

[Federal Register: August 9, 2004 (Volume 69, Number 152)]
[Rules and Regulations]
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[DOCID:fr09au04-3]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-NM-107-AD; Amendment 39-13765; AD 2004-16-09]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to all Model 747 series airplanes, that requires repetitive detailed inspections of the aft pressure bulkhead for indications of "oil cans" and previous oil can repairs, and corrective actions, if necessary. An oil can is an area on a pressure dome web that moves when pushed from the forward side. This action is necessary to detect and correct the propagation of fatigue cracks in the vicinity of oil cans on the web of the aft pressure bulkhead, which could result in rapid decompression and overpressurization of the tail section, and consequent loss of control of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective September 13, 2004.

The incorporation by reference of a certain publication listed in the regulations is approved by the Director of the Federal Register as of September 13, 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 National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to:

http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html

FOR FURTHER INFORMATION CONTACT: Nicholas Kusz, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6432; 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 all Model 747 series airplanes was published in the Federal Register on February 6, 2004 (69 FR 5765). That action proposed to require a repetitive detailed inspection of the aft pressure bulkhead for

indications of "oil cans" and previous oil can repairs, and corrective actions, if necessary. An oil can is an area on a pressure dome web that moves when pushed from the forward side.

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.

Agreement With Proposed Rule

Two commenters agree with the proposed rule.

Request To Change Inspection Intervals

One commenter requests that the repetitive inspection intervals be changed. The commenter notes that the initial compliance time of 30,000 total flight cycles specified in paragraph (b) of the proposed rule would impact its fleet within six to seven years. The commenter suggests that the repetitive inspection interval for webs with allowable oil can damage, specified in paragraph (e)(1) of the proposed rule, be changed from 1,000 flight cycles to 1,200 flight cycles. The commenter also suggests that the repetitive inspection interval for webs with no oil can damage, specified in paragraph (c) of the proposed rule, be changed from 2,000 flight cycles to 2,400 flight cycles. The commenter contends that these changes would allow the repetitive inspections to occur during scheduled heavy maintenance C-check level visits.

The FAA does not agree with changing the repetitive inspection intervals. In developing appropriate compliance times for this action, we considered the safety implications, the manufacturer's recommendations, and the practical aspect of accomplishing the inspections within an interval of time that corresponds to the normal maintenance schedules of most affected operators. The manufacturer determined through tests and analysis that existing inspection programs would not have found a crack in the web of the aft pressure bulkhead prior to the crack reaching critical length. The repetitive inspection intervals are based on the manufacturer's analysis of crack growth in the web of the aft pressure bulkhead.

In light of all these factors, we consider the repetitive inspection intervals required by paragraphs (c) and (e)(1) of the final rule to be appropriate. Therefore, no change to the final rule is necessary in this regard. However, according to the provisions of paragraph (h) of the final rule, we may approve a request to adjust the inspection intervals if the request includes data that prove that the new inspection intervals would provide an acceptable level of safety.

Editorial Changes

We have reformatted paragraphs (f)(2) and (f)(3) of the proposed AD by combining the paragraphs. Paragraph (f)(2) of the final rule contains the actions that were specified in paragraphs (f)(2) and (f)(3) of the proposed AD. We have also removed the reference to paragraph (f)(2) from paragraph (e) of the final rule.

Conclusion

After careful review of the available data, including the comments noted above, we have determined that air safety and the public interest require the adoption of the rule with the changes previously described. We have 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 1,140 airplanes of the affected design in the worldwide fleet. The FAA estimates that 254 airplanes of U.S. registry will be affected by this AD, that it will take approximately 6 work hours per airplane to accomplish the required actions, 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 \$99,060, or \$390 per airplane, per inspection cycle.

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:

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).

2004-16-09 Boeing: Amendment 39-13765. Docket 2003-NM-107-AD.

