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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2005-22471; Directorate Identifier 2005-NM-142-AD; Amendment 39-14550; AD 2006-07-23]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Boeing Model 757 Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all Boeing Model 757 airplanes. This AD requires repetitive measurements of the freeplay of each of the three power control units (PCUs) that move the rudder; repetitive lubrication of rudder components; and corrective actions if necessary. This AD results from a report of freeplay-induced vibration of the rudder. The potential for vibration of the control surface should be avoided because the point of transition from vibration to divergent flutter is unknown. We are issuing this AD to prevent excessive vibration of the airframe during flight, which could result in divergent flutter and loss of control of the airplane.

**DATES:** This AD becomes effective May 16, 2006.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of May 16, 2006.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., Nassif Building, room PL-401, 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:** Dennis Stremick, Aerospace Engineer, Airframe Branch, ANM-120S, Seattle Aircraft Certification Office, FAA, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6450; fax (425) 917-6590.

## **SUPPLEMENTARY INFORMATION:**

### **Examining the Docket**

You may examine the airworthiness directive (AD) docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the street address stated in the ADDRESSES section.

### **Discussion**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to all Boeing Model 757 airplanes. That NPRM was published in the Federal Register on September 21, 2005 (70 FR 55321). That NPRM proposed to require repetitive measurements of the freeplay of each of the three power control units (PCUs) that move the rudder; repetitive lubrication of rudder components; and corrective actions if necessary.

### **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

### **Request To Revise Discussion Section's Reference to Freeplay-Induced Flutter**

Boeing requests that we revise the wording in the first sentence of the Discussion section of the NPRM to replace the phrase "freeplay-induced flutter" with the phrase "freeplay-induced vibration." Boeing states that the event noted in the Discussion section was not divergent flutter, but was a constant amplitude event induced by excessive freeplay. Boeing states that the service event is consistently described as freeplay-induced vibration elsewhere in the NPRM. Boeing points out that using the phrase "freeplay-induced flutter" in relation to the service event may lead readers to the incorrect conclusion that the service event was divergent flutter.

We agree that the Discussion section incorrectly stated that there has been one report of "freeplay-induced flutter," rather than "freeplay-induced vibration." Since the Discussion section of the preamble does not reappear in the final rule, we have not changed that section. However, we have changed the unsafe condition in the Summary paragraph and in paragraph (d) of this AD to include clarification about freeplay-induced vibration.

### **Request To Clarify Paragraph (e), "Compliance"**

Boeing also requests that we change paragraph (e), "Compliance," which states, "\* \* \* unless the actions have already been done." Boeing requests that we clarify the sentence by stating, "\* \* \* unless the actions have already been done per the appropriate service bulletin referenced in paragraph (f) below." Boeing requests that we give credit for lubrications accomplished previously in accordance with the airplane maintenance manual (AMM). Boeing also states that the service bulletins specified in paragraph (f) of the NPRM institute significant improvements in the freeplay measurements and procedures over those in the AMM. Boeing would like to ensure that freeplay checks performed per the AMM are not considered equivalent to the service bulletin procedures.

We partially agree with Boeing. We disagree with the request to change paragraph (e), "Compliance," of this AD. Paragraph (e) is written specifically in reference to the actions in this AD and not in reference to the actions performed in accordance with any document that is not specifically

referenced in this AD; the actions must be accomplished exactly as prescribed by the AD. Paragraph (e) of this AD allows for compliance only when the required actions have already been done in accordance with the required service information. Therefore, the freeplay measurement must be done in accordance with the procedures specified in the service bulletins referenced in the AD. For the lubrication, the service bulletins reference the AMM for the procedures. The AMM is not referenced in the AD. Compliance with any revision of the AMM is acceptable for compliance with the lubrication requirements of this AD. We have not changed the AD in this regard. However, the operators may request approval of an alternative method of compliance (AMOC) in accordance with the procedures in paragraph (k) of this AD.

### **Request To Shorten Compliance Time for Lubrication**

The Airline Pilot's Association (ALPA) agrees with the actions in the NPRM; however, ALPA states that the proposed implementation period is too long, considering the possible results. ALPA states that the lubrication requirement, in particular, should be required in as little as 90 days. ALPA recommends that we consider shortening the required compliance time for each element of the AD.

We disagree. ALPA did not provide technical data to support the requests. The compliance time for the lubrication is 9 months after the effective date of the AD. This compliance time agrees with the manufacturer's recommendation. In addition, service history shows that the lubrication is not an urgent issue that requires action within 90 days. We have not changed the AD in this regard.

