

# SERVICE BULLETIN No. 319 73 4852

Version: A

Date: 6 March 2023

First issue

Modification

Periodical action

One-off action

Applicable from:

“APRIL 2023”

Subject:

Fuel system - Replacement of the preference injector.

APPLICABLE ENGINE / VARIANT(S)	EFFECTIVITY CODE	MAINTENANCE LEVEL	CONDITION OF APPLICATION	EFFECT ON OPERATION
ARRIUS 2 F	2-2	1	<p><u>Engines installed on aircraft</u> with a preference injector last repaired by SA ERMETO before August 3<sup>rd</sup> 2022:</p> <p>Application (whichever comes first):</p> <ul style="list-style-type: none"> <li>- Within <b>48 months</b> upon receipt of this SB</li> <li>or</li> <li>- Within <b>400 flight hours</b> done by the preference injector since the last repair</li> </ul>	Removal of the cover from the adjusted valve assembly
		2	<p><u>Engines not installed on aircraft</u> with a preference injector last repaired by SA ERMETO before August 3<sup>rd</sup> 2022:</p> <p>Application <b>before next installation</b> on an aircraft</p> <p><u>Preference Injector in stock</u> repaired by SA ERMETO before August 3<sup>rd</sup> 2022:</p> <p>Application <b>as soon as possible</b> and before the next installation of the preference injector on an engine.</p>	
		3, 4	Not applicable	

Apply this SB in full compliance with the manufacturer's instructions.  
Refer to the effectivity code above.

**WARNING: FAILURE TO DO THIS SERVICE BULLETIN CAN LEAD TO AN UNCOMMANDED IN-FLIGHT ENGINE SHUT-DOWN WHICH CAN LEAD TO AN EMERGENCY AUTOROTATION LANDING.**

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§1.GENERAL

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§5.CERTIFICATES

**1. GENERAL****1.1. Background****1.1.1. Context**

Safran Helicopter Engines was informed of an uncommanded engine in-flight shut-down event on an EC120B powered by an ARRIUS 2 F engine.

Refer to Service Letter No. 3091/22/ARS2.

**1.1.2. Analysis**

The engine was returned to Safran Helicopter Engines for investigation. The main findings are:

- A non-compliant engine flame-out margin observed on the engine test bench. After the replacement of the preference injector, the engine flame-out margin became compliant.
- A significantly non-compliant fuel flow of the preference injector.
- Pollution in the preference injector. This pollution was most probably introduced during the last repair process of this preference injector (21 flight hours before the event).

**1.1.3. Solution**

Since August 3<sup>rd</sup>, 2022 (inclusive), Safran Helicopter Engines has modified the repair process of the preference injector to avoid such pollution.

As a corrective action, this Service Bulletin (SB) requires the replacement of the preference injector.

**1.2. Approval**

The technical content of this document is approved under the authority of the DOA (Design Organisation Approval) ref. EASA.21J.070.

**1.3. Summary of updates**

Not applicable.

**End of Section §1**

**“General”**

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**2. PROCEDURE DONE AT THE OPERATOR'S SITE OR AT A MAINTENANCE CENTER APPROVED FOR LEVEL 1, 2**Refer to [compliance certificate in chapter 5.1](#)**2.1. Manpower**

- Personnel: 1 mechanic and 1 pilot.
- Necessary time: 1 man-hour.

**2.2. Tools / Parts**

Refer to ARRIUS 2 F Maintenance Manual.

**2.3. Parts information**

Not applicable.

**2.4. Procedures**

Refer to paragraph 2.5.

