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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2016-9183; Product Identifier 2016-NM-059-AD; Amendment 39-19029; AD 2017-18-20]**

**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 The Boeing Company Model 707 airplanes equipped with a main cargo door (MCD). This AD was prompted by analysis of the cam support assemblies of the MCD that indicated the repetitive high frequency eddy current (HFEC) inspections required by the existing maintenance program are not adequate to detect cracks before two adjacent cam support assemblies of the MCD could fail. This AD requires repetitive ultrasonic inspections for cracking of the cam support assemblies of the MCD, and replacement if necessary. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective November 9, 2017.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of November 9, 2017.

**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, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9183.

### **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-2016-9183; 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 final

rule, 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:** Chandra Ramdoss, Aerospace Engineer, Airframe Section, FAA, Los Angeles ACO Branch, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5239; fax: 562-627-5210; email: chandraduth.ramdoss@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We 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 707 airplanes. The NPRM published in the Federal Register on October 4, 2016 (81 FR 68376) (“the NPRM”). The NPRM was prompted by analysis of the cam support assemblies of the MCD that indicated the repetitive HFEC inspections required by the existing maintenance program are not adequate to detect cracks before two adjacent cam support assemblies of the MCD could fail. The NPRM proposed to require repetitive ultrasonic inspections for cracking of the cam support assemblies of the MCD, and replacement if necessary. We are issuing this AD to detect and correct cracking of the cam support assemblies of the MCD. Such cracking could result in reduced structural integrity of the MCD and consequent rapid decompression of the airplane.

### **Comments**

We 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.

#### **Request To Revise Applicability**

Boeing stated that Boeing 707 Alert Service Bulletin A3542, dated February 12, 2016, affects only Boeing factory and Boeing-converted freighters, but the proposed AD extends the applicability to all Model 707 airplanes, including the ones that have been converted by non-Boeing supplemental type certificates (STCs).

We infer the commenter is requesting that the actions of the service information only be required for Model 707 airplanes identified in the Effectivity paragraph of Boeing 707 Alert Service Bulletin A3542, dated February 12, 2016. We agree that the applicability of the proposed AD should not include Model 707 airplanes that do not have an MCD. However, we disagree that the AD applicability should be limited to the airplanes identified in the Effectivity paragraph of Boeing 707 Alert Service Bulletin A3542, dated February 12, 2016, which only identifies Boeing factory and Boeing-converted freighters. The cam support assemblies having the affected part number could be installed at original aircraft manufacture, or during passenger-to-freighter modification. We expect that the actions specified in Boeing 707 Alert Service Bulletin A3542, dated February 12, 2016, can be accomplished on airplanes that are not identified in that service information. However, if an operator with a Model 707 freighter that is not a part of Boeing type design cannot accomplish the required actions in the service information, or prefers to use different service information that is specific to their design, approval of an alternative method of compliance (AMOC) can be requested in accordance with paragraph (j) of this AD. We revised this AD to limit the applicability to Model 707 airplanes equipped with an MCD.

**Request To Supersede AD 80-08-10 R1, Amendment 39-3830 (45 FR 46343, July 10, 1980) (“AD 80-08-10 R1”)**

Boeing requested that we revise the NPRM to supersede AD 80-08-10 R1. Boeing stated that AD 80-08-10 R1 mandates HFEC inspections of MCD cam support assemblies having part numbers

(P/Ns) 69-23588-1 and 69-23588-2, as specified in Boeing Service Bulletin 707-A3387. Boeing explained that the NPRM is adding cam support assemblies having P/Ns 69-23588-1 and 69-23588-2 to the list in Boeing 707 Alert Service Bulletin A3542, dated February 12, 2016. Boeing asserted that the addition of these components to the list of affected parts would mean that the operators have to perform HFEC inspections of cam support assemblies having P/Ns 69-23588-1 and 69-23588-2, as specified in AD 80-08-10 R1, and perform ultrasonic inspections of the same components, as specified in the proposed AD. Boeing explained that cracking initiates at the bottom of the lubrication hole on the inside of the cam support fitting lug and is not visible until it breaks to the surface of the lug. The subsurface detection capability of the ultrasonic inspection provides a more reliable inspection.

We partially agree with Boeing's request to supersede the inspections which are still required per AD 80-08-10 R1. These inspections will overlap with the newly mandated repetitive inspections. We disagree with the request to revise this AD to supersede AD 80-08-10 R1. Instead, we have added language to paragraph (i) of this AD to state that accomplishing the initial inspection and all applicable replacements required by paragraph (h) of this AD on an airplane terminates the requirements of AD 80-08-10 R1, for that airplane only.

#### **Request To Revise Compliance Time**

Boeing requested that we revise the compliance time in paragraph (g)(1) of the proposed AD from "before the accumulation of 18,000 total flight cycles" to "before the accumulation of 18,000 door flight cycles, or within 10 years after the utilization of MCD cam support assemblies, whichever occurs first. If the door flight cycles are not known, use total airplane flight cycles." Boeing explained that this change would provide relief for the operators that use converted freighters by delaying the required inspection for the MCDs that have been in service less than 18,000 total door flight cycles, but are installed on the airplanes that have more than 18,000 total airframe flight cycles. Boeing also stated that the 10-year time limit is included in Boeing 707 Alert Service Bulletin A3542, dated February 12, 2016, to address the low utilization rate of Model 707/720 airplanes.

