

original AD

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 96-NM-266-AD; Amendment 39-9871; AD 96-26-07]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to all Boeing Model 737 series airplanes. This action requires revising the FAA-approved Airplane Flight Manual (AFM) to include procedures that will enable the flight crew to take appropriate action to maintain control of the airplane during an uncommanded yaw or roll condition, and to correct a jammed or restricted flight control condition. This amendment is prompted by an FAA determination that such procedures currently are not defined adequately in the AFM for these airplanes. The actions specified in this AD are intended to ensure that the flight crew is advised of the potential hazard associated with a jammed or restricted flight control condition and of the procedures necessary to address it.

DATES: Effective [insert date 15 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-266-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

The information concerning this amendment may be obtained from or examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton,

Washington.

FOR FURTHER INFORMATION CONTACT: Les Berven, Flight Test Pilot, Flight Test Branch, ANM-160S, Seattle Aircraft Certification Office, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (206) 227-2666; 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, if the secondary slide of the PCU jams in certain positions, 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. This situation could result in rudder deflection in the opposite direction of the rudder command, and a jammed rudder.

Other Relevant Rulemaking

The conditions described previously were addressed previously in AD 96-23-51, amendment 39-9818 (61 FR 59317, November 22, 1996), which is applicable to all Boeing Model 737 series airplanes. That AD requires repetitive tests to verify proper operation of the rudder power control unit (PCU), and replacement of the PCU, if necessary. The actions specified by that AD are intended to prevent rudder motion in the opposite direction of the rudder command.

FAA's Findings

As a result of analysis related to the previously prescribed tests, the FAA finds that certain procedures should be included in the FAA-approved Airplane Flight Manual (AFM) for Model 737 series airplanes to enable the flight crew to take appropriate action to maintain control of the airplane during an uncommanded yaw or roll condition, and to

correct a jammed or restricted flight control condition. The FAA has determined that such procedures currently are not defined adequately in the AFM for these airplanes.

Explanation of the Requirements of the Rule

Since an unsafe condition has been identified that is likely to exist or develop on other Boeing Model 737 series airplanes of the same type design, this AD is being issued to ensure that the flight crew is advised of the potential hazard associated with a jammed or restricted flight control condition and of the procedures necessary to address it. This AD requires revising the AFM to include procedures that will enable the flight crew to take appropriate action to maintain control of the airplane during an uncommanded yaw or roll condition, and to correct a jammed or restricted flight control condition.

Determination of Rule's Effective Date

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

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-266-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, 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:
96-26-07 BOEING: Amendment 39-9871. Docket 96-NM-266-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 (b) 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 ensure that the flight crew is advised of the potential hazard associated with jammed or restricted flight controls and of the procedures necessary to address it, accomplish the following:

- (a) Within 30 days after the effective date of this AD, accomplish paragraphs

(a)(1) and (a)(2) of this AD.

(1) Revise the Emergency Procedures Section of the FAA-approved Airplane Flight Manual (AFM) to include the following recall item, which will enable the flight crew to take appropriate action to maintain control of the airplane during an uncommanded yaw or roll condition. This may be accomplished by inserting a copy of this AD in the AFM.

“UNCOMMANDED YAW OR ROLL

RECALL

Maintain control of the airplane with all available flight controls. If roll is uncontrollable, immediately reduce angle of attack and increase airspeed. Do not attempt to maintain altitude until control is recovered. If engaged, disconnect autopilot and autothrottle.”

(2) Revise the section entitled “JAMMED FLIGHT CONTROLS” of the Normal Procedures Section (for Model 737-100 and -200 series airplanes) or the Non-Normal Procedures Section (for Model 737-300, -400, and -500 series airplanes), as applicable, of the FAA-approved AFM to include the following procedures, which will enable the flight crew to take appropriate action to maintain control of the airplane and to correct a jammed or restricted flight control condition. This may be accomplished by inserting a copy of this AD in the AFM.

“JAMMED FLIGHT CONTROLS

JAMMED OR RESTRICTED ELEVATOR OR AILERON:

In the event of a jammed elevator or aileron, do not hesitate to apply additional force to maintain control of the airplane. Do not turn off any flight control switches unless the faulty control is positively identified. Manual trim may be used to offload control forces.

JAMMED OR RESTRICTED RUDDER:

If the rudder pedals will not move to the pilot commanded position, or if the pedals are deflected in one direction and jammed, maintain control of the airplane with all available flight controls. Disengage the autopilot and autothrottle. Use maximum force (combined effort by both pilots) to overpower the rudder system.

After establishing control of the aircraft, check rudder pedal position. If the rudder pedals have centered, accomplish a normal descent, approach, and landing. If the rudder pedals remain jammed and are deflected to a degree that significantly affects the controllability of the airplane, select System B flight control switch to STBY RUD. If this action clears the jam/deflection, make a normal approach and landing, noting that rudder control may be limited. If moving the System B flight control switch to STBY RUD does not clear the jam, select System A flight control switch to off. If pedals do not center, select System B flight control switch to off. Make approach and landing with flaps 15 at V_{REF} flaps 15. The crosswind capability of the airplane will be greatly reduced.

YAW DAMPER:

The yaw damper is a separate control and provides a limited rudder movement in opposition to the yaw rate of the airplane. Rudder (yaw damper) indicator displacement indicates yaw damper operation. Yaw damper light illuminates amber when the yaw damper is not engaged.”

(b) 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 Operations Inspector, who may add comments and then send it to the Manager, Seattle ACO.

NOTE 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

(c) 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.

(d) This amendment becomes effective on [insert date 15 days after date of publication in the **Federal Register**].

Issued in Renton, Washington, on December 23, 1996.

Original Signed By:

S. R. Miller, Acting Manager,

Transport Airplane Directorate,
Aircraft Certification Service.