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## SERVICE BULLETIN

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**Modification**



**Recurring action**



**One-off action**



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**No.**

**319 72 2846**

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**ARRIUS 2 B1 - B1A - B2 - F - K1 - K2**

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**Subject: Creation of a configuration applicable to ARRIUS 2 B1, B1A, B2, F, K1 and K2 turboshaft engines during Overhaul.**

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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 SEPTEMBER 2014**

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

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**Version: B**

**Reason for update:**

**Clarification of the application rules.**

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## 1. GENERAL

### 1.1. Purpose

Simplify the management of engines in service by standardizing their configuration each time they are sent to a Repair Center for overhaul.

### 1.2. Reason

Refer to General Service Letter No. 2917/14.

### 1.3. Description

Each time it is sent to a Repair Center for overhaul, a set of modifications designated "Overhaul Set" shall be applied to the engine, module or equipment/accessories (excluding DECU). The list of modifications to be applied is given in the table "APPLICABLE SETS OF MODIFICATIONS DURING OVERHAUL" of the Modification Index (Figure 1).

The following rules apply to the "Overhaul set":

- The list of modifications to be applied must be the list of the Modification Index in force at the acceptance date of the quote.
- The "Overhaul Set" of a module or an equipment/accessories is applied at each overhaul, on the equipment assembly returned and depending on its configuration. It is a minimum configuration standard to be obeyed.
- When an "Option set" of modifications is requested by the customer, all modifications in the set must be applied, depending on the perimeter of the equipment returned and its configuration.
- If a modification in an optional set has already been applied to the equipped engine, a stand-alone module or equipment/accessories, all modifications in this set will systematically be applied during overhaul, depending on the perimeter of the equipment returned and its configuration.

For information, the modifications that can be applied in the "APPLICABLE SETS OF MODIFICATIONS DURING OVERHAUL" are identified in the Modification Index with columns, refer to Figure 2:

- The "**SB Code**" column includes the individual application conditions of SBs.
- The "**Overhaul Code**" column, if filled in, includes the modification that can be applied in the "APPLICABLE SETS OF MODIFICATIONS DURING OVERHAUL" whatever its SB code.
- The "**Module**" column identifies the module(s) to which the modifications are applied.
- The "**Set**" column identifies a set of modifications that may be applied during overhaul, for one module or one item of equipment.

### 1.4. Approval

The technical information contained in this document has been approved under the Design Organization Approval No. EASA.21J.070.

### 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.

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### 1.7. Update history

VERSION	CAUSE FOR UPDATING
B	Clarification of the application rules.

**END of section §1**

**"General"**

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

Not applicable.

**END of section §2**

**"Application at the operator's site or at a Maintenance Center qualified for level 1, 2"**

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### **3. APPLICATION AT A MAINTENANCE CENTER QUALIFIED FOR LEVEL 3**

Not applicable.

**END of section §3**

**"Application at a Maintenance Center qualified for level 3"**

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

#### 4.1. Required actions

Bring engines, modules or equipment/accessories into conformity with an Overhaul configuration authorized in compliance with the Modification Index. The list of modifications to be applied is given in the table "APPLICABLE SETS OF MODIFICATIONS DURING OVERHAUL" of the Modification Index.

#### 4.2. Effectivity and compliance times

ENGINE/VARIANT	EFFECTIVITY CODE	CONDITIONS OF APPLICATION FOR ENGINES IN SERVICE
ARRIUS 2 B1 - B1A - B2	<b>2-B</b>	During General Overhaul.
ARRIUS 2 F		
ARRIUS 2 K1 - K2		

This SB must be applied with strict conformity to the compliance conditions as specified by the manufacturer according to the effectivity code given in the table above.

**Note 1:** The list of modifications to be applied must be the list of the Modification Index in force at the acceptance date of the quote.

**Note 2:** Interdependences between modifications are major on the list of modifications given in the "Overhaul Set".

**Note 3:** It is a minimum configuration standard to be obeyed.

**Note 4:** The applied modifications depend on:

- the perimeter of the equipment returned to Safran Helicopter Engines and its configuration, and/or
- the perimeter of the released equipment during the release inspection.

#### 4.3. Accomplishment Instructions

##### 4.3.1. Implementation

Not applicable.

##### 4.3.2. Operating instructions

###### **Application of the "Overhaul Set":**

Refer to the table "APPLICABLE SETS OF MODIFICATIONS DURING OVERHAUL" of the applicable variant and make sure the modifications given are applied.

###### **Application of "Option Sets" in both following cases:**

- a) If an option set is requested by the customer, apply all modifications in the set depending on the perimeter of the equipment returned and its configuration.
- b) If a modification in an option set has already been applied to the engine, module or equipment/accessories, apply all modifications of the set depending on the perimeter of the equipment returned and its configuration.

