
SERVICE BULLETIN

Modification



Recurring action



One-off action



No.

292 73 2088

ARRIEL 2 B1 - B1A - C2 - C2-CG

Subject: Adjusted hydro-mechanical unit (HMU). Reduced torque of the metering valve emergency control.

Application of modification TU 88A.

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 2006

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

Version: B

Reason for update:

Merger of SB No. 292 73 2088 and SB No. 292 73 2088M.

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1. Compliance

A. Application

The manufacturer recommends this modification be incorporated as defined in this Service Bulletin.

Validity	Code
ARRIEL 2 B1 - B1A ARRIEL 2 C2 - C2-CG	2-A-3

Conditions of application for engines in service

(1) Application at the operator's site or at a Safran Helicopter Engines-approved Maintenance Center

Upon customer request.

(2) Application at a Safran Helicopter Engines-approved Repair Center

Upon first return to an approved Repair Center, if the repair/overhaul being performed provides access to the neutral notch locking.

B. Purpose

The purpose of this modification is to reduce the maximum torque for transitioning out of the neutral notch and the continuous friction torque in manual mode.

C. Description (see appendix 1)

Torque reduction is achieved by adding a washer.

D. Approval

- ARRIEL 2 B1 - B1A - C2 variants:
The technical content of this document is approved under the authority of the DOA (Design Organisation Approval) ref. EASA.21J.070.
- ARRIEL 2 C2-CG variant:
The technical information given in this document is approved by Safran Helicopter Engines.

E. Manpower

(1) At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center

(a) Personnel: 1 mechanic.

(b) Time required: 1 man-hour.

(2) At a Safran Helicopter Engines-approved Repair Center

(a) Personnel of approved Repair Center.

(b) Time determined by the Repair Center as being appropriate for this level of intervention.

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F. Material

Refer to paragraph 3.

G. Tooling

- (1) **At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center**
Mechanic's standard tooling.
- (2) **At a Safran Helicopter Engines-approved Repair Center**
Refer to the Overhaul Manual and the applicable ARRIEL 2 Component Maintenance Manual.

H. Weight and balance

Not applicable.

I. References

- | | |
|---|----------------------|
| (1) ARRIEL 2 B1 Maintenance Manual..... | Ref. X 292 N5 450 2. |
| (2) ARRIEL 2 B1A Maintenance Manual | Ref. X 292 P4 450 2. |
| (3) ARRIEL 2 C2 Maintenance Manual..... | Ref. X 292 N6 450 2. |
| (4) ARRIEL 2 C2-CG Maintenance Manual | Ref. X 292 P8 450 2. |
| (5) ARRIEL 2 Overhaul Manual | Ref. X 292 R1 500 2. |
| (6) ARRIEL 2 B1 - B1A Component Maintenance Manual | Ref. X 73 23 05 2. |
| (7) ARRIEL 2 C2 - C2-CG Component Maintenance Manual..... | Ref. X 73 23 08 2. |

J. Other publications concerned

- | | |
|--|----------------------|
| (1) ARRIEL 2 B1 Spare Parts Catalogue..... | Ref. X 292 N5 700 2. |
| (2) ARRIEL 2 B1A Spare Parts Catalogue | Ref. X 292 P4 700 2. |
| (3) ARRIEL 2 C2 Spare Parts Catalogue..... | Ref. X 292 N6 700 2. |
| (4) ARRIEL 2 C2-CG Spare Parts Catalogue | Ref. X 292 P8 700 2. |
| (5) ARRIEL 2 B1 Illustrated Parts Catalogue..... | Ref. X 292 N5 600 2. |
| (6) ARRIEL 2 B1A Illustrated Parts Catalogue | Ref. X 292 P4 600 2. |
| (7) ARRIEL 2 C2 Illustrated Parts Catalogue..... | Ref. X 292 N6 600 2. |
| (8) ARRIEL 2 C2-CG Illustrated Parts Catalogue | Ref. X 292 P8 600 2. |

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2. Instructions to be incorporated

A. Implementation

This modification can be performed:

(1) At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center

With engine installed on helicopter, replace adjusted HMU.

(2) At a Safran Helicopter Engines-approved Repair Center

On adjusted HMU, by modifying fuel metering valve.

Modification can be incorporated during type A repair per the applicable ARRIEL 2 Component Maintenance Manual.

B. Operating instructions (see appendix 1)

(1) At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center

(a) Remove PRE TU 88A adjusted HMU: refer to the applicable ARRIEL 2 Maintenance Manual, task 73-23-00-900-801.

(b) Return PRE TU 88A adjusted HMU, along with its updated log card, to a Safran Helicopter Engines-approved Repair Center.

