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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2000-NM-331-AD; Amendment 39-12337; AD 2001-15-03]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to all Boeing Model 747 series airplanes, that currently requires repetitive inspections to detect cracking of the forward and aft inner chords and the splice fitting of the forward inner chord of the station 2598 bulkhead, and repair, if necessary. This amendment adds repetitive inspections of an expanded inspection area, which ends the inspections specified in the existing AD. This amendment also limits the applicability of the existing AD. This amendment is prompted by reports indicating that fatigue cracking was found on airplanes that had accumulated fewer total flight cycles than the threshold specified in the existing AD. The actions specified by this AD are intended to detect and correct fatigue cracking of the forward and aft inner chords, the frame support, and the splice fitting of the forward inner chord of the upper corner of the station 2598 bulkhead, which could result in reduced structural capability of the bulkhead and the inability of the structure to carry horizontal stabilizer flight loads.

DATES: Effective August 28, 2001.

The incorporation by reference of Boeing Alert Service Bulletin 747-53A2427, Revision 2, October 5, 2000, as listed in the regulations, is approved by the Director of the Federal Register, as of August 28, 2001.

The incorporation by reference of Boeing Alert Service Bulletin 747-53A2427, dated December 17, 1998; and Boeing Alert Service Bulletin 747-53A2427, Revision 1, dated October 28, 1999; as listed in the regulations, was approved previously by the Director of the Federal Register as of June 5, 2000 (65 FR 25281, May 1, 2000).

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: Rick Kawaguchi, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1153; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 2000-08-21, amendment 39-11707 (65 FR 25281, May 1, 2000), which is applicable to all Boeing Model 747 series airplanes, was published in the Federal Register on April 19, 2001 (66 FR 20111). The action proposed to continue to require repetitive inspections to detect cracking of the forward and aft inner chords and the splice fitting of the forward inner chord of the station 2598 bulkhead, and repair, if necessary. The action also proposed to add repetitive inspections of an expanded inspection area, which would end the inspections specified in the existing AD, and to limit the applicability of the existing AD.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were submitted in response to the proposal or the FAA's determination of the cost to the public.

Conclusion

The FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

Cost Impact

There are approximately 1,115 Model 747 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 258 airplanes of U.S. registry will be affected by this AD.

The high frequency eddy current (HFEC) inspection that currently is required by AD 2000-08-21 takes approximately 2 work hours per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of this inspection is estimated to be \$120 per airplane.

The detailed visual inspection that currently is required by AD 2000-08-21 takes approximately 2 work hours per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of this inspection is estimated to be \$120 per airplane, per inspection cycle.

The HFEC inspections that are required by this new AD will take approximately 2 work hours per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of this inspection is estimated to be \$120 per airplane, per inspection cycle.

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.

Sec. 39.13 [Amended]

2. Section 39.13 is amended by removing amendment 39-11707 (65 FR 25281, May 1, 2000) and by adding a new airworthiness directive (AD), amendment 39-12337, 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).

2001-15-03 Boeing: Amendment 39-12337. Docket 2000-NM-331-AD. Supersedes AD 2000-08-21, Amendment 39-11707.

Applicability: Model 747 series airplanes, line numbers 1 through 1307 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 (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 forward and aft inner chords, the frame support, and the splice fitting of the forward inner chord of the upper corner of the station 2598 bulkhead, which could result in reduced structural capability of the bulkhead and the inability of the structure to carry horizontal stabilizer flight loads, accomplish the following:

Restatement of Requirements of AD 2000-08-21

Initial Inspection

(a) Prior to the accumulation of 13,000 total flight cycles, or within 1,000 flight cycles after June 5, 2000 (the effective date of AD 2000-08-21, amendment 39-11707), whichever occurs later: Accomplish the requirements specified in paragraphs (a)(1) and (a)(2) of this AD.

(1) Perform a high frequency eddy current inspection (HFEC) to detect cracking of the forward and aft inner chords of the station 2598 bulkhead, in accordance with Boeing Alert Service Bulletin 747-53A2427, dated December 17, 1998; or in accordance with Figure 2, Steps 1 and 2, of Boeing Alert Service Bulletin 747-53A2427, Revision 1, dated October 28, 1999.

(2) Perform an HFEC inspection to detect cracking of the splice fitting along the upper and lower attachment to the forward inner chord of the station 2598 bulkhead, as shown in Figure 2, Detail A, of Boeing Alert Service Bulletin 747-53A2427, dated December 17, 1998; or in accordance with Figure 2, Step 3, of Boeing Alert Service Bulletin 747-53A2427, Revision 1, dated October 28, 1999.

Note 2: Operators should note that, although the splice fitting is NOT highlighted in Figure 2, Detail A, of Boeing Alert Service Bulletin 747-53A2427, dated December 17, 1998, as it is in Figure 2 of Boeing Alert Service Bulletin 747-53A2427, Revision 1, dated October 28, 1999, the inspection required by paragraph (a)(2) of this AD must still be accomplished.

