

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [65 FR 75585 12/4/2000]

[Docket No. 99-NM-363-AD; Amendment 39-12013; AD 2000-24-06]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 707, 727C, and 727-100C Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to certain Boeing Model 707, 727C, and 727-100C series airplanes, that currently requires repetitive inspections to detect cracking of the main cargo door skin and frames, and repair, if necessary. The existing AD also provides optional terminating modifications. This amendment requires follow-on repetitive inspections of repaired or modified areas for certain airplanes. This amendment is prompted by reports of cracking and/or tearing of the main cargo door outer skin and subsequent failure of the door frame. The actions specified by this AD are intended to detect and correct such cracking and/or tearing, which could result in failure of the door frame and consequent rapid decompression of the airplane.

DATES: Effective January 8, 2001.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of January 8, 2001.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. 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: Walt Sippel, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2774; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 83-02-09, amendment 39-4549 (48 FR 6953, February 17, 1983); which is applicable to certain Boeing Model 707, 727C, and 727-100C airplanes; was published in the **Federal Register** on April 19, 2000 (65 FR 20924). The action proposed to continue to require repetitive inspections to detect cracking of the main cargo door skin and frames, and repair, if necessary, and to continue to provide for optional terminating modifications. The action also proposed to require new follow-on repetitive inspections of repaired or modified areas for certain airplanes.

Explanation of Change in the Final Rule

Paragraph (e)(2) of the proposed rule states that it applies to airplanes on which the modification specified in Part II, Option 2 of the Accomplishment Instructions of Boeing Service Bulletin 727-52A0079, Revision 4, dated June 19, 1981, Revision 5, dated June 17, 1983, or Revision 6, dated January 11, 1990, has been accomplished. However, Part II, Option 2, and the modification contained therein (which involves installation of over-sized, protruding-head rivets), appears only in

Revision 6 of the service bulletin. Therefore, paragraph (e)(2) of this final rule has been revised to refer only to Revision 6 of the service bulletin. In addition, paragraph (e)(1) of this final rule has been revised to clarify that the modification referred to as “Part II, Option 1” in Revision 6 of the service bulletin is referred to as “Part II” of Revisions 4 and 5 of the service bulletin.

Comments

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

Request to Reference Terminating Action

One commenter requests that the FAA revise the proposed rule to terminate the repetitive high frequency eddy current (HFEC) inspections specified in paragraph (e) of the proposed AD following installation of over-sized, protruding-head rivets in the skin of the main cargo door. The commenter points out that such installation of over-sized, protruding-head rivets in crack-free holes is one of two options for modification in Revision 5 of the service bulletin. The commenter states that eliminating the requirement for HFEC inspections would be consistent with the requirements of AD 91-06-06, amendment 39-6921 (56 FR 9612, March 7, 1991), which does not require repetitive HFEC inspections of the upper row of fuselage lap splices once protruding-head rivets have been installed.

The FAA concurs with the intent of the commenter’s request and its rationale. However, the FAA infers that, though the commenter refers to Revision 5 of the service bulletin, the correct reference should be to Revision 6 of the service bulletin. (As noted above, Revision 5 does not describe the modification to which the commenter refers.) For airplanes modified per Part II, Option 2 of the Accomplishment Instructions of the service bulletin, paragraph (e)(2) of the proposed rule specifies repetitive internal and external detailed visual and HFEC inspections of the modified area. The FAA has determined that the HFEC inspection is no longer necessary following accomplishment of the modification in Part II, Option 2 of the Accomplishment Instructions of Revision 6 of the service bulletin. Therefore, paragraph (e)(2) of this final rule has been revised to delete reference to an HFEC inspection.

Conclusion

After careful review of the available data, including the comment 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 50 Model 707 and 308 Model 727 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 1 Model 707 and 81 Model 727 airplanes of U.S. registry will be affected by this AD.

