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[Page 61229-61232]
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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2000-NE-48-AD; Amendment 39-14343; AD 2005-21-05]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce Deutschland Ltd & Co KG (Formerly Rolls-Royce Deutschland GmbH, formerly BMW Rolls-Royce GmbH) Models BR700-710A1-10 and BR700-710A2-20 Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding an existing airworthiness directive (AD) for Rolls-Royce Deutschland Ltd & Co KG (RRD) (formerly Rolls-Royce Deutschland GmbH, formerly BMW Rolls-Royce GmbH) models BR700-710A1-10 and BR700-710A2-20 turbofan engines. That AD currently requires initial and repetitive visual and ultrasonic inspections of fan discs, part numbers (P/Ns) BRR18803, BRR19248, and BRR20791 for cracks, and if necessary, replacement with serviceable parts. This ad requires those same inspections for discs having old design P/N fan blades installed, and, extends the inspection interval for fan discs having new design P/N fan blades installed. Also, this AD adds as optional terminating action to the inspections, installation of certain P/N new fan discs, certain P/N new fan blades, and engine fan speed (N1) Keep Out Zone software. This AD results from a revised RRD service bulletin (SB) that introduces relaxed inspection intervals for certain P/N combinations of fan discs and fan blades, and introduces improved design fan discs and fan blades.

DATES: This AD becomes effective November 25, 2005. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of November 25, 2005. The Director of the Federal Register previously approved the incorporation by reference of certain other publications as listed in the regulations as of April 28, 2003 (68 FR 17727, April 11, 2003).

ADDRESSES: Contact Rolls-Royce Deutschland Ltd & Co KG, Eschenweg 11, 15827 Blankenfelde-Mahlow, Germany, telephone: 011 49 (0) 33-7086-1768, fax: 011 49 (0) 33-7086-3356, for the service information identified in this AD.

You may examine the AD docket at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA. You may examine the service information, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

FOR FURTHER INFORMATION CONTACT: Jason Yang, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone: (781) 238-7747, fax: (781) 238-7199.

SUPPLEMENTARY INFORMATION: The FAA proposed to amend 14 CFR part 39 with a proposed AD. The proposed AD applies to Rolls-Royce Deutschland Ltd & Co KG (RRD) (formerly Rolls-Royce Deutschland GmbH, formerly BMW Rolls-Royce GmbH) models BR700-710A1-10 and BR700-710A2-20 turbofan engines. We published the proposed AD in the Federal Register on July 5, 2005 (70 FR 38627). That action proposed to require initial and repetitive inspections for cracks in fan discs P/Ns BRR18803, BRR19248, BRR20791, BRR24829, and FW33929. That action also proposed as optional terminating action to the repetitive inspection requirements, installation of a new fan disc P/N FW33927, new fan blades P/N FW33513 or P/N FW33980, and N1 Keep Out Zone software.

Examining the AD Docket

You may examine the AD Docket (including any comments and service information), by appointment, between 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. See ADDRESSES for the location.

Comments

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

Request To Cancel Inspections

One commenter, RRD, requests we cancel the inspections in paragraphs (f)(1), (g)(1), (f)(3), and (g)(3), as these inspections have been conducted on all hardware in service, and are no longer needed. We disagree. Mandatory actions that published in the superseded AD need to be carried forward in the superseding AD. The operator can then determine if the affected engine is in compliance with all mandatory actions.

Add Applicable Fan Blade Part Numbers to Paragraph (h)

The same commenter requests that we add the applicable fan blade part numbers in paragraph (h), for clarity, as we did in paragraph (g). We agree and have added fan blades P/N BRR20677 and BRR23178 to paragraph (h).

Request To Cover Engines That Had a New Disc Installed on, or After, January 1, 2002

The same commenter requests that we cover engines that had a new production fan disc installed on or after January 1, 2002, in a new paragraph in the compliance section. The commenter states that these fan discs already had a visual and ultrasonic inspection before delivery and installation, and only require initial inspection at 150 flight cycles-since-new. These engines are not appropriately

covered by the proposed AD. We agree and have added a paragraph to the compliance section to cover these engines.

Request To Directly Identify Requirements

The same commenter requests that we clarify paragraphs (i) and (j) by directly identifying the requirements, instead of referring to other paragraphs. We agree and have changed paragraphs (i) and (j) to identify the requirements.

