

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [65 FR 5742 2/7/2000]

[Docket No. 98-NM-252-AD; Amendment 39-11551; AD 2000-02-33]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747-400 Series Airplanes Equipped with General Electric CF6-80C2 Series Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD) applicable to certain Boeing Model 747-400 series airplanes that requires various inspections and functional tests to detect discrepancies of the thrust reverser control and indication system, and correction of any discrepancy found. This amendment is prompted by reports indicating that several center drive units (CDU) were returned to the manufacturer of the CDU's because of low holding torque of the CDU cone brake. The actions specified by this AD are intended to ensure the integrity of the fail safe features of the thrust reverser system by preventing possible failure modes in the thrust reverser control system that can result in inadvertent deployment of a thrust reverser during flight.

DATES: Effective March 13, 2000.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of March 13, 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: Holly Thorson, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1357; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 94-15-05, amendment 39-8976 (59 FR 37655, July 25, 1994), which is applicable to all Boeing Model 747-400 series airplanes, was published in the **Federal Register** on June 22, 1999 (64 FR 33229). The action proposed to require various inspections and functional tests to detect discrepancies of the thrust reverser control and indication system, and correction of any discrepancy found.

Explanation of Changes to the Proposed Rule

The original notice of proposed rulemaking (NPRM) proposed to supersede AD 94-15-05, which is applicable to Boeing Model 747-400 series airplanes equipped with either Pratt & Whitney PW4000 series engines; Rolls-Royce RB211-524G/H series engines; or General Electric (GE) CF6-80C2 series engines. Since the issuance of that NPRM, the FAA has determined that, in order to simplify compliance, each engine type should be addressed in separate rulemaking actions that do not supersede AD 94-15-05. Therefore, the FAA currently is developing separate rulemaking to address the Pratt & Whitney PW4000 series engines, and Rolls-Royce RB211-524G/H series engines referenced in the original NPRM, and has revised the applicability in this final rule to address the requirements for the GE CF6-80C2 series engines only. In addition, paragraphs (a) through (d) of the original NPRM are not restated in this final rule. The cost impact information, below, also has been revised accordingly.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Support for the Proposed Rule

One commenter supports the proposed rule.

Request for Credit for Previously Accomplished Work

One commenter requests credit for accomplishing the thrust reverser center drive unit (CDU) cone brake test during production. The commenter states that the tests were accomplished previously in accordance with methods equivalent to those described in Boeing Service Bulletins 747-78A2166 and 747-78A2113.

The FAA concurs with the commenter's request that accomplishment of the test during production is acceptable for compliance with the applicable test requirement in the final rule. "NOTE 2" has been added to the final rule to provide credit for accomplishment of the test during production.

One commenter requests credit for accomplishing the modification to install the third locking system of the thrust reversers during production. The commenter states that all Model 747-400 series airplanes, line numbers 1061 and subsequent, equipped with GE CF6-80C2 series engines, had a third locking system installed during production in accordance with Production Revision Record (PRR) 80452-102, and were not modified in accordance with Boeing Service Bulletin 747-78-2151 (which is a retrofit action applicable to line numbers 700 through 1060 inclusive).

The FAA concurs with the commenter's request. The FAA has determined that the production modification is technically equivalent to the modification described in Boeing Service Bulletin 747-78-2151; therefore, paragraphs (a)(1) and (a)(2) of this final rule [referenced as paragraphs (e)(1) and (e)(2) in the proposed rule], have been revised accordingly. In addition, "NOTE 3" has been added to the final rule for further clarification.

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Interim Action

This is considered to be interim action. The manufacturer has advised that it currently is developing a modification that will positively address the unsafe condition addressed by this AD.

Once this modification is developed, approved, and available, the FAA may consider additional rulemaking.

Cost Impact

There are approximately 146 Model 747-400 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 16 airplanes of U.S. registry will be affected by this AD.

The new actions required by this AD will not add any additional economic burden on affected operators, other than the costs that are associated with repeating the functional test of the cone brake at reduced intervals (at intervals not to exceed 650 hours time-in-service for thrust reversers that have not been modified.) That test requires approximately 12 work hours per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the functional test required by this AD on U.S. operators is estimated to be \$11,520, or \$720 per airplane.

The cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the current requirements of this AD action, 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 action (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. 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.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460



U.S. Department
of Transportation
**Federal Aviation
Administration**

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).

