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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2019-0114; Product Identifier 2018-NM-146-AD; Amendment 39-19680; AD 2019-14-02]**

**RIN 2120-AA64**

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

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

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all The Boeing Company Model 737 series airplanes. This AD was prompted by a report that structural fatigue cracks can develop in certain aluminum pressure module check valves prior to the design limit. This AD requires an inspection to determine the part numbers of the four hydraulic systems A and B pressure module check valves and applicable on-condition actions. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective August 27, 2019.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 27, 2019.

**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; phone: 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-2019-0114.

#### **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-2019-0114 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 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:** Douglas Tsuji, Senior Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3548; email: douglas.tsuji@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. The NPRM published in the Federal Register on March 1, 2019 (84 FR 6981). The NPRM was prompted by a report that structural fatigue cracks can develop in certain aluminum pressure module check valves prior to the design limit. The NPRM proposed to require an inspection to determine the part numbers of the four hydraulic systems A and B pressure module check valves and applicable on-condition actions.

The FAA is issuing this AD to address structural fatigue cracks in certain aluminum pressure module check valves, which could cause separation of the check valve head from the check valve body when hydraulic pressure is applied, resulting in injuries to maintenance personnel.

### **Comments**

The FAA gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA's response to each comment.

### **Support for the NPRM**

Two commenters supported the NPRM. United Airlines (UAL) agreed with the need for the NPRM. A private citizen also expressed support for the NPRM, but added that cost should not be an issue in relation to airplane safety, the cost of the proposed rule is especially low, and that the FAA has an ethical duty to protect the public by adopting the proposed rule.

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

Aviation Partners Boeing stated that the installation of winglets per Supplemental Type Certificate (STC) ST00830SE or STC ST01219SE does not affect the accomplishment of the manufacturer's service instructions.

The FAA agrees with the commenter that STC ST00830SE and STC ST01219SE do not affect the accomplishment of the manufacturer's service instructions. Therefore, the installation of STC ST00830SE or STC ST01219SE does not affect the ability to accomplish the actions required by this AD. The FAA has not changed this AD in this regard.

### **Request To Change Applicability of the NPRM**

UAL requested that the FAA change the proposed applicability from including all The Boeing Company Model 737-8 and 737-9 airplanes, to use the effectivity specified in Boeing Special Attention Requirements Bulletin 737-29-1126 RB, dated October 2, 2018, which specifies The Boeing Company Model 737-8 and 737-9 airplanes, line numbers 5602 through 7050. UAL mentioned that Boeing Special Attention Service Bulletin 737-29-1126, dated October 2, 2018, states that "Airplanes after line number 7050 cannot use Parker check valves as an optional part," and that this statement is counter to the applicability stated in the NPRM. UAL stated the understanding of

this statement to be that The Boeing Company Model 737-8 and 737-9 airplanes, line number 7051 and later were delivered without part number (P/N) H61C0552M1; that the illustrated parts catalog (IPC) does not authorize installation of that part after delivery; and that omission from the IPC should ensure unapproved parts are not installed on The Boeing Company Model 737-8 and 737-9 airplanes, line number 7051 and later; therefore providing an acceptable level of safety.

The FAA disagrees with the request to change the applicability of this AD. The FAA does not control or approve the Boeing IPC, and P/N H61C0552M1 is considered a rotatable part. Therefore, the FAA has determined that these parts could later be installed on airplanes that were initially delivered with acceptable parts, making those airplanes subject to the unsafe condition. 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 and the public interest require adopting this final rule as proposed, except for minor editorial changes. The FAA has 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.

**Related Service Information Under 1 CFR Part 51**

The FAA reviewed the following service information.

Boeing Special Attention Requirements Bulletin 737-29-1123 RB, dated October 2, 2018.

Boeing Special Attention Requirements Bulletin 737-29-1126 RB, dated October 2, 2018.

Boeing Special Attention Requirements Bulletin 737-29-1127 RB, dated October 8, 2018.

The service information describes procedures for an inspection to determine the part numbers of the four hydraulic systems A and B pressure module check valves and applicable on-condition actions. On-condition actions include replacement of Parker pressure module check valves, P/N H61C0552M1, with Crissair pressure module check valves, P/N 1C4196. These documents are distinct since they apply to different airplane models.

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 1,747 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

**Estimated Costs for Required Actions**

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection for Parker pressure module check valves, P/N H61C0552M1	1 work-hour × \$85 per hour = \$85	\$0	\$85	\$148,495

The FAA estimates the following costs to do any necessary on-condition actions (per check valve replacement) that would be required. The FAA has no way of determining the number of aircraft that might need these on-condition actions:

### Estimated Costs of On-Condition Actions

Labor cost	Parts cost	Cost per product
2 work-hours × \$85 per hour = \$170	\$6,652	\$6,822

#### 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.

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

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.

