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[Page 75305-75307]
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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-0590; Directorate Identifier 2008-NM-057-AD; Amendment 39-15765; AD 2008-25-07]

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, and 747SR Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for all Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, and 747SR series airplanes. This AD requires repetitive inspections for cracks or fractures of the forward end attachment and the forward lower flange of the flap tracks of the trailing edge flaps, and corrective actions if necessary. For certain airplanes, this AD would also require modifying the fail-safe links of the main carriage. This AD results from a detailed structural analysis of the flap attach structural and fail-safe components, accomplished as a result of a dynamic stability and control analysis, which could not demonstrate continued safe flight and landing of the airplane after the loss of a trailing edge flap. We are issuing this AD to detect and correct cracks or fractures of the primary structural and fail-safe load paths of the inboard and outboard trailing edge flaps, which could result in the loss of a flap during takeoff or landing, reducing flightcrew ability to maintain the safe flight and landing of the airplane.

DATES: This AD is effective January 15, 2009.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of January 15, 2009.

ADDRESSES: For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1, fax 206-766-5680; e-mail me.boecom@boeing.com; Internet <https://www.myboeingfleet.com>.

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 all Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, and 747SR series airplanes. That NPRM was published in the Federal Register on May 23, 2008 (73 FR 30003) That NPRM proposed to require repetitive inspections for cracks or fractures of the forward end attachment and the forward lower flange of the flap tracks of the trailing edge flaps, and corrective actions if necessary. For certain airplanes, that NPRM would also require modifying the fail-safe links of the main carriage.

Comments

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

Support for the NPRM

Boeing has reviewed the NPRM and concurs with the content of the proposed rule.

Request To Extend Certain Compliance Times

Northwest Airlines (NWA) asks that the repetitive inspection intervals for the Part 1 inspections, as required by paragraph (f) of the NPRM, be changed to specify intervals not to exceed 750 flight cycles after accomplishing the last inspection or within 750 flight cycles after the flap track overhaul, whichever occurs later. For Part 3 inspections, NWA asks that the repetitive inspection interval be changed to intervals not to exceed 1,500 flight cycles after accomplishing the last inspection or within 1,500 flight cycles after flap track overhaul, whichever occurs later. NWA adds that the reason for the request is that, as part of its procedure for removing the track for overhaul, the attaching fuse pin is removed and inspected and the defined support fitting is inspected for condition; any failure of the track would be detected during the track overhaul.

We do not agree with NWA's request to change the repetitive inspection interval. The structural analysis of the flap attach structural and fail-safe components supports the compliance time specified for the repetitive inspection interval. In developing an appropriate compliance time for this action, we considered the urgency associated with the subject unsafe condition and the practical aspect of accomplishing the required inspections within a period of time that corresponds to the normal scheduled maintenance for most affected operators. These maintenance schedules can vary greatly

from operator to operator. In light of these items, we have determined that the repetitive inspection intervals specified in the service bulletin are appropriate. However, according to the provisions of paragraph (j) of this AD, we may approve requests to adjust the compliance time if the request includes data that prove that the new compliance time would provide an acceptable level of safety. We have not changed the AD in this regard.

NWA also asks that the FAA review the 750-flight-cycle repetitive inspection interval requirement, and if supported by new analysis, change it to 1,000 flight cycles. NWA states that a 1,000-flight-cycle interval would permit accomplishing the inspections in conjunction with scheduled airplane maintenance.

We do not agree with the request to change the interval for the repetitive inspections to 1,000 flight cycles. Previous analysis supports the current 750-flight-cycle interval, and no new analysis is currently available. However, as noted in the response to the previous comment, we will consider requests for approval of an AMOC if sufficient data are submitted that the new compliance time would provide an acceptable level of safety. We have not changed the AD in this regard.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD as proposed.

Costs of Compliance

We estimate that this AD affects 190 airplanes of U.S. registry. The following table provides the estimated costs for U.S. operators to comply with this AD.

Estimated Costs						
Action	Work hours	Average labor rate per hour	Parts	Cost per product	Number of U.S.-registered airplanes	Fleet cost
Part 1 Inspections	4	\$80	\$0	\$320 per inspection cycle	190	\$60,800 per inspection cycle
Part 3 Inspections	4	\$80	\$0	\$320 per inspection cycle	190	\$60,800 per inspection cycle
Part 2 Modification for Groups 1-3 Airplanes	Between 3 and 7	\$80	Between \$212 and \$7,934	Between \$452 and \$8,494	182	Between \$82,264 and \$1,545,908

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:



2008-25-07 Boeing: Amendment 39-15765. Docket No. FAA-2008-0590; Directorate Identifier 2008-NM-057-AD.

Effective Date

(a) This airworthiness directive (AD) is effective January 15, 2009.

Affected ADs

(b) None.

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, and 747SR series airplanes, certificated in any category.

Unsafe Condition

(d) This AD results from a detailed structural analysis of the flap attach structural and fail-safe components accomplished as a result of a dynamic stability and control analysis, which could not demonstrate continued safe flight and landing of the airplane after the loss of a trailing edge flap. We are issuing this AD to detect and correct cracks or fractures of the primary structural and fail-safe load paths of the inboard and outboard trailing edge flaps, which could result in the loss of a flap during takeoff or landing, reducing flightcrew ability to maintain the safe flight and landing of the airplane.

Compliance

(e) Comply with this AD within the compliance times specified, unless already done.

Repetitive Inspections/Corrective Actions

(f) For all airplanes: Except as provided by paragraph (h) of this AD, at the applicable times specified in paragraph 1.E. of Boeing Alert Service Bulletin 747-57A2323, dated February 21, 2008, inspect for cracks or fractures of the forward end attachment and the forward lower flange of the flap tracks of the trailing edge flaps, and do all applicable corrective actions, by doing all the actions specified in Parts 1 and 3 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-57A2323, dated February 21, 2008, except as provided by paragraph (i) of this AD. Do all applicable corrective actions before further flight. Repeat the applicable inspection at the applicable time specified in paragraph 1.E. of Boeing Alert Service Bulletin 747-57A2323, dated February 21, 2008.

Modification of Fail Safe Links of Main Carriage

(g) For Groups 1, 2, and 3 airplanes: Within 24 months after the effective date of this AD, replace the fail-safe links, pins, and attachment hardware in accordance with Part 2 of the

Accomplishment Instructions of Boeing Alert Service Bulletin 747-57A2323, dated February 21, 2008.

Exception to Compliance Times

(h) Where Boeing Alert Service Bulletin 747-57A2323, dated February 21, 2008, specifies counting the compliance time from "* * * the date on this service bulletin," this AD requires counting the compliance time from the effective date of this AD.

Exception to Corrective Actions

(i) If any fractured support fitting is found during any inspection required by this AD, and Boeing Alert Service Bulletin 747-57A2323, dated February 21, 2008, specifies to contact Boeing for appropriate action: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

Alternative Methods of Compliance (AMOCs)

(j)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, ATTN: Gary Oltman, Aerospace Engineer, Airframe Branch, ANM-120S, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6443; 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.

Material Incorporated by Reference

(k) You must use Boeing Alert Service Bulletin 747-57A2323, dated February 21, 2008; 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, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1, fax 206-766-5680; e-mail me.boecom@boeing.com; Internet <https://www.myboeingfleet.com>.

(3) You may review copies of the service information that is incorporated by reference at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221 or 425-227-1152.

(4) You may also review copies of the service information 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 November 28, 2008.
Ali Bahrami,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.