

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2008-0967; Directorate Identifier 2008-NM-152-AD; Amendment 39-15671;  
AD 2008-19-04]

RIN 2120-AA64

#### **Airworthiness Directives; Boeing Model 777-200 and -300 Series Airplanes Equipped With Rolls-Royce Model RB211-TRENT 800 Series Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; request for comments.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Boeing Model 777-200 and -300 series airplanes. This AD requires revising the airplane flight manual to include in-flight procedures for pilots to follow in certain cold weather conditions and requires fuel circulation procedures on the ground when certain conditions exist. This AD results from a report of uncommanded reduction in thrust on both engines because of reduced fuel flows. We are issuing this AD to prevent ice from accumulating in the main tank fuel feed system, which, when released, could result in a restriction in the engine fuel system. Such a restriction could result in failure to achieve a commanded thrust, and consequent forced landing of the airplane.

**DATES:** This AD is effective September 29, 2008.

We must receive comments on this AD by November 12, 2008.

**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.

## 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:** Margaret Langsted, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6500; fax (425) 917-6590.

## SUPPLEMENTARY INFORMATION:

### Discussion

On January 17, 2008, a Boeing Model 777-200 series airplane equipped with Rolls-Royce Model RB211 TRENT 895-17 turbofan engines crash landed short of the runway at London Heathrow Airport. During final approach, the autothrottles commanded an increase in thrust from both engines, and the engines initially responded. However, at a height of about 720 feet above the ground, the thrust of the right engine reduced, and approximately seven seconds later the thrust on the left engine reduced. The uncommanded reduction in thrust on both engines was the result of reduced fuel flows. The engine control system detected the reduced fuel flows and commanded increased thrust. However, there was no appreciable change in the fuel flow to either engine, and the airplane crash landed short of the runway.

The investigation determined that over a long period of low power fuel flows and low fuel temperatures associated with cruise flight, ice can accumulate in the main tank fuel feed system and then release as a result of increased fuel flow when high thrust is commanded. When released, the ice could create a restriction within the engine fuel system. A restriction in the engine fuel system, if not corrected, could result in failure to achieve a commanded thrust, and consequent forced landing of the airplane.

All of the testing and research of this accident has been conducted on Boeing Model 777-200 and -300 series airplanes, equipped with Rolls-Royce Model RB211-TRENT 800 series engines. Initial review of 777 other airplane engine combinations has not revealed the same vulnerability to the identified unsafe condition.

### FAA's Determination and Requirements of This AD

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(se) same type design(s). This AD requires revising the Limitations section of the airplane flight manual to include procedures for pilots to follow in certain cold weather conditions and requires fuel circulation procedures on the ground when certain conditions exist.

Paragraph (g) of the AD requires that the fuel circulation procedures be accomplished by a certified mechanic. We are including this requirement because of the complexity of the procedure. We recognize that persons other than mechanics who are properly trained might also be capable of accomplishing this procedure. Therefore, we would be receptive to requests for approval of alternative methods of compliance in accordance with paragraph (j) of the AD to allow others to accomplish the procedure if the request includes training and oversight provisions to ensure that the procedure is accomplished properly.

## Interim Action

We consider this proposed AD interim action. If final action is later identified, we might consider further rulemaking then.

## FAA's Justification and Determination of the Effective Date

Hazardous amounts of ice might accumulate within the main tank fuel feed system under certain conditions, which, when released, could result in a restriction in the engine fuel system. Such a restriction could result in failure to achieve a commanded thrust, and consequent forced landing of the airplane. We have determined that the loss of engine thrust was likely due to ice accumulating in the main tank fuel feed system during long exposure to cold fuel temperatures and low power fuel flows. It is necessary to issue interim mitigating actions in order to prevent an additional accident. Because of our requirement to promote safe flight of civil aircraft and thus, the critical need to assure the proper functioning of the main tank fuel feed system 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, we find that notice and opportunity for prior public comment hereon 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 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 comments about this AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2008-0967; Directorate Identifier 2008-NM-152-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, 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:



**2008-19-04 Boeing:** Amendment 39-15671. Docket No. FAA-2008-0967; Directorate Identifier 2008-NM-152-AD.

**Effective Date**

- (a) This airworthiness directive (AD) is effective September 29, 2008.

**Affected ADs**

- (b) None.

**Applicability**

- (c) This AD applies to Boeing Model 777-200 and -300 series airplanes, certificated in any category; equipped with Rolls-Royce Model RB211-TRENT 800 series engines.

**Unsafe Condition**

(d) This AD results from a report of the uncommanded reduction in thrust on both engines because of reduced fuel flows. We are issuing this AD to prevent ice from accumulating in the main tank fuel feed system, which, when released, could result in a restriction in the engine fuel system. Such a restriction could result in failure to achieve a commanded thrust, and consequent forced landing of the airplane.

**Compliance**

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

**Airplane Flight Manual (AFM) Revision**

- (f) Within 10 days after the effective date of this AD, revise the Limitations section of the AFM to include the following statement. This may be done by inserting a copy of this AD in the AFM.

On ground, after refueling, check fuel temperature if fuel temperature indication is inoperative. If fuel temperature is colder than 0 degrees C or if fuel temperature indication is inoperative, verify that a record exists certifying that the approved fuel circulation procedure was performed.

"Perform all step climbs using VNAV or maximum climb thrust.

"In flight, within 3 hours of top of descent, but not less than 15 minutes before top of descent, check fuel temperature. If fuel temperature is colder than -10 degrees C, perform a step climb using maximum climb thrust. If a step climb using maximum climb thrust cannot be accomplished, verify cruise speed is set to 0.84 Mach or less, and manually advance thrust levers to maximum (autothrottles may be overridden). After reaching maximum climb thrust, hold for 10 seconds or until reaching 0.86 Mach, whichever

occurs first. Check engines to ensure they have achieved maximum climb thrust and operate normally."

### **Fuel Circulation Procedure**

(g) As of 10 days after the effective date of this AD: If the fuel temperature has not exceeded 0 degrees Celsius during the ground turn, before further flight, using the main tank fuel boost pumps, pump fuel through the fuel manifold using the high flow mode for a minimum of one minute. A certified mechanic must do the fuel circulation procedure required by this paragraph using a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA.

(h) Before further flight after accomplishing the action required by paragraph (g) of this AD, make a record in which the person accomplishing the procedure certifies that it was accomplished in accordance with the approved method, and provide the record to the flightcrew. Under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements contained in this AD and has assigned OMB Control Number 2120-0056.

### **Special Flight Permit**

(i) Special flight permits, as described in section 21.197 and section 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199), are not allowed.

### **Alternative Methods of Compliance (AMOCs)**

(j)(1) The Manager, Seattle ACO, FAA, ATTN: Margaret Langsted, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle ACO, 1401 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6500; 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.

### **Material Incorporated by Reference**

(k) None.

Issued in Renton, Washington, on September 5, 2008.

Ali Sahranian  
Manager, Transport Airplane Directorate, Aircraft Certification Service.  
[FR Doc. E8-21138 Filed 9-11-08; 8:45 am]