[Federal Register, Volume 90 Number 52 (Wednesday, March 19, 2025)]
[Rules and Regulations]
[Pages 12682-12685]
From the Federal Register Online via the Government Publishing Office [www.gpo.gov]
[FR Doc No: 2025-04440]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-2151; Project Identifier AD-2023-00984-T; Amendment 39-22990; AD 2025-06-02]

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 all The Boeing Company Model 777-200, -200LR, -300, -300ER, and 777F series airplanes. This AD was prompted by a report of a 5-inch crack on the upper wing skin at a certain wing station of the right wing. This AD requires repetitive inspections for cracking of the upper wing skin common to certain fasteners and applicable on-condition actions. The FAA is issuing this AD to address the unsafe condition on these products.

DATES:

This AD is effective April 23, 2025.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of April 23, 2025.

ADDRESSES:

AD Docket: You may examine the AD docket at *regulations.gov* under Docket No. FAA-2023-2151; 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 Boeing material 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*.
- You may view this material 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-2023-2151.

FOR FURTHER INFORMATION CONTACT:

Luis Cortez-Muniz, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3958; email: *Luis.A.Cortez-Muniz@faa.gov*.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all The Boeing Company Model 777-200, -200LR, -300, -300ER, and 777F series airplanes. The NPRM published in the **Federal Register** on November 17, 2023 (88 FR 80216). The NPRM was prompted by a report of a 5-inch crack on the upper wing skin at wing station (WSTA) 460 of the right wing. In the NPRM, the FAA proposed to require repetitive inspections for cracking of the upper wing skin common to certain fasteners and applicable on-condition actions, including repair.

The FAA issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 by adding an AD that would apply to all The Boeing Company Model 777-200, -200LR, -300, -300ER, and 777F series airplanes. The SNPRM published in the **Federal Register** on September 20, 2024 (89 FR 77049). The SNPRM was prompted by reports from Boeing of two events of cracking at the fastener 6 and 7 locations where the cracks initiated in the spanwise (inboard/outboard) direction. These cracks were detected only because of a repair accomplished on an adjacent fastener. The areas around the repaired fasteners were subsequently inspected with an open hole high frequency eddy current (HFEC) inspection, rather than with the ultrasonic (UT) inspection that was proposed in the NPRM. The SNPRM therefore proposed to require open hole HFEC inspections instead of UT inspections. The FAA is issuing this AD to address the possibility of an undetected upper wing skin crack.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from five commenters, including Boeing and three individuals who supported the SNPRM without change, and American Airlines who supported the inspections specified in the SNPRM and also provided additional comments.

The FAA received additional comments from five commenters, including All Nippon Airways, Air France, FedEx, American Airlines, and United Airlines (United). The following presents the comments received on the SNPRM and the FAA's response to each comment.

Request for Compliance Time Extension

American Airlines and United requested a compliance time extension for previously inspected airplanes. American Airlines requested that airplanes on which Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, is accomplished by completing the UT inspections without the fastener 6 and 7 open hole HFEC inspections and had no crack findings be allowed to fly up to 4,700 flight cycles or 10,300 flight hours from the time of the inspection before they have to be brought back to accomplish the inspections with the newly proposed open hole HFEC inspections. The commenters did not provide justification for the request.

United requested an additional grace period to conduct the fastener 6 and 7 open hole HFEC inspection on airplanes where the UT inspection was already conducted prior to the issuance of the final rule. United stated that this additional time is requested to allow for proper planning and execution of the open hole HFEC inspection; these inspections require a significant amount of time and effort to accomplish and will impact United's maintenance check scheduling. Additionally, United noted the materials required for the on-condition corrective action are currently out of stock and are subject to extended lead times from Boeing.

The FAA disagrees with the request for an extended compliance time for airplanes on which UT inspections have been done as specified in the NPRM prior to the publication of the final rule. As the UT inspection would not adequately detect cracks common to the 6 and 7 fasteners, a grace period extension or allowing credit for accomplish the UT inspection may not adequately maintain an acceptable level of safety due to factors such as airplane age, utilization, inspection history, etc. In addition, the FAA notes that the on-condition corrective action is to contact Boeing for repair instructions and do the repair. The parts needed to do the repair will vary depending on the inspection findings. If parts for a specific repair are not available, operators may request a compliance time extension through alternative methods of compliance (AMOC) in accordance with paragraph (i) of this AD provided sufficient supporting data is submitted to show an acceptable level of safety is maintained.

