

# SERVICE BULLETIN No. 292 72 2236

Version: A

Date: 21 March 2024

First issue

Modification

Periodical action

One-off action

Applicable from:  
"MAY 2024"

**Subject:**  
Module M01 - Modification to the roughness on the starter gear and to the module M01 axial clearance.  
Modification TU 236.

APPLICABLE ENGINE / VARIANT(S)	EFFECTIVITY CODE	MAINTENANCE LEVEL	CONDITION OF APPLICATION	EFFECT ON OPERATION
ARRIEL 2 B, B1, B1A, C, C-PM, C1, C2, C2-CG, D, E, H, L2, N, S1, S2	2-A-3	1, 2, 3	Application upon customer request	Replacement of module M01
		4	Application upon first return to an approved Repair Center, if the repair/overhaul gives access to the starter gear	

Apply this SB in full compliance with the manufacturer's instructions.  
Refer to the Effectivity Code above.

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§1.GENERAL

§2.LEVEL 1, 2

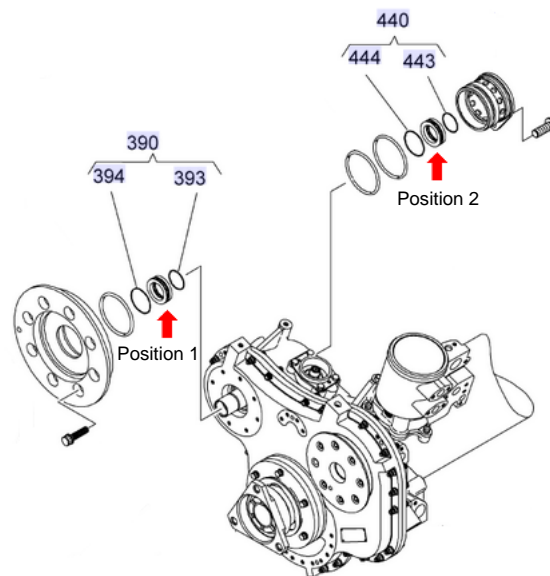
§3.LEVEL 3

§4.LEVEL 4

§5.CERTIFICATES

**1. GENERAL**
**1.1. Background**
**1.1.1. Context**

Operators of ARRIEL 2 engines reported oil leaks on the magnetic seal assemblies (See figure 1, Position 1 and Position 2) installed on the starter gear of the accessory gearbox module (Module M01).


**Figure 1**
**1.1.2. Analysis**

Investigations of magnetic seal assemblies installed on the starter gear done by Safran Helicopter Engines (and shared with the supplier of these magnetic seal assemblies) determined that the origins of the observed leaks are different. They are related among others to:

- a separation of the two rings that make the magnetic seal assembly. This separation can be the result of an excessive axial clearance on the starter gear line.
- damage to the o-ring of the rotor section of the magnetic seal assembly. This damage can be the result of a not sufficient rotational drive capability of the friction ring of the magnetic seal assembly. It is possible to get a better drive capability with a higher roughness on the starter gear.

