



適航指令發布單

Airworthiness Directive Issuance Form

民航局AD編號 AD Number	CAA-2015-07-012	發布日期 Date issued	2015/8/6
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	The Boeing Company Model 747-400 and -400F series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014.		
主旨摘要	FUSELAGE - Main Frame - Center Section - Longerons Extension Fitting - Inspection/ Repair/ Modification		
民航局 CAA  <input type="checkbox"/> 本國產品 Native products  <input type="checkbox"/> 其他個案 Other	設計國民航主關機構 Original Authorities <input checked="" type="checkbox"/> FAA <input type="checkbox"/> EASA <input type="checkbox"/> Brazil <input type="checkbox"/> Transport Canada Civil Aviation <input type="checkbox"/> DGAC <input type="checkbox"/> Germany LBA <input type="checkbox"/> CAA-NL <input type="checkbox"/> UK CAA <input type="checkbox"/> Japan CAB <input type="checkbox"/> CAA of Israel <input type="checkbox"/> Other _____		
	設計國AD編號 Original AD number	2015-13-06	
	1. 直接採用原AD之內容?(Is the original AD directly adopted?) <input checked="" type="checkbox"/> 是(Yes) <input type="checkbox"/> 否(No) ___ a. 生效日期另訂為(Re-specify the effective date as) : _____ b. 執行時限另訂為(Re-specify the compliance time or period as) : _____ 2. 使用人是否需要將AD執行結果向民航局提出報告?(Do Users need to report the status of compliance to the CAA?) <input type="checkbox"/> 是(Yes) <input checked="" type="checkbox"/> 否(No)		
備註 Note	(i) This AD replaces FAA AD 2013-14-05(CAA-2013-07-012). (ii) Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014.		
註： 1. AD內容後附。 2. 航空器產品使用人得向民航局提出豁免、替代符合方法、執行時限之展延之申請。 3. 如有任何問題，請聯絡交通部民用航空局初始適航科。Tel：(02)2349-6331-3, Fax：(02)2545-8464, e-mail：adcaa@mail.caa.gov.tw Note： 1. The AD text is enclosed. 2. Exemption, an alternative method of compliance or adjustment of the compliance time may be proposed to the CAA for approval. 3. For further information, please contact Civil Aeronautics Administration on Tel：(02)2349-6331-3, Fax：(02)2545-8464, e-mail：adcaa@mail.caa.gov.tw			

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[Rules and Regulations]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2014-0921; Directorate Identifier 2014-NM-073-AD; Amendment 39-18193; AD 2015-13-06]**

**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 superseding Airworthiness Directive (AD) 2013-14-05 for certain The Boeing Company Model 747-400 and 747-400F series airplanes. AD 2013-14-05 required repetitive inspections of the longeron extension fittings for cracking, and related investigative and corrective actions if necessary. This new AD would continue to require the actions specified in AD 2013-14-05, and would add new repetitive high frequency eddy current (HFEC) inspections of any modified, repaired, or replaced longeron extension fitting for cracking, and applicable related investigative and corrective actions if necessary. This AD was prompted by reports of cracking in the outboard flange of the longeron extension fittings, and our determination that more work is necessary on airplanes on which a permanent repair, longeron extension fitting replacement, or modification was accomplished. We are issuing this AD to detect and correct cracks in the longeron extension fittings, which can become large and adversely affect the structural integrity of the airplane.

**DATES:** This AD is effective September 1, 2015.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of September 1, 2015.

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of August 26, 2013 (78 FR 43763, July 22, 2013).

**ADDRESSES:** 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; telephone 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 2014-0921.

## **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-2014 0921; 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](mailto:Nathan.P.Weigand@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2013-14-05, Amendment 39-17510 (78 FR 43763, July 22, 2013). AD 2013-14-05 applied to certain The Boeing Company Model 747-400 and 747-400F series airplanes. The NPRM published in the Federal Register on December 15, 2014 (79 FR 74038). The NPRM was prompted by reports of cracking in the outboard flange of the longeron extension fittings, and our determination that more work is necessary on airplanes on which a permanent repair, longeron extension fitting replacement, or modification was accomplished, as required by AD 2013-14-05. The NPRM proposed to continue to require the actions specified in AD 2013-14-05, and to add new repetitive high frequency eddy current (HFEC) inspections of any modified, repaired, or replaced longeron extension fitting for cracking, and applicable related investigative and corrective actions if necessary. We are issuing this AD to detect and correct cracks in the longeron extension fittings, which can become large and adversely affect the 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 (79 FR 74038, December 15, 2014) and the FAA's response to each comment.

