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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

[Docket No. 2001-NE-10-AD; Amendment 39-12864; AD 2002-16-25]

**RIN 2120-AA64**

### **Airworthiness Directives; Turbomeca S.A. Arriel Models 2 S1, 2 B, and 2 C Turboshaft Engines**

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

**ACTION:** Final rule.

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**SUMMARY:** This amendment adopts a new airworthiness directive (AD), that is applicable to Turbomeca S.A. Arriel models 2 S1, 2 B, and 2 C turboshaft engines. This amendment requires initial and repetitive visual inspections for fuel leaks, and replacement of fuel pumps that are found leaking fuel. In addition, this amendment requires that fuel pumps found with pump wall thickness below minimum be removed from service. This amendment is prompted by a manufacturing investigation of pump bodies found to have below minimum material thickness, which could cause fuel leakage through thin, porous walls, reducing fuel pump fire resistance. The actions specified by this AD are intended to prevent fuel leakage, which may cause engine fires that could lead to an in-flight engine shutdown, damage to the helicopter, and forced landing.

**DATES:** Effective September 26, 2002. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of September 26, 2002.

**ADDRESSES:** The service information referenced in this AD may be obtained from Turbomeca, 40220 Tarnos, France; telephone (33) 05 59 64 40 00; fax (33) 05 59 64 60 80. This information may be examined, by appointment, at the Federal Aviation Administration (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:** Richard Woldan, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7136; fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that is applicable to Turbomeca S.A. Arriel models 2 S1, 2 B, and 2 C turboshaft engines was published in the Federal Register on February 11, 2002 (67

FR 6210). That action proposed to require initial and repetitive visual inspections for fuel leaks, and replacement of fuel pumps that are found leaking fuel. In addition, that action proposed to require that fuel pumps found with pump wall thickness below minimum be removed from service. These proposed actions would be done in accordance with Turbomeca Service Bulletin (SB) No. 292 73 2803, dated July 2, 1999.

## **Comments**

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposal or the FAA's determination of the cost to the public. The FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

## **Economic Analysis**

There are approximately 44 engines of the affected design in the worldwide fleet. It is unknown how many engines are installed on aircraft of U.S. registry that would be affected by this AD. The FAA estimates that it would take approximately 1.5 work hours per engine to accomplish the actions, and that the average labor rate is \$60 per work hour. Required parts would cost approximately \$59,000 per engine. Based on these figures, the total cost of the AD is estimated to be \$59,090 per engine. Assuming all 44 engines are installed on aircraft of U.S. registry, the total cost is estimated to be \$2,599,960. The manufacturer has advised the Direction Generale de L'Aviation Civile (DGAC), which is the airworthiness authority for France, that affected pumps may be exchanged free of charge, thereby substantially reducing the potential cost of this rule.

## **Regulatory Analysis**

This final rule does not have federalism implications, as defined in Executive Order 13132, because it 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. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

For the reasons discussed above, I certify that this action (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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

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

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

## **Adoption of the Amendment**

Accordingly, pursuant to 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.

### **Sec. 39.13 [Amended]**

2. Section 39.13 is amended by adding a new airworthiness directive 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.airweb.faa.gov/rg1](http://www.airweb.faa.gov/rg1)"*

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).

**2002-16-25 Turbomeca S.A.:** Amendment 39-12864. Docket No. 2001-NE-10-AD.

## Applicability

This airworthiness directive (AD) is applicable to Turbomeca S.A. Arriel models 2 S1, 2 B, and 2 C turboshaft engines. These engines are installed on, but not limited to Sikorsky S76, Eurocopter France "Ecureuil" AS 350 B3, and Eurocopter France "Dauphin" AS 365 N3 helicopters.

**Note 1:** This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

## Compliance

Compliance with this AD is required as indicated, unless already done.

To prevent fuel leakage, which may cause engine fires that could lead to an in-flight engine shutdown, damage to the helicopter, and forced landing, do the following:

## Inspections and Actions

(a) For the fuel metering high pressure/low pressure (HP/LP) pump assemblies listed by serial number (SN) in Appendix 1 of Turbomeca Service Bulletin (SB) No. 292 73 2803, dated July 2, 1999, do the following:

(1) After the last flight of each day, within five minutes of engine shutdown, perform a visual inspection of the floor of the helicopter engine bay for fuel leaks.

(2) If evidence of a fuel leak is observed, inspect the fuel metering HP/LP pump assembly for leakage and if leakage is observed, replace with a serviceable pump assembly before further flight.

(3) If visual inspection of the floor of the helicopter engine bay for fuel leaks reveals no leaks, do either of the following:

(i) Continue repetitive visual inspections of the floor of the helicopter engine bay for fuel leaks in accordance with paragraph (a)(1) of this AD, and perform repetitive visual inspections of the fuel metering HP/LP pump assembly for fuel leaks at intervals not to exceed 50 hours of operation. If evidence of fuel leaking is observed, replace the pump assembly with a serviceable pump assembly before further flight, in accordance with Turbomeca SB No. 292 73 2803, dated July 2, 1999; or

(ii) Remove the pump assembly and inspect to determine if pump body material wall thickness is below the minimum material thickness, in accordance with Section 2 of Turbomeca SB No. 292 73 2803, dated July 2, 1999. If pump body material wall thickness is at or above the minimum material thickness, mark the pump assembly by adding a letter "x" to the end of the SN.

(b) Replace the fuel metering HP/LP pump assembly if listed by SN in Appendix 1 of Turbomeca Service Bulletin (SB) No. 292 73 2803, dated July 2, 1999, with a serviceable pump assembly by December 31, 2006.

### **Definition**

(c) For the purposes of this AD, a serviceable pump assembly is a fuel metering HP/LP pump assembly not listed by SN in Appendix 1 of Turbomeca SB No. 292 73 2803, dated July 2, 1999, or a fuel metering HP/LP pump assembly listed by SN in Appendix 1 whose pump body material wall thickness has been determined by inspection to be at or above the minimum material thickness, and marked in accordance with paragraph (a)(3)(ii) of this AD.

### **Terminating Action**

(d) Replacement, or verification of correct wall thickness of a fuel metering HP/LP pump assembly that is listed in Appendix 1 of Turbomeca SB No. 292 73 2803, dated July 2, 1999, with a serviceable pump assembly as defined in paragraph (c) of this AD, is considered terminating action for the inspection requirements specified in paragraph (a) of this AD.

### **Alternative Methods of Compliance**

(e) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office (ECO). Operators must submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, ECO.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the ECO.

### **Special Flight Permits**

(f) Special flight permits may be issued in accordance with Secs. 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be done.

### **Documents That Have Been Incorporated by Reference**

(g) The inspections and removals must be done in accordance with Turbomeca SB No. 292 73 2803, dated July 2, 1999. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Turbomeca, 40220 Tarnos, France; telephone (33) 05 59 64 40 00; fax (33) 05 59 64 60 80. Copies may be inspected 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.

**Note 3:** The subject of this AD is addressed in Direction Generale de L'Aviation Civile (DGAC) Airworthiness Directive AD 99-285(A), dated July 13, 1999.

**Effective Date**

(h) This amendment becomes effective on September 26, 2002.

Issued in Burlington, Massachusetts, on August 14, 2002.

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