##### 4.3.3. Reconditioning and checks

Refer to the relevant ARRIUS 2 Overhaul Manual.

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### 4.3.4. Identification

	Case of return of an equipped engine with or without stand-alone equipment
Standardization of modules	<ul style="list-style-type: none"> <li>• Create a new module log card.</li> <li>• Record the application of the SB on the log card of the modified module including if the equipped engine follows overhaul without a stand-alone equipment/accessory (e.g. engine delivered without its HMU, the SB must be applied and recorded on its log card).</li> </ul> <p><u>Note</u>: Update the availability status, if necessary.</p> <ul style="list-style-type: none"> <li>• Notify Safran Helicopter Engines that this SB has been applied by returning the fully-completed compliance certificate (Appendix 4.1).</li> </ul>
Standardization of equipment/accessories excluding modules <i>Equipment monitored by log card (excluding ECU)</i>	<ul style="list-style-type: none"> <li>• Create a new log card for the relevant equipment.</li> <li>• Record the P/N changes for the relevant equipment in section "C" of the engine log book.</li> <li>• Notify Safran Helicopter Engines that this SB has been applied by returning the fully-completed compliance certificate (Appendix 4.1).</li> </ul>
<i>Equipment not monitored by log card</i>	<ul style="list-style-type: none"> <li>• Record the application of this SB in section "A" of the engine log book.</li> <li>• Notify Safran Helicopter Engines that this SB has been applied by returning the fully-completed compliance certificate (Appendix 4.1).</li> </ul>

Note 5: For an engine (equipped or not), return only one compliance certificate to Safran Helicopter Engines.

	Case of return of a module or a stand-alone equipment/accessory
Stand-alone module	<ul style="list-style-type: none"> <li>• Create a new module log card.</li> <li>• Record the application of the SB on the log card of the modified module.</li> </ul> <p><u>Note</u>: Update the availability status, if necessary.</p> <ul style="list-style-type: none"> <li>• Notify Safran Helicopter Engines that this SB has been applied by returning the fully-completed compliance certificate (Appendix 4.1).</li> </ul>
Stand-alone equipment excluding module <i>Equipment monitored by log card (excluding ECU)</i>	<ul style="list-style-type: none"> <li>• Create a new log card for the relevant equipment.</li> <li>• Notify Safran Helicopter Engines that this SB has been applied by returning the fully-completed compliance certificate (Appendix 4.1).</li> </ul>
Stand-alone equipment excluding module <i>Equipment not monitored by log card</i>	<ul style="list-style-type: none"> <li>• Notify Safran Helicopter Engines that this SB has been applied by returning the fully-completed compliance certificate (Appendix 4.1).</li> </ul>

Note 6: For an engine or module whose configuration is different from the "Overhaul" configuration set, the SB is considered as applied during the release inspection if the configuration deviation is justified by §1.3.

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### 4.3.5. Routine maintenance

Not applicable.

### 4.4. Material information

#### 4.4.1. Basic information

Not applicable.

#### 4.4.2. List of parts

Refer to the relevant ARRIUS 2 IPC.

#### 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 relevant ARRIUS 2 Overhaul Manual.

### 4.7. Weight and balance

Not applicable.



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### 4.8. Publication references

Document	Engine	Reference
Overhaul Manual (OM)	<b>ARRIUS 2</b>	X 319 L6 501 2
Illustrated Parts Catalog (IPC)	<b>ARRIUS 2 B1</b>	X 319 L5 601 2
	<b>ARRIUS 2 B1A</b>	X 319 L5 602 2
	<b>ARRIUS 2 B2</b>	X 319 N3 600 2
	<b>ARRIUS 2 F</b>	X 319 L6 600 2
	<b>ARRIUS 2 K1</b>	X 319 N1 600 2
	<b>ARRIUS 2 K2</b>	X 319 N0 600 2
Modification Index	<b>ARRIUS 2 B1</b>	X 319 L5 975 2
	<b>ARRIUS 2 B1A</b>	X 319 L5 976 2
	<b>ARRIUS 2 B2</b>	X 319 N3 975 2
	<b>ARRIUS 2 F</b>	X 319 L6 950 2
	<b>ARRIUS 2 K1</b>	X 319 N1 975 2
	<b>ARRIUS 2 K2</b>	X 319 N0 975 2
SB Index	<b>ARRIUS 2 B1</b>	X 319 L5 980 2
	<b>ARRIUS 2 B1A</b>	X 319 L5 981 2
	<b>ARRIUS 2 B2</b>	X 319 N3 980 2
	<b>ARRIUS 2 F</b>	X 319 L6 952 2
	<b>ARRIUS 2 K1</b>	X 319 N1 980 2
	<b>ARRIUS 2 K2</b>	X 319 N0 980 2

