

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 96-NM-261-AD; Amendment 39-9818; AD 96-23-51]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This document publishes in the **Federal Register** an amendment adopting Airworthiness Directive (AD) T96-23-51 that was sent previously to all known U.S. owners and operators of Boeing Model 737 series airplanes by individual telegrams.

This AD requires repetitive tests to verify proper operation of the rudder power control unit (PCU), and replacement of the PCU, if necessary. This amendment is prompted by tests of the main rudder PCU, conducted by the manufacturer, which demonstrated a potential failure scenario that was previously unknown. The actions specified by this AD are intended to prevent rudder motion in the opposite direction of the rudder command.

DATES: Effective [insert date 5 days after date of publication in the **Federal Register**], to all persons except those persons to whom it was made immediately effective by telegraphic AD T96-23-51, issued November 1, 1996, which contained the requirements of this amendment.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of [insert date 5 days after date of publication in the **Federal Register**].

Comments for inclusion in the Rules Docket must be received on or before [insert date 60 days after date of publication in the **Federal Register**].

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 96-NM-261-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

The applicable service information may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined 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.

FOR FURTHER INFORMATION CONTACT: Kenneth W. Frey, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (206) 227-2673; fax (206) 227-1181.

SUPPLEMENTARY INFORMATION: As part of its Continuing Operational Safety Program, the FAA has become aware of new information related to the safety of Boeing Model 737 series airplanes. Recent tests of the main rudder power control unit (PCU), conducted at Boeing, demonstrated a potential failure scenario that was previously unknown. These tests revealed that rudder pedal input can cause deformation in the linkage leading to the primary and secondary slides of the servo valve of the main rudder PCU, if the secondary slide of the PCU jams in certain positions; this situation could result in rudder motion in the opposite direction of the rudder command.

The intent of the original design of the PCU dual servo valve, in compliance with certification requirements, is to allow either the primary or secondary slide to neutralize the effect of a jam of the other slide. If the secondary slide of the servo valve of the main rudder PCU jams and the primary slide does not neutralize the effects of the jam, under certain conditions, a rudder pedal command could result in rudder motion in the opposite direction of the rudder command and lead to reduced controllability of the airplane.

Explanation of Relevant Service Information

The FAA has reviewed and approved Boeing Alert Service Bulletin 737-27A1202, dated November 1, 1996. The alert service bulletin describes procedures for performing a test to verify proper operation of the rudder PCU, and replacement of the rudder PCU with a new unit, if necessary. The test procedure will ensure that the servo valve does not have a latent jam.

Explanation of Requirements of the Rule

Since the unsafe condition described is likely to exist or develop on other airplanes of the same type design, the FAA issued Telegraphic AD T96-23-51 to prevent rudder motion in the opposite direction of the rudder command. The AD requires repetitive tests to verify proper operation of the rudder PCU, and replacement of the rudder PCU with a new unit, if necessary. The actions are required to be accomplished in accordance with the alert service bulletin described previously.

The AD also requires that operators submit a report of the test results to the FAA.

Since it was found that immediate corrective action was required, notice and opportunity for prior public comment thereon were impracticable and contrary to the public interest, and good cause existed to make the AD effective immediately by individual telegrams issued on November 1, 1996, to all known U.S. owners and operators of Model 737 series airplanes. These conditions still exist, and the AD is hereby published in the **Federal Register** as an amendment to section 39.13 of the Federal Aviation Regulations (14 CFR 39.13) to make it effective to all persons.

Differences Between the AD and the Relevant Service Information

Operators should note that the Boeing alert service bulletin specifies that it pertains only to airplanes that have certain serial numbers. However, this AD (as well as the previously-issued telegraphic version of it) is applicable to all Model 737 series airplanes. It is the FAA's intent that the entire fleet of Model 737's be inspected in

accordance with the requirements of this AD. Where there are differences between the manufacturer's service information and the AD, it is the stipulations of the AD that prevail.

Interim Action

This is considered to be interim action. The manufacturer has advised that it currently is developing a design modification that will eliminate the need for the repetitive test requirements of this AD. Once this modification is developed, approved, and available, the FAA may consider additional rulemaking.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 96-NM-261-AD." The postcard will be date stamped and returned to the commenter.

Regulatory Impact

The regulations adopted herein will not have substantial direct effects 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, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, 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.