The cost impact information in AD 83-02-09 inadvertently contained information relevant only to the X-ray inspection; however, since the detailed visual and eddy current inspections are also acceptable methods to detect cracking, this AD includes the estimated number of work hours necessary to accomplish any one of the three inspection methods. Additionally, the FAA has recently reviewed the figures it has used over the past several years in calculating the economic impact of AD activity. In order to account for various inflationary costs in the airline industry, the FAA has determined that it is necessary to increase the labor rate used in these calculations from \$40 per work hour to \$60 per work hour. The cost impact information, below, has been revised to reflect these changes.

Should an operator elect to accomplish the detailed visual inspection that is currently required by AD 83-02-09, it will take approximately 1 work hour per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the detailed visual inspection is estimated to be \$60 per airplane.

Should an operator elect to accomplish the eddy current inspection that is currently required by AD 83-02-09, it will take approximately 1 work hour per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the eddy current inspection is estimated to be \$60 per airplane.

Should an operator elect to accomplish the X-ray inspection that is currently required by AD 83-02-09, it will take approximately 3 work hours per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the X-ray inspection is estimated to be \$180 per airplane.

The detailed visual inspection (for Model 727 series airplanes only) required by this AD will take approximately 1 work hour per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the detailed visual inspection is estimated to be \$4,860, or \$60 per airplane.

The eddy current inspection (for Model 727 series airplanes only) required by this AD will take approximately 1 work hour per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the eddy current inspection is estimated to be \$4,860, or \$60 per airplane.

The cost impact figures discussed above are 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.

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.

§ 39.13 [Amended]

2. Section 39.13 is amended by removing amendment 39-4549 (48 FR 6953, February 17, 1983), and by adding a new airworthiness directive (AD), amendment 39-12013, to read as follows:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "av-info.faa.gov"

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).

2000-24-06 BOEING: Amendment 39-12013. Docket 99-NM-363-AD. Supersedes AD 83-02-09, Amendment 39-4549.

Applicability: Model 707, 727C, and 727-100C series airplanes; as listed in Boeing Service Bulletins 2999, Revision 3, dated January 12, 1972, and 727-52-79, Revision 4, dated June 19, 1981; 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 (g)(1) 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 detect and correct cracking of the main cargo door skin and frames, which could result in failure of the door frame, and consequent rapid decompression of the airplane, accomplish the following:

Note 2: For the purposes of this AD, a detailed visual 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."

RESTATEMENT OF REQUIREMENTS OF AD 83-02-09:

Initial Inspection

(a) Within 500 landings after March 3, 1983 (the effective date of AD 83-02-09, amendment 39-4549), or prior to the accumulation of 25,000 total landings after March 3, 1983, whichever occurs later: Perform an inspection (detailed visual, eddy current, or X-ray) to detect cracks of the main cargo door outer skin and frames between body stations (BS) 505 and 595, from the lower edge of the door hinge a minimum of 6 inches down, and 6 inches above, and 3 inches below the center line of stringer 10, in accordance with Boeing Service Bulletin 2999, Revision 3, dated January 12, 1972, or Revision 4, dated January 31, 1991 (for Model 707 series airplanes); or Boeing Service Bulletin 727-52-79, Revision 4, dated June 19, 1981, or Boeing Service Bulletin 727-52-79, Revision 5, dated June 17, 1983, or Boeing Service Bulletin 727-52A0079, Revision 6, dated January 11, 1990 (for Model 727 series airplanes); as applicable.

Repetitive Inspections

(b) Repeat the inspection required by paragraph (a) of this AD at the times specified in paragraph (b)(1), (b)(2) or (b)(3) of this AD; as applicable; until accomplishment of the modification required by paragraph (d) of this AD.

- (1) Repeat the detailed visual inspection at intervals not to exceed 500 landings.
- (2) Repeat the eddy current inspection at intervals not to exceed 750 landings.
- (3) Repeat the X-ray inspection at intervals not to exceed 1,000 landings.

Repair

(c) If any cracking is detected during any inspection required by paragraph (a) or (b) of this AD: Prior to further flight, repair any cracks detected in accordance with Boeing Service Bulletin 2999, Revision 3, dated January 12, 1972, or Revision 4, dated January 31, 1991 (for Model 707 series airplanes); or Boeing Service Bulletin 727-52-79, Revision 4, dated June 19, 1981, or Boeing Service Bulletin 727-52-79, Revision 5, dated June 17, 1983, or Boeing Service Bulletin 727-52A0079, Revision 6, dated January 11, 1990 (for Model 727 series airplanes); as applicable.

