[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0485; Directorate Identifier 2014-NM-093-AD; Amendment 39-18176; AD 2015-12-03]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2007-13-05 for all The Boeing Company Model 777–200, –200LR, –300, and –300ER series airplanes. AD 2007-13-05 required repetitive measurements of the freeplay of the right and left elevators, rudder, and rudder tab, and related investigative and corrective actions if necessary. This new AD requires repetitive freeplay inspections and lubrication of the right and left elevators, rudder, and rudder tab, and related investigative and corrective actions if necessary. This AD was prompted by the manufacturer's determination that the procedure for the rudder freeplay inspection does not properly detect excessive freeplay in the rudder control load loop. We are issuing this AD to detect and correct excessive wear in the load loop components of the control surfaces, which could lead to excessive freeplay of the control surfaces, flutter, and consequent loss of control of the airplane.

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 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-2014-0485.

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-2014-0485; 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: Haytham Alaidy, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6573; fax: 425-917-6590; email: Haytham.Alaidy@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2007-13-05, Amendment 39-15109 (72 FR 33856, June 20, 2007). AD 2007-13-05 applied to all The Boeing Company Model 777–200, –200LR, –300, and -300ER series airplanes. The NPRM published in the Federal Register on July 29, 2014 (79 FR 43981). The NPRM was prompted by a determination by the manufacturer that, after AD 2007-13-05 was issued, the procedure for the rudder freeplay inspection did not properly detect excessive freeplay in the rudder control load loop. The NPRM proposed to continue to require repetitive freeplay inspections and lubrication of the right and left elevators, rudder, and rudder tab; and related investigative and corrective actions if necessary. We are issuing this AD to detect and correct excessive wear in the load loop components of the control surfaces, which could lead to excessive freeplay of the control surfaces, flutter, and consequent loss of control 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 43981, July 29, 2014) and the FAA's response to each comment.

A4A, on behalf of American Airlines (AA), stated that AA is already in compliance with the requirements proposed in the NPRM (79 FR 43981, July 29, 2014).

Request to Exclude Certain Airplanes

Boeing requested that the airplanes referenced in the SUMMARY section and Discussion paragraph of the NPRM (79 FR 43981, July 29, 2014) be changed from "all The Boeing Company Model 777 airplanes" to "most of The Boeing Company Model 777 airplanes." Boeing stated that Model 777-200F airplanes are not affected by the NPRM.

We agree to change the phrase "all The Boeing Company Model 777 airplanes" for clarity. This final rule supersedes AD 2007-13-05, Amendment 39-15109 (72 FR 33856, June 20, 2007), which was applicable to all Boeing Model 777-200, -200LR, -300, and -300ER series airplanes. At the time AD 2007-13-05 was published, all Model 777-200, -200LR, -300, and -300ER series airplanes were referred to as "all The Boeing Company Model 777 airplanes." Since then, Model 777F has been added to the U.S. type certificate data sheet. We have revised the SUMMARY section of this final rule to specify all The Boeing Company Model 777-200, -200LR, -300, and -300ER series airplanes. The Discussion paragraph of the NPRM (79 FR 43981, July 29, 2014) is not restated in this final rule.

Request to Clarify the Unsafe Condition

Boeing requested that we clarify the unsafe condition specified in the SUMMARY section, Discussion paragraph, and paragraph (e) of the NPRM. Boeing stated that the repetitive freeplay inspections of the right and left elevators, rudder, and rudder tab proposed in the NPRM (79 FR 43981, July 29, 2014) would not prevent, detect, or correct flutter; the proposed freeplay inspections would detect excessive wear in the load loop components of the control surfaces. Boeing pointed out that excessive wear could lead to excessive freeplay of the control surfaces, which could cause unacceptable airframe vibration during flight.

Based on the explanation provided by the commenter, we agree to clarify the

unsafe condition that is the basis for issuing this final rule. However, we will not replace the word "flutter" with "unacceptable airframe vibration" because the unsafe condition is flutter, not vibration. We have revised the unsafe condition statement as follows, "We are issuing this AD to detect and correct excessive wear in the load loop components of the control surfaces, which could lead to excessive freeplay of the control surfaces, flutter, and consequent loss of control of the airplane." This revision appears in the SUMMARY section and Discussion paragraph of the SUPPLEMENTARY INFORMATION section of this final rule, as well as paragraph (e) of this AD.

Request to Clarify the Requirements of Paragraph (g) of the Proposed AD (79 FR 43981, July 29, 2014)

Boeing requested that we revise paragraph (g) of the proposed AD (79 FR 43981, July 29, 2014) by deleting "rudder" from the following sentence: "If during any inspection required by this paragraph, the rudder freeplay exceeds any applicable measurement . . . ." Boeing explained that this statement is incorrect because it is not just the rudder freeplay, but if any elevator, rudder, or rudder tab freeplay exceeds any applicable measurement specified in the service information, the applicable corrective actions need to be accomplished before further flight.

