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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-1369; Directorate Identifier 2003-NE-03-AD; Amendment 39-16048; AD 2009-21-09]

RIN 2120-AA64

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

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is superseding an existing airworthiness directive (AD) for Rolls-Royce plc RB211 Trent 875-17, Trent 877-17, Trent 884-17, Trent 892-17, Trent 892B-17, and Trent 895-17 turbofan engines with high-pressure (HP) compressor rotor rear stage 5 and 6 discs and cone shafts, part numbers (P/Ns) FK25230 and FK27899 installed. That AD currently requires removal from service of these HP compressor rotor rear stage 5 and 6 discs and cone shafts before reaching newly reduced life limits. This AD requires removing these parts at new reduced cycle limits. This AD results from Rolls-Royce plc reducing the lives of these parts and changing the life calculating method to use "Standard Duty Cycles" with "Multiple Flight Profile Monitoring" and "Flight Cycles" with "Heavy Flight Profile Monitoring". We are issuing this AD to prevent stage 5 and 6 disc crack initiation and propagation that might lead to uncontained disc failure and damage to the airplane.

DATES: This AD becomes effective November 20, 2009.

ADDRESSES: You can get the service information identified in this AD from Rolls-Royce plc, P.O. Box 31, Derby, DE24 8BJ, UK, telephone 44 (0) 1332 242424; fax 44 (0) 1332 249936.

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: The FAA proposed to amend 14 CFR part 39 by superseding AD 2003-15-06, Amendment 39-13249 (68 FR 44610, July 30, 2003), with a proposed AD. The proposed AD applies to Rolls-Royce plc RB211 Trent 875-17, Trent 877-17, Trent 884-17, Trent 892-17, Trent 892B-17, and Trent 895-17 turbofan engines with HP compressor rotor rear stage 5 and 6 discs and cone shafts, P/Ns FK25230 and FK27899 installed. We published the proposed AD in the Federal Register on April 27, 2009 (74 FR 19025). That action proposed to require changing the life calculating method to use "Standard Duty Cycles" with "Multiple Flight Profile Monitoring" and "Flight Cycles" with "Heavy Flight Profile Monitoring", and reducing the lives of the affected parts to 5,000 "Standard Duty Cycles" or "5,000 Flight cycles", respectively.

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.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

One commenter, Kenya Airways Limited, requests that in the compliance section, we insert "Rolls-Royce plc Alert Service Bulletin No. RB.211-72-AE082, Revision 7, dated June 18, 2008, pertains to the subject of this AD."

We do not agree. That information already exists in paragraph (k) of the AD. We did not change the AD.

One commenter, American Airlines, states that the FAA should include a reasonable schedule for operators to manage the replacement of parts with lives already in excess of the proposed reduced limit, to avoid unnecessary and unreasonable hardship once the final rule becomes effective.

We do not agree. We have confirmed that all U.S. operators are already operating to the reduced life limit specified in this AD. There are no U.S. operators with parts lives in excess of the reduced limit. We did not change the AD.

Conclusion

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

Costs of Compliance

We estimate that this AD will affect 94 Rolls-Royce plc RB211 Trent 875-17, Trent 877-17, Trent 884-17, Trent 892-17, Trent 892B-17, and Trent 895-17 turbofan engines installed on airplanes of U.S. registry. Removal of these HP compressor rotor rear stage 5 and 6 discs and cone shafts will not impose any additional labor costs if performed at the time of scheduled engine overhaul. The prorated life loss is about \$225,000 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$21,150,000. Our cost estimate is exclusive of possible warranty coverage.

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 have 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 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.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary at the address listed under ADDRESSES.

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 Federal Aviation Administration 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 removing Amendment 39-13249 (68 FR 44610, July 30, 2003), and by adding a new airworthiness directive, Amendment 39-16048, to read as follows:



2009-21-09 Rolls-Royce plc: Amendment 39-16048. Docket No. FAA-2009-1369; Directorate Identifier 2003-NE-03-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective November 20, 2009.

Affected ADs

(b) This AD supersedes AD 2003-15-06, Amendment 39-13249.

Applicability

(c) This AD applies to Rolls-Royce plc RB211 Trent 875-17, Trent 877-17, Trent 884-17, Trent 892-17, Trent 892B-17, and Trent 895-17 turbofan engines with high-pressure (HP) compressor rotor rear stage 5 and 6 discs and cone shafts, part numbers FK25230 and FK27899 installed. These engines are installed on, but not limited to, Boeing 777 series airplanes.

Unsafe Condition

(d) This AD results from Rolls-Royce plc reducing the lives of these parts and changing the life calculating method to use "Standard Duty Cycles" with "Multiple Flight Profile Monitoring", and "Flight Cycles" with "Heavy Flight Profile Monitoring". We are issuing this AD to prevent stage 5 and 6 disc crack initiation and propagation that might lead to uncontained disc failure and damage to the airplane.

Compliance

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

(f) For operators using "Multiple Flight Profile Monitoring" (Flight Profiles "A" through "F"), remove HP compressor rotor rear stage 5 and 6 discs and cone shafts from service at or before accumulating 5,000 "Standard Duty Cycles". Guidance on "Multiple Flight Profile Monitoring" can be found in the Aircraft Maintenance Manual, Chapter 70-01-10.

(g) For operators using "Heavy Flight Profile Monitoring", remove HP compressor rotor rear stage 5 and 6 discs and cone shafts from service at or before accumulating 5,000 "Flight Cycles". Guidance on "Heavy Flight Profile Monitoring" can be found in the Aircraft Maintenance Manual, Chapter 70-01-10.

Alternative Methods of Compliance

(h) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

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.

(j) European Aviation Safety Agency AD 2007-0004, dated January 8, 2007, also addresses the subject of this AD.

(k) Rolls-Royce plc Alert Service Bulletin No. RB.211-72-AE082, Revision 7, dated June 18, 2008, pertains to the subject of this AD. Contact Rolls-Royce plc, P.O. Box 31, Derby, DE24 8BJ, UK, telephone 44 (0) 1332 242424; fax 44 (0) 1332 249936, for a copy of this service information.

(l) Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for a copy of the Aircraft Maintenance Manual referenced in this AD.

Material Incorporated by Reference

(m) None.

Issued in Burlington, Massachusetts, on October 8, 2009.
Diane S. Romanosky,
Acting Manager, Engine and Propeller Directorate,
Aircraft Certification Service.