



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-9520; Directorate Identifier 2016-NM-163-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 all The Boeing Company Model 777 airplanes. This proposed AD was prompted by reports of cracks on the underwing longerons. This proposed AD would require repetitive inspections of the left and right side underwing longerons for any crack, and related investigative and corrective actions if necessary. We are proposing this AD to address the unsafe condition on these products.

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 NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; 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-2016-9520.

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-2016-9520; 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: Eric Lin, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6412; fax: 425-917-6590; email: eric.lin@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-2016-9520; Directorate Identifier 2016-NM-163-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 have received a report indicating that cracks have been found which led to an underwing longeron becoming severed. The first underwing longeron crack was discovered in service. An operator had reports of a fuel smell in the forward cargo area. During a subsequent investigation, a crack was found in the center wing tank that was attributed to the longeron crack. All models except some Model 777-200 airplanes without a center wing tank are affected by the potential for a fuel leak into the forward cargo area.

Subsequently, three more operators have reported cracks on the left underwing longeron. The cracks have been reported in Model 777-300ER and 777-200 airplanes. The cracks have been reported as early as 3,784 flight cycles and 31,240 flight hours. As the cracks grow in the longeron, further cracking has been reported and three operators noted the lower front spar chord had cracked. This condition, if not corrected, could result in fuel leakage into the forward cargo area and consequent increased risk of a fire or, in a more severe case, could adversely affect the structural integrity of the airplane.

Related Service Information under 1 CFR part 51

We reviewed Boeing Alert Service Bulletin 777-53A0081, dated September 8, 2016 (“ASB 777-53A0081, Revision 0”). The service information describes procedures for repetitive detailed inspections, ultrasonic inspections, and high frequency eddy

current (HFEC) inspections of the left and right side longerons, and 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.

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 described previously, except as discussed under “Differences Between this Proposed AD and the Service Information.” For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9520.

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 action, 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 correct or address any condition found. Corrective actions in an AD could include, for example, repairs.

Differences Between this Proposed AD and the Service Information

ASB 777-53A0081, Revision 0, specifies to contact the manufacturer for certain instructions, but this proposed AD would require using repair methods, modification deviations, and alteration deviations 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.

Costs of Compliance

We estimate that this proposed AD affects 201 airplanes of U.S. registry. We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Option 1: Detailed Inspection	4 work-hours X \$85 per hour = \$340 per inspection cycle	\$0	\$340 per inspection cycle	\$68,340 per inspection cycle
Option 2: Detailed and HFEC or Ultrasonic Inspection	12 work-hours X \$85 per hour = \$1,020 per inspection cycle	\$0	\$1,020 per inspection cycle	\$205,020 per inspection cycle

We estimate the following costs to do any necessary replacements that would be required based on the results of the proposed inspection. We have no way of determining the number of aircraft that might need these replacements:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Left side or right side longeron replacement	102 work-hours X \$85 per hour = \$8,670 per side	\$31,000 per side	\$39,670 per side

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

According to the manufacturer, some of the costs of this proposed 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 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-2016-9520; Directorate Identifier 2016-NM-163-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 all The Boeing Company Model 777-200, -200LR, -300, -300ER, and 777F series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 53, Fuselage and 57, Wings.

(e) Unsafe Condition

This AD was prompted by reports of cracks on the underwing longerons. We are issuing this AD to detect and correct cracks in the underwing longerons, which could result in fuel leakage into the forward cargo area and consequent increased risk of a fire or, in a more severe case, could adversely affect the structural integrity of the airplane.

(f) Compliance

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

(g) Inspections

Except as specified in paragraph (i)(1) of this AD, at the applicable times specified in tables 1 through 6 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 777-53A0081, dated September 8, 2016 (“ASB 777-53A0081, Revision 0”): Do detailed inspections for any crack of the left and right side underwing longerons; or do detailed inspections, and high frequency eddy current (HFEC) or ultrasonic inspections, as applicable, for any crack of the left and right side underwing longerons; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of ASB 777-53A0081, Revision 0, except as required by paragraph (i)(2) of this AD. Do all applicable related investigative and corrective actions before further flight. Repeat the inspections thereafter at the times specified in tables 1 through 6 of paragraph 1.E., “Compliance,” of ASB 777-53A0081, Revision 0, as applicable. Replacing an underwing longeron, including doing all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of ASB 777-53A0081, Revision 0, except as required by paragraph (i)(2) of this AD, terminates the repetitive inspections required by this paragraph for that longeron only.

(h) Repetitive Post-Replacement Inspections and Corrective Actions

For airplanes on which any longeron replacement has been done as specified in ASB 777-53A0081, Revision 0: At the applicable times specified in tables 7 through 14 of paragraph 1.E., “Compliance,” of ASB 777-53A0081, Revision 0, do detailed inspections of all replaced longerons for any crack, or do detailed inspections and ultrasonic inspections of all replaced longerons for any crack, and do all applicable corrective actions; in accordance with the Accomplishment Instructions of ASB 777-53A0081, Revision 0, except as required by paragraph (i)(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 tables 7 through 14 of paragraph 1.E., “Compliance,” of ASB 777-53A0081, Revision 0.

(i) Service Information Exceptions

(1) Where ASB 777-53A0081, Revision 0, specifies a compliance time “after the issue date of this service bulletin,” this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where ASB 777-53A0081, Revision 0, specifies to contact Boeing for appropriate action: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

(j) 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, 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 (i)(2) of this AD: For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (j)(4)(i) and (j)(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. If a step or sub-step is labeled “RC Exempt,” then the RC requirement is removed from that step or sub-step. 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.

(k) Related Information

(1) For more information about this AD, contact Eric Lin, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6412; fax: 425-917-6590; email: eric.lin@faa.gov.

(2) 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; 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.

Issued in Renton, Washington, on December 15, 2016.

Victor Wicklund,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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