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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-0411; Directorate Identifier 2007-NM-291-AD; Amendment 39-15326; AD 2004-07-22 R1]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP Series Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule; request for comments.

SUMMARY: The FAA is revising an existing airworthiness directive (AD) that applies to all Boeing Model 747 series airplanes. That AD currently requires that the FAA-approved maintenance inspection program be revised to include inspections that will give no less than the required damage tolerance rating for each structural significant item, and repair of cracked structure. We issued that AD to ensure the continued structural integrity of the entire fleet of Model 747 series airplanes. This new AD clarifies the applicability of the existing AD by specifying which Boeing Model 747 airplanes are affected by this AD because we have determined that certain new variants that have not yet been certified will not be subject to the requirements of this AD. This AD results from a report of incidents involving fatigue cracking in transport category airplanes that are approaching or have exceeded their design service objective. We are issuing this AD to ensure the continued structural integrity of all Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series airplanes.

DATES: Effective January 22, 2008.

The incorporation by reference of Boeing Document D6-35022, "Supplemental Structural Inspection Document (SSID) for Model 747 Airplanes," Revision G, dated December 2000, was approved previously by the Director of the Federal Register as of May 12, 2004 (69 FR 18250, April 7, 2004).

The incorporation by reference of Boeing Document No. D6-35022, Volumes 1 and 2, "Supplemental Structural Inspection Document (SSID) for Model 747 Airplanes," Revision E, dated June 17, 1993, was approved previously by the Director of the Federal Register as of September 12, 1994 (59 FR 41233, August 11, 1994).

The incorporation by reference of Boeing Document No. D6-35655, "Supplemental Structural Inspection Document for 747-100SR," dated April 2, 1986, was approved previously by the Director of the Federal Register as of August 10, 1994 (59 FR 37933, July 26, 1994).

We must receive comments on this AD by March 7, 2008.

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Ivan Li, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6437; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Discussion

On March 24, 2004, we issued AD 2004-07-22, amendment 39-13566 (69 FR 18250, April 7, 2004). A correction of that AD was published in the Federal Register on May 3, 2004 (69 FR 24063). AD 2004-07-22 applies to all Boeing Model 747 series airplanes. That AD requires that the FAA-approved maintenance inspection program be revised to include inspections that will give no less than the required damage tolerance rating for each structural significant item, and repair of cracked structure. That AD resulted from a report of incidents involving fatigue cracking in transport category airplanes that are approaching or have exceeded their design service objective. We issued that AD to ensure the continued structural integrity of the entire fleet of Model 747 series airplanes.

Actions Since Existing AD Was Issued

Since we issued AD 2004-07-22, Boeing has announced the production of additional Model 747 variants. Although they have not yet been certified, the new variants (Model 747-8 and -8F series airplanes) have a certification basis that will alleviate the safety issues addressed by AD 2004-07-22. All of the supplemental structural inspections required by AD 2004-07-22 will be included in the Airworthiness Limitations Section of the Boeing 747-8/8F Maintenance Planning Data Document.

Because AD 2004-07-22 currently applies to "all Boeing Model 747 series airplanes," these additional Model 747 variants will be required to do the actions mandated by that AD, once they are

certified. Therefore, we must clarify the applicability to specify only the airplanes that are affected by this AD.

FAA's Determination and Requirements of This AD

The unsafe condition described previously is likely to exist or develop on other airplanes of the same type design. For this reason, we are issuing this AD to revise AD 2004-07-22. This new AD retains the requirements of the existing AD. This AD also clarifies the applicability of the existing AD.

Change to Existing AD

Since we issued AD 2004-07-22, the AD format has been revised, and certain paragraphs have been rearranged. As a result, the corresponding paragraph identifiers have changed in this AD, as listed in the following table:

Revised Paragraph Identifiers	
Requirement in AD 2004-07-22	Corresponding requirement in AD 2004-07-22 R1
paragraph (a)	paragraph (f)
paragraph (b)	paragraph (g)
paragraph (c)	paragraph (h)
paragraph (d) (This paragraph was mis-lettered as (a) in the <i>Federal Register</i> .)	paragraph (i)
paragraph (e)	paragraph (j)
paragraph (f)	paragraph (k)

We have also removed Note 1 of AD 2004-07-22 from this AD. The information in that note is now included in the Federal Aviation Regulations (14 CFR part 39) and it is not necessary to include it in this AD. We have re-numbered the notes in AD 2004-07-22 R1 accordingly.

