
MANDATORY SERVICE BULLETIN

Modification

Recurring action

One-off action

No.

319 72 4838

ARRIUS 2 F - R

Subject: Return to service for civil use of an ARRIUS 2 engine, module, accessory or DECU originating from a user outside the authority of a Civil Authority (military, para-military, etc.).

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

Applicable from NOVEMBER 2016

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

Version: B

Reason for update:

Upgrading and miscellaneous corrections.

MANDATORY SERVICE BULLETIN

1. GENERAL

WARNING: FAILURE TO DO THIS MANDATORY SERVICE BULLETIN MAY CAUSE THE RUPTURE OF A LIFE-LIMITED PART THAT COULD LEAD TO AN UNCOMMANDED IN-FLIGHT ENGINE SHUT-DOWN WITH RELEASE OF NON-CONTAINED HIGH ENERGY DEBRIS.

1.1. Purpose

Return to service, for use by an operator under a Civil Authority jurisdiction, of a material (engine, module, accessory or DECU), from an operator not under a Civil Authority jurisdiction.

1.2. Reason

Use of a material by an operator not under a Civil Authority jurisdiction can lead to deviations from the type configuration approved by the Civil Authority.

Before the return to service of such a material that a Civil Authority-approved operator will use, it is necessary to make sure that there are no deviations. If there are deviations, do the return-to-conformity actions.

1.3. Description

The material must only be declared airworthy in a Safran Helicopter Engines-approved Repair Center.

This necessitates, for all materials:

- presence of an identifier (identification plate or engraved part number),
- knowledge of the material configuration and proof of compliance with the maintenance rules specified by Safran Helicopter Engines,
- verifying that no modification nor repair procedure that are not approved by Safran Helicopter Engines were done,
- this establishes conformity with the approved definition file,
- compliance with the Airworthiness regulations approved by the Civil Authority,
- an "EASA Form One" or equivalent document.

For an engine, it also requires:

- an engine log book in Unique Engine Log Book (UELB) format,
- proof that all the engine components were manufactured under control of Safran Helicopter Engines and that the initial new engine assembly was done by Safran Helicopter Engines.

The owner of the material must supply the documentation originating from the previous operator that shows the hours and cycles performed, the log cards, all records of minor or major maintenance operations certifying that operation and any storage was done in compliance with manufacturer requirements.

In the absence of these documents, the life-limited parts, usage-limited parts and calendar-limited components will be replaced systematically.

An overhaul will be done on all accessories that are subject to a TBO and are returned to a Repair Center without their log card.

1.4. Approval

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

1.5. Conditions of application

The conditions of application for this Mandatory 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.

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1.6. Update history

VERSION	CAUSE FOR UPDATING
B	Upgrading and miscellaneous corrections.

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

WARNING: FAILURE TO DO THIS MANDATORY SERVICE BULLETIN MAY CAUSE THE RUPTURE OF A LIFE-LIMITED PART THAT COULD LEAD TO AN UNCOMMANDED IN-FLIGHT ENGINE SHUT-DOWN WITH RELEASE OF NON-CONTAINED HIGH ENERGY DEBRIS.

2.1. Required actions

Send the material to a Repair Center.

2.2. Effectivity and compliance times

ENGINE / VARIANT	EFFECTIVITY CODE	CONDITIONS OF APPLICATION FOR ENGINES IN SERVICE
ARRIUS 2 F - R Engines originally assembled by Safran Helicopter Engines and previously operated by an operator not controlled by a Civil Authority (military, paramilitary, etc.)	1	Immediate application before the next flight (upon receiving this Mandatory SB).

Application of this Mandatory SB is considered mandatory as a result of a technical requirement which might affect flight safety of engines in service. It may be done as defined by the effectivity code given in the table above.

Note: Engines originally assembled by Safran Helicopter Engines are identified by Safran Helicopter Engines identification plate on the engine. If an engine was not originally assembled by Safran Helicopter Engines, it cannot be converted for civil operation.

2.3. Accomplishment Instructions

2.3.1. Implementation

Application of this Mandatory SB necessitates removing the engine.

2.3.2. Operating instructions

Send the material and its documentation, listed in paragraph §2.4.2, to an approved Repair Center.

2.3.3. Reconditioning and checks

Not applicable.

