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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2006-24270; Directorate Identifier 2005-NM-200-AD Amendment 39-15170;
AD 2007-17-12]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 777 Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Boeing Model 777 series airplanes. This AD requires, for the drive mechanism of the horizontal stabilizer, repetitive detailed inspections for discrepancies; repetitive lubrication of the ballnut and ballscrew; repetitive measurements of the freeplay between the ballnut and the ballscrew; and corrective action if necessary. This AD results from a report of extensive corrosion of a ballscrew in the drive mechanism of the horizontal stabilizer on a Boeing Model 757 airplane, which is similar in design to the ballscrew on Model 777 airplanes. We are issuing this AD to prevent an undetected failure of the primary load path for the ballscrew in the drive mechanism of the horizontal stabilizer and subsequent wear and failure of the secondary load path, which could lead to loss of control of the horizontal stabilizer and consequent loss of control of the airplane.

DATE: This AD becomes effective October 2, 2007.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of October 2, 2007.

ADDRESSES: You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Kelly McGuckin, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone (425) 917-6490; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Examining the Docket

You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Operations office (telephone (800) 647-5527) is located on the ground floor of the West Building at the DOT street address stated in the ADDRESSES section.

Discussion

The FAA issued a supplemental notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to all Boeing Model 777 airplanes. That supplemental NPRM was published in the Federal Register on June 18, 2007 (72 FR 33411). That supplemental NPRM proposed to require, for the drive mechanism of the horizontal stabilizer, repetitive detailed inspections for discrepancies; repetitive lubrication of the ballnut and ballscrew; repetitive measurements of the freeplay between the ballnut and the ballscrew; and corrective action if necessary. That supplemental NPRM also proposed to add airplanes to the applicability of the proposed AD.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comment received. The comment, Boeing, supports the supplemental NPRM.

Clarification of Alternative Method of Compliance (AMOC) Paragraph

We have revised this action to clarify the appropriate procedure for notifying the principal inspector before using any approved AMOC on any airplane to which the AMOC applies.

Conclusion

We have carefully reviewed the available data, including the comment received, and determined that air safety and the public interest require adopting the AD with the change described previously. We have determined that this change will neither increase the economic burden on any operator nor increase the scope of the AD.

Costs of Compliance

There are about 596 airplanes of the affected design in the worldwide fleet. This AD affects about 25 airplanes of U.S. registry.

The required maintenance records check takes about 1 work hour per airplane, at an average labor rate of \$80 per work hour. Based on these figures, the estimated cost of the maintenance records check for U.S. operators is \$16,240, or \$80 per airplane.

The required detailed inspection takes about 1 work hour per airplane, at an average labor rate of \$80 per work hour. Based on these figures, the estimated cost of the inspection for U.S. operators is \$16,240, or \$80 per airplane, per inspection cycle.

The required freeplay measurement takes about 5 work hours per airplane, at an average labor rate of \$80 per work hour. Based on these figures, the estimated cost of the freeplay measurement for U.S. operators is \$81,200, or \$400 per airplane, per measurement cycle.

The required lubrication takes about 1 work hour per airplane, at an average labor rate of \$80 per work hour. Based on these figures, the estimated cost of the lubrication for U.S. operators is \$16,240, or \$80 per airplane, per lubrication cycle.

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); 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

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—AIR WORTHINESS 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 Federal Aviation Administration (FAA) amends § 39.13 by adding the following new airworthiness directive (AD):



2007-17-12 Boeing: Amendment 39-15170. Docket No. FAA-2006-24270; Directorate Identifier 2005-NM-200-AD.

Effective Date

(a) This AD becomes effective October 2, 2007.

Affected ADs

(b) None.

Applicability

(c) This AD applies to all Boeing Model 777 airplanes, certificated in any category.

Unsafe Condition

(d) This AD results from a report of extensive corrosion of a ballscrew in the drive mechanism of the horizontal stabilizer on a Boeing Model 757 airplane, which is similar in design to the ballscrew on Model 777 airplanes. We are issuing this AD to prevent an undetected failure of the primary load path for the ballscrew in the drive mechanism of the horizontal stabilizer and subsequent wear and failure of the secondary load path, which could lead to loss of control of the horizontal stabilizer and consequent loss of control of the airplane.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Service Bulletin Reference

(f) The term "service bulletin," as used in this AD, means Boeing Alert Service Bulletin 777-27A0059, Revision 1, dated August 18, 2005.

Note 1. The service bulletin refers to the Boeing 777 Aircraft Maintenance Manual (AMM), Subjects 12-21-05, 27-41-13, and 29-11-00, as additional sources of service information for accomplishing the actions required by this AD.