§ 39.13 - [Amended]

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

96-23-51 BOEING: Amendment 39-9818. Docket 96-NM-261-AD.

Applicability: All Model 737 series airplanes, certificated in any category.

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.

NOTE 2: The Boeing alert service bulletin that is referenced in this AD specifies that it pertains only to airplanes that have certain serial numbers. However, this AD is applicable to all Model 737 series airplanes. Where there are differences between the manufacturer's service information and the AD, it is the stipulations of the AD that prevail.

Compliance: Required as indicated, unless accomplished previously.

To prevent rudder motion in the opposite direction of the rudder command, accomplish the following:

(a) Within 10 days after the effective date of this AD, perform a test to verify proper operation of the rudder power control unit (PCU), in accordance with Boeing Alert Service Bulletin 737-27A1202, dated November 1, 1996.

(1) If the rudder PCU operates properly, repeat the test thereafter at intervals not to exceed 250 flight hours.

(2) If the rudder PCU operates improperly, prior to further flight, replace the rudder PCU with a new rudder PCU, in accordance with the alert service bulletin. Repeat the test thereafter at intervals not to exceed 250 flight hours.

(b) Within 24 hours after accomplishing any test required by paragraph (a) of this AD, submit a report of any finding(s) of discrepancies to the Manager, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (206) 227-2673; fax (206) 227-1181. Information collection requirements contained in this regulation have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) and have been assigned OMB Control Number 2120-0056.

(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, Transport Airplane Directorate. 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.

(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.

(e) The actions shall be done in accordance with Boeing Alert Service Bulletin 737-27A1202, dated November 1, 1996. 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.

(f) This amendment becomes effective on [insert date 5 days after date of publication in the **Federal Register**], to all persons except those persons to whom it was made immediately effective by telegraphic AD T96-23-51, issued on November 1, 1996, which contained the requirements of this amendment.
Issued in Renton, Washington, on November 7, 1996.

Original Signed By:

Darrell M. Pederson, Acting Manager,

Transport Airplane Directorate,
Aircraft Certification Service.

AD ECONOMIC EVALUATION

Docket Number: 96-NM-261-AD
Airplane Make/Model/Series: Boeing Model 737 series
Number of airplanes (U.S. Operators): 1,115

The Airworthiness Directive (AD) requires: repetitive tests of the rudder power control unit (PCU) to verify that it operates properly, and replacement of any PCU that does not pass the test.

Costs:

Parts per aircraft	\$	0
Labor per aircraft (2 work hours x \$60/hour)	\$	120
Other (explain)	\$	

Cost per aircraft per test	\$	120
Fleet cost per test	\$	133,800

Executive Order 12866:

Could the AD be considered a "significant regulatory action?"
YES () explain NO (X)

DOT Regulatory Policies and Procedures:

Is the AD significant?
YES () explain NO (X)

Regulatory Flexibility Act:

Will the AD have a significant economic impact on a substantial number of small entities?
YES () explain NO (X)

Project Engineer/Office Routing Symbol: Ken Frey, ANM-130S

SUMMARY

DATE: November 4, 1996

SUBJECT: Boeing Model 737 series airplanes; Federal Register Version of a Telegraphic AD; Docket 96-NM-261-AD, AD 96-23-51

PROJECT ENGINEER/TECH WRITER: Ken Frey, ANM-130S, x2673
Jill DeMarco, ANM-103, x2125

ACTION: Requires repetitive tests of the rudder power control unit (PCU) to verify that it operates properly, and replacement of any PCU that does not pass the test. First test is required within 10 days, then repeated every 250 flight hours.

The telegraphic AD was issued on November 1, 1996. This action publishes the telegraphic AD in the Federal Register

COST IMPACT: Worldwide fleet: 2,705; U.S. Registered airplanes: 1,115
1,115 airplanes x 2 work hours per test @ \$60/work hour = \$133,800 per testing cycle.

AFFECTED U.S. AIRLINES: Almost all U.S. airlines will be affected, including Alaska, Aloha, America West, Continental, Delta, Frontier, Southwest, United, USAir, and Western Pacific.

CONTACTED DURING DATA GATHERING: Boeing, ATA

QC PROBLEM INVOLVED?: No

CONTROVERSIAL ISSUES / MEDIA INTEREST: Relates to 737 rudder issues.