

[Federal Register Volume 79, Number 150 (Tuesday, August 5, 2014)]  
[Rules and Regulations]  
[Pages 45340-45344]  
From the Federal Register Online via the Government Printing Office [www.gpo.gov]  
[FR Doc No: 2014-17548]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2012-0268; Directorate Identifier 2011-NM-129-AD; Amendment 39-17914; AD 2014-15-12]**

**RIN 2120-AA64**

#### **Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**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 reports of incorrectly installed bolts common to the rear spar termination fitting on the horizontal stabilizer. This AD requires inspecting for a serial number that starts with the letters "SAIC" on the left- and right-side horizontal stabilizer identification plate; inspecting for correct bolt protrusion and chamfer of the bolts of the rear spar termination fitting of the horizontal stabilizer, if necessary; inspecting to determine if certain bolts are installed, if necessary; and doing related investigative and corrective actions if necessary. We are issuing this AD to prevent loss of structural integrity of the horizontal stabilizer attachment and loss of control of the airplane.

**DATES:** This AD is effective September 9, 2014.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of September 9, 2014.

**ADDRESSES:** 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>. 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.

#### **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-2012-0268; 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:** Nancy Marsh, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6440; fax: 425-917-6590; email: nancy.marsh@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a second supplemental notice of proposed rulemaking (SNPRM) 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 second SNPRM published in the Federal Register on December 9, 2013 (78 FR 73744). We preceded the second SNPRM with a first SNPRM that published in the Federal Register on March 7, 2013 (78 FR 14734). We preceded the first SNPRM with a notice of proposed rulemaking (NPRM) that published in the Federal Register on March 20, 2012 (77 FR 16188).

The NPRM proposed to require inspecting for a serial number that starts with the letters "SAIC" on the left- and right-side horizontal stabilizer identification plate; a detailed inspection for correct bolt protrusion and chamfer of the termination fitting bolts of the horizontal stabilizer rear spar, if necessary; inspecting to determine if certain bolts are installed, if necessary, and related investigative and corrective actions if necessary. The NPRM also proposed to require repetitive inspections for cracking of the termination fitting at certain bolt locations, and repair if necessary. The NPRM was prompted by reports of incorrectly installed bolts common to the rear spar termination fitting on the horizontal stabilizer. The first SNPRM revised the NPRM by adding airplanes to the applicability. The second SNPRM proposed to revise the applicable thresholds from flight cycles on the airplane to flight cycles accumulated on the affected horizontal stabilizer.

We are issuing this AD to prevent loss of structural integrity of the horizontal stabilizer attachment and loss of control of the airplane.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We have considered the comments received on the second SNPRM (78 FR 73744, December 9, 2013).

### **Request To Provide Instructions To Correct Errors in Service Information**

Europe Airpost requested that a note be included in the second SNPRM (78 FR 73744, December 9, 2013) to clarify the instructions for the re-installation of gap covers of the horizontal stabilizer and for the re-installation of the lower inboard trailing edge panels and the lower aft in-spar access doors if removed to perform actions. Europe Airpost stated that two of the four gap covers removed in Part 1, Steps f.(1) and f.(2), of Boeing Service Bulletin 737-55-1090, dated March 30, 2011, have different part numbers than the part numbers listed in the re-installation instructions in Part 9, "Close Access," of Boeing Service Bulletin 737-55-1090, dated March 30, 2011. Europe Airpost also stated that Boeing Service Bulletin 737-55-1090, dated March 30, 2011, does not include instructions for the re-installation of trailing edge panels and access doors near the horizontal stabilizer.

We agree with the request for the reason provided. Boeing Service Bulletin 737-55-1090, dated March 30, 2011, does not specify the correct gap cover numbers for the re-installation of the gap covers and does not specify adequate procedures for re-installation of the access doors and trailing edge panels. We have determined that operators may use their own maintenance procedures to accomplish the re-installation of the gap covers, access doors, and trailing edge panels. Therefore, we have added new paragraph (j)(6) to this final rule regarding the re-installation of gap covers, access doors, and trailing edge panels. Paragraph (j)(6) of this final rule indicates that any instructions specified in Boeing Service Bulletin 737-55-1090, dated March 30, 2011, regarding the removal and re-installation of gap covers, trailing edge panels, and access doors are not required by this AD.

