[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [66 FR 33459 6/22/2001]

[Docket No. 2000-NM-354-AD; Amendment 39-12279; AD 2001-12-23]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747-100, 747-200, 747-300, 747SP, and 747SR Series Airplanes Powered by Pratt & Whitney JT9D-3 and JT9D-7 Series Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to certain Boeing Model 747-100, 747-200, 747-300, 747SP, and 747SR series airplanes powered by Pratt & Whitney JT9D-3 or JT9D-7 series engines, that currently requires inspections of the vertical chords of the aft torque bulkhead of the outboard nacelle struts, and corrective action, if necessary. That AD also gives an optional modification of the vertical chords, which ends the inspections. This amendment requires the previously optional modification. The actions specified by this AD are intended to prevent cracking of the vertical chords adjacent to the lower spar fitting, which could result in separation of the diagonal brace load path. Continued operation with a separated diagonal brace load path increases loads on the upper link, midspar fitting, and dual side links, which could result in separation of the strut and engine from the airplane.

DATES: Effective July 27, 2001.

The incorporation by reference of Boeing Alert Service Bulletin 747-54A2201, dated September 28, 2000, as listed in the regulations, was approved previously by the Director of the Federal Register as of December 13, 2000 (65 FR 70781, November 28, 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: Tamara Anderson, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2771; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 2000-23-25, amendment 39-11998 (65 FR 70781, November 28, 2000), which is applicable to certain Boeing Model 747-100, 747-200, 747-300, 747SP, and 747SR series airplanes powered by Pratt & Whitney JT9D-3 and JT9D-7 series engines, was published in the Federal Register on December 21, 2000 (65 FR 80388). The action proposed to continue to require inspections of the vertical chords of the aft torque bulkhead of the outboard nacelle struts, and corrective action, if necessary. The action also proposed to require a previously optional modification of the vertical chords, which would end the inspections.

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 366 airplanes of the affected design in the worldwide fleet. The FAA estimates that 115 airplanes of U.S. registry will be affected by this AD.

The detailed visual inspections that are currently required by AD 2000-23-25 take approximately 18 work hours per airplane, at an average labor rate of $60 per work hour. Based on these figures, the FAA estimates that the cost impact of these inspections on U.S. operators is $124,200, or $1,080 per airplane, per inspection cycle.

The ultrasonic and eddy current inspections that are currently required by AD 2000-23-25 take approximately 18 work hours per airplane, at an average labor rate of $60 per work hour. Based on these figures, the FAA estimates that the cost impact of these inspections on U.S. operators is $124,200, or $1,080 per airplane, per inspection cycle.

The new modification that is required by this AD will take approximately 48 work hours per airplane, at an average labor rate of $60 per work hour. Required parts will cost approximately $10,000 per airplane. Based on these figures, the FAA estimates that the cost impact of the new modification on U.S. operators is $1,481,200, or $12,880 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the current or new requirements of this AD, and that no operator would accomplish those actions in the future if this AD were not adopted.

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 proposed regulation (1) is not a ``significant regulatory action'' under Executive Order 12866; (2) is not a ``significant rule'' under the 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 39-11998 (65 FR 70781, November 28, 2000), and by adding a new airworthiness directive (AD), amendment 39-12279, 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).

2001-12-23 Boeing: Amendment 39-12279. Docket 2000-NM-354-AD. Supersedes AD 2000-23-25, Amendment 39-11998.

Applicability: Model 747-100, 747-200, 747-300, 747SP, and 747SR series airplanes powered by Pratt & Whitney JT9D-3 or JT9D-7 series engines; as listed in Boeing Alert Service Bulletin 747-54A2201, dated September 28, 2000; 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 cracking of the vertical chords adjacent to the lower spar fitting, which could result in separation of the diagonal brace load path and lead to separation of the strut and engine from the airplane, accomplish the following:

Restatement of Requirements of AD 2000-23-25: Inspections

(a) Except as provided by paragraph (b) of this AD, prior to the accumulation of 14,000 total flight cycles, or within 90 days after December 13, 2000 (the effective date of AD 2000-23-25), whichever occurs later: Accomplish paragraphs (a)(1) and (a)(2) of this AD.

(1) Perform a detailed visual inspection to detect cracking of the vertical chords of the aft torque bulkhead of the outboard nacelle struts, in accordance with Part 2 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-54A2201, dated September 28, 2000. Thereafter, repeat this inspection at intervals not to exceed 600 flight cycles until paragraph (d) of this AD is accomplished.

(2) Perform surface eddy current and ultrasonic inspections to detect cracking of the vertical chords of the aft torque bulkhead of the outboard nacelle struts, in accordance with Part 3 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-54A2201, dated September 28, 2000. Thereafter, repeat these inspections at intervals not to exceed 1,200 flight cycles until paragraph (d) of this AD is accomplished.

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."

Optional Compliance Time

(b) If Boeing Service Letter 747-54-055, dated April 24, 1998, was accomplished on the airplane during the modification of the nacelle strut in accordance with AD 95-10-16, amendment 39-9233: Accomplishment of the initial inspection in paragraph (a) of this AD may be deferred until 3,000 flight cycles after accomplishment of the service letter.

Repair

(c) If any cracking is detected during any inspection or modification required by this AD: Prior to further flight, repair 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 approval letter must specifically reference this AD.

New Requirements of this AD: Modification (Terminating Action)

(d) Within 4 years after the effective date of this AD, do the modification of the vertical chords of the aft torque bulkhead of the outboard nacelle struts according to Part 4 of Boeing Alert Service Bulletin 747-54A2201, dated September 28, 2000. After this modification, stop the repetitive inspections required by paragraph (a) of this AD.

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 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.

Note 3: 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 provided by paragraph (c) of this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 747-54A2201, dated September 28, 2000. The incorporation by reference of that document was approved previously by the Director of the Federal Register as of December 13, 2000 (65 FR 70781, November 28, 2000). 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

(h) This amendment becomes effective on July 27, 2001.

FOR FURTHER INFORMATION CONTACT: Tamara Anderson, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2771; fax (425) 227-1181.

Issued in Renton, Washington, on June 14, 2001.
Vi L. Lipski, Manager, Transport Airplane Directorate, Aircraft Certification Service.