



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2020-0211; Product Identifier 2020-NM-006-AD; Amendment 39-21398; AD 2021-02-15]

RIN 2120-AA64

**Airworthiness Directives;** The Boeing Company Airplanes

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

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain The Boeing Company Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, and 747SR series airplanes. This AD was prompted by reports of inboard foreflap departures from the airplane. This AD requires repetitive replacement of certain parts; a general visual inspection to determine production configuration for certain parts; a repetitive lubrication of certain parts and a repetitive general visual inspection of certain parts for any exuding grease; repetitive detailed inspections of certain parts for loose or missing attachment bolts, cracks or bushing migration, cracks or gouges, or broken, binding, or missing rollers; repetitive detailed inspections of certain parts for cracks or corrosion; repetitive lubrication; and on-condition actions if necessary. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**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; phone: 562-797-1717; Internet: <https://www.myboeingfleet.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety 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 <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0211.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0211; 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 final rule, any comments received, and other information. The address for Docket Operations is 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:** Eric Lin, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3523; email: [eric.lin@faa.gov](mailto:eric.lin@faa.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **Discussion**

The FAA 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 747-100,

747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, and 747SR series airplanes. The NPRM published in the *Federal Register* on May 18, 2020 (85 FR 29673). The NPRM was prompted by reports of inboard foreflap departures from the airplane. The NPRM proposed to require repetitive replacement of certain parts; a general visual inspection to determine production configuration for certain parts; a repetitive lubrication of certain parts and a repetitive general visual inspection of certain parts for any exuding grease; repetitive detailed inspections of certain parts for loose or missing attachment bolts, cracks or bushing migration, cracks or gouges, or broken, binding, or missing rollers; repetitive detailed inspections of certain parts for cracks or corrosion; repetitive lubrication; and on-condition actions if necessary.

The FAA is issuing this AD to address departures of the inboard foreflap assembly from the airplane, which could result in damage to the airplane and adversely affect the airplane's continued safe flight and landing.

### **Comments**

The FAA 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.

### **Support for the NPRM**

The Air Line Pilots Association, International (ALPA) and Boeing expressed support for the NPRM.

### **Request to Incorporate Inspection and Overhaul Program**

Atlas Air (Atlas) requested that the FAA revise the proposed AD to incorporate and provide credit for Atlas's flap inspection and overhaul program. Atlas explained that after four flap failure events, their flap mitigation team formulated a program of actions that successfully address the unsafe conditions cited in the NPRM.

The FAA acknowledges that alternative methods may exist to address the potential unsafe condition, but disagrees with the request to revise this AD to incorporate specific actions from the Atlas flap mitigation program. That program is unique to an individual operator, and Atlas has not provided the FAA substantiating data demonstrating that these proposed changes provide an equivalent level of safety. Atlas may apply for an AMOC with substantiating data. The FAA has not changed this AD with regard to this request.

### **Request for Change in Inspection Requirement**

Cargolux (CLX) requested that the proposed inspection, as specified in Boeing Alert Requirements Bulletin 747-57A2367 RB, dated November 15, 2019, Table 1, Action 2, no longer include identifying nuts with part number BACN10HR7CD. CLX explained that determining the part number by inspection is difficult due to access restrictions, and operators may have to replace the subject nuts to be compliant with the proposed AD.

The FAA disagrees with the requested exemption because it is unnecessary. Boeing Alert Requirements Bulletin 747-57A2367 RB, dated November 15, 2019, Table 1, Action 2, specifies a “general visual inspection of the inboard foreflap assembly stop, stop attachment bolts, stop lug attachment bolts, and rollers.” The subject nuts are not specifically identified. Additionally, the service bulletin does not mandate a specific method of compliance for this inspection. It refers to Part 2 of Boeing Alert Service Bulletin 747-57A2367, dated November 15, 2019, where the subject nut is listed, as an accepted procedure. In accordance with Note 6 of the Accomplishment Instructions, “when the words ‘refer to’ are used and the operator has an accepted alternative procedure, the accepted alternative procedure can be used.” The FAA has not changed this AD regarding this request.

### **Request to Allow Alternative Part Numbers**

CLX requested that approved alternative, substitute, or interchangeable part numbers for specified parts be allowed when demonstrating compliance. CLX is concerned that operators may have trouble obtaining parts if the parts have been replaced and there are interchangeable parts available in lieu of the required part number.

The FAA disagrees with the request. The design approval holder (DAH) identified the parts necessary to address the unsafe condition. Kits with those replacement part numbers may be acquired from the DAH. Additionally, CLX did not provide the FAA any substantiating data to demonstrate that any alternative/substitute part provides an acceptable level of safety. CLX may submit an AMOC request with supporting data that demonstrates an acceptable level of safety for a replacement part not specified in the service information. The FAA has not changed this AD regarding this request.

### **Request to Specify Document as Aid**

Royal Dutch Airlines (KLM) and CLX requested that Boeing document 747-FTD-57-10002 be specified in the proposed AD as an aid for the general visual inspection described in Boeing Alert Requirements Bulletin 747-57A2367 RB, dated November 15, 2019, to identify part numbers currently installed on the airplane. KLM and CLX claimed that dirt, grease, or sealant may prevent part numbers from being identified by way of a general visual inspection and that the document provided by Boeing should be used as a visual aid.

The FAA agrees with using visual aids or other documentation to help identify part numbers during the inspection. However, the FAA disagrees with revising the AD to require the specified document. Boeing Alert Requirements Bulletin 747-57A2367 RB, dated November 15, 2019, refers to a procedure in Boeing Alert Service Bulletin 747-57A2367, dated November 15, 2019, as an accepted procedure for the general visual inspection to identify the parts production configuration. Note 6 of the Accomplishment

Instructions states that “when the words ‘refer to’ are used and the operator has an accepted alternative procedure, the accepted alternative procedure can be used.” The FAA has not changed this AD regarding this request.