Applicability: All Model 747 series airplanes; certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

Note 1: This AD refers to certain portions of a Boeing service bulletin for inspections and repair information. In addition, this AD specifies requirements beyond those included in the service bulletin. Where the AD and the service bulletin differ, the AD prevails.

To detect and correct the propagation of fatigue cracks in the vicinity of "oil cans" on the web of the aft pressure bulkhead, which could result in rapid decompression and overpressurization of the tail section, and consequent loss of control of the airplane, accomplish the following:

Service Bulletin References

(a) The term "service bulletin," as used in this AD, means the Accomplishment Instructions of Boeing Alert Service Bulletin 47-57A2482, dated October 3, 2002.

Initial and Repetitive Inspections

(b) Prior to the accumulation of 30,000 total flight cycles, or within 1,000 flight cycles after the effective date of this AD, whichever is later, perform a detailed inspection of the aft pressure bulkhead for indications of oil cans and previous oil can repairs, in accordance with the service bulletin.

Note 2: For the purposes of this AD, a detailed inspection is "an intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors magnifying lenses, etc. may be necessary. Surface cleaning and elaborate procedures may be required."

(c) If no indication of an oil can is found and no indication of a previous oil can repair is found during the detailed inspection required by paragraph (b) of this AD, repeat the detailed inspection thereafter at intervals not to exceed 2,000 flight cycles.

Indication of Oil Can

(d) If any indication of an oil can is found during the detailed inspection required by paragraph (b) or (c) of this AD, before further flight, perform an eddy current inspection of the web around the periphery of the oil can indication for cracks, as shown in Figure 3 of the service bulletin.

(e) If no crack is found during the eddy current inspection required by paragraph (d) of this AD, do the actions specified in paragraph (e)(1) or (e)(2) of this AD, as applicable.

(1) For the oil can that meets the allowable limits specified in the service bulletin: Repeat the eddy current inspection specified in paragraph (d) of this AD thereafter at intervals not to exceed 1,000 flight cycles. As an option, repair the oil can in accordance with paragraph (e)(2) of this AD.

(2) For the oil can that does not meet the allowable limits specified in the service bulletin: Before further flight, repair the oil can in accordance with the service bulletin. If the repair eliminates the oil can, accomplishment of this repair constitutes terminating action for the repetitive eddy current inspection requirements of paragraph (e)(1) of this AD for that location only. However, the repetitive detailed inspection required by paragraph (c) of this AD is still required. If an oil can remains after the repair, repeat the eddy current inspection specified in paragraph (d) of this AD thereafter at intervals not to exceed 1,000 flight cycles.

Indication of Previous Oil Can Repairs

(f) If any previous oil can repair is found during the detailed inspection required by paragraph (b) or (c) of this AD, before further flight, do a detailed inspection of the web for cracks and oil cans, as shown in Figure 4 or Figure 5 of the service bulletin, as applicable.

(1) If no crack and no oil can are found, repeat the detailed inspection in accordance with paragraph (c) of this AD.

(2) If any oil can is found, before further flight, do the eddy current inspection for cracks, as shown in Figure 3 of the service bulletin. If no crack is found during the eddy current inspection required by this paragraph, do the actions specified in paragraph (e)(1) or (e)(2) of this AD, as applicable, at the time specified in the applicable paragraph.

Repair of Cracks

(g) If any crack is found during any inspection required by this AD, before further flight, repair in accordance with the service bulletin. If any crack or damage exceeds limits specified in the service bulletin and the service bulletin specifies to contact Boeing for appropriate action: Before further flight, repair per a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or per 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, the approval must specifically reference this AD.

Alternative Methods of Compliance

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

Incorporation by Reference

(i) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 747-53A2482, dated October 3, 2002. 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 National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html

Effective Date

(j) This amendment becomes effective on September 13, 2004.

Issued in Renton, Washington, on July 30, 2004.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 04-17979 Filed 8-6-04; 8:45 am]

BILLING CODE 4910-13-P

SUPERSEDED