
SERVICE BULLETIN

Modification**Recurring action****One-off action**

No.**292 72 2087**

ARRIEL 2 B - B1 - C - C1 - C-PM - S1

Subject: M03 module (gas generator). Protection of the HP turbine blades with electrolytic NiCoCrAlYTa.**Application of modification TU 87A.**

Date on which this SB becomes effective and must systematically be complied with, according to the conditions of application.

This is the date all resources (parts, tools, documentation, etc.) required for this procedure are available.

Applicable from NOVEMBER 2002

If resources (parts, tools, documentation, etc.) are available any earlier, the SB may be applied prior to the effectivity date.

Version : B**Reason for update:****Merger of SB No. 292 72 2087 and No. 292 72 2087M.**

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1. Compliance

A. Application

The manufacturer recommends this modification be incorporated as defined in this Service Bulletin.

Validity	Code
ARRIEL 2 B - B1 ARRIEL 2 C - C-PM - C1 ARRIEL 2 S1	5-1

Conditions of application for engines in service

(1) Application at the operator's site or at a Safran Helicopter Engines-approved Maintenance Center

Alternative use. According to provisioning.

(2) Application at a Safran Helicopter Engines-approved Repair Center

Alternative use. According to provisioning.

B. Purpose

To increase the protection of the HP blade recess against oxidation/corrosion.

C. Description (Appendix 1 - Figure 1)

This modification consists in replacing the argon-plasma or PR-plasma NiCoCrAlYTa coating on the HP blades with an electrolytic NiCoCrAlYTa coating.

D. Approval

- ARRIEL 2 B - B1 - C - C1 - S1 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 variant:
The technical information given in this document is approved by Safran Helicopter Engines.

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E. Manpower

- (1) **At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center**
 - (a) **Personnel:** 1 mechanic.
 - (b) **Time required:** 12 man - hours (removal/installation of M03 module).
- (2) **At a Safran Helicopter Engines-approved Repair Center**
 - (a) **Personnel** of approved Repair Center.
 - (b) **Time** determined by the Repair Center as being appropriate for this level of intervention.

F. Material

Refer to paragraph 3.

G. Tooling

- (1) **At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center**
 - (a) Mechanic's standard tooling.
 - (b) Tooling for removal/installation of M03 module: refer to the applicable ARRIEL 2 Maintenance Manual.
- (2) **At a Safran Helicopter Engines-approved Repair Center**
Refer to the ARRIEL 2 Overhaul Manual.

H. Weight and balance

Not applicable.

I. References

- | | | |
|-----|---------------------------------------|----------------------|
| (1) | ARRIEL 2 B Maintenance Manual..... | Ref. X 292 M5 450 2. |
| (2) | ARRIEL 2 B1 Maintenance Manual..... | Ref. X 292 N5 450 2. |
| (3) | ARRIEL 2 C Maintenance Manual..... | Ref. X 292 M1 450 2. |
| (4) | ARRIEL 2 C-PM Maintenance Manual..... | Ref. X 292 P1 450 2. |
| (5) | ARRIEL 2 C1 Maintenance Manual..... | Ref. X 292 N4 450 2. |
| (6) | ARRIEL 2 S1 Maintenance Manual..... | Ref. X 292 L0 301 2. |
| (7) | ARRIEL 2 Overhaul Manual..... | Ref. X 292 R1 500 2. |