### **Support for the NPRM (79 FR 74038, December 15, 2014)**

United Airlines expressed that the NPRM (79 FR 74038, December 15, 2014) affects 13 of its Boeing Model 747-400 series airplanes, and that it concurs with the NPRM.

Boeing expressed that it concurs with the NPRM (79 FR 74038, December 15, 2014).

### **Request To Include the Effective Date**

Atlas Air requested that we revise the NPRM (79 FR 74038, December 15, 2014) to include a new paragraph (k)(3) to list the effective date of AD 2013-14-05, Amendment 39-17510 (78 FR 43763, July 22, 2013), or that we include the effective date of AD 2013-14-05 in paragraph (g) of the NPRM. Atlas Air pointed out that the compliance time in paragraph (g) of the NPRM references the "Compliance" section of the service information, which is based on the effective date of AD 2013-14-05, and once AD 2013-14-05 is replaced, the effective date of AD 2013-14-05 will no longer exist.

We disagree with the commenter's request to add a new paragraph (k)(3) to this AD, or to add the effective date of AD 2013-14-05, Amendment 39-17510 (78 FR 43763, July 22, 2013), to paragraph (g) of this AD. The effective date of AD 2013-14-05 (August 26, 2013) is specified in the first sentence under paragraph 1.E., "Compliance," of the referenced service information. Therefore, no change is needed for this AD in this regard.

**Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 74038, December 15, 2014) for correcting the unsafe condition; and
- do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 74038, December 15, 2014).

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

We reviewed Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014. The service information describes procedures for repetitive HFEC inspections of any modified, repaired, or replaced longeron extension fitting for cracking, and applicable 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 of this AD.

**Costs of Compliance**

We estimate that this AD affects 41 airplanes of U.S. registry  
 We estimate the following costs to comply with this AD:

<b>Estimated Costs</b>				
<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
HFEC inspection [retained action from AD 2013-14-05, Amendment 39-17510 ( <a href="#">78 FR 43763</a> , July 22, 2013)]	32 work-hours × \$85 per hour = \$2,720 per inspection cycle	\$0	\$2,720 per inspection cycle	\$111,520 per inspection cycle
Terminating action for certain inspections [retained action from AD 2013-14-05, Amendment 39-17510 ( <a href="#">78 FR 43763</a> , July 22, 2013)]	479 work-hours × \$85 per hour = \$40,715	\$0	\$40,715	\$1,669,315
HFEC inspection [new action]	32 work-hours × \$85 per hour = \$2,720 per inspection cycle	\$0	\$2,720 per inspection cycle	\$111,520 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	464 work-hours × \$85 per hour = \$39,440	\$0	\$39,440

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**

We have determined that 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 removing Airworthiness Directive (AD) 2013-14-05, Amendment 39-17510 (78 FR 43763, July 22, 2013), and adding the following new AD:



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**2015-13-06 The Boeing Company:** Amendment 39-18193 ; Docket No. FAA-2014-0921;  
Directorate Identifier 2014-NM-073-AD.

**(a) Effective Date**

This AD is effective September 1, 2015.

**(b) Affected ADs**

This AD replaces AD 2013-14-05, Amendment 39-17510 (78 FR 43763, July 22, 2013).

**(c) Applicability**

This AD applies to The Boeing Company Model 747-400 and -400F series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014.

**(d) Subject**

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

**(e) Unsafe Condition**

This AD was prompted by reports of cracking in the outboard flange of the longeron extension fittings, and our determination that more work is necessary on airplanes on which a permanent repair, longeron extension fitting replacement, or modification was accomplished, as required by AD 2013-14-05, Amendment 39-17510 (78 FR 43763, July 22, 2013). We are issuing this AD to detect and correct cracks in the longeron extension fittings, which can become large and adversely affect the structural integrity of the airplane.