Request for Clarification of Inspection Compliance Time

Air France requested that the FAA clarify the fastener inspection compliance time for airplanes that have already accomplished inspection instructions in accordance with Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, prior to the emergence of the issue regarding open hole HFEC inspection of fasteners 6 and 7. Air France requested compliance time clarification since Air France had already inspected some group 4 airplanes with no finding after the UT inspection to comply with Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023. Air France stated that no open hole HFEC inspection was performed on fasteners 6 and 7 on these airplanes and they are scheduled to be reinspected within 4,700 flight cycles or 10,300 flight hours, whichever occurs first, after the first inspection. For these affected airplanes, Air France would like the FAA to specify if the open hole HFEC inspection on fasteners 6 and 7 is to be performed within 12 months or 4,300

flight hours, whichever occurs first, from the effective date of the proposed AD or at the next repeat inspection per Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, instructions.

The FAA agrees to clarify the inspection compliance time. For airplanes on which the inspections specified in Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, were accomplished, without the open hole HFEC inspection for fasteners 6 and 7, accomplishing the open hole HFEC inspection for the subject fasteners is required within the inspection compliance times required by this AD, as required by paragraphs (g) and (h) of this AD, which includes a grace period of within 12 months or 4,300 flight hours, whichever occurs first, after the effective date of this AD. For any airplanes inspected in accordance with Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, without the open hole HFEC inspection of the subject fasteners prior to the issuance of this AD, the FAA may consider compliance time extensions through AMOCs in accordance with paragraph (i) of this AD, provided sufficient supporting data is submitted to show an acceptable level of safety is maintained.

Request Credit for Previous Actions

American Airlines and United requested credit for previous actions for fasteners 6 and 7. American Airlines requested that previous accomplishment of open hole HFEC inspections at fastener 6 and 7 during repairs of cracks in the subject inspection area are considered compliant with the initial inspections on the subject wing side. United requested credit for conducting open hole HFEC inspections on fasteners 6 and 7 on group 4 airplanes before the AD issue date. The commenters did not provide justification for this request.

The FAA agrees that previous accomplishment of open hole HFEC inspections at the subject fasteners are considered compliant if done as specified in paragraphs (g) and (h) of this AD. Paragraph (f) of this AD states to accomplish the required actions within the compliance times specified, “unless already done.” Therefore, if operators have accomplished the initial inspections required for compliance with this AD before the effective date of this AD, they are in compliance with those requirements. The FAA has not revised this AD in this regard.

Request for FAA To Allow Open Hole HFEC Inspections in Lieu of UT Inspections

All Nippon Airways requested that the FAA accept the procedure to perform open hole HFEC inspections in lieu of UT inspections for affected fasteners or release an AD that requires revised service information reflecting this content. The commenter states that Boeing Information Notice 777-57A0125 IN 01, dated July 19, 2024, instructs operators to perform open hole HFEC in lieu of UT inspection. The commenter also stated formal Boeing approval via FAA Form 8100-9 will be needed because the open hole HFEC inspection in lieu of UT inspection has not been considered acceptable by the FAA.

The FAA disagrees with the request to release an AD that requires revised service information to accept the procedure to perform open hole HFEC inspections in lieu of UT inspections for affected fasteners because the FAA has already identified the open hole HFEC procedure as indicated in paragraphs (h)(4) through (7) of this AD. Additional approval would not be required as the open hole HFEC procedure is already required by the FAA in this AD. The FAA has not changed this AD in this regard.

Request To Limit Inspection to Certain Airplanes

FedEx requested that paragraph (h)(7) of the proposed AD be revised to limit it to Model 777F (Group 6) airplanes with more than 40,000 total flight hours or 6,500 total flight cycles. FedEx stated that based on its inspection results, the inspection intervals in Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, and the added requirements in paragraph (h)(7) of the proposed AD are not in the public interest.

FedEx noted that no cracks were found on airplanes with less than 48,000 total flight hours and for airplanes with more than 40,000 total flight hours, there is a low rate of crack findings with small cracks being found. FedEx concluded that the mandate to perform open hole HFEC inspections would result in a requirement to perform at least three sets of invasive, open hole inspections before an airplane reached 48,000 total flight hours when micro-cracking was first observed. FedEx also stated that the removal of interference fit fasteners will typically require subsequent installation of an oversize fasteners and multiple fastener replacements is expected to adversely affect the joint stiffness and fatigue life of the subject wing spar region.

The FAA acknowledges that removal of interference fit fasteners may require oversizing the fastener hole but does not agree with delaying the inspections because the FAA considered crack reports across the entire 777 fleet of airplanes in determining the compliance times. The FAA received reports of crack findings earlier than 40,000 total flight hours or 6,500 total flight cycles. Therefore, the FAA has not changed this AD in this regard. The FAA will, however, consider AMOCs in accordance with the paragraph (i) of this AD for compliance time extensions provided substantiation data is submitted to show an acceptable level of safety is maintained with the alternate inspection intervals.