Request To Change Repetitive Inspection Interval

The same commenter requests that in paragraphs (k)(1) and (k)(2), we change the inspection interval time requirement from flight hours, to A-Check. The commenter states that the proposed AD does not reflect the requirements of RRD SB No. SB-BR700-72-900229, Revision 6, dated February 23, 2005. The visual and ultrasonic inspections were always aligned with the scheduled airplane maintenance A-Check. The commenter further states that the A-Check occurs every 500-to-550 flight hours. We partially agree. We consider the A-Check to occur at an indefinite interval that can vary from operator to operator. However, in this case, we have changed the compliance in paragraph (k)(1) to perform a visual and ultrasonic inspection before accumulating 550 flight hours-since-new. We also changed paragraph (k)(2) to perform a visual and ultrasonic inspection at every A-Check but not to exceed 550 hours-since-the last visual and ultrasonic inspection.

Request To Remove Inspection Requirements From the AD and Reference the Time Limits Manual

The same commenter requests that we remove the inspection requirements from paragraph (l) of the proposed AD, which is for engines with fan disc P/N BRR20791, BRR24829, or FW33929 installed, and fan blades P/N FW33513, FW33980, FW33925, FW34114, or FW34776 installed. The commenter requests that we refer to the applicable RRD Time Limits Manual that mandates the inspections for these fan disc-and-blade-engine configurations. We agree and have changed that paragraph in the AD.

Request To Clarify the Optional Terminating Action

The same commenter requests that in the optional terminating action paragraph, we change the phrase "is optional terminating action to the repetitive inspections required by this AD" to "is optional terminating action to any inspection required by this AD". The commenter states that once the parts and the Keep Out Zone software referenced in the optional terminating action paragraph are installed, none of the inspections in the AD are required. We agree and have made that change in the AD.

Request To Reference the Latest Service Bulletin

The same commenter requests that we reference the latest service bulletin in the Inspection Reporting Requirements paragraph, which is RRD SB No. SB-BR700-72-900229, Revision 6, dated February 23, 2005. We agree and have made that change in 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 with the changes described previously.

We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Costs of Compliance

There are about 500 RRD models BR700-710A1-10 and BR700-710A2-20 turbofan engines of the affected design in the worldwide fleet. We estimate that 400 engines installed on airplanes of U.S. registry are affected by this AD. We also estimate that it will take about 7 work hours per engine to perform the inspections, and that the average labor rate is \$65 per work hour. We estimate the total labor cost for performing one inspection of the U.S. fleet to be \$182,000. New design fan discs and fan blades will cost about \$150,000 per engine. Based on these figures, the total cost of the AD on U.S. operators is estimated to be \$60,182,000. The manufacturer has stated that it may provide the new fan disc and new fan blades at no cost to operators.

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 by sending a request to us at the address listed under ADDRESSES. Include "AD Docket No. 2000-NE-48-AD" in your request.

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 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 39-13107 (68 FR 17727, April 11, 2003) and by adding a new airworthiness directive, Amendment 39-14343, to read as follows:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at www.faa.gov/aircraft/safety/alerts/

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2005-21-05 Rolls-Royce Deutschland Ltd & Co KG (formerly Rolls-Royce Deutschland GmbH, formerly BMW Rolls-Royce GmbH): Amendment 39-14343. Docket No. 2000-NE-48-AD.

Effective Date

- (a) This AD becomes effective November 25, 2005.

Affected ADs

- (b) This AD supersedes AD 2003-07-11, Amendment 39-13107.

Applicability

(c) This AD applies to Rolls-Royce Deutschland Ltd & Co KG (RRD) (formerly Rolls-Royce Deutschland GmbH, formerly BMW Rolls-Royce GmbH) models BR700-710A1-10 and BR700-710A2-20 turbofan engines. These engines are installed on, but not limited to, Bombardier Inc. BD-700-1A10, BD-700-1A11, and Gulfstream Aerospace Corp. G-V series airplanes.

Unsafe Condition

(d) This AD results from a revised RRD service bulletin (SB) that introduces relaxed inspection intervals for certain P/N combinations of fan discs and fan blades, and introduces improved design fan discs and fan blades. The actions specified in this AD are intended to detect and prevent cracks in the fan disc that could result in an uncontained engine 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.

Initial Inspection

Engines With Fan Disc P/N BRR18803 or BRR19248 Installed and Fan Blades P/N BRR20677 or BRR23178 Installed

(f) For engines with fan disc P/N BRR18803 or BRR19248 installed, and fan blades P/N BRR20677 or BRR23178 installed, do the following:

(1) If the last fan disc inspection was a visual inspection performed using RRD SB No. SB-BR700-72-900229, Revision 3, dated July 12, 2001; Revision 4, dated December 20, 2001; Revision 5, dated January 8, 2003; or Revision 6, dated February 23, 2005, visually or ultrasonically inspect

fan disc within 25 flight cycles-since-last inspection (CSLI). Use paragraphs A. through F. of the applicable Part 1 or Part 2 of the Accomplishment Instructions of RRD SB No. SB-BR700-72-900229, Revision 6, dated February 23, 2005 to do the inspection.

