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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2005-18788; Directorate Identifier 2003-NM-203-AD; Amendment 39-14296; AD 2005-20-03]**

**RIN 2120-AA64**

**Airworthiness Directives; Boeing Model 737-100, -200, -200C, -300, -400, and -500 Series Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. This AD requires repetitive inspections of the intercostal webs, attachment clips, and stringer splice channels for cracks; and corrective action if necessary. This AD is prompted by reports of fatigue cracks on several Boeing Model 737-200 series airplanes. We are issuing this AD to detect and correct fatigue cracking of the intercostals on the forward and aft sides of the forward entry door, which could result in loss of the forward entry door and rapid decompression of the airplane.

**DATES:** This AD becomes effective November 1, 2005.

The incorporation by reference of a certain publication listed in the AD is approved by the Director of the Federal Register as of November 1, 2005.

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

Docket: The AD docket contains the proposed AD, comments, and any final disposition. You can examine the 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 U.S. Department of Transportation, 400 Seventh Street, SW., room PL-401, Washington, DC. This docket number is FAA-2005-18788; the directorate identifier for this docket is 2003-NM-203-AD.

**FOR FURTHER INFORMATION CONTACT:** Howard Hall, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6430; fax (425) 917-6590.

**SUPPLEMENTARY INFORMATION:** The FAA proposed to amend 14 CFR part 39 with an AD for certain Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. That action, published in the Federal Register on August 6, 2004 (69 FR 47808), proposed to require repetitive inspections of the intercostal webs, attachment clips, and stringer splice channels for cracks; and corrective action if necessary.

**Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments that have been submitted on the proposed AD.

**Qualified Support for the Proposed AD**

One commenter, an operator, stated that the proposed AD is acceptable provided that the service bulletin referenced in the proposed AD is corrected to reflect the proper work instructions and to reference accurate figures for accomplishment.

The FAA cannot respond to the generality of the commenter's statement. However, other commenters have requested clarification on certain aspects of the work instructions and requested certain revision of the "Costs of Compliance" section of this AD. Those comments are specified and responded to in the appropriate paragraphs below.

**Request for Clarification in Paragraph (k) of the Proposed AD**

Two commenters request that paragraph (k) be revised to clarify that the reference to using Figure 201 instead of Figure 202 of the service bulletin only applies to Model 737-400 series airplanes.

We agree that paragraph (k) of the AD should be clarified and have revised the AD accordingly.

**Request To Withdraw the Proposed AD**

One commenter, an operator, states that the Maintenance Planning Document (MPD) is the logical document to accomplish the main objectives of the inspections specified in the proposed AD. The commenter suggests that it makes more sense to revise MPD Task S53-22-A-2, rather than to issue an AD. We infer that the commenter is requesting that the proposed AD be withdrawn.

We do not agree. We are obligated by part 39 of the Federal Aviation Regulations (FAR) to appropriately address any identified unsafe condition that is likely to exist on other airplanes. The MPD is appropriate for addressing routine maintenance of critical structural components. However, operators may submit their specific and particular
MPD task cards for consideration as an alternative method of compliance (AMOC) if they wish, in accordance with paragraph (n) of the AD. No change is necessary to the AD in this regard.

**Request for More Information Regarding Paragraph (k) of the Proposed AD**

One commenter, an operator, requests that inspection specifics be added to paragraph (k) of the proposed AD for the stringer-16L (S-16L) area in the post-repair configuration. The commenter does not believe that Boeing Special Attention Service Bulletin 737-53-1204, dated June 19, 2003,

referenced in the proposed AD as the appropriate source of service information, provides sufficient inspection specifics in Figure 1.

The FAA does not agree that further inspection specifics are necessary to clarify paragraph (k) of the AD. Figure 1 does not specifically show the repair/modification configurations at S-16L, and is simply intended to show typical crack locations and to identify the structural components that require inspection. Since the general inspection details provided in Figure 1 are applicable to both pre- and post-repair/modification configurations, no change to the AD is necessary in this regard.