### **Request To Identify Horizontal Stabilizers Using Serial Numbers**

Boeing requested that the second SNPRM (78 FR 73744, December 9, 2013) be revised to allow identification of discrepant horizontal stabilizers using a list of SAIC serial numbers that Boeing stated it would provide. Boeing stated that using a list of specific serial numbers of suspect horizontal stabilizers would provide relief to operators from having to inspect stabilizers on airplanes prior to line number (L/N) 1556.

We do not agree with the request because, although a list of SAIC serial numbers identifying the suspect horizontal stabilizers may relieve operators from inspecting all airplanes prior to L/N 1556 to locate discrepant parts, no such list has been provided to the FAA. Boeing may submit this information to the FAA for approval as an alternative method of compliance (AMOC) using the procedures defined in paragraph (l) of this final rule. We have not changed this final rule in this regard.

### **Request To Revise Certain Terminology**

Boeing and Southwest Airlines (Southwest) requested that the use of the word "install" in paragraph (k), "Parts Installation Prohibition," of the second SNPRM (78 FR 73744, December 9, 2013) be clarified by noting that the word "install" means replace in this context. Southwest stated that use of the word "install" in paragraph (k) effectively reduces the compliance time to perform the inspections in paragraphs (g) and (h) of the second SNPRM, if the horizontal stabilizer is removed for any reason. Without added clarification, this could be interpreted to mean that any time a stabilizer is removed from an airplane for reasons not associated with this AD, and then re-installed on the same airplane, the inspections specified by paragraph (k) of the second SNPRM must immediately be accomplished.

We agree to provide clarification. The intent of the "Parts Replacement Limitation" specified in paragraph (k) of this final rule is that operators replace parts with good parts rather than bad parts. Although the word "install" is generally considered to be broader than the word "replace," for purposes of this AD, it should be interpreted as meaning "replace" while remaining within the spirit and intent of the AD. Therefore, simply reinstalling the same part during maintenance activities is acceptable for compliance with paragraph (k) of this final rule for that reinstallation.

### **Request To Clarify Applicability**

Southwest and All Nippon Airways (ANA) requested that paragraphs (g) and (h) of the second SNPRM (78 FR 73744, December 9, 2013) be clarified to specify which airplanes are subject to the proposed requirements. Southwest and ANA requested that paragraph (g)(2) of the second SNPRM be re-worded to state that any horizontal stabilizer that can be shown to have been delivered on an airplane having a line number after L/N 1556, through use of delivery documentation, should not require inspection, regardless of where that stabilizer is currently installed. Southwest stated that if it can verify that the horizontal stabilizer was originally delivered on an airplane having a line number after L/N 1556, then that stabilizer should not require any inspections in accordance with paragraph

(g) of the second SNPRM. ANA stated that, on L/N 1556 and subsequent airplanes delivered with a correct horizontal stabilizer, no inspection is necessary provided the horizontal stabilizer is not rotated among the fleet. ANA requested that the inspections in paragraphs (g) and (h) of the second SNPRM be limited to airplanes delivered prior to the effective date of this AD.

We agree that the inspection requirements specified by paragraphs (g) and (h) in this final rule should be limited to airplanes delivered prior to the effective date of this AD provided the horizontal stabilizer has not been rotated among the fleet. We revised the exceptions provided by paragraphs (j)(4) and (j)(5) of this final rule to limit the applicability of those paragraphs by replacing the phrase "airplanes, regardless of line number" with the phrase "airplanes, with original airworthiness certificate or original export certificate of airworthiness dated before the effective date of this AD."

We have changed this final rule by adding paragraph (g)(3), which states:

If a serial number starting with the letters "SAIC" is found on a horizontal stabilizer identification plate on any airplane, and the serial number of the horizontal stabilizer is the same as stated in the delivery documentation of an airplane having a line number after L/N 1556, no further action is required by paragraph (g) of this AD for that horizontal stabilizer only.

