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[Pages 16173-16175]
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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0169; Directorate Identifier 2014-NM-020-AD; Amendment 39-17808; AD 2014-06-04]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain The Boeing Company Model 747-8 and 747-8F series airplanes powered by certain General Electric (GE) engines. This AD requires removing certain defective software and installing new, improved software. This AD was prompted by a determination that the existing electronic engine control (EEC) software logic can prevent stowage of the thrust reversers (TRs) during certain circumstances, which could cause the TRs to move back to the deployed position. We are issuing this AD to prevent in-flight deployment of one or more TRs due to loss of the TR auto restow function, which could result in inadequate climb performance at an altitude insufficient for recovery, and consequent uncontrolled flight into terrain.

DATES: This AD is effective April 9, 2014.

We must receive comments on this AD by May 9, 2014.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, 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.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2014-0169; 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 (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Sue Lucier, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6438; fax: 425-917-6590; email: suzanne.lucier@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We determined that the existing EEC software logic can prevent stowage of the TRs if the airplane changes back into air mode during a rejected or bounced landing for certain The Boeing Company Model 747-8 and 747-8F series airplanes powered by certain GE engines. If this occurs and the hydraulic isolation valve closes before the TRs are fully stowed, there is no hydraulic pressure for the auto-restow function and aerodynamic loads could cause the TRs to move back to the deployed position. We are issuing this AD to prevent in-flight deployment of one or more TRs due to loss of the TR auto restow function, which could result in inadequate climb performance at an altitude insufficient for recovery, and consequent uncontrolled flight into terrain.

FAA's Determination

We are issuing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

AD Requirements

This AD requires identifying the EEC software, and removing certain defective software and installing new, improved software. The removal and installation must be done in one of the following ways:

- In accordance with a method that we approve; or
- Using data that meet the certification basis of the airplane, and that have been approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) whom we have authorized to make those findings.

FAA's Justification and Determination of the Effective Date

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because the in-flight deployment of a TR due to loss of the TR auto restow function could result in inadequate climb performance at an altitude insufficient for recovery, and consequent uncontrolled flight into terrain. Therefore, we find that notice and opportunity for prior public comment are impracticable and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. 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 the docket number and Directorate Identifier 2014-NM-020-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.

Costs of Compliance

We estimate that this AD affects 7 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Remove/install new software	6 work-hours × $85 per hour = $510	$0	$510	$3,570

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),

(3) Will not affect intrastate aviation in Alaska, and

(4) 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.

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 airworthiness directive (AD):

2014-06-04 The Boeing Company: Amendment 39-17808; Docket No. FAA-2014-0169; Directorate Identifier 2014-NM-020-AD.

(a) Effective Date

This AD is effective April 9, 2014.

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 747-8 and 747-8F series airplanes, certificated in any category, powered by General Electric (GE) Aviation GEnx-2B67 or GEnx-2B67B engines.

(d) Subject

Joint Aircraft System Component (JASC) Code 7600, Engine Controls.

(e) Unsafe Condition

This AD was prompted by a determination that the existing electronic engine control (EEC) software logic can prevent stowage of the thrust reversers (TRs) during certain circumstances, which could cause the TRs to move back to the deployed position. We are issuing this AD to prevent in-flight deployment of one or more TRs due to loss of the TR auto restow function, which could result in inadequate climb performance at an altitude insufficient for recovery, and uncontrolled flight into terrain.

(f) Compliance

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

(g) Removal/Installation of Certain EEC Software

For airplanes having any EEC software part number identified in paragraph (g)(1), (g)(2), or (g)(3) of this AD: Within 90 days after the effective date of this AD, remove the EEC software, as applicable; and install new EEC software that is approved by the FAA.

(1) Software C032: GE P/N 2124M22P05, EEC kit number 738L370G02, Boeing P/N GEC43-2124-2205.

(2) Software C040: GE P/N 2124M22P07, EEC kit number 738L370G04, Boeing P/N GEC43-2124-2207.

(3) Software C045: GE P/N 2124M22P08, EEC kit number 738L370G05, Boeing P/N GEC43-2124-2208.

(h) Parts Installation

As of the effective date of this AD, no person may install EEC software having any P/N identified in paragraph (g)(1), (g)(2), or (g)(3) of this AD on any airplane.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

For more information about this AD, contact Sue Lucier, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6438; fax: 425-917-6590; email: suzanne.lucier@faa.gov.

(k) Material Incorporated by Reference

None.

Issued in Renton, Washington, on March 14, 2014.
Jeffrey E. Duven,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.