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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2004-19003; Directorate Identifier 2003-NM-245-AD; Amendment 39-14044; AD 2005-07-19]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-100, -200C, -300, -400, and -500 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 737-100, -200, -200C, -300, -400, and -500 series airplanes. This AD requires repetitive inspections for cracks in the fuselage skin, doubler, bearstrap, and frames surrounding the main, forward, and aft cargo doors; and repair of any cracking. This AD also requires inspections of certain existing repairs for cracking, and related corrective action if cracking is found. This AD is prompted by reports of multiple fatigue cracks in the fuselage skin and bonded skin doubler, bearstrap, and doorway frames surrounding the forward and aft cargo doors. We are issuing this AD to find and fix fatigue cracking in the fuselage skin, doubler, bearstrap, and frames, which could result in reduced structural integrity of the frames, possible loss of a cargo door, and consequent rapid decompression of the fuselage.

DATES: This AD becomes effective May 12, 2005.

The incorporation by reference of a certain publication listed in the AD is approved by the Director of the Federal Register as of May 12, 2005.

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

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-2004-19003; the directorate identifier for this docket is 2003-NM-245-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 all Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. That action, published in the Federal Register on September 7, 2004 (69 FR 54058), proposed to require repetitive inspections for cracks in the fuselage skin, doubler, bearstrap, and frames surrounding the main, forward, and aft cargo doors; and repair of any cracking. That action also proposed to require inspections of certain existing repairs for cracking, and related corrective action if cracking is found.

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.

Supportive Comment

One commenter states that the proposed AD will affect only its 737-200C and -400 fleets, and adds that the proposed detailed inspections and compliance intervals will allow compliance at heavy check maintenance visits. The commenter stipulates that these requirements are acceptable provided there are adequate replacement parts available if discrepancies are found.

We have discussed the issue of obtaining replacement parts with the airplane manufacturer and we anticipate no difficulty in getting the parts to accomplish repairs.

Request for Credit for Accomplishing AD 93-14-10

One commenter, the airplane manufacturer, asks that we add a sentence to paragraph (f) of the proposed AD that gives credit for accomplishing the inspections and repairs required by AD 93-14-10, amendment 39-8634 (58 FR 43547, August 17, 1993). The commenter states that the requirements of the proposed AD are equivalent to, or more conservative than, the requirements in AD 93-14-10.

We agree with the commenter that accomplishing the requirements in paragraph (f) of the proposed AD ends the requirements in AD 93-14-10 (referenced as related rulemaking in the preamble of the proposed AD). As specified in the preamble of the proposed AD, during structural inspections, cracks were found in the bearstrap under the fuselage frame flanges at the edges of the forward cargo door. In two cases, cracks were found in the fuselage frames of the aft cargo door where steel repair doublers had been installed using the requirements of AD 93-14-10; therefore, the requirements in this AD exceed the requirements of AD 93-14-10. We have changed paragraph (f) of this AD by adding credit for previously accomplishing AD 93-14-10.

Request To Add Inspection Type to Paragraph (f) of the Proposed AD

The same commenter states that the first sentence in paragraph (f) specifies, in part, "Do the applicable detailed, general visual, and low and high frequency eddy current inspections for cracks * * *" The commenter asks that a reference to the mid-frequency eddy current (MFEC) inspection be added to paragraph (f). The commenter notes that this inspection is specified in the referenced service bulletin.

We agree with the commenter that the MFEC inspection should be added to paragraph (f), for clarification. An internal MFEC inspection is specified in the referenced service bulletin as an option to accomplishing the detailed visual inspections, and would extend the compliance time for the repetitive inspections, but was not identified in the proposed AD. Paragraph (f) of the proposed AD specified doing the "applicable" inspections for cracks as specified in the referenced tables. However, to clarify the type of inspection, we have changed paragraph (f) of this final rule to include the MFEC inspection.

Request for Clarification of Location of Inspections for Existing Repairs

One commenter asks for clarification regarding accomplishing inspections of existing repairs around the cargo doors in accordance with the referenced service bulletin. The commenter states that it is unclear which inspection is required if repairs are of a different configuration than those referenced in the figures in the service bulletin. The commenter notes, for example, that a repair of the cargo door lower corner per Boeing Structural Repair Manual 737-100/200, Figure 46, Detail IV, does not match the Figure 8 repair in the service bulletin. The commenter adds that verbiage needs to be added clarifying whether the "intent" of the service bulletin is to accomplish a MFEC inspection of all outer row fasteners of the repair doubler, no matter what the configuration.

We agree that clarification is necessary. The repairs shown in Figures 8, 9, and 10 of the referenced service bulletin are conceptual illustrations of typical doubler/tripler type repairs. These figures are intended to indicate that the location of the detailed visual or MFEC inspections for cracking is the skin or bearstrap at the outer row fasteners common to the outer edge of the repair. We have added a note after paragraph (f) of the final rule for further clarification.

Request for Certain Repair Instructions

One commenter states that repair instructions that are similar to those currently available for Model 737-100 and -200 series airplanes for damaged skin, doubler, and bearstrap around the cargo doors should also be available for Model 737-300, -400, and -500 series airplanes. The commenter adds that it is crucial to limit downtime of aircraft as much as possible, an coordinating repair procedures with Boeing extends the out-of-service time for affected airplanes.

