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**AIRWORTHINESS DIRECTIVE**

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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.

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**Avions de Transport Regional ATR 42 Series Aeroplanes****AD/ATR 42/3      Propeller Pitch Change System Components      8/2007**

Applicability:    ATR 42-200, -300 and -320 series aircraft.

Requirement:    Carry out ultrasonic cleaning of the Propeller Control Unit servo ball screw on Hamilton Sundstrand 14SF5 propellers in accordance with Hamilton Sundstrand Component Maintenance Manual 61-21-07.

*Note: DGAC AD 2002-070-090(B) R1 dated 15 May 2002 refers.*

Compliance:    Before reaching 10,500 flight hours since new or since last critical inspection; or  
Before further flight, in the case of contamination; or

Before further flight, in the case of anomalies found during production acceptance tests.

This Airworthiness Directive becomes effective on 2 August 2007.

Background:    Three cases of propeller pitch lock during final approach have been experienced on ATR aircraft. During two of these events the asymmetric power resulting from the propeller pitch lock was not recognized by the crew during landing and the aircraft veered off the runway after selection of reverse power while the "Low Pitch" condition was not effective for both engines.

On one case the investigation led on the suspected components of the propeller pitch control system showed significant anomalies of the pitch control unit ball screw. The hang up and the loss of efficiency noted on the test bench are due to ball screw contamination. These anomalies could contribute to a pitch lock condition when the combine with another propeller component failure of the pitch control system.

The actions detailed in the AD are intended to clean the ball screw and avoid the propeller lock situation which could lead to reduced controllability of the aircraft during landing.



David Punshon  
Delegate of the Civil Aviation Safety Authority

21 June 2007