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**DEPARTMENT OF TRANSPORTATION (DOT)**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2004-18024; Directorate Identifier 2003-NE-39-AD; Amendment 39-13684; AD 2004-13-03]**

**RIN 2120-AA64**

**Airworthiness Directives; Rolls-Royce (1971) Limited, Bristol Engine Division Model Viper Mk.601-22 Turbojet Engine**

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

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

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for Rolls-Royce (1971) Limited, Bristol Engine Division (RR) Model Viper Mk.601-22 turbojet engines. This AD requires reducing the life of certain 1<sup>st</sup> stage turbine rotor blades from 7,000 hours time-in-service (TIS) to 4,600 hours TIS, and provides a drawdown schedule for blades that have already exceeded the new reduced life limit. This AD results from the manufacturer's investigations into failures of 1<sup>st</sup> stage turbine rotor blades. We are issuing this AD to prevent multiple failures of 1<sup>st</sup> stage turbine rotor blades that could result in a dual-engine shutdown.

**DATES:** Effective [Insert date 15 days after date of publication in the FEDERAL REGISTER].

We must receive any comments on this AD by [Insert date 60 days after date of publication in the FEDERAL REGISTER].

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

- DOT Docket web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.
- Government-wide rulemaking web site: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility; US Department of Transportation, 400 Seventh Street, S.W., Nassif Building, Room PL-401, Washington, DC 20590-001.
- Fax: (202) 493-2251.
- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, S.W., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

You can get the service information identified in this AD from Rolls-Royce Limited, Bristol Engines Division, Technical Publications Department CLS-4, P.O. Box 3, Filton, Bristol, BS34 7QE England; telephone 117-979-1234, fax 117-979-7575.

You may examine the comments on this AD in the AD docket on the Internet at <http://dms.dot.gov>.

**FOR FURTHER INFORMATION CONTACT:** Ian Dargin, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7178; fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** The Civil Aviation Authority (CAA), which is the airworthiness authority for the United Kingdom (UK), recently notified the FAA that an unsafe condition may exist on RR model Viper Mk.601-22 turbojet engines. The CAA advises that inspections of 1<sup>st</sup> stage turbine rotor blades, part numbers (P/Ns) V926000, V926293, and V926319, from engines that were returned from the field have identified cracks in the blade airfoil at an increasing rate. Under the current requirements to replace the blades at 7,000 hours TIS, the risk of dual-engine shutdowns is unacceptable. Reducing the class B life of these 1<sup>st</sup> stage turbine blades, recommended in Chapter 5 of the engine manual, from 7,000 hours TIS to a mandatory life limit of 4,600 hours TIS reduces the risk of dual-engine shutdowns.

#### **Relevant Service Information**

We have reviewed and approved the technical contents of RR Alert Service Bulletin (ASB) 72-A184, dated January 2001, that describes procedures for managing engine configurations to reduce the risk of dual-engine shutdowns. The CAA classified this service bulletin as mandatory and issued AD 004-01-2001 in order to ensure the airworthiness of these RR engines in the UK.

#### **Differences Between This AD and the Service Information**

RR ASB 72-A184, dated January 2001, specifies the date of receipt of the ASB as the baseline for the compliance time. This AD specifies the effective date of this AD as the baseline for the compliance time.

#### **Bilateral Airworthiness Agreement**

This engine model is manufactured in the UK and is type certificated for operation in the United States under the provisions of section 21.29 of the Federal

Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Under this bilateral airworthiness agreement, the CAA has kept the FAA informed of the situation described above. We have examined the findings of the CAA, reviewed all available information, and determined that AD action is necessary for products of this type design that are certificated for operation in the United States.

#### **FAA's Determination and Requirements of this AD**

The unsafe condition described previously is likely to exist or develop on other RR Viper Mk.601-22 turbojet engines of the same type design. We are issuing this AD to prevent multiple failures of 1<sup>st</sup> stage turbine rotor blades that could result in a dual-engine shutdown. This AD:

- Reduces the recommended class B life of certain 1<sup>st</sup> stage turbine blades, P/Ns V926000, V926293 and V926319, from 7,000 hours TIS to a mandatory life limit of 4,600 hours TIS, and
- Provides a drawdown schedule for blades that have already exceeded the new reduced life limit.

#### **FAA's Determination of the Effective Date**

Since an unsafe condition exists that requires the immediate adoption of this AD, we have found that notice and opportunity for public comment before issuing this AD are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

#### **Docket Management System (DMS)**

We have implemented new procedures for maintaining AD docket electronically. As of May 17, 2004, we posted new AD actions on the DMS and assigned a DMS docket

number. We track each action and assign a corresponding Directorate identifier. The DMS docket No. is in the form "Docket No. FAA-200X-XXXXX." Each DMS docket also lists the Directorate identifier ("Old Docket Number") as a cross-reference for searching purposes.

### **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to submit any written relevant data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "AD Docket No. FAA-2004-18024; Directorate Identifier 2003-NE-39-AD" in the subject line of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify it.

