

[Federal Register: August 9, 2007 (Volume 72, Number 153)]
[Rules and Regulations]
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[DOCID:fr09au07-7]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2004-18814; Directorate Identifier 2003-NM-286-AD; Amendment 39-15144; AD 2007-16-05]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-100, -200, -200C, -300, -400, and -500 Series 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 737-100, -200, -200C, -300, -400, and -500 series airplanes. This AD requires repetitive inspections for discrepancies of the elevator tab control rod assemblies and/or damage to the surrounding structure, and related corrective action. This AD results from reports indicating loose jam nuts and/or thread wear at the rod ends on the elevator tab control rod assembly. We are issuing this AD to find and fix discrepancies of the elevator tab control rod assembly, which could result in excessive freeplay in the elevator tab control rods. Such freeplay could cause loss of both load paths, subsequent elevator tab flutter, and consequent reduced structural integrity and loss of controllability of the airplane.

DATES: This AD becomes effective September 13, 2007.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of September 13, 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: Kenneth Frey, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone (425) 917-6468; 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 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 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 737-100, -200, -200C, -300, -400, and -500 series airplanes. The NPRM was published in the Federal Register on August 10, 2004 (69 FR 48424). That NPRM proposed to require repetitive inspections for discrepancies of the elevator tab control rod assemblies and/or damage to the surrounding structure, and related corrective action.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comments that have been submitted on the NPRM.

Supportive Comments

Airline Pilots Association International concurs with the NPRM and the proposed implementation schedule therein.

Air Transport Association (ATA) and Alaska Airlines (Alaska) generally support the intent of the AD.

ATA, on behalf of its member, Alaska, states that the inspection action specified in the NPRM is acceptable provided there are adequate parts available for replacement when discrepancies are discovered. Alaska adds that the proposed compliance intervals and repeat inspections are acceptable as proposed, as they will allow compliance at heavy check maintenance visits. We have verified with Boeing that adequate replacement parts are available.

Request To Revise Service Information

Jet Airways asks that the FAA advise Boeing to revise the referenced service bulletin. Jet Airways states that since there is a difference between the NPRM and the service bulletin, in that the service bulletin recommends a one-time inspection of the control rod tab assemblies and the NPRM requires repetitive inspections, the service bulletin should be revised to include the repetitive inspections.

We agree with Jet Airways for the reasons provided. Since we issued the NPRM, Boeing has issued Alert Service Bulletin 737-27A1266, Revision 1, dated January 2, 2007. The procedures in Revision 1 are essentially the same as those in the original issue of the service bulletin; however, Revision 1 clarifies procedures for visually inspecting for the presence of inspection putty on each jam nut and ensuring that the inspection putty is intact and is not cracked or damaged. In addition, the one-time inspection for discrepancies of the elevator tab control rod assemblies and/or damage to the surrounding structure was changed to repetitive inspections. Therefore, Revision 1 eliminates the difference between this AD and the service bulletin that was noted in the NPRM. We have changed paragraph (f) of this AD to refer to Revision 1 and give credit for inspections and corrective action

accomplished using the original issue of Boeing Alert Service Bulletin 737-27A1266, dated September 18, 2003.

Request for Locking Provision for Control Rod Jam Nuts

Jet Airways also states that the repetitive inspection requirement is only needed because there is no locking provision for the jam nuts. Jet Airways adds that the FAA and Boeing should develop a provision for installation of lockwire to avoid looseness of the jam nuts and to terminate the repetitive inspection requirement.

We partially agree with Jet Airways, as follows:

We agree that locking provisions for certain elevator tab control rods with lockwire might be beneficial; however, we do not agree that the repetitive inspection requirement is needed only because there is no locking provision for the jam nuts. Repetitive inspections of the elevator control tab assemblies will identify discrepancies of the inspection putty, loose jam nuts, worn threads, and damage to surrounding structure that resulted from improperly torqued jam nuts. As previously described, Revision 1 of the service bulletin clarifies procedures for visually inspecting for the presence of inspection putty on each jam nut and ensuring that the inspection putty is intact and is not cracked or damaged. We have made no change to the AD in this regard.

