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AgustaWestland Products

SERVICE BULLETIN

N° 189-327

DATE: May 31, 2022

REV. : /

TITLE

ATA 26 - DETECTOR FIRE INSTALLATION AUXILIARY POWER UNIT RETROMOD

REVISION LOG

First Issue

1. PLANNING INFORMATION

A. EFFECTIVITY

All AW189 helicopters from S/N 49007 thru S/N 49083 (S/N's 49024, 49036, 49040, 49041 excluded), from S/N 89001 thru S/N 89012 (S/N's 89005 and 89006 excluded) and from S/N 92001 to S/N 92010.

B. COMPLIANCE

Within 400 flight hours or 1 year whichever occurs first from receipt of this Service Bulletin.

C. CONCURRENT REQUIREMENTS

N.A.

D. REASON

This Service Bulletin is issued in order to provide the instruction on how to inspect the APU mounting plate and the APU fire detection system and to provide the instructions on how to install the retromod P/N 8G2610P00111.

E. DESCRIPTION

LHD received some reports related to an interference caught between an APU fire detector sensing element and the APU mounting plate. This interference caused damages to both the APU sensing element and the APU mounting plate. This damage, if not corrected, can generate the CAS message APU FIRE DET, thus impairing the operability of the helicopter, and it can reduce the local strength of the mounting plate. None of the reported events experienced such consequences.

This Service Bulletin gives the instructions on how to inspect the APU mounting plate and the APU fire detection system for condition. Any sensing element which generated the Caution message mentioned above shall be replaced. Any APU mounting plate with damages out of the given limits must be replaced.

This Service Bulletin also requires the installation of the APU Fire Detection Installation retromod P/N 8G2610P00111, designed by LHD to prevent further occurrences. This retromod introduces a set of 10 protective bushings to be installed on the sensing element sections that run closest to the APU mounting plate.

F. APPROVAL

The technical content of this Service Bulletin is approved under the authority of DOA nr. EASA.21.J.005. For helicopters registered under other Aviation Authorities, before applying the Service Bulletin, applicable Aviation Authority approval must be checked within Leonardo Helicopters customer portal.

EASA states mandatory compliance with inspections, modifications or technical directives and related time of compliance by means of relevant Airworthiness Directives.

If an aircraft listed in the effectivity embodies a modification or repair not LHD certified and affecting the content of this Service Bulletin, it is responsibility of the Owner/Operator to obtain a formal approval by Aviation Authority having jurisdiction on the aircraft, for any adaptation necessary before incorporation of the present Service Bulletin.

G. MANPOWER

To comply with this Service Bulletin sixteen (16) MMH are deemed necessary.

MMH are based on hands-on time and can change with personnel and facilities available.

H. WEIGHT AND BALANCE

N.A.

I. REFERENCES

1) PUBLICATIONS

Following Data Modules refer to AMP:

DATA MODULE		DESCRIPTION	PART
DM01	89-A-00-20-00-00A-120A-A	Helicopter on ground for a safe maintenance	-
DM02	89-A-26-14-01-00A-520A-A	APU sensing element - Remove procedure	-
DM03	89-A-26-14-01-00A-720A-A	APU sensing element - Install procedure	-
DM04	89-A-49-11-01-00A-520A-A	Auxiliary power unit – Remove procedure	-
DM05	89-A-49-11-01-00A-720A-A	Auxiliary power unit – Install procedure	-
DM06	89-A-49-11-01-00A-521A-B	Auxiliary power unit - Return to basic configuration (Undressing)	-
DM07	89-A-49-11-01-00A-721A-B	Auxiliary power unit - Build up to usable configuration (Dressing)	-

2) ACRONYMS & ABBREVIATIONS

AMDI	Aircraft Material Data Information
AMP	Aircraft Maintenance Publication
APU	Auxiliary Power Unit
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
IPD	Illustrated Parts Data
ITEP	Illustrated tool and equipment publication
LHD	Leonardo Helicopters Division
MMH	Maintenance Man Hours
P/N	Part Number
SB	Service Bulletin
S/N	Serial Number

3) ANNEX

N.A.

