

SERVICE BULLETIN

Modification



Recurring action



One-off action



No.

292 72 2059

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

Subject: Module M04. Power turbine labyrinth ring. Abradable coating made of silicium aluminum.

Application of modification TU 59A.

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 OCTOBER 2000

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 2059 and SB No. 292 72 2059M.
- As PRE TU 59A labyrinth rings removed during repair and outside acceptance criteria cannot be modified into POST TU 59A rings, they must systematically be scrapped.
- Deletion of NORIA addresses after the end of the NORIA follow-up.

SERVICE BULLETIN

1. GENERAL

1.1. Purpose

To eliminate the possibility of oil leakage caused by deterioration of the abradable coating.

1.2. Reason

Oil leakage could cause a significant increase of oil consumption and in-flight drainage of the oil tank.

1.3. Description

This SB consists of replacing the abradable coating made of nickel-chrome metallic felt with an abradable coating made of silicium aluminum.

1.4. 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.

1.5. Conditions of application

The conditions of application for this SB are specified in:

- Chapter §2 for application at the operator's site or at a Maintenance Center qualified for level 1, 2.
- Chapter §3 for application at a Maintenance Center qualified for level 3.
- Chapter §4 for application at a Safran Helicopter Engines-approved Repair Center.

1.6. Definition

Not applicable.

1.7. Update history

VERSION	CAUSE FOR UPDATING
B	SB expanded to include ARRIEL 2 B1 variant, a cross-reference to MTI Ref. X 292 M5 333 2 and a change to the application code.
C	Merger of SB No. 292 72 2059 and SB No. 292 72 2059M. As PRE TU 59A labyrinth rings removed during repair and outside acceptance criteria cannot be modified into POST TU 59A rings, they must systematically be scrapped. Deletion of NORIA addresses after the end of the NORIA follow-up.

END of section §1

“General”

SERVICE BULLETIN

2. APPLICATION AT THE OPERATOR'S SITE OR AT A MAINTENANCE CENTER QUALIFIED FOR LEVEL 1, 2

2.1. Required actions

Replace the PRE TU 59A module M04 with a POST TU 59A module M04 according to paragraph 2.3.

2.2. Effectivity and compliance times

ENGINE / VARIANT	EFFECTIVITY CODE	CONDITIONS OF APPLICATION FOR ENGINES IN SERVICE
ARRIEL 2 B - B1 - C - C1 - S1	2-A-3	Application upon customer request
ARRIEL 2 C-PM	2-A-1	Application if the module M04 is replaced

2.3. Accomplishment instructions

2.3.1. Implementation

Application of this SB necessitates removing the engine.

2.3.2. Operating instructions

2.3.2.1. Remove the PRE TU 59A module M04: refer to the applicable ARRIEL 2 Maintenance Manual, task 72-00-54-900-801.

2.3.2.2. Install a POST TU 59A module M04: refer to the applicable ARRIEL 2 Maintenance Manual, task 72-00-54-900-801.

2.3.3. Reconditioning and checks

2.3.3.1. Do a ground run check: refer to the applicable ARRIEL 2 Maintenance Manual, task 05-50-00-200-801 or 05-50-00-200-001 for the 2 C-PM variant.

2.3.3.2. Do an oil pressure check: refer to the applicable ARRIEL 2 Maintenance Manual, task 05-50-00-200-801 or 05-50-00-200-001 for the 2 C-PM variant.

2.3.3.3. Do a vibration check: refer to the applicable ARRIEL 2 Maintenance Manual, task 05-50-00-200-801 or 05-50-00-200-001 for the 2 C-PM variant.

2.3.4. Identification

2.3.4.1. Update the log card of the installed module M04 and the log card of the removed module M04.

2.3.4.2. Record the module M04 replacement in section "B" of the engine log book and integrate the log card of the installed module M04.

2.3.4.3. Record the application of this SB in section "D" of the current engine log book and in section "E" of the unique engine log book.

Note: Update the availability status, if necessary.

2.3.4.4. Return the removed module M04, along with its log card, to a Safran Helicopter Engines-approved Repair Center.

2.3.4.5. Tell Safran Helicopter Engines that module M04 has been replaced by returning the fully completed compliance certificate (Appendix 2.1 of this SB).

2.3.5. Scheduled maintenance

No modification to the scheduled maintenance.

SERVICE BULLETIN

2.4. Material information

2.4.1. Basic information

The parts list required for the application of this SB is for one engine.

2.4.2. List of parts

POST TU 59A module M04.

