EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2007-0143 **Date: 18 May 2007**

No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holder's Name :	**Type/Model designation(s) :**
TURBOMECA	MAKILA 1 turbo-shaft engines

TCDS Number : M10

Foreign AD : Not applicable

Supersedure : DGAC France AD F-2006-029 (EASA Approval Number 2006-0025)

ATA 73	**Digital Engine Control Unit (DECU) – Software - Modification**
Manufacturer(s):	TURBOMECA
Applicability:	MAKILA 1A2 turbo-shaft engines. These engines are known to be installed, but not limited to Super Puma Mark 2 helicopters.
Reason:	Modification TU205C, applicable to MAKILA 1A2 engines, introduced a control system backup law that fixes N1 (gas generator speed) at 65% when the two N2 (power turbine speed) signals are lost. The intent is to limit the maximum speed attainable by the power turbine in the event of a failure of the shaft between the Engine and the Main Gearbox that could result in collateral damage to the N2 speed probes. The implementation of modification TU205C is required by DGAC (France) Airworthiness Directive F-2000-068 in accordance with TURBOMECA Mandatory Service Bulletin 298 73 0149. Tests performed on the engine test bench have revealed a possible scenario in which activation of another backup law that fixes N1 at 85% speed inhibits the 65% N1 backup law. In this scenario a failure of the shaft between the Engine and the Main Gearbox could result in the free turbine accelerating until it bursts. This condition, if not corrected, could lead to engine damage, personal injuries or death. This Airworthiness Directive requires the use of an upgraded version of DECU software (version 11) that prevents inhibition of the 65% backup

	law when the 85% backup law is active, and therefore enables the TU205C modification function to be maintained under all circumstances, including in the scenario described above. This AD modifies the superseded DGAC France AD F-2006-029 by making reference to Update 1 of TURBOMECA Mandatory Service Bulletin 298 73 0244.
Effective Date:	01 June 2007
Compliance:	The following measures are mandatory as from the effective date of this Airworthiness Directive (AD): Before November 30, 2008, ensure that all DECUs have software version 11 installed per modification TU244C. Note: On the same helicopter, a post TU 244C engine can be twinned only with another post TU 244C engine, or with one incorporating software version 9 per modification TU 230C. Replacement of the DECU or loading of TU244C software must be performed in accordance with TURBOMECA Mandatory Service Bulletin 298 73 0244.
Ref. Publications:	TURBOMECA Mandatory Service Bulletin 298 73 0244, Update 1, dated 30 March 2007.
Remarks :	1. If requested and appropriately substantiated, the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. This AD was posted as PAD 07-061 on 17 April 2007 for consultation until 15 May 2007. No comments were received during this period. 3. Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E mail: Ads@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact your usual or nearest TURBOMECA technical representative (refer to http://www.turbomeca-support.com).