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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-3984; Directorate Identifier 2015-NM-033-AD; Amendment 39-18803; AD 2017-04-08]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2008-13-12 R1 for certain The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. AD 2008-13-12 R1 required various repetitive inspections for cracking of a certain splice of the fuselage, and other specified and corrective actions if necessary; and provided for an optional preventive modification, which terminated the repetitive inspections. This new AD adds an inspection to determine if the existing frame repair meets all specified requirements; a modification of a certain splice, which terminates the repetitive inspections; reduces certain inspection thresholds and repetitive intervals; and adds post-repair/post-modification inspections. This AD was prompted by reports of additional fatigue cracking of a certain splice of the fuselage and one report of a severed frame, due to susceptibility to widespread fatigue damage (WFD). We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective April 3, 2017.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of April 3, 2017.

ADDRESSES: For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740; telephone 562-797-1717; 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-2015-3984.

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-2015-3984; 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 address for the Docket Office (phone: 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Galib Abumeri, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5324; fax: 562-627-5210; email: galib.abumeri@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 to supersede AD 2008-13-12 R1, Amendment 39-15719 (73 FR 67383, November 14, 2008) (“AD 2008-13-12 R1”). AD 2008-13-12 R1 applied to certain The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. The SNPRM published in the Federal Register on November 14, 2016 (81 FR 79395). We preceded the SNPRM with a notice of proposed rulemaking (NPRM) that published in the Federal Register on October 9, 2015 (80 FR 61133). The NPRM proposed to continue to require the actions of AD 2008-13-12 R1. The NPRM also proposed to add, for certain airplanes, an inspection to determine if the existing frame repair meets all specified requirements, and for certain other airplanes, a new modification of the upper-frame-to-side-frame splice, which would terminate the repetitive inspections. The NPRM also proposed to reduce certain inspection thresholds and repetitive intervals. The NPRM was prompted by reports of additional fatigue cracking of the upper-frame-to-side-frame splice of the fuselage, and one report of a severed frame. The SNPRM proposed to add post-repair/post-modification inspections that were not included in the NPRM. We are issuing this AD to detect and correct fatigue cracking of the upper-frame-to-side-frame splice of the fuselage, which could result in reduced structural integrity of the frame and adjacent lap joint, causing increased loading in the fuselage skin, which will accelerate skin crack growth and could result in decompression of the airplane.

Comments

We gave the public the opportunity to participate in developing this AD. We have considered the comment received. The commenter, Stephanie Reid, agreed that the airplanes should be inspected.

Conclusion

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this AD as proposed, except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the SNPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the SNPRM.

Related Service Information Under 1 CFR Part 51

We reviewed Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015. The service information describes procedures for various repetitive inspections for cracking of the upper-frame-to-side-frame splice of the fuselage, a preventive modification to prevent WFD, an inspection to determine if the existing frame repair meets all specified requirements, and corrective actions. 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.

Costs of Compliance

We estimate that this AD affects 391 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
Retained inspections from AD 2008-13-12 R1	Between 18 and 38 work-hours × \$85 per hour, depending on airplane configuration = between \$1,530 and \$3,230 per inspection cycle	\$0	Between \$1,530 and \$3,230 per inspection cycle	Between \$598,230 and \$1,262,930, per inspection cycle.
New inspections	213 work-hours × \$85 per hour, \$18,105 per inspection cycle	\$0	\$18,105 per inspection cycle	Up to \$7,079,055, per inspection cycle.
New modification	256 work-hours × \$85 per hour = \$21,760	(¹)	\$21,760	Up to \$8,508,160.

¹ We currently have no specific cost estimates associated with the parts necessary for the modification.

We have received no definitive data that would enable us to provide a cost estimate for the on-condition 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

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),
- (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 removing Airworthiness Directive (AD) 2008-13-12 R1, Amendment 39-15719 (73 FR 67383, November 14, 2008), and adding the following new AD:



2017-04-08 The Boeing Company: Amendment 39-18803; Docket No. FAA-2015-3984; Directorate Identifier 2015-NM-033-AD.

