	AIRWORTHINESS DIRECTIVE No F-2004-047 R1	Distribution: A	Issue date: October 26, 2005	Page : 1/3
Direction générale de l'aviation civile France GSAC publication	This Airworthiness Directive is published by the DGAC on behalf of EASA, Airworthiness Authority of the State of Design for the affected product, part or appliance.		<i>Translation of « Consigne de Navigabilité » of same number. In case of difficulty, reference should be made to the French issue.</i>	
	<p style="text-align: center;">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>			
Corresponding foreign Airworthiness Directive(s): Not applicable		Airworthiness Directive(s) replaced: F-2004-047 original issue		
Person in charge of airworthiness: TURBOMECA		Type(s): ARRIEL 1 turboshaft engines		
Type certificate(s) No. M5 TCDS No M5				
ATA chapter: 72	Subject: Engine - Gas generator second stage turbine			

1. EFFECTIVITY:

This Airworthiness Directive (AD) applies to the following turboshaft engine variants:

ARRIEL 1B which have been modified per TU 148,
 ARRIEL 1D,
 ARRIEL 1D1 and
 ARRIEL 1S1.

2. REASONS:

Several cases of release of gas generator 2nd stage turbine blade occurred in service, with full containment of debris. These events resulted in an uncommanded In-Flight Shut Down (IFSD) of the engine. While awaiting terminating actions, it has been decided to implement mandatory check and replacement of the turbine in order to reduce the probability of uncommanded engine IFSD.

This preventive maintenance has been tailored in accordance with the performance characteristics and the in-service experience of the affected engine variants.

Revision 1 of this AD aims at introducing on ARRIEL 1D model the same maintenance actions as the ARRIEL 1D1 model ones. In fact after analysis of the field experience return after the original issue of this AD and taking into account technical similarities of both models, it appeared necessary to harmonise mandatory measures on ARRIEL 1D and 1D1 models.

3. MANDATORY ACTIONS AND COMPLIANCE TIMES:

Unless already done, the following actions are made mandatory from the effective date of this AD. The technical work must be performed in accordance with the instructions of the Service Bulletins referenced below.



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3.1. ARRIEL 1B engines which have been modified per TU 148

3.1.1. Once the 2nd stage turbine has accumulated 1,200 hours or 3,500 cycles since new or since inspection in a repair centre:

- if no check has been previously performed or if the blades have been in operation for more than 150 hours since a check performed according to SB A292 72 0263, carry out a check, according to SB A292 72 0807, within 50 hours of operation;
- if the blades have been in operation for less than 150 hours since a check performed according to SB A292 72 0263, carry out a check, according to SB A292 72 0807, within 200 operating hours of the last check.

3.1.2. Then carry out a check according to SB A292 72 0807 every 200 hours of operation until receipt of an inspected turbine sent by TURBOMECA.

3.1.3. For 2nd stage turbines having accumulated more than 2,200 hours of operation since new or since last inspection in a repair centre, replace the turbine, according to SB A292 72 0807 immediately on receipt of an inspected turbine sent by TURBOMECA and at the latest on August 31, 2006.

3.2. ARRIEL 1D and 1D1 engines

3.2.1. Once the 2nd stage turbine has accumulated 1,200 hours or 3,500 cycles since new or since inspection in a repair centre:

- if no check has been previously performed or if the blades have been in operation for more than 100 hours since a check performed according to SB A292 72 0263 or A292 72 0808, carry out a check, according to SB A292 72 0809, within 50 hours of operation;
- if the blades have been in operation for less than 100 hours since a check performed according to SB A292 72 0263 or A292 72 0808, carry out a check, according to SB A292 72 0809, within 150 operating hours of the last check.

3.2.2. Then carry out a check according to SB A292 72 0809, every 150 hours of operation until receipt of an inspected turbine with new blades sent by TURBOMECA.


3.2.3. For 2nd stage turbines having accumulated more than 1,500 hours of operation since new or since last inspection in a repair centre, replace the turbine, according to SB A292 72 0809 immediately on receipt of an inspected turbine sent by TURBOMECA and at the latest on August 31, 2006.

3.3. ARRIEL 1S1 engines

3.3.1. Once the 2nd stage turbine has accumulated 1,200 hours or 3,500 cycles since new or since inspection in a repair centre:

- if no check has been previously performed or if the blades have been in operation for more than 100 hours since a check performed according to SB A292 72 0263, carry out a check, according to SB A292 72 0810, within 50 hours of operation;
- if the blades have been in operation for less than 100 hours since a check performed according to SB A292 72 0263, carry out a check, according to SB A292 72 0810, within 150 operating hours of the last check.

3.3.2 Then carry out a check, according to SB A292 72 0810, every 150 hours.

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4. REFERENCE PUBLICATIONS:

Alert Service Bulletin No A292 72 0807 (original issue or approved subsequent issue)
Alert Service Bulletin No A292 72 0809 (original issue or approved subsequent issue)
Alert Service Bulletin No A292 72 0810 (original issue or approved subsequent issue).

5. EFFECTIVE DATES:

Original issue : April 10, 2004
Revision 1 : November 05, 2005.

6. REMARK:

For questions concerning the technical contents of this AD's requirements, contact:

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7. APPROVAL:

This AD Revision is approved under EASA reference No 2005-6374 dated October 18, 2005.

SUPERSEDED