

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2001-NM-278-AD; Amendment 39-13455; AD 2004-03-11]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747-200C and -200F Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 747-200C and -200F series airplanes, that requires repetitive inspections to find fatigue cracking in the upper chord of the upper deck floor beams, and repair if necessary. For certain airplanes, this amendment also provides an optional repair/modification, which extends certain repetitive inspection intervals. This action is necessary to find and fix cracking in certain upper deck floor beams. Such cracking could extend and sever floor beams at a floor panel attachment hole location and could result in rapid decompression and consequent loss of controllability of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective March 15, 2004.

The incorporation by reference of a certain publication listed in the regulations is approved by the Director of the Federal Register as of March 15, 2004.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplanes, 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) 917-6434; fax (425) 917-6590.

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 747-200C and -200F series airplanes was published in the Federal Register on July 24, 2003 (68 FR 43688). That action proposed to require repetitive inspections to find fatigue cracking in

the upper chord of the upper deck floor beams, and repair if necessary. For certain airplanes, that action also proposed an optional repair/modification, which would extend certain repetitive inspection intervals.

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.

Request To Allow an Additional Adjustment to the Compliance Time

One commenter requests that adjustments to the compliance time in paragraph (c) of the proposed AD should apply not only to the actions described in paragraph (a), but also to those described in paragraph (b).

The FAA concurs. We find that relief of the cabin pressure differential should be applicable to the compliance thresholds and repetitive inspections for the optional action described in paragraph (b) as well as those required by paragraph (a). Paragraph (c) of this final rule has been changed accordingly.

Request To Expand Provisions for Optional Repair/Modification

One commenter suggests that paragraph (b) of the proposed AD be revised to provide that, if the inspection required by paragraph (a) of the proposed AD were done per Part 2 Surface High Frequency Eddy Current (HFEC) Inspection Method of the Work Instructions of Boeing Alert Service Bulletin 747-53A2439, then accomplishment of the optional repair or modification specified in paragraph (b)(1) of the proposed AD could be performed. The commenter indicates that repair per paragraph (b)(1) of the proposed AD already requires open-hole HFEC inspection of the floor panel hole and reworking of the hole, until any cracking is removed. It should, therefore, be acceptable to accomplish repair following inspection per Part 2 of the Work Instructions of the service bulletin.

The FAA agrees that repair per paragraph (b)(1) of the proposed AD requires open hole HFEC inspection of the floor panel hole and re-working of the hole, until any cracking is removed. We find, therefore, that following inspection per Part 2 of the Work Instructions of the service bulletin, the repair may be accomplished per paragraph (b)(1). We have revised paragraph (b) of the final rule accordingly.

Request To Clarify Location of Fatigue Cracking

One commenter asks that the Discussion section of the proposed AD be revised to refer to STA 420, rather than STA 340. The commenter also asks that the language in the Discussion section and in the third paragraph of the introduction of the proposed AD be changed from "* * * could extend and sever floor beams adjacent to the body frame * * *" to "* * * could extend and sever floor beams at a floor panel hole location * * *."

The commenter notes that the Background section of Boeing Alert Service Bulletin 747-53A2439 indicates that fatigue cracking was reported at STA 420 rather than at STA 340. The commenter also notes that the applicable inspections and possible repair or modification is at the upper deck floor beam floor panel attachment holes, which exist throughout the span of the floor beams, not just adjacent to where the floor beam joins the body frame.

The FAA partially concurs with the comment. No change is needed in the Discussion section, since that section is not restated in this final rule. In terms of the location where the floor beams can sever, the suggested change has been made in the summary section and in the regulatory text of this final rule.

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.

Change to Labor Rate Estimate

We have reviewed the figures we have used over the past several years to calculate AD costs to operators. To account for various inflationary costs in the airline industry, we find it necessary to increase the labor rate used in these calculations from \$60 per work hour to \$65 per work hour. The cost impact information, below, reflects this increase in the specified hourly labor rate.

Cost Impact

There are approximately 78 airplanes of the affected design in the worldwide fleet. The FAA estimates that 21 airplanes of U.S. registry will be affected by this AD, that it will take approximately 30 work hours per airplane to accomplish the required inspections, and that the average labor rate is \$65 per work hour. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be \$40,950, or \$1,950 per airplane, per inspection.

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.

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 adding the following new airworthiness directive:

SUPERSEDED

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

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

We post ADs on the internet at "www.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).

