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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-29065; Directorate Identifier 2007-NM-142-AD; Amendment 39-15486; AD 2008-09-05]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747 Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Boeing Model 747 airplanes. This AD requires inspecting the trunnion fork assembly of the wing landing gears to determine the part number and serial number and to determine the category of the trunnion fork assemblies. For certain airplanes, this AD also requires, if necessary, various inspections to detect discrepancies of the trunnion fork assemblies, related investigative/corrective actions, and a terminating action. This AD results from a report of a fractured trunnion fork assembly. We are issuing this AD to prevent a fractured trunnion fork assembly, which could result in the collapse of a wing landing gear on the ground and possible damage to hydraulic equipment and the aileron and spoiler cables. Such damage could result in reduced controllability of the airplane.

DATES: This AD is effective May 27, 2008.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of May 27, 2008.

ADDRESSES: 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 address for the Docket Office (telephone 800-647-5527) is the Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Gary Oltman, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6443; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to certain Boeing Model 747 airplanes. That NPRM was published in the Federal Register on August 31, 2007 (72 FR 50282). That NPRM proposed to require inspecting the trunnion fork assembly of the wing landing gears to determine the part number and serial number and to determine the category of the trunnion fork assemblies. For certain airplanes, that NPRM also proposed to require, if necessary, various inspections to detect discrepancies of the trunnion fork assemblies, related investigative/corrective actions, and a terminating action.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received from the three commenters.

Request To Revise Initial Compliance Time

Boeing requests that the compliance time specified in paragraph (g) of the NPRM be revised from 18 months to either 18 months or within 18 months after the date of issuance of the original Standard Certificate of Airworthiness or the original Export Certificate of Airworthiness, whichever occurs later. Boeing states that operators of airplanes delivered more than 18 months after the effective date of the AD will be unable to comply with the requirements of paragraph (g) of the NPRM.

We do not agree. We have confirmed with Boeing that affected airplanes currently in production are compliant with the requirements of this AD. Therefore, for affected airplanes delivered after the effective date of the AD, no additional time will be necessary to comply with the requirements of paragraph (g) of this AD. We have made no change to the compliance time specified in paragraph (g) of this AD in this regard.

Requests To Allow Review of Maintenance or Delivery Records

Boeing and Lufthansa request that, for clarification purposes, paragraph (g) of the NPRM be revised to allow review of maintenance or delivery records instead of doing the proposed inspection. The commenters note that such an alternative is specified in paragraphs 3. and 4. of Part 1 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-32A2482. Boeing notes that we have included a similar provision in other ADs.

We agree with the commenters to clarify paragraph (g) of this AD. It was our intent that either the inspection or record review be done in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-32A2482. Therefore, we have revised paragraph (g) of the AD accordingly.

Request To Allow a Magnetic-Particle Inspection

Boeing requests that we allow a magnetic-particle inspection in accordance with Boeing Standard Operating Procedure Manual 20-20-01 as an alternative to the high frequency eddy current

inspection required by paragraph (h)(1) of the NPRM. Boeing states that it intended the HFEC inspection to be done "in-situ" by the operators. Boeing also states that one operator intends to remove the trunnion forks from the airplane and inspect them for cracks at an overhaul facility that has magnetic-particle inspection capability. In addition, Boeing states that it intends to add this option in the next revision of Boeing Alert Service Bulletin 747-32A2482, if revised.

We partially agree. We acknowledge that a magnetic-particle inspection may be done instead of an HFEC inspection; however, Boeing has not completed developing procedures for a revised service bulletin. We may consider approving the revised service bulletin as an alternative method of compliance (AMOC) once it has been completed. Paragraph (k) of this AD provides for operators' requests for approval of an AMOC to address these unique circumstances. Therefore, we have made no change to this AD in this regard.

Request To Include a Parts Installation Paragraph

Boeing requests that we add a parts installation paragraph to the NPRM for Category A, B, C, or D trunnion fork assemblies that are installed after the terminating action specified in Boeing Alert Service Bulletin 747-32A2482 has been done (i.e., Part 5 of the Accomplishment Instructions of the service bulletin). Boeing states that such a paragraph will ensure that the actions specified in the service bulletin are done on spare parts within the compliance times mandated by the NPRM. Boeing is concerned about landing gear parts being interchanged between airplanes.

We partially agree. We acknowledge that spare parts must be addressed due to the interchangeability of landing gears. However, it is not necessary to change the AD. The AD refers to Boeing Alert Service Bulletin 747-32A2482 as the appropriate source of service information for doing the required actions. Note (b) of Tables 4 (for Categories A and C trunnion fork assemblies) and 5 (for Categories B and D trunnion fork assemblies) of paragraph 1.E, "Compliance," of the service bulletin specifies that the following three types of trunnion fork assemblies can be installed:

1. New trunnion fork assembly;
2. Category Not Affected trunnion fork assembly; or
3. Category B (Group 1 airplanes) or D (Group 2 airplanes) trunnion fork assembly on which Part 3 or Part 4 of Boeing Alert Service Bulletin 747-32A2482 has been done.

