

# Proposed Rules

Federal Register

Vol. 76, No. 10

Friday, January 14, 2011

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2010-0821; Directorate Identifier 2010-NE-30-AD]

RIN 2120-AA64

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

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for the products listed above. This proposed 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:

In January 2009 a Trent 895 powered Boeing 777-200 aircraft experienced release of a low pressure (LP) compressor blade which failed due to fatigue cracking in the root section of the blade. The released blade (undercut root standard) had received a part life processing to apply a compression layer to the blade root (Service Bulletin SB 72-D672—Introduction of Laser Shock Peening (LSP)) and also a part life upgrade to the retention feature lubrication system. Investigation has revealed that the effectiveness of this upgraded blade root lubrication coating system may be reduced dependant on the extent of previous running with the earlier standard, leading to increased blade root stress levels. In the specific case of the released blade, a review of its in-service modification history has shown that it operated for a relatively high number of flight cycles prior to the compression layer processing and the new retention feature lubrication system. A review of the Engine Health Monitoring data has also identified it operated at high N1 speeds compared to the Trent 800 fleet average N1 speeds. The combination of these factors has resulted in increased fatigue life

usage which is considered to have led to crack initiation and propagation prior to reaching the blades declared life limit. A review of all in-service undercut/LSP standard Trent 800 LP compressor blades has identified specific blades that carry a similar increased susceptibility to cracking.

This AD is issued to mitigate the risk of possible multiple fan blades failure affecting those blades identified as described above which could lead to high energy non contained debris from the engine.

We are proposing this AD to prevent LP compressor blades from failing due to blade root cracks, which could lead to uncontained engine failure and damage to the airplane.

**DATES:** We must receive comments on this proposed AD by February 28, 2011.

**ADDRESSES:** You may send comments by any of the following methods:

- *Federal eRulemaking Portal:* Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- *Mail:* Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.
- *Hand Delivery:* Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Fax:* (202) 493-2251.

Contact Rolls-Royce plc, P.O. Box 31, DERBY, DE24 8BJ, UK; telephone 44 (0) 1332 242424; fax 44 (0) 1332 249936, for the service information identified in this proposed AD.

#### 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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (phone (800) 647-5527) is the same as the Mail address provided in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

#### FOR FURTHER INFORMATION CONTACT:

Alan Strom, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803;

*e-mail:* [alan.strom@faa.gov](mailto:alan.strom@faa.gov); telephone (781) 238-7143; fax (781) 238-7199.

#### SUPPLEMENTARY INFORMATION:

#### Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the **ADDRESSES** section. Include "Docket No. FAA-2010-0821; Directorate Identifier 2010-NE-30-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this proposed AD. Using the search function of the Web site, anyone can find and read the comments in any of our dockets, including, if provided, the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477-78).

#### Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA Airworthiness Directive 2010-0097, dated May 26, 2010 (referred to after this as "the MCAI"), to correct an unsafe condition for the specified products. The MCAI states:

In January 2009 a Trent 895 powered Boeing 777-200 aircraft experienced release of a low pressure (LP) compressor blade which failed due to fatigue cracking in the root section of the blade. The released blade (undercut root standard) had received a part life processing to apply a compression layer to the blade root (Service Bulletin SB 72-D672—Introduction of Laser Shock Peening (LSP)) and also a part life upgrade to the retention feature lubrication system. Investigation has revealed that the effectiveness of this upgraded blade root lubrication coating system may be reduced dependant on the extent of previous running with the earlier standard, leading to

increased blade root stress levels. In the specific case of the released blade, a review of its in-service modification history has shown that it operated for a relatively high number of flight cycles prior to the compression layer processing and the new retention feature lubrication system. A review of the Engine Health Monitoring data has also identified it operated at high N1 speeds compared to the Trent 800 fleet average N1 speeds. The combination of these factors has resulted in increased fatigue life usage which is considered to have led to crack initiation and propagation prior to reaching the blades declared life limit. A review of all in-service undercut/LSP standard Trent 800 LP compressor blades has identified specific blades that carry a similar increased susceptibility to cracking.

This AD is issued to mitigate the risk of possible multiple fan blades failure affecting those blades identified as described above which could lead to high energy non contained debris from the engine.

You may obtain further information by examining the MCAI in the AD docket.

**Relevant Service Information**

Rolls-Royce plc has issued Alert Service Bulletin No. RB.211-72-AG244, Revision 1, dated January 26, 2010. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

**FAA's Determination and Requirements of This Proposed AD**

This product has been approved by the aviation authority of the United Kingdom, and is approved for operation in the United States. Pursuant to our bilateral agreement with the United Kingdom, they have notified us of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all information provided by EASA, and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design.

**Costs of Compliance**

Based on the service information, we estimate that this proposed AD would affect about 20 engines installed on airplanes of U.S. registry. We also estimate that it would take about 18 work-hours per engine to perform the inspections in one year's time. The

average labor rate is \$85 per work-hour. We estimate that one LP compressor blade per year would need replacement, at a cost of about \$82,000. Based on these figures, we estimate the annual cost of the proposed AD on U.S. operators to be \$112,600. 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 proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 proposed regulation:*

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 proposed AD and placed it in the AD docket.

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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:

**Rolls-Royce plc:** Docket No. FAA-2010-0821; Directorate Identifier 2010-NE-30-AD.

**Comments Due Date**

(a) We must receive comments by February 28, 2011.

**Affected Airworthiness Directives (ADs)**

(b) None.

**Applicability**

(c) This AD applies to Rolls-Royce plc (RR) RB211-Trent 875-17, RB211-Trent 877-17, RB211-Trent 884-17, RB211-Trent 884B-17, RB211-Trent 892-17, RB211-Trent 892B-17, and RB211-Trent 895-17 turbofan engines.