J. PUBLICATIONS AFFECTED

AW 189 Aircraft Maintenance Publication (AMP)

AW 189 Illustrated Parts Data (IPD).

K. SOFTWARE ACCOMPLISHMENT SUMMARY

N.A.

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

1) PARTS

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	**8G2610P00111**		**DETECTOR FIRE INSTALLATION APU RETROMOD**	**REF**	**.**		
2	3106	NSA5592-01	Sensor bushing	10	..		-
3	8G4910A00332		APU Mounting plate	REF	.	(1)	-
4	6360-24-450/170C-6M		APU sensing element	REF	.	(2)	-

Refer also to IPD for the spares materials required to comply with the AMP DMs referenced in the accomplishment instructions.

2) CONSUMABLES

The following consumable materials, or equivalent, are necessary to accomplish this Service Bulletin:

#	SPEC./LHD CODE NUMBER	DESCRIPTION	Q.TY	NOTE	PART
5	SAE-AMS-3374, Type 1	Sealing compound DAPCO 2100 (C095)	AR	(3)	-
6	MIL-A-46106, 199-05-152 Type II Code No. 900002979	Sealant RTV106 (C142) (Alternative)	AR	(3)(4)	-

Refer also to AMDI for the consumable materials required to comply with the AMP DM referenced in the accomplishment instructions.

3) LOGISTIC MATRIX

N.A.

NOTE

(1) Item to be supplied only if APU mounting plate replacement is needed in accordance with accomplishment instructions.

(2) Item to be supplied only if APU sensing element replacement is needed in accordance with accomplishment instructions.

(3) Item to be procured as local supply.

(4) Alternative to sealing compound DAPCO 2100 (C095).

B. SPECIAL TOOLS

Refer to ITEP for the special tools required to comply with the AMP DM referenced in the accomplishment instructions.

C. INDUSTRY SUPPORT INFORMATION

Owners/Operators who comply with the instructions of this Service Bulletin no later than the applicable date in the “Compliance” section will be eligible to receive “Required Materials” on free of charge basis.

Consumables, Special Tools, and materials required by AMP DM recalled in this SB are not included in the aforementioned policy.

NOTE: Customers who fail to comply with the instructions in this Service Bulletin before the compliance date are not eligible for the aforementioned special policy.

Please Issue relevant MMIR form to your Warranty Administration Dpt.

NOTE: Filling the form in Figure 4 and the pictures with the evidence of damages exceeding the allowable limits are mandatory; in case the MMIR is not accompanied by these documents, it will be rejected.

3. ACCOMPLISHMENT INSTRUCTIONS

GENERAL NOTES

a) Place an identification tag on all components that are re-usable, including the attaching hardware that has been removed to gain access to the modification area and adequately protect them until their later re-use.

b) Let adhesive cure at room temperature for at least 24 hours unless otherwise specified.

c) All lengths are in mm.

1. In accordance with AMP DM 89-A-00-20-00-00A-120A-A, prepare the helicopter on ground for a safe maintenance. Disconnect the battery, all electrical power sources and/or the external power supply.
2. In accordance with AMP DM 89-A-49-11-01-00A-520A-A, remove the auxiliary power unit from the helicopter.
3. With reference to Figure 3, perform a visual inspection to the APU mounting plate as described in the following procedure:
   - 3.1 In accordance with the applicable steps of AMP DM 89-A-49-11-01-00A-521A-B, remove the APU mounting plate assy from the APU and put it on an applicable work table.
   - 3.2 Check for damage to the APU mounting plate in the indicated areas of possible contact between the APU mounting plate and the APU sensing element.
   - 3.3 If any damage has been found on the APU mounting plate, perform the following procedure. Otherwise skip to Step 3.4.
     - 3.3.1 Measure the depth of the damages.
     - 3.3.2 If the damage found is within the allowable limits specified on the table in the Figure 3 skip to Step 3.4. Otherwise proceed with the following step.
     - 3.3.3 Take a picture of the damage found and their location. Compile the form in Figure 4 and send the form and the pictures to Product Support Engineering (engineering.support.lhd@leonardo.com).
     - 3.3.4 Discard the damaged APU mounting plate.
   - 3.4 In accordance with the applicable steps of AMP DM 89-A-49-11-01-00A-721A-B, install the APU mounting plate assy P/N 8G4910A00332 on the auxiliary power unit.