Costs of Compliance

We estimate that this AD affects about 165 airplanes of U.S. registry. The requirements of this AD add no additional economic burden. The current costs for this AD are repeated for the convenience of affected operators, as follows:

We estimate that the actions required by AD 2004-07-22 and retained in this AD take up to 6,825 work-hours per product. The average labor rate is \$80 per work hour. Based on these figures, we estimate the cost of this AD to U.S. operators to be up to \$90,090,000 or up to \$546,000 per product.

The number of work hours, as indicated above, is presented as if the accomplishment of the actions required by AD 2004-07-22 and retained in this AD are to be conducted as "stand alone" actions. However, in actual practice, these actions for the most part will be accomplished coincidentally or in combination with normally scheduled airplane inspections and other maintenance program tasks. Therefore, the actual number of necessary additional work hours will be minimal in many instances. Additionally, any costs associated with special airplane scheduling will be minimal.

FAA's Determination of the Effective Date

No airplane variant that we had previously excluded from the applicability of this AD is currently on the U.S. Register. Therefore, providing notice and opportunity for public comment is unnecessary before this AD is issued, and this AD may be made effective in less than 30 days after it is published in the Federal Register.

Comments Invited

This AD is a final rule that involves requirements affecting flight safety, and we did not provide you with notice and an opportunity to provide your comments before it becomes effective. However, we invite you to send any written data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2008-0411; Directorate Identifier 2007-NM-291-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this AD.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD 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.

For the reasons discussed above, I certify that the 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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. The Federal Aviation Administration (FAA) amends § 39.13 by removing amendment 39-13566 (69 FR 18250, April 7, 2004), corrected at 69 FR 24063, May 3, 2004, and adding the following new airworthiness directive (AD):



2004-07-22 R1 Boeing: Amendment 39-15326. Docket No. FAA-2008-0411;
Directorate Identifier 2007-NM-291-AD.

Effective Date

(a) This AD becomes effective January 22, 2008.

Affected ADs

(b) This AD revises AD 2004-07-22.

Applicability

(c) This AD applies to all Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series airplanes, certificated in any category.

Unsafe Condition

(d) This AD results from a report of incidents involving fatigue cracking in transport category airplanes that are approaching or have exceeded their design service objective. We are issuing this AD to ensure the continued structural integrity of all Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series airplanes.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Note 1: Where there are differences between this AD and the supplemental structural inspection document (SSID) specified in this AD, the AD prevails.

Requirements of AD 2004-07-22

Inspection Program

(f) For Model 747-100SR series airplanes having line numbers 346, 351, 420, 426, 427, and 601: Within 1 year after August 10, 1994 (the effective date of AD 94-15-12, amendment 39-8983, which was superseded by AD 2004-07-22), incorporate a revision into the FAA-approved maintenance inspection program that provides no less than the required damage tolerance rating (DTR) for each structural significant item (SSI) listed in Boeing Document No. D6-35655, "Supplemental Structural Inspection Document (SSID) for 747-100SR," dated April 2, 1986. The revision to the maintenance program must include and be implemented per the procedures specified in Sections 5.0 and 6.0 of the

SSID D6-35655. Revision to the maintenance program shall be per the SSID D6-35655, dated April 2, 1986, until Revision G of the SSID D6-35022 is incorporated into the FAA-approved maintenance or inspection program per the requirements of paragraph (h) of this AD.

Note 2: For the purposes of this AD, an SSI is defined as a principal structural element (PSE). A PSE is a structural element that contributes significantly to the carrying of flight, ground, or pressurization loads, and whose integrity is essential in maintaining the overall structural integrity of the airplane.

