Airworthiness Directive

Federal Register Information

Header Information
DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [63 FR 64857 No. 226 11/24/98]

Docket No. 97-NM-157-AD; Amendment 39-10912; AD **97-09-15** R1

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-100, -200, -300, -400, and -500 Series Airplanes
PDF Copy (If Available):

Preamble Information
AGENCY: Federal Aviation Administration, DOT

ACTION: Final rule

SUMMARY: This amendment revises an existing airworthiness directive (AD), applicable to all Boeing Model 737-100, -200, -300, -400, and -500 series airplanes, that currently requires a one-time inspection to determine the part number of the engage solenoid valve of the yaw damper on the rudder power control unit, and replacement of the valve with a valve having a different part number, if necessary. That AD was prompted by a review of the design of the flight control systems on Model 737 series airplanes. The actions specified by that AD are intended to prevent sudden uncommanded yawing of the airplane due to potential failures within the yaw damper system, and consequent injury to passengers and crewmembers. This amendment makes certain editorial changes to clarify the requirements of the existing AD.

EFFECTIVE DATE: December 29, 1998.

ADDRESSES: Information pertaining to this AD may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington.

FOR FURTHER INFORMATION CONTACT: Tin Truong, Aerospace Engineer, ANM-130S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind

Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2764; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by revising AD **97-09-15**, amendment 39-10011 (62 FR 24325, May 5, 1997), which is applicable to all Boeing Model 737-100, -200, -300, -400, and -500 series airplanes, was published in the Federal Register on November 13, 1997 (62 FR 60808). The action proposed to continue to require a one-time inspection to determine the part number of the engage solenoid valve of the yaw damper on the rudder power control unit (PCU), and replacement of the valve with a valve having a different part number, if necessary. The action also proposed to make certain editorial changes to clarify the requirements of the existing AD.

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

Support for the Proposal

Two commenters support the proposal.

Request to Withdraw the Proposed AD

One commenter states that the proposed AD is unwarranted because it is purely editorial rather than technical in nature and requests that it be withdrawn. The commenter states that there is only one solenoid valve of the part number identified in AD **97-09-15** that is used in the yaw damper system, so it should be evident that the valve in question is that of the PCU. In addition, the commenter states that, although the vendor part numbers are not contained in AD **97-09-15**, they are easy to convert to the appropriate vendor numbers from cross references located in the Illustrated Parts Catalog (IPC) and the Component Maintenance Manual (CMM). The commenter also states that, although the aircraft maintenance manual chapter referenced in AD **97-09-15** is technically incorrect for certain Model 737-100 and -200 series airplanes, the obvious intent of AD **97-09-15** is to ensure that the specified solenoid valve is installed, and the procedures for replacement should obviously be those applicable for routine valve replacement. The commenter also notes that AD 97-14-04, amendment 39-10061 (62 FR 35068, June 30, 1997), which requires modification of the rudder PCU, will drive the inspection to be done in a shop environment, which would then require the use of the rudder PCU CMM, rather than the aircraft maintenance manual, for this inspection. Further, the commenter states that although the vendor name labeled on the affected parts may vary, the part number, function, and location do not.

The FAA does not concur that the revision is unwarranted. The FAA agrees that there is only one solenoid valve of the part number identified in AD **97-09-15** that is used in the yaw damper

system; however, this final rule is clearer and will prevent confusion. In addition, it is not appropriate to determine the vendor part number using the IPC because the IPC is not an FAA-approved document and its use does not ensure correlation of the appropriate part number. Therefore, it is necessary to identify all Boeing and vendor part numbers in the AD to ensure appropriate installation. Also, the FAA does not agree with the commenter that maintenance manual references in AD **97-09-15** are sufficient to ensure the use of proper maintenance procedures for valve installation. The FAA also does not agree with the comment that compliance with AD 97-14-04 will ensure that the required inspection will be done only in a shop environment. This final rule allows operators the flexibility to perform this inspection on the airplane or in the shop. The FAA agrees that, although the vendor name labeled on the affected parts may vary, the part number, function, and location do not; however, this final rule is clearer and will prevent confusion.

Request to Revise Corrective Action

One commenter requests that the requirement to replace a suspect engage solenoid valve prior to further flight be deleted. The commenter states that this requirement is too restrictive and could lead to unnecessary airplane grounding if a valve having the appropriate part number is unavailable. The FAA does not concur. In developing an appropriate compliance time for this action, the FAA considered not only the degree of urgency associated with addressing the subject unsafe condition, but the availability of required parts and the practical aspect of installing the required modification within an interval of time that parallels normal scheduled maintenance for the majority of affected operators. The manufacturer has advised that an ample number of required parts will be available for modification of the U.S. fleet within the specified compliance period. No change to the rule is necessary.