(c) Install POST TU 88A adjusted HMU: refer to the applicable ARRIEL 2 Maintenance Manual, task 73-23-00-900-801.

(2) At a Safran Helicopter Engines-approved Repair Center

(a) Remove PRE TU 88A adjusted HMU: refer to the ARRIEL 2 Overhaul Manual.

(b) Remove plug (01) from fuel metering valve: refer to the applicable ARRIEL 2 Component Maintenance Manual.

(c) Inspect and check the parts per the acceptance criteria in the applicable ARRIEL 2 Component Maintenance Manual.

All parts not in compliance with acceptance criteria must be removed, discarded and replaced.

(d) Install plug (01) equipped with new washer (02) on fuel metering valve: refer to the applicable ARRIEL 2 Component Maintenance Manual.

(e) Check and adjust POST TU 88A HMU: refer to the applicable ARRIEL 2 Component Maintenance Manual.

(f) Install POST TU 88A adjusted HMU: refer to the ARRIEL 2 Overhaul Manual.

C. Reconditioning and checks

(1) At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center

Do a ground run check: refer to the applicable ARRIEL 2 Maintenance Manual, task 71-02-13-280-801.

Note: Do a visual leak check on adjusted HMU.

(2) At a Safran Helicopter Engines-approved Repair Center

Refer to the ARRIEL 2 Overhaul Manual.

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D. Identification

(1) At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center

- (a) Update the log card of the removed adjusted HMU and the log card of the installed adjusted HMU.
- (b) Record the replacement of the adjusted HMU in the engine log book.
- (c) Integrate the log card of the new adjusted HMU in the engine log book.
- (d) Record the application of this SB in section E.
- (e) Update, if necessary, the availability status in section E.
- (f) Send back the fully-completed compliance certificate, links to the digital document

EngineLife Customer Portal: [Certificate 5.1 SB 292 73 2088 EN B](#) or



(2) At a Safran Helicopter Engines-approved Repair Center

- (a) Create a new log card for the adjusted HMU.
- (b) Record the application of this SB on the log card.
- (c) Update, if necessary, the availability status on the adjusted HMU log card.
- (d) Send back the fully-completed compliance certificate, links to the digital document

EngineLife Customer Portal: [Certificate 5.2 SB 292 73 2088 EN B](#) or



E. Routine maintenance

Not applicable.

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3. Material information

A. Basic information

The parts list required for the incorporation of this Service Bulletin is for one engine.

B. List of parts

The parts will be available starting **SEPTEMBER 2006**.

(1) At the operator's site or at a Safran Helicopter Engines-approved Maintenance Center

New Part Number	Key	Qty	Description	Price	Old Part Number	Key	Qty
0 292 86 855 0	A	1	Adjusted HMU 2 B - B1A	*	0 292 86 833 0	F	1
0 292 86 863 0	A	1	Adjusted HMU 2 C2 - C2-CG	*	0 292 86 835 0	F	1

* Prices are available upon request.

(2) At a Safran Helicopter Engines-approved Repair Center

New Part Number	Key	Qty	Description	Old Part Number	Key	Qty
0 292 86 855 0	A	1	Adjusted HMU 2 B - B1A	0 292 86 833 0	F	1
0 292 86 863 0	A	1	Adjusted HMU 2 C2 - C2-CG	0 292 86 835 0	F	1
0 292 86 510 0	A	1	HMU 2 B - B1A	0 292 86 503 0	F	1
0 292 86 515 0	A	1	HMU 2 C2 - C2-CG	0 292 86 505 0	F	1
0 292 84 538 0	A	1	Fuel metering valve 2 B - B1A	0 292 84 533 0	F	1
0 292 84 006 0	A	1	Fuel metering valve 2 C2 - C2-CG	0 292 84 535 0	F	1
0 000 41 293 0	A	1	. Washer			

Key

A - Part incorporated by this modification.

F - Part to be modified at the manufacturer's site or at a Safran Helicopter Engines-approved Repair Center.

