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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-0556; Directorate Identifier 2009-NM-112-AD; Amendment 39-15942; AD 2009-13-03]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747-400 and -400F Series Airplanes Powered by Rolls-Royce RB211 Series Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Boeing Model 747-400 and -400F series airplanes. This AD requires modifying certain thrust reverser control system wiring to the flap control unit (FCU). This AD results from a report of automatic retraction of the leading edge flaps during takeoff due to indications transmitted to the FCU from the thrust reverser control system. We are issuing this AD to prevent automatic retraction of the leading edge flaps during takeoff, which could result in reduced climb performance and consequent collision with terrain and obstacles or forced landing of the airplane.

DATES: This AD is effective July 6, 2009.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of July 6, 2009.

We must receive comments on this AD by August 31, 2009.

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, 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 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: Douglas Bryant, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6505; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Discussion

We received a report of automatic retraction of the leading edge flaps during takeoff on a Boeing Model 747-400 airplane powered by Rolls-Royce RB211-524G/H engines. The automatic retraction was due to indications transmitted to the flap control unit (FCU) from the thrust reverser control system. In order to prevent impingement of efflux air from the thrust reversers during landing rollout, the FCU is designed to automatically retract the Group A leading edge flaps when a REV Amber signal is received from either both inboard or both outboard thrust reversers, and the airplane is on the ground. In this event, the first REV amber signal was received prior to V1 (takeoff decision speed). The second REV amber signal was received several seconds later, after takeoff decision speed. At that time, the FCU performed as designed and retracted the Group A leading edge flaps. At rotation the flight crew reported buffeting and stick shaker activation. After liftoff, a signal from the air/ground logic system caused the FCU to send a command to the Group A leading edge flaps to re-deploy after a five-second time delay. Re-deployment of the flaps takes approximately ten to fifteen additional seconds; during re-deployment, the flightcrew again reported buffeting and momentary stick shaker activation. The airplane jettisoned fuel and was landed safely; all four of the thrust reversers deployed and stowed normally after landing.

In addition, one operator reported 12 single-engine REV indications during takeoff over the past three years, leading to seven rejected takeoffs. The incident described above was the first known simultaneous two-engine event.

These conditions, if not corrected, could result in reduced climb performance during takeoff and consequent collision with terrain and obstacles or forced landing of the airplane.

Relevant Service Information

We reviewed Boeing Alert Service Bulletin 747-78A2181, dated June 8, 2009. The service information describes procedures for modifying certain thrust reverser control system wiring to the FCU in the P414 and P415 panels. The modification includes re-routing and re-terminating one wire for each engine, and replacing the wire if necessary.

FAA's Determination and Requirements of This AD

No airplanes affected by this AD are on the U.S. Register. 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 on other products of the same type design. This AD requires accomplishing

the actions specified in the service information described previously, except as described under "Difference Between the AD and the Service Information."

Difference Between the AD and the Service Information

Operators should note that Boeing Alert Service Bulletin 747-78A2181, dated June 8, 2009, recommends that the modification be completed within 90 days (after the issue date of the service bulletin). This AD specifies a compliance time of 60 days. In developing this compliance time, we considered the manufacturer's recommended 90-day compliance time (after June 8, 2009, which is the service bulletin issue date), a risk assessment of the unsafe condition, the scope of work required, and the number of affected airplanes, as well as the time normally required for the rulemaking process to be completed (approximately 30 days). In consideration of both of these factors, we find that a compliance time of 60 days after the effective date of this AD will fall approximately at the same time (calendar date) as the compliance time recommended by the manufacturer, and represents an appropriate interval of time for affected airplanes to continue to operate without compromising safety. By adjusting the compliance time interval in this way:

1. Operators will get a full 60 days in which to complete the modification; and
2. The modification can be done within an interval of time that parallels normal scheduled maintenance for most affected operators.

This difference has been coordinated with Boeing.

FAA's Justification and Determination of the Effective Date

Automatic retraction of the leading edge flaps could result in reduced climb performance during takeoff. Such a restriction could result in failure to achieve a minimum rate of climb, and consequent collision with terrain or obstacles or forced landing of the airplane. Because of our requirement to promote safe flight of civil aircraft and thus, the critical need to assure the proper functioning of the FCU and the short compliance time involved with this action, this AD must be issued immediately.

Because an unsafe condition exists that requires the immediate adoption of this AD, and because no airplanes affected by this AD are on the U.S. Register, we find that notice and opportunity for prior public comment hereon are both impracticable and unnecessary 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 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-2009-0556; Directorate Identifier 2009-NM-112-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

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:



2009-13-03 Boeing: Amendment 39-15942. Docket No. FAA-2009-0556; Directorate Identifier 2009-NM-112-AD.

Effective Date

(a) This airworthiness directive (AD) is effective July 6, 2009.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Boeing Model 747-400 and -400F series airplanes, certificated in any category; Powered by Rolls-Royce RB211 series engines.

Subject

(d) Air Transport Association (ATA) of America Code 78: Engine.

Unsafe Condition

(e) This AD results from a report of automatic retraction of the leading edge flaps during takeoff due to indications transmitted to the flap control unit (FCU) from the thrust reverser control system. The Federal Aviation Administration is issuing this AD to prevent automatic retraction of the leading edge flaps during takeoff, which could result in reduced climb performance and consequent collision with terrain and obstacles or forced landing of the airplane.

Compliance

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

Modification

(g) Within 60 days after the effective date of this AD: Modify the thrust reverser control system wiring to the FCU in the P414 and P415 panels in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-78A2181, dated June 8, 2009.

Alternative Methods of Compliance (AMOCs)

(h)(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. Send information to ATTN: Douglas Bryant, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356;

telephone (425) 917-6505; fax (425) 917-6590. Or, e-mail information to 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(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 principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

Material Incorporated by Reference

(i) You must use Boeing Alert Service Bulletin 747-78A2181, dated June 8, 2009, 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 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 that is incorporated by reference 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 June 12, 2009.

Ali Bahrami,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.