J. Other publications concerned

- | | | |
|------|--|----------------------|
| (1) | ARRIEL 2 B Spare Parts Catalogue..... | Ref. X 292 M5 700 2. |
| (2) | ARRIEL 2 B1 Spare Parts Catalogue..... | Ref. X 292 N5 700 2. |
| (3) | ARRIEL 2 C Spare Parts Catalogue..... | Ref. X 292 M1 700 2. |
| (4) | ARRIEL 2 C-PM Spare Parts Catalogue..... | Ref. X 292 P1 700 2. |
| (5) | ARRIEL 2 C1 Spare Parts Catalogue..... | Ref. X 292 N4 700 2. |
| (6) | ARRIEL 2 S1 Spare Parts Catalogue..... | Ref. X 292 L0 700 2. |
| (7) | ARRIEL 2 B Illustrated Parts Catalogue..... | Ref. X 292 M5 600 2. |
| (8) | ARRIEL 2 B1 Illustrated Parts Catalogue..... | Ref. X 292 N5 600 2. |
| (9) | ARRIEL 2 C Illustrated Parts Catalogue..... | Ref. X 292 M1 600 2. |
| (10) | ARRIEL 2 C-PM Illustrated Parts Catalogue..... | Ref. X 292 P1 600 2. |
| (11) | ARRIEL 2 C1 Illustrated Parts Catalogue..... | Ref. X 292 N4 600 2. |
| (12) | ARRIEL 2 S1 Illustrated Parts Catalogue..... | Ref. X 292 L0 600 2. |

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2. Instructions to be incorporated

A. Implementation

The engine must be removed from the helicopter.

This modification can be performed:

(1) At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center

Replace M03 module: refer to the applicable ARRIEL 2 Maintenance Manual, task 72-00-43-900-801.

(2) At a Safran Helicopter Engines-approved Repair Center

Replace HP turbine blades: refer to the ARRIEL 2 Overhaul Manual.

B. Operating instructions

(1) At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center

(a) Remove PRE TU 87A M03 module: refer to the applicable ARRIEL 2 Maintenance Manual, task 72-00-43-900-801.

(b) Install POST TU 87A M03 module: refer to the applicable ARRIEL 2 Maintenance Manual, task 72-00-43-900-801.

(2) At a Safran Helicopter Engines-approved Repair Center

(a) Remove M03 module: refer to the ARRIEL 2 Overhaul Manual.

(b) Disassemble M03 module sub-assemblies: refer to the ARRIEL 2 Overhaul Manual.

(c) Remove HP turbine assembly: refer to the ARRIEL 2 Overhaul Manual.

(d) Remove HP turbine blades: refer to the ARRIEL 2 Overhaul Manual.

(e) Clean according to instructions in the ARRIEL 2 Overhaul Manual.

(f) Inspect and check the parts per the acceptance criteria in the ARRIEL 2 Overhaul Manual.

Any parts not in compliance with acceptance criteria must be removed, discarded and replaced.

CAUTION: BLADES INSTALLED ON HP TURBINE DISC MUST ALL BE OF SAME STANDARD. INSTALLING PRE TU 87A BLADES WITH POST TU 87A BLADES IS PROHIBITED.

(g) Apply repair procedure on HP turbine assembly with a set of POST TU 87A blades: refer to the ARRIEL 2 Overhaul Manual.

(h) Mark new Part Number on HP turbine assembly: refer to CTB (procedure 300).

(i) Install HP turbine assembly: refer to the ARRIEL 2 Overhaul Manual.

(j) Assemble M03 module sub-assemblies: refer to the ARRIEL 2 Overhaul Manual.

(k) Install POST TU 87A M03 module : refer to the applicable ARRIEL 2 Maintenance Manual, task 72-00-43-900-801.

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C. Reconditioning and checks

(1) At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center

- (a) Do a ground run check: refer to the applicable ARRIEL 2 Maintenance Manual, task 71-02-13-280-801.
- (b) Do an oil pressure check: refer to the applicable ARRIEL 2 Maintenance Manual, task 79-00-00-200-801.
- (c) Do a vibration check: refer to the applicable ARRIEL 2 Maintenance Manual, task 71-02-10-760-801.

(2) At a Safran Helicopter Engines-approved Repair Center

Refer to the ARRIEL 2 Overhaul Manual.

D. Identification

(1) At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center

- (a) Update the log card of the removed M03 module and the installed M03 module.
- (b) Record the replacement of the M03 module in the engine log book.
- (c) Integrate the log card of the removed M03 module in the engine log book.
- (d) Record the application of this SB in section E.
- (e) Update, if necessary, the availability status in section E.

(2) At a Safran Helicopter Engines-approved Repair Center

Record the application of this SB on the log card of M03 module.

