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 - Arriel Series

AD/ARRIEL/22 HP/LP Fuel Pump Drive Components 1/2006

Applicability: Turbomeca ARRIEL 2B, 2B1 and 2B1A turbo-shaft engines.

Note 1: These engines are installed in but not limited to AS 350 B3, EC 130 and Z11 MB1 single engine helicopters.

Requirement: 1. Visually inspect the HP pump drive gear shaft splines and the coupling shaft assembly splines in accordance with paragraph 2 of TURBOMECA Mandatory Service Bulletin No 292 73 2812 R2 or later DGAC approved revisions.

2. If inspection reveals signs of wear, as detailed in paragraph 2.B.1.d of TURBOMECA Mandatory Service Bulletin No 292 73 2812 R2 or later DGAC approved revision, replace the Hydromechanical Metering Unit (HMU) and coupling shaft assembly.


Compliance: 1. If the adjusted HMU has logged more than 500 operating hours since new or since repair/overhaul; Inspect during the next 50 operating hours, unless previously accomplished, then each time the HMU is removed/installed.

If the adjusted HMU has logged less than 500 operating hours since new or since repair/overhaul; Inspect as soon as the HP/LP pumps assembly has reached 500 operating hours since new or since repair/overhaul, then each time the HMU is removed/installed.

2. Before further flight after the effective date of this AD.

This Airworthiness Directive becomes effective on 19 January 2006.

Background: The deterioration of the splines on the HP/LP pump assembly drive shaft may eventually interrupt fuel supply and cause uncommanded in-flight engine shutdown. The result may be an emergency autorotation landing or, at worst, an accident.
Turbomeca Turbine Engines - Arriel Series

AD/ARRIEL/22 (continued)

Two cases of in-flight shutdown resulting from splines deterioration have been reported for the ARRIUS 2 engine, which has the same HP/LP pump drive design as the ARRIEL 2.

James Coyne
Delegate of the Civil Aviation Safety Authority

30 November 2005