Optional Terminating Action

(d) Modification of the main cargo door in accordance with Part II, Option 1 or Option 2, as applicable, of the Accomplishment Instructions of Boeing Service Bulletin 2999, Revision 3, dated January 12, 1972, or Revision 4, dated January 31, 1991 (for Model 707 series airplanes); or Boeing Service Bulletin 727-52-79, Revision 4, dated June 19, 1981, or Boeing Service Bulletin 727-52-79, Revision 5, dated June 17, 1983, or Boeing Service Bulletin 727-52A0079, Revision 6, dated January 11, 1990 (for Model 727 series airplanes); as applicable; constitutes terminating action for the requirements of paragraphs (a) and (b) of this AD.

NEW REQUIREMENTS OF THIS AD:

Post-Repair/Post-Mod Repetitive Inspections

(e) For Model 727 series airplanes: Within 27,000 flight cycles after accomplishment of the repair specified in paragraph (c) of this AD, and/or the modification specified in paragraph (d) of this AD, as applicable; or within 1,000 flight cycles after the effective date of this AD; whichever occurs later; accomplish the requirements of paragraph (e)(1) or (e)(2) of this AD, as applicable.

(1) For airplanes that have accomplished the modification specified in Part II of the Accomplishment Instructions of Boeing Service Bulletin 727-52-79, Revision 4, dated June 19, 1981, or Revision 5, dated June 17, 1983; or in Part II, Option 1, of the Accomplishment Instructions of Boeing Service Bulletin 727-52A0079, Revision 6, dated January 11, 1990: Perform a detailed visual and eddy current inspection of the modified area and/or any repaired area to detect cracks, in accordance with the service bulletin. Repeat the inspections at intervals not to exceed 3,800 flight cycles.

(2) For airplanes that have accomplished the modification specified in Part II, Option 2 of the Accomplishment Instructions of Boeing Service Bulletin 727-52A0079, Revision 6, dated January 11, 1990: Perform an internal and external detailed visual inspection of the modified area to detect cracks in accordance with the service bulletin. Repeat the inspection at intervals not to exceed 3,800 flight cycles.

Repair

(f) If any cracking is detected during any inspection required by paragraph (e)(1) or (e)(2) of this AD: Prior to further flight, repair any cracks detected in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or in accordance with data meeting the type certification basis of the airplane approved by a Boeing Company Designated Engineering Representative who has been authorized by the Manager, Seattle ACO, to make such findings. For a repair method to be approved by the Manager, Seattle ACO, as required by this paragraph, the Manager's approval letter must specifically reference this AD.

Alternative Methods of Compliance

(g) (1) 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.

(2) Alternative methods of compliance approved previously in accordance with AD 83-02-09, amendment 39-4549, are approved as alternative methods of compliance with this AD.

Note 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

Note 4: Incorporation of the Boeing Model 707-720 Supplemental Structural Inspection Document (SSID) into the operator's approved airplane maintenance program constitutes an approved alternative method of compliance for Model 707 and 720 series airplanes.

Special Flight Permits

(h) 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

(i) Except as provided by paragraph (f) of this AD, the actions shall be done in accordance with Boeing Service Bulletin 2999, Revision 3, dated January 12, 1972; Boeing Service Bulletin 2999, Revision 4, dated January 31, 1991; Boeing Service Bulletin 727-52-79, Revision 4, dated June 19, 1981; Boeing Service Bulletin 727-52-79, Revision 5, dated June 17, 1983; or Boeing Service Bulletin 727-52A0079, Revision 6, including Addendum, dated January 11, 1990; as applicable. 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.

Effective Date

(j) This amendment becomes effective on January 8, 2001.

FOR FURTHER INFORMATION CONTACT: Walt Sippel, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2774; fax (425) 227-1181.

Issued in Renton, Washington, on November 22, 2000.

Donald L. Riggin, Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.