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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2011-0348; Directorate Identifier 2011-NM-069-AD; Amendment 39-16701; AD 2011-08-51]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Model 737-300, -400, and -500 Series Airplanes**

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

**ACTION:** Final rule; request for comments.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above. This emergency AD was sent previously to all known U.S. owners and operators of these airplanes. This AD requires repetitive external eddy current inspections of the lap joints at stringers S-4R and S-4L, along the entire length from body station (BS) 360 to BS 908. If a crack indication is found, the AD requires either confirming the crack by doing internal eddy current inspections, or repairing the crack. As an alternative to the external eddy current inspections, the AD provides for internal eddy current and detailed inspections for cracks in the lower skin at the lower row of fasteners at stringers S-4L and S-4R. This AD was prompted by a report indicating that a Model 737-300 series airplane experienced a rapid decompression when the lap joint at stringer S-4L between BS 664 and BS 727 cracked and opened up due to cracking in the lower skin at the lower row of fasteners. We are issuing this AD to detect and correct such cracking, which could result in an uncontrolled decompression of the airplane.

**DATES:** This AD is effective June 2, 2011 to all persons except those persons to whom it was made immediately effective by Emergency AD 2011-08-51, issued on April 5, 2011, which contained the requirements of this amendment.

The Director of the Federal Register approved the incorporation by reference of certain publications identified in the AD as of June 2, 2011.

We must receive comments on this AD by July 5, 2011.

**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: Deliver to Mail address above 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, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail [me.boecom@boeing.com](mailto:me.boecom@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 Operations Office 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 street address for the Docket Operations Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Wayne Lockett, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue, SW., Renton, Washington 98057-3356; phone: 425-917-6447; fax: 425-917-6590; e-mail: [wayne.lockett@faa.gov](mailto:wayne.lockett@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Discussion**

On April 5, 2011, we issued Emergency AD 2011-08-51, which requires repetitive external eddy current inspections of the lap joints at stringers S-4R and S-4L, along the entire length from body station (BS) 360 to BS 908. If a crack indication is found, the AD requires either confirming the crack by doing internal eddy current inspections, or repairing the crack. As an alternative to the external eddy current inspections, the AD provides for internal eddy current and detailed inspections for cracks in the lower skin at the lower row of fasteners at stringers S-4L and S-4R. This action was prompted by a report indicating that a Model 737-300 series airplane experienced a rapid decompression when the lap joint at stringer S-4L between BS 664 and BS 727 cracked and opened up due to cracking in the lower skin at the lower row of fasteners. The airplane had accumulated 39,781 total flight cycles and 48,740 total flight hours. Such cracking, if not corrected, could result in an uncontrolled decompression of the airplane.

#### **Relevant Service Information**

We reviewed Boeing Alert Service Bulletin 737-53A1319, dated April 4, 2011. That service bulletin describes procedures for external eddy current inspections of the lap joints at stringers S-4R and S-4L, along the entire length from BS 360 to BS 908. If a crack indication is found, that service bulletin specifies either confirming the crack by doing internal eddy current inspections, or repairing the crack. As an alternative to the external eddy current inspections, that service bulletin provides procedures for internal eddy current and detailed inspections for cracks in the lower skin at the lower row of fasteners at stringers S-4L and S-4R. That service bulletin specifies contacting Boeing for crack repair instructions.

Since we issued the emergency AD, we have approved Revision 1 of this service bulletin as an alternative method of compliance (AMOC) with certain requirements of emergency AD 2011-08-51. We have added paragraph (1)(4) to this AD to provide information on this approved AMOC.

## **FAA's Determination**

We are issuing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

## **AD Requirements**

This AD requires accomplishing the actions specified in the service information described previously, except as discussed under "Differences Between the AD and the Service Information."

## **Differences Between the AD and the Service Information**

That service bulletin specifies to contact the manufacturer for instructions on how to repair certain conditions, but this AD requires repairing those conditions in one of the following ways:

- In accordance with a method that we approve; or
- Using data that meet the certification basis of the airplane, and that have been approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) whom we have authorized to make those findings.

## **FAA's Determination of the Effective Date**

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because cracking in the lower skin at the lower row of fasteners of the lap joints at stringers S-4R and S-4L, along the entire length from BS 360 to BS 908, could open up and result in an uncontrolled decompression of the airplane. Therefore, we find that notice and opportunity for prior public comment are impracticable and that good cause exists for making this amendment effective in less than 30 days.

## **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. However, we invite you to send any written data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2011-0348 and Directorate Identifier 2011-NM-069-AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this 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 AD.