(2) If the last fan disc inspection was an ultrasonic inspection performed using RRD SB No. SB-BR700-72-900229, Revision 3, dated July 12, 2001; Revision 4, dated December 20, 2001; Revision 5, dated January 8, 2003; or Revision 6, dated February 23, 2005, visually or ultrasonically inspect fan disc within 75 CSLI. Use paragraphs A. through F. of the applicable Part 1 or Part 2 of the Accomplishment Instructions of RRD SB No. SB-BR700-72-900229, Revision 6, dated February 23, 2005 to do the inspection.

(3) For engines that have not yet been inspected, visually or ultrasonically inspect fan disc within 25 flight cycles after the effective date of this AD. Use paragraphs A. through F. of the applicable Part 1 or Part 2 of the Accomplishment Instructions of RRD SB No. SB-BR700-72-900229, Revision 6, dated February 23, 2005 to do the inspection.

(4) If any cracks are found, remove the disc from service and replace with a serviceable disc.

Engines With Fan Disc P/N BRR20791 Installed, and Fan Blades P/N BRR20677 or BRR23178 Installed

(g) For BR700-710A1-10 engines with serial numbers (SNs) 11452 and lower, and BR700-710A2-20 engines with SNs 12352 and lower, with fan disc P/N BRR20791 installed, and fan blades P/N BRR20677 or BRR23178 installed, do the following:

(1) If the last fan disc inspection was a visual inspection performed using RRD SB No. SB-BR700-72-900229, Revision 3, dated July 12, 2001; Revision 4, dated December 20, 2001; Revision 5, dated January 8, 2003; or Revision 6, dated February 23, 2005, visually or ultrasonically inspect fan disc within 25 CSLI. Use paragraphs A. through F. of the applicable Part 1 or Part 2 of the Accomplishment Instructions of RRD SB No. SB-BR700-72-900229, Revision 6, dated February 23, 2005 to do the inspection.

(2) If the last fan disc inspection was an ultrasonic inspection performed using RRD SB No. SB-BR700-72-900229, Revision 3, dated July 12, 2001; Revision 4, dated December 20, 2001; Revision 5, dated January 8, 2003; or Revision 6, dated February 23, 2005, visually or ultrasonically inspect fan disc within 150 CSLI. Use paragraphs A. through F. of the applicable Part 1 or Part 2 of the Accomplishment Instructions of RRD SB No. SB-BR700-72-900229, Revision 6, dated February 23, 2005 to do the inspection.

(3) For engines that have not yet been inspected, visually or ultrasonically inspect fan disc within 25 flight cycles after the effective date of this AD. Use paragraphs A. through F. of the applicable Part 1 or Part 2 of the Accomplishment Instructions of RRD SB No. SB-BR700-72-900229, Revision 6, dated February 23, 2005 to do the inspection.

(4) If any cracks are found, remove the disc from service and replace with a serviceable disc.

(h) For BR700-710A1-10 engines with SNs 11453 and higher, and BR700-710A2-20 engines with SNs 12353 and higher with fan discs P/N BRR20791 installed, and fan blades P/N BRR20677 or BRR23178 installed, do the following:

(1) Visually or ultrasonically inspect fan discs within 150 flight cycles-since-new (CSN). Use paragraphs A. through F. of the applicable Part 1 or Part 2 of the Accomplishment Instructions of RRD SB No. SB-BR700-72-900229, Revision 5, dated January 8, 2003; or Revision 6, dated February 23, 2005 to do the inspection.

(2) If any cracks are found, remove the disc from service and replace with a serviceable disc.

Engines With New Production Fan Discs

(i) For engines with new production fan discs P/N BRR20791 installed on or after January 1, 2002, and fan blades P/Ns BRR20677 or BRR23178 installed, do the following:

(1) Visually or ultrasonically inspect fan discs within 150 flight CSN. Use paragraphs A. through F. of the applicable Part 1 or Part 2 of the Accomplishment Instructions of RRD SB No. SB-BR700-72-900229, Revision 5, dated January 8, 2003; or Revision 6, dated February 23, 2005 to do the inspection.

(2) If any cracks are found, remove the disc from service and replace with a serviceable disc.

