

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 39**

[Docket No. 99-NE-12-AD; Amendment 39-13168; AD 2003-11-09]

RIN 2120-AA64

**Airworthiness Directives; Turbomeca Turmo IV A and IV C Series Turboshift Engines**

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD), that is applicable to Turbomeca Turmo IV A and IV C series turboshift engines. This amendment requires initial and repetitive borescope and eddy current or ultrasonic inspections of centrifugal compressor intake wheel blades for cracks and evidence of corrosion pitting, and, if found cracked or if there is evidence of corrosion pitting, replacement with serviceable parts. This amendment is prompted by reports of cracked centrifugal compressor intake wheel blades, resulting in the release of one or more blade fragments. The actions specified by this AD are intended to prevent centrifugal compressor intake wheel blade cracks, which can result in in-flight engine power loss or shutdown.

**DATES:** Effective July 3, 2003. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of July 3, 2003.

**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:** Antonio Cancelliere, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7751; 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 Turmo IV A and IV C series

turboshift engines was published in the **Federal Register** on December 2, 2002 (67 FR 71493). That action proposed to require initial and repetitive borescope and eddy current or ultrasonic inspections of centrifugal compressor intake wheel blades for cracks and evidence of corrosion pitting, and, if found cracked or if there is evidence of corrosion pitting, replacement with serviceable parts in accordance with Turbomeca Turmo IV service bulletin (SB) 249 72 0117, dated March 11, 2001; and Turbomeca Turmo IV SB 249 72 0100, Update 4, dated January 25, 2000.

**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.

**Editorial Corrections**

A typographical error is being corrected in the AD relative to the issue date of Turbomeca Turmo IV SB 249 72 0117. The Notice of Proposed Rule Making (NPRM) lists the issue date as March 11, 2000. That date is corrected in the AD to March 11, 2001.

A typographical error is also being corrected in the Regulatory requirements of the AD. Paragraph (e) is corrected to (d) and paragraph (f) is corrected to (e).

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

**Economic Analysis**

There are approximately 1,110 Turbomeca Turmo IV A and IV C series turboshift engines of the affected design in the worldwide fleet. The FAA estimates that 11 engines installed on helicopters of U.S. registry will be affected by this AD, that it will take approximately 41 work hours per engine to perform the required inspections, including disassembling and assembling engines and that the average labor rate is \$60 per work hour. A replacement centrifugal compressor assembly costs approximately \$21,651. Based on these figures, the total cost per inspection to U.S. operators is estimated to be \$265,221.

**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.

**§ 39.13 [Amended]**

■ 2. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

**2003-11-09 Turbomeca:** Amendment 39-13168. Docket No. 99-NE-12-AD.

**Applicability:** This airworthiness directive (AD) is applicable to Turbomeca Turmo IV A and IV C series turboshift engines. These engines are installed on but not limited to Aerospatiale FA 330—PUMA 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 (d) 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 is required as indicated, unless already done;

To prevent centrifugal compressor intake wheel blade cracks, which can result in in-flight engine power loss or shutdown, do the following:

(a) For engines that have been modified to TU 197 standard, but have not been modified to TU 191 or TU 224 standard, do the following:

(1) Remove modification TU 197 and install modification TU 224 in accordance with Turmo IV SB 249 72 0117, dated March 11, 2001, within the next 50 cycles or six months after the effective date of the AD, whichever occurs first.

(2) Within 1,000 flight hours (FH) after the installation of modification TU 224 standard, do the following:

(i) Perform a visual inspection and an ultrasonic inspection (USI) in accordance with paragraph 2.B.(3) of Turbomeca Turmo IV SB 249 72 0100, Update 4, dated January 25, 2000.

(ii) Thereafter, perform a visual inspection and a USI at intervals not to exceed 1,000 FH in accordance with paragraph 2.B.(3) of Turbomeca Turmo IV SB 249 72 0100, Update 4, dated January 25, 2000.