(g) For airplanes listed in Boeing Document No. D6-35022, Volumes 1 and 2, "Supplemental Structural Inspection Document (SSID) for Model 747 Airplanes," Revision E, dated June 17, 1993; and manufacturer's line numbers 42, 174, 221, 231, 234, 239, 242, and 254: Within 12 months after September 12, 1994 (the effective date of AD 94-15-18, amendment 39-8989, which was superseded by AD 2004-07-22), incorporate a revision into the FAA-approved maintenance inspection program that provides no less than the required DTR for each SSI listed in Boeing Document No. D6-35022, Volumes 1 and 2, "Supplemental Structural Inspection Document (SSID) for Model 747 Airplanes," Revision E, dated June 17, 1993. Revision F, dated May 1996, is acceptable for compliance with this paragraph. (The required DTR value for each SSI is listed in the document.) The revision to the maintenance program shall include Sections 5.0 and 6.0 of the SSID D6-35022 and shall be implemented per the procedures contained in those sections. Revision to the maintenance program shall be per Revision E or F of SSID D6-35022, until Revision G of the SSID D6-35022 is incorporated into the FAA-approved maintenance or inspection program per the requirements of paragraph (h) of this AD.

(h) For all Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series airplanes: Prior to reaching either of the thresholds specified in paragraph (i)(1)(i) or (i)(2)(i) of this AD, or within 12 months after May 12, 2004 (the effective date of AD 2004-07-22), whichever occurs later, incorporate a revision into the FAA-approved maintenance or inspection program that provides no less than the required DTR for each SSI listed in Boeing Document No. D6-35022, "Supplemental Structural Inspection Document," Revision G, dated December 2000 (hereinafter referred to as "Revision G"). (The required DTR value for each SSI is listed in Revision G.) The revision to the maintenance or inspection program shall include and shall be implemented per the procedures in Section 5.0, "DTR System Application" and Section 6.0, "SSI Discrepancy Reporting" of Revision G, excluding paragraphs 5.1.2; 5.1.6, item 5; 5.1.8; 5.2; 5.2.1; 5.2.2; 5.2.3; and 5.2.4 of Revision G. Under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501, et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements (Section 6.0, "SSI Discrepancy Reporting") contained in this AD and has assigned OMB Control Number 2120-0056. Upon incorporation of Revision G required by this paragraph, the revision required by either paragraph (f) or (g) of this AD, as applicable, may be removed.

Note 3: Operators should note that, although paragraph 5.2 is referenced in paragraph 5.1.11 of Revision G, paragraph 5.2 is excluded as a method of compliance with the requirements of this AD.

Initial Inspection

(i) For all Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series airplanes: Perform an inspection to detect cracks of all structure identified in Revision G of SSID D6-35022 at the time specified in paragraph (i)(1), (i)(2), or (i)(3) of this AD, as applicable.

(1) For wing structure: At the times specified in paragraph (i)(1)(i) or (i)(1)(ii) of this AD, whichever occurs later.

(i) Prior to the accumulation of 20,000 total flight cycles or 100,000 total flight hours, whichever comes first. Or,

(ii) Within 1,000 flight cycles measured from 12 months after May 12, 2004.

(2) For all other structure: At the times specified in paragraph (i)(2)(i) or (i)(2)(ii) of this AD, whichever occurs later.

(i) Prior to the accumulation of 20,000 total flight cycles, or

(ii) Within 1,000 flight cycles measured from 12 months after May 12, 2004.

(3) For any portion of an SSI that has been replaced with new structure: At the later of the times specified in paragraph (i)(3)(i) or (i)(3)(ii) of this AD.

(i) At the times specified in either paragraph (i)(1) or (i)(2) of this AD, as applicable, or

(ii) Within 10,000 flight cycles after the replacement of the part with a new part.

Note 4: Notwithstanding the provisions of paragraphs 5.1.2, 5.1.6, item 5, 5.2, 5.2.1, 5.2.2, 5.2.3, and 5.2.4 of the General Instructions of Revision G, which would permit operators to perform fleet and rotational sampling inspections to perform inspections on less than whole airplane fleet sizes and to perform inspections on substitute airplanes, this AD requires that all airplanes that exceed the threshold be inspected per Revision G. Although paragraph 5.1.8 of Revision G allows provisions for touch-and-go training flights, fleet averaging, and 10% escalations of flight cycles to achieve the required DTR, this AD does not allow for those provisions.