2.3.4. Identification

2.3.4.1. For an engine

Record the removal of the engine in section "E" of the engine log book and update the log card of the relevant material before sending.

2.3.4.2. For an isolated module, accessory or DECU

Update the log card of the relevant material before sending.

2.3.5. Scheduled maintenance

No modification to the routine maintenance.

2.4. Material information

2.4.1. Basic information

The parts list required for the application of this Mandatory SB is for one engine, one module or one accessory.

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2.4.2. List of parts

2.4.2.1. For an engine

Key	Qty	Description	Key	Qty
A	1	Engine log book*	C	1
A	1	A copy of the previous operator's Maintenance Manual		
A	1	A copy of the previous operator's Spare Parts Catalog		
A	1	A copy of the previous operator's Tools Catalog		
A	1	List of the previous operator's Service Letters		
A	1	List of Service Bulletins done by the previous operator		
A	1	List of modifications done by the previous operator		

* per engine concerned.

Key

A	Part required for the application of this Mandatory SB
C	Part deleted by this Mandatory SB

2.4.2.2. For an isolated module, accessory or DECU

Key	Qty	Description	Key	Qty
A	1	The log card(s) of the module(s) or accessory/accessories or applicable part(s)		
A	1	A copy of the previous operator's Maintenance Manual		
A	1	A copy of the previous operator's Spare Parts Catalog		
A	1	A copy of the previous operator's Tools Catalog		
A	1	List of the previous operator's Service Letters		
A	1	List of Service Bulletins done by the previous operator		
A	1	List of modifications done by the previous operator		

Key

A	Part required for the application of this Mandatory SB
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2.4.3. Supply conditions

Not applicable.

2.5. Manpower

To be determined according to the level of intervention required.

2.6. Tooling and/or products

Not applicable.

2.7. Weight and balance

Not applicable.

2.8. Publication references

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

Refer to the paragraphs that apply to Maintenance Centers, given in chapter 2.

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

Examine and update the documentation, then apply the checks to the material as per paragraph 4.3.

4.2. Effectivity and compliance times

ENGINE/VARIANT	EFFECTIVITY CODE	CONDITIONS OF APPLICATION FOR ENGINES IN SERVICE
ARRIUS 2 F - R Engines originally assembled by Safran Helicopter Engines and previously operated by an operator not controlled by a Civil Authority (military, paramilitary, etc.).	1	Application before delivery.

Application of this Mandatory SB is considered mandatory as a result of a technical requirement which might affect flight safety of engines in service. It may be done as defined by the effectivity code given in the table above.

Note: Engines originally assembled by Safran Helicopter Engines are identified by a Safran Helicopter Engines identification plate on the engine. If an engine was not originally assembled by Safran Helicopter Engines, it cannot be converted for civil operation.

4.3. Application Instructions

4.3.1. Implementation

The application of this Mandatory SB requires removing the equipment concerned.

4.3.2. For an engine or a module

4.3.2.1. Operating instructions

- (1) Examine the documentation originating from the previous operator, the follow-up of the inspections and frequencies, the archived work data pertaining to repair, overhaul and storage (conditions/limitations).
- (2) Determine the hours and cycles performed to calculate the remaining availability.
- (3) Check the calendar limit according to Chapter 05 of the Maintenance Manual and Overhaul Manual (Airworthiness limitation - Frequency - Inspection).
- (4) Record and assess:
 - any repair procedures that were not approved by the manufacturer and Civil Airworthiness Authority,
 - components or accessories/equipment that are not part of the certified definition of the engine variant concerned,
 - any concession that was not approved by the Civil Airworthiness procedures.

Any non-approved repair procedure must:

 - lead to replacement of the item concerned,
 - or be subject to a concession approved by Safran Helicopter Engines or a Civil Airworthiness Authority with either entity assuming responsibility for the granting of the concession.
- (5) Check that the limitations of the life-limited and usage-limited components have not been exceeded.
- (6) Establish conformity with any Airworthiness Directive (AD).
- (7) Analyze any occurrence concerning the helicopter and engine (heavy landing, accident, presence of particles on the engine magnetic plug, SOA results, dilution results, visual check of engine if outside criteria, identification record of equipment/accessories and accessible parts, etc.).

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- (8) Check that a minimum modification standard is applied.

