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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2005-20356; Directorate Identifier 2004-NM-115-AD; Amendment 39-14294; AD 2005-20-01]

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.

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 of the stiffeners at left buttock line (LBL) and right buttock line (RBL) 6.15 for cracks; and replacement of both stiffeners with new, improved stiffeners if any stiffener is found cracked. This AD also allows replacement of both stiffeners at LBL and RBL 6.15 with new, improved stiffeners, which terminates the repetitive inspections. This AD is prompted by reports of cracks in the stiffeners at LBL and RBL 6.15 on the rear spar of the wing center section. We are issuing this AD to detect and correct cracks in the stiffeners at LBL and RBL 6.15, which could result in damage to the keel beam structure and consequently reduce the capability of the airplane to sustain flight loads.

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: You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, room PL-401, Washington, DC.

Contact Boeing Commercial Airplanes, PO Box 3707, Seattle, Washington 98124-2207, for service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Nancy Marsh, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6440; fax (425) 917-6590.

Examining the Docket

You may 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 street address stated in the ADDRESSES section.

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to all Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. That NPRM was published in the Federal Register on February 15, 2005 (70 FR 7693). (A correction of the NPRM was published in the Federal Register on May 19, 2005 (70 FR 28988).) That NPRM proposed to require repetitive inspections of the stiffeners at left buttock line (LBL) and right buttock line (RBL) 6.15 for cracks; and replacement of both stiffeners with new, improved stiffeners if any stiffener is found cracked. That NPRM also proposed to allow replacement of both stiffeners at LBL and RBL 6.15 with new, improved stiffeners, which would terminate the repetitive inspections.

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.

Support for the Proposed AD

Two commenters support the proposed AD.

Request To Use Operator Equivalent Procedures

One commenter requests that we revise paragraph (h) of the proposed AD to allow the use of FAA-approved, operator equivalent procedures for draining and gaining access to the center fuel tanks. The commenter states that Parts II and III of Boeing Alert Service Bulletin 737-57A1269, Revision 1, dated September 16, 2004, contain work steps for de-fueling and purging the center tanks. The commenter further states that mandating how the fuel tanks are purged does not directly affect the means of correcting the unsafe condition addressed in the proposed AD.

We agree that the procedures specified in Parts II and III are intended for gaining access to the center tanks. We also agree that using an equivalent procedure to gain access would not adversely affect the means of correcting the unsafe condition, which is to detect and correct cracks in the stiffeners at LBL and RBL 6.15. Therefore, we have revised the first sentence of paragraph (h) of this AD to require accomplishing the applicable actions in Part IV through Part IX of the service bulletin.

Request for Credit for Previous Inspections

One commenter requests that inspections performed in accordance with Boeing All Operator Telex (AOT) M-7200-01-00426, dated February 19, 2001, be considered acceptable for compliance with the inspections specified in paragraph (g) of the proposed AD. The commenter states that both Boeing AOT M-7200-01-00426 and Boeing Alert Service Bulletin 737-57A1269, Revision 1, dated September 16, 2004, provide instructions for doing a detailed inspection of the stiffeners at LBL and RBL 6.15 on the rear spar of the wing center section within the same compliance time.

We agree that the detailed inspections specified in Boeing AOT M-7200-01-00426 are acceptable for compliance with the corresponding requirements of this AD. We have added a new paragraph (k) to this AD to give credit and re-lettered the subsequent paragraphs accordingly.

Request To Use New Stiffeners of the Existing Type Design

Two commenters request that we revise paragraph (h) of the proposed AD to add the option of replacing a cracked stiffener with a new stiffener of the existing type design (made from 7075-T6511 aluminum extrusion). One commenter states that since we have determined a repetitive inspection interval of 4,500 flight cycles provides an adequate level of safety for detecting cracks in the existing stiffeners, then replacement with new stiffeners of the existing type design should also provide an adequate level of safety if the repetitive inspections are continued. Although there is an ample supply of new stiffeners of the existing type design available, both commenters are concerned that there is an insufficient supply of new, improved stiffeners (made from 2024-T351 aluminum alloy plate) to comply with the proposed replacements.

