



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-8848; Directorate Identifier 2016-NM-054-AD; Amendment 39-18895; AD 2017-10-21]

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 737-300, -400, and -500 series airplanes. This AD was prompted by an evaluation by the design approval holder (DAH) indicating that the fuselage skin is subject to widespread fatigue damage (WFD). This AD requires modification of the lap joint and repetitive inspections for cracking of the skin at critical fastener rows. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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 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-2016-8848.

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-2016-8848; 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: Jennifer Tsakoumakis, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5264; fax: 562-627-5210; email: jennifer.tsakoumakis@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 737-300, -400, and -500 series airplanes. The NPRM published in the Federal Register on August 30, 2016 (81 FR 59541) (“the NPRM”). The NPRM was prompted by an evaluation by the DAH indicating that the fuselage skin is subject to WFD. The NPRM proposed to require modification of the lap joint, including related investigative actions and corrective actions if necessary. The NPRM also proposed to require repetitive post-modification inspections for cracking of the skin at critical fastener rows, and corrective actions if necessary. We

are issuing this AD to detect and correct cracks at the lap joint skin that could link up and result in rapid decompression and loss of structural integrity 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 Remove Certain References in Terminating Action

Boeing requested that we remove certain references to AD 2015-16-08, Amendment 39-18233 (80 FR 51450, August 25, 2015) ("AD 2015-16-08"). Boeing pointed out that paragraphs (i), (j), and (k) of AD 2015-16-08 refer to a location (S-4R, Station (STA) 908-STA 1016) that is outside of the area affected by the modification specified in paragraph (g) of the proposed AD (S-4L and S-4R, STA 360-STA 908).

We agree with the commenter. Specifically, paragraphs (g) and (h) of AD 2015-16-08 apply to the modification area specified in this AD, but paragraphs (i), (j), and (k) of AD 2015-16-08 do not. Therefore, we have revised paragraph (k) of this AD to remove reference to paragraphs (i), (j), and (k) of AD 2015-16-08.

Effect 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 AD 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 AD.

Related Service Information under 1 CFR part 51

We reviewed Boeing Alert Service Bulletin 737-53A1343, dated March 25, 2016. The service information describes procedures for modification of the lap joint, including related investigative actions and corrective actions if necessary. The service information also describes procedures for post-modification inspections for cracking of the skin at critical fastener rows, 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.

Costs of Compliance

We estimate that this AD affects 115 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
Lap joint skin modification	2,142 work-hours X \$85 per hour = \$182,070 per modification	\$12,500	\$194,570	\$22,375,550
Post-Modification inspection	102 work-hours X \$85 per hour = \$8,670 per inspection cycle	\$0	\$8,670 per inspection cycle	\$997,050 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):

2017-10-21 The Boeing Company: Amendment 39-18895; Docket No. FAA-2016-8848; Directorate Identifier 2016-NM-054-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD affects AD 2015-16-08, Amendment 39-18233 (80 FR 51450, August 25, 2015) (“AD 2015-16-08”).

(c) Applicability

(1) 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 737-53A1343, dated March 25, 2016; except for Group 5 airplanes identified in Boeing Alert Service Bulletin 737-53A1343, dated March 25, 2016.

(2) Installation of Supplemental Type Certificate (STC) ST01219SE (http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/EBD1CEC7B301293E86257CB30045557A?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 an evaluation by the design approval holder (DAH) indicating that the fuselage skin is subject to widespread fatigue damage (WFD). We are issuing this AD to detect and correct cracks at the lap joint skin that could link up and 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) Lap Joint Skin Modification

Before the accumulation of 50,000 total flight cycles, or within 3,000 flight cycles after the effective date of this AD, whichever occurs later: Modify the lap joint skin, including doing all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1343, dated March 25, 2016, except as required by paragraph (i) of this AD. Do all applicable related investigative and corrective actions before further flight.

(h) Inspection of the Critical Fastener Rows

Within 38,000 flight cycles after modifying the lap joint skin as required by paragraph (g) of this AD: Inspect the skin at critical fastener rows by doing the actions specified in paragraph (h)(1) or (h)(2) of this AD, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1343, dated March 25, 2016. If any crack is found during any inspection, repair before further flight using a method approved in accordance with the procedures specified in paragraph (l) of this AD. Repeat the inspection thereafter at intervals not to exceed 2,000 flight cycles in unrepaired areas.

(1) From the inside of the airplane: Do a low frequency eddy current (LFEC) inspection for any crack in the skin at the critical fastener row, and a medium frequency eddy current (MFEC) inspection for any crack in the skin at the critical fastener row.

(2) From the outside of the airplane: Do a LFEC inspection for any crack in the fuselage skin.

(i) Exception to Service Information Specifications

Although Boeing Alert Service Bulletin 737-53A1343, dated March 25, 2016, specifies to contact Boeing for repair instructions, and specifies that action as “RC” (Required for Compliance), this AD requires repair before further flight using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

(j) AD Provisions for Part 26 Supplemental Inspections

Table 5 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1343, dated March 25, 2016, specifies post-modification airworthiness limitation inspections in compliance with 14 CFR 25.571(a)(3) at the modified locations, which support compliance with 14 CFR 121.1109(c)(2) or 129.109(b)(2). As airworthiness limitations, these inspections are required by maintenance and operational rules. It is therefore unnecessary to mandate them in this AD. Deviations from these inspections require FAA approval, but do not require an alternative method of compliance.

(k) Terminating Action for Certain Requirements of AD 2015-16-08

Accomplishing the modification required by paragraph (g) of this AD terminates the inspections required by paragraphs (g) and (h) of AD 2015-16-08 for the modified area only.

(l) 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 (m) 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) of this AD: For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (1)(4)(i) and (1)(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.

(m) Related Information

For more information about this AD, contact Jennifer Tsakoumakis, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles ACO, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5264; fax: 562-627-5210; email: jennifer.tsakoumakis@faa.gov.

(n) 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 737-53A1343, dated March 25, 2016.

(ii) Reserved.

(3) For Boeing 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 May 10, 2017.

Michael Kaszycki,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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