(a) Effective Date

This AD is effective April 3, 2017.

(b) Affected ADs

This AD replaces AD 2008-13-12 R1, Amendment 39-15719 (73 FR 67383, November 14, 2008) (“AD 2008-13-12 R1”).

(c) Applicability

(1) This AD applies to The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015.

(2) Installation of Supplemental Type Certificate (STC) ST01219SE (http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/BE866B732F6CF31086257B9700692796?OpenDocument&Highlight=st01219se) does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST01219SE is installed, a “change in product” alternative method of compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by reports of additional fatigue cracking of the upper-frame-to-side-frame splice of the fuselage, and one report of a severed frame due to susceptibility to widespread fatigue damage (WFD). We are issuing this AD to detect and correct fatigue cracking of the upper-frame-to-side-frame splice of the fuselage, which could result in reduced structural integrity of the frame and adjacent lap joint, causing increased loading in the fuselage skin, which will accelerate skin crack growth and could result in decompression of the airplane.

(f) Compliance

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

(g) Repetitive Inspections and Corrective Actions for Certain Airplanes

(1) For Groups 1 through 3, Configurations 1, 3, 4, and 5 airplanes; Group 7, Configurations 1, 3, 4, and 5 airplanes; Groups 4 through 6, Configurations 1, 3, 4, and 6 airplanes; and Groups 8 through

11, Configurations 1, 3, 4, and 6 airplanes; as identified in Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015: Do the actions specified in paragraphs (g)(1)(i) and (g)(1)(ii) of this AD, and all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, except as required by paragraph (i)(3) of this AD. Do all applicable corrective actions before further flight.

(i) At the applicable time specified in Tables 1, 2, 3, 5, 6, and 8 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, except as required by paragraphs (i)(1) and (i)(2) of this AD: Do medium frequency eddy current inspections for cracking of the upper-frame-to-side-frame splice of the fuselage.

(ii) Repeat the inspections specified in paragraph (g)(1)(i) of this AD at the applicable time specified in Tables 1, 2, 3, 5, 6, and 8 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, until the preventive modification required by paragraph (k) of this AD, or a terminating action specified in paragraph (l) of this AD, has been accomplished. The inspections are terminated for the repaired or modified areas only.

(2) For Groups 4 through 6, Configurations 2 and 5 airplanes; and Groups 8 through 11, Configurations 2 and 5 airplanes; as identified in Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015: Do the actions specified in paragraphs (g)(2)(i) and (g)(2)(ii) of this AD, and all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, except as required by paragraph (i)(3) of this AD. Do all applicable corrective actions before further flight.

(i) At the applicable time specified in Tables 4 and 7 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, except as required by paragraphs (i)(1) and (i)(2) of this AD: Do a detailed inspection to determine if the existing frame repair meets all requirements specified in Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, and for any frame repair that does meet all requirements, do detailed and high frequency eddy current (HFEC) inspections for cracking of the existing frame repairs.

(ii) Repeat the inspections for cracking specified in paragraph (g)(2)(i) of this AD at the applicable time specified in Tables 4 and 7 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015.

(h) Post-Repair and Post-Modification Actions for Certain Airplanes

For Group 1, Configurations 2 and 6 airplanes; Group 2, Configurations 2 and 6 airplanes; Group 3, Configurations 2 and 6 airplanes; and Group 7, Configurations 2 and 6 airplanes; as identified in Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015: Within 120 days after the effective date of this AD, do post-repair and post-modification actions using a method approved in accordance with the procedures specified in paragraph (n) of this AD.

(i) Exceptions to Service Bulletin Specifications

(1) Where Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, specifies a compliance time “after the Revision 1 date of this service bulletin,” this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where the “Condition” column of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, specifies a condition based on whether an airplane has or has not been inspected, this AD bases the condition on whether an airplane has or has not been inspected as of the effective date of this AD.

(3) Where Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, specifies to contact Boeing for repair instructions: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (n) of this AD.

