

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-0246; Directorate Identifier 2014-NM-187-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 737-300, -400, and -500 series airplanes. This proposed AD was prompted by reports of fatigue cracking found at the left-side and right-side upper frame, at a certain area. This proposed AD would require repetitive medium frequency eddy current (MFEC) inspections for cracking of the left-side and right-side upper frame, and repair (including open hole high frequency eddy current (HFEC) inspections for cracking of fastener holes) if necessary. This proposed AD also provides an optional preventative modification which would terminate the repetitive inspections at the modified location. We are proposing this AD to detect and correct fatigue cracking, which if not corrected, can grow in size and result in a severed frame, which could lead to rapid decompression and reduced structural integrity of the airplane.

DATES: We must receive comments on this proposed AD by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

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: 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 proposed 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>. You may view this referenced service information at the FAA, 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-2015-0246.

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-2015-0246; 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 proposed 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: Wayne Lockett, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6447; fax: 425-917-6590; email: wayne.lockett@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the **ADDRESSES** section. Include “Docket No. FAA-2015-0246; Directorate Identifier 2014-NM-187-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed 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 proposed AD.

Discussion

We received reports of fatigue cracking found at frame station 360 between stringer 13 and stringer 14. At the time of crack detection, the airplanes had accumulated between 37,826 to 42,986 total flight cycles. The reported cracks ranged from 0.35 inches to 1.5 inches in length. Cracking of the left-side or right-side upper frame at station 360 between stringer 13 and stringer 14, if not corrected, can grow in size and result in a severed frame, which could lead to rapid decompression and reduced structural integrity of the airplane.

Related Service Information under 1 CFR part 51

We reviewed Boeing Alert Service Bulletin 737-53A1339, dated August 12, 2014. This service information describes procedures for inspections for cracking of the left-side and right-side upper frame, at station 360 between stringer 13 and stringer 14; repair, and optional preventative modification. For information on the

procedures and compliance times, see this service information. This service information is reasonably available; see **ADDRESSES** for ways to access this service information.

FAA’s Determination

We are proposing 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.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously, except as discussed under “Differences Between this Proposed AD and the Service Information.”

Explanation of “RC” Steps in Service Information

The FAA worked in conjunction with industry, under the Airworthiness Directives Implementation Aviation Rulemaking Committee (ARC), to enhance the AD system. One enhancement was a new process for annotating which steps in the service information are required for compliance with an AD. Differentiating these steps from other tasks in the service information is expected to improve an owner’s/operator’s understanding of crucial AD requirements and help provide consistent judgment in AD compliance. The steps identified as RC (required for compliance) in any service information identified previously have a direct effect on detecting, preventing, resolving, or eliminating an identified unsafe condition.

Steps that are identified as RC in any service information must be done to comply with the proposed AD. However, steps that are not identified as RC are recommended. Those steps that are not identified as RC may be deviated from using accepted methods in accordance with the operator’s maintenance or inspection program without obtaining approval of an alternative method of compliance (AMOC), provided the steps identified

as RC can be done and the airplane can be put back in a serviceable condition. Any substitutions or changes to steps identified as RC will require approval of an AMOC.

Differences Between this Proposed AD and the Service Information

Boeing Alert Service Bulletin 737-53A1339, dated August 12, 2014, specifies to contact the manufacturer for instructions on how to repair certain conditions, but this proposed 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.

Costs of Compliance

We estimate that this proposed AD affects 109 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspections	14 work-hours X \$85 per hour = \$1,190 per inspection cycle	\$0	\$1,190 per inspection cycle	\$129,710 per inspection cycle
Preventative modification (optional)	15 work-hours X \$85 per hour = \$1,275 per inspection cycle	\$0	\$1,275 per inspection cycle	\$138,975 per inspection cycle

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

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Repair and open hole HFEC inspection	36 work-hours X \$85 per hour = \$3,060	\$0	\$3,060

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 proposed 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 determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the 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.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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):

The Boeing Company: Docket No. FAA-2015-0246; Directorate Identifier 2014-NM-187-AD.