2.4.3. 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

2.5. Manpower

- Personnel: 1 mechanic.
- Time required: 4 man hours (removal and installation of module M04).

2.6. Tooling and/or products

- Mechanic's standard tooling.
- Tooling for removal and installation of module M04.

2.7. Weight and balance

Not applicable.

2.8. Publication references

Document	Engine	Reference
Maintenance Manual (MM)	ARRIEL 2 B	X 292 M5 450 2
	ARRIEL 2 B1	X 292 N5 450 2
	ARRIEL 2 C	X 292 M1 450 2
	ARRIEL 2 C-PM	X 292 P1 450 2
	ARRIEL 2 C1	X 292 N4 450 2
	ARRIEL 2 S1	X 292 L0 301 2
Spare Parts Catalog (SPC)	ARRIEL 2 B	X 292 M5 700 2
	ARRIEL 2 B1	X 292 N5 700 2
	ARRIEL 2 C	X 292 M1 700 2
	ARRIEL 2 C-PM	X 292 P1 700 2
	ARRIEL 2 C1	X 292 N4 700 2
	ARRIEL 2 S1	X 292 L0 700 2

SERVICE BULLETIN

Objet : Attestation de remplacement du module M04 par application du SB n° 292 72 2059 (TU 59A).

Subject: Compliance certificate for replacement of module M04 through application of SB No. 292 72 2059 (TU 59A).

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

Information concernant le matériel / Equipment information						
Utilisateur Customer				N° Appareil Aircraft S/N		
	N/S - S/N	Réf. - P/N	TSN*	TSO*	CSN*	CSO*
Moteur Engine						
Module M04 déposé AVANT TU 59A Removed PRE TU 59A module M04						
Module M04 posé APRES TU 59A Installed POST TU 59A module M04						

* **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 M04 identifié ci-dessus a été installé selon les directives de ce SB.

I certify that the above-mentioned module M04 has been installed according to the directives given in this SB.

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

Signature :

ANNEXE 2.1 / APPENDIX 2.1

END of section §2

“Application at the operator’s site or at a Maintenance Center qualified for level 1, 2”

SERVICE BULLETIN

3. APPLICATION AT A MAINTENANCE CENTER QUALIFIED FOR LEVEL 3

3.1. Required actions

Replace the PRE TU 59A labyrinth ring with a POST TU 59A labyrinth ring according to paragraph 3.3.

3.2. Effectivity and compliance times

ENGINE / VARIANT	EFFECTIVITY CODE	CONDITIONS OF APPLICATION FOR ENGINES IN SERVICE
ARRIEL 2 B - B1 - C - C1 - S1	2-A-3	Application upon customer request
ARRIEL 2 C-PM	2-A-1	Application if the module M04 is replaced

This SB must be applied with strict conformity to the manufacturer's conditions of application as defined by the effectivity code given in the above table.

3.3. Accomplishment instructions

3.3.1. Implementation

Application of this SB necessitates removing the engine.

3.3.2. Operating instructions

Refer to MTI Ref. X 292 M5 333 2.

3.3.3. Reconditioning and checks

Refer to MTI Ref. X 292 M5 333 2.

3.3.4. Identification

Refer to MTI Ref. X 292 M5 333 2.

3.3.5. Scheduled maintenance

No modification to the scheduled maintenance.

3.4. Material information

3.4.1. Basic information

The parts list required for the application of this SB is for one engine.

3.4.2. List of parts

Refer to MTI Ref. X 292 M5 333 2.

3.4.3. Supply conditions

Supplies will be provisioned by personnel responsible for doing the operation.

3.5. Manpower

- Personnel: 1 mechanic approved by Safran Helicopter Engines for the operation described in MTI Ref. X 292 M5 333 2.
- Time required: 8 man hours approximately (application of MTI Ref. X 292 M5 333 2).

3.6. Tooling and/or products

Refer to MTI Ref. X 292 M5 333 2.

3.7. Weight and balance

Not applicable.

