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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-4222; Directorate Identifier 2016-NM-017-AD; Amendment 39-18433; AD 2016-06-02]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: We are adopting a new airworthiness directive (AD) for all The Boeing Company Model 737-300, -400, and -500 series airplanes. This AD requires repetitive inspections for cracking in the horizontal and vertical flanges of the rear spar upper chord of the horizontal stabilizer, and related investigative and corrective actions if necessary. This AD was prompted by a report of cracking in the center section of the horizontal stabilizer. We are issuing this AD to detect and correct cracking of the rear spar center section of the horizontal stabilizer that could lead to departure of the horizontal stabilizer from the airplane.

DATES: This AD is effective March 29, 2016.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of March 29, 2016.

We must receive comments on this AD by April 28, 2016.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, 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: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-4222.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-4222; 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 street address for the Docket 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: Payman Soltani, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5313; fax: 562-627-5210; email: Payman.Soltani@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We have received a report of cracking in the center section of the horizontal stabilizer. A review of empennage loading of the Model 737-300, -400, and -500 series airplanes identified several loading discrepancies that included landing rollout (LRO) buffet condition within the ground-air-ground (GAG) operational loads. These loading discrepancies impact the operating stress level on the rear spar upper chord of the horizontal stabilizer center section, which can lead to cracking. We have determined that the inspection threshold for detecting the cracking needs to be lower than the existing required compliance threshold of 66,000 total flight cycles. This horizontal stabilizer center section cracking, if not corrected, could result in departure of the horizontal stabilizer from the airplane.

Related Rulemaking

On April 8, 2008, we issued AD 2008-09-13, Amendment 39-15494 (73 FR 24164, May 2, 2008), for all Boeing Model 737-300, -400, and -500 series airplanes. AD 2008-09-13 requires revising the FAA-approved maintenance or inspection program to include inspections that will give no less than the required damage tolerance rating for each structural significant item (SSI), doing repetitive inspections to detect cracks of all SSIs, and repairing cracked structure.

Related Service Information Under 1 CFR Part 51

We reviewed Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016. This service information describes procedures for inspections for cracking in the horizontal and vertical flanges of the rear spar upper chord of the horizontal stabilizer, an inspection to identify the fasteners common to the rear spar upper chord upper gusset of the horizontal stabilizer center section, and related investigative and corrective actions if necessary. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

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 the same type design.

AD Requirements

This AD requires accomplishing the actions specified in the service information described previously, except as discussed under "Differences Between this AD and the Service Information." For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-4222.

The phrase "related investigative actions" is used in this AD. Related investigative actions are follow-on actions that (1) are related to the primary action, and (2) further investigate the nature of any condition found. Related investigative actions in an AD could include, for example, inspections.

The phrase "corrective actions" is used in this AD. Corrective actions are actions that correct or address any condition found. Corrective actions in an AD could include, for example, repairs.

Differences Between the AD and the Service Information

Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016, specifies to contact the manufacturer for instructions on how to repair certain conditions, but this AD would require 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.

Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016, specifies compliance using "horizontal stabilizer center section flight cycles" or "center section flight cycles;" this AD requires compliance for those conditions or compliance times in terms of airplane flight cycles.

FAA's Justification and 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 of the rear spar center section of the horizontal stabilizer could lead to departure of the horizontal stabilizer from 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-2016-4222 and Directorate Identifier 2016-NM-017-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 400 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	Up to 15 work-hours × \$85 per hour = \$1,275 per inspection cycle	\$0	Up to \$1,275 per inspection cycle	Up to \$510,000 per inspection cycle.

We estimate the following costs to do any necessary repairs that would be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these repairs:

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Repair	8 work-hours × \$85 per hour = \$680	(¹)	\$680

¹ We have received no definitive data that would enable us to provide parts cost estimates for the actions 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):



2016-06-02 The Boeing Company: Amendment 39-18433; Docket No. FAA-2016-4222; Directorate Identifier 2016-NM-017-AD.

(a) Effective Date

This AD is effective March 29, 2016.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all The Boeing Company Model 737-300, -400, and -500 series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 55, Stabilizers.

