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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-0771; Directorate Identifier 2009-NE-14-AD; Amendment 39-16009; AD 2009-18-13]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc. (RR) RB211 Trent 900 Series Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

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:

Evidence from development testing and flight test Trent 900 engines has identified cracking on some HP Turbine Nozzle Guide Vane (NGV) Convex Surfaces. Analysis of test data and review of the manufacturing process has revealed compounding effects that may contribute to a shortfall in component life and an increased likelihood of premature cracking in this region. Excessive cracking on the Convex Surface may lead to the release of NGV material or the blockage of Turbine gas flow. This results in a risk of fracture to the HP Turbine Blade.

We are issuing this AD to prevent the release of a high-pressure (HP) turbine blade, which could result in an engine power loss or in-flight shut down of one or more engines, resulting in an inability to continue safe flight.

DATES: This AD becomes effective October 14, 2009.

We must receive comments on this AD by October 9, 2009.

The Director of the Federal Register approved the incorporation by reference of RR Alert Service Bulletin (ASB) RB.211-72-AF995, Revision 2, dated February 9, 2009, listed in the AD as of September 24, 2009.

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: (202) 493-2251.

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 the same as the Mail address provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Ian Dargin, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park; Burlington, MA 01803; e-mail: ian.dargin@faa.gov; telephone (781) 238-7178; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION:

Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA Airworthiness Directive 2009-0051, dated March 5, 2009 (referred to after this as "the MCAI"), to correct an unsafe condition for the specified products. The MCAI states:

Evidence from development testing and flight test Trent 900 engines has identified cracking on some HP Turbine Nozzle Guide Vane (NGV) Convex Surfaces. Analysis of test data and review of the manufacturing process has revealed compounding effects that may contribute to a shortfall in component life and an increased likelihood of premature cracking in this region. Excessive cracking on the Convex Surface may lead to the release of NGV material or the blockage of Turbine gas flow. This results in a risk of fracture to the HP Turbine Blade.

Not all NGV assemblies are affected. It is believed that the problem, if it exists, will manifest itself below 1000 cycles.

You may obtain further information by examining the MCAI in the AD docket.

Relevant Service Information

Rolls-Royce plc. has issued Alert Service Bulletin RB.211-72-AF995, Revision 2, dated February 9, 2009. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

FAA's Determination and Requirements of This AD

This product has been approved by the aviation authority of the United Kingdom, and is approved for operation in the United States. Pursuant to our bilateral agreement with the United Kingdom, they have notified us of the unsafe condition described in the MCAI and service information referenced above. We are issuing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design.

FAA's Determination of the Effective Date

Since no domestic operators use this product, notice and opportunity for public comment before issuing this AD are unnecessary. Therefore, we are adopting this regulation immediately.

Comments Invited

This AD is a final rule that involves requirements affecting flight safety, and we did not precede it by notice and opportunity for public comment. We invite you to send any written relevant data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2009-0771; Directorate Identifier 2009-NE-14-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 with FAA personnel concerning this AD. Using the search function of the Web site, anyone can find and read the comments in any of our dockets, including, if provided, the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78).

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.

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:



2009-18-13 Rolls-Royce plc: Amendment 39-16009.; Docket No. FAA-2009-0771; Directorate Identifier 2009-NE-14-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective October 14, 2009.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Rolls-Royce plc (RR) model RB211 Trent 970-84, 970B-84, 972-84, 972B-84, 977-84, 977B-84, and 980-84 turbofan engines that do not incorporate RR modification Service Bulletin (SB) RB.211-72-G025. These engines are installed on, but not limited to, Airbus A380 airplanes.

Reason

(d) Evidence from development testing and flight test Trent 900 engines has identified cracking on some HP Turbine Nozzle Guide Vane (NGV) Convex Surfaces. Analysis of test data and review of the manufacturing process has revealed compounding effects that may contribute to a shortfall in component life and an increased likelihood of premature cracking in this region. Excessive cracking on the Convex Surface may lead to the release of NGV material or the blockage of Turbine gas flow. This results in a risk of fracture to the HP Turbine Blade.

We are issuing this AD to prevent the release of a high-pressure (HP) turbine blade, which could result in an engine power loss or in-flight shut down of one or more engines, resulting in an inability to continue safe flight.

Actions and Compliance

First Inspection

(e) Before accumulating 400 total cycles, inspect the HPT NGV Convex Surfaces, in accordance with the accomplishment instructions in section 3.A of Rolls-Royce RB211-Trent 900 Alert Non Modification Service Bulletin (NMSB) RB.211-72-AF995 Revision 2, dated February 9, 2009.

Reinspection

- (f) If no damage is identified at first inspection:
 - (1) Repeat the inspection at intervals less than 250 Cycles apart.

(2) If repeat inspections reveal no damage at 1000 cycles revert to normal inspection maintenance as detailed in the Rolls-Royce RB211-Trent 900 Maintenance Planning Document (MPD), and sign off this AD as complied with; no further inspections are required by this AD.

(g) If any damage is identified, refer to the Table 1 and Table 2 in section 3.B. of Rolls-Royce RB211-Trent 900 Alert NMSB RB.211-72-AF995 Revision 2, dated February 9, 2009, for reinspection intervals and rejection criteria.

FAA AD Differences

(h) None.

Other FAA AD Provisions

(i) Alternative Methods of Compliance (AMOCs): 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

(j) Refer to MCAI EASA Airworthiness Directive 2009-0051, dated March 5, 2009.

(k) Contact Ian Dargin, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park; Burlington, MA 01803; e-mail: ian.dargin@faa.gov; telephone (781) 238-7178; fax (781) 238-7199, for more information about this AD.

Material Incorporated by Reference

(1) You must use RR Alert Non Mandatory Service Bulletin RB.211-72-AF995 Revision 2, dated February 9, 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, P.O. Box 31, DERBY, DE24 8BJ, UK; telephone 44 (0) 1332 242424; fax 44 (0) 1332 249936.

(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 August 20, 2009.

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