[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-1054; Project Identifier AD-2022-00278-T; Amendment 39-22255; AD 2022-24-15]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2017-18-05, which applied to all 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, 747SR, and 747SP series airplanes. AD 2017-18-05 required repetitive replacement or inspection of certain fuse pins, and applicable on-condition actions. This AD was prompted by a report of damage found at the lower trailing edge panels of the left wing and a broken fuse pin of the landing gear beam end fitting. This AD was further prompted by the need for new inspections for cracking of the fuse pin, and the determination that additional airplanes are subject to the unsafe condition. This AD continues to require the actions in AD 2017-18-05 and also requires repetitive replacement of certain fuse pins, repetitive inspections for cracking of the fuse pin, and applicable on-condition actions. This AD also revises the applicability by adding airplanes. 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:

AD Docket: You may examine the AD docket at regulations.gov under Docket No. FAA-2022-1054; 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.

Material Incorporated by Reference:

• For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; website 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 at regulations.gov under Docket No. FAA-2022-1054.

FOR FURTHER INFORMATION CONTACT: Stefanie Roesli, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3964; email: Stefanie.N.Roesli@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2017-18-05, Amendment 39-19014 (82 FR 41331, August 31, 2017)

(AD 2017-18-05). AD 2017-18-05 applied to all Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP airplanes. The NPRM published in the *Federal Register* on September 19, 2022 (87 FR 57155). The NPRM was prompted by a report of damage at the lower trailing edge panels of the left wing and a broken fuse pin of the landing gear beam end fitting. The NPRM was further prompted by the need for new ultrasonic testing (UT) inspections for cracking of the fuse pin, and the determination that additional airplanes are subject to the unsafe condition. In the NPRM, the FAA proposed to continue to require repetitive replacement, or repetitive magnetic particle or surface high frequency eddy current (HFEC) inspections, of certain fuse pins, and applicable on-condition actions. The NPRM also proposed the option for repetitive replacement of certain corrosion-resistant (stainless) steel (CRES) and steel alloy fuse pins at the wing landing gear beam end fitting; and repetitive magnetic particle inspections, or repetitive HFEC and UT inspections, for cracking of the fuse pin, and applicable on-condition actions. The NPRM also proposed to revise the applicability by adding Model 747-8F and 747-8 series airplanes.

The FAA is issuing this AD to address cracking in the fuse pin of the wing landing gear beam end fitting. A broken fuse pin will not support the wing landing gear beam, causing damage to the surrounding structure, including flight control cables and hydraulic systems, which could result in loss of controllability of the airplane.

Discussion of Final Airworthiness Directive

Comments

The FAA received a comment from Air Line Pilots Association, International, who supported the NPRM without change.

Conclusion

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Related Service Information under 1 CFR Part 51

The FAA reviewed Boeing Alert Service Bulletin 747-57A2360, Revision 1, dated February 9, 2022. This service information specifies procedures for, depending on airplane configuration, the optional repetitive replacement of certain steel alloy fuse pins or CRES fuse pins with new or serviceable fuse pins at the wing landing gear beam end fitting; and repetitive magnetic particle inspections, or repetitive surface HFEC and UT inspections, for cracking and corrosion of the fuse pin of the wing landing gear beam end fitting, and applicable on-condition actions. On-condition actions include replacement with steel alloy or CRES fuse pins; and magnetic particle, surface HFEC, and UT testing inspections for cracks; and replacement of cracked fuse pins. 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 ADDRESSES.

Costs of Compliance

The FAA estimates that this AD affects 207 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Fuse pin replacement[1] (retained actions from AD 2017-18-05)	Up to 46 work-hours X $85 per hour = Up to $3,910 per replacement cycle	Up to $15,150	Up to $19,060 per replacement cycle	Up to $3,945,420 per replacement cycle