(e) Unsafe Condition

This AD was prompted by a report of cracking in the center section of the horizontal stabilizer. We are issuing this AD to detect and correct cracking of the rear spar center section of the horizontal stabilizer that could lead to departure of the horizontal stabilizer from the airplane.

(f) Compliance

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

(g) Actions for the Rear Spar Upper Chord Horizontal Flange of the Horizontal Stabilizer Center Section

At the applicable times specified in table 1 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016, except as required by paragraphs (j)(1), (j)(2), and (j)(3) of this AD: Do the actions required by paragraph (g)(1) or (g)(2) of this AD; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016, except as required by paragraph (j)(4) of this AD. Do all applicable related investigative and corrective actions at the applicable times specified in tables 5, 6, 7, and 8 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016. For airplanes on which "Option 1" of "CONDITION 15: SURFACE HFEC INSPECTION OF THE CHORD AROUND THE GUSSETS—NO CRACK FOUND" is done as specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016, repeat the inspection specified in paragraph

(g)(2) of this AD thereafter at the applicable times specified in table 8 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016.

(1) Do an inspection to identify the fasteners common to the rear spar upper chord upper gusset of the horizontal stabilizer center section.

(2) Do a surface high frequency eddy current (HFEC) inspection of the rear spar upper chord around the two inboard gusset plates common to the thrust and auxiliary beams for any crack.

(h) Repetitive Inspections of the Vertical Flange of the Rear Spar Upper Chord on the Horizontal Stabilizer Center Section

At the applicable times specified in table 2 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016, except as required by paragraphs (j)(1) and (j)(2) of this AD: Do a surface HFEC inspection of the vertical flange of the rear spar upper chord; and do all applicable corrective actions; in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016, except as required by paragraph (j)(4) of this AD. Do all applicable corrective actions before further flight. Repeat the inspection of the vertical flange of the rear spar upper chord thereafter at the time specified in table 2 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016.

(i) Repetitive Inspections of the Vertical Flange Stiffener Fasteners of the Rear Spar Upper Chord on the Horizontal Stabilizer Center Section

At the applicable times specified in table 3 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016, except as required by paragraphs (j)(1) and (j)(2) of this AD: Do the actions required by paragraph (i)(1) or (i)(2) of this AD; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016, except as required by paragraph (j)(4) of this AD. Do all applicable related investigative and corrective actions at the applicable times specified in tables 3 and 4 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016. Repeat the inspection specified in paragraph (i)(2) of this AD thereafter at the applicable times specified in tables 3 and 4 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016.

(1) Do an open hole HFEC inspection of the vertical flange at the stiffeners of the rear spar upper chord on the horizontal stabilizer center section for any crack.

(2) Do a surface HFEC inspection of the vertical flange around the stiffeners of the rear spar upper chord on the horizontal stabilizer center section for any crack.

(j) Exceptions to Service Information

(1) Where paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016, specifies a compliance time "after the original issue date of this service bulletin," this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016, refers to condition or compliance time in "horizontal stabilizer center section flight cycles" or "center section flight cycles," this AD requires compliance for those conditions or compliance time in terms of airplane flight cycles.

(3) The Condition column of table 1 in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016, refers to "horizontal stabilizer center section flight cycles." This AD, however, applies to the airplanes with the specified airplane total flight cycles as of the effective date of this AD.

(4) Where Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016; specifies to contact Boeing for appropriate action: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles 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 paragraph (l) of this AD. Information may be emailed to 9-ANM-LAACO-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, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Los Angeles ACO, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) Except as required by paragraph (j)(4) of this AD: For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (k)(4)(i) and (k)(4)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(l) Related Information

For more information about this AD, contact Payman Soltani, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles ACO, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5313; fax: 562-627-5210; email: Payman.Soltani@faa.gov.

(m) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Alert Service Bulletin 737-55A1100, dated January 26, 2016.

(ii) Reserved.

(3) For Boeing service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this 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/cfr/ibr-locations.html>.

Issued in Renton, Washington, on March 3, 2016.
Michael Kaszycki,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.