



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2020-0459; Product Identifier 2020-NM-049-AD; Amendment 39-21380; AD 2021-01-04]

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 all The Boeing Company Model 737 series airplanes, excluding Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. This AD was prompted by reports of cracked or completely severed lugs in the upper aft corner stop fitting assembly of the forward entry door. This AD requires an inspection, a measurement, or a records check of that assembly to determine the part number, and replacement if a certain part is found. The FAA is 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 service

information at the FAA, Airworthiness Products Section, Operational Safety 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-2020-0459.

### **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-2020-0459; 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, 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:** Michael Bumbaugh, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3522; email: [michael.bumbaugh@faa.gov](mailto:michael.bumbaugh@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 all The Boeing Company Model 737 series airplanes, excluding Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. The NPRM published in the *Federal Register* on June 3, 2020 (85 FR 34136). The NPRM was prompted by reports of cracked or completely severed lugs in the upper aft corner stop fitting assembly of the forward entry door. Analysis of the design of the stop fitting assembly revealed that undersized wall thickness of the lug made it susceptible to fatigue cracking, which may result in the forward entry door being unable to sustain limit load. In the NPRM, the FAA proposed to require an inspection, a measurement, or a

records check of that assembly to determine the part number, and replacement if a certain part-numbered assembly is installed.

The FAA is issuing this AD to address cracked or completely severed lugs, which could result in reduced structural integrity of the forward entry door and consequent rapid decompression of the airplane.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received comments from four commenters. The following presents the comments received on the NPRM and the FAA's response to each comment.

### **Effect of Winglets on Accomplishment of the Proposed Actions**

Aviation Partners Boeing stated that the installation of winglets per Supplemental Type Certificate (STC) ST00830SE does not affect compliance with the proposed actions.

The FAA agrees that the installation of winglets per STC ST00830SE would not affect the ability to replace the affected stop fitting assembly with a newly designed stop fitting assembly as required by this AD. Operators of airplanes with these winglets do not need to request a "change in product" alternative method of compliance (AMOC) approval as specified in 14 CFR 39.17. The FAA has redesignated paragraph (c) of the proposed AD as paragraph (c)(1) of this AD, and added paragraph (c)(2) accordingly.

### **Request for Compliance Actions at the Component Level**

Southwest Airlines (SWA) asked that the compliance actions be reported at the component level due to the interchangeability of the forward entry doors between the Model 737 NG and 737 MAX fleets.

The FAA infers that the commenter is requesting that the AD's applicability point towards the component parts, rather than the airplane. The FAA acknowledges that the component most likely to be rotated is the forward entry door because doors are likely

removed with the stop fittings intact. However, the FAA disagrees with changing the applicability of this AD because the unsafe condition is related to the stop fitting assembly and an affected stop fitting assembly may be installed on a forward entry door of any airplane identified in paragraph (c) of this AD. In addition, paragraph (i) of this AD, “Parts Installation Prohibition,” states that no person may install a forward entry door that has a stop fitting assembly with part number (P/N) 141A6104-3 on any airplane. The FAA used this language because doors are often rotated among aircraft with the stop fitting assembly already installed. The FAA has therefore determined that an airplane-level applicability is appropriate and has not changed this AD in this regard.

### **Request for Clarification of Compliance Time**

SWA asked for clarification of the reference in paragraph (g) of the proposed AD to the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 737-52A1180 RB, dated January 24, 2020. SWA asked if once it is determined that a P/N 141A6104-3 fitting is installed on a door through records or survey, the fitting must be replaced before further flight or whether it can be replaced at a later date as long as the door is still within its required compliance time per the referenced service information.

“Table 1: Forward Entry Door Number 7 Stop Fitting Assembly Inspection” of Paragraph 3., “Compliance” of Boeing Service Bulletin 737-52A1180, dated January 24, 2020, gives the compliance time for replacing the P/N 141A6104-3 fitting if found. The compliance time is before 10,000 total flight cycles on the forward entry door, or within 5,000 forward entry door flight cycles after the original issue date of Boeing Alert Requirements Bulletin 737-52A1180 RB, dated January 24, 2020, whichever occurs later. However, under paragraph (h) of this AD, the date for determining compliance time is the effective date of this AD, and not the issue date of the bulletin. Therefore, the FAA clarifies that if the compliance time has not yet been reached, then the fitting does not

need to be replaced before further flight. The FAA has not changed this AD in this regard.

### **Request to Change Parts Installation Prohibition Paragraph**

SWA asked that the FAA reword paragraph (i) of the proposed AD to require compliance with the service information before installation of the fitting instead of prohibiting installation of the fitting.

The intent of paragraph (i) of this AD is to prohibit installation of an affected part on an airplane with a compliance time for this prohibition related to the airplane configuration and whether the actions specified in Boeing Alert Requirements Bulletin 737-52A1180 RB, dated January 24, 2020, must be accomplished on that airplane. The FAA has not made the changes requested by the commenter. However, the FAA has revised paragraph (i) of this AD to clarify that, for any airplane required to accomplish the actions required by paragraph (g) of this AD, the parts installation prohibition does not take effect until the applicable actions required by paragraph (g) of this AD have been accomplished on that airplane. For airplanes having an original airworthiness certificate or original export certificate of airworthiness dated after the effective date of this AD, the parts installation prohibition continues to be applicable as of the effective date of this AD.

### **Request for Correction of Error in Service Information**

AIRDO requested the FAA correct an error in the service information incorporated by reference in paragraph (g) of the proposed AD. AIRDO noted that page 13 of Boeing Alert Requirements Bulletin 737-52A1180 RB, dated January 24, 2020, refers to the procedures in “SB 747-52A1180” when the correct reference is “SB 737-52A1180.”

