

**Version: A** 

Date: 13 December 2022

First issue

|   | Modification      |
|---|-------------------|
|   | Periodical action |
| X | One-off action    |

Applicable from: "As soon as this SB is issued"

# Subject:

Replacement of a batch of potentially non-conforming fire detectors.

| ARRIEL 2 B - B1 - C - C1 - C2 - C2- CG - C-PM - D - N  2-1  2-1  D- N  The standard of the engines installed on single-engine airframes and for engines in stock, from the issue of this SB or before the next installation of the engine on the airframe (first limit reached).  For fire detector(s).  • before 9 months for the engines installed on single-engine airframes airframes on the engine on the engine on the airframe (first limit reached).  | APPLICABLE<br>ENGINE /<br>VARIANT(S)                | EFFECTIVITY<br>CODE | Maintenance<br>Level | CONDITION OF APPLICATION  | EFFECT ON<br>OPERATION         |
|---|---|---------------------|----------------------|---|--------------------------------|
| ARRIEL 2 B - B1 - C - C1 - C2 - C2- CG - C-PM - D - N  2-1  D - N  The detector given in the list in the Appendix A*: Replace the concerned fire detector(s):  • before 9 months for the engines installed on single-engine airframes, ebefore 12 months for the engines installed on twin-engine airframes and for engines in stock, from the issue of this SB or before the next installation of the engine on the airframe (first limit reached).  For fire detectors in stock given in the list |   |                     |                      | detector Serial Numbers (S/N) as specified in<br>the Appendix A*, in 30 FH (Flight Hours) or<br>60 days from the issue of this Service  |                                |
| For fire detectors in stock given in the list   | B - B1 - C -<br>C1 - C2 - C2-<br>CG - C-PM -<br>D - | 2-1                 | 1,2,3                | detector given in the list in the Appendix A*: Replace the concerned fire detector(s):  • before 9 months for the engines installed on single-engine airframes,  • before 12 months for the engines installed on twin-engine airframes and for engines in stock,  from the issue of this SB or before the next installation of the engine on the airframe | Replacement of fire detectors. |
| fire detector(s).   |   |                     |                      | in the Appendix A*: Discard the concerned   |                                |
| Discard the concerned fire detectors <b>before</b> delivery of the engine.  |   |                     | 4                    |   |                                |

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

CAUTION: FAILURE TO APPLY THIS SB CAN RESULT IN AN UNTIMELY DETECTION OF AN ENGINE FIRE.

<sup>\*</sup>Appendix A attached to this SB electronic version available on *EngineLife*® Customer Portal.



§1.GENERAL §2.LEVEL 1, 2 §3.LEVEL 3 §4.LEVEL 4 §5.CERTIFICATES

#### 1. GENERAL

# 1.1. Background

#### 1.1.1. Context

Safran Helicopter Engines was informed of three occurrences of illumination of the engine fire alarm without confirmed fire (untimely illumination) on airframes equipped with sealed fire detectors.

#### 1.1.2. Analysis

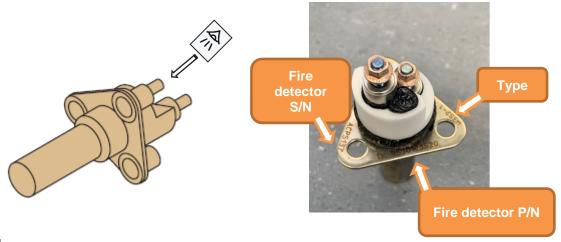
The analysis done by Safran Helicopter Engines identified a non-conformity in the production process of the fire detectors produced between January and June 2022, by the concerned supplier.

The fire detectors produced during this period can show a detection threshold lower than their specification, which could result in an untimely illumination of the engine fire alarm.

#### 1.1.3. Solution

This Service Bulletin consists of replacing the fire detectors that could be impacted by this non-conformity.

The list of the fire detectors that could be impacted by this non-conformity is given in the Appendix A on *EngineLife®* Customer Portal.



