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| <b>EASA</b>  | <b>AIRWORTHINESS DIRECTIVE</b>  |
|   | <b>AD No : 2007-0045</b><br><br><b>Date: 21 February 2007</b>   |
| 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. |   |
| <b>Type Approval Holder's Name :</b><br>TURBOMECA  | <b>Type/Model designation(s) :</b><br>Turboshaft engines – ARRIEL 1A, 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S, 1S1  |
| TCDS Number: EASA.E.073  |   |
| Foreign AD: n/a  |   |
| Supersedure: n/a   |   |
| <b>ATA 72</b>  | <b>Return to Service for Civil Use from an Operator Not Controlled by a Civil Authority</b>   |
| <b>Manufacturer(s):</b>  | TURBOMECA   |
| <b>Applicability:</b>  | ARRIEL 1A, 1A1, 1A2, 1B, 1C, 1C1, 1C2, 1D, 1D1, 1E2, 1K, 1K1, 1S, 1S1 turboshaft engines originally assembled by TURBOMECA and having previously been used by an operator who is not under the control of a civil Authority (Military, Paramilitary...). These engines are known to be installed on, but not limited to, the following helicopters: Eurocopter AS350 B/BA/B1/B2, AS365 N/N1/N2/C/C1/C2/C3 and BK117 C1/C2 (EC 145), Agusta A109 K/K2, Sikorsky S76 A+/A++/C helicopters.  |
| <b>Reason:</b>   | <p>The manufacturer has advised EASA that some helicopters equipped with these engines may be or may have been sold to civil operators.</p> <p>The use of ARRIEL 1A, 1A1, 1A2, 1B, 1D, 1D1, 1C, 1C1, 1C2, 1E2, K, 1K1, 1S, 1S1 turboshaft engines which have been previously used by an operator who is not under the control of a civil Authority (Military Operator, Paramilitary, State...) may result in an unsafe condition. Indeed, these engines have not been followed up within the framework of a civil regime and their configuration may not conform to the type definition approved by the civil Authority, especially concerning the modification standard, the applied repair schemes or the maintenance</p> |

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|                 | <p>program for critical parts. The operating limits approved by the civil Authority may also have been exceeded on these turboshaft engines.</p> <p>It is reminded in particular the life limits are based on normal civil operation cycles.</p> <p>This Airworthiness Directive (AD) explains the conditions for returning these engines to service in a civil regime and issuing an "EASA Form One" attesting the engine's airworthiness.</p>  |
| Effective Date: | 08 March 2007  |
| Compliance:     | <p>Compliance with this AD is required as indicated, unless already done, from the effective date of this AD.</p> <p>Before delivering a standard certificate of airworthiness to an aircraft in which an ARRIEL 1A, 1A1, 1A2, 1B, 1D, 1D1, 1C, 1C1, 1C2, 1E2, K, 1K1, 1S, 1S1 turboshaft engines, previously used by an operator (Military Operator, Paramilitary, State, ...) who is not under the control of a civil Authority, should be installed, the engine will have got an EASA Form One delivered under the conditions mentioned hereinafter.</p> <p><b>1. General case :</b></p> <p>Application of Turbomeca service bulletin A292 72 0806 – Issue No. 1 (or any subsequent approved issue) is an acceptable means to get the EASA Form 1.</p> <p><b>2. Particular case :</b></p> <p>Other means may be proposed to the EASA for approval. In this case, a written request is to be sent to the EASA (European Aviation Safety Agency, Postfach 10 12 53 D-50452 Köln, Germany). These alternative means will have to be based on a demonstration of a level of airworthiness compatible with engine certification criteria, equivalent to the one resulting of the application of the Turbomeca Service Bulletin A292 72 0806 – Original Issue.</p> <p>Particularly, to be acceptable, such a request must include the following justifications demonstrating that the owner or operator:</p> <ul style="list-style-type: none"> <li>- knows the exact engine configuration, its status with respect to the maintenance rules as defined by TURBOMECA (standard, overhauls, repairs, storage, periodical checks, cumulated operating hours and cycles, cumulated time at Max. Contingency Power if applicable),</li> <li>- is able to know the possible deviations to the TURBOMECA maintenance rules and is able to evaluate the consequences on the engine airworthiness,</li> <li>- set up the conformity to the set of drawings (variant, standard, performance),</li> <li>- has identified, if necessary, the parts which are not approved by the EASA, and accepts to ask the EASA their certification as STC, under his/her own responsibility or to replace them with approved parts,</li> <li>- has identified, if necessary, repair schemes which did not receive</li> </ul> |

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|                    | <p>acceptance from the manufacturer and from the EASA, and accepts to ask EASA their certification, under his/her own responsibility or to replace them by approved parts,</p> <ul style="list-style-type: none"> <li>- has checked the respect of the airworthiness data approved by the Authority (Airworthiness Directives, Service Bulletins, life limits, operating limits, calendar limits),</li> <li>- has checked that the engine identification plate is fixed on the engine.</li> </ul> <p>Furthermore, the owner or operator has to provide, or make available to the EASA the following elements:</p> <ul style="list-style-type: none"> <li>- the documents from the former operator, concerning the inspection follow-up and frequencies, the stored work data concerning repair, overhaul, and storage (conditions/limits),</li> <li>- the operating time and cycle log,</li> <li>- the assessment of any possible event concerning the helicopter and the engine (hard landing, accident, detection of particles on the engine magnetic plug, spectrometric oil analysis problems, dilution problems, engine visual inspection, identification record sheets for accessible accessories and parts, etc.),</li> <li>- the information from the former operator allowing to check that the engine operating was compatible with the reference operating cycle(s) used to determine the civil Authority approved life limits,</li> <li>- the applicant has to demonstrate by a test bench run that the engine properly delivers the minimum certified ratings.</li> </ul> <p>The reception of the written acceptance of this request by EASA allows the authorized organization to issue the EASA Form 1.</p> |
| Ref. Publications: | Turbomeca, S.A. Service Bulletin No. A292 72 0806 – Original Issue, or later approved revisions of this document.  |
| Remarks :          | <ol style="list-style-type: none"> <li>1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.</li> <li>2. This AD was posted as PAD 07-006 on 10 January 2007 for consultation until 12 February 2007. No comments were received during the consultation period.</li> <li>3. Enquiries regarding this Airworthiness Directive should be referred to the AD Focal Point - Certification Directorate, EASA.<br/>E-mail: <a href="mailto:ADs@easa.europa.eu">ADs@easa.europa.eu</a> .</li> <li>4. For any question concerning the technical content of the requirements in this AD, please contact:<br/>ARRIEL 1 Operator Support<br/>TURBOMECA<br/>40220 TARNOS - France<br/>Fax number: 33 (0) 5 59 74 45 15</li> </ol>  |