(a) Comments Due Date

We must receive comments by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

(b) Affected ADs

None.

(c) Applicability

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 737-53A1339, dated August 12, 2014.

(d) Subject

Air Transport Association (ATA) of America Code 53: Fuselage.

(e) Unsafe Condition

This AD was prompted by reports of fatigue cracking found at the left-side and right-side upper frame, at station 360 between stringer 13 and stringer 14. We are issuing this AD to detect and correct fatigue cracking of the left-side and right-side upper frame at station 360 between stringer 13 and stringer 14, which if not corrected, can grow in size and result in a severed frame, which could lead to rapid decompression and reduced structural integrity of the airplane.

(f) Compliance

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

(g) Repetitive Inspections for Cracking

At the applicable times specified in table 1 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1339, dated August 12, 2014, except as required by paragraph (i)(2) of this AD: Do a medium frequency eddy current (MFEC) inspection for cracking on the left-side and right-side of the upper frame at Station 360 between stringer 13 and stringer 14, in accordance with Part 2 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1339, dated August 12, 2014. If no cracking is found, repeat the inspections at the applicable times specified in Table 1 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1339, dated August 12, 2014. Accomplishment of the actions specified in paragraph (j) of this AD terminates the repetitive inspections required by this paragraph at the modified area only.

(h) Repair

If any cracking is found during any inspection required by paragraph (g) of this AD: Before further flight, repair the cracking including doing an open hole high frequency eddy current (HFEC) inspection for cracking of the holes, in accordance with

Part 3 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1339, dated August 12, 2014, except as required by paragraph (i)(1) of this AD. Repair of any crack terminates the repetitive inspection requirements of paragraph (g) of this AD for the repaired area only. If any cracking is found during any inspection required by this paragraph, repair using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

(i) Exceptions to the Service Information

(1) Where Boeing Alert Service Bulletin 737-53A1339, dated August 12, 2014, specifies contacting Boeing for repair instructions: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

(2) Where Boeing Alert Service Bulletin 737-53A1339, dated August 12, 2014, specifies a compliance time “after the original issue date of this service bulletin,” this AD requires compliance within the specified time after the effective date of this AD.

(j) Optional Preventative Modification

Modification of an inspection area specified in paragraph (g) of this AD, including doing open hole and surface HFEC inspections for cracking of the area to be modified, in accordance with Part 4 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1339, dated August 12, 2014, except as required by paragraph (i)(1) of this AD, terminates the repetitive inspections required by paragraph (g) of this AD at the modified location only.

(k) Post-Repair and Post-Modification Inspections

The post-repair and post-modification inspections specified in Tables 4 and 5 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1339, dated August 12, 2014, are not required by this AD.

Note 1 to paragraph (k) of this AD: The post-repair and post-modification inspections specified in Tables 4 and 5 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1339, dated August 12, 2014, may be used in support of compliance with section 121.1109(c)(2) or 129.109(b)(2) of the Federal Aviation Regulations (14 CFR 121.1109(c)(2) or 14 CFR 129.109(b)(2)).

(l) Alternative Methods of Compliance (AMOCs)

(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 paragraph (m)(1) of this AD. Information may be emailed 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 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) Except as required by paragraph (i)(1) of this AD: If any service information contains steps that are identified as RC (Required for Compliance), those steps must be done to comply with this AD; any steps that are not identified as RC are recommended. Those steps that are not identified 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 steps identified as RC can be done and the airplane can be put back in a serviceable condition. Any substitutions or changes to steps identified as RC require approval of an AMOC.

(m) Related Information

(1) For more information about this AD, contact Wayne Lockett, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6447; fax: 425-917-6590; email: wayne.lockett@faa.gov.

(2) For 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>. 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.

Issued in Renton, Washington, on February 11, 2015.

Jeffrey E. Duven,
Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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