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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2001-NM-344-AD; Amendment 39-12874; AD 2002-18-02]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-100, -200, -200C, -300, -400, and -500 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, -200C, -300, -400, and -500 series airplanes, that requires a one-time inspection to determine whether the lower bearing support of the aileron transfer mechanism directly below the first officer's control column has a "pocket," and follow-on corrective actions, if necessary. The actions specified by this AD are intended to prevent jamming of the first officer's control wheel due to the presence of a foreign object on the lower bearing support of the transfer mechanism, which could result in reduced controllability of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective October 10, 2002.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of October 10, 2002.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, PO 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: Technical Information: Doug Tsuji, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1506; fax (425) 227-1181.

Other Information: Sandi Carli, Airworthiness Directive Technical Editor/Writer; telephone (425) 687-4243, fax (425) 227-1232. Questions or comments may also be sent via the Internet using the following address: sandi.carli@faa.gov. Questions or comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 for Windows or ASCII text.

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 Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes was published in the Federal Register on February 11, 2002 (67 FR 6212). That action proposed to require a one-time inspection to determine whether the lower bearing support of the aileron transfer mechanism directly below the first officer's control column has a "pocket," and follow-on corrective actions, if necessary.

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.

Support for the Proposed AD

One commenter fully supports the proposed actions.

Request To Revise Cost Impact

Two commenters (the manufacturer and an operator) request that the proposed AD be revised to include estimated costs necessary to replace the lower bearing support, which would be required if a pocket is found. The commenters consider this information important in this case although they recognize that such conditional requirements are not always included in the Cost Impact section of AD actions. The operator cites existing AD 2002-04-08, amendment 39-12665 (67 FR 9395, March 1, 2002), as an example of an AD that does include costs associated with correcting a discrepant condition. Although the replacement is not mandatory on all airplanes (i.e., not all airplanes will have the discrepant condition), the commenters expect a considerable number of airplanes to have a pocket on the lower bearing support, requiring replacement. The operator adds that, based on service experience, a more realistic work-hour estimate is 20 to 28 work hours, rather than the 8.5 work hours specified by the alert service bulletin.

The FAA partially agrees. Because the discrepant condition is expected to be found on a considerable number of airplanes, the FAA recognizes that information regarding the estimated cost to replace the lower bearing support would be helpful for operators in planning and scheduling the work. The Cost Impact section in the final rule has been revised accordingly. However, those costs may vary from operator to operator based on work hours required; this AD reflects the work hour estimate specified in Boeing Alert Service Bulletin 737-27A1238, described in the proposed AD.

Request To Revise Compliance Time for Follow-on Actions

Boeing requests an extension of the proposed compliance time for the follow-on actions specified by paragraph (b) of the proposed AD. As stated, that paragraph would have required replacement or modification of the lower bearing support before further flight after a pocket is detected. Boeing suggests that a period of 3 months (after a pocket is detected) will satisfy the intent of the proposed AD and allow operators adequate time to order the parts and schedule the work. Boeing adds that the presence of a pocket by itself does not cause the first officer's control wheel to jam.

The FAA agrees with Boeing's request and rationale to extend the compliance time. In further justification, the FAA notes that there are system overrides between the captain's and first officer's control wheels that allow for aileron control if the first officer's control wheel jams. In light of this situation, and in consideration of the Model 737 service history, the FAA has determined that allowing 3 months to initiate the required follow-on actions will accommodate the time necessary for affected operators to order, obtain, and install the required parts–without adversely affecting safety. The compliance time in paragraph (b) of the final rule has been revised accordingly.

Request To Revise Certain Conditional Requirements

Boeing requests that the proposed corrective action for cracking and non-normal resistance (paragraph (c) of the proposed AD) be revised to cite specific methods of repair, rather than requiring FAA approval for repair methods. Boeing suggests that the FAA require that any cracked bearing support be replaced with a new, improved part; and that any non-normal resistance be fixed according to established Boeing Aircraft Maintenance Manual (AMM) procedures. Boeing suggests this change may reduce the delays often associated with pending FAA approval of repair methods.

The FAA agrees with the request, finding that procedures in the alert service bulletin and AMM adequately define the necessary follow-on corrective actions. Directing operators to these specific references for corrective action will reduce the workload for operators and the FAA by eliminating the need to request and approve alternative methods of compliance. The final rule has been revised to require replacement of cracked bearing supports according to the alert service bulletin and repair of any non-normal resistance according to the Boeing 737 AMM.

Request To Revise Spares Paragraph

One commenter requests that paragraph (d) ("Spares") of the proposed AD be revised to distinguish actions that apply to the "lower bearing support" from those that apply to the "aileron transfer mechanism" (the higher level assembly of the bearing support). According to the commenter, the part numbers (P/Ns) for the aileron transfer mechanism (P/Ns 65-54200-6 through -8), using lower bearing supports (P/N 65-55476-1 or 65-55476-9), should also be prohibited from installation after the effective date of the AD. The commenter adds that the alert service bulletin does not provide instructions for accomplishing the inspection and corrective action for the higher assembly aileron transfer mechanisms. The operator states that operators' inventory tracking systems may not track the lower-level (P/N 65-55476-1 or 65-55476-9) lower bearing supports, but will track the higher assembly (P/Ns 65-54200-6 through -8) aileron transfer mechanisms. The commenter notes that it is possible that higher assembly aileron transfer mechanisms with lower bearing supports with pockets may be installed in airplanes.