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Magnetic particle inspection[1] (retained actions from AD 2017-18-05)	Up to 48 work-hours X $85 per hour = Up to $4,080 per inspection cycle	$0	Up to $4,080 per inspection cycle	Up to $844,560 per inspection cycle
Surface inspection[1] (retained actions from AD 2017-18-05)	Up to 10 work-hours X $85 per hour = Up to $850 per inspection cycle	$0	Up to $850 per inspection cycle	Up to $175,950 per inspection cycle
CRES fuse pin replacement[1] (new action)	Up to 46 work-hours X $85 per hour = Up to $3,910 per replacement cycle	$9,007	Up to $12,917 per replacement cycle	Up to $2,673,819 per replacement cycle
Steel alloy fuse pin replacement[1] (new action)	Up to 46 work-hours X $85 per hour = Up to $3,910 per replacement cycle	$9,693	Up to $13,603 per replacement cycle	Up to $2,815,821 per replacement cycle
Surface HFEC and UT inspections[1] (new action)	Up to 11 work-hours X $85 per hour = Up to $935 per inspection cycle	$0	Up to $935 per inspection cycle	Up to $193,545 per inspection cycle

[1] Operators may choose which action they want to use.

The FAA estimates the following costs to do any necessary replacements and inspections that would be required based on the results of the required inspections. The FAA has no way of determining the number of aircraft that might need these replacements and inspections:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
CRES fuse pin replacement	46 work-hours X $85 per hour = $3,910	$9,007	$12,917
Steel alloy fuse pin replacement	46 work-hours X $85 per hour = $3,910	$9,693	$13,603

Action	Labor cost	Parts cost	Cost per product
Magnetic particle inspection	48 work-hours X $85 per hour = $4,080	$0	$4,080
Surface HFEC and UT inspections	11 work-hours X $85 per hour = $935	$0	$935

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.

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:

a. Removing Airworthiness Directive (AD) 2017-18-05; Amendment 39-19014 (82 FR 41331, August 31, 2017); and

b. Adding the following new AD:

2022-24-15 The Boeing Company: Amendment 39-22255; Docket No. FAA-2022-1054; Project Identifier AD-2022-00278-T.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2017-18-05; Amendment 39-19014 (82 FR 41331, August 31, 2017) (AD 2017-18-05).

(c) Applicability

This AD applies to all 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, 747SR, 747SP, 747-8F, and 747-8 series airplanes, certificated in any category.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by a report of damage found at the lower trailing edge panels of the left wing and a broken fuse pin of the landing gear beam end fitting, and the determination that repetitive ultrasonic testing inspections of the fuse pin for cracking and optional repetitive replacement of certain corrosion-resistant (stainless) steel (CRES) and steel alloy fuse pins are necessary to address the unsafe condition. The FAA is issuing this AD to detect and correct cracking in the fuse pin of the wing landing gear beam end fitting. A broken fuse pin will not support the wing landing gear beam, causing damage to the surrounding structure, including flight control cables and hydraulic systems, which could result in loss of controllability of the airplane.

(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 paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-57A2360, Revision 1, dated February 9, 2022, do all applicable actions identified as "RC" (required for compliance) in, and in accordance with, the Accomplishment Instructions of Boeing Alert Service Bulletin 747-57A2360, Revision 1, dated February 9, 2022.

(h) Exceptions to Service Information Specifications

(1) Where the Compliance Time columns of the tables in the "Compliance" paragraph of Boeing Alert Service Bulletin 747-57A2360, Revision 1, dated February 9, 2022, use the phrase "the original issue date of this service bulletin," this AD requires using the date of October 5, 2017 (the effective date of AD 2017-18-05).

(2) Where the Compliance Time columns of the tables in the "Compliance" paragraph of Boeing Alert Service Bulletin 747-57A2360, Revision 1, dated February 9, 2022, use the phrase "the Revision 1 date of this service bulletin," 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 responsible Flight Standards 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 responsible Flight Standards 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.

(4) Except as specified by paragraph (h) of this AD: For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (i)(4)(i) and (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.

(j) Related Information

For more information about this AD, contact Stefanie Roesli, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3964; email: Stefanie.N.Roesli@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 Service Bulletin 747-57A2360, Revision 1, dated February 9, 2022.

(ii) [Reserved]

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; website 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 fr.inspection@nara.gov, or go to www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on November 18, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2022-27803 Filed: 12/21/2022 8:45 am; Publication Date: 12/22/2022]