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§1.GENERAL

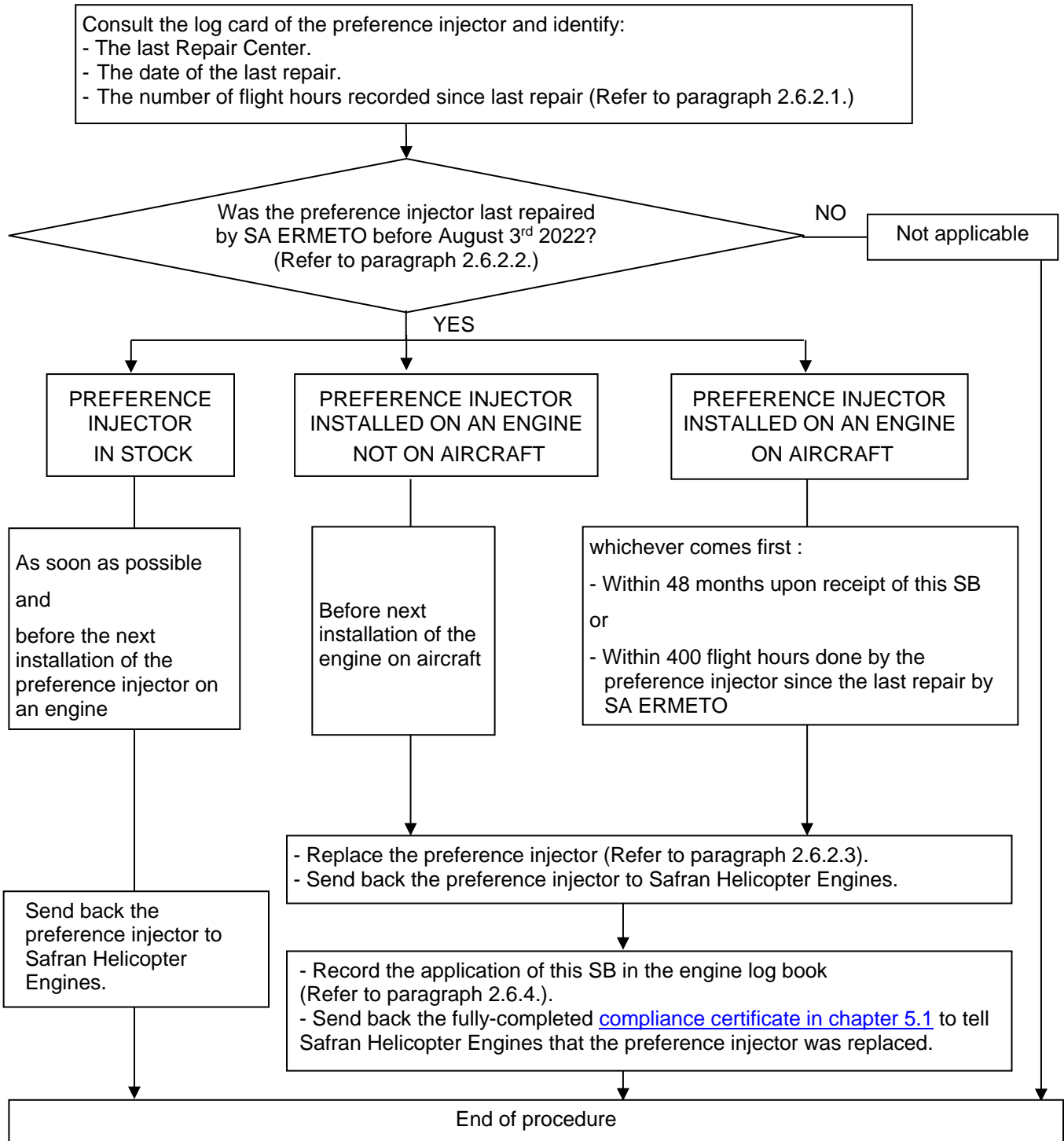
§2.LEVEL 1, 2

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2.5. Block diagram for this SB



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**2.6. Instructions on how to do the procedure**

**2.6.1. Implementation**

Engine on the aircraft.

**2.6.2. Operating instructions**

**2.6.2.1. Identify the last repair of the preference injector**

On the log card of the preference injector, consult the “Successive locations, minor and major maintenance and overhaul operations” section (see sample on figure 1):

- 1- In the column “Reason for transfer (code and symptoms) - Work carried out - Replaced parts”, identify if the preference injector was “REPAIRED”.

If the preference injector was repaired:

- 2- Note the “Unit or Contractor” in charge of the repair.
- 3- Note the “Date” of the last repair.
- 4- Note the “Total” hours or TSN associated to the last repair.

