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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2006-23815; Directorate Identifier 2005-NM-222-AD; Amendment 39-14784; AD 2006-21-01]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737 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 737 airplanes. This AD requires repetitive measurement of the freeplay of both aileron balance tabs; repetitive lubrication of the aileron balance tab hinge bearings and rod end bearings; and related investigative and corrective actions if necessary. This AD results from reports of freeplay-induced vibration of the aileron balance tab. 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 loss of control of the airplane.

DATES: This AD becomes effective November 14, 2006. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of November 14, 2006.

ADDRESSES: You may examine the AD docket on the Internet at <u>http://dms.dot.gov</u> 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, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; 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 <u>http://dms.dot.gov</u> 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 737 airplanes. That NPRM was published in the Federal Register on February 8, 2006 (71 FR 6417). That NPRM proposed to require repetitive measurement of the freeplay of both aileron balance tabs; repetitive lubrication of the aileron balance tab hinge bearings and rod end bearings; and related investigative 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 Initial Compliance Times

Boeing, the airplane manufacturer, requests that the initial compliance times for the freeplay measurement and the lubrication be revised. Specifically, Boeing asks that airplanes completed after release of the AD be allowed a compliance threshold of 24 months for the freeplay measurement. The commenter explains that the initial compliance time of 18 months for the measurement resulted partially from a need for a more timely inspection to address airplanes currently in service that may not have been maintained frequently enough and that consequently may have excessive freeplay. For this reason, the initial compliance time is shorter than the repetitive intervals. But the commenter notes that when airplanes leave its production line, excessive freeplay is not yet an issue. So, for the actions in paragraph (g) of the NPRM, the commenter suggests that airplanes delivered more recently or in the future should be given a compliance time of 24 months after the date of issuance of the original standard airworthiness certificate or original export certificate of airworthiness, or 18 months after the effective date of the AD, whichever is later.

The commenter also states that the initial compliance time for the lubrication for all airplanes should be equal to the lowest of the repetitive intervals (9 months) specified in the NPRM because airplanes may be delivered with either type of grease. The commenter suggests that the compliance time for paragraph (i) of the NPRM be revised to 9 months after the date of issuance of the original standard airworthiness certificate or original export certificate of airworthiness, or 9 months after the effective date of this AD, whichever is later.

The commenter notes that it is planning to incorporate these changes in an upcoming revision to Boeing Special Attention Service Bulletin 737-27-1273, dated September 29, 2005. (The NPRM refers to that service bulletin as the appropriate source of service information for Boeing 737-600, -700, -700C, -800, and -900 series airplanes. The parallel service bulletin for Boeing Model 737-100, -200, -300, -400, and -500 series airplanes is Boeing Special Attention Service Bulletin 737-27-1272, dated September 29, 2005.)

We agree with Boeing to revise the initial compliance times, for the reasons that Boeing states in its comment. We have determined that extending the initial compliance times for certain airplanes will not adversely affect safety. We have revised the compliance times in paragraphs (g) and (i) of this AD accordingly.

Request To Revise Applicability of Repetitive Intervals

Boeing requests that the wording of the applicability for the repetitive intervals specified in paragraphs (i)(2) and (i)(3) of the NPRM be revised. The commenter states that the intent of the wording in Boeing Special Attention Service Bulletin 737-27-1273 was for the longer repetitive interval to be allowed only if BMS 3-33 grease is already in use at the time the lubrication task is being accomplished. Boeing recommends that paragraph (i)(2) of the NPRM be revised to read "* * * BMS 3-33 grease is not already being used * * *" and paragraph (i)(3) of the NPRM be revised to read "* * BMS 3-33 grease is already being used * * *." This will prevent an operator taking credit for planned future use of BMS 3-33 grease.

We agree with the commenter. For clarity, we have revised paragraphs (i)(2) and (i)(3) of this AD.

Request To Revise Compliance Times and Repetitive Intervals

Several commenters–AirTran Airways (AirTran), British Airways (BA), and the Air Transport Association (ATA) on behalf of its member American Airlines (AA), and Ryanair–request that we revise the initial compliance times and repetitive intervals specified in the NPRM.