4. With reference to Figure 1, perform an inspection of the APU fire detector sensing element as described in the following procedure:

   4.1 Perform a visual inspection of the APU sensing element. Make sure that it is not damaged.

   4.2 If the APU sensing element is damaged, verify if the “APU FIRE DET” caution and “APU FIRE DET” maintenance message have been generated on the helicopter; if so, proceed with the following step, otherwise skip to Step 5.

   4.3 In accordance with AMP DM 89-A-26-14-01-00A-520A-A, remove the APU sensing element from the helicopter. Discard the APU sensing element.

   4.4 In accordance with AMP DM 89-A-26-14-01-00A-720A-A, install a new APU sensing element P/N 6360-24-450/170C-6M on the helicopter.

NOTE

Insert the sealing compound inside the sensor bushings before their installation.

5. With reference to Figures 1 and 2, install n°10 sensor bushings P/N 3106 by means of sealing compound DAPCO 2100 (C095) in the indicated positions on the APU sensing element. Sealant RTV106 can be used as alternative to DAPCO 2100.
6. In accordance with AMP DM 89-A-49-11-01-00A-720A-A, re-install the auxiliary power unit on the helicopter.
7. Return the helicopter to flight configuration and record for compliance with this Service Bulletin on the helicopter logbook.
8. Send the attached compliance form to the following mail box:

   engineering.support.lhd@leonardo.com

   As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the “Service Bulletin Application Communication”.