C. Supply conditions

Order supplies from:

your local Safran Helicopter Engines Support Center

or

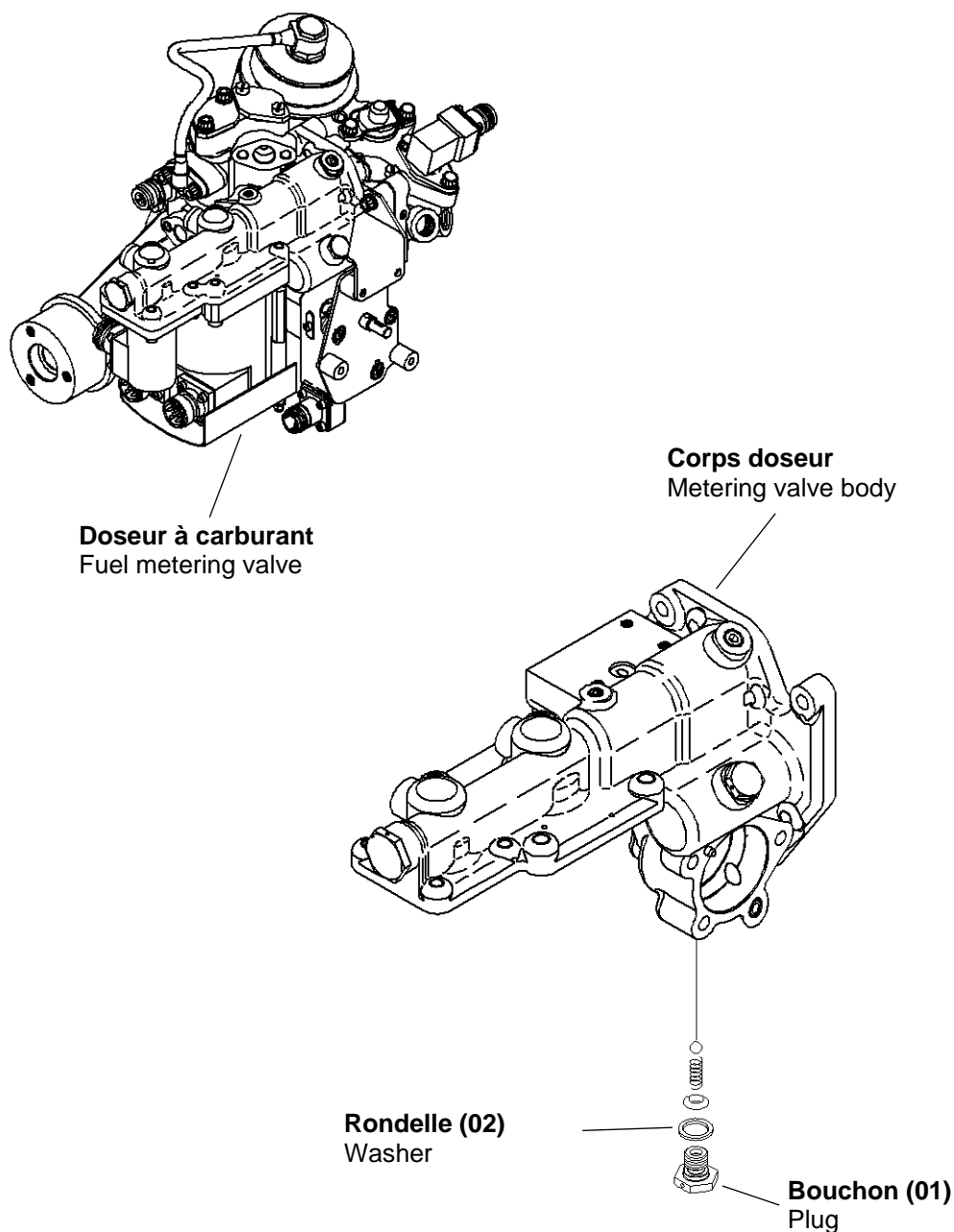
SAFRAN HELICOPTER ENGINES

Direction Support et Service

Département Commercial

40220 TARNOS - France

SERVICE BULLETIN



ANNEXE 1 / APPENDIX 1

SERVICE BULLETIN

Subject: Compliance certificate for replacement of adjusted HMU through application of the SB No. 292 73 2088 (TU 88A).

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

Equipment information					
Customer			Aircraft S/N		
	S/N	P/N	TSN*	CSN HP*	CSN PT*
Engine					
Removed PRE TU 88A adjusted HMU					
Installed POST TU 88A adjusted HMU					

* TSN = Time Since New
 CSN = Cycles Since New

I certify that the above-mentioned engine has been installed according to this SB.

Date [DD/MMMM (letters)/YYYY]	
Comments	

CERTIFICATE 5.1

SERVICE BULLETIN

Subject: Compliance certificate of this SB No. 292 73 2088 (TU 88A).

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

Equipment information					
Customer			Aircraft S/N		
	S/N	P/N	TSN*	CSN HP*	CSN PT*
Engine					
Modified adjusted HMU					

* TSN = Time Since New
CSN = Cycles Since New

I certify that the above-mentioned engine has been installed according to this SB.

Date [DD/MMMM (letters)/YYYY]	
Comments	

CERTIFICATE 5.2