## **Costs of Compliance**

We estimate that this AD affects 195 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
Inspections	6 or 15 work-hours (depending on inspection method) x \$85 per work-hour	None	\$510 or \$1,275 per inspection cycle	\$99,450 or \$248,625 per inspection cycle

We have received no definitive data that would enable us to provide a cost estimate for the on-condition actions (confirming crack indications and repairing cracks) specified in this AD.

### 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):



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**2011-08-51 The Boeing Company:** Amendment 39-16701; Docket No. FAA-2011-0348; Directorate Identifier 2011-NM-069-AD.

**Effective Date**

(a) This AD is effective June 2, 2011 to all persons except those persons to whom it was made immediately effective by Emergency AD 2011-08-51, issued on April 5, 2011, which contained the requirements of this amendment.

**Affected ADs**

(b) None.

**Applicability**

(c) This AD applies to The Boeing Company Model 737-300, -400, and -500 series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 737-53A1319, dated April 4, 2011.

**Subject**

(d) Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 53: Fuselage.

**Unsafe Condition**

(e) This AD was prompted by a report indicating that a Model 737-300 series airplane experienced a rapid decompression when the lap joint at stringer S-4L between body station (BS) 664 and BS 727 cracked and opened up due to cracking in the lower skin at the lower row of fasteners. We are issuing this AD to detect and correct such cracking, which could result in an uncontrolled decompression of the airplane.

**Compliance**

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

**Inspections**

(g) At the applicable time specified in paragraph (g)(1), (g)(2), or (g)(3) of this AD: Except as provided by paragraphs (h) and (i) of this AD, do external eddy current inspections of the lap joint at stringers S-4R and S-4L, along the entire length from body station (BS) 360 to BS 908, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1319, dated April 4, 2011. If any crack indication is detected, before further flight, either confirm the crack indication by doing eddy current inspections from the interior of the fuselage in the lower skin at the lower row of

fasteners at stringer S-4L and S-4R, in accordance with Boeing Alert Service Bulletin 737-53A1319, dated April 4, 2011, or repair in accordance with paragraph (j) of this AD.

(1) For airplanes that have accumulated fewer than 30,000 total flight cycles as of the effective date of this AD: Inspect before the accumulation of 30,000 total flight cycles, or within 20 days after the effective date of this AD, whichever occurs later.

(2) For airplanes that have accumulated 30,000 or more total flight cycles and fewer than 35,000 total flight cycles as of the effective date of this AD: Inspect within 20 days after the effective date of this AD.

(3) For airplanes that have accumulated 35,000 total flight cycles or more as of the effective date of this AD: Inspect within 5 days after the effective date of this AD.

(h) For areas repaired with external doublers, paragraphs (h)(1) and (h)(2) of this AD apply.

(1) If the repair meets the criteria specified in paragraphs 3.B.1.c.(1) and 3.B.1.c.(2) of Boeing Alert Service Bulletin 737-53A1319, dated April 4, 2011, no inspection of the lower skin at the lap joint lower fastener row is required under the doubler.

(2) If the repair does not meet the criteria specified in paragraphs 3.B.1.c.(1) and 3.B.1.c.(2) of Boeing Alert Service Bulletin 737-53A1319, dated April 4, 2011, inspect the lower skin lap joint lower row internally in the area covered by the doubler, in accordance with Boeing Alert Service Bulletin 737-53A1319, dated April 4, 2011.

(i) The inspections required by paragraph (g) of this AD may alternatively be done by internal eddy current and detailed inspections for cracks in the lower skin at the lower row of fasteners at stringer S-4L and S-4R, along the entire length from BS 360 to BS 908, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1319, dated April 4, 2011.

(j) If any crack is found during any inspection required by this AD: Before further flight, repair the crack using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

(k) Repeat the inspections specified in either paragraph (g) or (i) of this AD thereafter at intervals not to exceed 500 flight cycles. Either inspection method may be used at any repetitive inspection cycle.

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

(1)(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 the Related Information section of this AD. Information may be e-mailed 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.

(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 the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that 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.

(4) AMOCs approved for emergency AD 2011-08-51 are approved as AMOCs for the corresponding requirements of this AD.

### **Related Information**

(m)(1) For further information about this AD, contact Wayne Lockett, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue,

SW., Renton, Washington 98057-3356; phone: 425-917-6447; fax: 425-917-6590; e-mail: wayne.lockett@faa.gov.

(2) For copies of the service information referenced in this AD, contact: Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@boeing.com; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington.

### **Material Incorporated by Reference**

(n) You must use Boeing Alert Service Bulletin 737-53A1319, dated April 4, 2011, 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, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@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.

(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 an NARA facility, 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 May 6, 2011.  
Kalene C. Yanamura,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.