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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

**[Docket No. 2000-NM-395-AD; Amendment 39-12492; AD 2001-22-13]
RIN 2120-AA64**

**Airworthiness Directives; Boeing Model 737-100, -200, -300, -400, and -500 Series Airplanes;
and Model 747, 757, 767, and 777 Series Airplanes**

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 737-100, -200, -300, -400, and -500 series airplanes; and certain Boeing Model 747, 757, 767, and 777 series airplanes; that requires replacing the rudder pedal pushrod fasteners for both the captain's and first officer's pedal assemblies with new, improved fasteners. This action is necessary to prevent loss of rudder control due to improperly torqued fasteners that connect the pushrod to the rudder pedal assembly, which could result in loss of controllability of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective December 6, 2001.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of December 6, 2001.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Barbara Mudrovich, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2983; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain Model 737-100, -200, -300, -400, and -500 series airplanes; and Model 747, 757, 767, and 777 series

airplanes; was published in the Federal Register on April 20, 2001 (66 FR 20218). That action proposed to require replacing the rudder pedal pushrod fasteners for both the captain's and first officer's pedal assemblies with new, improved fasteners.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

One commenter supports the proposed rule; a second commenter states that it has no technical objection and intends to accomplish the proposed actions; and a third commenter states no objection to the proposed rule.

Refer to Additional Sources of Service Information

Two commenters request that the FAA revise Table 2 of the proposed AD to refer to Boeing Service Bulletin 767-27A0159, Revision 1, dated April 5, 2001, as an acceptable source of service information for the actions in paragraph (a) of the proposed AD. (The proposed AD refers to the original issue of Boeing Alert Service Bulletin 767-27A0159, dated June 10, 1999, as an acceptable source of service information for accomplishment of the actions in paragraph (a) of the proposed rule on affected Model 767 series airplanes.) One of the commenters also requests that we add a new note similar to Note 2 to cover incorporation of Boeing Service Bulletin 767-27A0159, Revision 1, as acceptable for compliance with the proposed AD.

We concur with the commenters' request to reference Boeing Service Bulletin 767-27A0159, Revision 1, in Table 2 of this AD and have revised Table 2 accordingly. Since we are making this change, we find that there is no need to add a new note similar to Note 2 of this AD to the final rule as one of the commenters suggested.

One commenter also asks us to revise Table 1 under the applicability statement of the proposed AD to refer to Boeing Alert Service Bulletin 737-27A1214, dated April 8, 1999, and Boeing Service Bulletin 767-27A0159, Revision 1. (Table 1 of the proposed AD lists Boeing Service Bulletin 737-27A1214, Revision 1, dated July 1, 1999, as the applicable service bulletin listing affected Model 737-100, -200, -300, -400, and -500 series airplanes; and the original issue of Boeing Alert Service Bulletin 767-27A0159, as the applicable service bulletin listing affected Model 767 series airplanes.) The same commenter also asks that we revise Table 2 of the proposed AD to refer to Boeing Alert Service Bulletin 737-27A1214, dated April 8, 1999. The commenter's rationale for these requests is that these service bulletins provide for the incorporation of the improved fasteners and compliance with the proposed action.

We do not concur that any change is necessary. Comparison of the effectivity listings of the original issue and Revision 1 of Boeing Service Bulletins 737-27A1214 and 767-27A0159 show that both issues of these service bulletins list the same affected airplane line numbers. Thus, we find that revising Table 1 as the commenter suggests would add no value and may be confusing for operators. No change to the final rule is necessary in this regard.

In addition, because Note 2 of this AD already states that the original issue of Boeing Alert Service Bulletin 737-27A1214 is acceptable for compliance with the applicable action in this AD, we find no need to also list that service bulletin in Table 2 of this AD. No change to this final rule is necessary in this regard.

Issue Action as a Supersedure of AD 98-13-12 R1

One commenter suggests that the proposed AD should supersede AD 98-13-12 R1, amendment 39-10930 (63 FR 68165, December 10, 1998). The commenter states that the proposed actions in this AD remove the unsafe condition addressed by AD 98-13-12 R1. The commenter also notes that

operators cannot comply with both AD 98-13-12 R1 and the proposed AD because this proposed AD requires rudder pedal pushrod fasteners to be torqued at a lower value than that required by AD 98-13-12 R1. The commenter is concerned that operators will need to request alternative methods of compliance for both of these ADs.

