

Installation of a Continuous Power Reserve (CPR) System

(a) General. With the CPR system functioning normally as designed, all applicable requirements of part 25 must be met without requiring any unusual action (other than arming the system prior to dispatch) by the crew to set power or thrust.

(b) Performance and Reliability Requirements.

(1) A CPR failure or combination of failures.

(i) That prevents the automatic insertion of CPR thrust or power must be shown to be an improbable event;

(ii) That prevents the automatic insertion of APR thrust or power during the critical time interval defined in Appendix I of Part 25 must be shown to be an improbable event; and

(iii) Shall not result in the significant loss or reduction in thrust or power, or must be shown to be an extremely improbable event.

(2) All applicable performance requirements of part 25 must be met with an engine failure occurring at the most critical time with the CPR system functioning.

(c) Thrust Setting. The maximum continuous thrust or power setting specified for use with all engines operating may not be less than any of the following:

(1) Ninety (90) percent of the thrust or power set by the CPR system for which AFM performance credit is approved;

(2) That required to permit normal operation of all safety-related systems and equipment dependent upon engine thrust or power lever position; or

(3) That shown to be free of hazardous engine response characteristics when thrust or power is advanced from the initial all-engines-operating thrust or power setting to the maximum approved maximum continuous/CPR mode thrust or power setting.

(d) Powerplant Controls.

(1) In addition to the requirements of § 25.1141, no single failure or malfunction, or probable combination thereof, of the CPR, including associated systems, may cause the failure of any powerplant function necessary for safety.

(2) The CPR system must be designed to:

(i) In the event of a CPR system failure, permit manual decrease or increase in thrust or power up to the highest maximum continuous thrust or power approved for the airplane under existing conditions through the use of the power lever. For airplanes equipped with limiters that automatically prevent engine operating limits from being

exceeded under existing ambient conditions, other means may be used to increase the thrust or power in the event of a CFR failure provided the means is located on or forward of the power levers; is easily identified and operated under all operating conditions by a single action of either pilot with the hand that is normally used to actuate the power levers; and meets the requirements of § 25.777 (a), (b), and (c).

(ii) Provide a means for the flightcrew to deactivate the automatic CPR function. This means must be designed to prevent inadvertent deactivation.

(iii) Provide a means for the flightcrew to verify that the CFR system is in a condition to operate.

(e) Powerplant Instruments. In addition to the requirements of § 25.1305, a means must be provided to indicate when the CPR is in the armed or ready condition.

Issued in Renton, Washington, on March 6, 1997.

Neil D. Schalekamp,
Acting Manager, Transport Airplane Directorate, Aircraft Certification Service, ANM-100.

[FR Doc. 97-6528 Filed 3-13-97; 8:45 am]

BILLING CODE 4910-13-M

14 CFR Part 39

[Docket No. 97-NM-28-AD]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-100, -200, -300, -400, and -500 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to all Boeing Model 737-100, -200, -300, -400, and -500 series airplanes. This proposal would require installation of a newly designed rudder-limiting device and yaw damper system. This proposal is prompted by a report indicating that a full rudder input, either commanded or uncommanded, could result in a rapid roll upset; and by reports of malfunctions of the yaw damper system. The actions specified by the proposed AD are intended to prevent excessive rudder authority and consequent reduced controllability of the airplane; and malfunctions of the yaw damper system, which could result in sudden uncommanded yawing of the airplane and consequent injury to passengers and crewmembers.

DATES: Comments must be received by April 23, 1997.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 97-NM-28-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: T. Tin Truong, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (206) 227-2552; fax (206) 227-1181.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed 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 above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed 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 summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 97-NM-28-AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 97-NM-28-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

Discussion

In September 1994, an accident involving a Boeing Model 737-300 series airplane occurred near Pittsburgh, Pennsylvania. The National Transportation Safety Board (NTSB) has not yet determined the cause of that accident. However, the FAA has received a report indicating that piloted computer simulations of the accident revealed that a full rudder input, either commanded or uncommanded, could result in a rapid roll upset similar to the aircraft responses recorded on the flight data recorder of the accident airplane. Investigation revealed that, during certain combinations of flap settings and airspeeds, the amount of rudder deflection available is greater than needed for control of the airplane. A full rudder deflection (hardover) with such excessive rudder authority can result in a rolling moment due to sideslip that exceeds the maximum rolling moment available by control wheel inputs. This condition, if not corrected, could result in reduced controllability of the airplane unless the flight crew takes prompt and appropriate action. [In this regard, the FAA issued AD 96-26-07, amendment 39-9871 (62 FR 15, January 2, 1997) to amend the Airplane Flight Manual to provide the flight crew with the proper control techniques in the event of such an occurrence.]

Additionally, the FAA has received a number of reports of malfunctions of the yaw damper system. These malfunctions may have been caused by failure of the rate gyroscope of the yaw damper coupler as a result of wear of the rotor bearing, and contamination and shorting of the electrical connectors or surface position sensors in the area of the yaw damper servo-actuator. Such malfunctions of the yaw damper system, if not corrected, could result in sudden uncommanded yawing of the airplane and consequent injury to passengers and crewmembers.

Boeing has advised the FAA that it has designed a rudder-limiting device and a new yaw damper for installation on the latest versions of Model 737 series airplanes currently undergoing certification. Both of these systems are capable of being installed on the existing fleet of Model 737 series airplanes. Boeing has not yet released a service bulletin reflecting these changes.

