



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2015-1270; Directorate Identifier 2014-NM-222-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 certain The Boeing Company Model 747-100, -200B, -200C, -200F, -300, -400, -400D, and -400F series airplanes. This proposed AD was prompted by reports of significant fuselage skin damage at certain parts of the dorsal fairing, due to wear from the dorsal fairing. This proposed AD would require repetitive detailed inspections for wear and cracks of the fuselage skin under the dorsal fairing, and related investigative and corrective actions if necessary. This proposed AD would also require repetitive post-repair external surface high frequency eddy current inspections of the blended areas of the skin and detailed inspections of the unrepaired areas, and related investigative and corrective actions if necessary. We are proposing this AD to detect and correct fuselage skin damage of the dorsal fairing area, which could result in skin cracking and consequent depressurization of the airplane.

**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 proposed AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; phone: 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. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-1270.

### **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-2015-1270; 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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**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:**

### **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-2015-1270; Directorate Identifier 2014-NM-222-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD 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 received reports of significant fuselage skin damage at the dorsal fairing forward of station (STA) 2280, due to wear from the dorsal fairing. These two airplanes had accumulated 45,707 and 71,702 total flight hours. The skin damage occurred from inadequate clearance between fuselage crown skin and the lower aft corners of the dorsal fairing. Affected airplanes are limited to those delivered or retrofitted with certain dorsal fairing assemblies. Airplanes with other dorsal fairing configurations are not expected to develop skin wear. This inadequate clearance, if not corrected, could result in skin cracking and consequent depressurization of the airplane.

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

We reviewed Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014. This service information describes procedures for repetitive inspections, repair, and modification of the fuselage skin under the dorsal fairing. Refer to this service information for information on the procedures and compliance times. This service information is reasonably available at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-1270. Or see ADDRESSES for other ways to access this service information.

## **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 accomplishing the actions specified in the service information identified previously, except as discussed under “Differences Between this Proposed AD and the Service Information.”

The phrase “related investigative actions” is used in this proposed AD. “Related investigative actions” are follow-on actions that (1) are related to the primary actions, and (2) further investigate the nature of any condition found. Related investigative actions in an AD could include, for example, inspections.

The phrase “corrective actions” is used in this proposed AD. “Corrective actions” are actions that correct or address any condition found. Corrective actions in an AD could include, for example, repairs.

## **Explanation of “RC” Steps in Service Information**

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

information are required for compliance with an AD. Differentiating these steps from other tasks in the service information is expected to improve an owner's/operator's understanding of crucial AD requirements and help provide consistent judgment in AD compliance. The steps that are identified as RC (required for compliance) in any service information identified previously have a direct effect on detecting, preventing, resolving, or eliminating an identified unsafe condition.

Steps that are identified as RC must be done to comply with the proposed AD. However, steps that are not identified as RC are recommended. Those steps that are not identified as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an alternative method of compliance (AMOC), provided the steps identified as RC can be done and the airplane can be put back in a serviceable condition. Any substitutions or changes to steps identified as RC will require approval of an AMOC.

#### **Differences Between this Proposed AD and the Service Information**

Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014, specifies to contact the manufacturer for instructions on how to repair certain conditions, but this proposed AD would require repairing those conditions in one of the following ways:

- In accordance with a method that we approve; or
- Using data that meet the certification basis of the airplane, and that have been approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) whom we have authorized to make those findings.

Tables 4 and 5 in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014, specify accomplishing the post-repair inspections identified in Part 8 of the service bulletin. Part 8 of the service bulletin allows the option of high frequency eddy current (HFEC) or low frequency eddy current (LFEC)

inspections of the blended areas of the skin; however, this proposed AD does not allow the option of an LFEC inspection. This difference has been coordinated with Boeing.

Tables 3, 6, and 7 in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014, specify post-modification inspections at certain fuselage crown skin locations, which may be used in support of compliance with section 121.1109(c)(2) or 129.109(b)(2) of the Federal Aviation Regulations (14 CFR 121.1109(c)(2) or 129.109(b)(2)). However, this NPRM does not propose to require those post-modification inspections. This difference has been coordinated with Boeing.

**Costs of Compliance**

We estimate that this proposed AD affects 93 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

**Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Inspections	Up to 15 work-hours X \$85 per hour = \$1,275	\$0	Up to \$1,275 per inspection cycle	Up to \$118,575 per inspection cycle

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

**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**

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-2015-1270; Directorate Identifier 2014-NM-222-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 The Boeing Company Model 747-100, -200B, -200C, -200F, -300, -400, -400D, and -400F series airplanes; certificated in any category, as identified in Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014.

**(d) Subject**

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

**(e) Unsafe Condition**

This AD was prompted by reports of significant fuselage skin damage at the dorsal fairing forward of station (STA) 2280 due to wear from the dorsal fairing. We are issuing this AD to detect and correct fuselage skin damage of the dorsal fairing area, which could result in skin cracking and consequent depressurization of the airplane.

**(f) Compliance**

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

**(g) Inspections and Repair**

At the applicable time specified in tables 1 and 2 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014, except as provided by paragraph (j)(1) of this AD, do a detailed inspection of the fuselage skin under the dorsal fairing for wear or cracks, and do all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014, except as required by paragraph (j)(2) of this AD. Do all applicable related investigative and corrective actions at the time specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014. Repeat the applicable inspections of the fuselage skin thereafter at the applicable times specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014.

**(h) Post-Repair Inspections**

At the applicable time specified in tables 4 and 5 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014, except as provided by paragraph (j)(1) of this AD, do an external surface high frequency eddy current inspection of the blended areas of the skin and a detailed inspection of the unrepaired areas, and do all applicable related investigative and corrective actions, in accordance with Part 8 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014, except as required by paragraph (j)(2) of this AD. Do all applicable related investigative and corrective actions at the time specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014. Repeat the applicable inspections of the blended areas of the skin thereafter at the applicable times specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014.

**(i) Post-Modification Inspections**

The post-modification inspections specified in tables 3, 6, and 7 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014, are not required by this AD.

Note 1 to paragraph (i) of this AD: The post-modification inspections specified in tables 3, 6, and 7 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014, may be used in support of compliance with section 121.1109(c)(2) or 129.109(b)(2) of the Federal Aviation Regulations (14 CFR 121.1109(c)(2) or 14 CFR 129.109(b)(2)). The corresponding actions specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014, are not required by this AD.

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

(1) Where Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014, 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) Although Boeing Alert Service Bulletin 747-53A2876, dated October 22, 2014, specifies to contact Boeing for repair data, and specifies that action as “RC” (Required for Compliance), this AD requires repair before further flight using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

**(k) 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 (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 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.

(4) Except as required by paragraph (j)(2) of this AD: If any service information contains steps that are identified as RC (Required for Compliance), those steps must be done to comply with this AD; any steps that are not identified as RC are recommended. Those steps that are not identified 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 steps identified as RC can be done and the airplane can be put back in a serviceable condition. Any substitutions or changes to steps identified as RC require approval of an AMOC.

**(l) Related Information**

(1) For more information about this AD, 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.

(2) 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; phone: 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.

Issued in Renton, Washington, on April 27, 2015.

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

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