### **Request To Express Repetitive Interval in Terms of Flight Hours**

US Airways and the Air Transport Association (ATA) request that we specify the repetitive intervals for both the freeplay measurement and the rudder lubrication only in terms of flight hours so that both requirements can be accomplished, to the greatest extent possible, during compatible, scheduled maintenance visits. The commenters explain that expressing the compliance times only in terms of flight hours would allow for completing both requirements during the heavy maintenance C-check, which U.S. Airways does at the earlier of 6,000 flight hours or 592 days. The proposed rule would require repetitive freeplay measurements at the earlier of 12,000 flight hours or 36 months; and repetitive lubrications at the earlier of 6,000 flight hours or 18 months. U.S. Airways states that it would like to complete both actions at the same time during the heavy maintenance visit because the environment, away from the elements with a tail stand set up, would better facilitate these actions. The commenters state that the rule, as proposed, would require the lubrication to be accomplished during special line maintenance visits, and the rudder freeplay measurement to be done twice as frequently to fit into its existing C-checks.

We disagree with the commenters' request to state the compliance times only in terms of flight hours. The lubrication is required at intervals not to exceed the earlier of 3,000 flight hours or 9 months for airplanes on which BMS 3-33 grease is not used; and the earlier of 6,000 flight hours or 18 months for airplanes on which BMS 3-33 grease is used. U.S. Airways did not indicate which grease it uses. In addition, the commenters did not provide technical substantiation allowing the calendar time to exceed 9 months or 18 months, depending on the type of grease used. The compliance times in the NPRM are consistent with the manufacturer's recommendations. We have determined that the compliance times in the AD represent the maximum interval of time allowable for the affected airplanes to continue to safely operate before the actions are done. Since maintenance schedules vary among operators, there would be no assurance that the actions would be done during that maximum interval. We have not changed the AD in this regard. However, the commenters may request approval of an AMOC in accordance with the procedures in paragraph (k) of this AD.

## **Request To Include Procedures for Rudder Lubrication**

Northwest Airlines and the ATA request that we specify in the AD the procedures required for rudder lubrication, or require that those procedures be specified in the applicable service bulletins. The commenters explain that the AMMs referenced in the service bulletins are not identified by date, and that there could be subsequent revisions by Boeing or an airplane operator, unaware that the procedure is mandated by an AD. The commenters add that AMMs are not subject to FAA approval. If the FAA is concerned that future AMM revisions could change the intent of the NPRM, Northwest Airlines states that the FAA should identify the lubrication procedures in the NPRM or the service bulletin so that FAA approval is required before the procedures are revised.

We disagree with including specific lubrication procedures in the AD. The unsafe condition is caused by excessive freeplay, which allows control surfaces to vibrate. The lubrication minimizes wear and corrosion in all critical mechanical joints in the rudder control surfaces. The service bulletins contain specific procedures for measuring the freeplay. The AMMs referred to in the service bulletins show where to apply grease and specify which grease to use. These AMMs give lubrication procedures that follow industry standard practices. In addition, the AD specifies that using one grease (BMS 3-33) maximizes the repetitive interval for the lubrications. We have not changed the AD in this regard.

## **Request To Extend Initial Threshold**

American Airlines and the ATA request that we revise paragraphs (g) and (i) to account for operators who use BMS 3-33 grease. The commenters request that the interval for the initial freeplay measurement be extended from 18 months to 36 months, and that the interval for the initial lubrication be extended from 9 months to 18 months. The commenters state that these changes would be consistent with the proposed repetitive intervals. American Airlines explains that the safety of flight issue with the rudder load loop is the lack of rudder component lubrication. The lack of lubrication allows metal-to-metal contact and infiltration of water and contaminants into the bearing surfaces, causing corrosion and inducing freeplay into the rudder system. The commenters point out that the recommended changes to the proposed AD would allow operators that currently use BMS 3-33 grease every 18 months or 6,000 flight hours to extend the initial intervals.

We disagree. The commenters do not account for the fact that flight hours, particularly at cruise, exacerbate the wear of all the critical joints; the freeplay in the flight control surface is caused by control-system wear and corrosion. In addition, the commenters do not provide technical justification for extending the interval for the initial freeplay measurement. The initial freeplay measurement done in accordance with the AD is critical to establish a baseline for the entire fleet. Service history for these airplanes has shown that the initial intervals for the freeplay measurement and lubrication are adequate. We have not changed the AD in this regard.