Repetitive Inspections

Engines With Fan Disc P/N BRR18803 or BRR19248 Installed, and Fan Blades P/N BRR20677 or BRR23178 Installed

(j) For engines with fan disc P/N BRR18803 or BRR19248 installed, and fan blades P/N BRR20677 or BRR23178 installed, do the following:

(1) Perform repetitive visual or ultrasonic inspections within every 75 CSLI. Use paragraphs A. through F. of the applicable Part 1 or Part 2 of the Accomplishment Instructions of RRD SB No. SB-BR700-72-900229, Revision 5, dated January 8, 2003; or Revision 6, dated February 23, 2005 to do the inspection.

(2) Perform a visual and ultrasonic inspection before accumulating 550 flight hours-since-new. Use paragraphs A. through F. of the applicable Part 1 or Part 2 of the Accomplishment Instructions of RRD SB No. SB-BR700-72-900229, Revision 5, dated January 8, 2003, or Revision 6, dated February 23, 2005 to do the inspection.

(3) Thereafter, perform a visual and an ultrasonic inspection at every A-Check but not to exceed 550 flight hours-since-the last visual and ultrasonic inspection.

Engines With Fan Disc P/N BRR20791 Installed, and Fan Blades P/N BRR20677 or BRR23178 Installed

(k) For engines with fan disc P/N BRR20791 installed, and fan blades P/N BRR20677 or BRR23178 installed, do the following:

(1) Perform repetitive visual or ultrasonic inspections within every 150 CSLI. Use paragraphs A. through F. of the applicable Part 1 or Part 2 of the Accomplishment Instructions of RRD SB No. SB-BR700-72-900229, Revision 5, dated January 8, 2003; or Revision 6, dated February 23, 2005 to do the inspection.

(2) Perform a visual and ultrasonic inspection before accumulating 550 flight hours-since-new. Use paragraphs A. through F. of the applicable Part 1 or Part 2 of the Accomplishment Instructions of RRD SB No. SB-BR700-72-900229, Revision 5, dated January 8, 2003, or Revision 6, dated February 23, 2005 to do the inspection.

(3) Thereafter, perform a visual and an ultrasonic inspection at every A-Check but not to exceed 550 flight hours-since-the last visual and ultrasonic inspection.

Engines With Fan Disc P/N BRR20791, BRR24829, or FW33929 Installed, and Fan Blades P/N FW33513, FW33980, FW33925, FW34114, or FW34776 Installed

(l) For engines with fan disc P/N BRR20791, BRR24829, or FW33929 installed, and fan blades P/N FW33513, FW33980, FW33925, FW34114, or FW34776 installed, initial and repetitive inspections are mandated in RRD Time Limits Manual T-710-1BR, Chapter 05-10-01 (BR700-710A1-10), and RRD Time Limits Manual T-710-2BR, Chapter 05-10-01 (BR700-710A2-20).

Optional Terminating Action

(m) Installation of a new fan disc P/N FW33927, new fan blades, P/N FW33513, or P/N FW33980, and N1 Keep Out Zone software with EEC P/Ns 1501KDC02-010, or 1501KDC03-010, or 1501KDC05-010, or 1520KDC05-010, or 1520KDC05R-010, or 1520KDC07-010, or 1520KDC08-010, is optional terminating action to any inspection required by this AD.

Inspection Reporting Requirements

(n) Report defects in accordance with the applicable Part 1 or Part 2 of RRD SB No. SB-BR700-72-900229, Revision 5, dated January 8, 2003; or Revision 6, dated February 23, 2005. Reporting requirements have been approved by the Office of Management and Budget (OMB) and assigned OMB control number 2120-0056.

Alternative Methods of Compliance

(o) 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

(p) LBA airworthiness directive 2000-348, Revision 6, dated March 31, 2005, also addresses the subject of this AD.

Material Incorporated by Reference

(q) You must use Rolls-Royce Deutschland Ltd & Co KG Service Bulletin No. SB-BR700-72-900229, Revision 5, dated January 8, 2003; or Revision 6, dated February 23, 2005, to perform the actions required by this AD. The Director of the Federal Register approved the incorporation by reference of Revision 6 of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. The Director of the Federal Register approved the incorporation by reference of Revision 5 of this service bulletin as of April 28, 2003 (68 FR 17727, April 11, 2003). Contact Rolls-Royce Deutschland Ltd & Co KG, Eschenweg 11, 15827 Blankenfelde-Mahlow, Germany, telephone: 011 (0) 33-7086-1768, fax: 011 49 (0) 33-7086-3356, for a copy of the service information. You can review copies at the FAA, New England Region, Office of the Regional Counsel, 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 October 11, 2005.

Ann C. Mollica,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 05-20780 Filed 10-20-05; 8:45 am]

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