

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

[Docket No. 2003-NE-05-AD]

RIN 2120-AA64

Airworthiness Directives; Turbomeca S.A. Arrius 2 B1, 2 B1A, 2 B1A 1, and 2 K1 Turboshaft Engines**AGENCY:** Federal Aviation Administration (FAA), DOT.**ACTION:** Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for Turbomeca S.A. Arrius 2 B1, 2 B1A, 2 B1A 1, and 2 K1 turboshaft engines. This proposed AD would require replacement of the gas generator high pressure (HP) turbine disk before further flight after the engine has accumulated 5 minutes of operating time at the 2½ minute one engine inoperative (OEI) power rating. This proposed AD is prompted by a failure of an HP turbine blade during accelerated aging simulation tests performed by the manufacturer on an Arrius 2 B1A engine. The actions specified in this proposed AD are intended to prevent engine failure of the only operating engine while experiencing an OEI condition.

DATES: We must receive any comments on this proposed AD by July 21, 2003.

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

- *By mail:* Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 2003-NE-05-AD, 12 New England Executive Park, Burlington, MA 01803-5299.
- *By fax:* (781) 238-7055.
- *By e-mail:* 9-ane-adcomment@faa.gov.

You may get the service information identified in this proposed AD from Turbomeca S.A., 64511 Bordes Cedex, France; telephone 33 05 59 64 40 00, fax 33 05 59 64 60 80.

You may examine the AD docket at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

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:**Comments Invited**

We invite you to submit any written relevant data, views, or arguments regarding this proposal. Send your comments to an address listed under **ADDRESSES**. Include "AD Docket No. 2003-NE-05-AD" in the subject line of your comments. If you want us to acknowledge receipt of your mailed comments, send us a self-addressed, stamped postcard with the docket number written on it; we will date-stamp your postcard and mail it back to you. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the proposed AD. If a person contacts us through a nonwritten communication, and that contact relates to a substantive part of this proposed AD, we will summarize the contact and place the summary in the docket. We will consider all comments received by the closing date and may amend the proposed AD in light of those comments.

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 that affect you. You may get more information about plain language at <http://www.plainlanguage.gov>.

Examining the AD Docket

You may examine the AD Docket (including any comments and service information), by appointment, between 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. See **ADDRESSES** for the location.

Discussion

The Direction Generale de L'Aviation Civile (DGAC), which is the airworthiness authority for France, recently notified the FAA that an unsafe condition may exist on Turbomeca S.A. Arrius 2 B1, 2 B1A, 2 B1A 1, and 2 K1 turboshaft engines. The DGAC advises that the manufacturer has performed accelerated aging simulation tests on an Arrius 2 B1A engine. The simulation tests were interrupted due to a failure of an HP turbine blade while the engine was running at the "one engine inoperative" power rating. The manufacturer has concluded that prolonged exposure of the HP turbine disk and blades at the 2½ minute OEI power rating may cause high exhaust gas temperature to initiate a creeping phenomenon of the blade material, leading to blade and disk failure. To

date, no such failure event in the worldwide fleet has been reported.

FAA's Determination and Requirements of the Proposed AD

These Turbomeca S.A. Arrius 2 B1, 2 B1A, 2 B1A 1, and 2 K1 turboshaft engines, manufactured in France, are 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. Pursuant to this bilateral airworthiness agreement, the DGAC has kept us informed of the situation described above. We have examined the DGAC's findings, 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. Therefore, we are proposing this AD, which would require replacement of the gas generator HP turbine disk before further flight after an engine's accumulated operating time at the 2½ minute OEI power rating exceeds 5 minutes.

Changes to 14 CFR Part 39—Effect on the Proposed AD

On July 10, 2002, we published a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs the FAA's AD system. This regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance. This material previously was included in each individual AD. Since this material is included in 14 CFR part 39, we will not include it in future AD actions.

Costs of Compliance

There are approximately 396 Turbomeca S.A. Arrius 2 B1, 2 B1A, and 2 B1A 1, turboshaft engines, and 57 Arrius 2 K1 turboshaft engines of the affected design in the worldwide fleet. We estimate that 57 engines installed on helicopters of U.S. registry would be affected by this proposed AD. To date, no failure events in the worldwide fleet have been reported. Since the engine operating time usage at the 2½ minute OEI power rating is very limited, no cost to U.S. operators is foreseen.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD 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