

[Federal Register: February 4, 2010 (Volume 75, Number 23)]  
[Rules and Regulations]  
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From the Federal Register Online via GPO Access [wais.access.gpo.gov]  
[DOCID:fr04fe10-5]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2009-0889; Directorate Identifier 2009-NE-35-AD; Amendment 39-16189; AD 2010-03-06]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Turbomeca Arriel 2B and 2B1 Turboshaft Engines**

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

**ACTION:** Final rule.

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**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:

Several events of uncoupling of the low-pressure (LP) fuel pump impeller and the high-pressure (HP) fuel pump shaft have been reported on Arriel 2 engines which do not incorporate Modification TU 147. In most cases the "low fuel pressure switch" enlightened, the pilot activated the aircraft booster pump in accordance with the Flight Manual Instructions and landed safely with no other incident. One case, on a single-engine helicopter, led to a sudden engine power loss. The uncoupling of the LP fuel pump impeller and the HP fuel pump shaft may lead to a limitation of engine power or, at worst, an uncommanded in-flight shutdown. On a single-engine helicopter, the result may be an emergency autorotation landing.

We are issuing this AD to prevent a forced autorotation landing or an accident.

**DATES:** This AD becomes effective March 11, 2010. The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of March 11, 2010.

**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.

Contact Turbomeca, 40220 Tarnos, France; telephone (33) 05 59 74 40 00, fax (33) 05 59 74 45 15, for the service information identified in this AD.

**FOR FURTHER INFORMATION CONTACT:** James Lawrence, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: james.lawrence@faa.gov; telephone (781) 238-7176; 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 November 5, 2009 (74 FR 57277). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states that:

Several events of uncoupling of the LP fuel pump impeller and the HP fuel pump shaft have been reported on Arriel 2 engines which do not incorporate Modification TU 147. In most cases the "low fuel pressure switch" enlightened, the pilot activated the aircraft booster pump in accordance with the Flight Manual Instructions and landed safely with no other incident. One case, on a single-engine helicopter, led to a sudden engine power loss. The uncoupling of the LP fuel pump impeller and the HP fuel pump shaft may lead to a limitation of engine power or, at worst, an uncommanded in-flight shutdown. On a single-engine helicopter, the result may be an emergency autorotation landing.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comment received.

One commenter, a private citizen, states that the labor rate of \$80 per work-hour referenced in the proposed AD is underestimated. He states that it should be at least \$95 per work-hour.

We partially agree. The work-hour labor rate estimate is established by the FAA's Regulatory Analysis Division which recently published a new rate; \$85 per work-hour. We changed the AD to reflect this increase.

### **Conclusion**

We reviewed the available data, including the comment received, and determined that air safety and the public interest require adopting the AD with the change described previously.

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

The MCAI requires checking the transmissible torque between the LP pump impeller and the HP pump shaft within 550 engine flight hours from the effective date of the AD, but no later than June 30, 2010.

This AD requires checking the transmissible torque between the LP pump impeller and the HP pump shaft within 550 engine flight hours from the effective date of the AD.

### **Costs of Compliance**

Based on the service information, we estimate that this AD will affect about 414 engines installed on helicopters of U.S. registry. We also estimate that it will take about 2.5 work-hours per engine to comply with this AD. The average labor rate is \$85 per work-hour. Replacement HP/LP

pump metering units (HMUs) will cost about \$12,000 per engine. Based on these figures, if all of the HMUs were to fail the check, we estimate the cost of the AD to U.S. operators to be \$5,055,975.

### **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 (telephone (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, Incorporation by reference, 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:



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**2010-03-06 Turbomeca:** Amendment 39-16189. Docket No. FAA-2009-0889; Directorate Identifier 2009-NE-35-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective March 11, 2010.

**Affected ADs**

- (b) None.

**Applicability**

(c) This AD applies to Turbomeca Arriel 2B and 2B1 turboshaft engines that have not incorporated Modification TU 147. These engines are installed on, but not limited to, Eurocopter AS 350 B3 and EC 130 B4 helicopters.

**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 a forced autorotation landing or an accident.

**Actions and Compliance**

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

(1) Within 550 engine flight hours from the effective date of this AD, check the transmissible torque between the low-pressure (LP) pump impeller and the high-pressure (HP) pump shaft of the HP/LP pump metering unit (HMU). Use paragraph 2 of the Instructions to be Incorporated of Turbomeca Mandatory Service Bulletin No. A292 73 2830, Version B, dated July 10, 2009, to do the check.

(2) If the check is compliant, apply the nominal tightening torque to the screw of the LP pump impeller.

(3) If the check is not compliant, replace the HP/LP pump HMU with a unit that has not incorporated Modification TU 147 but has passed the check, or with a unit that has incorporated Modification TU 147.

**FAA AD Differences**

- (f) This AD differs from the MCAI and/or service information as follows:

(1) The MCAI requires the checking of the transmissible torque between the LP pump impeller and the HP pump shaft within 550 engine flight hours from the effective date of the AD, but no later than June 30, 2010.

(2) This AD requires the checking of the transmissible torque between the LP pump impeller and the HP pump shaft within 550 engine flight hours from the effective date of this AD.

### **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 MCAI European Aviation Safety Agency Airworthiness Directive 2009-0184, dated August 14, 2009, for related information.

(i) Contact James Lawrence, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: james.lawrence@faa.gov; telephone (781) 238-7176; fax (781) 238-7199, for more information about this AD.

### **Material Incorporated by Reference**

(j) You must use Turbomeca Mandatory Service Bulletin No. A292 73 2830, Version B, dated July 10, 2009, to do the transmissible torque check required by this AD.

(1) The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Turbomeca, 40220 Tarnos, France; telephone (33) 05 59 74 40 00, fax (33) 05 59 74 45 15.

(3) You may review copies at the FAA, New England Region, 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 January 21, 2010.

Peter A. White,  
Assistant Manager, Engine and Propeller Directorate,  
Aircraft Certification Service.