
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Turbomeca Turbine Engines - Arrius Series**AD/ARRIUS/12****Check-Valve Piston O-Ring****12/2005**

Applicability: TURBOMECA ARRIUS 2B1/2B1A, 2B2, 2K1 and 2K2 turboshaft engines.

Note 1: These engines are fitted but not limited to Eurocopter EC135 TI, T2, and Agusta A 109 Power and A 109 LUH rotorcraft.

Requirement: 1. Replace the check-valve piston o-ring in accordance with paragraph 2 of Alert Service Bulletin (ASB) No. A319 79 2832 (ARRIUS 2B1/2B1A/2B2) dated 21 June 2005 or ASB No. A319 79 2833 (ARRIUS 2K1/2K2) or later DGAC approved revisions.

2. Repeat Requirement 1 of this Directive.

Note 2: DGAC AD F-2005-159 EASA approval No. 2005-6223 dated 6 September 2005 refers.

Compliance: 1. Unless previously accomplished initial replacement of the o-ring is to be accomplished within 50 operating hours from the effective date of this Directive for engines that exceed:

- 300 operating hours at the effective date of this Directive for engines operating with HTS-class oil and engines for which the history of the oils used is not available or engines which used to operate with HTS-class oil and which no longer do so;
- 450 operating hours at the effective date of this Directive for engines operating with STD class-oil since their introduction into service.

2. At intervals not to exceed:

- 300 operating hours for engines operating with HTS-class oil and engines for which the history of the oils used is not available or engines which used to operate with HTS-class oil and which no longer do so;
- 500 operating hours for engines operating with STD class-oil since their introduction into service.

This Airworthiness Directive becomes effective on 24 November 2005.

Turbomeca Turbine Engines - Arrius Series

AD/ARRIUS/12 (continued)

Background: Investigation of incidents which occurred on ARRIUS 2 turboshaft engines has revealed that the interruption of engine lubrication was due to oil passage blockage within the lubrication unit check valve. This blockage comes from the excessive swelling of the check valve piston o-ring. The level of swelling of the o-ring depends upon which class of the oil (STD or HTS) is used and the engine operating time.

A simultaneous interruption of the lubrication on both engines may lead to a double uncommanded in-flight shutdown.



Jayaprakashan Ambali
Delegate of the Civil Aviation Safety Authority

6 October 2005