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§1.GENERAL

§2.LEVEL 1, 2

§3.LEVEL 3

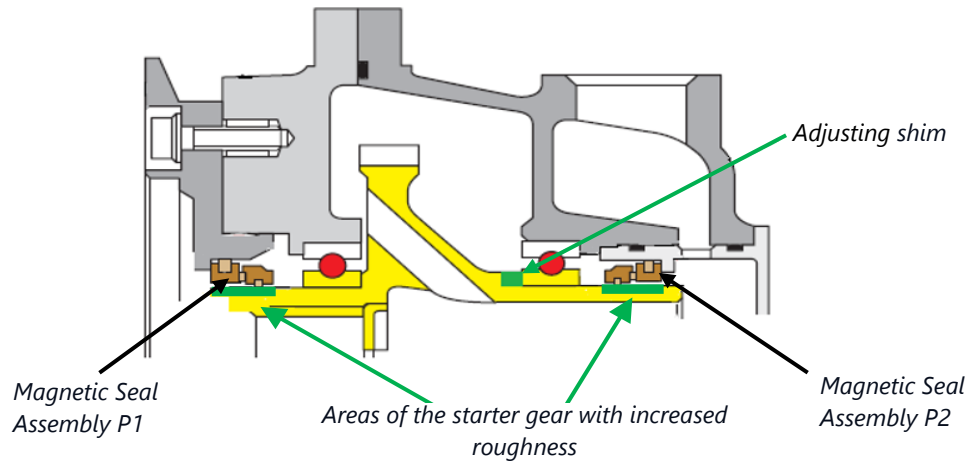
§4.LEVEL 4

§5.CERTIFICATES

**1.1.3. Solution**

Modification TU 236 (see figure 2):

- limits the maximum clearance of the starter gear line by introducing an adjusting shim.
- increases the roughness of the starter gear surfaces opposite the magnetic seals.


**Figure 2**
**1.2. Approval**

- ARRIEL 2 B - B1 - B1A - C - C1 - C2 - D - E - H - L2 - N - S1 - S2 variants  
The technical content of this document is approved under the authority of the DOA (Design Organisation Approval) ref. EASA.21J.070.
- ARRIEL 2 C-PM - C2-CG variants  
The technical information given in this document is approved by Safran Helicopter Engines.

**1.3. Summary of updates**

Not applicable.

**End of Section §1**
**“General”**

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§1.GENERAL

§2.LEVEL 1, 2

§3.LEVEL 3

§4.LEVEL 4

§5.CERTIFICATES

**2. PROCEDURE DONE AT THE OPERATOR'S SITE OR AT A MAINTENANCE CENTER APPROVED FOR LEVEL 1, 2****2.1. Manpower**

- Personnel: 1 mechanic.
- Time: 16 man-hours (removal and installation of module M01).

**2.2. Tools / Parts**

- Mechanic's standard tools.
- Removal and installation tool of module M01, refer to the applicable ARRIEL 2 Maintenance Manual.

**2.3. Parts information****2.3.1. Basic information**

The list of parts is given for one engine.

**2.3.2. List of parts**

POST TU 236 module M01

**2.3.3. Supply conditions**

Order supplies as needed from:

Your local Safran Helicopter Engines Support Center

or

SAFRAN HELICOPTER ENGINES

Direction Support et Service

Département Commercial

40220 TARNOS - France

**2.4. Procedures**

Replacement of the PRE TU 236 module M01 with a POST TU 236 module M01, refer to paragraph 2.6.

**2.5. Block diagram for this SB**

Not applicable.

**2.6. Instructions on how to do the procedure****2.6.1. Implementation**

Removal of the engine is necessary for this SB.

**2.6.2. Operating instructions**

- 2.6.2.1. Remove the PRE TU 236 module M01: Refer to the applicable ARRIEL 2 Maintenance Manual, task 72-00-61-900-801.
- 2.6.2.2. Return the PRE TU 236 module M01, along with its updated log card, to a Safran Helicopter Engines-approved Repair Center.
- 2.6.2.3. Install a POST TU 236 module M01: Refer to the applicable ARRIEL 2 Maintenance Manual, task 72-00-61-900-801.

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§1.GENERAL

§2.LEVEL 1, 2

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§5.CERTIFICATES

**2.6.3. Reconditioning and checks**

Refer to the applicable ARRIEL 2 Maintenance Manual.

**2.6.4. Identification**

Refer to the Guides U441 and U015 for instructions on how to record the engine log book and the log cards.

- 2.6.4.1. Update the log card of the installed module M01 and the log card of the removed module M01.
- 2.6.4.2. Record the replacement of module M01 in the engine log book.
- 2.6.4.3. Integrate the log card of the installed module M01 in the engine log book.
- 2.6.4.4. Record the application of this SB in section E.
- 2.6.4.5. Update the availability status in section E.

**2.7. Weight and balance**

Not applicable.