We did not include L/N 1556, as requested by ANA, because L/N 1556 might be affected by the identified unsafe condition and therefore, must be inspected. We have redesignated paragraph (g)(3) of the second SNPRM as paragraph (g)(4) of this final rule.

### **Request To Include Inspection of Additional Part Numbered Bolt**

Southwest and Delta Airlines requested that paragraphs (g)(3) and (j)(3) of the second SNPRM (78 FR 73744, December 9, 2013) include inspection of bolts having part number (P/N) BACB30XL so additional inspections and AMOCs will not be required if these alternative production bolts are found installed on an airplane. Delta stated that the AD needs to address the P/N BACB30XL bolts or wait until the service information is revised.

We do not agree with the request because Boeing Service Bulletin 737-55-1090, dated March 30, 2011, provides specific inspection criteria and measurements that are applicable only to bolts having P/N BACB30US. These criteria cannot be directly applied to bolts having P/N BACB30XL. The manufacturer plans to revise the service information to include bolts having P/N BACB30XL. However, to delay this final rule would be inappropriate because we have determined an unsafe condition exists and Boeing Service Bulletin 737-55-1090, dated March 30, 2011, addresses the unsafe condition for bolts having P/N BACB30US. When the revised service information is available, we will review the service information and may approve the revised instructions as an AMOC to this final rule. We have not changed this final rule 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 changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the second SNPRM (78 FR 73744, December 9, 2013) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the second SNPRM (78 FR 73744, December 9, 2013).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

## Costs of Compliance

We estimate that this AD affects 1,147 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	1 work-hour × \$85 per hour = \$85 per inspection cycle	\$0	\$85	\$97,495
Replacement of bolts	17 work-hours × \$85 per hour = \$1,445	1,530	2,975	3,412,325

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

According to the manufacturer, some 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 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.

## 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):



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**2014-15-12 The Boeing Company:** Amendment 39-17914; Docket No. FAA-2012-0268; Directorate Identifier 2011-NM-129-AD.

**(a) Effective Date**

This AD is effective September 9, 2014.

**(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/0/408E012E008616A7862578880060456C?OpenDocument&Highlight=st00830se](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/408E012E008616A7862578880060456C?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 55, Stabilizers.

**(e) Unsafe Condition**

This AD was prompted by reports of incorrectly installed bolts common to the rear spar termination fitting on the horizontal stabilizer. We are issuing this AD to prevent loss of structural integrity of the horizontal stabilizer attachment and loss of control of the airplane.

**(f) Compliance**

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

**(g) Inspecting the Horizontal Stabilizer and Corrective Actions**

For Group 1 and Group 2 airplanes identified in Boeing Service Bulletin 737-55-1090, dated March 30, 2011, except as provided by paragraphs (j)(4) and (j)(5) of this AD: Except as provided by paragraphs (i) and (j) of this AD, at the applicable times specified in paragraph 1.E., "Compliance," of Boeing Service Bulletin 737-55-1090, dated March 30, 2011, do an inspection for a serial number that starts with the letters "SAIC" on the identification plates of the left- and right-side horizontal stabilizers, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 737-55-1090, dated March 30, 2011. A review of manufacturer delivery and operator maintenance records is

acceptable to make the determination specified in this paragraph if the serial number can be conclusively identified from that review.

(1) If no "SAIC" serial number is found, no further action is required by paragraph (g) of this AD.

(2) If a serial number starting with the letters "SAIC" is found on a horizontal stabilizer identification plate on an airplane after line number (L/N) 1556, and the serial number of the horizontal stabilizer is the same as stated in the delivery documentation of the airplane, no further action is required by paragraph (g) of this AD for that horizontal stabilizer only.

(3) If a serial number starting with the letters "SAIC" is found on a horizontal stabilizer identification plate on any airplane, and the serial number of the horizontal stabilizer is the same as stated in the delivery documentation of an airplane having a line number after L/N 1556, no further action is required by paragraph (g) of this AD for that horizontal stabilizer only.