Request to Include All Applicable Maintenance Manual Chapters

One commenter states that Boeing Maintenance Manual Chapter 22-12-21 is applicable for some operators of Model 737-100 and -200 series airplanes and that use of the procedures contained in Chapter 22-12-21 should be allowed to accomplish the actions in this AD. The FAA concurs and has revised paragraph (a) of the final rule accordingly.

Request for Credit of Previously Accomplished Work

One commenter requests that, because the proposed revisions to the AD are editorial in nature, a statement be added to the AD to state that work already accomplished on any airplanes affected by AD **97-09-15** should not require additional action. The commenter also requests that all previously approved alternative methods of compliance should remain valid and in effect.

The FAA agrees with the commenter that this AD does not change the required actions of AD **97-09-15** and that any airplanes inspected and modified in accordance with AD **97-09-15** would not require additional action. However, operators are always given credit for work previously performed in accordance with the existing AD by means of the phrase in the compliance section of the AD that states, "Required ... unless accomplished previously." Further, no alternative methods of compliance have been approved for the AD **97-09-15**. Therefore, no change to the 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 change previously described. The FAA has determined that this change will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

There are approximately 2,675 Boeing Model 737 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 1,091 airplanes of U.S. registry will be affected by this AD.

It will take approximately 1 work hour per airplane to accomplish the required one-time inspection, at an average labor rate of $60 per work hour. Based on these figures, the cost impact of the inspection required by this AD on U.S. operators is estimated to be $65,460, or $60 per airplane. The requirements of this AD will add no new costs to affected operators.

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.

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.

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, 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 removing amendment 39-10011 (62 FR 24325, May 5, 1997), and by adding a new airworthiness directive (AD), amendment 39-10912, to read as follows:

Regulatory Information

97-09-15 R1 BOEING: Amendment 39-10912. Docket 97-NM-157-AD. Revises AD **97-09-15**, Amendment 39-10011.

Applicability: All Model 737-100, -200, -300, -400, and -500 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 prevent sudden uncommanded yawing of the airplane due to potential failures within the yaw damper system, and consequent injury to passengers and crewmembers, accomplish the following:

(a) Perform a one-time inspection of the engage solenoid valve of the yaw damper on the rudder power control unit (PCU) to determine the part number (P/N) of the valve. If any valve having Parker P/N 59600-5011 (Boeing P/N 10-60811-9), Parker P/N 59600-5007 (Boeing P/N 10-60811-3), or Parker P/N 59600-5003 (Boeing P/N 10-60811-1) is installed, prior to further flight, replace it with a valve having Parker P/N 881600-1001 (Boeing P/N 10-60811-13), Sterer P/N 45080-1 (Boeing P/N 10-60811-8), or Sterer P/N 45080 (Boeing P/N 10-60811-3). Accomplish the actions in accordance with procedures specified in Chapters 22-11-61 or 22-12-21 (for Model 737-100 and -200 series airplanes), as applicable; or Chapter 22-12-21 (for Model 737-300, -400, and -500 series airplanes) of the Boeing Maintenance Manual, as applicable. Accomplish the inspection at the earlier of the times specified in paragraphs (a)(1) and (a)(2) of this AD.

(1) Within 5 years or 15,000 flight hours after June 9, 1997 (the effective date of AD **97-09-15**, amendment 39-10011), whichever occurs first.

(2) At the next time the PCU is sent to a repair facility.

NOTE 2: Boeing In-Service Activities Report 95-03-2725-10, dated February 16, 1995 (for Model 737-100 and -200 series airplanes), or 95-04-2725-10, dated February 24, 1995 (for Model 737-300, -400, and -500 series airplanes), provides additional information concerning interchangeability of solenoid valve part numbers.

NOTE 3: Operators should note that, as specified in paragraph (a) of this AD, both the Parker and Sterer P/N's have the same Boeing P/N (10-60811-3). If, upon inspection, Boeing P/N 10-60811-3 is found to be installed, operators must ascertain the vendor P/N. Parts having Boeing P/N 10-60811-3 and Parker P/N 59600-5007 must be replaced and are not considered to be acceptable replacement parts. In addition, some engage solenoid valves may be labeled with only the name "Bertea," rather than "Parker" or "Parker-Bertea."

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

NOTE 4: 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 December 29, 1998.

Footer Information

Comments

Updated RGL applicability to match AD applicability; CAR C-11-185