We will post all comments we receive, without change, to <http://dms.dot.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of the DMS web site, anyone can find and read the comments in any of our dockets, including 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) or you may visit <http://dms.dot.gov>.

We are reviewing the writing style we currently use in regulatory documents. We are interested in your comments on whether the style of this document is clear, and your suggestions to improve the clarity of our communications with you. You can get more

information about plain language at <http://www.faa.gov/language> and <http://www.plainlanguage.gov>.

### **Examining the AD Docket**

You may examine the docket that contains the AD, any comments received, and any final disposition in person at the DMS Docket Offices between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone (800) 647-5227) is located on the plaza level of the Department of Transportation Nassif Building at the street address stated in ADDRESSES. Comments will be available in the AD docket shortly after the DMS receives them.

### **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 the 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 summary of the costs to comply with this AD and placed it in the AD Docket.

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

Air transportation, Aircraft, Aviation safety, Safety.

### **Adoption of the Amendment**

Under the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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 airworthiness directive:

2004-13-03 **Rolls-Royce (1971) Limited, Bristol Engine Division:** Amendment 39-13684. Docket No. FAA-2004-18024; Directorate Identifier 2003-NE-39-AD.

#### **Effective Date**

(a) This airworthiness directive (AD) becomes effective [insert date 15 days after date of publication in the FEDERAL REGISTER].

#### **Affected ADs**

(b) None.

#### **Applicability**

(c) This AD applies to Rolls-Royce (1971) Limited, Bristol Engine Division (RR) Model Viper Mk.601-22 turbojet engines with 1<sup>st</sup> stage turbine blades, part numbers (P/Ns) V926000, V926293, and V926319, installed. These engines are installed on, but not limited to, Raytheon HS.125 Series 600 and BH.125 Series 600 airplanes.

**Unsafe Condition**

(d) This AD results from the manufacturer’s investigations into failures of 1<sup>st</sup> stage turbine rotor blades. We are issuing this AD to prevent multiple failures of 1<sup>st</sup> stage turbine rotor blades that could result in a dual-engine shutdown.

**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.

**New Reduced Life Limit**

(f) Change the RR Time Limits Manual life limit for the 1<sup>st</sup> stage turbine rotor blades, P/Ns V926000, V926293, and V926319, from 7,000 hours time-in-service (TIS) to 4,600 hours TIS.

(g) Limit the number of installed engines with 1<sup>st</sup> stage turbine rotor blades that exceed 4,600 hours TIS on the effective date of this AD as specified in the following

Table 1:

**Table 1 – Installed Engines**

<b>On the effective date of this AD, if</b>	<b>Then:</b>
(1) Both engines installed on the airplane have 1 <sup>st</sup> stage turbine rotor blades that exceed 5,800 hours TIS.	Replace the engine that has the higher blade life within 50 hours TIS or 6 weeks after the effective date of this AD, whichever occurs first.
(2) One engine installed on the airplane has 1 <sup>st</sup> stage turbine rotor blades that exceed 5,800 hours TIS, and the other engine has 1 <sup>st</sup> stage turbine rotor blades that exceed 4,600 hours TIS.	Replace the engine that has the higher blade life within 100 hours TIS or 4 months after the effective date of this AD, whichever occurs first.

<b>On the effective date of this AD, if</b>	<b>Then:</b>
(3) One engine installed on the airplane has 1 <sup>st</sup> stage turbine rotor blades that exceed 5,800 hours TIS, and the other engine has 1 <sup>st</sup> stage turbine rotor blades with fewer than 4,600 hours TIS.	Replace the engine that has the higher blade life within 200 hours TIS or 6 months after the effective date of this AD, whichever occurs first.
(4) One engine installed on the airplane has 1 <sup>st</sup> stage turbine rotor blades that exceed 4,600 hours TIS, but have fewer than 5,800 hours TIS, and the other engine has 1 <sup>st</sup> stage turbine rotor blades with fewer than 4,600 hours TIS.	Replace the engine that has the higher blade life by the earliest of: (i) 5,800 hours TIS, or (ii) Within 200 hours TIS after the effective date of this AD, or (iii) Within 6 months after the effective date of this AD.

(h) For any engine with 1<sup>st</sup> stage turbine rotor blades that have 4,600 hours TIS or fewer on the effective date of this AD, replace the blades as specified in (g)(1) through (g)(4) of Table 1 or within 3 years after the effective date of this AD, whichever occurs earlier.

#### **Installation of Engines After the Effective Date of this AD**

(i) After the effective date of this AD, do not install any engine that has 1<sup>st</sup> stage turbine rotor blades, P/Ns V926000, V926293, and V926319, that exceed 4,600 hours TIS, except as allowed in Table 1 of this AD.

#### **Alternative Methods of Compliance**

(j) 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

#### **Material Incorporated by Reference**

(k) None.

**Related Information**

(I) Civil Aviation Authority airworthiness directive AD 004-01-2001, dated January 2001, also addresses the subject of this AD.

Issued in Burlington, Massachusetts, on June 16, 2004.



Mark C. Fulmer,  
Acting Manager, Engine and Propeller Directorate,  
Aircraft Certification Service.