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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0670; Product Identifier 2019-NM-104-AD; Amendment 39-19830; AD 2020-02-16]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain The Boeing Company Model 737-200, -200C, -300, -400, and -500 series airplanes. This AD was prompted by an evaluation by the design approval holder (DAH) indicating that the lower skin of the fuselage skin lap splices along the lower fastener row of a certain stringer lap splice on certain body station skin panels may be subject to widespread fatigue damage (WFD). This AD requires inspections of the lower skin of the fuselage skin lap splices along the lower fastener row of a certain stringer lap splice on certain body station skin panels and applicable on-condition actions. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective March 18, 2020.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of March 18, 2020.

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; phone: 562-797-1717; internet: <https://www.myboeingfleet.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0670.

Examining the AD Docket

You may examine the AD docket on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0670; or in person at Docket Operations 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 Docket Operations is 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: James Guo, Aerospace Engineer, Airframe Section, FAA, Los Angeles ACO Branch, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5357; fax: 562-627-5210; email: james.guo@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA 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 737-200, -200C, -300, -400, and -500 series airplanes. The NPRM published in the Federal Register on September 4, 2019 (84 FR 46496). The NPRM was prompted by a report that an operator of a Model 737-300 airplane discovered a crack in the skin at a chem-milled step at body station (STA) 727B+10, just above stringer (S)-14R. The airplane had accumulated 88,805 flight hours and 65,804 flight cycles at the time the crack was found. Upon further inspection in the local area using high frequency eddy current (HFEC) hole probe inspection, multiple fastener hole cracks were found in the S-14 lap splice lower row in the lower skin between STA 727A and STA 727E. The lower skin at S-14 is structure that may be susceptible to WFD and may also have scratches that can propagate into cracks. The scratch cracks may interact with fatigue cracking. The NPRM proposed to require inspections of the lower skin of the fuselage skin lap splices along the lower fastener row of a certain stringer lap splice on certain body station skin panels and applicable on-condition actions.

The FAA is issuing this AD to address scratch cracks and fatigue cracking, which may interact and could result in rapid decompression and loss of structural integrity of the airplane.

Comments

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

Support for the NPRM

Priscilla Suarez expressed support for the NPRM, as well as support for additional safety inspections, and stricter regulations that increase safety.

Effect of Winglets on Accomplishment of the Proposed Actions

Aviation Partners Boeing stated that accomplishing Supplemental Type Certificate (STC) ST01219SE does not affect the actions specified in the proposed AD.

The FAA concurs with the commenter. The FAA has 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.

Request To Specify That the Airplane May Be Subject to the Unsafe Condition

Boeing requested that the FAA revise the SUMMARY, Discussion section, and paragraph (e) in the regulatory text of the NPRM to specify that the lap splice on certain body station skin panels may be subject to widespread fatigue damage WFD. Boeing pointed out that the change would maintain consistency with the wording used in the service information. Boeing also mentioned that WFD has not been specifically demonstrated in the subject areas.

The FAA agrees for the reasons provided and has revised this AD accordingly.

Request To Revise the Unsafe Condition

Boeing requested that the FAA revise the unsafe condition statement throughout the NPRM to specify only that it could result in rapid decompression, and remove “. . . or loss of structural integrity of the airplane,” as an additional consequent result. Boeing pointed out that the change would maintain consistency with the wording in the service information.

The FAA partially agrees. The FAA agrees that the wording of the unsafe condition could be confusing and that clarification is necessary. Therefore, the FAA has changed the unsafe condition statement to specify that this AD addresses “. . . scratch cracks and fatigue cracking, which may interact and could result in rapid decompression and loss of structural integrity of the airplane.”

Request To Remove Language Regarding Fatigue Damage

Boeing requested that the FAA remove language regarding fatigue damage and multiple-site damage (MSD) from the Discussion section of the NPRM. Boeing stated that the information is confusing, provides no additional understanding of the issues, and that other AD's related to lap splice scratch cracking and MSD do not include the same information. Boeing argued that the remaining portions of the discussion are sufficient with the intent of the NPRM.

The FAA does not agree, because the language identified by Boeing is not carried forward into the final rule. The FAA acknowledges that the language regarding fatigue damage and MSD is not present in all ADs related to lap splice cracking; however, this specific language is present in other ADs that are related to MSD. This wording helps define the terms, provides general explanation of the issue, and has not been demonstrated as confusing. The FAA has not changed this AD in this regard.