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### APPLICABLE SETS OF MODIFICATIONS DURING OVERHAUL

<i>Module</i>	<i>Set</i>	<i>TU</i>
M01	OVERHAUL	2-4A-27A-30A-37A-40A-49A-72A-77-87-89
	OPT A	41A
	OPT B	44A
M02	OVERHAUL	5A-8A-20A-21A-22A-32A-36A-39A-47A-54-56A-62A-63A-71A-78A-124-148
	OPT A	43A
	OPT B	46A
	OPT C	125
	OPT D	135
HM	OVERHAUL	7A-8A-9-11A-12-16A-20A-28A-35A-39A-48A-49A-53-54-76-77-85-91A-92A-96A-104A-122-123-124-134-137-142-144
	OPT A	117A
	OPT B	41A-42A
	OPT C	151
HMU	OVERHAUL	6-13A-14A-15A-17A-18-38A-53-66-69A-70A-86-115A-126-129-133-138-139
	OPT A	143

**FIGURE 1**

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### Extract from the ARRIUS 2 B1 Modification Index

No.	Modification Title	SB code	Overhaul Code	Module	Set	Comments
TU 2	Intermediate pinion and output gear. Chromium plating of the damping retaining ring grooves and seat of the spiro bevel gear moved	2-B	2-B	M01	M01 - OVERHAUL	SB 319 72 2002
TU 3A		A				
TU 4A	M01. Housing for hydraulic damper piston with incorporated supply system and draining capability at the dynastart seal	3	2-B	M01	M01 - OVERHAUL	SB 319 72 2004
TU 5A	Rear bearing. Installation of positioning and retaining pegs of spacers	2-A-2	2-A-2	M02	M02 - OVERHAUL	SB 319 72 2005
TU 6	Fuel metering unit HP/LP pump assembly. Removal of the intumescent paint	2-A-1	2-A-1	HMU	HMU - OVERHAUL	SB 319 73 2006 RTI 319 73 2006
TU 7A	Lubricating device. Addition of a spout in the lubricating device	3	2-B	HM	HM - OVERHAUL	SB 319 79 2007 RTI 319 79 2007
TU 8A	M02. Addition of two orifices used for borescopic inspection	2-B	2-B	M02	M02 - OVERHAUL	SB 319 72 2008
...						
TU 25A	M01. Installation of a magnetic seal on the breather outlet	2-4				SB 319 72 2025 Update 3 Superseded by TU 89
...						
TU 37A	M01. Installation of an oil tank filler cap with closed and locked indicator	2-B	2-B	M01	M01 - OVERHAUL	SB 319 72 2037 Update 1
TU 38A	Redefining of the adjusted pump and metering unit assembly interface	4	2-B	HMU	HMU - OVERHAUL	SB 319 73 2038
TU 39A	Separation of air intake grids from rear wall.	3	3	HM M02	HM - OVERHAUL M02 - OVERHAUL	SB 319 71 2039_C
TU 40A	M01. Installation of an o-ring on the main output shaft	4	2-B	M01	M01 - OVERHAUL	SB 319 72 2040 Update 1 If post TU 27A
TU 41A	M01. Installation of a drain at the magnetic seal of the starter drive	4		HM M01	HM - OPT C M01 - OPT A	SB 319 72 2041_E If post TU 4A and TU 26A or if post TU 4A and TU 87
TU 42A	Engine drain system. Installation of a drain on the starter generator drive	4		HM	HM - OPT C	SB 319 79 2042 Update 2 If post TU 27A and 41A
TU 43A	M02. Air intake casing with built-in attaching flange for TU 39A air intake grids	3		M02	M02 - OPT A	SB 319 72 2043 If post TU 39A
...						

**FIGURE 2**

## SERVICE BULLETIN

**Objet : Attestation d'application du SB n° 319 72 2846.**

Subject: SB No. 319 72 2846 compliance certificate.

**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 Customer				N° Appareil Aircraft S/N		
	N/S - S/N	Réf. - P/N	TSN*	TSO*	CSN*	CSO*
Moteur modifié Modified engine						
Module M01 modifié Modified module M01						
Module M02 modifié Modified module M02						
Équipement modifié Modified equipment						
Répertoire de Modifications Modifications Index	Référence / Reference			Version / Version		

\* **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 moteur ou les modules identifiés ci-dessus ont été modifiés selon les directives de ce SB.**  
 I certify that the above-mentioned engine or modules have 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"**