We agree to revise the specified sentence in paragraph (g) of this AD, because corrective actions before further flight are needed for any elevator, rudder, or rudder tab freeplay that exceeds any applicable measurement specified in Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014.

Requests to Correct Errors in the Service Information

Japan Airlines (JAL) and United Airlines noted that there are typographical errors in Appendix B and Appendix C of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014. JAL requested that the FAA issue an AD to mandate the incorporation of the next revision (Revision 3) of Boeing Special Attention Service Bulletin 777-27-0062, or provide an exception to these typographical

errors in this AD. United Airlines requested that the FAA issue a global alternative method of compliance (AMOC) to correct the errors identified in Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014.

We agree that Appendix B and Appendix C of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014, contain typographical errors. However, we do not consider that delaying this action until after the release of the manufacturer's planned service bulletin revision is warranted. Because some of these typographical errors affect the procedures for correctly measuring the freeplay of the rudder tab surface, we have provided the corrections for those errors in paragraph (i) of this AD instead of issuing an AMOC. Paragraph (i) of the proposed AD (79 FR 43981, July 29, 2014) has been redesignated as paragraph (i)(1) in this AD, and new paragraphs (i)(2), (i)(3), and (i)(4) have been added to this AD. We have also revised paragraph (g) of this AD to refer to paragraphs (i)(1) through (i)(4) of this AD.

Additional Changes to this Final Rule

Paragraph (k)(4) of the NPRM (79 FR 43981, July 29, 2014) stated that AMOCs approved previously for AD 2007-13-05, Amendment 39-15109 (72 FR 33856, June 20, 2007), are not approved as AMOCS for the requirements of this AD. We have now determined that AMOCs for certain actions required by AD 2007-13-05 are acceptable for the corresponding requirements of this AD. We have revised paragraph (k)(4) of this AD and added new paragraphs (k)(5) and (k)(6) to this AD to include this information.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously, and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 43981, July 29, 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 43981, July 29, 2014).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information under 1 CFR part 51

We reviewed Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014. The service information describes procedures for repetitive freeplay inspections and lubrication of the right and left elevators, rudder, and rudder tab, and related investigative and corrective actions. 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 142 airplanes of U.S. registry. The new actions of this AD would add no additional economic burden to that imposed by AD 2007-13-05, Amendment 39-15109 (72 FR 33856, June 20, 2007). The current costs for this AD are repeated for the convenience of affected operators, as follows:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Measurement (inspection), elevator	4 work-hours X $85 per hour = $340 per measurement (inspection) cycle	$0	$340 per measurement (inspection) cycle	$48,280 per measurement (inspection) cycle

Lubrication, elevator	17 work-hours X $85 per hour = $1,445 per lubrication cycle	$0	$1,445 per lubrication cycle	$205,190 per lubrication cycle
Measurement (inspection), rudder	4 work-hours X $85 per hour = $340 per measurement (inspection) cycle	$0	$340 per measurement (inspection) cycle	$48,280 per measurement (inspection) cycle
Lubrication, rudder	7 work-hours X $85 per hour = $595 per lubrication cycle	$0	$595 per lubrication cycle	$84,490 per lubrication cycle
Measurement (inspection), rudder tab	3 work-hours X $85 per hour = $255 per measurement (inspection) cycle	$0	$255 per measurement (inspection) cycle	$36,210 per measurement (inspection) cycle
Lubrication, rudder tab	5 work-hours X $85 per hour = $425 per lubrication cycle	$0	$425 per lubrication cycle	$60,350 per lubrication cycle

We have received no definitive data that would enable us to provide cost estimates for the on-condition corrective actions 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.

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) 2007-13-05, Amendment 39-15109 (72 FR 33856, June 20, 2007), and adding the following new AD:

2015-12-03 The Boeing Company: Amendment 39-18176 ; Docket No. FAA-2014-0485; Directorate Identifier 2014-NM-093-AD.

(a) Effective Date

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

(b) Affected ADs

This AD replaces AD 2007-13-05, Amendment 39-15109 (72 FR 33856, June 20, 2007).

(c) Applicability

This AD applies to The Boeing Company Model 777-200, -200LR, -300, and -300ER series airplanes, certificated in any category, as identified in paragraphs (c)(1) and (c)(2) of this AD.

(1) Airplanes having a Variable Number identified in paragraph 1.A., "Effectivity," of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014.

(2) Airplanes having a date of issuance of the original airworthiness certificate or date of issuance of the original export certificate of airworthiness on or after January 27, 2014.

(d) Subject

Air Transport Association (ATA) of America Code 27, Flight Controls.

(e) Unsafe Condition

This AD was prompted by the manufacturer's determination that the procedure for the rudder freeplay inspection does not properly detect excessive freeplay in the rudder control load loop. We are issuing this AD to detect and correct excessive wear in the load loop components of the control surfaces, which could lead to excessive freeplay of the control surfaces, flutter, and consequent loss of control of the airplane.