#### 1.2. Approval

- ARRIEL 2 B B1 C C1 C2 C2-CG C-PM variants: The design of the fire detectors installed on these variants is Airbus Helicopters responsibility, thus the technical content of this document is approved by Airbus Helicopters in agreement with the applicable Airbus Helicopters procedures.
- ARRIEL 2 D N variants: The design of the fire detectors installed on these variants is Safran Helicopter Engines responsibility, thus the technical content of this document is approved by Safran Helicopter Engines 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"



§1.GENERAL §2.LEVEL 1, 2 §3.LEVEL 3 §4.LEVEL 4 §5.CERTIFICATES

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

Refer to the compliance certificate in chapter 5.1

#### 2.1. Manpower

- · Personnel: 1 mechanic.
- Time: 1 man-hour.

#### 2.2. Tools / Parts

· Mechanic's standard tooling.

#### 2.3. Parts information

#### 2.3.1. Basic information

The list of parts is given for one engine.

#### 2.3.2. List of parts

2.3.2.1. Parts for application of this SB

Fire detectors, if it is necessary to replace them.

2.3.2.2. Parts for application of the maintenance tasks referred in this SB

Refer to the applicable ARRIEL 2 Maintenance Manual or Spare Parts Catalog.

# 2.3.3. Supply conditions

- 2.3.3.1. Contact your local Safran Helicopter Engines representative
- 2.3.3.2. 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

#### 2.4. Procedures

Refer to paragraphs 2.5 and 2.6:

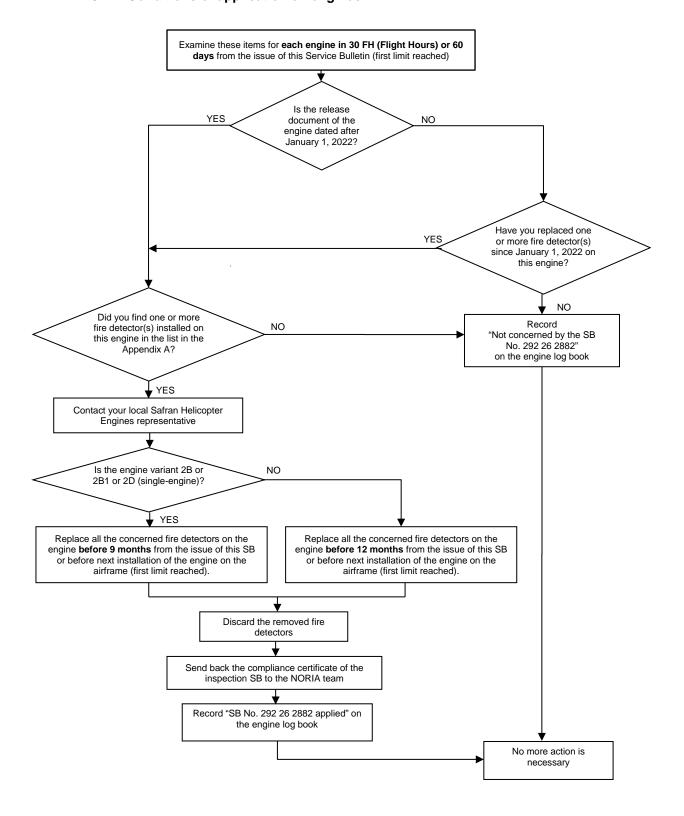
- Do a check of the fire detectors given in the list in the Appendix A to know if they are installed on the engines of your fleet or in your stocks.
- Replace the concerned fire detectors.
- Discard the concerned fire detectors.



§1.GENERAL §2.LEVEL 1, 2 §3.LEVEL 3 §4.LEVEL 4 §5.CERTIFICATES

# 2.5. Block diagram for this SB

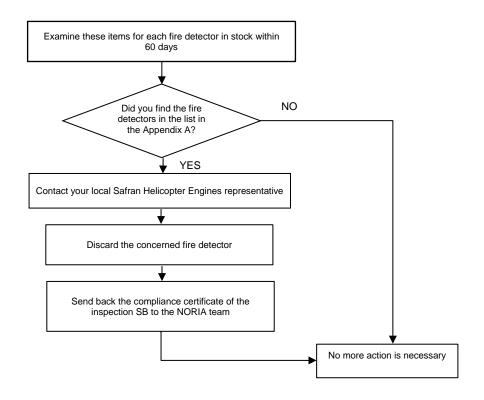
# 2.5.1. Conditions of application on engines