The FAA agrees with the commenter’s request. The FAA has added paragraph (h)(3) of this AD to clarify the correct service information reference.

## **Request to Limit the Applicability**

American Airlines (AA) and AIRDO requested the FAA limit the applicability of the proposed AD to the line numbers (L/Ns) identified in the effectivity of Boeing Alert Service Bulletin 737-52A1180, dated January 24, 2020. AA stated that because the aircraft illustrated parts catalog (IPC) does not allow for the unsafe part to be installed on aircraft beyond L/N 1075, or on the door assemblies allowed to be installed on aircraft beyond L/N 1075, including all Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes in the applicability of the proposed AD is unnecessarily redundant. AIRDO stated Boeing has not allowed operators to install P/Ns 141A6104-3, 141A6150-1, 141A6150-2, and 141A6100-678 on airplanes other than those with L/N 1-1075 per the IPC and related drawings. AIRDO also stated that if the fitting or the door assembly must be replaced, operators will check the IPC and drawing to confirm if the affected part number can be used on the specific airplane. AIRDO stated that based on this general protocol, even though the fitting and door assembly are physically interchangeable, a suspected fitting and door assembly cannot be installed on airplanes having L/N 1076 and subsequent.

The FAA does not agree with the requests to limit the applicability. Both the stop fitting assemblies and the doors they are installed on are physically interchangeable among the airplane models listed in the applicability of this AD. The FAA has determined it is necessary to ensure these rotatable parts will not be introduced on other airplanes by including these airplanes in the applicability of this AD. Therefore, the FAA has not changed this AD in this regard.

## **Conclusion**

The FAA reviewed the relevant data, considered the comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition in these products. Except for the

changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

### **Related Service Information under 1 CFR Part 51**

The FAA reviewed Boeing Alert Requirements Bulletin 737-52A1180 RB, dated January 24, 2020. The service information specifies procedures for an inspection, a measurement, or a records check of the upper aft corner stop fitting assembly to determine the part number, and applicable on-condition actions. The on-condition action is to replace the affected stop fitting assembly with a newly designed stop fitting assembly that has improved wall thickness and strength. 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 1,075 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

#### **Estimated costs for required actions**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Inspection and part replacement	Up to 4 work-hours X \$85 per hour = Up to \$340	\$4,640	Up to \$4,980	Up to \$5,353,500

The FAA has included all known costs in the cost estimate. According to the manufacturer, however, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

### **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.

### **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:

**2021-01-04 The Boeing Company:** Amendment 39-21380; Docket No. FAA-2020-0459; Product Identifier 2020-NM-049-AD.

**(a) Effective Date**

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

**(b) Affected ADs**

None.

**(c) Applicability**

(1) This AD applies to all The Boeing Company Model 737 series airplanes, excluding Model 737-100, -200, -200C, -300, -400, and -500 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 52, Doors.

**(e) Unsafe Condition**

This AD was prompted by reports of cracked or completely severed lugs in the stop fitting assembly of the forward entry door. The FAA is issuing this AD to address such cracking or severing, which could result in reduced structural integrity of the forward entry door and consequent rapid decompression of the airplane.

**(f) Compliance**

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

**(g) Required Actions**

For airplanes having a date of issuance of the original airworthiness certificate or date of issuance of the original export certificate of airworthiness on or before the effective date of this AD: Except as specified by paragraph (h) of this AD, at the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 737-52A1180 RB, dated January 24, 2020, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 737-52A1180 RB, dated January 24, 2020.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 737-52A1180, dated January 24, 2020, which is referred to in Boeing Alert Requirements Bulletin 737-52A1180 RB, dated January 24, 2020.

**(h) Exceptions to Service Information Specifications**

(1) Where Boeing Alert Requirements Bulletin 737-52A1180 RB, dated January 24, 2020, uses the phrase “the original issue date of Requirements Bulletin 737-52A1180 RB,” this AD requires using “the effective date of this AD.”

(2) Where Boeing Alert Requirements Bulletin 737-52A1180 RB, dated January 24, 2020, specifies contacting Boeing for repair instructions: This AD requires doing the repair before further flight using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

(3) Where the heading in Table 1 of the Accomplishment Instructions in Boeing Alert Requirements Bulletin 737-52A1180 RB, dated January 24, 2020, identifies “SB 747-52A1180,” the correct reference for this AD is “SB 737-52A1180.”

**(i) Parts Installation Prohibition**

No person may install a stop fitting assembly with part number 141A6104-3 or a forward entry door that has a stop fitting assembly with part number 141A6104-3, on any airplane, as of the applicable time specified in paragraph (i)(1), (2), or (3) of this AD.

(1) For airplanes having an original airworthiness certificate or original export certificate of airworthiness dated after the effective date of this AD: As of the effective date of this AD.

(2) For airplanes on which it is determined a stop fitting assembly with part number 141A6104-3 is not installed, as required by paragraph (g) of this AD: After accomplishing the inspection, records check, or measurement required by paragraph (g) of this AD.

(3) For airplanes on which it is determined a stop fitting assembly with part number 141A6104-3 is installed, as required by paragraph (g) of this AD: After accomplishing the replacement required by paragraph (g) of this AD.

**(j) 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 (k)(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 Company 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.

**(k) Related Information**

(1) For more information about this AD, contact Michael Bumbaugh, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3522; email: michael.bumbaugh@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 737-52A1180 RB, dated January 24, 2020.

(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, Airworthiness Products Section, Operational Safety 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](mailto:fedreg.legal@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on December 28, 2020.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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