AirTran and BA specifically request that we revise the compliance times to more closely match the flight-hour limits determined by Maintenance Steering Group 3 (MSG3). AirTran notes that the MSG3 flight-hour limits are based on average utilization of the fleet. AirTran states that, for an airplane with an average utilization of 8 hours/day, the calendar time element of the compliance times proposed in the NPRM is potentially 27 percent less than the limits determined by MSG3. BA notes that the repetitive interval for the freeplay measurement in the similar task in the maintenance planning document (MPD) is 8,000 flight hours, and the repetitive interval for the lubrication in the similar MPD tasks is 4,000 flight hours, without calendar-time limits. These intervals were established during the MSG3 analysis, and BA questions our rationale for introducing a 24-month limit for the measurements and a 12-month limit for the lubrications. Based on its data, BA states that it agrees with the need for the freeplay measurement, but not with the 24-month calendar limit. BA states that the MPD intervals are adequate to control the wear rate of the aileron tab hinges and control rods.

Also, the ATA, on behalf of AA, observes that the proposed repetitive interval for lubrications is more frequent than AA's existing schedule of 5,000 flight hours. AA contends that the 5,000-flight-hour interval is sufficient, given that it has not measured freeplay of the aileron tab outside the required limits. (AA also states that, for scheduling convenience, it accomplishes the repetitive measurement for freeplay at a 5,000-flight-hour interval.)

Ryanair asks that, if we do not agree to remove 737NG airplanes from the applicability (see "Request to Remove 737NG Airplanes from Applicability," below), we consider relaxing the initial compliance time and repetitive intervals. Ryanair states that the initial compliance time and repetitive intervals seem too short, particularly for a problem that has never been reported on this airplane type and for newer airplanes.

We do not agree with the commenters' requests to revise the compliance times and repetitive intervals. With regard to the requests to more closely match the intervals established by MSG3, we have determined that the limits currently specified in the MPD may not be adequate to ensure that the aileron balance tabs are properly maintained on airplanes currently in service. Also, the maintenance program documents to which BA refers can change without the knowledge or consent of The

Manager, Seattle Aircraft Certification Office (ACO), FAA, and compliance times must be based on defined intervals to ensure that the required action in an AD will be done within an appropriate timeframe for safe operation of the airplane.

In developing appropriate compliance times for the actions in this AD, we considered the urgency associated with the subject unsafe condition, the manufacturer's recommendation, and the practical aspect of accomplishing the required measurements and lubrications within a period of time that corresponds to the normal scheduled maintenance for most affected operators. Also, while we have taken into account the average utilization rate of the affected airplanes, it would be nearly impossible to customize the AD to take into consideration each operator's utilization rate. In consideration of these items, as well as the reports of freeplay-induced vibration of the aileron balance tab, we have determined that the repetitive intervals as proposed are appropriate.

With regard to Ryanair's statement that the initial compliance times are too low for newer airplanes, we note that, as explained previously under "Request to Revise Initial Compliance Times," we have revised paragraphs (g) and (i) of this AD to extend the compliance times for airplanes delivered more recently.

We have made no further changes to this AD.

Request To Refer to Alternative Source of Service Information

BA requests that we revise the NPRM to refer to a certain MPD task, Task 27-022-01, or its associated task card, 27-022-01-01, as an acceptable source of service information for the repetitive measurements of freeplay of the aileron control balance tabs. The commenter states that the measurement in the MPD task and its associated task card is the same as that specified in Boeing Special Attention Service Bulletin 737-27-1272, for Boeing 737-100, -200, -200C, -300, -400, and -500 series airplanes.

We do not agree to allow the MPD tasks as an acceptable source of service information for accomplishing the freeplay measurement. We find that neither appropriate procedures nor applicable limits are specified in the MPD tasks that describe checking the ailerons for freeplay. Thus, the MPD tasks are not adequate to ensure that the aileron balance tab would be maintained to an acceptable level of safety. Further, an MPD task may be revised in the future without authorization by the Manager, Seattle ACO. Such a revision could result in differences between the MPD task and the requirements of this AD. Operators may request approval of an alternative method of compliance (AMOC) in accordance with paragraph (k) of this AD if data are presented to substantiate that the actions provide an acceptable level of safety.

Request for Credit for Actions Accomplished Previously

Similarly, several commenters–BA, AirTran, and the ATA on behalf of its members Delta Airlines (DAL) and AA–request that we revise the NPRM to give credit for actions accomplished before the effective date of the AD in accordance with the MPD or the airplane maintenance manual (AMM). Specific requests are as follows:

• BA asks that the most recent accomplishment of MPD Task 27-022-01 be considered as acceptable for the initial measurement that would be required by paragraph (g) of the NPRM. BA also asks that the most recent accomplishment of MPD Task 27-018-01 be considered as acceptable for compliance with the initial lubrication that would be required by paragraph (i) of the NRPM.