2004-03-11 Boeing: Amendment 39-13455. Docket 2001-NM-278-AD.

Applicability: Model 747-200C and -200F series airplanes, as listed in Boeing Alert Service Bulletin 747-53A2439, dated July 5, 2001; certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To find and fix cracking in certain upper deck floor beams, which could extend and sever floor beams at a floor panel attachment hole location and could result in rapid decompression and consequent loss of controllability of the airplane, accomplish the following:

Inspections and Repair

(a) Before the accumulation of 22,000 total flight cycles, or within 1,000 flight cycles after the effective date of this AD, whichever is later: Do the applicable inspection to find fatigue cracking in the upper chord of the upper deck floor beams as specified in Part 1 (Open-Hole High Frequency Eddy Current (HFEC) Inspection Method) or Part 2 (Surface HFEC Inspection Method) of the Work Instructions of Boeing Alert Service Bulletin 747-53A2439, dated July 5, 2001. Do the inspections per the service bulletin.

(1) If any crack is found, before further flight, repair per Part 3 (Repair) of the Work Instructions of the service bulletin; except where the service bulletin specifies to contact Boeing for appropriate action, before further flight, repair according to a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or according to 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 Manager's approval letter must specifically reference this AD. Do the applicable inspection of the repaired area per Part 1 of the service bulletin at the applicable time per Part 3 of the service bulletin. Repeat the applicable inspection at the applicable interval per Figure 1 of the service bulletin.

(2) If no crack is found, repeat the applicable inspection per paragraph (a) of this AD within the applicable interval per Figure 1 of the service bulletin. As an option, accomplishment of paragraph (b)(1) or (b)(2) of this AD, before further flight, extends the threshold for the initiation of the repetitive inspections required by this paragraph.

Optional Repair/Modification

(b) For airplanes on which the inspection required by paragraph (a) of this AD is done per Part 1 of the Work Instructions of Boeing Alert Service Bulletin 747-53A2439, dated July 5, 2001; and on which no cracking is found: Accomplishment of the actions specified in either paragraph (b)(1) or (b)(2) of this AD extends the threshold for the initiation of the repetitive inspections required by

paragraph (a)(2) of this AD. For airplanes on which the inspection required by paragraph (a) of this AD is done per Part 2 of the Work Instructions of Boeing Alert Service Bulletin 747-53A2439, dated July 5, 2001; and on which no cracking is found: Accomplishment of the actions specified in paragraph (b)(1) of this AD extends the threshold for the initiation of the repetitive inspections required by paragraph (a)(2) of this AD.

(1) Do the repair per Part 3 of the service bulletin. At the applicable time specified in Table 1 of Part 3 of the service bulletin, do the inspection of the repaired area per Part 1 of the service bulletin. Repeat the inspection thereafter within the applicable interval per Figure 1 of the service bulletin.

(2) Do the modification of the attachment hole of the floor panel per Figure 5 of the service bulletin. Within 10,000 flight cycles after accomplishment of the modification, do the inspection of the modified area per Part 1 of the service bulletin. Repeat the inspection thereafter within the applicable interval per Figure 1 of the service bulletin.

Adjustments to Compliance Time: Cabin Differential Pressure

(c) For the purposes of calculating the compliance threshold and repetitive intervals for actions described in paragraphs (a) and (b) of this AD: The number of flight cycles in which cabin differential pressure is at 2.0 pounds per square inch (psi) or less need not be counted when determining the number of flight cycles that have occurred on the airplane, provided that flight cycles with momentary spikes in cabin differential pressure above 2.0 psi are included as full pressure cycles. For this provision to apply, all cabin pressure records must be maintained for each airplane. No fleet-averaging of cabin pressure is allowed.

Alternative Methods of Compliance

(d)(1) In accordance with 14 CFR 39.19, the Manager, Seattle ACO, is authorized to approve alternative methods of compliance (AMOCs) for this AD.

(2) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD, if it is approved by a Boeing Company DER who has been authorized by the Manager, Seattle ACO, to make such findings.

Incorporation by Reference

(e) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 747-53A2439, dated July 5, 2001. 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 Airplanes, 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

(f) This amendment becomes effective on March 15, 2004.

Issued in Renton, Washington, on January 29, 2004.

Kalene C. Yanamura,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 04-2584 Filed 2-6-04; 8:45 am]

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