
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/17****Engine Lubrication Unit Check Valve****13/2008**

Applicability: Turbomeca ARRIUS 2F turbo-shaft engines which do not embody modification Tf75.

Note 1: These engines are known to be installed on, but not limited to, Eurocopter EC120B helicopters.

Requirement: Replace the check valve piston and remove preformed packing in accordance with Turbomeca Service Bulletin no. 319 79 4075 or later approved revision.

Note 2: EASA AD 2008-0170 dated 25 September 2008 refers.

Compliance: No later than 31 May 2009.

This Airworthiness Directive becomes effective on 18 December 2008.

Background: Investigations of incidents which occurred on ARRIUS 2 turboshaft engines have revealed the interruption of engine lubrication further 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 on the class of the oil used (Standard (STD) or High-Thermal Stability (HTS)) and the engine operating time. This phenomenon only affects ARRIUS 2F engines which do not embody modification Tf75.

Blockage of the check valve may result in bearing damage caused by a lack of lubrication to the bearings which may lead to an uncommanded or commanded in-flight shutdown which, on a single-engine helicopter, leads to an emergency autorotation landing.

This AD is issued to eliminate the possibility of a check valve blockage due to an excessive swelling of the check valve piston o-ring, by mandating the replacement of the current check valve piston by a check valve with seal-free piston.



James Coyne
Delegate of the Civil Aviation Safety Authority

6 November 2008