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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-1004; Directorate Identifier 2009-NE-36-AD; Amendment 39-16239; AD 2010-06-14]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc RB211-Trent 800 Series Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

During 2004, an incident was reported involving uncontained multiple intermediate-pressure (IP) turbine blade release on a Trent 700 engine. The blade release was the result of an overspeed of the IP turbine rotor that was initiated by an internal fire in the high-pressure/intermediate-pressure (HP/IP) bearing chamber. Post-incident analysis and investigation has established that blockage of the HP/IP turbine bearing oil vent tube due to carbon deposits was a significant factor in the failure sequence. The Trent 800 has a similar type design standard to that of the Trent 700 and has also been found in service to be susceptible to carbon deposits in the oil vent tube.

We are issuing this AD to prevent internal oil fires due to coking and carbon buildup in the HP/IP turbine bearing oil vent tube that could cause uncontained engine failure and damage to the airplane.

DATES: This AD becomes effective May 3, 2010. The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of May 3, 2010.

ADDRESSES: The Docket Operations office is located at Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

FOR FURTHER INFORMATION CONTACT: James Lawrence, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: james.lawrence@faa.gov; telephone (781) 238-7176; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on January 5, 2010 (75 FR 264). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

During 2004, an incident was reported involving uncontained multiple IP turbine blade release on a Trent 700 engine. The blade release was the result of an overspeed of the IP turbine rotor that was initiated by an internal fire in the HP/IP bearing chamber. Post-incident analysis and investigation has established that blockage of the HP/IP turbine bearing oil vent tube due to carbon deposits was a significant factor in the failure sequence. The Trent 800 has a similar type design standard to that of the Trent 700 and has also been found in service to be susceptible to carbon deposits in the oil vent tube.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comment received. The commenter supports the NPRM.

Conclusion

We reviewed the available data, including the comment received, and determined that air safety and the public interest require adopting the AD as proposed.

Costs of Compliance

Based on the service information, we estimate that this AD will affect about 138 RB211 Trent 800 series turbofan engines installed on airplanes of U.S. registry. We also estimate that it will take about one work-hour per engine to comply with this AD. The average labor rate is \$80 per work-hour. Required parts will cost about \$2,000 per engine. Based on these figures, we estimate the cost of the AD on U.S. operators to be \$287,040.

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

We determined that 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 this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office 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 Operations office (telephone (800) 647-5527) is provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

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:



2010-06-14 Rolls-Royce plc: Amendment 39-16239. Docket No. FAA-2009-1004; Directorate Identifier 2009-NE-36-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective May 3, 2010.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Rolls-Royce plc models RB211-Trent 875-17, Trent 877-17, Trent 884-17, Trent 884B-17, Trent 892-17, Trent 892B-17, and Trent 895-17 turbofan engines. These engines are installed on, but not limited to, Boeing 777 series airplanes.

Reason

(d) During 2004, an incident was reported involving uncontained multiple intermediate-pressure (IP) turbine blade release on a Trent 700 engine. The blade release was the result of an overspeed of the IP turbine rotor that was initiated by an internal fire in the high-pressure/intermediate-pressure (HP/IP) bearing chamber. Post-incident analysis and investigation has established that blockage of the HP/IP turbine bearing oil vent tube due to carbon deposits was a significant factor in the failure sequence. The Trent 800 has a similar type design standard to that of the Trent 700 and has also been found in service to be susceptible to carbon deposits in the oil vent tube.

This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. We are issuing this AD to prevent internal oil fires due to coking and carbon buildup in the HP/IP turbine bearing oil vent tube that could cause uncontained engine failure and damage to the airplane.

Actions and Compliance

- (e) Unless already done, do the following actions.

(1) At the next engine shop visit after the effective date of this AD and thereafter at each engine shop visit, using the Accomplishment Instructions of Rolls-Royce plc Alert Service Bulletin No. RB.211-72-AE362, Revision 1, dated April 3, 2009:

- (i) Inspect the HP/IP turbine bearing internal and external oil vent tubes and bearing chamber for carbon buildup.
- (ii) Clean and flush the tubes and bearing chamber as required.
- (iii) Reject any oil vent tubes that do not meet inspection requirements after cleaning.

(2) This AD does not require reporting of inspection results, as does paragraphs 3.B.(4)(g) and 3.C.(9) of Rolls-Royce plc Alert Service Bulletin No. RB.211-72-AE362, Revision 1, dated April 3, 2009.

FAA AD Differences

(f) None.

Alternative Methods of Compliance (AMOCs)

(g) The Manager, Engine Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

Related Information

(h) Refer to MCAI European Aviation Safety Agency AD 2009-0071 (corrected April 14, 2009), for related information.

(i) Contact James Lawrence, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: james.lawrence@faa.gov; telephone (781) 238-7176; fax (781) 238-7199, for more information about this AD.

Material Incorporated by Reference

(j) You must use Rolls-Royce plc Alert Service Bulletin No. RB.211-72-AE362, Revision 1, dated April 3, 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 Rolls-Royce plc, PO Box 31, Derby, England; telephone: 011-44-1332-249428; fax: 011-44-1332-249223.

(3) You may review copies at the FAA, New England Region, 12 New England Executive Park, Burlington, MA; or 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/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts on March 9, 2010.

Peter A. White,
Assistant Manager, Engine and Propeller Directorate,
Aircraft Certification Service.