(b) For engines that have not been modified to TU 191, TU 197, or TU 224 standard, do the following in accordance with Turbomeca Turmo IV SB 249 72 0100, Update 4, dated January 25, 2000:

(1) For centrifugal compressor intake wheels that, on the effective date of this AD, have been operated for more than 250 FH since the last inspection of the centrifugal compressor intake wheel blades, do the following:

(i) Perform an initial borescope inspection of the blades for evidence of corrosion within the next 50 FH, or six months after the effective date of this AD, whichever occurs first, in accordance with paragraph 2.B.(1) of the SB.

(ii) If corrosion is found, perform an eddy current inspection (ECI) or USI, as applicable, of the blades for cracks within 50 FH after the borescope inspection performed in accordance with paragraph 2.B.(3) of the SB, and if necessary, replace with serviceable parts.

(iii) If corrosion is not found, perform an ECI or USI, as applicable, of the blades for cracks within 250 FH after the borescope inspection performed in accordance with paragraph (b)(1)(i) of this AD, and if necessary, replace with serviceable parts.

(iv) Thereafter, perform borescope inspections and ECIs or USIs, as applicable, of the blades for cracks and evidence of corrosion, alternating at intervals not to exceed 250 FH since the last inspection.

(v) Remove from service centrifugal compressor intake wheels found cracked and replace with serviceable parts.

(2) For centrifugal compressor intake wheels that, upon the effective date of this AD, have been operated for less than or equal to 250 FH since the last inspection of the blades, do the following:

(i) Perform an initial borescope inspection of the blades for evidence of corrosion prior to accumulating 250 FH since the last inspection of the blades in accordance with paragraph 2.B.(1) of the SB.

(ii) If corrosion is found, perform an ECI or USI, as applicable, of the blades for cracks, and, if necessary, replace with serviceable parts, within 50 FH after the borescope inspection performed in accordance with paragraph 2.B.(3) of the SB.

(iii) If corrosion is not found, perform an ECI or USI, as applicable, of the blades for cracks, and, if necessary, replace with serviceable parts, within 250 FH after the borescope inspection performed in accordance with paragraph (b)(2)(i) of this AD.

(iv) Thereafter, perform borescope inspections and ECIs or USIs, as applicable, of the blades for cracks and evidence of corrosion, alternating at intervals not to exceed 250 FH since the last inspection.

**Note 2:** Alternating intervals means that if the last inspection was an ECI or a USI, the next inspection will be a borescope inspection. If the last inspection was a borescope inspection, the next 250 FH

inspection will be an ECI or a USI as applicable.

(v) Remove from service centrifugal compressor intake wheels found cracked and replace with serviceable parts.

(c) For engines not modified to TU 197 but have been modified to TU 191 or TU 224 standard, that have been operated for more than 1,000 flight hours since the last inspection of the blades, do the following in accordance with Turbomeca Turmo IV SB 249 72 0100, Update 4, dated January 25, 2000:

(1) Perform an initial ECI or USI, as applicable, of the blades for cracks, in accordance with paragraph 2.B.(3) of the SB, within the next 50 FH, or 6 months after the effective date of this AD, whichever occurs first.

(2) Thereafter, inspect at intervals not to exceed 1,000 FH.

(3) Remove from service centrifugal compressor intake wheels found cracked, and replace with a serviceable part.

**Alternative Methods of Compliance**

(d) 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 3:** 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**

(e) Special flight permits may be issued in accordance with §§ 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**

(f) The inspections must be done in accordance with the following Turbomeca service bulletins:

Document No.	Pages	Revision	Date
Turmo IV SB 249 72 0100 ..... Total pages: 12	All .....	Update No. 4 .....	January 25, 2000.
Turmo IV SB 249 72 0117 ..... Total pages: 5	All .....	Original .....	March 11, 2001.

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 4:** The subject of this AD is addressed in Direction Generale de L'Aviation Civile airworthiness directive AD97-122(B), dated May 21, 1997.

**Effective Date**

(g) This amendment becomes effective on July 3, 2003.

Issued in Burlington, Massachusetts, on May 20, 2003.

**Francis A. Favara,**  
*Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.*  
[FR Doc. 03-13115 Filed 5-28-03; 8:45 am]

**BILLING CODE 4910-13-P**