Repetitive Inspections

(b) Within 3,000 flight cycles after accomplishment of the inspections required by paragraph (a) of this AD: Accomplish the inspections specified in paragraphs (b)(1) and (b)(2) of this AD. Repeat the inspections thereafter at intervals not to exceed 3,000 flight cycles.

(1) Perform a detailed visual inspection to detect cracking of the forward and aft inner chords of the station 2598 bulkhead, in accordance with Boeing Alert Service Bulletin 747-53A2427, dated December 17, 1998; or in accordance with Figure 3, Steps 1 and 2, of Boeing Alert Service Bulletin 747-53A2427, Revision 1, dated October 28, 1999.

Note 3: 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."

(2) Perform a detailed visual inspection to detect cracking of the splice fitting along the upper and lower attachment to the forward inner chord of the station 2598 bulkhead, as shown in Figure 3, Detail A, of Boeing Alert Service Bulletin 747-53A2427, dated December 17, 1998; or in accordance with Figure 3, Step 3, of Boeing Alert Service Bulletin 747-53A2427, Revision 1, dated October 28, 1999.

Note 4: Operators should note that, although the splice fitting is NOT highlighted in Figure 3, Detail A, of Boeing Alert Service Bulletin 747-53A2427, dated December 17, 1998, as it is in Figure 3 of Boeing Alert Service Bulletin 747-53A2427, Revision 1, dated October 28, 1999, the inspections required by paragraph (b)(2) of this AD must still be accomplished.

Repair

(c) If any cracking is detected during the inspections required by paragraph (a)(1) or (b)(1) of this AD, prior to further flight, repair in accordance with Boeing Alert Service Bulletin 747-53A2427, dated December 17, 1998, Revision 1, dated October 28, 1999, or Revision 2, dated October 5, 2000; except as provided by paragraph (d) of this AD.

(d) If any cracking is detected during the inspections required by paragraph (a)(2) or (b)(2) of this AD, or the alert service bulletin specifies that the manufacturer may be contacted for disposition of certain repair conditions, prior to further flight, repair in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO); or in accordance with data meeting the type certification basis of the airplane approved by a Boeing Company Designated Engineering Representative (DER) 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 approval letter must specifically reference this AD.

New Requirements of This AD

Repetitive Inspections

(e) Do a surface HFEC inspection of the forward and aft inner chords, the frame support, and the splice fitting of the forward inner chord of the upper corner of the station 2598 bulkhead to find cracking, in accordance with Boeing Alert Service Bulletin 747-53A2427, Revision 2, dated October 5, 2000; at the latest of the times specified in paragraphs (e)(1) and (e)(2) of this AD, as applicable. Repeat the inspection after that at intervals not to exceed 1,500 flight cycles. Doing these inspections ends the inspections required by paragraphs (a) and (b) of this AD.

(1) For airplanes having line numbers 1 through 1241 inclusive:

(i) Before the accumulation of 6,000 total flight cycles.

(ii) Within 500 flight cycles after the effective date of this AD.

(iii) If the inspections specified in paragraph (a) or (b) of this AD were done before the effective date of this AD: Within 1,500 flight cycles after accomplishment of the last inspection required by paragraph (a) or (b) of this AD, as applicable.

(2) For airplanes having line numbers 1242 through 1307 inclusive:

(i) Before the accumulation of 16,000 total flight cycles.

(ii) Within 500 flight cycles after the effective date of this AD.

(iii) If the inspections specified in paragraph (a) or (b) of this AD were done before the effective date of this AD: Within 1,500 flight cycles after accomplishment of the last inspection required by paragraph (a) or (b) of this AD, as applicable.

Repair

(f) If any cracking is found during the inspections required by paragraph (e) of this AD, before further flight, repair in accordance with Boeing Alert Service Bulletin 747-53A2427, Revision 2, dated October 5, 2000; except where the alert service bulletin specifies that the manufacturer may be contacted for disposition of certain repair conditions, before further flight, repair in accordance with a method approved by the Manager, Seattle ACO; or in accordance with data meeting the type certification basis of the airplane approved by a Boeing Company DER 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 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 per AD 2000-08-21, amendment 39-11707, are approved as alternative methods of compliance with paragraphs (c) and (d) of this AD.

Note 5: 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

(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 paragraphs (d) and (f) of this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 747-53A2427, dated December 17, 1998; Boeing Alert Service Bulletin 747-53A2427, Revision 1, dated October 28, 1999; or Boeing Alert Service Bulletin 747-53A2427, Revision 2, dated October 5, 2000; as applicable.

(1) The incorporation by reference of Boeing Alert Service Bulletin 747-53A2427, Revision 2, dated October 5, 2000, is approved by the Director of the Federal Register as of August 28, 2001.

(2) The incorporation by reference of Boeing Alert Service Bulletin 747-53A2427, dated December 17, 1998; and Boeing Alert Service Bulletin 747-53A2427, Revision 1, dated October 28, 1999; was approved previously by the Director of the Federal Register as of June 5, 2000 (65 FR 25281, May 1, 2000).

(3) 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 August 28, 2001.

Issued in Renton, Washington, on July 13, 2001.

Donald L. Riggin,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 01-18139 Filed 7-23-01; 8:45 am]

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