We do not concur with the request to supersede AD 98-13-12 R1. That AD requires a one-time inspection to detect discrepancies of the fasteners that connect the pushrods to the rudder pedal assemblies, and corrective actions, if necessary, on certain Boeing Model 737, 747, 757, 767, and 777 series airplanes. The actions in that AD are intended to prevent loss of rudder control, jamming of the rudder system, uncommanded movement of the rudder system, and consequent reduced controllability of the airplane. Corrective actions in that AD include tightening nuts and bolts to specified torque limits, installing missing fasteners, and replacing incorrectly installed fasteners with new fasteners, as applicable. This new AD requires replacement of existing rudder pedal pushrod fasteners for both the captain's and first officer's pedal assemblies with new, improved fasteners that use self-locking, castellated nuts and cotter pins through the bolts for nut retention. We consider the actions in this AD to provide an improved level of safety over that provided by the actions in AD 98-13-12 R1.

Since the compliance time for the actions required by AD 98-13-12 R1 (90 days after July 6, 1998, which is the effective date of AD 98-13-12, amendment 39-10600 (63 FR 33246, June 17, 1998)) has passed, most airplanes should already be in compliance with that AD. However, we find that accomplishment of the requirements of that AD is necessary in the event that an affected airplane is added to the U.S. Register. In that event, we find that accomplishment of paragraph (a) of this AD before the airplane is added to the U.S. Register is acceptable for compliance with AD 98-13-12 R1. We have added a new paragraph (b) to this AD (and reordered subsequent paragraphs) accordingly.

With regard to the commenter's perceived need for operators to apply for an alternative method of compliance, we note that, once the new, improved fasteners are installed according to this AD, the torque requirements for the old fasteners referenced in AD 98-13-12 R1 no longer apply. Further, the actions in this AD are not considered "terminating action" for AD 98-13-12 R1 because that AD did not contain any repetitive actions to terminate. No change to this final rule is necessary in this regard.

Extend Compliance Time

One commenter requests that we extend the compliance time for the proposed requirements from 18 to 36 months after the effective date of this AD. The commenter's rationale is that there have been very few reports of disconnection of the rudder pedal pushrod from the rudder pedal assembly, and all affected airplanes have previously been inspected per AD 98-13-12 R1.

We do not concur. In developing an appropriate compliance time for this AD, we considered the manufacturer's recommendation, as well as the degree of urgency associated with addressing the subject unsafe condition, the average utilization of the affected fleet, and the small amount of time necessary to perform the inspection (one hour). We have also considered that the service bulletins have been available for some time, and many operators have already accomplished the required actions. In light of all of these factors, the FAA finds an 18-month compliance time for completing the required actions to be warranted, in that it represents an appropriate interval of time wherein airplanes will be able to continue to operate without compromising safety, and the majority of operators will be able to do the required work during a scheduled maintenance visit. No change to the final rule is necessary in this regard.

Revise Cost Impact Estimate

One commenter requests that the FAA revise the proposed rule to increase the cost estimate. The commenter states that it has compiled its own cost estimate for this inspection, based on actual direct costs incurred, and estimates the costs associated with the proposed AD as \$125.76 for labor and \$226.00 for materials per airplane, for a total of \$351.76 per airplane.

We do not concur with the request. With regard to the number of work hours necessary to accomplish the actions in this AD, the cost impact information describes only the "direct" costs of the specific actions required by this AD. The number of work hours necessary to accomplish the required actions, specified as 1 work hour in the cost impact information below, was provided to the FAA by the manufacturer based on the best data available to date. This number represents the time necessary to perform only the actions actually required by this AD. The FAA recognizes that, in accomplishing the requirements of any AD, operators may incur "incidental" costs in addition to the "direct" costs. The cost analysis in AD rulemaking actions, however, typically does not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions. Because incidental costs may vary significantly from operator to operator, they are almost impossible to calculate.

With regard to the cost of materials, the cost of parts necessary to accomplish the required actions, specified as approximately \$75 in the cost impact information below, was provided to the FAA by the manufacturer based on the best data available to date. The commenter did not specify what materials its cost estimate included, so it is impossible for the FAA to know the reason for the difference between our cost estimate and the commenter's. No change to the final rule is necessary in this regard.