(4) If a serial number starting with the letters "SAIC" is found on a horizontal stabilizer identification plate, except as specified in paragraphs (g)(2) and (g)(3) of this AD: Except as provided by paragraphs (i) and (j) of this AD, at the applicable times specified in paragraph 1.E., "Compliance," of Boeing Service Bulletin 737-55-1090, dated March 30, 2011, do a detailed inspection for correct bolt protrusion and correct chamfer of the termination fitting bolts of the horizontal stabilizer rear spar, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 737-55-1090, dated March 30, 2011. Concurrently with the detailed inspection, inspect to determine if any bolt other than part number (P/N) BACB30US14K() or BACB30US16K(), as applicable, is installed. Before further flight, do all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 737-55-1090, dated March 30, 2011.

#### **(h) High Frequency Eddy Current (HFEC) and Ultrasonic Inspections of Termination Fitting and Repair**

For airplanes identified in paragraph (g)(4) of this AD at any location where a new bolt having a P/N BACB30US14K() is installed as corrective action for damage found during any inspection required by paragraph (g) of this AD: Except as provided by paragraphs (i) and (j) of this AD, at the times specified in paragraph 1.E., "Compliance," of Boeing Service Bulletin 737-55-1090, dated March 30, 2011, do HFEC and ultrasonic inspections for cracking of the forward and aft sides of the termination fitting, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 737-55-1090, dated March 30, 2011. If any crack is found in any termination fitting: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (l) of this AD. Repeat the HFEC and ultrasonic inspections thereafter at intervals not to exceed 3,500 flight cycles on the horizontal stabilizer.

#### **(i) Clarification of Compliance Time**

Where the compliance times stated in Boeing Service Bulletin 737-55-1090, dated March 30, 2011, are "total flight cycles," the compliance time in this AD is total flight cycles accumulated on the horizontal stabilizer since new.

#### **(j) Exceptions to Service Information Specifications**

(1) Where Boeing Service Bulletin 737-55-1090, dated March 30, 2011, specifies a compliance time "after the original issue date on the service bulletin," this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where Figure 1 of Boeing Service Bulletin 737-55-1090, dated March 30, 2011, points to the location of a part number rather than the serial number, this AD requires an inspection for an identification plate with a serial number that starts with the letters "SAIC."

(3) If, during any inspection required by paragraphs (g) and (h) of this AD, any bolt other than P/N BACB30US14K() or BACB30US16K(), as applicable, is found: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

(4) Where Boeing Service Bulletin 737-55-1090, dated March 30, 2011, identifies Group 1 airplanes as 737-600, -700, -800, and -900 airplanes having line numbers 379 through 1556 inclusive, this AD specifies Group 1 airplanes as 737-600, -700, -800, -900, and -900ER airplanes "with original airworthiness certificate or original export certificate of airworthiness dated before the effective date of this AD."

(5) Where Boeing Service Bulletin 737-55-1090, dated March 30, 2011, identifies Group 2 airplanes as 737-700C airplanes having line number 496 through 1548 inclusive, this AD specifies Group 2 airplanes as 737-700C airplanes "with original airworthiness certificate or original export certificate of airworthiness dated before the effective date of this AD."

(6) Any instructions specified in Boeing Service Bulletin 737-55-1090, dated March 30, 2011, regarding the removal and re-installation of gap covers, trailing edge panels, and access doors are not required by this AD.

### **(k) Parts Replacement Limitation**

As of the effective date of this AD, no person may install a horizontal stabilizer on any airplane included in the applicability of this AD, unless the horizontal stabilizer has been inspected and any applicable corrective actions have been done in accordance with paragraphs (g) and (h) of this AD.

### **(l) 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 (m) 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 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. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

### **(m) Related Information**

For more information about this AD, contact Nancy Marsh, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6440; fax: 425-917-6590; email: nancy.marsh@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 Service Bulletin 737-55-1090, dated March 30, 2011.

(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 July 17, 2014.

John P. Piccola,  
Acting Manager, Manager, Transport Airplane Directorate,  
Aircraft Certification Service.