SERVICE BULLETIN No. 319 73 4850

Version: A

Date: 21 July 2022

First issue

☐	**Modification**
☐	**Recurring action**
X	**One-off action**

Applicable from:

"Upon receipt of this SB"

Subject:

Preventive flame-out check via the preference injector valve test.

APPLICABLE ENGINE / VARIANT(S)	EFFECTIVITY CODE	MAINTENANCE LEVEL	CONDITION OF APPLICATION	OPERATIONAL EFFECT
ARRIUS 2 F	**2-2**	1	Conditions: - For the engines installed on an aircraft with a preference injector that has less than 100 flight hours since the last repair by SA ERMETO Application (whichever comes first): - Within 20 flight hours upon receipt of this SB or - Within 6 months upon receipt of this SB	Change the setting of the idle stop (in accordance with the Aircraft Maintenance Manual)
		2, 3, 4	Not applicable	

This SB must be done in full compliance with manufacturer instructions. Refer to the Effectivity Code found in the table above.

WARNING: ON A SINGLE-ENGINE HELICOPTER, 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

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 highly 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

As a preventive action, this Service Bulletin (SB) requires a one-shot flame-out check via the preference injector valve test.

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”

2. PROCEDURE DONE AT THE OPERATOR'S SITE OR AT A MAINTENANCE CENTER APPROVED FOR LEVEL 1, 2

2.1. Manpower

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

2.2. Tooling and/or materials

Refer to EC120B Aircraft Maintenance Manual, 76-12-00, 4-3: Removal / Installation - Fuel Flow Ball-type Control.

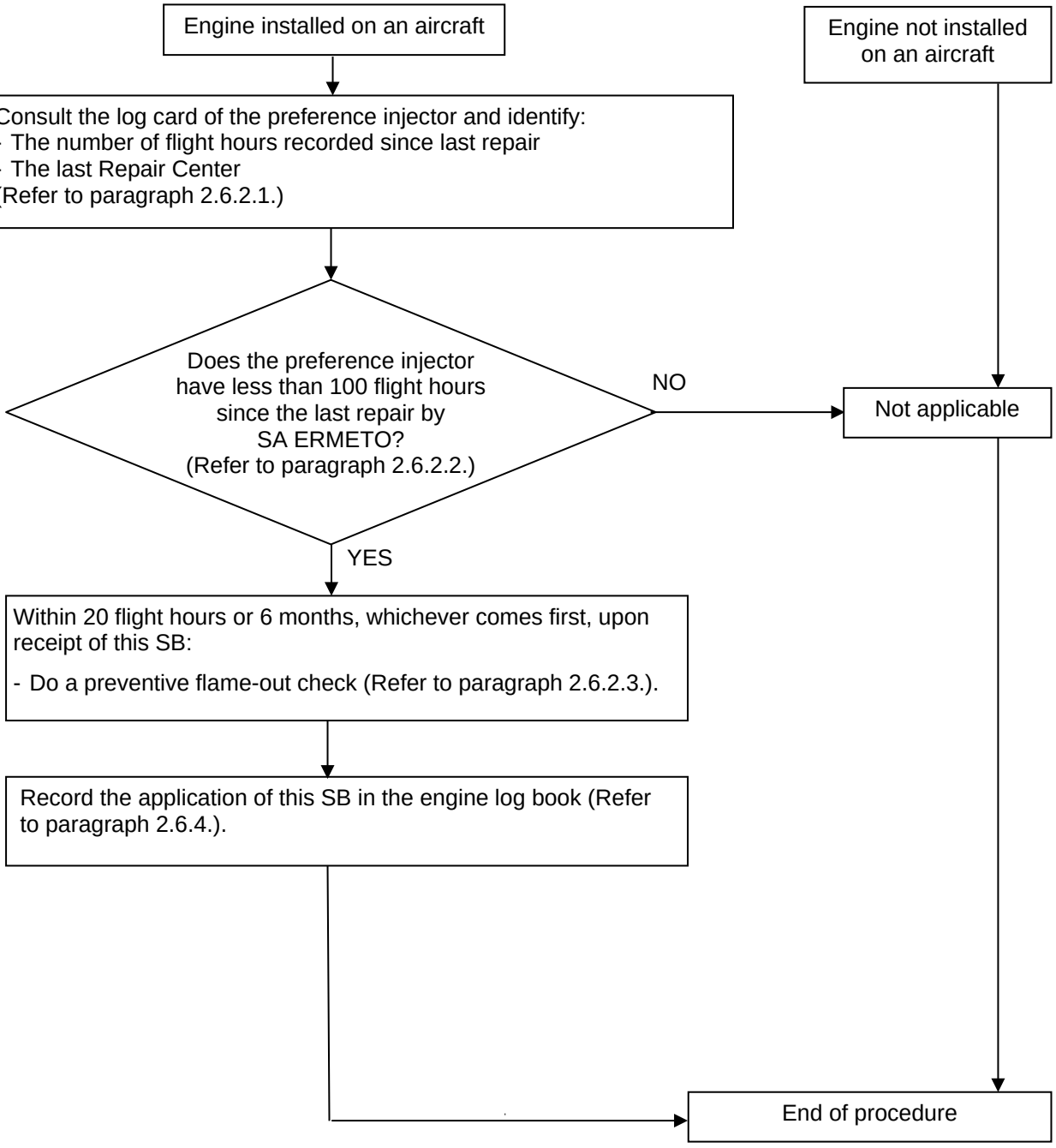
2.3. Material information

Not applicable.

2.4. Necessary procedures

Do the preference injector valve test: Refer to paragraph 2.6.

2.5. Block diagram for this SB



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 Total hours or TSN associated to the last repair

3- Note the "Unit or Contractor" in charge of the repair.

Figure 1

<u>Note</u>: Contact Safran Helicopter Engines if you have difficulties to identify if the preference injector was repaired

2.6.2.2. Criteria of applicability

If the preference injector has less than 100 flight hours since the last repair by "SA ERMETO" (also named: "SAE" or "SENIOR ERMETO" or "SENIOR AEROSPACE ERMETO"), go to paragraph 2.6.2.3.

This SB is not applicable, if the preference injector has strictly more than 100 flight hours since the last repair or if the last repair was not performed by "SA ERMETO".

2.6.2.3. Preventive flame-out check

Do ARRIUS 2 F Maintenance Manual, task 73-15-00-700-801 (Fuel System - Non-extinguishing function).

<u>Note</u>: This task calls the EC120B Flight Manual test sheet No. 7 from Section 8.3 (Preference Injector Valve Test) and requires the preliminary setting of the idle stop according to EC120B Aircraft Maintenance Manual, 76-12-00, 4-3: Removal / Installation - Fuel Flow Ball-type Control.

2.6.3. Reconditioning and checks

Refer to EC120B Aircraft Maintenance Manual, 76-12-00, 4-3: Removal / Installation - Fuel Flow Ball-type Control.

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.

Record the application of this SB in sections A and E.

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”

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"

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”