**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. We are issuing this AD to prevent low-pressure (LP) compressor blades from failing due to blade root cracks, which could lead to uncontained engine failure and damage to the airplane.

**Actions and Compliance**

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

(1) Using the corresponding compliance threshold in Table 1 of this AD, perform an initial ultrasonic inspection (UI) of the affected LP compressor blades identified by serial number (S/N) in Appendices 3A through 3F of RR Alert Service Bulletin (ASB) No. RB.211-72-AG244, Revision 1, dated January 26, 2010.

TABLE 1—INITIAL INSPECTION THRESHOLDS

Appendix number of RR ASB No. RB.211-72-AG244, Revision 1, that identifies affected LP compressor blades by S/N	Initial inspection threshold
3A .....	120 flight cycles after the effective date of this AD.

TABLE 1—INITIAL INSPECTION THRESHOLDS—Continued

Appendix number of RR ASB No. RB.211–72–AG244, Revision 1, that identifies affected LP compressor blades by S/N	Initial inspection threshold
3B .....	Blades shown in RR ASB No. RB.211–72–AG244, Revision 1 as fitted to engine serial number (ESN) 51039—802 flight cycles after the effective date of this AD.
3C .....	Blades shown in RR ASB No. RB.211–72–AG244, Revision 1 as fitted to ESNs 51001, 51137 and blade S/N RGG16694—1,680 flight cycles after the effective date of this AD. ESN 51145, 51149, 51150 and 51204—796 flight cycles after the effective date of this AD. ESN 51160—1,160 flight cycles after the effective date of this AD.
3D .....	Blades shown in RR ASB No. ASB RB.211–72–AG244, Revision 1 as fitted to ESN 51193 and blade S/N RGG20216—1,212 flight cycles after the effective date of this AD. ESN 51200—1,237 flight cycles after the effective date of this AD. ESN 51280—1,551 flight cycles after the effective date of this AD.
3E .....	Blades shown in RR ASB No. RB.211–72–AG244, Revision 1 as fitted to ESN 51004, “na” and blade S/Ns RGG12590, RGG14081, and RGG15419—3,433 flight cycles after the effective date of this AD.
3F .....	ESN 51156—1,627 flight cycles after the effective date of this AD. Blades shown in RR ASB No. RB.211–72–AG244, Revision 1 as fitted to ESN 51175, 51194, 51201, 51205, and 51228—2,042 flight cycles after the effective date of this AD. ESN 51264—4,309 flight cycles after the effective date of this AD. ESN 51443—2,636 flight cycles after the effective date of this AD. Blade S/N RGG15698—2,638 flight cycles after the effective date of this AD.

(2) Thereafter, perform repetitive UIs of the affected LP compressor blades within every 100 flight cycles.

(3) Use paragraph 3 of Accomplishment Instructions of RR ASB No. RB.211–72–AG244, Revision 1, dated January 26, 2010, and Appendix 1 of that ASB to perform the UIs.

(4) Remove blades from service before further flight that fail the inspection criteria in Appendix 1 of RR ASB No. RB.211–72–AG244, Revision 1, dated January 26, 2010.

(5) After the effective date of this AD, do not install any affected LP compressor blade unless it has passed the initial and repetitive UIs required by this AD.

#### FAA AD Differences

(f) This AD differs from MCAI European Aviation safety Agency (EASA) AD 2010–0097, dated May 26, 2010. The EASA AD uses calendar dates for initial inspection thresholds. This AD uses flight cycles.

#### Alternative Methods of Compliance

(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 EASA AD 2010–0097, dated May 26, 2010, and RR Alert SB No. RB.211–72–AG244, Revision 1, dated January 26, 2010, for related information. 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.

(i) Contact Alan Strom, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: alan.strom@faa.gov; telephone (781) 238–7143; fax (781) 238–7199.

Issued in Burlington, Massachusetts, on January 10, 2011.

**Peter A. White,**

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

[FR Doc. 2011–775 Filed 1–13–11; 8:45 am]

**BILLING CODE 4910–13–P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA–2010–1301; Directorate Identifier 2010–SW–008–AD]

RIN 2120–AA64

#### Airworthiness Directives; MD Helicopters, Inc. (MDHI) Model MD900 Helicopters

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This document proposes superseding an existing airworthiness directive (AD) for MDHI Model MD900 helicopters. That AD currently requires turning on both Vertical Stabilizer Control System (VSCS) switches and turning off the autopilot (AP/SAS) switch; pulling certain AP/SAS circuit breakers; installing a placard near the AP/SAS master switch; installing an airspeed limitation placard on the instrument panel; and making changes to the Rotorcraft Flight Manual (RFM). This action would retain those requirements and would provide an

option of replacing each affected tube adapter with a newly-designed tube adapter, which would provide terminating action for the unsafe condition. This proposal is prompted by the manufacturer introducing an improved, newly-designed tube adapter. The actions specified by this AD are intended to prevent loss of yaw control and subsequent loss of control of the helicopter.

**DATES:** Comments must be received on or before March 15, 2011.

**ADDRESSES:** Use one of the following addresses to submit comments on this proposed AD:

- *Federal eRulemaking Portal:* Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- *Fax:* 202–493–2251.

- *Mail:* U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

- *Hand Delivery:* U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

You may get the service information identified in this proposed AD from MD Helicopters, Inc., Attn: Customer Support Division, 4555 E. McDowell Rd., Mail Stop M615, Mesa, AZ 85215–9734, telephone 1–800–388–3378, fax 480–346–6813, or at <http://www.mdhelicopters.com>.

You may examine the comments to this proposed AD in the AD docket on