie end fastener locations of the fuselage frames, and repairing cracks if necessary.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comment received. Boeing concurs with the contents of the NPRM.

### **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**

We estimate that this AD affects 147 airplanes of U.S. registry. We also estimate that it takes 30 work-hours for the detailed inspection, or 49 work hours for the HFEC inspection, per product, to comply with this AD. The average labor rate is \$80 per work-hour. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$352,800 or \$576,240, or \$2,400 or \$3,920 per product.

### **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:



**2009-06-02 Boeing:** Amendment 39-15838. Docket No. FAA-2008-1072; Directorate Identifier 2008-NM-109-AD.

**Effective Date**

(a) This airworthiness directive (AD) is effective April 20, 2009.

**Affected ADs**

(b) None.

**Applicability**

(c) This AD applies to Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747SR, and 747SP series airplanes, certificated in any category; as identified in Boeing Alert Service Bulletin 747-53A2682, dated May 8, 2008.

**Unsafe Condition**

(d) This AD results from a wide-spread fatigue damage assessment of Model 747 airplanes. We are issuing this AD to detect and correct cracks in the fuselage skin that can propagate and grow, resulting in a loss of structural integrity and sudden decompression of the airplane during flight.

**Compliance**

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

**Inspections/Repair**

(f) Except as provided by paragraphs (g) and (h) of this AD: At the applicable compliance times specified in paragraph 1.E. of Boeing Alert Service Bulletin 747-53A2682, dated May 8, 2008 ("the service bulletin"), do an external detailed inspection or external high frequency eddy current inspection for skin cracks at the shear tie end fastener locations of the fuselage frames, and repair any skin cracks before further flight, by accomplishing all of the applicable actions specified in the Accomplishment Instructions of the service bulletin. Repeat the applicable inspection thereafter at the applicable interval specified in paragraph 1.E. of the service bulletin.

**Exceptions to the Service Bulletin**

(g) Where paragraph 1.E. of Boeing Alert Service Bulletin 747-53A2682, dated May 8, 2008, specifies counting the compliance time from " \* \* \* the date on this service bulletin," this AD requires counting the compliance time from the effective date of this AD.

(h) If any crack is found in a structural repair manual skin repair during any inspection required by paragraph (f) of this AD, and Boeing Alert Service Bulletin 747-53A2682, dated May 8, 2008,

specifies to contact Boeing for repair: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (i) of this AD.

### **Alternative Methods of Compliance (AMOCs)**

(i)(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 Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6437; fax (425) 917-6590.

(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**

(j) You must use Boeing Alert Service Bulletin 747-53A2682, dated May 8, 2008, 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; telephone 206-544-9990; fax 206-766-5682; e-mail DDCS@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](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on February 27, 2009.

Ali Bahrami,  
Manager, Transport Airplane Directorate,  
Aircraft Certification Service.