#### **Request to Allow Optional Records Check**

Both KLM and CLX requested that a maintenance records check be allowed as an option to the general visual inspection specified in Boeing Alert Requirements Bulletin 747-57A2367 RB, dated November 15, 2019, for the purpose of identifying parts currently installed on the airplane. Both KLM and CLX stated that operators should be able to determine whether their maintenance records are accurate.

The FAA disagrees with the request. The service information was coordinated with the DAH and it was determined that a physical check, as specified in Boeing Alert Requirements Bulletin 747-57A2367 RB, dated November 15, 2019, is required. This AD has not been changed regarding this request.

#### **Request to Accept Work Package from Previous Service Bulletin**

United Parcel Service (UPS) requested that the FAA also accept accomplishment of Work Package 3 of Boeing Alert Service Bulletin 747-27-2366, Revision 3, dated March 22, 2016, in lieu of the initial inspection specified by Table 4 of Boeing Alert Requirements Bulletin 747-57A2367 RB, dated November 15, 2019. UPS asserted that there is significant overlap between the two flap inspections.

The FAA does not agree with the request. The inspections specified in Boeing Alert Requirements Bulletin 747-57A2367 RB, dated November 15, 2019, include additional structure to inspect, compared to Boeing Alert Service Bulletin 747-27-2366, Revision 3, dated March 22, 2016, and also specify corrective action if damage is detected. The requirements of this AD have been coordinated with the DAH. UPS did not provide the FAA any substantiating data to demonstrate that the less stringent inspections from Boeing Alert Service Bulletin 747-27-2366, Revision 3, dated March 22, 2016,

provide an acceptable level of safety. The FAA has not changed this AD as a result of this comment.

### **Conclusion**

The FAA reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes. The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

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

The FAA reviewed Boeing Alert Requirements Bulletin 747-57A2367 RB, dated November 15, 2019. This service information describes procedures for repetitive replacement of certain parts; a general visual inspection to determine production configuration for certain parts; a repetitive lubrication of certain parts and a repetitive general visual inspection of certain parts for any exuding grease; repetitive detailed inspections of certain parts for loose or missing attachment bolts, cracks or bushing migration, cracks or gouges, or broken, binding, or missing rollers; repetitive detailed inspections of certain parts for cracks or corrosion; repetitive lubrication; and on-condition actions if necessary. On-condition actions include replacements and repair. 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

The FAA estimates that this AD affects 125 airplanes of U.S. registry. The FAA estimate the following costs to comply with this AD:

### Estimated costs for required actions

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Repetitive replacement	Up to 10 work-hours X \$85 per hour = Up to \$850 per replacement cycle	\$35,719	Up to \$36,569 per replacement cycle	Up to \$4,571,125 per replacement cycle
General visual inspection for parts production configuration	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$10,625
Repetitive detailed inspections	4 work-hours X \$85 per hour = \$340 per inspection cycle	\$0	\$340 per inspection cycle	\$42,500 per inspection cycle
Repetitive inspection for lubrication and repetitive lubrication	1 work-hour X \$85 per hour = \$85 per lubrication	\$0	\$85 per lubrication	\$10,625 per lubrication

The FAA estimates the following costs to do any necessary on-condition actions that would be required. The FAA has no way of determining the number of aircraft that might need these on-condition actions:

### Estimated costs of on-condition replacements

Labor cost	Parts cost	Cost per product
Up to 8 work-hour X \$85 per hour = \$680	Up to \$17,720	Up to \$18,400

The FAA has received no definitive data that would enable the FAA to provide cost estimates for the on-condition repairs specified in this 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.

The FAA is 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) Will not affect intrastate aviation in Alaska, and
- (3) 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:

**2021-02-15 The Boeing Company:** Amendment 39-21398; Docket No. FAA-2020-0211; Product Identifier 2020-NM-006-AD.

**(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 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, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, and 747SR series airplanes, certificated in any category, as identified in Boeing Alert Requirements Bulletin 747-57A2367 RB, dated November 15, 2019.

**(d) Subject**

Air Transport Association (ATA) of America Code 57, Wings.

**(e) Unsafe Condition**

This AD was prompted by reports of inboard foreflap departures from the airplane. The FAA is issuing this AD to address departures of the inboard foreflap assembly from the airplane, which could result in damage to the airplane and adversely affect the airplane's continued safe flight and landing.

**(f) Compliance**

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

**(g) Required Actions**

Except as specified by paragraph (h) of this AD: At the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 747-57A2367 RB,

dated November 15, 2019, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 747-57A2367 RB, dated November 15, 2019.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 747-57A2367, dated November 15, 2019, which is referred to in Boeing Alert Requirements Bulletin 747-57A2367 RB, dated November 15, 2019.

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

Where Boeing Alert Requirements Bulletin 747-57A2367 RB, dated November 15, 2019, uses the phrase “the original issue date of Requirements Bulletin 747-57A2367 RB,” this AD requires using “the effective date of this AD.”

**(i) 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 (j) 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 Company 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.

**(j) Related Information**

For more information about this AD, contact Eric Lin, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3523; email: eric.lin@faa.gov.

**(k) 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 Requirements Bulletin 747-57A2367 RB, dated November 15, 2019.

(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; phone: 562-797-1717; Internet: <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(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, email [fedreg.legal@nara.gov](mailto:fedreg.legal@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on January 14, 2021.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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