Request for Clarification of the Terminating Action

Boeing requested that the FAA revise paragraph (i) of the proposed AD to clarify if the proposed terminating action is applicable to “the corresponding locations” or “the inspections” in the corresponding locations. Boeing pointed out that rearranging the statement would make it grammatically clear whether actions or locations are being terminated. Otherwise, Boeing pointed out that the statement could be misread to interpret it to mean terminating the locations required by the NPRM.

The FAA agrees for the reasons provided and has revised paragraph (i) of this AD accordingly.

Conclusion

The FAA 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. The FAA has determined that these minor changes:

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

The FAA 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

The FAA has reviewed Boeing Alert Requirements Bulletin 737-53A1382 RB, dated May 6, 2019. This service information describes procedures for detailed inspections for previous repairs, and repetitive dual frequency eddy current (DFEC) inspections for cracks of the lower skin of the fuselage skin lap splices along the lower fastener row of the S-14 lap splice at specified locations on the STA 727 to STA 908 skin panel in areas not inspected as specified in other service bulletins, and applicable on-condition actions. On-condition actions include open hole HFEC inspections for cracks, and repair. 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

The FAA estimates that this AD affects 158 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated Costs for Required Actions

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
DFEC Inspections of S-14 Lap Splices	18 work-hours × \$85 per hour = \$1,530 per inspection cycle	\$0	\$1,530 per inspection cycle	\$241,740 per inspection cycle.

The FAA estimates the following costs to do any necessary on-condition inspections that would be required. The FAA has no way of determining the number of aircraft that might need these on-condition actions:

Estimated Costs of On-Condition Actions

Labor cost	Parts cost	Cost per product
97 work-hours × \$85 per hour = \$8,245	\$0	\$8,245

The FAA has received no definitive data that would enable us to provide cost estimates for the on-condition repairs 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.

The FAA is 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) Will not affect intrastate aviation in Alaska, 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.

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):



2020-02-16 The Boeing Company: Amendment 39-19830; Docket No. FAA-2019-0670; Product Identifier 2019-NM-104-AD.

(a) Effective Date

This AD is effective March 18, 2020.

(b) Affected ADs

None.

(c) Applicability

(1) This AD applies to The Boeing Company Model 737-200, -200C, -300, -400, and -500 series airplanes, certificated in any category, as identified in Boeing Alert Requirements Bulletin 737-53A1382 RB, dated May 6, 2019.

(2) Installation of Supplemental Type Certificate (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.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by an evaluation by the design approval holder (DAH) indicating that the lower skin of the fuselage skin lap splices along the lower fastener row of the stringer (S)-14 lap splice on certain body station skin panels may be subject to widespread fatigue damage (WFD). The FAA is issuing this AD to address scratch cracks and fatigue cracking, which may interact and could result in rapid decompression and loss of structural integrity of the airplane.

(f) Compliance

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

(g) Required Actions

Except as specified by paragraph (h) of this AD: At the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 737-53A1382 RB, dated May 6, 2019, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 737-53A1382 RB, dated May 6, 2019.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 737-53A1382, dated May 6, 2019, which is referred to in Boeing Alert Requirements Bulletin 737-53A1382 RB, dated May 6, 2019.

(h) Exceptions to Service Information Specifications

(1) Where Boeing Alert Requirements Bulletin 737-53A1382 RB, dated May 6, 2019, uses the phrase “the original issue date of Requirements Bulletin 737-53A1382 RB,” this AD requires using “the effective date of this AD.”

(2) Where Boeing Alert Requirements Bulletin 737-53A1382 RB, dated May 6, 2019, specifies contacting Boeing for repair instructions or for alternative inspections: This AD requires doing the repair, or doing the alternative inspections and applicable on-condition actions using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

(i) Terminating Action for the Required Inspections

Accomplishment of certain skin panel replacements identified as terminating action in Boeing Alert Requirements Bulletin 737-53A1382 RB, dated May 6, 2019, terminates the inspections required by this AD, in the corresponding locations.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles ACO Branch, 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 certification office, send it to the attention of the person identified in paragraph (k)(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, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Los Angeles ACO Branch, FAA, 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.

(k) Related Information

(1) For more information about this AD, contact James Guo, Aerospace Engineer, Airframe Section, FAA, Los Angeles ACO Branch, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5357; fax: 562-627-5210; email: james.guo@faa.gov.

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

(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 Requirements Bulletin 737-53A1382 RB, dated May 6, 2019.

(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; phone: 562-797-1717; internet: <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(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, email fedreg.legal@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on January 27, 2020.

Gaetano A. Sciortino,
Deputy Director for Strategic Initiatives, Compliance & Airworthiness Division,
Aircraft Certification Service.