(j) Post-Repair and Post-Modification Inspections

For Groups 4 through 6, Configurations 1, 3, 4, 6, 7, 8, 9, and 10 airplanes; and Groups 8 through 11, Configurations 1, 3, 4, 6, 7, 8, 9, and 10 airplanes; as identified in Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015: Except as provided by paragraphs (i)(1) and (i)(2) of this AD, at the applicable time specified in Tables 12 through 17 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015; do the post-repair/post-modification inspections, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, except as required by paragraph (i)(3) of this AD. Do all applicable corrective actions before further flight.

(k) Preventive Modification for Certain Airplanes

For Groups 4 through 6, Configurations 1, 3, 4, and 6 airplanes; and Groups 8 through 11, Configurations 1, 3, 4, and 6 airplanes; as identified in Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015: Except as provided by paragraphs (i)(1) and (i)(2) of this AD, at the applicable time specified in Tables 3, 5, 6, and 8 in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, do the preventive modification, including HFEC inspections for cracking and applicable corrective actions, in accordance with Part 4 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, except as required by paragraph (i)(3) of this AD. Do all applicable corrective actions before further flight. Accomplishing the modification required by this paragraph terminates the inspections required by paragraph (g)(1) of this AD for the modified area only.

(l) Terminating Action

(1) For Groups 4 through 6, Configurations 1, 3, 4, and 6 airplanes; and Groups 8 through 11, Configurations 1, 3, 4, and 6 airplanes; as identified in Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015: Accomplishing the preventive modification, including HFEC inspections for cracking and applicable corrective actions, in accordance with Part 4 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, except as required by paragraph (i)(3) of this AD, terminates the inspections required by paragraph (g)(1) of this AD for the modified area only.

(2) For Groups 4 through 6, Configurations 3 and 6 airplanes; and Groups 8 through 11, Configurations 3 and 6 airplanes; as identified in Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015: Accomplishing the repair, including HFEC inspections for cracking and applicable corrective actions, in accordance with Part 3 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1261, Revision 1, dated January 30, 2015, except as required by paragraph (i)(3) of this AD, terminates the repetitive inspections required by paragraph (g)(1) of this AD, and the preventive modification required by paragraph (k) of this AD, for the repaired area only.

(3) Accomplishment of the repair or the preventive modification specified in Boeing Message M-7200-02-1294, dated August 20, 2002, before the effective date of this AD terminates the repetitive inspections required by paragraph (g)(1) of this AD and the preventive modification required by paragraph (k) of this AD for the repaired or modified area only.

(m) Credit for Previous Actions

(1) This paragraph provides credit for the inspections required by paragraph (g) of this AD, if those inspections were performed before the effective date of this AD using Boeing Alert Service

Bulletin 737-53A1261, dated January 19, 2006, which was incorporated by reference in AD 2008-13-12, Amendment 39-15575 (73 FR 38905, July 8, 2008) ("AD 2008-13-12").

(2) This paragraph provides credit for the modification specified in paragraphs (k) and (l)(1) of this AD, if the modification was performed before the effective date of this AD using Boeing Alert Service Bulletin 737-53A1261, dated January 19, 2006, which was incorporated by reference in AD 2008-13-12.

(3) This paragraph provides credit for repairs specified in paragraphs (l)(2) of this AD, if those repairs were performed before the effective date of this AD using Boeing Alert Service Bulletin 737-53A1261, dated January 19, 2006, which was incorporated by reference in AD 2008-13-12.

(n) 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 (o)(1) 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 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. 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) AMOCs approved for AD 2008-13-12 and AD 2008-13-12 R1 are approved as AMOCs for the corresponding provisions of paragraph (g) of this AD.

(o) Related Information

(1) For more information about this AD, contact Galib Abumeri, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5324; fax: 562-627-5210; email: galib.abumeri@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (p)(3) and (p)(4) of this AD.

(p) 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 737-53A1261, Revision 1, dated January 30, 2015.

(ii) Reserved.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740; telephone 562-797-1717; 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 February 1, 2017.
Michael Kaszycki,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.