#### 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):



**2019-14-02 The Boeing Company:** Amendment 39-19680; Docket No. FAA-2019-0114; Product Identifier 2018-NM-146-AD.

**(a) Effective Date**

This AD is effective August 27, 2019.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all The Boeing Company Model 737 series airplanes, certificated in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 29, Hydraulic power.

**(e) Unsafe Condition**

This AD was prompted by a report indicating that structural fatigue cracks can develop in certain aluminum pressure module check valves prior to the design limit. The FAA is issuing this AD to address structural fatigue cracks in certain aluminum pressure module check valves, which could cause separation of the check valve head from the check valve body when hydraulic pressure is applied, resulting in injuries to maintenance personnel.

**(f) Compliance**

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

**(g) Required Actions**

(1) For airplanes identified as Group 1 in Boeing Special Attention Requirements Bulletin 737-29-1127 RB, dated October 8, 2018: Within 120 days after the effective date of this AD, inspect the airplane and do all applicable on-condition actions using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

(2) Except as specified by paragraph (h)(3) of this AD: For airplanes identified as Groups 2 and 3 in Boeing Special Attention Requirements Bulletin 737-29-1127 RB, dated October 8, 2018, at the applicable times specified in the "Compliance" paragraph of Boeing Special Attention Requirements Bulletin 737-29-1127 RB, dated October 8, 2018, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Special Attention Requirements Bulletin 737-29-1127 RB, dated October 8, 2018.

Note 1 to paragraphs (g)(2) through (g)(4): Guidance for accomplishing the actions required by this AD can be found in Boeing Special Attention Service Bulletin 737-29-1123, dated October 2, 2018; Boeing Special Attention Service Bulletin 737-29-1126, dated October 2, 2018; and Boeing Special Attention Service Bulletin 737-29-1127, dated October 8, 2018; as applicable; which are referred to in Boeing Special Attention Requirements Bulletin 737-29-1123 RB, dated October 2, 2018; Boeing Special Attention Requirements Bulletin 737-29-1126 RB, dated October 2, 2018; and Boeing Special Attention Requirements Bulletin 737-29-1127 RB, dated October 8, 2018; respectively.

(3) Except as specified by paragraph (h)(1) of this AD: For Model 737-600, -700, -700C, -800, -900, and -900ER airplanes that have an original airworthiness certificate or export certificate of airworthiness issued on or before the effective date of this AD; at the applicable times specified in the “Compliance” paragraph of Boeing Special Attention Requirements Bulletin 737-29-1123 RB, dated October 2, 2018, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Special Attention Requirements Bulletin 737-29-1123 RB, dated October 2, 2018.

(4) Except as specified by paragraph (h)(2) of this AD: For Model 737-8 and 737-9 airplanes that have an original airworthiness certificate or export certificate of airworthiness issued on or before the effective date of this AD; at the applicable times specified in the “Compliance” paragraph of Boeing Special Attention Requirements Bulletin 737-29-1126 RB, dated October 2, 2018, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Special Attention Requirements Bulletin 737-29-1126 RB, dated October 2, 2018.

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

For purposes of determining compliance with the requirements of this AD:

(1) Where Boeing Special Attention Requirements Bulletin 737-29-1123 RB, dated October 2, 2018, uses the phrase “the original issue date of Requirements Bulletin 737-29-1123 RB,” this AD requires using “the effective date of this AD.”

(2) Where Boeing Special Attention Requirements Bulletin 737-29-1126 RB, dated October 2, 2018, uses the phrase “the original issue date of Requirements Bulletin 737-29-1126 RB,” this AD requires using “the effective date of this AD.”

(3) Where Boeing Special Attention Requirements Bulletin 737-29-1127 RB, dated October 8, 2018, uses the phrase “the original issue date of Requirements Bulletin 737-29-1127 RB,” this AD requires using “the effective date of this AD.”

#### **(i) Parts Installation Prohibition**

As of the effective date of this AD, no person may install a Parker pressure module check valve, part number (P/N) H61C0552M1, or hydraulic pressure module assembly, P/N 65-17821-( ) that contains a Parker pressure module check valve, P/N H61C0552M1, on any airplane.

#### **(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) 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 Douglas Tsuji, Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3548; email: douglas.tsuji@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (1)(3) and (1)(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 Special Attention Requirements Bulletin 737-29-1123 RB, dated October 2, 2018.

(ii) Boeing Special Attention Requirements Bulletin 737-29-1126 RB, dated October 2, 2018.

(iii) Boeing Special Attention Requirements Bulletin 737-29-1127 RB, dated October 8, 2018.

(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; phone: 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 July 11, 2019.

Suzanne Masterson,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.