• AirTran asks that we revise the NPRM to give credit for doing the initial freeplay measurement in accordance with 737 Next Generation (737NG, defined as Boeing Model 737-600, -700, -700C, -800, and -900 series airplanes) MPD Task 27-033-00, and doing the initial lubrication in accordance with 737NG MPD Tasks 27-026-01 and 27-026-02. AirTran states that these tasks are the same as the procedures for the measurement and lubrication specified in Boeing Special Attention Service Bulletin 737-27-1273.

• DAL asks that we revise the NPRM to give credit specifically for lubrications of the aileron balance tab accomplished previously in accordance with MPD Tasks 27-026-01 and 27-026-02 and the AMM. The commenter notes that Boeing has advised that the existing lubrication procedures specified in the AMM are acceptable, and Boeing would support allowing operators credit for previous lubrications. (The commenter also notes that Boeing does not consider the freeplay inspection procedures in the AMM to be adequate for compliance with Service Bulletin 737-27-1273.)

We do not agree to give credit for measurements and lubrications accomplished in accordance with the MPD tasks referenced by the commenters. As we explained previously, an MPD task may have been revised without the authorization of the Manager, Seattle ACO, potentially resulting in differences between the MPD task and the requirements of this AD. However, operators may request approval of an AMOC in accordance with paragraph (k) of this AD if data are presented to substantiate that the actions provide an acceptable level of safety.

We partially agree with the request to give credit for actions accomplished in accordance with the AMM. The service bulletins refer to specific chapters of the AMM as a source of an acceptable procedure for lubricating the aileron balance tab components. Lubrications accomplished according to the chapters of the AMM specified in the relevant service bulletin are acceptable for compliance with the corresponding requirements of paragraph (i) of this AD. We find that no change to the AD is needed to give credit for these actions. Credit for actions accomplished previously is always provided through this statement included in paragraph (e) of this AD: "You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done." We have not changed the AD in this regard.

Request To Remove 737NG Airplanes From Applicability

Ryanair requests that we review the applicability of the NPRM for 737NG airplanes. The commenter believes that the NPRM is too severe for 737NG airplanes. The commenter is not aware of any reports of freeplay-induced vibrations on 737NG airplanes.

We infer that the commenter is asking us to remove Model 737NG airplanes from the applicability of this AD. We do not agree. The aileron balance tab design is the same on both Model 737 "Classic" airplanes (defined as Boeing Model 737-100, -200, -200C, -300, -400, and -500 airplanes) and Model 737NG airplanes. Therefore, all of these airplanes are subject to the same unsafe condition. We have not changed the AD in this regard.

Request To Withdraw NPRM

AA, in its comment submitted through ATA, states that, "The proposed rule simply restates the existing 737NG continuous maintenance program." The commenter also notes that it is accomplishing the repetitive measurement of freeplay and lubrication at intervals of 5,000 flight hours, and has not found any freeplay outside acceptable limits. BA also notes that it has had no reports of freeplay-induced vibration of the aileron tabs and believes that current MPD tasks are adequate to prevent the unsafe condition.

We infer that AA and BA are asking us to withdraw the NPRM. We do not agree. We have determined that existing maintenance actions similar to those required by this AD are not sufficient to prevent freeplay-induced vibration of the aileron balance tab. Also, the current repetitive intervals for these similar actions are not adequate. Evidence of this inadequacy is the reports of freeplay-induced vibration in service. We note that the intervals AA uses are shorter than those recommended in the manufacturer's maintenance documents, which may help to account for the fact that AA has had no reports of freeplay that is outside acceptable limits. We have not changed the AD in this regard.

Request To Revise Service Documents Related to Service Bulletins

The ATA, on behalf of DAL, asks the FAA to encourage Boeing to address conflicts between procedures before issuing service bulletins that conflict with procedures in the AMM and MPD. DAL notes that the relevant service bulletins do not advise whether the AMM and MPD are affected by the changes in those service bulletins. DAL believes that relevant sections of the AMM and MPD should be revised before the NPRM is issued. The commenter notes that, in this case, if Boeing had revised the AMM and MPD when it issued Boeing Special Attention Service Bulletins 737-27-1272 and 737-27-1273, operators might be in a position to get credit for freeplay measurements and lubrications accomplished in accordance with the AMM.

We acknowledge the comment. We agree that it would be beneficial for Boeing to revise its AMM and MPD to reflect the requirements in the service bulletins. While we have encouraged them to do so, we do not have the authority to require Boeing to do so. We have not changed the AD in this regard.

