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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. 2001-NM-363-AD; Amendment 39-12669; AD 2002-05-01]**

**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; request for comments.

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**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 AD currently requires inspections of the vertical chords of the aft torque bulkhead of the outboard nacelle struts, corrective action, if necessary, and a modification of the vertical chords, which ends the inspections. This amendment will reduce the compliance time and repetitive intervals for the currently required inspections. These actions are necessary 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. These actions are intended to address the identified unsafe condition.

**DATES:** Effective March 18, 2002.

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).

Comments for inclusion in the Rules Docket must be received on or before April 30, 2002.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2001-NM-363-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9 a.m. and 3 p.m., Monday through Friday, except Federal holidays. Comments may be submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following

address: [9-anm-iarcomment@faa.gov](mailto:9-anm-iarcomment@faa.gov). Comments sent via fax or the Internet must contain "Docket No. 2001-NM-363-AD" in the subject line and need not be submitted in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 for Windows or ASCII text.

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 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.

**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:** On June 14, 2001, the FAA issued AD 2001-12-23, amendment 39-12279 (66 FR 33459, June 22, 2001), 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, to require inspections of the vertical chords of the aft torque bulkhead of the outboard nacelle struts, corrective action, if necessary, and a modification of the vertical chords, which ends the inspections. That action was prompted by numerous reports of fatigue cracking of the vertical chords of the aft torque bulkhead of the outboard nacelle struts. The actions required by that 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.

### **Actions Since Issuance of Previous Rule**

Since the issuance of that AD, the FAA has received new reports of cracking in the vertical chords of the aft torque bulkhead. One report describes a crack on an airplane that had accumulated 9,479 total flight cycles. Paragraph (a) of the existing AD has a compliance threshold of 14,000 total flight cycles.

Another report describes a crack that was found on an airplane that had accumulated only 1,590 flight cycles since an inspection per Boeing Service Letter 747-54-055, dated April 24, 1998. Paragraph (b) of AD 2001-12-23 allows deferral of the initial inspections in paragraph (a) of that AD for 3,000 flight cycles after accomplishment of Boeing Service Letter 747-54-055.

Based on these new reports, the FAA has determined that the existing compliance threshold and repetitive intervals for the inspections required by the existing AD may not be adequate to ensure that cracking is detected in a timely manner.

### **Explanation of Requirements of Rule**

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of this same type design, this AD supersedes AD 2001-12-23 to continue to require inspections of the vertical chords of the aft torque bulkhead of the outboard nacelle struts, corrective action, if necessary, and a modification of the vertical chords, which ends the inspections. This AD will reduce the compliance threshold and repetitive intervals for the currently required inspections. The actions are required to be accomplished in accordance with Boeing Alert Service Bulletin 747-54A2201, dated September 28, 2000 (which is referenced in AD 2001-12-23 as the appropriate source of service information for certain actions therein), except as discussed below.

## **Differences Between Service Bulletin and This AD**

Operators should note that the compliance thresholds and repetitive intervals for the inspections required by this AD are lower than the compliance thresholds and repetitive intervals specified in the service bulletin. As described previously, the FAA has determined that the compliance thresholds and repetitive intervals specified in the service bulletin may not be adequate to ensure timely detection of cracking.

Operators also should note that, although the service bulletin specifies that the manufacturer may be contacted for disposition of certain repair conditions, this AD requires the repair of those conditions to be accomplished in accordance with a method approved by the 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 FAA to make such findings.

## **Determination of Rule's Effective Date**

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

## **Comments Invited**

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption ADDRESSES. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the AD is being requested.
- Include justification (e.g., reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2001-NM-363-AD." The postcard will be date stamped and returned to the commenter.

## **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.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, 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 39-12279 (66 FR 33459, June 22, 2001), and by adding a new airworthiness directive (AD), amendment 39-12669, 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"*

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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).

**2002-05-01 Boeing:** Amendment 39-12669. Docket 2001-NM-363-AD. Supersedes AD 2001-12-23, Amendment 39-12279.

**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 (h)(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 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 2001-12-23:**

### **Inspections**

(a) Except as provided by paragraphs (b), (e), and (f) 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, amendment 39-11998), 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) or (e) 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) or (f) 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) For airplanes on which the inspections required by paragraph (a) HAVE been accomplished prior to the effective date of this AD: 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.