The FAA does not agree with the request to revise paragraph (d) of this AD. The Boeing Component Maintenance Manuals (CMMs) and Illustrated Parts Catalogs (IPCs) show that a lower bearing support having P/N 65-55476-9 is used on aileron transfer mechanisms having P/Ns 65-54200-6 through -8. The FAA finds that, even if some operators' tracking systems did not list the 65-55476 "dash" numbers, those operators would find them in the CMMs and IPCs. The intent of paragraph (d) of the AD is to prohibit the lower bearing supports (P/Ns 65-55476-1 and 65-55476-9) from being installed after the effective date of the AD. No change to the final rule is necessary in this regard.

Clarification of Modification Requirements

After reviewing paragraph (b) of the proposed AD, the FAA finds it necessary to distinguish the actions associated with the modification from those associated with the optional bearing support replacement. The final rule separates paragraph (b)(1) into two subparagraphs to reflect the two options, and clarifies in paragraph (b)(2) that follow-on actions must be done following either the modification or the replacement.

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 3,101 Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 1,244 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 inspection, and that the average labor rate is $60 per work hour. Based on these figures, the cost impact of this AD on U.S. operators is estimated to be $74,640, or $60 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.

If a lower bearing support is found to have a pocket, the FAA estimates that it will take about 9 work hours per airplane to remove the discrepant parts and replace them with acceptable parts. Required replacement parts would cost an estimated $931. Based on these figures, the cost impact of this AD is estimated to be increased by $1,471 for an airplane having a pocket.

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.

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 "www.airweb.faa.gov/rgl"

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).

2002-18-02 Boeing: Amendment 39-12874. Docket 2001-NM-344-AD.

Applicability: Model 737-100, -200, -200C, -300, -400, and -500 series airplanes; line numbers 1 through 3132 inclusive; 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 (e) 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 jamming of the first officer's control wheel due to the presence of a foreign object on the lower bearing support of the transfer mechanism for the aileron, which could result in reduced controllability of the airplane, accomplish the following:

Detailed Inspection

(a) Within 2 years after the effective date of this AD, do a one-time detailed inspection to determine whether the lower bearing support of the aileron transfer mechanism directly below the first officer's control column has a "pocket," according to Boeing Alert Service Bulletin 737-27A1238, dated July 13, 2000. (The upper surface has a raised stop at the end opposite the rig pin hole.) If no pocket is found, no further action is required by this AD.

Note 2: "Pocket" is the term given to the area on the upper surface of the lower bearing support, aft of the bearing in the area of the rig pin holes, that is surrounded by the ribs of the lower bearing support.

Note 3: For the purposes of this AD, a detailed inspection is defined as: "An intensive visual examination of a specific structural area, system, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at intensity deemed appropriate by the inspector. Inspection aids such as mirror, magnifying lenses, etc., may be used. Surface cleaning and elaborate access procedures may be required."

Follow-On Actions

(b) If a pocket is found on the lower bearing support of the transfer mechanism for the aileron during the inspection required by paragraph (a) of this AD: Within 3 months after the inspection, do paragraphs (b)(1) and (b)(2) of this AD according to Boeing Alert Service Bulletin 737-27A1238, dated July 13, 2000, except as provided by paragraph (c) of this AD.

(1) Do the actions specified by either paragraph (b)(1)(i) or (b)(1)(ii) of this AD.

(i) Do all actions associated with the modification of the ribs of the lower bearing support (including performing a dye-penetrant inspection for cracking of the lower bearing support and any necessary corrective actions, machining the ribs, and changing the part number of the lower bearing support); or

(ii) Replace the lower bearing support with a new, improved support.

(2) Do the follow-on actions to the modification or replacement required by paragraph (b)(1) of this AD, including a functional test of the transfer mechanism, a test of the aileron control mechanism for interference, and corrective actions, if necessary.

Corrective Actions

(c) If any cracking of the lower bearing support is found during the dye-penetrant inspection specified in paragraph (b)(1)(i) of this AD: Before further flight, replace the cracked part either with a new part that does not have a pocket or with a reworked, crack-free part, according to Boeing Alert Service Bulletin 737-27A1238, dated July 13, 2000. If any resistance is found during the test of the aileron control mechanism required by paragraph (b)(2) of this AD: Before further flight, fix the resistance according to established Boeing 737 Aircraft Maintenance Manual procedures.

Spares

(d) As of the effective date of this AD, no person may install a lower bearing support, part number 65-55476-1 or 65-55476-9, on any airplane, unless the actions specified in paragraphs (a), (b), and (c) of this AD, as applicable, have been accomplished.

Alternative Methods of Compliance

(e) 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 4: 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

(f) 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

(g) Except as required by paragraph (c) of this AD: The actions shall be done in accordance with Boeing Alert Service Bulletin 737-27A1238, dated July 13, 2000. 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, PO 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

(h) This amendment becomes effective on October 10, 2002.

Issued in Renton, Washington, on August 26, 2002.
Vi L. Lipski,
Manager, Transport Airplane Directorate, Aircraft Certification Service.
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