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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-5042; Directorate Identifier 2015-NM-140-AD; Amendment 39-18680; AD 2016-20-14]

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 all The Boeing Company Model 737-600, -700, -700C, -800, -900 and -900ER series airplanes. This AD was prompted by an evaluation by the design approval holder (DAH) indicating that certain fastener locations in the window corner surround structure are subject to widespread fatigue damage (WFD). This AD requires repetitive high frequency eddy current (HFEC) inspections for cracking in certain fastener locations in the window corner surround structure, and repair if necessary. We are issuing this AD to detect and correct fatigue cracking around certain fastener locations that could cause multiple window corner skin cracks, which could result in rapid decompression and consequent loss of structural integrity of the airplane.

DATES: This AD is effective November 15, 2016.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of November 15, 2016.

ADDRESSES: For service information identified in this final rule, 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. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5042.

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-2016-5042; 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: Gaetano Settineri, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6577; fax: 425-917-6590; email: gaetano.settineri@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 all The Boeing Company Model 737-600, -700, -700C, -800, -900 and -900ER series airplanes. The NPRM published in the Federal Register on April 5, 2016 (81 FR 19512) ("the NPRM"). The NPRM was prompted by an evaluation by the DAH indicating that certain fastener locations in the window corner surround structure are subject to WFD. The NPRM proposed to require repetitive HFEC inspections for cracking in certain fastener locations in the window corner surround structure, and repair if necessary. We are issuing this AD to detect and correct fatigue cracking around certain fastener locations that could cause multiple window corner skin cracks, which could result in rapid decompression and consequent 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.

Support for the NPRM

Boeing and the Airline Pilots Association, International supported the content of the NPRM.

Effect of Winglets on Accomplishment of the Proposed Actions

Aviation Partners Boeing stated that accomplishing the supplemental type certificate (STC) ST00830SE does not affect compliance with the actions specified in the NPRM.

We agree with the commenter. We have redesignated paragraph (c) as (c)(1) and added a new paragraph (c)(2) to this AD to state that installation of STC ST00830SE does not affect the ability to accomplish the actions required by this final rule. Therefore, for airplanes on which STC ST00830SE 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 for Clarification of Extent of Boeing Organization Designation Authority (ODA)

Southwest Airlines (SWA) asked for clarification that the Boeing ODA identified in paragraph (i)(3) of the proposed AD can provide an AMOC for any "repair, modification, or alteration" that

includes the authority to approve existing repairs in the inspection area that inhibit accomplishment of the AD requirements as terminating action to paragraph (g) of the proposed AD. SWA also asked if the ODA has the authority to provide alternative inspection procedures for repaired areas where the inspection in paragraph (g) of the proposed AD cannot be accomplished. Additionally, SWA asked that we clarify that the Boeing ODA identified in paragraph (i)(3) of the proposed AD is able to issue an AMOC to the proposed AD for an existing repair at the S-14 lap joint (where the location of the repair inhibits accomplishing the initial inspection), provided the repair was approved by any FAA designation authority, and there is a minimum of three fastener rows above and below the lap joint. SWA stated that neither Boeing Alert Service Bulletin 737-53A1351, dated July 8, 2015, nor the NPRM clearly state how to address existing repairs that prevent accomplishment of the inspections specified in paragraph (g) of the proposed AD.

We agree with the commenter that clarification of the extent of the authority of the Boeing ODA is necessary. The Boeing ODA has the authority to evaluate existing repairs and provide alternative inspection programs in the repaired area, including authority to approve alternative inspections as AMOCs if needed.

We infer that SWA is also asking if the Boeing ODA can issue a global AMOC for the referenced repair at the S-14 lap joint. The Boeing ODA does not have the authority to approve global AMOCs. In addition, we have not received any information from Boeing that defines such a repair that would be considered for a global AMOC. If Boeing provides supporting data, we will evaluate the data to determine if that repair and any associated inspections provide an acceptable level of safety for such an AMOC. We have not changed this AD in this regard.

Change to This AD

We have determined that the end level effect of the unsafe condition in the NPRM should be changed to more closely match the service information. Therefore, we have changed ". . . reduced structural integrity" to ". . . loss of structural integrity" in the SUMMARY and SUPPLEMENTARY INFORMATION sections and in paragraph (e) of this AD accordingly.

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 737-53A1351, dated July 8, 2015. The service information describes procedures for HFEC inspections and repair for cracking in certain fastener locations in the window corner surround structure. 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 1,528 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
Inspection	38 work-hours × \$85 per hour = \$3,230 per inspection cycle	\$0	\$3,230 per inspection cycle	\$4,935,440 per inspection cycle

We have received no definitive data that will 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):



2016-20-14 The Boeing Company: Amendment 39-18680; FAA-2016-5042; Directorate Identifier 2015-NM-140-AD.

(a) Effective Date

This AD is effective November 15, 2016.

(b) Affected ADs

None.

(c) Applicability

(1) This AD applies to all The Boeing Company Model 737-600, -700, -700C, -800, -900 and -900ER series airplanes, certificated in any category.

(2) Installation of Supplemental Type Certificate (STC) ST00830SE (http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgSTC.nsf/0/38B606833BBD98B386257FAA00602538?OpenDocument&Highlight=st00830se) does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST00830SE 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 indicating that certain fastener locations in the window corner surround structure are subject to widespread fatigue damage. We are issuing this AD to detect and correct fatigue cracking around certain fastener locations that could cause multiple window corner skin cracks, which could result in rapid decompression and consequent loss of structural integrity of the airplane.

(f) Compliance

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

(g) Repetitive Inspections and Repair

At the applicable time specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1351, dated July 8, 2015: Do an external high frequency eddy current (HFEC) inspection for cracking of the skin around the fastener locations at the upper forward and lower aft corners of each window between station (STA) 360 and STA 540, as applicable, and at the lower forward and upper aft corners of each window between STA 727 and STA 887, in accordance with

the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1351, dated July 8, 2015. Repeat the inspection thereafter at the applicable times specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1351, dated July 8, 2015. If any crack is found during any inspection, repair before further flight using a method approved in accordance with the procedures specified in paragraph (i) of this AD.

(h) Exception to the Service Bulletin Specifications

Although Boeing Alert Service Bulletin 737-53A1351, dated July 8, 2015, 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 (i) of this AD.

(i) 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 (j) 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, 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, Seattle 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 (h) of this AD: For service information that contains steps that are labeled as RC, the provisions of paragraphs (i)(4)(i) and (i)(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.

(j) Related Information

For more information about this AD, contact Gaetano Settineri, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle ACO, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6577; fax: 425-917-6590; email: gaetano.settineri@faa.gov.

(k) 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 737-53A1351, dated July 8, 2015.

(ii) Reserved.

(3) 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>.

(4) You may view this service information at 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 September 28, 2016.

Dionne Palermo,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.