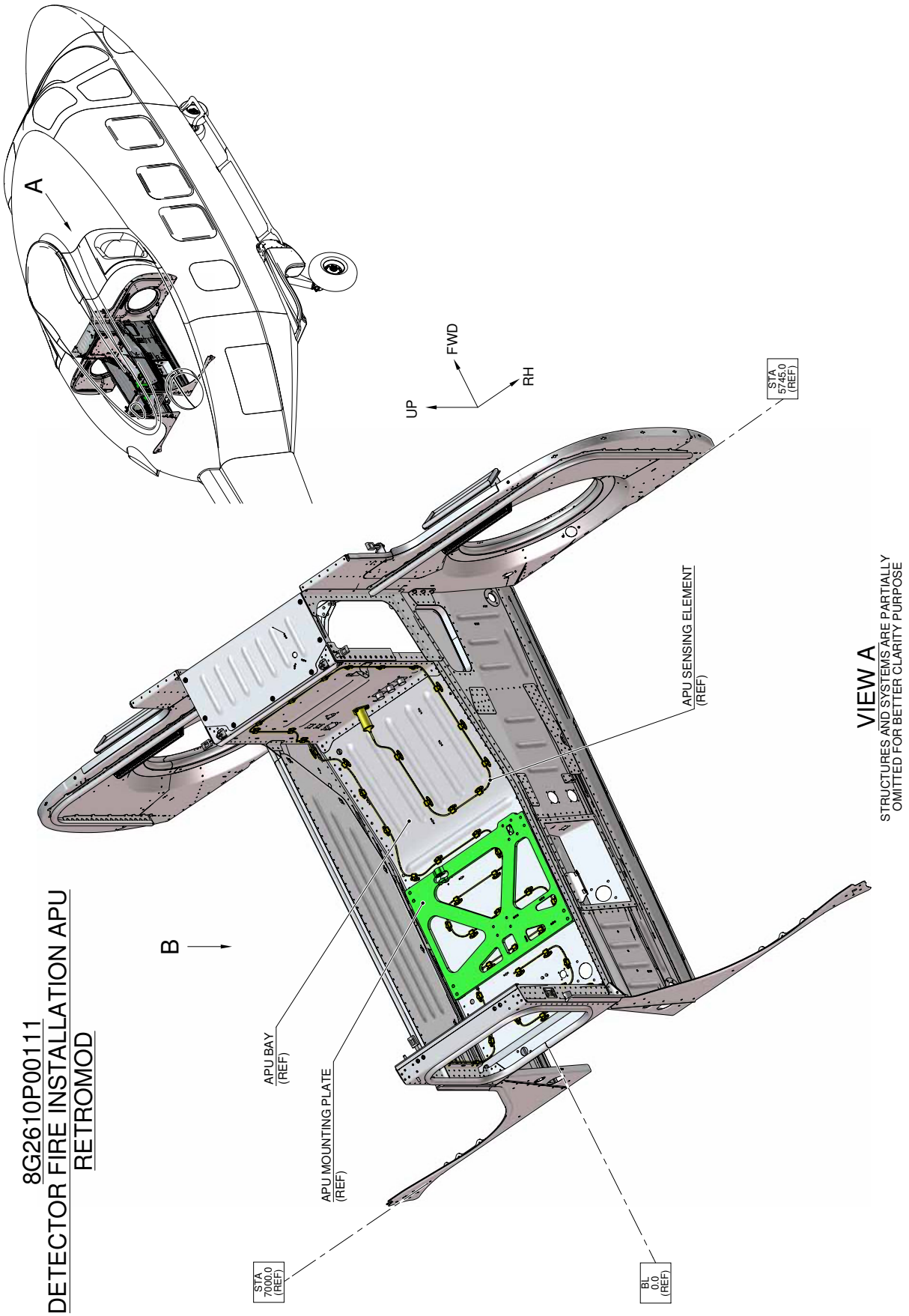