Request To Acknowledge Errors in Service Bulletins

DAL notes a discrepancy in the Work Instructions of Part 2 in Boeing Special Attention Service Bulletins 737-27-1272 and 737-27-1273. The commenter points out that a note in Step 1 in Part 2 of the Work Instructions of 737-27-1273 indicates to lubricate "*** as shown in Part 1, Aileron Balance Tab Freeplay Check." A similar discrepancy exists in the corresponding note in Step 1 of Group 1: Part 2 and Group 2: Part 2 of the Work Instructions of 737-27-1272. DAL states that this note should refer to Part 2, Lubrication of the Aileron Balance Tab Bearings. DAL has advised Boeing of this discrepancy, and Boeing agrees that it is an error that will be corrected in future revisions to the service bulletin. DAL notes that the wording of the NPRM is sufficiently broad that the service bulletin discrepancy will not affect operators' ability to comply with the proposed requirements.

We acknowledge the discrepancy in the service bulletins to which the commenter refers, and we agree with the commenter that no change to the AD is needed in this regard.

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 5,651 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.

			Estimated Costs		
Action	Work hours	Average labor rate per hour	Cost per airplane	Number of U.Sregistered airplanes	Fleet cost
Freeplay measurement	8	\$65	\$520, per measurement cycle	2,280	\$1,185,600, per measurement cycle
Lubrication	4	\$65	\$260, per lubrication cycle	2,280	\$592,800, per lubrication cycle

Estimated Costs

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





2006-21-01 Boeing: Amendment 39-14784. Docket No. FAA-2006-23815; Directorate Identifier 2005-NM-222-AD.

Effective Date

(a) This AD becomes effective November 14, 2006.

Affected ADs

(b) None.

Applicability

(c) This AD applies to all Boeing Model 737-100, -200, -200C, -300, -400, -500, -600, -700, -700C, -800, and -900 series airplanes; certificated in any category.

Unsafe Condition

(d) This AD results from reports of freeplay-induced vibration of the aileron balance tab. 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 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 of the following service bulletins, as applicable:

(1) For Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes: Boeing Special Attention Service Bulletin 737-27-1272, dated September 29, 2005.

(2) For Boeing Model 737-600, -700, -700C, -800 and -900 series airplanes: Boeing Special Attention Service Bulletin 737-27-1273, dated September 29, 2005.

Repetitive Measurements

(g) Within 24 months after the date of issuance of the original standard airworthiness certificate or the date of issuance of the original export certificate of airworthiness, or 18 months after the effective date of the AD, whichever is later: Measure the freeplay of both aileron control balance tabs. Repeat the measurement thereafter at the applicable interval in paragraph (g)(1) or (g)(2) of this AD. Do all actions required by this paragraph in accordance with the applicable service bulletin.

(1) For Boeing Model 737-100, -200, and -200C series airplanes: At intervals not to exceed 6,000 flight hours or 24 months, whichever occurs first.

(2) For Boeing Model 737-300, -400, -500, -600, -700, -700C, -800 and -900 series airplanes: At intervals not to exceed 8,000 flight hours or 24 months, whichever occurs first.

Related Investigative and Corrective Actions

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

Repetitive Lubrication

(i) Within 9 months after the date of issuance of the original standard airworthiness certificate or the date of issuance of the original export certificate of airworthiness, or within 9 months after the effective date of this AD, whichever is later: Lubricate the aileron balance tab components specified in the applicable service bulletin. Repeat the lubrication thereafter at the applicable interval in paragraph (i)(1), (i)(2), or (i)(3) of this AD. Do all actions required by this paragraph in accordance with the applicable service bulletin.

(1) For Boeing Model 737-100, -200, and -200C series airplanes: At intervals not to exceed 3,000 flight hours or 9 months, whichever occurs first.

(2) For Boeing Model 737-300, -400, -500, -600, -700, -700C, -800, and -900 series airplanes, on which BMS 3-33 grease is not already in use prior to the time the lubrication task is being accomplished: At intervals not to exceed 3,000 flight hours or 9 months, whichever occurs first.

(3) For Boeing Model 737-300, -400, -500, -600, -700, -700C, -800, and -900 series airplanes, on which BMS 3-33 grease is already in use prior to the time the lubrication task is being accomplished: At intervals not to exceed 4,000 flight hours or 12 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

(1) You must use Boeing Special Attention Service Bulletin 737-27-1272, dated September 29, 2005; or Boeing Special Attention Service Bulletin 737-27-1273, dated September 29, 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_register/code_of_federal_regulations.html.

Issued in Renton, Washington, on September 28, 2006. Kalene C. Yanamura, Acting Manager, Transport Airplane Directorate, Aircraft Certification Service. [FR Doc. E6-16553 Filed 10-6-06; 8:45 am]