(f) Compliance

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

(g) Repetitive Inspections of Elevators, Rudder, and Rudder Tab

At the applicable times specified in tables 1, 2, and 3 of paragraph 1.E., "Compliance," of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014, except as provided by paragraph (i)(1) of this AD: Inspect the freeplay of the right and left elevators, rudder, and rudder tab by accomplishing all of the actions specified in Parts 1, 3, and 5 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014, except as provided by paragraphs (i)(2) through (i)(4) of this AD. Repeat the inspections thereafter at the intervals specified in tables 1, 2, and 3 of paragraph 1.E., "Compliance," of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014. If, during any inspection required by this paragraph, the freeplay exceeds any applicable measurement specified in Part 1, 3, and 5, as applicable, of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014, before further flight, do the applicable corrective actions in accordance with Part 1, 3, and 5 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014.

(h) Repetitive Lubrication

At the applicable times specified in tables 1, 2, and 3 of paragraph 1.E., "Compliance," of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014, except as provided by paragraph (i)(1) of this AD: Lubricate the elevator components, rudder components, and rudder tab components, by accomplishing all of the actions specified in Parts 2, 4, and 6 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014, as applicable. Repeat the lubrication thereafter at the interval specified in tables 1,

2, and 3 of paragraph 1.E., "Compliance," of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014, as applicable.

(i) Exception to Service Information Specifications

(1) Where Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014, specifies a compliance time "after the original issue date on this service bulletin," this AD requires compliance within the specified compliance time after July 25, 2007 (the effective date of AD 2007-13-05, Amendment 39-15109 (72 FR 33856, June 20, 2007)).

(2) Where Appendix B, paragraph 1.f., "Freeplay Inspection," step (8), of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014, specifies that the center of the pad must be within 1.0 inch (13 millimeters) of the center line of the rib rivets in the rudder tab, this AD requires that the center of the tab must be within 1.0 inch (25 millimeters) of the center line of the rib rivets in the rudder tab.

(3) Where Appendix C, paragraph 1.e., "Rudder Tab Surface Freeplay – Inspection," step (2) and step (6), of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014, specify that the placement of the force gage and pad should be within one inch of the centerline line of the middle rudder PCU rib and at 12 +/- 1 inch (305 +/- 72 millimeters) forward of the rudder tab trailing edge, this AD requires placement of the force gage and pad within one inch of the centerline line of the middle rudder PCU rib and at 12 +/- 1 inch (305 +/- 25 millimeters) forward of the rudder tab trailing edge.

(4) Where Appendix C, paragraph 1.e., "Rudder Tab Surface Freeplay – Inspection," step (3), of Boeing Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014, specifies to apply a 30 +/- pound (133 +/- 14 newton) force, this AD requires applying a 30 +/- 3 pound force (133 +/-14 newton) force.

(j) Credit for Previous Actions

This paragraph provides credit for the actions required by paragraphs (g) and (h) of this AD, if those actions were performed before the effective date of this AD using the service information specified in paragraph (j)(1) or (j)(2) of this AD.

(1) Boeing Special Attention Service Bulletin 777-27-0062, dated July 18, 2006, which was incorporated by reference in AD 2007-13-05, Amendment 39-15109 (72 FR 33856, June 20, 2007).

(2) Boeing Special Attention Service Bulletin 777-27-0062, Revision 1, dated October 1, 2009, which is not incorporated by reference in this AD.

(k) 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 (l)(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 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 the freeplay measurements of the right and left elevators and rudder tab required by paragraph (f) of AD 2007-13-05, Amendment 39-15109 (72 FR 33856, June 20, 2007), are approved as AMOCs for the corresponding requirements of this AD.

(5) AMOCs approved previously for the freeplay measurements of the rudder required by paragraph (f) of AD 2007-13-05, Amendment 39-15109 (72 FR 33856, June 20, 2007), are not approved as AMOCs for the corresponding requirements of this AD. We are not aware of any such AMOCs.

(6) AMOCs approved previously for the repetitive lubrications required by paragraph (g) of AD 2007-13-05, Amendment 39-15109 (72 FR 33856, June 20, 2007), are approved as AMOCs for the corresponding requirements of this AD.

(l) Related Information

(1) For more information about this AD, contact Haytham Alaidy, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6573; fax: 425-917-6590; email: Haytham.Alaidy@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (m)(3) and (m)(4) of this AD.

(m) 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 Special Attention Service Bulletin 777-27-0062, Revision 2, dated January 27, 2014.

(ii) Reserved.

(3) 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.

(4) You may view this service information at 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.

(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, call 202-741-6030, or go to: http://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued in Renton, Washington, on June 3, 2015.

Jeffrey E. Duven,
Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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