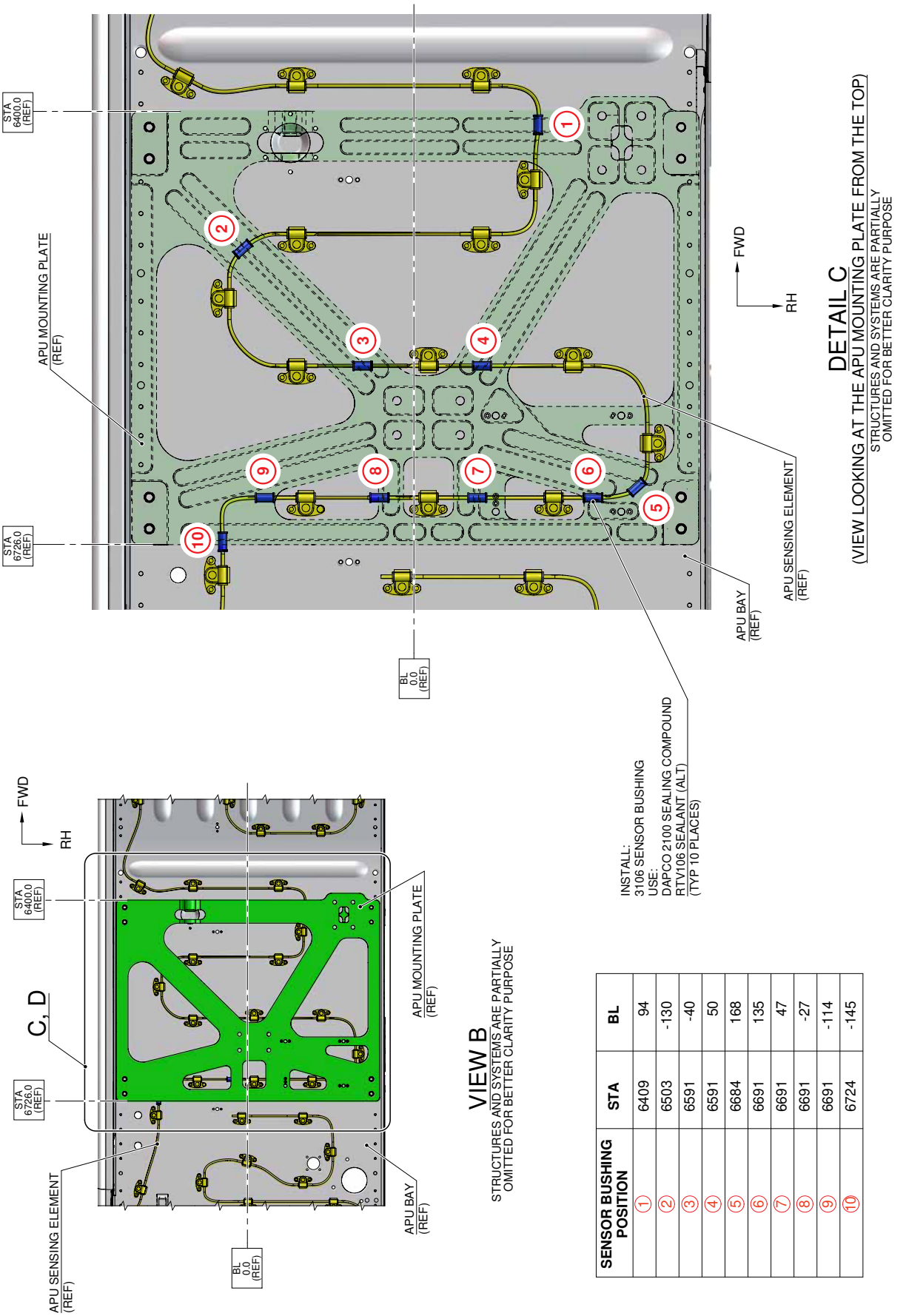