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# 2.5.2. Conditions of application on fire detectors in stock





§1.GENERAL §2.LEVEL 1, 2 §3.LEVEL 3 §4.LEVEL 4 §5.CERTIFICATES

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

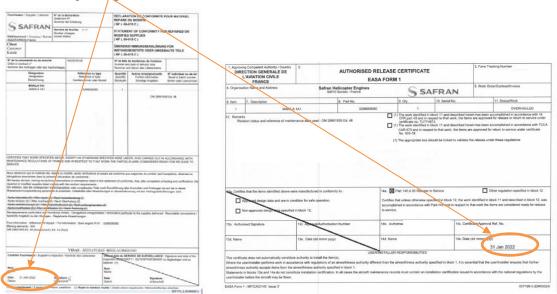
# 2.6.1. Implementation

Removal of the engine can be necessary for this SB to replace the concerned fire detectors.

#### 2.6.2. Operating instructions

- 2.6.2.1. Do a check, as specified in paragraph 2.5, of the fire detector S/Ns given in the list in the Appendix A\* to know if they are installed on your engines.
  - \* Appendix A attached to this SB electronic version available on EngineLife® Customer Portal.

Note: The date of the engine release document is in the release documents attached to the engine log book.



- 2.6.2.1.1. If the fire detector S/Ns given in the list in the Appendix A **are not installed** on your engines **or if they are not in stock**, do not do this SB.
- 2.6.2.1.2. If the fire detector S/Ns given in the list in the Appendix A are installed on your engines:
  - Contact your local Safran Helicopter Engines representative.
  - Replace the fire detectors with compliant fire detectors: Refer to the applicable ARRIEL 2 Maintenance Manual, task 26-11-00-900-801.
  - Refer to paragraph 2.6.4 for identification.
  - Discard the removed fire detectors.
- 2.6.2.1.3. If the fire detector S/Ns given in the list in the Appendix A are in stock:
  - Contact your local Safran Helicopter Engines representative.
  - Discard the fire detectors.

# 2.6.3. Reconditioning and checks

Not applicable.



§1.GENERAL §2.LEVEL 1, 2 §3.LEVEL 3 §4.LEVEL 4 §5.CERTIFICATES

#### 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. If your engine release document is dated before January 1, 2022.

Or

If the fire detectors were replaced after January 1, 2022 and their S/Ns are not in the list in the Appendix A of this SB.

- Record "Not concerned by the SB No. 292 26 2882" in section E.
- 2.6.4.2. If the fire detector S/Ns given in the list in the Appendix A are installed on your engines:
  - 2.6.4.2.1. Record the application of this SB in section E.
  - 2.6.4.2.2. Send back the compliance certificate in chapter 5.1.

#### 2.6.5. Scheduled maintenance

No changes to the scheduled maintenance.

# 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"



| §1.GENERAL | §2.LEVEL 1, 2 | §3.LEVEL 3 | §4.LEVEL 4 | §5.CERTIFICATES |
|------------|---------------|------------|------------|-----------------|
|            |               |            |            |                 |

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

Refer to the paragraphs of section §2 related the Maintenance Centers approved for Level 1, 2.

# 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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§1.GENERAL §2.LEVEL 1, 2 §3.LEVEL 3 §4.LEVEL 4 §5.CERTIFICATES

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

Refer to the compliance certificate in chapter 5.1

#### 4.1. Manpower

- Personnel of approved Repair Center.
- Time calculated by the Repair Center for this level of intervention.

#### 4.2. Tools / Parts

Refer to the ARRIEL 2 Overhaul Manual.

#### 4.3. Parts information

#### 4.3.1. Basic information

Not applicable.

# 4.3.2. List of parts

Refer to the ARRIEL 2 Overhaul Manual.

#### 4.3.3. 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

# 4.4. Procedures

- Do a check of the fire detectors given in the list in the Appendix A to know if they are installed on the engine or if they are in your stocks.
- Replace the concerned fire detectors, refer to paragraph 4.6.
- Discard the concerned fire detectors.