## **Clarification of 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.

## **Clarification of Service Bulletin Reference**

We have included in paragraph (f) of this AD a reference to Appendix A of Boeing Special Attention Service Bulletin 757-27-0148, dated June 16, 2005; and Boeing Special Attention Service Bulletin 757-27-0149, dated June 16, 2005. The appendixes contain reference information for doing the actions in the Accomplishment Instructions. The NPRM referred only to the Accomplishment Instructions and excluded mention of the appendixes.

## Conclusion

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

## Costs of Compliance

There are about 1,040 airplanes of the affected design in the worldwide fleet. The following table provides the estimated costs for U.S. operators to comply with this AD. No parts are necessary to accomplish either action.

<b>ESTIMATED COSTS</b>					
<b>Action</b>	<b>Work hours</b>	<b>Average labor rate per hour</b>	<b>Cost per airplane</b>	<b>Number of U.S.-registered airplanes</b>	<b>Fleet cost</b>
Freeplay measurement	4	\$65	\$260, per measurement cycle	679	\$176,540, per measurement cycle.
Lubrication	8	65	\$520, per lubrication cycle	679	\$353,080, 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—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 Federal Aviation Administration (FAA) amends § 39.13 by adding the following new airworthiness directive (AD):

# AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2006-07-23 BOEING:** Amendment 39-14550. Docket No. FAA-2005-22471; Directorate Identifier 2005-NM-142-AD.

## Effective Date

- (a) This AD becomes effective May 16, 2006.

## Affected ADs

- (b) None.

## Applicability

- (c) This AD applies to all Boeing Model 757-200, -200PF, -200CB, and -300 series airplanes, certificated in any category.

## Unsafe Condition

- (d) This AD results from a report of freeplay-induced vibration of the rudder. The potential for vibration of the control surface should be avoided because the point of transition from vibration to divergent flutter is unknown. We are issuing this AD to prevent excessive vibration of the airframe during flight, which could result in divergent flutter and 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 References

- (f) The term "service bulletin," as used in this AD, means the Accomplishment Instructions and Appendix A of the following service bulletins, as applicable:

- (1) For Model 757-200, -200PF, -200CB series airplanes: Boeing Special Attention Service Bulletin 757-27-0148, dated June 16, 2005; and

- (2) For Model 757-300 series airplanes: Boeing Special Attention Service Bulletin 757-27-0149, dated June 16, 2005.

## **Repetitive Measurements**

(g) Within 18 months after the effective date of this AD: Measure the freeplay for each of the three power control units that move the rudder. Repeat the measurement thereafter at intervals not to exceed 12,000 flight hours or 36 months, whichever occurs first. Do all actions required by this paragraph in accordance with the applicable service bulletin.

## **Related Investigative and Corrective Actions**

(h) If any measurement found in paragraph (g) of this AD is outside certain limits specified in the service bulletin: Before further flight, do the applicable related investigative and corrective actions in accordance with the service bulletin.

## **Repetitive Lubrication**

(i) Within 9 months after the effective date of this AD: Lubricate the rudder components specified in the applicable service bulletin. Repeat the lubrication thereafter at the applicable interval in paragraph (i)(1) or (i)(2) of this AD. Do all actions required by this paragraph in accordance with the applicable service bulletin.

(1) For airplanes on which BMS 3-33 grease is not used: 3,000 flight hours or 9 months, whichever occurs first.

(2) For airplanes on which BMS 3-33 grease is used: 6,000 flight hours or 18 months, whichever occurs first.

## **Concurrent Repetitive Cycles**

(j) If a freeplay measurement required by paragraph (g) of this AD and a lubrication cycle required by paragraph (i) of this AD are due at the same time or will be accomplished during the same maintenance visit, the freeplay measurement and applicable related investigative and corrective actions must be done before the lubrication is accomplished.

## **Alternative Methods of Compliance (AMOCs)**

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

(2) Before using any AMOC approved in accordance with § 39.19 on any airplane to which the AMOC applies, notify the appropriate principal inspector in the FAA Flight Standards 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 an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization who 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.

## **Material Incorporated by Reference**

(l) You must use Boeing Special Attention Service Bulletin 757-27-0148, dated June 16, 2005; or Boeing Special Attention Service Bulletin 757-27-0149, dated June 16, 2005; as applicable; 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 these documents 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 Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., room PL-401, Nassif Building, Washington, DC; on the Internet at <http://dms.dot.gov>; or at the National Archives and Records Administration (NARA). For information on the availability of this material at the NARA, call (202) 741-6030, or go to [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on March 30, 2006.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 06-3378 Filed 4-10-06; 8:45 am]

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