Unité ou Société Unit or Contractor	Date Date	Positions Location	Fonctionnement Operation		Total Total	Motif du mouvement (code, symptômes) - Travaux effectués - Pièces changées Reason for transfer (code and symptoms) - Work carried out - Replaced parts
			Support Support	Partiel Partial		
TMA	03 Oct 2014	-	-	-	0	Repaired, Applied SB A319 73 4001 - M And Pyrolysis At 550°C
Customer A	29/01/2015	A 2F 34638	238,5	-	0	Boe/Unstalled IAW
Customer A	29/02/2015	A 2F 34638	2713	344,5	344,5	Dépose/Removed IAW
SA-ERMETO SA-ERMETO	23/09/2015	-	-	-	N/A	REPAIRED PYROLYSIS X=1+1 Y=0 SB A319 734001 (EASA AD 2012-0150) (FAA AD 2013-11-09)
Customer B	16/2/2016	AR 24 206	3286,6	-	0	Boe/Unstalled IAW
SafrauHE	3 Janvier 2017	AR 2F 34706	3575,9	289,3	733,8	Dépose
SA-ERMETO	30/03/2017	-	-	-	N/A	REPAIRED PYROLYSIS X=2+1 Y=0
Customer C	04/07/2018	A 2F 34 697	6500,6	-	0	Boe/Unstalled IAW
Customer C	01/03/2018	A 2F 34 697	6518,8	13,2	13,2	Dépose/Removed IAW

**Figure 1**

**Note:** Contact Safran Helicopter Engines if you have difficulties to identify if the preference injector was repaired.

**2.6.2.2. Criteria of applicability**

This SB is applicable if the preference injector was last repaired before August 3<sup>rd</sup> 2022 by “SA ERMETO” (also named: “SAE” or “SENIOR ERMETO” or “SENIOR AEROSPACE ERMETO”).

This SB is not applicable, if the preference injector last repair was not done by “SA ERMETO”, or if the last repair was done by “SA ERMETO” after August 3<sup>rd</sup> 2022.

**2.6.2.3. Replacement of the preference injector**

Replace the preference injector: Refer to ARRIUS 2 F Maintenance Manual, task 73-15-00-900-801.

Send back the removed preference injector with its log card to Safran Helicopter Engines.

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**2.6.3. Reconditioning and checks**

Refer to ARRIUS 2 F Maintenance Manual.

**2.6.4. Identification**

Refer to the Guides U441 and U015 for instructions on how to record the engine log book and the log cards.

2.6.4.1. Record the application of this SB on the log card of the preference injector and in section E.

2.6.4.2. Send back the [compliance certificate in chapter 5.1](#).

**2.7. Weight and balance**

Not applicable.

**End of Section §2**

**“Procedure done at the operator’s site or at a Maintenance Center approved for Level 1, 2”**

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**3. PROCEDURE DONE AT A MAINTENANCE CENTER APPROVED FOR LEVEL 3 OR AT THE OPERATOR'S SITE BY A MAINTENANCE CENTER APPROVED FOR LEVEL 3**

Not applicable.

**End of section §3****“Procedure done AT a Maintenance Center approved for Level 3 OR AT THE OPERATOR'S SITE BY a Maintenance Center approved for Level 3”**

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**4. PROCEDURE DONE AT A REPAIR CENTER APPROVED FOR LEVEL 4**

Not applicable.

**End of Section §4****“Procedure done at a Repair Center approved for Level 4”**



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**5.1- Compliance certificate of SB No. 319 73 4852 - LEVEL 1, 2**

**Important:**

Fill in the compliance certificate after application of the instructions given in this SB.

Mail or email it 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)

Equipment information						
Customer				Aircraft S/N		
	S/N	P/N	TSN*	TSR/TSO*	CSN*	CSO*
Engine						
Preference injector						

\* TSN = Time Since New  
 CSN = Cycles Since New

TSR/TSO = Time Since Repair or Overhaul  
 CSO = Cycles Since Overhaul

<b>Work done by:</b>	
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I certify that the above-mentioned engine has been modified according to this SB.

Date [DD/MMMM (letters)/YYYY]	Name	Job title

**Signature:**