**Request To Allow ''Credit'' for Certain Repairs**

One commenter, an operator, requests that repairs on the affected intercostals that are installed prior to the effective date of the AD be addressed. The operator states that the proposed AD specifies that certain repairs must be approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or per data meeting the type certification basis of the airplane approved by a Boeing Designated Engineering Representative (DER) who has been authorized by the Manager, Seattle ACO, to make such findings. The operator requests that the final rule allow credit for any repairs previously approved by the Seattle ACO.

We do not agree that previous repairs need to be addressed other than through the normal process as stated above by the commenter. Other than the repairs already identified at S-16L, we are not aware of any specific pre-existing repair configurations that should be addressed in the final rule. The Manager, Seattle ACO, can approve design data for previously installed or newly installed repair configurations prior to the issuance of this AD. However, approval as an AMOC with the AD cannot be given until the date the final rule is effective. No change is necessary to the AD in this regard.

**Requests To Address Previously Accomplished Modification/Repairs**

Two commenters, both operators, request that provision for "previous or newly accomplished" installations of the repair be added to paragraph (k) of the proposed AD.

We acknowledge the commenters' concern and partially agree. Paragraph (k) of the AD, as worded in the AD, simply permits deferring the repetitive inspections if the installation of the repair as a preventative modification or corrective action is accomplished in accordance with Part 1 of the Work Instructions of the service bulletin. We did not specify that installation of the repair must be performed either before or after the effective date of the AD, since, in this case, it does not matter when it is accomplished. No change is necessary to the AD in this regard.

**Requests To Extend Initial Compliance Time of Paragraph (g) of the Proposed AD**

Several commenters request that the grace period specified in paragraph (g), "4,500 flight cycles after the effective date of the AD," be extended to 7,500 or 8,000 flight cycles. One commenter states that the most critical area (STR 16L between Body Station (BS) 348.2 and BS 360) can only be inspected correctly by accessing additional areas, which may include removing lavatories or galleys. The commenters contend that extending the grace period of the initial compliance time would allow most operators to accomplish the requirements of paragraph (g) during normal scheduled maintenance.

We do not agree that the grace period should be extended beyond 4,500 flight cycles. We have determined that the grace period of 4,500 is appropriate and adequate to maintain an acceptable level of safety. The grace period represents more than two years of average operation, during which time most operators will have accomplished regularly schedule maintenance. The commenter has provided no technical data to show that extending the grace period compliance time to 7,500 or 8,000 flight

cycles would continue to provide an acceptable level of safety. However, under the provisions of paragraph (n) of the AD, we may consider requests for adjustments to the grace period for the initial compliance time if sufficient data are submitted to substantiate that such an extension of the grace period would provide an acceptable level of safety. No change is necessary to the AD in this regard.

**Request To Extend Initial Compliance Time of Paragraph (g) of the Proposed AD for Certain Areas**

One commenter requests that, for areas that are non-critical, the compliance time be extended from 15,000 total flight cycles to 25,000 total flight cycles. The commenter notes that it is not clear why the non-critical areas have the same initial threshold as the critical area (S-16L). The commenter contends that the compliance time should be extended for those areas other than S-16L.

We do not agree. We have received recent service reports of cracked structure occurring at locations other than S-16L as early as 18,910 total flight cycles. No change is necessary to the AD in this regard.

**Request for Credit for Similar Inspections**

One commenter, an operator, notes that certain inspections similar to the inspections in the proposed AD are already required under the Corrosion Prevention and Control Program (CPCP). Although the commenter acknowledges that the intensity and type of inspection is not identical to the inspections specified in the proposed AD, the commenter requests that some relief of the compliance time should be considered if the CPCP inspections have been performed recently.

We do not agree to extend the compliance time. In developing this AD, we considered the inspections of the baseline CPCP program, but also noted that certain operators may be using different CPCP programs. However, under the provisions of paragraph (n) of the AD, we may approve requests for adjustments to the compliance time if data are submitted to substantiate that such an adjustment would provide an acceptable level of safety. No change is necessary to the AD in this regard.

**Request To Clarify the Failure Mechanism**

One commenter, an operator, requests that we explain why the FAA and the manufacturer disagree on the potential failure mechanism. The commenter points out that the manufacturer does not indicate that the fatigue cracking could result in loss of the forward entry door, only that incorporation of the service bulletin would prevent possible decompression and unscheduled down time.

