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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2016-9050; Directorate Identifier 2016-NM-086-AD; Amendment 39-18788; AD 2017-02-09]**

**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 certain The Boeing Company Model 747-400, -400D, and -400F series airplanes. This AD was prompted by widespread corrosion damage that was found on the skin inner surface along the upper bulkhead at certain stations between certain stringers. This AD requires repetitive inspections of the fuselage crown skin inner surface, and related investigative and corrective actions if necessary. This AD also allows for terminating actions for the repetitive inspections. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective March 17, 2017.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of March 17, 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; telephone 562-797-1717; 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. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9050.

#### **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-2016-9050; 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:** Nathan Weigand, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6428; fax: 425-917-6590; email: nathan.p.weigand@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 certain The Boeing Company Model 747-400, -400D, and -400F series airplanes. The NPRM published in the Federal Register on August 30, 2016 (81 FR 59532) ("the NPRM"). The NPRM was prompted by widespread corrosion damage that was found on the skin inner surface along the upper bulkhead at certain stations between certain stringers. The NPRM proposed to require repetitive inspections of the fuselage crown skin inner surface, and related investigative and corrective actions if necessary. The NPRM would also allow for terminating actions for the repetitive inspections. We are issuing this AD to detect and correct cracks and corrosion on the crown skin inner surface. If the cracks or corrosion are not repaired, the cracks can rapidly join together and can cause a sudden decompression and loss of structural integrity of the airplane.

### **Comments**

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

### **Support for the NPRM**

United Airlines supported the content of the NPRM.

### **Request To Clarify the Language in the Terminating Action Paragraph**

Boeing asked that we add accomplishment of Part 4 to the terminating action language specified in paragraph (i) of the proposed AD for clarification purposes. Boeing stated that Tables 1 and 2 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016, specify that Action 1 is to complete Part 3: Skin Panel Modification or Repair; and Action 2 is to complete Part 4: Surface Finish Restoration. Boeing noted that both actions must be completed before further flight.

We agree with the commenter's request to add accomplishment of Part 4 of the referenced service information, for the reason provided. We have clarified the language in paragraph (i) of this AD to specify that both Part 3 and Part 4 of the referenced service information must be accomplished to terminate the repetitive inspections required by paragraph (g) of this AD. However, we do not agree that both actions must be done before further flight because the terminating action is optional; therefore, no specific compliance time is required.

## 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 change 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 AD.

## Related Service Information Under 1 CFR Part 51

We reviewed Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016. The service information describes procedures for inspecting the fuselage crown skin inner surface body at affected stations, and doing related investigative and corrective actions 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 affects 53 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

### Estimated Costs

Action	Labor cost	Cost per product	Cost on U.S. operators
Inspections and access	Up to 815 work-hours × \$85 per hour = \$69,275	Up to \$69,275	Up to \$3,671,575.

We estimate the following costs to do any necessary repairs that will be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these repairs and on-condition inspections:

### On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Repairs and on-condition inspections	Up to 1,820 work-hours × \$85 per hour = \$154,700	N/A	Up to \$154,700.

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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**2017-02-09 The Boeing Company:** Amendment 39-18788; Docket No. FAA-2016-9050; Directorate Identifier 2016-NM-086-AD.

**(a) Effective Date**

This AD is effective March 17, 2017.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to The Boeing Company Model 747-400, -400D, and -400F series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016.

**(d) Subject**

Air Transport Association (ATA) of America Code 53, Fuselage.

**(e) Unsafe Condition**

This AD was prompted by widespread corrosion damage that was found on the skin inner surface along the upper bulkhead at certain stations between certain stringers. We are issuing this AD to detect and correct cracks and corrosion on the crown skin inner surface. If the cracks or corrosion are not repaired, the cracks can rapidly join together and can cause a sudden decompression and loss of structural integrity of the airplane.

**(f) Compliance**

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

**(g) Inspection of the Skin Inner Surface**

At the applicable time specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016, except as required by paragraph (k)(1) of this AD: Do a detailed inspection of the skin inner surface for any missing or degraded finish, sign of corrosion, or crack, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016. Repeat the inspection thereafter at intervals not to exceed the applicable time specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016, until the actions specified in paragraph (i) of this AD have been done.

## **(h) Repair of the Skin Inner Surface**

If any damage is found during any inspection required by paragraph (g) of this AD, before further flight, do all applicable related investigative and correction actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016, except as required by paragraph (k)(2) of this AD.

## **(i) Optional Terminating Action**

Modification or repair of the inner skin surfaces, and restoration of the surface finish, in accordance with part 3 and part 4, respectively, of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016, terminates the repetitive inspections required by paragraph (g) of this AD.

## **(j) Post Repair Inspection and Repairs**

For airplanes on which a repair or modification has been done in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016: Except as required by paragraph (k)(1) of this AD, at the applicable time specified in Table 3 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016, do detailed inspections to detect damage of the repaired or modified areas, and do all applicable corrective actions, in accordance with part 5 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016, except as required by paragraph (k)(2) of this AD. Do all applicable corrective actions before further flight. Repeat the inspections thereafter at intervals not to exceed the applicable time specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016.

## **(k) Exceptions**

(1) Where Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016, specifies a compliance time "after the original issue date of this service bulletin," this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) If any cracking or corrosion is found during any inspection required by this AD, and Boeing Alert Service Bulletin 747-53A2878, dated May 19, 2016, specifies to contact Boeing for appropriate action: Before further flight, repair the cracking or corrosion using a method approved in accordance with the procedures specified in paragraph (l) 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, 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, 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) Except as required by paragraph (k)(2) of this AD: For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (l)(4)(i) and (l)(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. 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.

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

For more information about this AD, contact Nathan Weigand, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle ACO, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6428; fax: 425-917-6590; email: nathan.p.weigand@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 Alert Service Bulletin 747-53A2878, dated May 19, 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; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>

(4) You may view this 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.

(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 January 18, 2017.

Michael Kaszycki,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.