We do not agree. The manufacturer has confirmed that there is a sufficient supply of new, improved stiffeners available to comply with this AD. Therefore, no change to this AD is necessary in this regard.

Request To Replace a Stiffener, Only if Cracked

Two commenters request that we revise paragraph (h) of the proposed AD to state that, if only one of the two stiffeners is found cracked, operators would be required to replace only the cracked stiffener instead of both stiffeners. As justification, the first commenter states that it frequently finds only one cracked stiffener during inspections of the stiffeners at LBL and RBL 6.15. Both commenters believe that the proposed AD should allow the option of replacing only the cracked stiffener provided that the repetitive inspections for cracking are continued until both stiffeners are eventually replaced. The second commenter supports this change because replacing both stiffeners requires additional labor and material. The commenter also states that the aggressive initial inspection threshold will force operators to inspect affected airplanes outside of a heavy maintenance visit. The commenter asserts that the additional impact of replacing both stiffeners will strain available resources.

We do not agree because the new, improved stiffeners are much more rigid than the stiffeners of the existing type design. Replacing only one of the two stiffeners will lead to changes in the loading of the structure and premature fatigue of the new, improved stiffener. However, we acknowledge that replacing a cracked stiffener with a new stiffener of the existing type design will not adversely affect the relative stiffness of the two keel beam stiffeners, since they would be the same type design. If service information containing repair instructions and subsequent inspection requirements for replacing a cracked stiffener with a new stiffener of the existing type design is developed, under the provisions of paragraph (l) of this AD, we may consider requests for approval of an AMOC. Sufficient data must be submitted to substantiate that such a design change would provide an acceptable level of safety. Therefore, no change to this AD is necessary in this regard.

Request To Allow Temporary Repairs

Three commenters request that we revise the proposed AD to allow operators to make temporary repairs until cracked stiffeners can be replaced. One commenter suggests adding an interim repair plan to the proposed AD to give operators time to schedule the terminating action (replacement of cracked stiffeners with new, improved stiffeners). The commenter proposes that an interim repair plan could consist of stop-drilling small cracks where possible and reducing the repetitive inspection intervals to monitor crack growth, until the terminating action could be accomplished. The

commenter is concerned it will not be able to comply with the requirements of the proposed AD because of the short initial inspection threshold and number of affected airplanes in its fleet.

The second commenter states that repairs done in accordance with Boeing AOT M-7200-01-00426, dated February 19, 2001, and Repair Sketch LOR-760 will take less time than replacement of the stiffeners, especially since most of its affected airplanes will be inspected outside of a heavy maintenance visit. The third commenter asks if we would consider the two temporary repairs, which do not require access into the center tank, as an AMOC to the proposed AD.

We partially agree. The FAA is working with the manufacturer to establish appropriate inspection and replacement requirements for this interim repair. Once this evaluation is concluded we may, under the provisions of paragraph (l) of this AD, we approve the subject interim repairs as an AMOC. We do not consider that delaying this final rule is warranted.

Request To Revise Compliance Time

One commenter requests that we extend the compliance time of the initial inspection, from 180 days to 15 months for airplanes that have accumulated less than 30,000 total flight cycles, to allow affected operators to perform the inspection during a regularly scheduled maintenance interval. The proposed AD reported that cracked stiffeners were found on two airplanes with over 40,000 total flight cycles and on a third airplane with just over 20,000 total flight cycles. The commenter believes that the data are not consistent enough to warrant a short compliance time for airplanes that have accumulated fewer than 40,000 total flight cycles. To comply with the proposed AD, the operator states that it would have to inspect more than 1 airplane per week, since the proposed AD affects the majority of its fleet. The operator also states that its operations would be negatively impacted if several of its airplanes required the terminating action, estimated at 250 work hours.

We do not agree with the commenter's request. The commenter provides no technical justification for revising this inspection interval. Furthermore, since issuing the proposed AD, we have received numerous additional reports of cracked stiffeners. Eight of those reports included airplanes that have accumulated fewer than 30,000 total flight cycles. We have determined that the compliance time, as proposed, represents the maximum interval of time allowable for the affected airplanes to continue to operate safely before the inspection is accomplished.