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

There are approximately 6,097 Model 737-100, -200, -300, -400, and -500 series airplanes; and Model 747, 757, 767, and 777 series airplanes; of the affected design in the worldwide fleet. The FAA estimates that 2,338 airplanes of U.S. registry will be affected by this AD, that it will take approximately 1 work hour per airplane to accomplish the required actions, and that the average labor rate is \$60 per work hour. Required parts will cost approximately \$75 per airplane. Based on these figures, the cost impact of this AD on U.S. operators is estimated to be \$315,630, or \$135 per airplane.

The cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

Regulatory Impact

The regulations adopted herein 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. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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.

Sec. 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

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

We post ADs on the internet at "av-info.faa.gov"

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).

2001-22-13 Boeing: Amendment 39-12492. Docket 2000-NM-395-AD.

Applicability: Model 737-100, -200, -300, -400, and -500 series airplanes; and Model 747, 757, 767, and 777 series airplanes; as listed in the following applicable Boeing service bulletin specified in the following table; certificated in any category:

Table 1.--Applicable Service Bulletins			
Model	Service bulletin	Revision level	Date
737-100, -200, -300, -400, and -500.....	Boeing Service Bulletin 737-27A1214.	1.....	July 1, 1999.
747.....	Boeing Alert Service Bulletin 747-27A2373.	Original.....	June 24, 1999.
757.....	Boeing Alert Service Bulletin 757-27A0129.	Original.....	March 25, 1999.
767.....	Boeing Alert Service Bulletin 767-27A0159.	Original.....	June 10, 1999.
777.....	Boeing Alert Service Bulletin 777-27A0030.	Original.....	April 1, 1999.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent loss of rudder control due to improperly torqued fasteners that connect the pushrod to the rudder pedal assembly, which could result in loss of controllability of the airplane, accomplish the following:

Replacement

(a) Within 18 months after the effective date of this AD: Replace the rudder pedal pushrod fasteners for both the captain's and first officer's pedal assemblies with new, improved fasteners that use self-locking, castellated nuts and cotter pins through the bolts for nut retention, per the applicable Boeing service bulletin listed in the following table:

Table 2.--Applicable Service Bulletins

Model	Service bulletin	Revision level	Date
737-100, -200, -300, -400, and -500.....	Boeing Service Bulletin 737-27A1214.	1.....	July 1, 1999.
747.....	Boeing Alert Service Bulletin 747-27A2373.	Original.....	June 24, 1999.
757.....	Boeing Alert Service Bulletin 757-27A0129.	Original.....	March 25, 1999.
767.....	Boeing Alert Service Bulletin 767-27A0159.	Original.....	June 10, 1999.
767.....	Boeing Service Bulletin 767-27A0159.	1.....	April 5, 2001.
777.....	Boeing Alert Service Bulletin 777-27A0030.	Original.....	April 1, 1999.

Note 2: Replacement actions that include replacing the rudder pedal pushrod fasteners for both the captain's and first officer's pedal assemblies with new, improved fasteners, which use self-locking, castellated nuts and cotter pins through the bolts for nut retention, accomplished before the effective date of this amendment, per Boeing Alert Service Bulletin 737-27A1214, dated April 8, 1999, are considered acceptable for compliance with the applicable actions specified in this amendment.

Compliance With AD 98-13-12 R1

(b) Accomplishment of the requirements of paragraph (a) of this AD before the airplane is added to the U.S. Register is acceptable for compliance with AD 98-13-12 R1, amendment 39-10930.

Alternative Methods of Compliance

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

Note 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

Special Flight Permits

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Incorporation by Reference

(e) The actions shall be done in accordance with Boeing Service Bulletin 737-27A1214, Revision 1, dated July 1, 1999; Boeing Alert Service Bulletin 747-27A2373, dated June 24, 1999; Boeing Alert Service Bulletin 757-27A0129, dated March 25, 1999; Boeing Alert Service Bulletin 767-27A0159, dated June 10, 1999; Boeing Service Bulletin 767-27A0159, Revision 1, dated April 5, 2001; or Boeing Alert Service Bulletin 777-27A0030, dated April 1, 1999; as applicable. This

incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(f) This amendment becomes effective on December 6, 2001.

Issued in Renton, Washington, on October 24, 2001.

Ali Bahrami,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 01-27215 Filed 10-31-01; 8:45 am]

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