We agree that repair instructions should be made available for Model 737-300, -400 and -500 series airplanes. However, until repair instructions are published for Model 737-300, -400 and -500 series airplanes, the repair must be accomplished according to a method approved by the Manager, Settle Aircraft Certification Office or an Authorized Representative for the Boeing Delegation Option Authorization (DOA) Organization. Repair procedures have been developed for incorporation into the next revision of the 737-300/400/500 SRM and will be submitted to us by Boeing soon. As provided by paragraph (i) of this AD, we will consider approving these repairs as an alternative method of compliance for paragraph (g) of this AD. We have made no change to the final rule in this regard.

Clarification of Applicability

One commenter asks why the proposed AD isn't applicable to Model 737-300C series airplanes with a main cargo door installed by PEMCO. The commenter notes that the proposed AD includes Model 737-200C series airplanes with a main cargo door, and asks if excluding the 737-300C is normal.

We acknowledge the commenter's concern and offer clarification. The proposed AD is applicable to Model 737-100, -200, -200C, -300, -400, -500 series airplanes, including airplanes modified to include a main cargo door. We infer that the commenter's reference to a "Model 737-300C" is an informal designation for a Model 737-300 series airplane that has been modified to

include a main cargo door per a supplemental type certificate. However, no model 737-300C series airplane is identified in the type certificate data sheet. Thus, an airplane with that configuration would be subject to the AD requirements for Model 737-300 series airplanes. In comparison, the Model 737-200C series airplane is identified in the type certificate data sheet.

Explanation of Changer to Proposed AD

Boeing has received a DOA. We have revised paragraph (i)(2) of this final rule 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 change 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 3,132 airplanes of the affected design in the worldwide fleet. We estimate that 870 airplanes of U.S. registry will be affected by this AD. We provide the following cost estimates to comply with this AD, per inspection cycle:

Group	Work hours	Hourly labor rate	Parts	Cost per airplane
1	24	\$65	\$0	\$1,560
2 and 4	28	65	0	1,820
3 and 5	30	65	0	1,950
6 and 7	28	65	0	1,820

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, Incorporated 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"

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).

2005-07-19 Boeing: Amendment 39-14044. Docket No. FAA-2004-19003; Directorate Identifier 2003-NM-245-AD.

Effective Date

- (a) This AD becomes effective May 12, 2005.

Affected ADs

- (b) None.

Applicability

- (c) This AD applies to all Model 737-100, -200, -200C, -300, -400, and -500 series airplanes; certified in any category.

Unsafe Condition

- (d) This AD was prompted by reports of multiple fatigue cracks in the fuselage skin and bonded skin doubler, bearstrap, and doorway frames surrounding the forward and aft cargo doors. We are issuing this AD to find and fix fatigue cracking in the fuselage skin, doubler, bearstrap, and frames, which could result in reduced structural integrity of the frames, possible loss of a cargo door, and consequent rapid decompression of the fuselage.

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.

Initial and Repetitive Inspections/Corrective Action

- (f) Do the applicable detailed, general visual, and low-, mid-, and high-frequency eddy current inspections for cracks in the fuselage skin, doubler, bearstrap, and frames surrounding the main, forward, and aft cargo doors, and for cracks in existing repairs, as specified in Tables 1, 2, and 3, as applicable, of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1228, dated July 10, 2003. Do the inspections at the initial compliance times listed in Tables 1, 2, and 3, as applicable, of paragraph 1.E., "Compliance," of the service bulletin; except, where the service bulletin specifies a compliance time after the service bulletin date, this AD requires compliance within the specified compliance time after the effective date of this AD. Do the inspections in accordance with

the Accomplishment Instructions of the service bulletin. Repeat the inspections within the repetitive inspection intervals listed in Tables 1, 2, 3 of paragraph 1.E., "Compliance," of the service bulletin. Accomplishing the requirements in this paragraph ends the requirements in AD 93-14-10, amendment 39-8634 (58 FR 43547. August 17, 1993).

Note 1: At existing repairs around the forward and aft cargo door cutouts: The location for the specified detailed or mid-frequency eddy current inspections for cracking of the skin or bearstrap is at the outer row of fasteners common to the repair, as illustrated in Figures 8, 9, and 10 of Boeing Alert Service Bulletin 737-53A1228, dated July 10, 2003.

(g) If any crack is found during any inspection: Repair before further flight in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1228, dated July 10, 2003. Where the service bulletin specifies contacting the manufacturer for disposition of certain repair conditions, repair before further flight in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or an Authorized Representative for the Boeing Delegation Option Authorization (DOA) Organization who has been authorized by the Manager, Seattle ACO, to make such findings. For a repair method to be approved, the approval must specifically refer to this AD.

No Reporting Required

(h) Although the service bulletin referenced in this AD recommends reporting any discrepancies to the manufacturer, this AD does not include that requirement.

Alternative Methods of Compliance (AMOCs)

(i)(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 any repair required by this AD, if it is approved by an Authorized Representative for the Boeing DOA Organization who has been authorized by the Manager, Seattle ACO, to make those findings.

Material Incorporated by Reference

(j) You must use Boeing Alert Service Bulletin 737-53A1228, dated July 10, 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. For copies of the service information, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207. For information on the availability of this material at the National Archives and Records Administration (NARA), call (202) 741-6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. You may view the AD docket at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., room PL-401, Nassif Building, Washington, DC.

Issued in Renton, Washington, on March 30, 2005.

Kalene C. Yanamura,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 05-6763 Filed 4-6-05; 8:45 am]

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