

## SERVICE BULLETIN

**Modification**

**Recurring action**

**One-off action**

**No.**
**292 72 2022**
**ARRIEL 2 B - B1 - C - C-PM - C1 - S1**

**Subject: Module M03 (gas generator). Thicker rear flange on free turbine (FT) shield.**

**Application of modification TU 22.**

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 JULY 2002**

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

**Version: C**

**Reason for update:**

**Merger of SB No. 292 72 2022 and SB No. 292 72 2022M.**

# SERVICE BULLETIN

## 1. Compliance

### A. Application

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

| Validity   | Code  |
|--|-------|
| ARRIEL 2 B - B1<br>ARRIEL 2 C - C-PM - C1<br>ARRIEL 2 S1 | 2-A-3 |

#### Conditions of application for engines in service

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

Upon customer request.

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

Upon first return to an approved Repair Center if the repair/overhaul being performed provides access to the free turbine shield.

### B. Purpose

To increase the mechanical resistance of the free turbine shield rear flange attachment.

### C. Description

This modification consists of installing a new free turbine shield. This new free turbine shield has been improved as follows:

- increase of rear flange and clamp web thickness,
- enlargement of blending radiuses,
- adaptation of bushes to the new shape,
- deletion of the 3 crimp nuts and 3 equidistant drillings.

### 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.

### E. Manpower

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

**(a) Personnel:** 1 mechanic.

**(b) Time required:** 6 man-hours (removal/installation of free turbine shield)  
or 12 man-hours (removal/installation of module M03).

**(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.

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### 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 module M03: 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

Incorporation of this modification necessitates removing the engine from the helicopter.  
This modification can be performed:

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

Replace free turbine shield or module M03.

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

Replace free turbine shield per instructions in the ARRIEL 2 Overhaul Manual.

#### B. Operating instructions

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

**(a) Replace free turbine shield**

**1** Remove PRE TU 22 free turbine shield: refer to the applicable ARRIEL 2 Maintenance Manual, task 72-43-10-900-801 (Rear bearing, removal/installation).

**2** Install POST TU 22 free turbine shield: refer to the applicable ARRIEL 2 Maintenance Manual, task 72-43-10-900-801 (Rear bearing, removal/installation).

**(b) Replace module M03**

**1** Remove PRE TU 22 module M03: refer to the applicable ARRIEL 2 Maintenance Manual, task 72-00-43-900-801.

**2** Install POST TU 22 module M03: refer to the applicable ARRIEL 2 Maintenance Manual, task 72-00-43-900-801.

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

Refer to the ARRIEL 2 Overhaul Manual.

#### 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.

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### D. Identification

- (1) **At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center**
- (a) **Replacement of free turbine shield**
- 1** Complete the following section in the engine log book:
    - Section "E": Record the replacement of the free turbine shield.
  - 2** Record the incorporation of modification TU 22 referencing Service Bulletin No. 292 72 2022, having replaced the free turbine shield, on the module M03 log card.
  - 3** Notify Safran Helicopter Engines that the free turbine shield has been replaced and that modification TU 22 has been incorporated by returning the fully-completed compliance certificates (Appendixes 1 and 3 of this Service Bulletin).
- (b) **Replacement of module M03**
- 1** Complete the following sections in the engine log book:
    - Section "B": Update the list of modules.
    - Section "D": Update the availability status.
    - Section "E": Record the replacement of module M03.
  - 2** Complete the log card of the removed module M03 and the log card of the installed module M03.
  - 3** Notify Safran Helicopter Engines that module M03 has been replaced and that modification TU 22 has been incorporated by returning the fully-completed compliance certificates (Appendixes 2 and 3 of this Service Bulletin).
- (2) **At a Safran Helicopter Engines-approved Repair Center**
- (a) Complete the following sections in the engine log book:
  - Section "A": Update the modification standard.
  - Section "E": Record the incorporation of modification TU 22.
- (b) Record the incorporation of modification TU 22 referencing Service Bulletin No. 292 72 2022, having replaced the free turbine shield, on the module M03 log card.
- (c) Notify Safran Helicopter Engines that the free turbine shield has been replaced and that modification TU 22 has been incorporated by returning the fully-completed compliance certificates (Appendixes 1 and 3 of this Service Bulletin).

