


EASA	AIRWORTHINESS DIRECTIVE	
	<p>AD No : 2007-0298</p> <p>Date: 11 December 2007</p>	
<p>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.</p>		
<p>Type Approval Holder's Name :</p> <p>TURBOMECA</p>	<p>Type/Model designation(s) :</p> <p>MAKILA 2A turboshaft engines</p>	
<p>TCDS Number : EASA E.006</p>		
<p>Foreign AD : Not applicable</p>		
<p>Supersedure : None</p>		
<p>ATA 05</p>	<p>Time Limits / Maintenance Checks – Cumulative Use of the 2-Minute One-Engine-Inoperative (OEI) Rating – Limitation</p>	
<p>Manufacturer(s):</p>	<p>TURBOMECA</p>	
<p>Applicability:</p>	<p>MAKILA 2A turboshaft engines, all serial numbers, except those incorporating modification TU 38. These engines are known to be installed on, but not limited to, Eurocopter Model EC 225 LP helicopters.</p>	
<p>Reason:</p>	<p>There have been three occurrences of MAKILA 2A centrifugal compressor blade loss during acceptance testing of new engines. The preliminary results of the investigations suggest that the rupture of the blades could have resulted from high frequency vibrations. The fatigue crack initiation at the origin of the rupture and subsequent propagation may occur at a blade resonant frequency. This potential resonance could occur within a small band of gas generator speeds (N1) at the high end of the rated N1 speed range, depending on the particular characteristics of each centrifugal compressor.</p> <p>The centrifugal compressors thought most likely to be susceptible to blade loss are from a limited manufacturing batch. These compressors have been identified, and have been, or will soon be, removed from service. A new compressor has been designed in which the potential resonance is eliminated. This compressor, when available, will be incorporated through modification TU 38.</p> <p>The occurrence of compressor blade loss in the remainder of the current fleet cannot be ruled out, however. As compressor blade loss could lead to an uncommanded or commanded in-flight engine shut-down, this Airworthiness Directive (AD) requires the introduction of a limitation on the cumulative use of the 2-minute OEI rating, until modification TU 38 has been incorporated.</p>	
<p>Effective Date:</p>	<p>25 December 2007</p>	

<p>Compliance:</p>	<p>Within 30 days after the effective date of this directive, amend the engine maintenance programme to include the following limitation:</p> <p>Limitation on the cumulative use of the 2-minute OEI rating:</p> <p>Mandatory maintenance requirements associated with cumulative use of the 2-minute OEI rating, specified in the MAKILA 2A Maintenance Manual, no. 298 N7 450 1, Section 05-10-10, Task 200-801-A01 are revised as follows:</p> <ul style="list-style-type: none"> - After any use of the 2-minute OEI rating as a result of single-engine operations, before next flight, replace module M03; - In cases of incursion into the 2-minute OEI rating range during twin-engine operations (a transient condition known to occur and appropriately recorded by the OEI usage counter), module M03 must be replaced when 5 minutes at the 2-minute OEI rating has been accumulated. <p>For additional details, refer to TURBOMECA Mandatory Service Bulletin (MSB) no. 298 72 2806.</p>
<p>Ref. Publications:</p>	<p>TURBOMECA MSB no. 298 72 2806; the use of later approved revisions is acceptable for compliance with the requirements of this AD.</p> <p>MAKILA 2A Maintenance Manual no. 298 N7 450 1</p>
<p>Remarks :</p>	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 12 November 2007 as PAD 07-203 for consultation until 10 December 2007. No comments were received during the consultation period. 3. Enquiries regarding this AD should be addressed to the 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: Operator Support MAKILA - TURBOMECA 40220 TARNOS – FRANCE Phone: +33 (0)5 59 74 40 00 Fax: +33 (0)5 59 74 45 15 or refer to your nearest TURBOMECA technical representative on http://www.turbomeca-support.com