SERVICE BULLETIN

3.8. Publication references

Document	Engine	Reference
Maintenance Manual (MM)	ARRIEL 2 B	X 292 M5 450 2
	ARRIEL 2 B1	X 292 N5 450 2
	ARRIEL 2 C	X 292 M1 450 2
	ARRIEL 2 C-PM	X 292 P1 450 2
	ARRIEL 2 C1	X 292 N4 450 2
	ARRIEL 2 S1	X 292 L0 301 2
Maintenance Technical Instruction (MTI)	ARRIEL 2	X 292 M5 333 2
Illustrated Parts Catalog (IPC)	ARRIEL 2 B	X 292 M5 600 2
	ARRIEL 2 B1	X 292 N5 600 2
	ARRIEL 2 C	X 292 M1 600 2
	ARRIEL 2 C-PM	X 292 P1 600 2
	ARRIEL 2 C1	X 292 N4 600 2
	ARRIEL 2 S1	X 292 L0 600 2

END of section §3

“Application at a Maintenance Center qualified for level 3”

SERVICE BULLETIN

4. APPLICATION AT A SAFRAN HELICOPTER ENGINES-APPROVED REPAIR CENTER

4.1. Required actions

Replace the PRE TU 59A labyrinth ring with a POST TU 59A labyrinth ring according to paragraph 4.3.

4.2. Effectivity and compliance times

ENGINE / VARIANT	EFFECTIVITY CODE	CONDITIONS OF APPLICATION FOR ENGINES IN SERVICE
ARRIEL 2 B - B1 - C - C1 - S1	2-A-3	Application upon first return to an approved Repair Center, if the repair/overhaul being done gives access to the power turbine bearing (ITEM 72-54-20-01 was removed)
ARRIEL 2 C-PM	2-A-1	

This SB must be applied with strict conformity to the manufacturer's conditions of application as defined by the effectivity code given in the above table.

4.3. Accomplishment instructions

4.3.1. Implementation

Not applicable.

4.3.2. Operating instructions

As PRE TU 59A labyrinth rings removed during repair and outside acceptance criteria cannot be modified into POST TU 59A rings, they must systematically be scrapped.

Refer to the ARRIEL 2 Overhaul Manual.

4.3.3. Reconditioning and checks

Refer to the ARRIEL 2 Overhaul Manual.

4.3.4. Identification

4.3.4.1. Record the application of the SB on the module M04 log card.

Note: Update the availability status, if necessary.

4.3.4.2. Tell Safran Helicopter Engines that this SB has been applied by returning the fully completed compliance certificate (Appendix 4.1).

4.3.5. Scheduled maintenance

No modification to the scheduled maintenance.

SERVICE BULLETIN

4.4. Material information

4.4.1. Basic information

The parts list required for the application of this SB is for one engine.

4.4.2. List of parts

New Part Number	Key	Qty	Description / Item	Old Part Number	Key	Qty
ARRIEL 2 B - B1 - C - C-PM - C1 - S1						
0 292 81 746 0	A	1	Labyrinth ring / 72-54-20-01-200	0 292 81 742 0	C	1

Key

A	Part incorporated by the modification
C	Part deleted by the modification

4.4.3. 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

4.5. Manpower

- Personnel of approved Repair Center.
- Time determined by the Repair Center as being appropriate for this level of intervention.

4.6. Tooling and/or products

Refer to the ARRIEL 2 Overhaul Manual.

4.7. Weight and balance

Not applicable.

4.8. Publication references

Document	Engine	Reference
Overhaul Manual (OM)	ARRIEL 2	X 292 R1 500 2
Illustrated Parts Catalog (IPC)	ARRIEL 2 B	X 292 M5 600 2
	ARRIEL 2 B1	X 292 N5 600 2
	ARRIEL 2 C	X 292 M1 600 2
	ARRIEL 2 C-PM	X 292 P1 600 2
	ARRIEL 2 C1	X 292 N4 600 2
	ARRIEL 2 S1	X 292 L0 600 2

SERVICE BULLETIN

Objet : Attestation d'application du SB n° 292 72 2059 (TU 59A).

Subject: SB No. 292 72 2059 compliance certificate (TU 59A).

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

Information concernant le matériel / Equipment information

Utilisateur Customer				N° Appareil Aircraft S/N		
	N/S - S/N	Réf. - P/N	TSN*	TSO*	CSN*	CSO*
Moteur Engine						
Module M04 modifié Modified module M04						
Bague labyrinthe déposée AVANT TU 59A Removed PRE TU 59A labyrinth ring						
Bague labyrinthe posée APRES TU 59A Installed POST TU 59A labyrinth ring						

* **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 M04 identifié ci-dessus a été modifié selon les directives de ce SB.

I certify that the above-mentioned module M04 has been modified according to the directives given in this SB.

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

Signature :

ANNEXE 4.1 / APPENDIX 4.1

END of section §4

“Application at a Safran Helicopter Engines-approved Repair Center”