Request To Change Description of the Unsafe Condition

Boeing states that the unsafe condition, as specified in the NPRM, is incorrect. That unsafe condition states, "We are proposing this AD to find and fix excessive freeplay in the tab control mechanism, which could result in elevator tab flutter and consequent loss of controllability of the airplane." Boeing states that there is no freeplay check identified in the procedure specified in the referenced service information. Boeing asks that the wording be changed to read, "We are proposing this AD to prevent excessive thread wear in the rod ends of the elevator tab control rods as a result of loose jam nuts. Excessive rod end thread wear results in increased freeplay in the elevator tab control loop. Airframe vibration can occur with sufficient freeplay, leading to a degradation of handling characteristics of the airplane."

Boeing also asks that the unsafe condition, as specified in the Discussion section of the NPRM, be changed for the same reason to read, "Excessive freeplay in the elevator tab control rods, if not found and fixed, could result in the loss of both load paths, leading to elevator tab flutter and consequent loss of controllability of the airplane."

We agree to change the description of the unsafe condition because Boeing is accurate in the statement that there is no freeplay check identified in the procedure specified in the referenced service bulletin. We have changed the description of the unsafe condition to read, "We are issuing this AD to find and fix discrepancies of the elevator tab control rod assembly, which could result in excessive freeplay in the elevator tab control rods. Such freeplay could cause loss of both load paths, subsequent elevator tab flutter, and consequent reduced structural integrity and loss of controllability of the airplane." We have changed the wording for the unsafe condition to include the intent of the information provided by Boeing. The discrepancies (loose jam nuts and/or thread wear at the rod ends) are referred to in the sentence immediately preceding the unsafe condition and do not need to be repeated. Concerning Boeing's comment on the Discussion section of the NPRM, since that section of the preamble does not reappear in the final rule, no change to the AD is necessary.

Clarification of Alternative Method of Compliance (AMOC) Paragraph

We have revised this AD 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 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 2,878 airplanes of the affected design in the worldwide fleet. This AD affects about 1,078 airplanes of U.S. registry. The inspection takes about 2 work hours per airplane, at an average labor rate of \$80 per work hour. Based on these figures, the estimated cost of the AD for U.S. operators is \$172,480, or \$160 per airplane, per inspection 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 FAA amends § 39.13 by adding the following new airworthiness directive (AD):



2007-16-05 Boeing: Amendment 39-15144. Docket No. FAA-2004-18814; Directorate Identifier 2003-NM-286-AD.

Effective Date

- (a) This AD becomes effective September 13, 2007.

Affected ADs

- (b) None.

Applicability

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

Unsafe Condition

- (d) This AD results from reports indicating loose jam nuts and/or thread wear at the rod ends on the elevator tab control rod assembly. We are issuing this AD to find and fix discrepancies of the elevator tab control rod assembly, which could result in excessive freeplay in the elevator tab control rods. Such freeplay could cause loss of both load paths, subsequent elevator tab flutter, and consequent reduced structural integrity and loss of controllability 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.

Repetitive Inspections

- (f) Within 4,500 flight cycles or 6,000 flight hours after the effective date of this AD, whichever is first: Do a detailed inspection for discrepancies of the inspection putty of the elevator tab control rod assemblies and/or damage to the surrounding structure, by doing all the actions, including all applicable related corrective actions, as specified in paragraph 3.B. of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-27A1266, Revision 1, dated January 2, 2007. Do all applicable related corrective actions before further flight, in accordance with the service bulletin. Repeat the inspection thereafter at intervals not to exceed 4,500 flight cycles or 6,000 flight hours, whichever is first. Actions accomplished before the effective date of this AD in accordance with Boeing Alert Service Bulletin 737-27A1266, dated September 18, 2003, are considered acceptable for compliance with the corresponding actions specified in this paragraph.

Note 1: For the purposes of this AD, a detailed inspection is: "An intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. Available lighting is

normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirror, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate procedures may be required."

Alternative Methods of Compliance (AMOCs)

(g)(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

(h) You must use Boeing Alert Service Bulletin 737-27A1266, Revision 1, dated January 2, 2007, 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 July 30, 2007.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E7-15220 Filed 8-8-07; 8:45 am]