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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0126; Directorate Identifier 2016-NM-211-AD; Amendment 39-18943; AD 2017-13-13]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. This AD was prompted by reports of frame web cracking at certain locations. This AD requires repetitive inspections in certain locations of the frame web, and corrective action if necessary. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective August 9, 2017.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of August 9, 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 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. 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. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0126.

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-2017-0126; 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 final rule, 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 notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. The NPRM published in the Federal Register on March 2, 2017 (82 FR 12303) ("the NPRM"). The NPRM was prompted by reports of frame web cracking at the station (STA) 344 system penetration holes between stringer S-22L and stringer S-24L. The NPRM proposed to require repetitive inspections in certain locations of the frame web, and corrective action if necessary. We are issuing this AD to detect and correct frame web cracking, which could grow in size until frames sever. Multiple adjacent severed frames, or a severed frame near cracks in the chem-milled fuselage skin, could result in uncontrolled decompression of the airplane.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request To Change Inspection and Corrective Actions for Group 1 Airplanes

Boeing requested that we change the language in paragraph (g) of the proposed AD to remove a reference to Parts 2 and 3 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016. Boeing noted that Group 1 airplanes are those that have exceeded their limit of validity, and that the inspections are not applicable to those airplanes. Boeing stated that it believes the intent of paragraph (g) of the proposed AD is for the operator to obtain maintenance actions in accordance with a method approved by the FAA. Boeing further pointed out that the language in paragraph (g) of the proposed AD allows operators to perform inspections in accordance with Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016, rather than in accordance with paragraph (j) of the proposed AD (obtaining an alternative method of compliance).

We agree with the commenter's request for the reasons provided. We have revised paragraph (g) of this AD to clarify the appropriate actions for Group 1 airplanes.

Request To Correct a Service Bulletin Number

Boeing requested that we change two sentences in paragraph (h) of the proposed AD that refer to "Boeing Alert Service Bulletin 757-53A1354." Boeing noted that the correct service bulletin number is "737-53A1354."

We agree with the commenter's request and have revised paragraph (h) of this AD accordingly.

Request To Revise the Proposed AD To Provide Credit for Removal of the 1-Inch Diameter Hole at STA 336 or STA 344

Boeing requested that we add a paragraph to the proposed AD to provide credit for previous actions to remove the 1-inch diameter hole at STA 336 or STA 344. Boeing noted that Boeing Alert

Service Bulletin 737-53A1354, dated December 2, 2016, provides an exception for the Part 2 high frequency eddy current (HFEC) inspections of repaired locations, provided the repair is the corrective action for the crack condition, is approved by the Boeing Organization Designation Authorization (ODA), and does not re-install any open hole. Boeing added that the proposed AD does not include such language.

We disagree with the request to revise this AD because it is not necessary. Paragraph (h) of this AD specifies to do the applicable inspections and related investigated and corrective actions in accordance with Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016. The service information already contains the criteria and language proposed by Boeing within the required for compliance (RC) steps in the Accomplishment Instructions of the service information. Therefore, this language does not need to be repeated in this AD. We have not changed this AD in this regard.

Request To Revise the Proposed AD To Provide Credit for Repairs of the Open Hole at STA 328

Boeing requested that we add a paragraph to the proposed AD to provide credit for previous actions to repair any cracks at STA 328. Boeing noted that Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016, states that Part 3 HFEC inspections are not required for the STA 328 frame if STA 328 was repaired in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1323. Boeing added that the proposed AD does not include such language.

We disagree with the request to revise this AD because it is not necessary. Paragraph (h) of this AD specifies to do the applicable inspections and related investigated and corrective actions in accordance with Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016. The service information already contains the criteria and language proposed by Boeing within the RC steps in the Accomplishment Instructions of the service information. Therefore, this language does not need to be repeated in this AD. We have not changed this AD in this regard.

Request To Revise the Proposed AD To Provide Credit for Repairs That Remove or Plug an Open Hole Between Stringers S-20R and S-22R in the STA 328 Frame Web

Boeing requested that we add a paragraph to the proposed AD to provide credit for previous actions to plug or remove any open hole between stringers S-20R and S-22R in the STA 328 frame web. Boeing noted that Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016, states that Part 3 HFEC inspections are not required at an open hole in the STA 328 frame web if there is an installed repair that plugs or removes the open hole between stringers S-20R and S-22R, and the repair was approved by the Boeing ODA. Boeing added that the proposed AD does not include such language.

We disagree with the request to revise this AD because it is not necessary. Paragraph (h) of the proposed AD specifies to do the applicable inspections and related investigated and corrective actions in accordance with Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016. The service information already contains the criteria and language proposed by Boeing within the RC steps in the Accomplishment Instructions of the service information. Therefore, this language does not need to be repeated in this AD. We have not changed this AD in this regard.

