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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0408; Product Identifier 2017-NM-146-AD; Amendment 39-19495; AD 2018-23-09]

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) 2016-13-16, which applied to all The Boeing Company Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes. AD 2016-13-16 required an inspection or records check to determine if affected horizontal stabilizers are installed, related investigative actions, and, for affected horizontal stabilizers, repetitive inspections for any crack of the horizontal stabilizer rear spar upper chord, and corrective action if necessary. This AD requires retaining the requirements of AD 2016-13-16, with revised service information that clarifies the inspection areas and serial number information of the horizontal stabilizer. This AD was prompted by reports of a manufacturing oversight, in which a supplier omitted the required protective finish on certain bushings installed in the rear spar upper chord on horizontal stabilizers, which could lead to galvanic corrosion and consequent cracking of the rear spar upper chord. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective December 19, 2018.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of December 19, 2018.

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 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 <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0408.

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-2018-0408; 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 (phone: 800-647-5527) 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: Lu Lu, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3525; email: lu.lu@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2016-13-16, Amendment 39-18581 (81 FR 44503, July 8, 2016) (“AD 2016-13-16”). AD 2016-13-16 applied to all The Boeing Company Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes. The NPRM published in the Federal Register on May 15, 2018 (83 FR 22417). The NPRM was prompted by a determination that clarification of inspection areas and serial number information of the horizontal stabilizer is necessary and reports of a manufacturing oversight, in which a supplier omitted the required protective finish on certain bushings installed in the rear spar upper chord on horizontal stabilizers, which could lead to galvanic corrosion and consequent cracking of the rear spar upper chord. The NPRM proposed to continue to require an inspection or records check to determine if affected horizontal stabilizers are installed, related investigative actions, and, for affected horizontal stabilizers, repetitive inspections for any crack of the horizontal stabilizer rear spar upper chord, and corrective action if necessary. The NPRM also proposed to clarify the inspection areas and serial number information of the horizontal stabilizer. We are issuing this AD to address cracking of the rear spar upper chord, which could result in the failure of the upper chord, consequent departure of the horizontal stabilizer from the airplane, and loss of control 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. Air Line Pilots Association, International (ALPA), Boeing, and United Airlines stated that they supported 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 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 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.

Request To Review Parts Installation Limitations Paragraph

Southwest Airlines (SWA) requested that we review the “Parts Installation Limitation” paragraph in the proposed AD. SWA stated that Boeing Alert Service Bulletin 737-55A1097, Revision 1, dated September 20, 2017, specifies that an operator can either do a check of delivery and maintenance records to find the serial number of the horizontal stabilizer installed on the airplane during production and to determine if the horizontal stabilizer has been exchanged, or an operator can gain access to the horizontal stabilizer identification plate and do an inspection of the identification plate to find the serial numbers of the horizontal stabilizers.

SWA stated that it does not agree with the use of maintenance records to validate serial numbers based on the potential error of not recording the full serial number (manufacturer code and serial number) from the identification plate within the maintenance record documentation. SWA commented that it has determined that the delivery record and physical verification are correct methods in confirming that the serial numbers are installed.

We partially agree with the commenter's request. We have reviewed the effectiveness of performing a records check. We disagree with the commenter that a records check is not a valid method and note that it is acceptable for complying with certain actions required by paragraph (g) of this AD. As specified in Note 17 of paragraph 3.A., “General Information” of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-55A1097, Revision 1, dated September 20, 2017, “A check of the airplane maintenance and delivery records is an acceptable method to determine if the left and right horizontal stabilizers are affected provided the installed components can be conclusively determined from that check.” We agree that if an operator is not confident that it cannot positively identify the affected stabilizers by using maintenance records, then this method should not be used. In addition, Boeing Alert Service Bulletin 737-55A1097, Revision 1, dated September 20, 2017, specifies a check of delivery and maintenance records with a table for the affected manufacturer code and serial number combination to ensure all the affected parts are captured.

In regards to the “Parts Installation Limitation” paragraph in this AD, there is no option to do a check of the airplane maintenance and delivery records. As specified in paragraph (i)(1) of this AD, a horizontal stabilizer may be installed if the part is inspected in accordance with “Part 2: Horizontal Stabilizer Identification Plate Inspection” of the Accomplishments Instructions of Boeing Alert Service Bulletin 737-55A1097, Revision 1, dated September 20, 2017, and no affected serial number is found. As specified in paragraph (i)(2) of this AD, a horizontal stabilizer may be installed if the part is inspected in accordance with “Part 2: Horizontal Stabilizer Identification Plate Inspection” of the Accomplishments Instructions of Boeing Alert Service Bulletin 737-55A1097, Revision 1, dated September 20, 2017, and an affected serial number is found, provided the actions specified in paragraphs (i)(2)(i) and (i)(2)(ii) of this AD are done, as applicable. We have not changed this AD in this regard.