We agree with Boeing's request. For the airplanes that have been converted to freighters, the compliance time for the initial inspection should be based on the number of cycles the MCD cam support assembly has been in service. We have revised paragraph (g)(1) of this AD accordingly. In addition, we have revised paragraph (h) of this AD to refer to the compliance times specified in paragraphs (g)(1) and (g)(2) of this AD instead of referring to Boeing 707 Alert Service Bulletin A3542, dated February 12, 2016. We have also removed the exception to the service information that was in paragraph (i) of the proposed AD.

#### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule 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 NPRM for correcting 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 final rule.

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

We reviewed Boeing 707 Alert Service Bulletin A3542, dated February 12, 2016. The service information describes procedures for an ultrasonic inspection of the cam support assemblies of the MCD for cracking, and replacement if necessary. 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 will affect 12 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	6 work-hours $\times$ \$85 per hour = \$510 per inspection cycle	\$0	\$510 per inspection cycle	\$22,950 per inspection cycle.

We estimate the following costs to do any necessary replacements that would be required based on the results of the inspection. We have no way of determining the number of aircraft that might need this replacement:

### On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Replacement	60 work-hours $\times$ \$85 per hour = \$5,100	\$14,107	\$19,207

## 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 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) 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):



**2017-18-20 The Boeing Company:** Amendment 39-19029; Docket No. FAA-2016-9183; Product Identifier 2016-NM-059-AD.

**(a) Effective Date**

This AD is effective November 9, 2017.

**(b) Affected ADs**

This AD affects AD 80-08-10 R1, Amendment 39-3830 (45 FR 46343, July 10, 1980).

**(c) Applicability**

This AD applies to The Boeing Company Model 707-100 Long Body, -200, -100B Long Body, and -100B Short Body series airplanes; and Model 707-300, -300B, -300C, and -400 series airplanes; certificated in any category; equipped with a main cargo door (MCD).

**(d) Subject**

Air Transport Association (ATA) of America Code 52, Doors.

**(e) Unsafe Condition**

This AD was prompted by analysis of the cam support assemblies of the MCD that indicated the repetitive high frequency eddy current (HFEC) inspections required by the existing maintenance program are not adequate to detect cracks before two adjacent cam support assemblies of the MCD could fail. We are issuing this AD to detect and correct cracking of the cam support assemblies of the MCD. Such cracking could result in reduced structural integrity of the MCD and consequent rapid decompression of the airplane.

**(f) Compliance**

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

**(g) Inspection to Determine Part Numbers**

At the later of the times specified in paragraphs (g)(1) and (g)(2) of this AD: Inspect the cam support assemblies of the MCD to determine whether part number (P/N) 69-23588-1, 69-23588-2, 69-23588-5, 69-23588-6, 69-23588-9, or 69-23588-10 is installed. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number(s) of the cam support assemblies of the MCD can be conclusively determined from that review.

(1) Before the accumulation of 18,000 total flight cycles since installation of the door, or before the accumulation of 10 years on the MCD cam support assemblies, whichever occurs first. If the number of flight cycles since installation of the door are not known, use total airplane flight cycles.

(2) Within 1,790 flight cycles or 24 months after the effective date of this AD, whichever occurs later.

**(h) Repetitive Inspections of the Cam Support Assemblies of the MCD and Corrective Actions**

If, during any inspection required by paragraph (g) of this AD, any cam support assembly of the MCD having P/N 69-23588-1, 69-23588-2, 69-23588-5, 69-23588-6, 69-23588-9, or 69-23588-10 is determined to be installed: At the later of the times specified in paragraphs (g)(1) and (g)(2) of this AD, do an ultrasonic inspection to detect cracking of the affected cam support assemblies of the MCD, and do all applicable replacements, in accordance with the Accomplishment Instructions of Boeing 707 Alert Service Bulletin A3542, dated February 12, 2016. Do all applicable replacements before further flight. Repeat the inspections thereafter at the applicable time specified in paragraph 1.E., "Compliance," of Boeing 707 Alert Service Bulletin A3542, dated February 12, 2016.

**(i) Terminating Action for AD 80-08-10 R1, Amendment 39-3830 (45 FR 46343, July 10, 1980)**

Accomplishment of the initial inspection and all applicable replacements on an airplane, as required by paragraph (h) of this AD, terminates all the requirements of AD 80-08-10 R1, Amendment 39-3830 (45 FR 46343, July 10, 1980), for that airplane only.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Los Angeles 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-LAACO-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, Los Angeles ACO Branch, 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) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (j)(4)(i) and (j)(4)(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.

## **(k) Related Information**

For more information about this AD, contact Chandra Ramdoss, Aerospace Engineer, Airframe Section, FAA, Los Angeles ACO Branch, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5239; fax: 562-627-5210; email: [chandraduth.ramdoss@faa.gov](mailto:chandraduth.ramdoss@faa.gov).

## **(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 707 Alert Service Bulletin A3542, dated February 12, 2016.

(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, 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 August 31, 2017.

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