Once the compliance threshold has been reached for doing the terminating action required by this AD, operators are prohibited under 14 CFR 39.3 from replacing a trunnion fork assembly with an assembly other than one identified in note (b) of Tables 4 and 5. Therefore, we have made no change to the final rule in this regard.

Request To Correct Typographical Errors

Boeing requests that the categories specified in the first column in Table 1 of the NPRM be corrected to match those specified in Tables 4 and 5 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-32A2482. Boeing states that "Categories A and D" should be "Categories A and C" in paragraph (h)(1) of Table 1, and "Categories B and C" should be "Categories B and D" in paragraph (h)(2) of Table 1.

We agree that two typographical errors appear in Table 1 of the NPRM. It was our intent to align the categories of Table 1 with those in Tables 4 and 5 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-32A2482. Therefore, we have revised this AD accordingly.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We also determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

Costs of Compliance

There are about 1,055 airplanes of the affected design in the worldwide fleet. This AD affects about 215 airplanes of U.S. registry. The required inspection for part number, serial number, and category takes about 1 work hour per airplane, at an average labor rate of \$80 per work hour. Based on these figures, the estimated cost of the inspection required by this AD for U.S. operators is \$17,200, or \$80 per airplane.

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

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 this AD:

- (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.

You can find our regulatory evaluation and the estimated costs of compliance in the AD Docket.

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 FAA amends § 39.13 by adding the following new AD:



2008-09-05 Boeing: Amendment 39-15486. Docket No. FAA-2007-29065; Directorate Identifier 2007-NM-142-AD.

Effective Date

(a) This airworthiness directive (AD) is effective May 27, 2008.

Affected ADs

(b) None.

Applicability

(c) This AD applies to 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; as identified in Boeing Alert Service Bulletin 747-32A2482, dated June 14, 2007.

Unsafe Condition

(d) This AD results from a report of a fractured trunnion fork assembly. We are issuing this AD to prevent a fractured trunnion fork assembly, which could result in the collapse of a wing landing gear on the ground and possible damage to hydraulic equipment and the aileron and spoiler cables. Such damage could result in reduced controllability of the airplane.

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.

Service Bulletin

(f) The term "service bulletin," as used in this AD, means Boeing Alert Service Bulletin 747-32A2482, dated June 14, 2007.

Initial Inspection for Part Number, Serial Number, and Category

(g) Within 18 months after the effective date of this AD, inspect the pad-up area on the forward upper inboard surface of the trunnion fork assembly of both the left and right wing landing gears to determine the part number and serial number and to determine the category of the trunnion fork assemblies. A review of airplane maintenance or delivery records is acceptable instead of the inspection if the part number and serial number of the installed fork assembly can be conclusively determined from that review. Do the actions in accordance with the Accomplishment Instructions of the service bulletin.

Follow-On Actions for Category A, B, C, or D Trunnion Fork Assemblies

(h) If any part number and serial number identified as Category A, B, C, or D in Tables 2 and 3 of paragraph 1.E., "Compliance," of the service bulletin is found installed during the inspection required by paragraph (g) of this AD: At the applicable compliance time(s) listed in Table 4 or 5 of paragraph 1.E., "Compliance," of the service bulletin, except as provided by paragraph (i) of this AD, do the applicable action(s) in Table 1 of this AD and applicable related investigative/corrective actions, in accordance with the Accomplishment Instructions of the service bulletin.

Table 1.–Requirements for Category A, B, C, or D Trunnion Fork Assemblies

For –	Do –	And –	Or –
(1) Categories A and C trunnion fork assemblies	A detailed inspection for damage to the protective finish and for corrosion of the trunnion fork assembly and a high frequency eddy current (HFEC) inspection to detect cracks (Part 2)	An ultrasonic inspection to determine the wall thickness in the area forward of the outer cylinder attach lugs in 8 zones, and a hardness measurement if applicable (Part 3)	Do the terminating action (Part 5)
(2) Categories B and D trunnion fork assemblies	An ultrasonic inspection to determine the wall thickness in the area forward of the outer cylinder attach lugs in 8 zones, and a hardness measurement (Part 3)	None	None

(i) Where paragraph 1.E., "Compliance," of the service bulletin specifies a compliance time after the date on the service bulletin, this AD requires compliance within the specified compliance time after the effective date of this AD.

Terminating Action

(j) Replacing the trunnion fork assembly of the wing landing gear with a trunnion fork assembly identified in Part 5 of the Accomplishment Instructions of the service bulletin, in accordance with and at the applicable time specified in Table 4 or 5 of paragraph 1.E., "Compliance," of the service bulletin, constitutes terminating action for the requirements of this AD for that side only.

Alternative Methods of Compliance (AMOCs)

(k)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with 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.

Material Incorporated by Reference

(l) You must use Boeing Alert Service Bulletin 747-32A2482, dated June 14, 2007, to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

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

(3) You may review copies of the service information incorporated by reference 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.

Issued in Renton, Washington, on April 14, 2008.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

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