Maintenance Records Check

(g) For airplanes that have received a certificate of airworthiness prior to the effective date of this AD: Within 180 days or 3,500 flight hours after the effective date of this AD, whichever occurs first, perform a maintenance records check or inspect to determine whether any horizontal stabilizer trim actuator has been replaced for any issue described in the service bulletin with a serviceable actuator

that was not new or overhauled, and has not received a detailed inspection and freeplay measurement since the replacement.

Detailed Inspection

(h) Within the compliance times specified in paragraph (h)(1) or (h)(2) of this AD, as applicable: Perform a detailed inspection for discrepancies of the horizontal stabilizer trim actuator ballnut and ballscrew in accordance with Part 1 of the Accomplishment Instructions of the service bulletin. Repeat the detailed inspection thereafter at intervals not to exceed 3,500 flight hours or 12 months, whichever occurs first. If any discrepancy is found during any inspection required by this AD, before further flight, replace the actuator with a new or serviceable actuator in accordance with the Accomplishment Instructions of the service bulletin.

(1) For airplanes identified in paragraph (g) of this AD on which the actuator has not been replaced: Before the accumulation of 15,000 total flight hours, or within 18 months after the effective date of this AD, whichever occurs later.

(2) For airplanes identified in paragraph (g) of this AD on which the actuator has been replaced, and for airplanes having received a certificate of airworthiness after the effective date of this AD: Before the accumulation of 3,500 flight hours or within 24 months after the effective date of this AD, whichever occurs later.

Freeplay Measurement (Inspection)

(i) Within the compliance times specified in paragraph (i)(1) or (i)(2) of this AD, as applicable: Perform a freeplay measurement of the ballnut and ballscrew in accordance with Part 2 of the Accomplishment Instructions of the service bulletin. Repeat the freeplay measurement thereafter at intervals not to exceed 18,000 flight hours or 60 months, whichever occurs first. If the freeplay is found to exceed the limits specified in the service bulletin during any measurement required by this AD, before further flight, replace the actuator with a new or serviceable actuator in accordance with the Accomplishment Instructions of the service bulletin.

(1) For airplanes identified in paragraph (g) of this AD on which the actuator has not been replaced: Before the accumulation of 15,000 total flight hours, or within 18 months after the effective date of this AD, whichever occurs later.

(2) For airplanes identified in paragraph (g) of this AD on which the actuator has been replaced, and for airplanes having received a certificate of airworthiness after the effective date of this AD: Before the accumulation of 3,500 flight hours or within 24 months after the effective date of this AD, whichever occurs later.

Lubrication

(j) Within the compliance times specified in paragraph (j)(1) or (j)(2) of this AD, as applicable: Lubricate the ballnut and ballscrew in accordance with Part 3 of the Accomplishment Instructions of the service bulletin. Repeat the lubrication thereafter at intervals not to exceed 2,000 flight hours or 12 months, whichever occurs first.

(1) For airplanes identified in paragraph (g) of this AD on which the actuator has not been replaced: Before the accumulation of 15,000 total flight hours, or within 18 months after the effective date of this AD, whichever occurs later.

(2) For airplanes identified in paragraph (g) of this AD on which the actuator has been replaced, and for airplanes having received a certificate of airworthiness after the effective date of this AD: Before the accumulation of 3,500 flight hours or within 24 months after the effective date of this AD, whichever occurs later.

Credit for Using Original Issue of Service Bulletin

(k) Actions performed prior to the effective date of this AD in accordance with Boeing Alert Service Bulletin 777-27A0059, dated September 18, 2003, are considered acceptable for compliance with the corresponding actions of this AD.

Credit for Hard-Time Replacement of Actuator

(l) Any actuator overhauled within the compliance times specified in paragraphs (h), (i), and (j) of this AD or before the effective date of this AD—as part of a "hard-time" replacement program that includes removal of the stabilizer actuator from the airplane and overhaul of the stabilizer ballscrew in accordance with original equipment manufacturer component maintenance manual instructions—meets the intent of one detailed inspection, one freeplay inspection, and one lubrication of the stabilizer ballscrew. Therefore, any such actuator is considered acceptable for compliance with the initial accomplishment of the actions specified in paragraphs (h), (i), and (j) of this AD, and repetitions of those actions may be determined from the performance date of the overhaul.

Parts Installation

(m) As of the effective date of this AD, no person may install, on any airplane, a horizontal stabilizer trim actuator that is not new or overhauled, unless a detailed inspection, freeplay measurement, and lubrication of that actuator have been performed in accordance with paragraphs (h), (i), and (j) of this AD, as applicable.

Alternative Methods of Compliance (AMOCs)

(n)(1) The Manager, Seattle Aircraft Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

Material Incorporated by Reference

(o) You must use Boeing Alert Service Bulletin 777-27A0059, Revision 1, dated August 18, 2005, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of this document in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for a copy of this service information. You may review copies at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington; or 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 August 14, 2007.

Stephen P. Boyd,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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