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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0614; Directorate Identifier 2010-NE-24-AD; Amendment 39-16538; AD 2010-25-05]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce Deutschland Ltd & Co KG Models BR700-710A1-10; BR700-710A2-20; and BR700-710C4-11 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:

Due to manufacturing problems of BR700-710 HP stage 1 and 2 turbine discs it was necessary to re-calculate the Declared Safe Cyclic Life (DSCL) for all BR700-710 HP turbine discs. The analysis concluded that it is required to reduce the approved life limits for the HP turbine disc part numbers that are listed in Table 1 and Table 2 of this AD (MCAI). Exceeding the revised approved life limits could potentially result in non-contained disc failure.

We are issuing this AD to prevent-failure of the high-pressure turbine (HPT) stage 1 and stage 2 discs, uncontained engine failure, and damage to the airplane.

DATES: This AD becomes effective January 13, 2011.

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: Mark Riley, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: mark.riley@faa.gov; telephone (781) 238-7758; 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 August 23, 2010 (75 FR 51693). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states that:

Due to manufacturing problems of BR700-710 HP stage 1 and 2 turbine discs it was necessary to re-calculate the Declared Safe Cyclic Life (DSCL) for all BR700-710 HP turbine discs. The analysis concluded that it is required to reduce the approved life limits for the HP turbine disc part numbers that are listed in Table 1 and Table 2 of this AD (MCAI). Exceeding the revised 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 will affect about 1,026 BR700-710 engines of U.S. registry. We also estimate that no additional labor cost will be incurred to replace the discs. The average labor rate is \$85 per work-hour. Required parts will cost about \$6,000 per disc. Based on these figures, we estimate the cost of the AD on U.S. operators to be \$6,156,000. 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 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, 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:



2010-25-05 Rolls-Royce Deutschland Ltd & Co KG (formerly Rolls-Royce Deutschland GmbH, formerly BMW Rolls-Royce GmbH): Amendment 39-16538. Docket No. FAA-2010-0614; Directorate Identifier 2010-NE-24-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective January 13, 2011.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Rolls-Royce Deutschland Ltd & Co KG models BR700-710A1-10, BR700-710A2-20, and BR700-710C4-11 turbofan engines with any of the high-pressure turbine (HPT) stage 1 and stage 2 discs installed as listed by part number (P/N) in Table 1 and Table 2 of this AD. These engines are installed on, but not limited to, Gulfstream model G-V and GV-SP airplanes, and Bombardier model BD-700-1A10 and BD-700-1A11 airplanes.

Table 1—Declared Safe Cyclic Life of Affected HPT Stage 1 Discs

HPT stage 1 disc P/N	Engine model	Declared safe cyclic life (flight cycles)
BRR21215	BR700-710A1-10	6,075
BRR21215	BR700-710A2-20	5,950
BRR22005	BR700-710A1-10	6,200
BRR22005	BR700-710A2-20	6,200
BRR22006	BR700-710A1-10	6,200
BRR22006	BR700-710A2-20	6,200
BRR22007	BR700-710A1-10	6,200
BRR22007	BR700-710A2-20	6,200
BRR22358	BR700-710A1-10	6,200
BRR22358	BR700-710A2-20	6,200
BRR23864	BR700-710A1-10	6,200
BRR23864	BR700-710A2-20	6,200

BRR23884	BR700-710A1-10	6,200
BRR23884	BR700-710A2-20	6,200
BRR23885	BR700-710A1-10	6,200
BRR23885	BR700-710A2-20	6,200
BRR23952	BR700-710A1-10	6,200
BRR23952	BR700-710A2-20	6,200
BRR23952	BR700-710C4-11 (Service Bulletin (SB) No. SB-BR700-72-101466 not incorporated).	6,200
BRR23952	BR700-710C4-11 (SB No. SB-BR700-72-101466 incorporated)	3,800
BRR23953	BR700-710A1-10	6,200
BRR23953	BR700-710A2-20	6,200
BRR23953	BR700-710C4-11 (SB No. SB-BR700-72-101466 not incorporated)	6,200
BRR23953	BR700-710C4-11 (SB No. SB-BR700-72-101466 incorporated)	3,800
BRR23954	BR700-710A1-10	6,200
BRR23954	BR700-710A2-20	6,200

Table 2–Declared Safe Cyclic Life of Affected HPT Stage 2 Discs

HPT stage 2 disc P/N	Engine model	Declared safe cyclic life (flight cycles)
BRR18291	BR700-710A1-10	9,300
BRR21214	BR700-710A1-10	9,600
BRR21214	BR700-710A2-20	9,600
BRR22008	BR700-710A1-10	10,500
BRR22008	BR700-710A2-20	10,500
BRR22008	BR700-710C4-11 (SB No. SB-BR700-72-101466 not incorporated)	10,500
BRR22008	BR700-710C4-11 (SB No. SB-BR700-72-101466 incorporated)	3,700
BRR22009	BR700-710A1-10	10,500
BRR22009	BR700-710A2-20	10,500
BRR22009	BR700-710C4-11 (SB No. SB-BR700-72-101466 not incorporated)	10,500
BRR22009	BR700-710C4-11 (SB No. SB-BR700-72-101466 incorporated)	3,700

BRR22010	BR700-710A1-10	10,500
BRR22010	BR700-710A2-20	10,500
BRR22359	BR700-710A1-10	10,500
BRR22359	BR700-710A2-20	10,500

Reason

(d) 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 states:

Due to manufacturing problems of BR700-710 HP stage 1 and 2 turbine discs it was necessary to re-calculate the Declared Safe Cyclic Life (DSCL) for all BR700-710 HP turbine discs. The analysis concluded that it is required to reduce the approved life limits for the HP turbine disc part numbers that are listed in Table 1 and Table 2 of this AD (MCAI). Exceeding the revised approved life limits could potentially result in non-contained disc failure.

We are issuing this AD to prevent failure of the HPT stage 1 and stage 2 discs, uncontained engine failure, and damage to the airplane.

Actions and Compliance

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

(1) Within 30 days after the effective date of this AD, or upon accumulating the declared safe cyclic life indicated in Table 1 or Table 2 of this AD as applicable, whichever occurs later, initially replace the HPT stage 1 or HPT stage 2 discs with serviceable discs.

(2) Thereafter, upon accumulating the declared safe cyclic life indicated in Table 1 or Table 2 of this AD, as applicable, repetitively replace the HPT stage 1 or HPT stage 2 discs with serviceable discs.

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 European Aviation Safety Agency AD 2010-0075, dated April 20, 2010, and AD 2010-0076, dated April 20, 2010, for related information.

(i) Refer to Rolls-Royce Deutschland Ltd & Co KG SB No. SB-BR700-72-A900492, dated February 12, 2010, and SB No. SB-BR700-72-A900497, dated February 12, 2010, for related information. Contact Rolls-Royce Deutschland Ltd & Co KG, Eschenweg 11, Dahlewitz, 15827 Blankenfelde-Mahlow, Germany, telephone: +49 (0) 33-7086-1883, fax: +49 (0) 33-7086-3276, for a copy of this service information.

(j) Contact Mark Riley, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: mark.riley@faa.gov; telephone (781) 238-7758; fax (781) 238-7199, for more information about this AD.

Issued in Burlington, Massachusetts, on November 30, 2010.
Peter A. White,
Assistant Manager, Engine and Propeller Directorate,
Aircraft Certification Service.