Note 5: Once the initial inspection has been performed, operators are required to perform repetitive inspections at the intervals specified in Revision G in order to remain in compliance with their maintenance or inspection programs, as revised per paragraph (h) of this AD.

Repair

(j) Cracked structure found during any inspection required by this AD shall be repaired, prior to further flight, in accordance with an FAA-approved method.

Inspection Program for Transferred Airplanes

(k) Before any airplane that is subject to this AD and that has exceeded the applicable compliance times specified in paragraph (i) of this AD can be added to an air carrier's operations specifications, a program for the accomplishment of the inspections required by this AD must be established per paragraph (k)(1) or (k)(2) of this AD, as applicable.

(1) For airplanes that have been inspected per this AD, the inspection of each SSI must be accomplished by the new operator per the previous operator's schedule and inspection method, or the new operator's schedule and inspection method, at whichever time would result in the earlier accomplishment for that SSI inspection. The compliance time for accomplishment of this inspection must be measured from the last inspection accomplished by the previous operator. After each inspection has been performed once, each subsequent inspection must be performed per the new operator's schedule and inspection method.

(2) For airplanes that have not been inspected per this AD, the inspection of each SSI required by this AD must be accomplished either prior to adding the airplane to the air carrier's operations specification, or per a schedule and an inspection method approved by the Manager, Seattle Aircraft Certification Office (ACO). After each inspection has been performed once, each subsequent inspection must be performed per the new operator's schedule.

Alternative Methods of Compliance (AMOCs)

(1)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, ATTN: Ivan Li, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6437; fax (425) 917-6590; has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD, if it is approved by an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization who has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved the repair must meet the certification basis of the airplane and the approval must specifically refer to this AD.

(4) AMOCs approved previously in accordance with AD 94-15-12, are approved as alternative methods of compliance for the requirements of paragraphs (f) and (j) of this AD.

(5) AMOCs approved previously in accordance with AD 94-15-18, are approved as alternative methods of compliance for the requirements of paragraphs (g) and (j) of this AD.

(6) AMOCs approved previously in accordance with AD 2004-07-22, are approved as AMOCs for the corresponding provisions of this AD.

Material Incorporated by Reference

(m) You must use Boeing Document No. D6-35655, "Supplemental Structural Inspection Document for 747-100SR," dated April 2, 1986; Boeing Document No. D6-35022, Volumes 1 and 2, "Supplemental Structural Inspection Document (SSID) for Model 747 Airplanes," Revision E, dated June 17, 1993; and Boeing Document No. D6-35022, "Supplemental Structural Inspection Document (SSID) for Model 747 Airplanes," Revision G, dated December 2000; as applicable; to perform the actions that are required by this AD, unless the AD specifies otherwise.

(1) The incorporation by reference of Boeing Document D6-35022, "Supplemental Structural Inspection Document (SSID) for Model 747 Airplanes," Revision G, dated December 2000, was approved previously by the Director of the Federal Register as of May 12, 2004 (69 FR 18250, April 7, 2004).

(2) The incorporation by reference of Boeing Document No. D6-35022, Volumes 1 and 2, "Supplemental Structural Inspection Document (SSID) for Model 747 Airplanes," Revision E, dated June 17, 1993, was approved previously by the Director of the Federal Register as of September 12, 1994 (59 FR 41233, August 11, 1994).

(3) The incorporation by reference of Boeing Document No. D6-35655, "Supplemental Structural Inspection Document for 747-100SR," dated April 2, 1986, was approved previously by the Director of the Federal Register as of August 10, 1994 (59 FR 37933, July 26, 1994).

(4) Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for a copy of this service information. You may review copies at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; 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/cfr/ibr-locations.html>.

Issued in Renton, Washington, on December 26, 2007.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E7-25614 Filed 1-4-08; 8:45 am]