

# Rules and Regulations

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. 2000-NE-48-AD; Amendment 39-13107; AD 2003-07-11]

RIN 2120-AA64

#### Airworthiness Directives; Rolls-Royce Deutschland Ltd & Co KG Models BR700-710A1-10 and BR700-710A2-20 Turbofan Engines

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule; request for comments.

**SUMMARY:** This amendment supersedes an existing airworthiness directive (AD), that is applicable to Rolls-Royce Deutschland Ltd & Co KG (RRD) (formerly Rolls-Royce Deutschland GmbH, formerly BMW Rolls-Royce GmbH) models BR700-710A1-10 turbofan engines with fan disc part numbers (P/Ns) BRR18803, BRR19248, or BRR20791 installed, and BR700-710A2-20 turbofan engines with fan discs P/Ns BRR19248 or BRR20791 installed. That AD currently requires initial and repetitive inspections of these fan discs for cracks, and if necessary replacement with serviceable parts. This amendment requires the same inspections but with longer intervals between repetitive inspections under certain conditions, and requires removal of any dry film lubricant coating from the front face of the fan disc for visual inspections. This amendment is prompted by reevaluation by RRD of results from a fleet-wide inspection campaign, reevaluation of existing repetitive inspection interval requirements, and by a revised service bulletin (SB) that introduces improved inspection procedures. The actions specified by this AD are intended to

detect cracks in the fan disc, that could result in an uncontained engine failure and damage to the airplane.

**DATES:** Effective April 28, 2003. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of April 28, 2003.

Comments for inclusion in the Rules Docket must be received on or before June 10, 2003.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 2000-NE-48-AD, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may be inspected at this location, by appointment, between 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. Comments may also be sent via the Internet using the following address: *9-ane-adcomment@faa.gov*. Comments sent via the Internet must contain the docket number in the subject line.

The service information referenced in this AD may be obtained from Rolls-Royce Deutschland Ltd & Co KG, Eschenweg 11, D-15827 DAHLEWITZ, Germany, telephone: International Access Code 011, Country Code 49, 33 7086-2935, fax: International Access Code 011, Country Code 49, 33 7086-3276. This information may be examined, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** James Lawrence, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone: 781-238-7176, fax: 781-238-7199.

**SUPPLEMENTARY INFORMATION:** On March 1, 2001, the FAA issued AD 2001-05-06, Amendment 39-12142 (66 FR 14826, March 14, 2001), to require initial and repetitive inspections of fan discs for cracks, and if necessary replacement with serviceable parts. The Luftfahrt-Bundesamt (LBA), which is the airworthiness authority for Germany, notified the FAA that an unsafe condition may exist on Rolls-Royce Deutschland Ltd & Co KG models

BR700-710A1-10 turbofan engines with fan disc P/Ns BRR18803, BRR19248, or BRR20791 installed, and BR700-710A2-20 turbofan engines with fan discs P/Ns BRR19248 or BRR20791 installed. The LBA received several reports of cracks in fan discs, in the dovetail area. RRD determined that these cracks were caused by high-cycle fatigue, and that time predictions and cycle predictions for crack initiation could not be accurately determined. Investigation by RRD has been ongoing. That condition, if not corrected, could result in an uncontained engine failure and damage to the airplane.

Since that AD was issued, RRD has reevaluated results from a fleet-wide inspection campaign, has reevaluated the existing repetitive inspection interval requirements, and has issued SB No. SB-BR700-72-900229, Revision 5, dated January 8, 2003.

#### Manufacturer's Service Information

RRD has issued SB No. SB-BR700-72-900229, Revision 5, dated January 8, 2003, that specifies procedures for removing any dry film lubricant coating from the front face of the fan disc to improve visual inspections, and initial and repetitive inspections for cracks in fan discs. The LBA classified this service bulletin as mandatory and issued AD 2000-348, Revision 5, dated March 6, 2003, in order to ensure the airworthiness of these RRD models BR700-710A1-10 turbofan engines and BR700-710A2-20 turbofan engines in Germany.

#### Differences Between This AD and the Manufacturer's Service Information

Although the visual inspection requirements of RRD SB No. SB-BR700-72-900229, Revision 5, dated January 8, 2003, do not specifically define the pass or fail criteria for fan discs, this AD specifically instructs the rejection of fan discs that have visual cracks. FAA communication with RRD has confirmed that the intent of the service bulletin is to require the owner or operator to default to appropriate maintenance manuals for pass or fail criteria. A subsequent review of the maintenance manuals by the FAA has confirmed that no cracks are allowed in the fan discs.

#### Bilateral Airworthiness Agreement

This engine model is manufactured in Germany and is type certificated for