We acknowledge that the manufacturer's service bulletin does not specifically advise that "loss of the forward entry door" could occur as a result of the identified unsafe condition. However, the manufacturer and the FAA agree that several potential failure scenarios, such as loss of the forward entry door, could occur. Both the manufacturer and the FAA agree that an unsafe condition has been identified and is likely to exist or to develop in other airplanes. Therefore, the actions specified in the AD are necessary to detect and correct fatigue cracking of the intercostals of the forward entry door. No change is necessary to the AD in this regard.

**Request To Revise the Costs of Compliance**

Several commenters request that the "Costs of Compliance" section be revised to reflect the number of work hours required for access.

We do not agree that the cost estimate provided in the proposed AD should be revised. Based on the best data available, the manufacturer provided the number of work hours (two) necessary to do the required actions. This number 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 may 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. Those incidental costs, which may vary significantly among operators, are almost impossible to calculate. No change is necessary to the AD in this regard.

**Request To Replace Parts Without FAA Approval**

One commenter, an operator, asks that allowance be made in paragraph (m) for the replacement of parts without the need to contact the FAA for approval.

We do not agree with the commenter's request. Since the service bulletin referenced in this AD does not provide specific instructions for repair (replacing the parts), operators must perform the repair in accordance with a method approved as specified in paragraph (m) of this AD.

**Explanation of Change Made to This AD**

Since the issuance of the proposed AD, Boeing has received a Delegation Option Authorization (DOA). We have revised this AD to delegate the authority to approve an alternative method of compliance for any repair required by this AD to the Authorized Representative for the Boeing DOA Organization rather than the Designated Engineering Representative.

**Conclusion**

We have carefully reviewed the available data, including the comments that have been submitted, 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**

This AD will affect about 3,113 airplanes worldwide and 876 airplanes of U.S. registry. The required actions will take about 2 work hours per airplane, at an average labor rate of $65 per work hour. Based on these figures, the estimated cost of the AD for U.S. operators is $113,880, or $130 per airplane, 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 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. 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 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**

***We post ADs on the internet at www.faa.gov/aircraft/safety/alerts/***

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2005-20-03 Boeing:** Amendment 39-14296. Docket No. FAA-2005-18788; Directorate Identifier 2003-NM-203-AD.

## Effective Date

(a) This AD becomes effective November 1, 2005.

## Affected ADs

(b) None.

## Applicability

(c) This AD applies to Model 737-100, -200, -200C, -300, -400, and -500 series airplanes, as identified in Boeing Special Attention Service Bulletin 737-53-1204, dated June 19, 2003; certificated in any category.

## Unsafe Condition

(d) This AD was prompted by reports of fatigue cracks on several Boeing Model 737-200 series airplanes. We are issuing this AD to detect and correct fatigue cracking of the intercostals on the forward and aft sides of the forward entry door, which could result in loss of the forward entry door and 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 Definition

(f) The term "service bulletin," as used in this AD, means Boeing Special Attention Service Bulletin 737-53-1204, dated June 19, 2003.

**Initial Compliance Time**

(g) Before the accumulation of 15,000 total flight cycles, or within 4,500 flight cycles after the effective date of this AD, whichever occurs later: Do the inspections specified in paragraph (h) or (i) of this AD, as applicable.

**Inspection for Passenger Configuration Airplanes**

(h) For Group 1 passenger airplanes identified in the service bulletin: Perform a detailed inspection of the intercostal web, attachment clips, and stringer splice channels for cracks; and a high frequency eddy current inspection of the stringer splice channels, located forward and aft of the forward entry door, for cracks; per Parts 1 and 2 of the Work Instructions of the service bulletin.

**Inspection for Cargo Configuration Airplanes**

(i) For Group 2 cargo airplanes identified in the service bulletin: Perform a detailed inspection of the intercostal webs and attachment clips located forward of the forward entry door for cracks, per Part 3 of the Work Instructions of the service bulletin.