2000-02-33 BOEING: Amendment 39-11551. Docket 98-NM-252-AD.

Applicability: Model 747-400 series airplanes equipped with General Electric CF6-80C2 series engines, 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 (d)(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 ensure the integrity of the fail safe features of the thrust reverser system by preventing possible failure modes in the thrust reverser control system that can result in inadvertent deployment of a thrust reverser during flight, accomplish the following:

Repetitive Functional Tests

(a) Within 1,000 hours time-in-service after the most recent test of the center drive unit (CDU) cone brake performed in accordance with paragraph (b)(1) of AD 94-15-05, amendment 39-8976; or within 650 hours time-in-service after the effective date of this AD, whichever occurs first: Perform a functional test to detect discrepancies of the CDU cone brake on each thrust reverser, in accordance with Boeing Service Bulletin 747-78A2166, Revision 1, dated October 9, 1997; or the applicable section of paragraph III.A. of the Accomplishment Instructions of Boeing Service Bulletin 747-78A2113, Revision 2, dated June 8, 1995, or Revision 3, dated September 11, 1997.

NOTE 2: Accomplishment of the CDU cone brake test during production in accordance with Production Revision Record (PRR) 80452-102 prior to the effective date of this AD is considered acceptable for compliance with the test required by paragraph (a) of this AD.

(1) For Model 747-400 series airplanes equipped with thrust reversers that have not been modified in accordance with Boeing Service Bulletin 747-78-2151 or a production equivalent: Repeat the functional test of the CDU cone brake thereafter at intervals not to exceed 650 hours time-in-service.

(2) For Model 747-400 series airplanes equipped with thrust reversers that have been modified in accordance with Boeing Service Bulletin 747-78-2151 or a production equivalent: Repeat the functional test of the CDU cone brake thereafter at intervals not to exceed 1,000 hours time-in-service.

NOTE 3: Model 747-400 series airplanes, line numbers 1061 and subsequent, equipped with GE CF6-80C2 engines, had a third locking system installed during production in accordance with Production Revision Record (PRR) 80452-102, and were not modified in accordance with Boeing Service Bulletin 747-78-2151 (which is a retrofit action for airplanes having line numbers 700 through 1060 inclusive).

Terminating Action

(b) Accomplishment of the functional test of the CDU cone brake, as specified in paragraph (a) of this AD, constitutes terminating action for the repetitive tests of the CDU cone brake required by paragraph (b)(1) of AD 94-15-05.

Corrective Action

(c) If any functional test required by paragraph (a) of this AD cannot be successfully performed as specified in the referenced service bulletin, or if any discrepancy is detected during any functional test required by paragraph (a) of this AD, accomplish either paragraph (c)(1) or (c)(2) of this AD.

(1) Prior to further flight, repair in accordance with Boeing Service Bulletin 747-78A2166, Revision 1, dated October 9, 1997; or Boeing Service Bulletin 747-78A2113, Revision 2, dated June 8, 1995, or Revision 3, dated September 11, 1997. Or,

(2) The airplane may be operated in accordance with the provisions and limitations specified in the operator's FAA-approved MEL, provided that no more than one thrust reverser on the airplane is inoperative.

Alternative Methods of Compliance

(d) (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 Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate. 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 for the functional test of the Thrust Reverser Actuation System (TRAS) lock for Model 747-400 series airplanes powered by General Electric CF6-80C2 series engines that have been modified in accordance with Boeing Service Bulletin 747-78-2151, or production equivalent, approved previously in accordance with AD 94-15-05, amendment 39-8976, are considered to be approved as alternative methods of compliance with this AD.

NOTE 4: 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

(e) 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

(f) Except as provided by paragraph (c)(2) of this AD, the actions shall be done in accordance with Boeing Service Bulletin 747-78A2166, Revision 1, dated October 9, 1997; Boeing Service Bulletin 747-78A2113, Revision 2, dated June 8, 1995, and Boeing Service Bulletin 747-78A2113, Revision 3, dated September 11, 1997. This incorporation by reference is approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. 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.

(g) This amendment becomes effective on March 13, 2000.

FOR FURTHER INFORMATION CONTACT:

Holly Thorson, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1357; fax (425) 227-1181.

Issued in Renton, Washington, on January 28, 2000.

Donald L. Riggan, Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.