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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0301; Directorate Identifier 2009-NE-22-AD; Amendment 39-16457; AD 2010-20-22]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce Deutschland Ltd & Co KG (RRD) Models Tay 620-15, Tay 650-15, and Tay 651-54 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:

Following a review of operational data of the Tay 651-54 engine, it has been found that the actual stress levels in the Tay 651-54 engine High Pressure Compressor (HPC) stages 1, 3, 6, 7 and 12 discs were higher than those originally assumed and therefore the approved lives needed to be reduced.

We are issuing this AD to prevent HPC stages 1, 3, 6, 7, and 12 discs from exceeding the approved reduced life limits, which could result in an uncontained failure of a disc and damage to the airplane.

DATES: This AD becomes effective November 9, 2010. The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of November 9, 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: Tara Chaidez, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park,

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 March 25, 2010 (75 FR 14379). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states that:

Following a review of operational data of the Tay 651-54 engine, it has been found that the actual stress levels in the Tay 651-54 engine High Pressure Compressor (HPC) stages 1, 3, 6, 7 and 12 discs were higher than those originally assumed and therefore the approved lives needed to be reduced.

As Tay 651-54 service run HPC discs may be installed on Tay 620-15 and Tay 650-15 engine models, it is necessary to reduce the maximum approved lives of the affected HPC disc serial numbers installed on Tay 620-15 and Tay 650-15 engines as well.

The approved lives of the affected HPC stages 1, 3, 6, 7 and 12 discs specified in this Airworthiness Directive supersede the approved lives given in the Time Limits Manuals, Chapter 05-10-01.

Exceeding of the approved life limits could potentially result in non-contained disc failure.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

Conclusion

We reviewed the available data 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 would affect about 10 products of U.S. registry. We also estimate that it would take about 1 work-hours per product to comply with this AD. The average labor rate is \$85 per work-hour. Required parts would cost about \$100,000 per product. Based on these figures, we estimate the cost of the AD on U.S. operators to be \$1,000,850.

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 (phone (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:



2010-20-22 Rolls-Royce Deutschland Ltd & Co KG (Formerly Rolls-Royce plc): Amendment 39-16457. Docket No. FAA-2010-0301; Directorate Identifier 2009-NE-22-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective November 9, 2010.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Rolls-Royce Deutschland Ltd & Co KG (RRD) models Tay 620-15, Tay 650-15, and Tay 651-54 turbofan engines. These engines are installed on, but not limited to, Fokker F28 Mark 0070 and Mark 0100 airplanes and Boeing 727 series airplanes.

Reason

(d) Following a review of operational data of the Tay 651-54 engine, it has been found that the actual stress levels in the Tay 651-54 engine High Pressure Compressor (HPC) stages 1, 3, 6, 7 and 12 discs were higher than those originally assumed and therefore the approved lives needed to be reduced.

We are issuing this AD to prevent HPC stages 1, 3, 6, 7, and 12 discs from exceeding the approved reduced life limits, which could result in an uncontained failure of a disc and damage to the airplane.

Actions and Compliance

(e) Unless already done, within 30 days after the effective date of this AD, amend the approved Airworthiness Limitation Section to incorporate the new, reduced life limits as follows:

For Tay 651-54 Engines

(1) The maximum approved lives (MAL) of the High Pressure Compressor (HPC) rotor discs are reduced to the MALs specified in the following Table 1 of this AD:

Table 1. Tay 651-54 Engine Reduced Disc MAL by Part Number

For	Part Number	the MAL is
(i) HPC Stage 1 Disc	JR18049	18,800 cycles
(ii) HPC Stage 3 Disc	JR18743	18,100 cycles
(iii) HPC Stage 6 Disc	JR18748	19,300 cycles

(iv) HPC Stage 7 Disc	JR17365	17,300 cycles
(v) HPC Stage 12 Disc	JR31928	18,900 cycles

For Tay 620-15 and Tay 650-15 Engines

(2) The MAL of certain HPC rotor discs are reduced. The affected disc serial numbers and the reduced MAL are defined in Rolls-Royce Deutschland Ltd & Co KG Alert Non-Modification Service Bulletin TAY-72-A1740, dated February 11, 2009.

(3) Thereafter, except as provided in paragraph (f) of this AD, no alternative replacement times may be approved for these parts.

Other FAA AD Provisions

(f) 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

(g) Refer to mandatory continuing airworthiness information European Aviation Safety Agency Airworthiness Directive 2009-0092, dated April 17, 2009, for related information.

(h) Contact Tara Chaidez, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: tara.chaidez@faa.gov; telephone (781) 238-7773; fax (781) 238-7199, for more information about this AD.

Material Incorporated by Reference

(i) You must use Rolls-Royce Deutschland Ltd & Co KG Alert Non-Modification Service Bulletin TAY-72-A1740, dated February 11, 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 Deutschland Ltd & Co KG; Eschenweg 11, D-15827 Blankenfelde-Mahlow, Germany; telephone +49 (0) 33 7086 1768; fax +49 (0) 33 7086 3356.

(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 September 24, 2010.

Francis A. Favara,
 Manager, Engine and Propeller Directorate,
 Aircraft Certification Service.