

## Discussion

The Direction Generale de L'Aviation Civile (DGAC), which is the airworthiness authority for France, recently notified the Federal Aviation Administration (FAA) that an unsafe condition may exist on Turbomeca S.A. Arriel 1 A, 1 A1, 1 A2, 1 B, 1 C, 1 C1, 1 C2, 1 D, 1 D1, 1 E, 1 E2, 1 K, 1 K1, 1 S, and 1 S1 turboshaft engines. The DGAC advises that approximately 225 of the Arriel engine fleet operates in a dusty or erosive atmospheric environment, containing substances such as laterite, sand, volcanic ash, and chemical particles. This atmospheric environment can lead to dust accumulation and unbalance of the gas generator rotating assembly, which may lead to deterioration of the gas generator rear bearing and also to uncommanded engine shutdown.

## Bilateral Agreement Information

This engine model is manufactured in France and is type certificated for operation in the United States under the provisions of § 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Pursuant to this bilateral airworthiness agreement, the DGAC has kept the FAA informed of the situation described above. The FAA has examined the findings of the DGAC, 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.

## Proposed Requirements of This AD

Since an unsafe condition has been identified that is likely to exist or develop on other Turbomeca S.A. Arriel 1 turboshaft engines of the same type design that are used on helicopters registered in the United States, the proposed AD would require initial and repetitive visual inspections for ingestive erosion, and cleaning if necessary, of M02 and M03 modules.

## Economic Analysis

There are approximately 3,560 engines of the affected design in the worldwide fleet. The FAA estimates that about 225 of the 900 engines installed on aircraft of U.S. registry would be affected by this proposed AD. The FAA also estimates that it would take approximately 0.2 work hour per engine to perform each axial compressor erosion inspection, and take approximately 40 work hours per engine to perform the gas generator rotor assembly cleaning, and that the average labor rate is \$60 per work hour. Based on these figures, the total cost of the

proposed AD to perform one inspection and one cleaning to U.S. operators is estimated to be \$542,700.

## Regulatory Analysis

This proposed 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 proposed rule.

For the reasons discussed above, I certify that 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) if promulgated, 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 copy of the draft regulatory evaluation prepared for this action 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, Safety.

## The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 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 the following new airworthiness directive:

**Turbomeca S.A.:** Docket No. 2002-NE-43-AD.

*Applicability:* This airworthiness directive (AD) is applicable to Turbomeca S.A. Arriel 1 A, 1 A1, 1 A2, 1 B, 1 C, 1 C1, 1 C2, 1 D, 1 D1, 1 E, 1 E2, 1 K, 1 K1, 1 S, and 1 S1 turboshaft engines. These engines are installed on, but not limited to, Eurocopter AS 350, AS 350B1, AS 350B2, AS 365C, AS 365C2, AS 365N, AS 365N1, AS 365N2, BK 117C1, BK 117C2, Augusta A109 K2, and Sikorsky S76 C 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 with this AD is required as indicated, unless already done.

To prevent an unbalance of the gas generator rotating assembly which may lead to deterioration of the gas generator rear bearing and also to uncommanded engine shutdown, do the following:

## Initial Inspections and Cleaning

(a) For engines that have been operated in a dusty or erosive atmospheric environment containing substances such as laterite, sand, volcanic ash, and chemical particles, and engines for which the operating environment cannot be determined, do the following:

(1) Perform an initial visual inspection for erosion of the axial compressor, within 50 operating hours after the effective date of this AD. Information on inspecting can be found in Turbomeca S.A. Mandatory Service Bulletin (MSB) No. 292 72 0230, dated October 16, 1998.

## Modification TU 175 Not Incorporated

(2) For engines that do not have Modification TU 175 incorporated, if axial compressor erosion is above 1.5 millimeters in area "D" as defined in the engine maintenance manual, and if the M03 module has operated more than 200 hours with this M02 module, clean the M03 module within the next 50 operating hours. Information on cleaning can be found in Turbomeca S.A. MSB No. 292 72 0230, dated October 16, 1998.

## Modification TU 175 Incorporated

(3) For engines that have Modification TU 175 incorporated, if axial compressor erosion inspection requires the M02 module to be removed, and if the M03 module has operated more than 400 hours with this M02 module, clean the M03 module within the next 50 operating hours. Information on cleaning can be found in Turbomeca S.A. MSB No. 292 72 0230, dated October 16, 1998.

## Reconditioning and Checks

(b) Perform reconditioning and checks of the engines. Information on reconditioning and checks can be found in Turbomeca S.A. MSB No. 292 72 0230, dated October 16, 1998.

## Repetitive Inspections

(c) Repeat axial compressor erosion inspections within every 200 operating