# 4.5. Block diagram for this SB

Not applicable.

# 4.6. Instructions on how to do the procedure

#### 4.6.1. Implementation

Not applicable.



§1.GENERAL §2.LEVEL 1, 2 §3.LEVEL 3 §4.LEVEL 4 §5.CERTIFICATES

#### 4.6.2. Operating instructions

- 4.6.2.1. Fire detectors installed on the engine:
  - 4.6.2.1.1. Do a check of the fire detector S/Ns.
  - 4.6.2.1.2. If the fire detector S/Ns are not in the list of the concerned S/Ns in the Appendix A of this SB: No action necessary under this SB.
  - 4.6.2.1.3. If one or several fire detector S/Ns **are** in the list of the concerned S/Ns in the Appendix A of this SB:
    - Replace the fire detectors with compliant fire detectors: Refer to the ARRIEL 2 Overhaul Manual.
    - Discard the concerned fire detectors.
    - Refer to paragraph 4.6.4 for identification.
- 4.6.2.2. Fire detectors in stock:
  - 4.6.2.2.1. Do a check of the fire detector S/Ns.
  - 4.6.2.2.2. If the fire detector S/Ns are not in the S/N list in the Appendix A of this SB: No more action is necessary.
  - 4.6.2.2.3. If one or several fire detector S/Ns **are** in the list of the concerned S/Ns in the Appendix A of this SB:
    - Discard the concerned fire detectors.
    - Refer to paragraph 4.6.4 for identification.

#### 4.6.3. Reconditioning and checks

Refer to the ARRIEL 2 Overhaul Manual.

#### 4.6.4. Identification

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

If one or several fire detector S/Ns are in the list of the concerned S/Ns in the Appendix A of this SB:

- 4.6.4.1. Fire detectors installed on the engine:
  - Record the application of this SB in section E.
  - Send back the compliance certificate in chapter 5.1.
- 4.6.4.2. Fire detectors in stock:
  - Send back the compliance certificate in chapter 5.1.

#### 4.6.5. Scheduled maintenance

No changes to the scheduled maintenance.

#### 4.7. Weight and balance

Not applicable.

#### End of Section §4

"Procedure done at a Repair Center approved for Level 4"



| §1.GENERAL | §2.LEVEL 1, 2 | §3.LEVEL 3 | §4.LEVEL 4 | §5.CERTIFICATES |
|------------|---------------|------------|------------|-----------------|
|            |               |            |            |                 |

# 5.1- Compliance certificate of SB No. 292 26 2882 - LEVEL 1, 2, 3, 4

# **Important:**

Refer to SB status ( NORIA or NORIA TERMINEE ) in "Technical Documentation" section of the on-line EngineLife portal.

If the SB is identified as a "Noria":

Send the certificate back to:

# SAFRAN HELICOPTER ENGINES Equipe NORIA 40220 TARNOS - France

Email: noria-tarnos-arriel2.fr.she@safrangroup.com

If the SB is identified as a "Noria terminée" (Completed Noria):

Send the certificate back to:

# SAFRAN HELICOPTER ENGINES Equipe Administration Base installée / Fleet Data Administrator Team, BP 25 40220 TARNOS - France

Email: data-fleet.fr.she@safrangroup.com

| Equipment information |     |              |  |  |  |
|-----------------------|-----|--------------|--|--|--|
| Customer              |     | Aircraft S/N |  |  |  |
|                       | S/N | P/N          |  |  |  |
| Engine                |     |              |  |  |  |
| Removed fire detector |     |              |  |  |  |
| Removed fire detector |     |              |  |  |  |
| Removed fire detector |     |              |  |  |  |

# I certify that:

- The above-mentioned engine has been modified according to this SB.
- The above-mentioned fire detectors have been discarded according to this SB.

| Date [DD/MMMM (letter)/YYYY] | Name | Job title |
|------------------------------|------|-----------|
|                              |      |           |

| Signature: |  |  |  |
|------------|--|--|--|
|            |  |  |  |