**Repetitive Inspections**

(j) If no crack is found during any inspection required by paragraph (h) or (i) of this AD, repeat the inspections in paragraph (h) or (i) of this AD at the applicable time specified in Table 1 of this AD, except as provided by paragraph (k) of this AD.

**TABLE 1.—REPETITIVE INSPECTION INTERVAL**

| Airplane group number in Service Bulletin | For intercostal location— | Repeat inspections at intervals not to exceed— |
|---|---|---|
| Group 1 | Stringer–16L (S–16L), from Body Stringer 348.2 to BS 360 (aft of door) | 4,500 flight cycles. |
| Group 1 | S–7L through S–15L, from BS 348.2 to BS 360 (aft of door) | 25,000 flight cycles. |
| Group 1 and 2 | S–7L through S–16L, from BS 294.5 to BS 303.9 (forward of door) | 25,000 flight cycles. |

**Deferral of Certain Repetitive Inspections**

(k) For intercostal webs at S-16L from BS 348.2 to BS 360: Installation of the repair as a preventative modification or corrective action per Part 1 of the Work Instructions of the service bulletin defers the repetitive inspections to intervals not to exceed 25,000 flight cycles. For Model 737-400 series airplanes, use 737-400 Structural Repair Manual (SRM) 53-10-04, Figure 201, instead of Figure 202.

**Corrective Actions**

(l) If any crack is found during any inspection required by paragraph (h) or (i) of this AD, perform the actions specified in paragraphs (l)(1) through (l)(3) of Table 2 of this AD, as applicable. Repeat the inspections at the applicable time specified in Table 1 of this AD, except as provided by paragraph (k) of this AD.

**TABLE 2.—CORRECTIVE ACTIONS**

| During any inspection specified in— | If any crack is found in— | At intercostal location— | Before further flight— |
|---|---|---|---|
| (1) Part 1 of the Work Instructions of the service bulletin. | (i) The intercoastal web | S–16L, from BS 348.2 to BS 360 (aft of door). | Repair per Part 1 of the Work Instructions of the service bulletin, except the service bulletin specifies to contact Boeing for repair instructions, before further flight, do the repair specified in paragraph (m) of this AD. Use 737–400 SRM 53–10–04, Figure 201, instead of Figure 202, as applicable (see Note 1). |
| | (ii) An attachment clip or stringer splice channel. | S–16L, from BSDo 348.2 to BS 360 (aft of door). | Do the repair specified in paragraph (m) of this AD. |
| (2) Part 2 of the Work Instructions of the service bulletin. | An intercoastal web, attachment clip, or stringer splice channel. | S–7L through S–16L, from BS 294.5 to BS 303.9 (forward of door); and S–7L through S–15L, from BS 348.2 to BS 360 (aft of door). | Do the repair specified in paragraph (m) of this AD. |
| (3) Part 3 of the Work Instructions of the service bulletin. | An intercoastal web or attachment clip. | S–7L through S–16L, from BS 294.5 to BS 303.9 (forward of door). | Do the repair specified in paragraph (m) of this AD. |

**Note 1:** The service bulletin specifies to repair any crack found at the S-16L intercostal (BS 348.2-360) on Boeing Model 737-400 series airplanes per 737-400 SRM 53-10-04, Figure 202. Figure 202 does not exist; the correct figure is 737-400 SRM 53-10-04, Figure 201.

**Repair**

(m) At the time specified in Table 2 of this AD, repair per a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or per data meeting the type certification basis of the airplane approved an Authorized Representative for the Boeing 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.

**Alternative Methods of Compliance (AMOCs)**

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

(2) An AMOC that provides an acceptable level of safety may be used for corrective actions per data meeting the type certification basis of the airplane approved by a Boeing DOA Organization AR who has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the approval must specifically reference this AD.

**Material Incorporated by Reference**

(o) You must use Boeing Special Attention Service Bulletin 737-53-1204, dated June 19, 2003, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approves the incorporation by reference of this document in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. To get copies of the service information, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207. To view the AD docket, go to the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., room PL-401, Nassif Building, Washington, DC. To review copies of the service information, go to 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 September 16, 2005.
Ali Bahrami,
Manager, Transport Airplane Directorate, Aircraft Certification Service.
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