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 SNPRM. None of the changes will increase the economic burden on any operator.

Material Incorporated by Reference Under 1 CFR Part 51

The FAA reviewed Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023. This material specifies procedures for repetitive inspections for cracking of the upper wing skin common to certain fasteners and applicable on-condition actions. On-condition actions include repair.

This material 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 323 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
Inspections	40 work-hours × $85 per hour = $3,400 per inspection cycle	* $1,480	$4,880 per inspection cycle	$1,576,240 per inspection cycle.

** An inspection kit is required.*

The FAA has received no definitive data on which to base the cost estimates for the on-condition repairs specified in this AD.

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

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(f), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2025-06-02 The Boeing Company: Amendment 39-22990; Docket No. FAA-2023-2151; Project Identifier AD-2023-00984-T.

(a) Effective Date

This airworthiness directive (AD) is effective April 23, 2025.

(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 57, Wings.

(e) Unsafe Condition

This AD was prompted by a report of a 5-inch crack on the upper wing skin at wing station (WSTA) 460 of the right wing. The FAA is issuing this AD to address the possibility of an undetected upper wing skin crack. The unsafe condition, if not addressed, could result in the inability of the primary structural element to sustain limit load and could adversely affect the structural integrity of the airplane, resulting in loss of control 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 the "Compliance" paragraph of Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 777-57A0125, dated July 25, 2023, which is referred to in Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023.

(h) Exceptions to Service Information Specifications

(1) Where Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, uses the phrase "the original issue date of Requirements Bulletin 777-57A0125 RB," this AD requires using the effective date of this AD.

(2) Where Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, specifies contacting Boeing for repair instructions: This AD requires doing the repair before further flight using a method approved in accordance with the procedures specified in paragraph (i) of this AD.

(3) Where note (a) of the tables in the "Compliance" paragraph and Accomplishment Instructions of Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, specifies that a "repair for any crack found on the left wing is terminating action to the repeat inspection on the left wing only," or that a "repair for any crack found on the right wing is terminating action to the repeat inspection on the right wing only," for this AD, performing a repair for any crack in accordance with the procedures specified in paragraph (i) of this AD terminates the repetitive inspections required by (g) of this AD at the repaired area only.

(4) For Model 777-300 (Group 3) airplanes, where Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, specifies an ultrasonic (UT) inspection of the upper wing skin common to fasteners 11 and 12, this AD requires an open hole high frequency eddy current (HFEC) inspection of fasteners 11 and 12 in accordance with Figures 5 and 6 (for the left wing) or Figures 18 and 19 (for the right wing), as applicable.

(5) For Model 777-300ER (Group 4) airplanes, where Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, requires a UT inspection of the upper wing skin common to fasteners 6 and 7, this AD requires this AD requires an open hole HFEC inspection of fasteners 6 and 7 in accordance with Figures 30 and 34 (for the left wing) or Figures 39 and 43 (for the right wing), as applicable.

(6) For Model 777-200LR (Group 5) airplanes, where Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, requires a UT inspection of the upper wing skin common to fasteners 6 and 7, this AD requires an open hole HFEC inspection of fasteners 6 and 7 in accordance with Figures 30 and 34 (for the left wing) or Figures 39 and 43 (for the right wing), as applicable.

(7) For Model 777F (Group 6) airplanes, where Boeing Alert Requirements Bulletin 777-57A0125 RB, dated July 25, 2023, requires a UT inspection of the upper wing skin common to fasteners 6 and 7, this

AD requires an open hole HFEC inspection of fasteners 6 and 7 in accordance with Figures 30 and 34 (for the left wing) or Figures 39 and 43 (for the right wing), as applicable.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, AIR-520, Continued Operational Safety 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)(1) of this AD. Information may be emailed to: *AMOC@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, AIR-520, Continued Operational Safety 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

(1) For more information about this AD, contact Luis Cortez-Muniz, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3958; email: *Luis.A.Cortez-Muniz@faa.gov*.

(2) Material identified in this AD that is not incorporated by reference is available at the address specified in paragraph (k)(3) this AD.

(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 777-57A0125 RB, dated July 25, 2023.

(ii) [Reserved]

(3) For Boeing material, 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 material 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 material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA visit *www.archives.gov/federal-register/cfr/ibr-locations* or email *fr.inspection@nara.gov*.

Issued on March 13, 2025.

Peter A. White,

Deputy Director, Integrated Certificate Management Division, Aircraft Certification Service.

[FR Doc. 2025-04440 Filed 3-18-25; 8:45 am]

BILLING CODE 4910-13-P