



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2019-0114; Product Identifier 2018-NM-146-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for all The Boeing Company Model 737 series airplanes. This proposed 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 proposed AD would 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. We are proposing this AD to address the unsafe condition on these products.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, 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 referenced 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 NPRM, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION 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](mailto:douglas.tsuji@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2019-0114; Product Identifier 2018-NM-146-AD” at the

beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

### **Discussion**

We have received a report indicating that structural fatigue cracks can develop in certain aluminum pressure module check valves installed in the hydraulic systems A and B pressure modules prior to the design limit. We have determined that it is necessary to replace Parker pressure module check valves, which are made of aluminum, with Crissair pressure module check valves, which are manufactured with stainless steel, which is not susceptible to fractures. Structural fatigue cracks in a check valve, if not addressed, could cause separation of the check valve head from the check valve body when hydraulic pressure is applied, resulting in injuries to maintenance personnel.

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

We 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.

These documents are distinct since they apply to different airplane models. 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, part number H61C0552M1, with Crissair pressure module check valves, part number 1C4196.

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.

#### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

#### **Proposed AD Requirements**

This proposed AD would require accomplishment of the actions identified in the service information described previously, except as described under "Differences Between Service Information and Proposed AD," and except for any differences identified as exceptions in the regulatory text of this proposed AD.

For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0114.

#### **Explanation of Requirements Bulletin**

The FAA worked in conjunction with industry, under the Airworthiness Directive Implementation Aviation Rulemaking Committee (AD ARC), to enhance the AD system. One enhancement is a process for annotating which steps in the service information are

“required for compliance” (RC) with an AD. Boeing has implemented this RC concept into Boeing service bulletins.

In an effort to further improve the quality of ADs and AD-related Boeing service information, a joint process improvement initiative was worked between the FAA and Boeing. The initiative resulted in the development of a new process in which the service information more clearly identifies the actions needed to address the unsafe condition in the “Accomplishment Instructions.” The new process results in a Boeing Requirements Bulletin, which contains only the actions needed to address the unsafe condition (i.e., only the RC actions).

#### **Difference Between Service Information and Proposed AD**

The effectivity of Boeing Special Attention Requirements Bulletin 737-29-1123 RB, dated October 2, 2018, is limited to Boeing Model 737-600, -700, -700C, -800, -900, and -900ER airplanes, line numbers 1 through 7032 inclusive. However, the applicability of this proposed AD includes all Boeing Model 737-600, -700, -700C, -800, -900, and -900ER airplanes. Because the affected parts are rotatable parts, we have determined that these parts could later be installed on airplanes that were initially delivered with acceptable parts, thereby subjecting those airplanes to the unsafe condition. This difference has been coordinated with Boeing.

The effectivity of Boeing Special Attention Requirements Bulletin 737-29-1126 RB, dated October 2, 2018, is limited to Boeing Model 737-8 and 737-9 airplanes, line numbers 5602 through 7050 inclusive. However, the applicability of this proposed AD includes all Boeing Model 737-8 and 737-9 airplanes, and any future 737 series derivative model. Because the affected parts are rotatable parts, we have determined that these parts could later be installed on airplanes that were initially delivered with acceptable parts, thereby subjecting those airplanes to the unsafe condition. This difference has been coordinated with Boeing.

## Costs of Compliance

We estimate that this proposed AD affects 1,747 airplanes of U.S. registry. We estimate the following costs to comply with this proposed 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, part number H61C0552M1	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$148,495

We estimate the following costs to do any necessary on-condition actions (per check valve replacement) that would be required. We have 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 X \$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.

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 proposed 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 determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the 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.

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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):

**The Boeing Company:** Docket No. FAA-2019-0114; Product Identifier 2018-NM-146-AD.

#### **(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

#### **(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. We are issuing this AD to address structural fatigue cracks in certain aluminum 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) of this AD: 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; 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; or Boeing Special Attention Requirements Bulletin 737-29-1127 RB, dated October 8, 2018.

(3) Except as specified by paragraph (h)(1) of this AD: For Boeing Model 737-600, -700, -700C, -800, -900, and -900ER airplanes that have an original certificate of airworthiness 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 Boeing Model 737-8 and 737-9 airplanes that have an original certificate of airworthiness 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 H61C0552M1, or hydraulic pressure module assembly, part number 65-17821-() that contains a Parker pressure module check valve, part number 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)(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.

**(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) 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>. You may view this referenced 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.

Issued in Des Moines, Washington, on February 22, 2019.

Dionne Palermo,  
Acting Director,  
System Oversight Division,  
Aircraft Certification Service.  
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