Request To Change Compliance Times

The European Aviation Safety Agency (EASA) requested that we change the compliance times for the initial HFEC inspections required by paragraph (h) of the proposed AD (i.e., before 35,000 total flight cycles or within 4,500 flight cycles) to match the compliance times specified in Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, (i.e., for Group 2-5 airplanes with less than 28,300 total flight cycles, before the accumulation of 20,000 total flight cycles or within 2,200

flight cycles). EASA claimed that it would be desirable to match the compliance times, as they are both addressing the same root problem in the same area, using the same inspection type. EASA noted that Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, is referenced in an FAA NPRM, Docket No. FAA-2014-0346 (we note that the final rule has been published: AD 2015-23-08, Amendment 39-18324 (80 FR 73949, November 27, 2015)).

We disagree with the commenter's request. The HFEC inspections for the right side frames included in Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016, were added based on analysis, not reported cracking. Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016 covers specific areas not included in Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013. Since there have been no reports of cracking in the applicable inspection areas on the right side of the airplane, there is no technical justification to lower the initial inspection times in this AD. We have not changed this AD in this regard.

Effects of Winglets on Accomplishment of the Proposed Actions

Aviation Partners Boeing stated that accomplishing the supplemental type certificate (STC) ST01219SE does not affect the actions specified in the NPRM.

We concur with the commenter. We have redesignated paragraph (c) of the proposed AD as paragraph (c)(1) of this AD and added paragraph (c)(2) to this AD to state that installation of STC 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.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule with the changes described previously and minor editorial changes. We have determined that these minor changes:

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

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

Related Service Information Under 1 CFR Part 51

We reviewed Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016. The service information describes procedures for repetitive HFEC, detailed, and general visual inspections in certain locations of the frame web. 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 82 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 |
|--|---|------------|------------------------------|---------------------------------|
| HFEC, detailed, and general visual inspections | 114 work-hours × \$85 per hour = \$9,690 per inspection cycle | \$0 | \$9,690 per inspection cycle | \$794,580 per inspection cycle. |

We have received no definitive data that would enable us to provide cost estimates 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

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):



2017-13-13 The Boeing Company: Amendment 39-18943; Docket No. FAA-2017-0126; Directorate Identifier 2016-NM-211-AD.

(a) Effective Date

This AD is effective August 9, 2017.

(b) Affected ADs

None.

(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 737-53A1354, dated December 2, 2016.

(2) Installation of Supplemental Type Certificate (STC) ST01219SE ([http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/ebd1cec7b301293e86257cb30045557a/\\$FILE/ST01219SE.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/ebd1cec7b301293e86257cb30045557a/$FILE/ST01219SE.pdf)) 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 frame web cracking at station (STA) 344 system penetration holes between stringer S-22L and stringer S-24L. We are issuing this AD to detect and correct such cracking, which could grow in size until frames sever. Multiple adjacent severed frames, or a severed frame near cracks in the chem-milled fuselage skin, could result in uncontrolled decompression of the airplane.

(f) Compliance

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

(g) Group 1 Airplanes: Inspections and Corrective Actions

For airplanes identified as Group 1 in Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016: Within 120 days after the effective date of this AD, accomplish actions to correct the unsafe condition (e.g. inspections, repairs, and corrective actions), using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

(h) Group 2 Airplanes: Repetitive Inspections and Corrective Actions

For airplanes identified as Group 2 in Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016: At the applicable times specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016, except as required by paragraph (i)(1) of this AD: Do the inspections specified in paragraphs (h)(1), (h)(2), and (h)(3) of this AD, and do all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016, except as required by paragraph (i)(2) of this AD. Repeat the inspections thereafter at the applicable times specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016. Do all applicable corrective actions before further flight.

(1) Do high frequency eddy current (HFEC), detailed, and general visual inspections for cracking of the left side section 41 lower lobe frames, between STA 268.25 and STA 360.

(2) Do detailed and general visual inspections for cracking of the right side section 41 lower lobe frames, between STA 268.25 and STA 360.

(3) Do an HFEC inspection for cracking of the right side STA 312, STA 328, and STA 344, section 41 lower lobe frames.

(i) Service Information Exceptions

(1) Where paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016, specifies a compliance time "after the original date of this service bulletin," this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where Boeing Alert Service Bulletin 737-53A1354, dated December 2, 2016, specifies to contact Boeing for repair instructions, and specifies that action as Required for Compliance (RC), this AD requires repair before further flight using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

(j) 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 (k) 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 (i)(2) of this AD: For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (j)(4)(i) and (j)(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. If a step or substep is labeled "RC Exempt," then the RC requirement is removed from that step or substep. 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.

(k) Related Information

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.

(l) 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 737-53A1354, dated December 2, 2016.

(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 90740-5600; 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 June 21, 2017.

John P. Piccola, Jr.,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.