### **Modification (Terminating Action)**

(d) Within 4 years after July 27, 2001 (the effective date of AD 2001-12-23), 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), (e), or (f) of this AD, as applicable.

### **New Requirements of this AD**

#### **Detailed Visual Inspections: New Compliance Times**

**Note 3:** The inspection in paragraph (e) of this AD is identical to that in paragraph (a)(1) of this AD. However, the compliance threshold (for airplanes not inspected prior to the effective date of this AD) and the repetitive intervals for this inspection are reduced in paragraph (e) of this AD.

(e) 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. Do the initial inspection per this paragraph at the applicable time specified in paragraph (e)(1) or (e)(2) of this AD, and thereafter, repeat this inspection at intervals not to exceed 300 flight cycles until paragraph (d) of this AD is accomplished. Accomplishment of this paragraph constitutes terminating action for inspections in accordance with paragraph (a)(1) of this AD.

(1) For airplanes that have NOT been inspected per paragraph (a) of this AD prior to the effective date of this AD: Except as provided by paragraph (g) of this AD, inspect at the earlier of the times specified in paragraphs (e)(1)(i) and (e)(1)(ii) of this AD.

(i) Prior to the accumulation of 14,000 total flight cycles.

(ii) Prior to the accumulation of 7,000 total flight cycles or within 90 days after the effective date of this AD, whichever comes later.

(2) For airplanes that HAVE been inspected per paragraph (a) of this AD prior to the effective date of this AD: Inspect at the earlier of the times specified in paragraphs (e)(2)(i) and (e)(2)(ii) of this AD.

(i) Within 600 flight cycles since the most recent inspection per paragraph (a)(1) of this AD.

(ii) Within 300 flight cycles since the most recent inspection per paragraph (a)(1) of this AD, or within 90 days after the effective date of this AD, whichever occurs later.

### **Eddy Current and Ultrasonic Inspections: New Compliance Times**

**Note 4:** The inspection in paragraph (f) of this AD is identical to that in paragraph (a)(2) of this AD. However, the compliance threshold (for airplanes not inspected prior to the effective date of this AD) and the repetitive intervals for this inspection are reduced in paragraph (f) of this AD.

(f) 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. Do the initial inspection per this paragraph at the applicable time specified in paragraph (f)(1) or (f)(2) of this AD, and thereafter, repeat this inspection at intervals not to exceed 600 flight cycles until paragraph (d) of this AD is accomplished. Accomplishment of this paragraph constitutes terminating action for inspections in accordance with paragraph (a)(2) of this AD.

(1) For airplanes that have NOT been inspected per paragraph (a) of this AD prior to the effective date of this AD: Except as provided by paragraph (g) of this AD, inspect at the earlier of the times specified in paragraphs (f)(1)(i) and (f)(1)(ii) of this AD.

(i) Prior to the accumulation of 14,000 total flight cycles.

(ii) Prior to the accumulation of 7,000 total flight cycles or within 90 days after the effective date of this AD, whichever comes later.

(2) For airplanes that HAVE been inspected per paragraph (a) of this AD prior to the effective date of this AD: Inspect at the earlier of the times specified in paragraph (f)(2)(i) and (f)(2)(ii) of this AD.

(i) Within 1,200 flight cycles since the most recent inspection per paragraph (a)(2) of this AD.

(ii) Within 600 flight cycles since the most recent inspection per paragraph (a)(2) of this AD, or within 90 days after the effective date of this AD, whichever occurs later.

### **Optional Compliance Time (Airplanes Not Inspected Previously)**

(g) For airplanes that have NOT been inspected per paragraph (a) of this AD as of the effective date of this AD: 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 inspections in paragraph (a) of this AD may be deferred until the earlier of the times specified in paragraphs (g)(1) and (g)(2) of this AD.

(1) Within 3,000 flight cycles after accomplishment of the service letter.

(2) Within 1,200 flight cycles after accomplishment of the service letter, or 90 days after the effective date of this AD, whichever occurs later.

### **Alternative Methods of Compliance**

(h)(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 2001-12-23, amendment 39-12279, are approved as alternative methods of compliance with paragraphs (a), (b), (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**

(i) Special flight permits may be issued in accordance with Secs. 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**

(j) 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**

(k) This amendment becomes effective on March 18, 2002.

Issued in Renton, Washington, on February 25, 2002.

Ali Bahrami,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 02-4888 Filed 2-28-02; 8:45 am]

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