This standard pertains to all mandatory modifications and all modifications that are to be applied upon any return to an approved Repair Center, regardless of the reason for return (Codes 1 to 2-5). Depending on the level of disassembly, certain modifications will also be mandatory if they are to be applied upon first return to an approved Repair Center, if the repair or overhaul being performed provides access to the part that is the subject of the modification (Codes 2-A-1 to 2-A-3).

In addition, the TBO will depend on the modification standard.

For engine TBO and calendar limit, refer to Chapter 05 of the Maintenance Manual, and to the Overhaul Manual (Airworthiness limitation - Frequency - Inspection).

- (9) Check that a minimum SB standard is applied.

This standard pertains to all Mandatory SBs and all SBs that are to be applied upon any return to an approved Repair Center, regardless of the reason for return (Codes 1 to 2-5). According to the level of disassembly, certain SBs will also be mandatory if they are to be applied upon first return to an approved Repair Center, if the repair or overhaul being performed provides access to the part that is the subject of the SB (Codes 2-A-1 to 2-A-3).

4.3.2.2. Reconditioning and checks

- (1) Test the engine on the test bench per the "engine after repair" procedure by systematically performing all the checks described, except for the running-in operation if it is not necessitated by the work performed.
- (2) Draw up the "EASA Form One" or equivalent document and a new civil engine log book. Archive the military engine log book. For an isolated module, draw up a new log card and archive the previous log card.

Refer to the Overhaul Manual and the Maintenance Manual.

4.3.3. For an isolated accessory

4.3.3.1. Operating instructions

- (1) Examine the documentation originating from the previous operator, the follow-up of the inspections and frequencies and the archived work data pertaining to repair, overhaul and storage (conditions/limitations).
- (2) Determine the hours performed to calculate the remaining availability.
- (3) Check the calendar limit according to Chapter 05 of the Maintenance Manual.
- (4) Record and assess:
- any repair procedures that were not approved by the manufacturer and Civil Airworthiness Authority,
 - components or accessories/equipment that are not part of the certified definition of the engine variant concerned,
 - any concession that was not approved by the Civil Airworthiness procedures.
- Any non-approved repair procedure must:
- lead to replacement of the item concerned,
 - or be subject to a concession approved by Safran Helicopter Engines or a Civil Airworthiness Authority with either entity assuming responsibility for the granting of the concession.
- (5) Establish conformity with any Airworthiness Directive (AD).
- (6) Analyze any possible occurrence (incident or accident) concerning the material.

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- (7) Check that a minimum modification standard is applied.

This standard pertains to all mandatory modifications and all modifications that are to be applied upon any return to an approved Repair Center, regardless of the reason for return (Codes 1 to 2-5). Depending on the level of disassembly, certain modifications will also be mandatory if they are to be applied upon first return to an approved Repair Center, if the repair or overhaul being performed provides access to the part that is the subject of the modification (Codes 2-A-1 to 2-A-3).

In addition, the TBO will depend on the modification standard.

Note: For the hour and calendar limit, refer to the Maintenance Manual, chapter 05.

- (8) Check that a minimum SB standard is applied.

This standard pertains to all Mandatory SBs and all SBs that are to be applied upon any return to an approved Repair Center, regardless of the reason for return (Codes 1 to 2-5). According to the level of disassembly, certain SBs will also be mandatory if they are to be applied upon first return to an approved Repair Center, if the repair or overhaul being performed provides access to the part that is the subject of the SB (Codes 2-A-1 to 2-A-3).

4.3.3.2. Reconditioning and checks

- (1) Perform a check for correct operation.
- (2) Draw up the "EASA Form One" or equivalent document and a new log card. Archive the previous log card related to military use.

Refer to the Overhaul Manual, the Maintenance Manual and the Component Maintenance Manual.

4.3.4. For a DECU

4.3.4.1. Operating instructions

- (1) Examine the documentation originating from the previous operator, the follow-up of the inspections and frequencies and the archived work data pertaining to repair, overhaul and storage (conditions/limitations).
- (2) Check the integrity of seals to guarantee that there are no:
 - repair procedures that were not approved by the manufacturer and the Civil Airworthiness Authority,
 - components or accessories/equipment that are not part of the certified definition of the engine variant concerned.