Request To Revise "Cost of Compliance"

One commenter estimates that the proposed inspection would take about 4 work hours, not 1 work hour as we specified in the proposed AD. We infer that the commenter would like us to revise the "Cost of Compliance" section.

We do not agree, since the commenter has not provided justification for the increase in work hours. Our cost estimate is based on information that the manufacturer has provided to us, and we point out that the cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions. Therefore no change to this AD is necessary in this regard.

Explanation of Changes Made to This AD

We have simplified paragraph (h) of this AD by referring to the "Alternative Methods of Compliance (AMOCs)" paragraph of this AD for repair methods. Also, we have revised the "Alternative Methods of Compliance (AMOCs)" paragraph in this AD to clarify the delegation authority for Authorized Representatives for the Boeing Commercial Airplanes Delegation Option Authorization.

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 affects about 3,132 airplanes worldwide. The following table provides the estimated costs, at an average labor rate of \$65 per hour, for U.S. operators to comply with this AD.

ESTIMATED COSTS					
Action	Work hours	Parts	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
Inspection, per inspection cycle	1	None	\$65, per inspection cycle	1,384	\$89,960, 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).

2005-20-01 Boeing: Amendment 39-14294. Docket No. FAA-2005-20356; Directorate Identifier 2004-NM-115-AD.

Effective Date

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

Affected ADs

- (b) None.

Applicability

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

Unsafe Condition

- (d) This AD was prompted by cracks in the stiffeners at left buttock line (LBL) and right buttock line (RBL) 6.15 on the rear spar of the wing center section. We are issuing this AD to detect and correct cracks in the stiffeners at LBL and RBL 6.15, which could result in damage to the keel beam structure and consequently reduce the capability of the airplane to sustain flight loads.

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 Reference

- (f) The term "service bulletin," as used in this AD, means the Accomplishment Instructions of Boeing Alert Service Bulletin 737-57A1269, Revision 1, dated September 16, 2004.

Initial and Repetitive Inspections

- (g) Before accumulating 15,000 total flight cycles, or within 180 days after the effective date of this AD, whichever occurs later: Do a detailed inspection of the stiffeners at LBL and RBL 6.15 for cracks, in accordance with Part I of the service bulletin. Thereafter at intervals not to exceed 4,500

flight cycles, repeat the detailed inspection until the stiffeners at LBL and RBL 6.15 have been replaced with new, improved stiffeners, in accordance with paragraph (h) or (i) of this AD.

Note 1: For the purposes of this AD, a detailed inspection is: "An intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirror, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate procedures may be required."

Replacement of Cracked Stiffeners

(h) If any crack is found during any inspection required by this AD, before further flight, replace both stiffeners with new, improved stiffeners by doing all of the applicable actions in Part IV through Part IX, as applicable, of the service bulletin; except where the service bulletin specifies to contact Boeing for appropriate action: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (l) of this AD. Accomplishing the replacement terminates the repetitive inspections required by paragraph (g) of this AD.

Optional Terminating Action

(i) Replacement of both stiffeners at LBL and RBL 6.15 with new, improved stiffeners in accordance with paragraph (h) of this AD terminates the repetitive inspections required by this AD.

Credit for Previous Service Bulletin

(j) The actions done before the effective date of this AD in accordance with Boeing Alert Service Bulletin 737-57A1269, dated December 4, 2003, are acceptable for compliance with the corresponding actions required by this AD.

Credit for Previous Inspections

(k) Inspections done before the effective date of this AD in accordance with Boeing All Operator Telex M-7200-01-00426, dated February 19, 2001, are acceptable for compliance with the requirements of paragraph (g) of this AD.

Alternative Methods of Compliance (AMOCs)

(l)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, 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 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

(m) You must use Boeing Alert Service Bulletin 737-57A1269, Revision 1, dated September 16, 2004, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of this document in

accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for a copy of this service information. You may review copies at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., room PL-401, Nassif Building, Washington, DC; on the Internet at <http://dms.dot.gov>; or at 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/cfr/ibr-locations.html>.

Issued in Renton, Washington, on September 16, 2005.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 05-19144 Filed 9-26-05; 8:45 am]

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