### 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

(a) Replacement of free turbine shield

| New Part Number | Key | Qty | Description         | Price | Old Part Number | Key | Qty |
|-----------------|-----|-----|---------------------|-------|-----------------|-----|-----|
| 0 292 81 739 0  | A   | 1   | Free turbine shield | *     | 0 292 81 722 0  | C   | 1   |
| 0 292 81 062 0  | A   | 3   | Bush                | *     | 0 292 46 006 0  | C   | 3   |
|                 |     |     | Crimp nut           |       | 9 867 60 005 0  | C   | 3   |
|                 |     |     | Screw               |       | 9 840 10 501 4  | C   | 3   |

(b) Replacement of module M03

POST TU 22 module M03.

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

| New Part Number | Key | Qty | Description         | Old Part Number | Key | Qty |
|-----------------|-----|-----|---------------------|-----------------|-----|-----|
| 0 292 81 739 0  | A   | 1   | Free turbine shield | 0 292 81 722 0  | C   | 1   |
| 0 292 81 062 0  | A   | 3   | Bush                | 0 292 46 006 0  | C   | 3   |
|                 |     |     | Crimp nut           | 9 867 60 005 0  | C   | 3   |
|                 |     |     | Screw               | 9 840 10 501 4  | C   | 3   |

\* Prices are available upon request.

#### Key

A - Part incorporated by this modification.

C - Part deleted by this modification.

#### C. 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

## SERVICE BULLETIN

**Objet : Attestation de remplacement du blindage de la turbine libre par application du SB n° 292 72 2022 (TU 22).**

**Subject: Compliance certificate for replacement of free turbine shield through application of the SB No. 292 72 2022 (TU 22).**

**Important / Important notice:**

**Après application des instructions spécifiées dans ce SB, veuillez compléter la présente attestation et la retourner par courrier ou courriel à :**

After application of the instructions specified in this SB, please mail or email the fully-completed compliance certificate to:

**SAFRAN HELICOPTER ENGINES**  
**Equipe Administration Base installée / Fleet Data Administrator Team, BP 25**  
**40220 TARNOS - France**

Email: [data-fleet.fr.she@safrangroup.com](mailto:data-fleet.fr.she@safrangroup.com)

| Information concernant le matériel / Equipment information  |           |            |      |                             |      |      |
|---|-----------|------------|------|-----------------------------|------|------|
| Utilisateur<br>Customer                                     |           |            |      | N° Appareil<br>Aircraft S/N |      |      |
|   | N/S - S/N | Réf. - P/N | TSN* | TSO*                        | CSN* | CSO* |
| Moteur<br>Engine  |           |            |      |                             |      |      |
| Blindage AVANT<br>TU 22 déposé<br>PRE TU 22 shield removed  |           |            |      |                             |      |      |
| Blindage APRES<br>TU 22 posé<br>POST TU 22 shield installed |           |            |      |                             |      |      |

\* **TSN** = Time Since New (Heures depuis neuf)  
**CSN** = Cycles Since New (Cycles depuis neuf)

**TSO** = Time Since Overhaul (Heures depuis RG)  
**CSO** = Cycles Since Overhaul (Cycles depuis RG)

**Opération faite par / Work done by:**

**Je certifie que le blindage identifié ci-dessus a été installé selon les directives de ce SB.**

I certify that the above-mentioned shield has been installed according to the directives given in this SB.

| Date [JJ/MMMM (en lettre)/AAAA<br>ou/or DD/MMMM (letter)/YYYY] | Nom / Name | Fonction / Job title |
|--|------------|----------------------|
|  |            |                      |

**Signature :**

**ANNEXE 1 / APPENDIX 1**

## SERVICE BULLETIN

**Objet : Attestation de remplacement du module M03 par application du SB n° 292 72 2022 (TU 22).**

**Subject: Compliance certificate for replacement of module M03 through application of the SB No. 292 72 2022 (TU 22).**

**Important / Important notice:**

**Après application des instructions spécifiées dans ce SB, veuillez compléter la présente attestation et la retourner par courrier ou courriel à :**