**End of Section §2**

**“Procedure done at the operator’s site or at a Maintenance Center approved for Level 1, 2”**

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§1.GENERAL

§2. LEVEL 1, 2

§3. LEVEL 3

§4. LEVEL 4

§5.CERTIFICATES

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**3. PROCEDURE DONE AT A MAINTENANCE CENTER APPROVED FOR LEVEL 3 OR AT THE OPERATOR'S SITE BY A MAINTENANCE CENTER APPROVED FOR LEVEL 3**

Refer to the paragraphs of section [§2](#) related to the Maintenance Centers approved for Level 1, 2.

**End of section §3**

**“Procedure done AT a maintenance center approved for level 3 OR AT THE OPERATOR'S SITE BY a Maintenance Center approved for Level 3”**

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§1.GENERAL

§2. LEVEL 1, 2

§3. LEVEL 3

§4. LEVEL 4

§5.CERTIFICATES

**4. PROCEDURE DONE AT A REPAIR CENTER APPROVED FOR LEVEL 4**
**4.1. Manpower**

- Personnel of approved Repair Center.
- Time calculated by the Repair Center for this level of intervention.

**4.2. Tools / Parts**

Refer to the ARRIEL 2 Overhaul Manual.

**4.3. Parts information**
**4.3.1. Basic information**

The list of parts is given for one engine.

**4.3.2. List of parts**

New Part Number	Key	Qty	Description / Item	Old Part Number	Key	Qty
<b>ARRIEL 2 B - B1 - B1A - C - C-PM - C1 - C2 - C2-CG - D - H - L2 - N</b>						
0 292 12 107 0	A	1	43-tooth starter gear (72-61-30-01-380)	0 292 12 764 0 0 292 12 763 0	C	1
7 292 12 767 A	A'			0 292 12 767 0	F	
0 292 10 219 0	A	1	Adjusting shim (72-61-30-01-390)			
<b>ARRIEL 2 S1- S2</b>						
0 292 12 113 0	A	1	43-tooth starter gear (72-61-30-01-380)	0 292 12 761 0 0 292 12 762 0	C	1
7 292 12 766 A	A'			0 292 12 766 0	F	
0 292 10 219 0	A	1	Adjusting shim (72-61-30-01-390)			
<b>ARRIEL 2 E</b>						
0 292 12 105 0	A	1	43-tooth starter gear (72-61-30-01-380)	0 292 12 067 0	C	1
7 292 12 067 A	A'					
0 292 10 219 0	A	1	Adjusting shim (72-61-30-01-390)			

**Key**

A	Part included by this SB
A'	Part got after application of this modification as a retrofit
C	Part deleted by this SB
F	Part changed at the manufacturer's site or at a Safran Helicopter Engines-approved Repair Center

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§1.GENERAL

§2. LEVEL 1, 2

§3. LEVEL 3

§4. LEVEL 4

§5.CERTIFICATES

**4.3.3. Supply conditions**

Order supplies as needed from:  
Your local Safran Helicopter Engines Support Center  
or  
SAFRAN HELICOPTER ENGINES  
Direction Support et Service  
Département Commercial  
40220 TARNOS - France

**4.4. Procedures**

Replacement of PRE TU 236 starter gear with a POST TU 236 starter gear and addition of a POST TU 236 adjusting shim, refer to paragraph 4.6.

**4.5. Block diagram for this SB**

Not applicable.

**4.6. Instructions on how to do the procedure****4.6.1. Implementation**

Not applicable.

**4.6.2. Operating instructions**

Refer to the ARRIEL 2 Overhaul Manual.

**4.6.3. Reconditioning and checks**

Refer to the ARRIEL 2 Overhaul Manual.

**4.6.4. Identification**

Refer to the Guides U441 and U015 for instructions on how to record the engine log book and the log cards.

Record the application of this SB on the log card of the module M01.

**4.7. Weight and balance**

Not applicable.

**End of Section §4****“Procedure done at a Repair Center approved for Level 4”**



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§1.GENERAL

§2. LEVEL 1, 2

§3. LEVEL 3

§4. LEVEL 4

§5.CERTIFICATES

Not applicable.