FAA's Determinations

In light of this information, the FAA finds that installation of a newly designed rudder-limiting device and yaw damper system are required to ensure the safety of the affected fleet. Installation of a rudder-limiting device

is necessary to reduce the rudder authority at altitudes above 1,500 feet above ground level (AGL) so that, if any inadvertent hardover occurs, the resultant roll upset can be controlled with control wheel inputs. Installation of a new yaw damper system is necessary to improve the reliability of the system and its fault monitoring capability, which will prevent uncommanded yawing of the airplane.

Explanation of Requirements of Proposed Rule

Since an unsafe condition has been identified that is likely to exist or develop on other products of this same type design, the proposed AD would require installation of a newly designed rudder-limiting device and yaw damper system. The actions would be required to be accomplished in accordance with a method approved by the FAA.

Cost Impact

There are approximately 2,900 Model 737 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 1,350 airplanes of U.S. registry would be affected by this proposed AD.

The FAA estimates that it would take approximately 87 work hours per airplane to accomplish the proposed installation of a newly designed rudder-limiting device, and that the average labor rate is \$60 per work hour. Required parts would be supplied by the manufacturer at no cost to operators. Based on these figures, the cost impact of the proposed AD on U.S. operators is estimated to be \$7,047,000, or \$5,220 per airplane.

The FAA also estimates that it would take approximately 20 work hours per airplane to accomplish the proposed installation of a newly designed yaw damper system, and that the average labor rate is \$60 per work hour. Required parts would be supplied by the manufacturer at no cost to operators. Based on these figures, the cost impact of the proposed AD on U.S. operators is estimated to be \$1,620,000, or \$1,200 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the proposed requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted.

The FAA recognizes that the obligation to maintain aircraft in an airworthy condition is vital, but sometimes expensive. Because AD's require specific actions to address specific unsafe conditions, they appear to impose costs that would not

otherwise be borne by operators. However, because of the general obligation of operators to maintain aircraft in an airworthy condition, this appearance is deceptive. Attributing those costs solely to the issuance of this AD is unrealistic because, in the interest of maintaining safe aircraft, prudent operators would accomplish the required actions even if they were not required to do so by the AD.

A full cost-benefit analysis has not been accomplished for this proposed AD. As a matter of law, in order to be airworthy, an aircraft must conform to its type design and be in a condition for safe operation. The type design is approved only after the FAA makes a determination that it complies with all applicable airworthiness requirements. In adopting and maintaining those requirements, the FAA has already made the determination that they establish a level of safety that is cost-beneficial. When the FAA, as in this proposed AD, makes a finding of an unsafe condition, this means that the original cost-beneficial level of safety is no longer being achieved and that the proposed actions are necessary to restore that level of safety. Because this level of safety has already been determined to be cost-beneficial, a full cost-benefit analysis for this proposed AD would be redundant and unnecessary.

Regulatory Impact

The regulations proposed herein would 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 proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this proposed regulation (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) if promulgated, 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 copy of the draft regulatory evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting 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.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 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:

Boeing; Docket 97–NM–28–AD.

Applicability: All Model 737–100, –200, –300, –400, and –500 series airplanes, certificated in any category.

Note 2: 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been otherwise 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 prevent excessive rudder authority and consequent reduced controllability of the airplane; and malfunctions of the yaw damper system, which could result in sudden uncommanded yawing of the airplane and consequent injury to passengers and crewmembers; accomplish the following:

(a) Within 3 years after the effective date of this AD, accomplish paragraphs (a)(1) and (a)(2) of this AD in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate.

(1) Install a newly designed rudder-limiting device that reduces the rudder authority at altitudes above 1,500 feet above ground level (AGL).

(2) Install a newly designed yaw damper system that improves the reliability and fault monitoring capability.

(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 ACO. 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 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.

Issued in Renton, Washington, on March 7, 1997.

Ronald T. Wojnar,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 97–6436 Filed 3–13–97; 8:45 am]

BILLING CODE 4910–13–P

14 CFR Part 39

[Docket No. 96–NM–152–AD]

RIN 2120–AA64

Airworthiness Directives; Boeing Model 737–100 and –200 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Supplemental notice of proposed rulemaking; reopening of comment period.

SUMMARY: This document revises an earlier proposed airworthiness directive (AD), applicable to all Boeing Model 737–100 and –200 series airplanes, that would have required replacement of certain outboard and inboard wheel halves with improved wheel halves. That action also would have required cleaning and inspecting certain outboard and inboard wheel halves for corrosion, missing paint in large areas, and cracks; and repair or replacement of the wheel halves with serviceable wheel halves, if necessary. That proposal was prompted by a review of the design of the flight control systems on Model 737 series airplanes. This action revises the proposed rule by extending the compliance time, revising the applicability of the AD, and clarifying part and serial numbers of affected wheel assemblies and halves. The actions specified by this proposed AD are intended to prevent failure of the wheel flanges, which could result in damage to the hydraulics systems, jammed flight controls, loss of electrical power, or other combinations of failures; and consequent reduced controllability of the airplane.

DATES: Comments must be received by April 3, 1997.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM–103, Attention: Rules Docket No. 96–NM–152–AD, 1601 Lind Avenue, SW., Renton, Washington 98055–4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from Allied Signal Aerospace Company, Bendix Wheels and Brakes Division, South Bend, Indiana 46624; and Bendix, Aircraft Brake and Strut Division, 3520 West Mestmoor Street, South Bend, Indiana 46624. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington.

FOR FURTHER INFORMATION CONTACT: David Herron, Aerospace Engineer, Systems and Equipment Branch, ANM–130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington; telephone (206) 227–2672; fax (206) 227–1181.

SUPPLEMENTARY INFORMATION:**Comments Invited**

Interested persons are invited to participate in the making of the proposed 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 above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule.

The proposals contained in this notice may be changed in light of the comments received.

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