After application of the instructions specified in this SB, please mail or email the fully-completed compliance certificate to:

**SAFRAN HELICOPTER ENGINES**  
**Equipe Administration Base installée / Fleet Data Administrator Team, BP 25**

**40220 TARNOS - France**

Email: [data-fleet.fr.she@safrangroup.com](mailto:data-fleet.fr.she@safrangroup.com)

| Information concernant le matériel / Equipment information |           |            |      |                             |      |      |
|--|-----------|------------|------|-----------------------------|------|------|
| Utilisateur<br>Customer                                    |           |            |      | N° Appareil<br>Aircraft S/N |      |      |
|  | N/S - S/N | Réf. - P/N | TSN* | TSO*                        | CSN* | CSO* |
| Moteur<br>Engine   |           |            |      |                             |      |      |
| Module M03 déposé<br>Removed module M03                    |           |            |      |                             |      |      |
| Module M03 posé<br>Installed module M03                    |           |            |      |                             |      |      |

\* TSN = Time Since New (Heures depuis neuf)  
 CSN = Cycles Since New (Cycles depuis neuf)

TSO = Time Since Overhaul (Heures depuis RG)  
 CSO = Cycles Since Overhaul (Cycles depuis RG)

Opération faite par / Work done by:

**Je certifie que le module identifié ci-dessus a été installé selon les directives de ce SB.**

I certify that the above-mentioned module has been installed according to the directives given in this SB.

| Date [JJ/MMMM (en lettre)/AAAA<br>ou/or DD/MMMM (letter)/YYYY] | Nom / Name | Fonction / Job title |
|--|------------|----------------------|
|  |            |                      |

Signature :

**ANNEXE 2 / APPENDIX 2**



## SERVICE BULLETIN

**Objet : Attestation d'application du SB n° 292 72 2022 (TU 22).**

**Subject: SB No. 292 72 2022 compliance certificate (TU 22).**

**Important / Important notice:**

**Après application des instructions spécifiées dans ce SB, veuillez compléter la présente attestation et la retourner par courrier ou courriel à :**

After application of the instructions specified in this SB please mail or email the fully-completed certificate to:

**SAFRAN HELICOPTER ENGINES,  
Equipe Administration Base installée / Fleet Data Administrator Team, BP 25**

**40220 TARNOS - France**

Email : [data-fleet.fr.she@safrangroup.com](mailto:data-fleet.fr.she@safrangroup.com)

| Information concernant le matériel / Equipment information  |           |            |      |                             |      |      |
|---|-----------|------------|------|-----------------------------|------|------|
| Utilisateur<br>Customer                                     |           |            |      | N° Appareil<br>Aircraft S/N |      |      |
|   | N/S - S/N | Réf. - P/N | TSN* | TSO*                        | CSN* | CSO* |
| Moteur<br>Engine  |           |            |      |                             |      |      |
| Blindage AVANT<br>TU 22 déposé<br>PRE TU 22 shield removed  |           |            |      |                             |      |      |
| Blindage APRES<br>TU 22 posé<br>POST TU 22 shield installed |           |            |      |                             |      |      |
| Module M03 modifié<br>Modified module M03                   |           |            |      |                             |      |      |

\* TSN = Time Since New (Heures depuis neuf)  
CSN = Cycles Since New (Cycles depuis neuf)

TSO = Time Since Overhaul (Heures depuis RG)  
CSO = Cycles Since Overhaul (Cycles depuis RG)

**Opération faite par / Work done by:**

**Je certifie que le module identifié ci-dessus a été modifié selon les directives de ce SB.**

I certify that the above-mentioned module has been modified according to the directives given in this SB.

| Date [JJ/MMMM (en lettre)/AAAA<br>ou/or DD/MMMM (letter)/YYYY] | Nom / Name | Fonction / Job title |
|--|------------|----------------------|
|  |            |                      |

**Signature :**

**ANNEXE 3 / APPENDIX 3**