A
FWD
RH
UP
STA 5745.0 (REF)
APU SENSING ELEMENT (REF)
VIEW A
STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE
B
8G2610P00111
DETECTOR FIRE INSTALLATION APU
RETROMOD
APU BAY (REF)
APU MOUNTING PLATE (REF)
STA 7000.0 (REF)
BL 0.0 (REF)

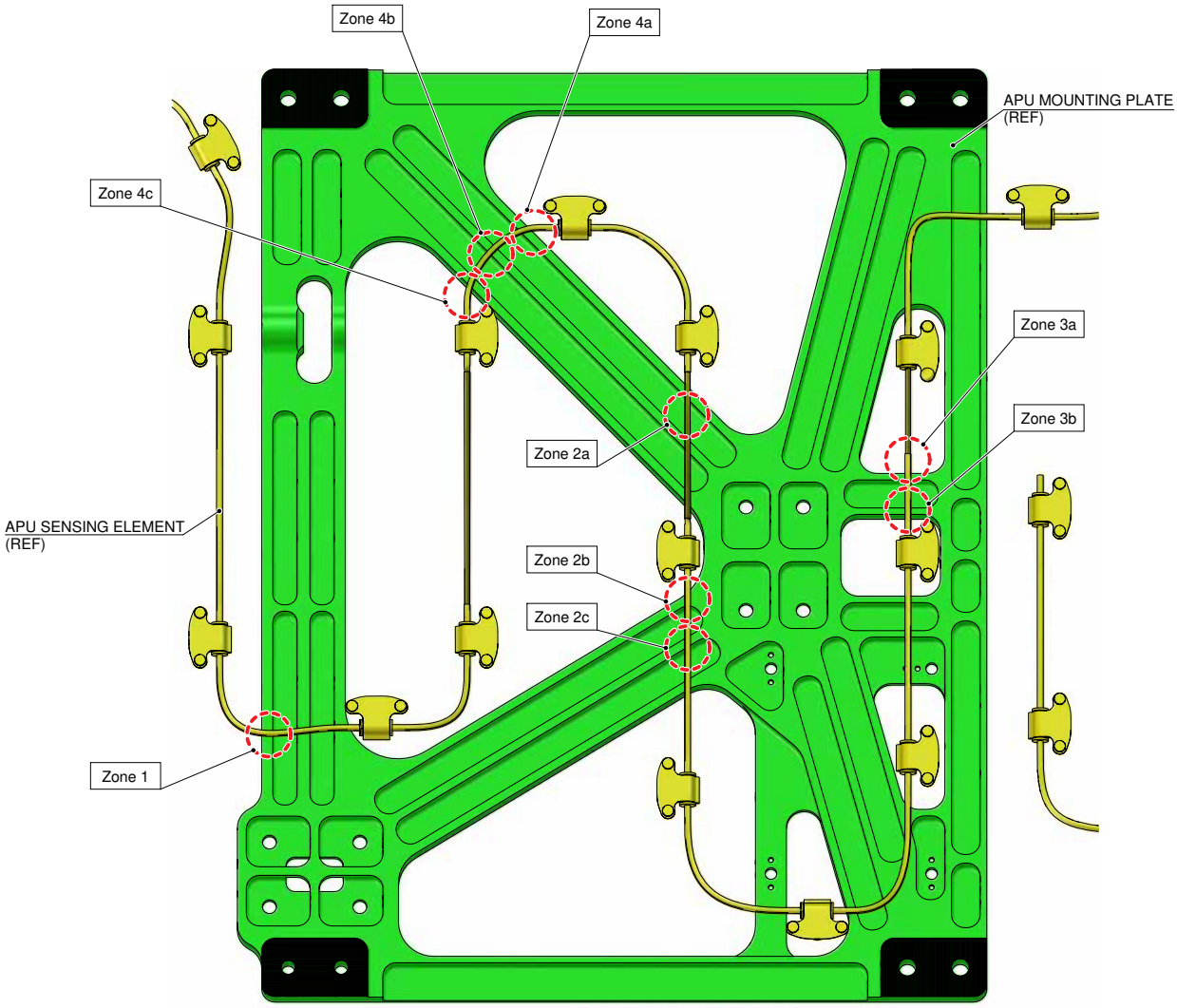
Figure 1



SENSOR BUSHING POSITION	STA	BL
①	6409	94
②	6503	-130
③	6591	-40
④	6591	50
⑤	6684	168
⑥	6691	135
⑦	6691	47
⑧	6691	-27
⑨	6691	-114
⑩	6724	-145

Figure 2

Zone	MAXIMUM DAMAGE DEPTHS (mm)
1	1.00
2a	0.80
2b	0.20
2c	0.40
3a	1.00
3b	1.00
4a	0.15
4b	0.12
4c	0.10



DETAIL D
DAMAGE ZONE LOCATIONS
(VIEW LOOKING AT THE APU MOUNTING PLATE FROM THE BOTTOM)
STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

Figure 3

SB 189-327		
Helicopter S/N		
FH		
Date		
Zone	**Maximum damage depths (mm)**	**Measured damage depths (mm)**
1	1.00	
2a	0.80	
2b	0.20	
2c	0.40	
3a	1.00	
3b	1.00	
4a	0.15	
4b	0.12	
4c	0.10	

Please, also attach picture(s) of the damage(s) exceeding the maximum depth(s).

Figure 4

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Please send to the following address: **LEONARDO S.p.A.** **CUSTOMER SUPPORT & SERVICES - ITALY** **PRODUCT SUPPORT ENGINEERING & LICENSES DEPT.** Via Giovanni Agusta, 520 21017 Cascina Costa di Samarate (VA) - ITALY Tel.: +39 0331 225036 Fax: +39 0331 225988	**SERVICE BULLETIN COMPLIANCE FORM**	Date:
	Number:	
	Revision:	

Customer Name and Address:	Telephone:
	Fax:
	B.T. Compliance Date:

Helicopter Model	S/N	Total Number	Total Hours	T.S.O.

Remarks:

Information:

We request your cooperation in filling this form, in order to keep out statistical data relevant to aircraft configuration up-to-date. The form should be filled in all its parts and sent to the above address or you can communicate the application also via Technical Bulletin Application Communication Section placed in Leonardo AW Customer Portal - MyCommunications Area. We thank you beforehand for the information given.