If there are no seals or if there are non-integral seals, inspect the boards to ensure there has been no intervention by a third party other than a Repair Center. If necessary, propose to replace the board.

- (3) Establish conformity with any Airworthiness Directive (AD).
- (4) Check that a minimum modification standard is applied.

This standard pertains to all mandatory modifications and all modifications that are to be applied upon any return to an approved Repair Center, regardless of the reason for return (Codes 1 to 2-5). Depending on the level of disassembly, certain modifications will also be mandatory if they are to be applied upon first return to an approved Repair Center, if the repair or overhaul being performed provides access to the part that is the subject of the modification (Codes 2-A-1 to 2-A-3).

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- (5) Check that a minimum SB standard is applied.

This standard pertains to all Mandatory SBs and all SBs that are to be applied upon any return to an approved Repair Center, regardless of the reason for return (Codes 1 to 2-5). According to the level of disassembly, certain SBs will also be mandatory if they are to be applied upon first return to an approved Repair Center, if the repair or overhaul being performed provides access to the part that is the subject of the SB (Codes 2-A-1 to 2-A-3).

4.3.4.2. Reconditioning and checks

- (1) Perform a check for correct operation.
- (2) Draw up the "EASA Form One" or equivalent document and a new log card.
Refer to the Overhaul Manual and the Maintenance Manual.

4.3.5. Identification

4.3.5.1. For an engine assembly:

- (1) A new civil engine log book that is compliant with the Safran Helicopter Engines standard will be created by the Safran Helicopter Engines-approved Repair Center.
- (2) The engine will keep its original Serial Number.
- (3) Archive the initial military engine log book in compliance with the archiving rules. Refer to Guide U441.

4.3.5.2. For an isolated module, accessory or DECU:

- (1) The equipment will keep its original Serial Number.
- (2) Archive the initial military log card in compliance with the archiving rules. Refer to Guide U441.

4.3.5.3. For all equipment (engine, module, accessory or DECU)

Notify Safran Helicopter Engines that this Mandatory SB has been applied by returning the fully-completed compliance certificate (Appendix 4.1) (one certificate for each relevant equipment).

4.3.6. Routine maintenance

No modification to the routine maintenance.

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4.4. Material information

4.4.1. Basic information

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

4.4.2. List of parts

4.4.2.1. List of parts for an engine

Key	Qty	Description	Key	Qty
A	1	Engine log book*	C	1
A	1	A copy of the previous operator's Maintenance Manual		
A	1	A copy of the previous operator's Spare Parts Catalog		
A	1	A copy of the previous operator's Tools Catalog		
A	1	List of the previous operator's Service Letters		
A	1	List of Service Bulletins done by the previous operator		
A	1	List of modifications done by the previous operator		

*per engine concerned.

Key

A	Part required for the application of this Mandatory SB
C	Part deleted by this Mandatory SB

4.4.2.2. List of parts for an isolated module, accessory or DECU

Key	Qty	Description	Key	Qty
A	1	The log card(s) of the module(s) or accessory/accessories or applicable part(s)		
A	1	A copy of the previous operator's Component Maintenance Manual		
A	1	A copy of the previous operator's Spare Parts Catalog		
A	1	A copy of the previous operator's Tools Catalog		
A	1	List of the previous operator's Service Letters		
A	1	List of Service Bulletins done by the previous operator		
A	1	List of modifications done by the previous operator		

Key

A	Part required for the application of this Mandatory SB
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4.4.3. Supply conditions

Not applicable.

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

Not applicable.

4.7. Weight and balance

Not applicable.

4.8. Publication references

Not applicable.

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Objet : Attestation d'application du SB Impératif n° 319 72 4838 de remise en service pour utilisation civile.

Subject: Mandatory SB No. 319 72 4838 compliance certificate for return to service for civil operation.

Important / Important notice :

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

After application of the instructions specified in this Mandatory SB, please mail or e-mail 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

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 Module						
Accessoire Accessory						
Calculateur DECU						

* **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)

Nom et adresse du propriétaire : Owner's name and address:	
Nom du Centre de Réparation : Name of Repair Center:	
Civilisation faite par : Conversion for civil operation done by:	

Je certifie que la remise en service pour utilisation civile été faite selon les directives de ce SB Impératif.
 I certify that the return to service for civil operation has been done according to the directives given in this Mandatory 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”