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 change 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 addressing 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 737-55A1097, Revision 1, dated September 20, 2017. This service information describes procedures for an identification plate inspection or records check to determine whether affected horizontal stabilizers are installed, related investigative actions, and for affected horizontal stabilizers, repetitive high frequency eddy current (HFEC) inspections for any crack of the horizontal stabilizer rear spar upper chord, and corrective action. 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 1,748 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 or records check to determine the serial number of the horizontal stabilizer | 1 work-hour × \$85 per hour = \$85 | \$0 | \$85 | \$148,580. |
| HFEC inspection (horizontal stabilizer with affected serial number) | 6 work-hour × \$85 per hour = 510 | 0 | 510 | Up to \$891,480. |

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this AD.

According to the manufacturer, all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all available costs in our cost estimate.

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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

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) 2016-13-16, Amendment 39-18581 (81 FR 44503, July 8, 2016), and adding the following new AD:



FAA
Aviation Safety

AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/
www.gpoaccess.gov/fr/advanced.html

2018-23-09 The Boeing Company: Amendment 39-19495; Docket No. FAA-2018-0408; Product Identifier 2017-NM-146-AD.

(a) Effective Date

This AD is effective December 19, 2018.

(b) Affected ADs

This AD replaces AD 2016-13-16, Amendment 39-18581 (81 FR 44503, July 8, 2016) (“AD 2016-13-16”).

(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 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 55, Stabilizers.

(e) Unsafe Condition

This AD was prompted by reports of a manufacturing oversight, in which a supplier omitted the required protective finish on certain bushings installed in the rear spar upper chord on horizontal stabilizers, which could lead to galvanic corrosion and consequent cracking of the rear spar upper chord. We are issuing this AD to address cracking of the rear spar upper chord, which could result in the failure of the upper chord, consequent departure of the horizontal stabilizer from the airplane, and loss of control of the airplane.

(f) Compliance

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

(g) Required Actions

Except as required by paragraph (h) of this AD: At the applicable times specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-55A1097, Revision 1, dated September 20, 2017, do all applicable actions identified as “RC” (required for compliance) in, and in accordance

with, the Accomplishment Instructions of Boeing Alert Service Bulletin 737-55A1097, Revision 1, dated September 20, 2017.

(h) Exceptions to Service Information

(1) For purposes of determining compliance with the requirements of this AD: Where Boeing Alert Service Bulletin 737-55A1097, Revision 1, dated September 20, 2017, uses the phrase “the Revision 1 date of this service bulletin,” this AD requires using “the effective date of this AD.”

(2) Where Boeing Alert Service Bulletin 737-55A1097, Revision 1, dated September 20, 2017, specifies contacting Boeing, and specifies that action as RC: This AD requires repair using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

(i) Parts Installation Limitations

As of the effective date of this AD, no person may install a horizontal stabilizer on any airplane, except as specified in paragraphs (i)(1) or (i)(2) of this AD.

(1) A horizontal stabilizer may be installed if the part is inspected in accordance with “Part 2: Horizontal Stabilizer Identification Plate Inspection” of the Accomplishments Instructions of Boeing Alert Service Bulletin 737-55A1097, Revision 1, dated September 20, 2017, and no affected serial number is found.

(2) A horizontal stabilizer may be installed if the part is inspected in accordance with “Part 2: Horizontal Stabilizer Identification Plate Inspection” of the Accomplishments Instructions of Boeing Alert Service Bulletin 737-55A1097, Revision 1, dated September 20, 2017, and an affected serial number is found, provided that the actions specified in paragraphs (i)(2)(i) and (i)(2)(ii) of this AD are done, as applicable.

(i) Initial and repetitive high frequency eddy current (HFEC) inspections, which are part of the required actions specified in paragraph (g) of this AD, are completed within the compliance times specified in paragraph (g) of this AD.

(ii) All applicable corrective actions, which are part of the required actions specified in paragraph (g) of this AD, are done within the compliance times specified in paragraph (g) of this AD.

(j) Credit for Previous Actions

For Groups 1 and 2, Configuration 1 airplanes, as identified in Boeing Alert Service Bulletin 737-55A1097, Revision 1, dated September 20, 2017: This paragraph provides credit for the actions specified in paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Boeing Alert Service Bulletin 737-55A1097, dated July 1, 2015.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle 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 (l)(1) 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 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.

(4) AMOCs approved previously for AD 2016-13-16 are approved as AMOCs for the corresponding provisions of Boeing Alert Service Bulletin 737-55A1097, Revision 1, dated September 20, 2017, that are required by paragraph (g) of this AD.

(5) Except as required by paragraph (h)(2) of this AD: For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (k)(5)(i) and (k)(5)(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.

(l) Related Information

(1) For more information about this AD, contact Lu Lu, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3525; email: lu.lu@faa.gov.

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

(m) 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 737-55A1097, Revision 1, dated September 20, 2017.

(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 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, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on November 2, 2018.

Jeffrey E. Duven,
Director, System Oversight Division,
Aircraft Certification Service.