E. Routine maintenance

Not applicable.

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3. Material information

A. Basic information

The parts list required for the incorporation of this Service Bulletin is for one engine.

B. List of parts

(1) **At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center**

POST TU 87A M03 module.

(2) **At a Safran Helicopter Engines-approved Repair Center**

New Part Number	Key	Qty	Description	Old Part Number	Key	Qty
0 292 26 719 0	A	1	HP turbine assembly	0 292 26 720 0	H	1
2 292 26 A07 0	A	39	• Blades	2 292 26 A0A 0	E	39

Key

A - Part incorporated by this modification.

E - Part which can be used on other assemblies, to be kept in stock.

H - Part which can replace the equivalent part incorporated.

C. Supply conditions

Order supplies from :

your local Safran Helicopter Engines Support Center

or

SAFRAN HELICOPTER ENGINES

Direction Support et Service

Département Commercial

40220 TARNOS - France

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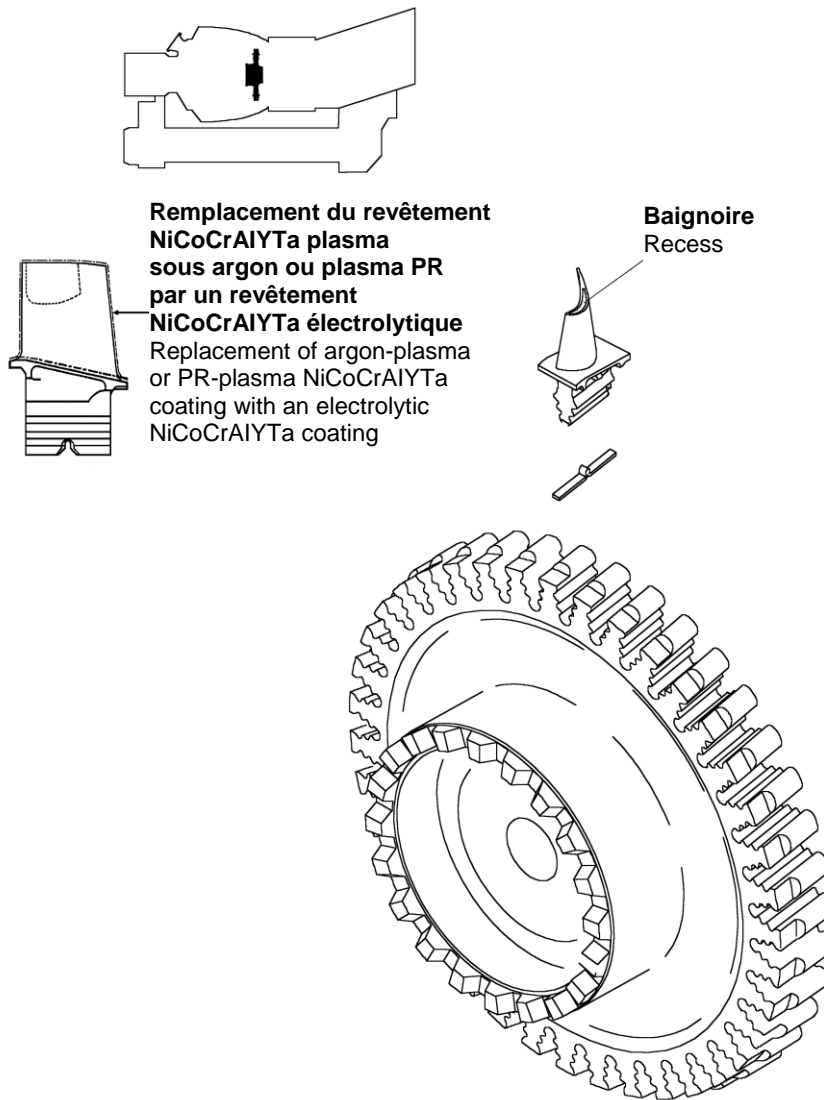


Figure 1

ANNEXE 1 / APPENDIX 1