**(f) Compliance**

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

**(g) Repetitive Inspections**

At the applicable time specified in table 1 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014: Do surface high frequency eddy current (HFEC) inspections for cracking of the left and right longeron extension fittings, and all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014, except as required by paragraph (k)(2) of this AD. Do all applicable corrective actions at the applicable time specified in table 1 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014. If no cracking is found, repeat the inspection thereafter at the intervals specified in

table 1 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014, until a terminating action specified in paragraph (h) of this AD is done.

#### **(h) Terminating Actions for the Inspections Required by Paragraph (g) of This AD**

(1) Doing the permanent repair, longeron extension fitting replacement, or preventative modification before the effective date of this AD, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2860, dated December 4, 2012, terminates the repetitive inspections required by paragraph (g) of this AD. Boeing Alert Service Bulletin 747-53A2860, dated December 4, 2012, was incorporated by reference in AD 2013-14-05, Amendment 39-17510 (78 FR 43763, July 22, 2013) and continues to be incorporated by reference in this AD. After accomplishing the actions specified in this paragraph, the actions specified in paragraph (i) of this AD must be done at the times specified in paragraph (i) of this AD.

(2) Doing the repair (PART 4 of Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014), longeron extension fitting replacement, or modification on or after the effective date of this AD, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014, except as required by paragraph (k)(2) of this AD, terminates the repetitive inspection requirements of paragraph (g) of this AD. After accomplishing the actions specified in this paragraph, the actions specified in paragraph (i) of this AD must be done at the times specified in paragraph (i) of this AD.

#### **(i) Post-Modification/Repair/Replacement Inspections**

For airplanes on which any action identified in paragraph (h) of this AD has been accomplished (including if the action is done as a corrective action required by paragraph (g) or (j) of this AD): At the applicable time specified in table 3 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014, except as required by paragraph (k)(1) of this AD, do a surface HFEC inspection of the left and right longeron extension fittings for cracking, as applicable, and do all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014. Do all applicable corrective actions at the applicable time specified in table 3 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014, except as required by paragraph (k)(2) of this AD. If no cracking is found, repeat the inspection thereafter at the interval specified in table 3 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014.

#### **(j) Inspection of Temporary Repair and Corrective Actions**

For airplanes on which a temporary repair specified in Boeing Alert Service Bulletin 747-53A2860 has been done: At the times specified in table 2 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014, do a surface HFEC inspection of the temporary repair of the longeron extension fittings for cracking, and do all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014, except as required by paragraph (k)(2) of this AD. Do all applicable corrective actions before further flight.

#### **(k) Exceptions to the Service Information**

(1) Where Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014, specifies a compliance time "after the Revision 1 date of this service bulletin," this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014, specifies to contact Boeing for repair information: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (m) of this AD.

#### **(l) Credit for Previous Actions**

This paragraph provides credit for the actions specified in paragraphs (g) and (j) of this AD, if those actions were performed before the effective date of this AD using Boeing Alert Service Bulletin 747-53A2860, dated December 4, 2012, which was incorporated by reference in AD 2013-14-05, Amendment 39-17510 (78 FR 43763, July 22, 2013).

#### **(m) 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 (n) 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) AMOCs approved previously for AD 2013-14-05, Amendment 39-17510 (78 FR 43763, July 22, 2013), are approved as AMOCs for the corresponding provisions of paragraphs (g), (h), and (j) of this AD.

#### **(n) Related Information**

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.

#### **(o) 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.

(3) The following service information was approved for IBR on September 1, 2015.

(i) Boeing Alert Service Bulletin 747-53A2860, Revision 1, dated March 18, 2014.

(ii) Reserved.

(4) The following service information was approved for IBR on August 26, 2013 (78 FR 43763, July 22, 2013).

(i) Boeing Alert Service Bulletin 747-53A2860, dated December 4, 2012.

(ii) Reserved.

(5) For Boeing 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; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>.

(6) You may view this service information at FAA, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(7) 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 June 19, 2015.

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