
SERVICE BULLETIN

N° **189-311**

OPTIONAL

DATE: March 14, 2024

REV. : /

TITLE

ATA 21 - RH AVIONIC BAY COOLING INSTALLATION

REVISION LOG

First Issue

An appropriate entry should be made in the aircraft log book upon accomplishment.
If ownership of aircraft has changed, please, forward to new owner.

1. PLANNING INFORMATION

A. EFFECTIVITY

Part I

All AW189 helicopters S/N 49054, S/N 49064 thru S/N 49067, S/N 49073 thru S/N 49075 and S/N 89002.

Part II

All AW189 helicopters S/N 49054 and S/N 49064 thru S/N 49067, S/N 49073 thru S/N 49075 and S/N 89002.

B. COMPLIANCE

At Customer's option.

C. CONCURRENT REQUIREMENTS

N.A.

D. REASON

This Service Bulletin is issued in order to provide the necessary instruction on how to perform the installation of the kit "RH avionic bay cooling" P/N 8G2120F00411.

LHD issued this SB for the following reason:

Helicopter Reliability/Maintainability	
Product Improvement	
Obsolescence	
Customization	✓
Product/Capability Enhancement	

E. DESCRIPTION

This Service Bulletin has been developed to install the kit "RH avionic bay cooling" P/N 8G2120F00411 in order to cool the right-hand side rear avionics cabinet.

Part I of this Service Bulletin gives information on how to perform the "RH avionic bay ventilation port structural provision" P/N 8G5310A43711 which consists in the installation of the lip P/N 8G2120A08551, the closure P/N 8G2120A08651, the wire mesh assy P/N 8G2120A08231, the EMC filter scoop RH P/N 8G2120A11651 and the EMC filter P/N 8G2120A07032 on the RH sidewall bonded assy.

Part II of this Service Bulletin gives information on how to perform:

- the "RH avionic bay structural provision" P/N 8G5310A43011 which consists in the installation of the RH avionic cooling fan bracket assy P/N 8G2120A03731 and the closures P/N 8G3000A11552 and P/N 8G3000A11652 on the STA 6700 panel sub assy P/N 8G5330A67131;
- the "right avionic bay fan C/A installation" P/N 8G2120A06811 which consists in the installation of the C/A A1B445 and the C/A B1B542;
- the "right avionic bay fan equipment installation" P/N 8G2120A11011 which consists in the installation of the fan B202, the duct P/N 8G2120L03551 and the fingerguard grid P/N 70-177 on the RH avionic cooling fan bracket assy;
- the "avionics cooling installation" P/N 8G2120A00211 which consists in the installation of the spigot P/N 8G2120A09931, the flex duct P/N NAS1375A10CA014, the inlet assembly P/N 8G2120A01031, the duct assembly P/N 8G2120A00731, the filter P/N 8G2120A10031, the RH cowl assembly P/N 8G2120A02031 and the tubing.

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 the following MMH are deemed necessary.

Part I: approximately forty (40);

Part II: approximately thirty-two (32).

MMH are based on hands-on time and can change with helicopter configuration, personnel and facilities available. MMH are not comprehensive of the overall hours necessary to get access to work areas and to remove all the equipment that interferes with the application of the prescribed instructions.

H. WEIGHT AND BALANCE

PART I

WEIGHT (kg)		0,266
	ARM (mm)	MOMENT (kg·mm)
LONGITUDINAL BALANCE	6948,4	1848,1
LATERAL BALANCE	1038,5	276,2

PART II

WEIGHT (kg)		1,860
	ARM (mm)	MOMENT (kg·mm)
LONGITUDINAL BALANCE	6427,6	11957,7
LATERAL BALANCE	876,1	1629,9

I. REFERENCES

I.1 PUBLICATIONS

Following Data Modules refer to AMP:

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM01 89-A-00-20-00-00A-120A-A	Helicopter on ground for a safe maintenance	I, II
DM02 89-A-06-41-00-00A-010A-A	Access doors and panels - General data	I, II
DM03 89-A-11-00-01-00A-720A-A	Decal - Install procedure	II
DM04 89-A-46-21-00-00A-750A-A	Aircraft mission management system - Load software procedure	II
DM05 89-A-46-31-00-00A-750A-A	Cockpit display system - Load software procedure	II
DM06 89-A-24-81-00-00A-752A-A	SSEPMS - Remote electric power units (REPU) - Data loading	II
DM07 89-A-24-81-00-05A-752A-A	SSEPMS - Personality modules (PMs) - Data loading	II

Following Data Modules refer to CSSP:

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM08 CSPP-A-20-10-12-02A-920A-D	Bonded studs - Replacement	II
DM09 CSPP-A-20-10-13-00A-622A-D	Electrical contacts - Crimp	II

I.2 ACRONYMS & ABBREVIATIONS

AMDI	Aircraft Material Data Information
AMMC	Aircraft Mission Management Computer
AMP	Aircraft Maintenance Publication
AR	As Required
ATA	Air Transport Association
ATP	Acceptance Test Procedure
C/A	Cable Assy
CDS	Cockpit Display System
CSPP	Common Standard Practices Publication
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
ECDU	Electrical Control and Display Unit
EMC	Electromagnetic Compatibility
IPD	Illustrated Parts Data
ITEP	Illustrated Tool and Equipment Publication
LH	Leonardo Helicopters
MMH	Maintenance Man Hours
N.A.	Not Applicable
P/N	Part Number
REPU	Remote Electric Power Unit
RH	Right Hand
S/N	Serial Number
SW	Software

I.3 ANNEX

Annex A AW189 Additional Avionic Ventilation ATP.

J. PUBLICATIONS AFFECTED

N.A.

K. SOFTWARE ACCOMPLISHMENT SUMMARY

Software to be updated:

AMMC option file P/N 8G4640AOXXXX;

CDS option file P/N 8G4630AOXXXX;

ECDU configuration file P/N 8G4620ACXXXX;

REPU configuration file P/N 8G2460ASXXXX.

Option File and Configuration File P/Ns are depending upon helicopter configuration that can be different from the one reported in relevant helicopter "Comessa di Vendita". Customer must contact Product Support Engineering (engineering.support.lhd@leonardo.com) to request the correct Option File at least three months in advance from the scheduled embodiment of this Service Bulletin.

<u>SW DESCRIPTION</u>	<u>S/N HELICOPTER</u>	
	<u>P/N SW INSTALLED</u> <u>(COMPILED BY CUSTOMER)</u>	<u>P/N SW TO BE ORDERED</u> <u>(COMPILED BY LEONARDO COMPANY)</u>
FCS LOADABLE SW		
AFDX CONFIG SWITCH		
AMMC DMG SW (if installed)		
AMMC OPSW		
AMMC OPTION FILE		
AMMC VAM SW		
CDS OPTION FILE		
DISPLAY UNIT SW		
DIMMER CONFIG FILE		
ECDU OP SW		
REPU CONFIG TABLE		
ICS SETTING FILE		

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

A.1 PARTS

PART I

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	8G2120F00411		KIT RH AVIONIC BAY COOLING	REF	.		-
2	8G5310A43711		RH AVIONIC BAY VENTILATION PORT STR PROV	REF	..		-
3	8G2120A11651		EMC filter scoop RH	1	...		189-311L1
4	8G2120A08231		Wire mesh assy	1	...		189-311L1
5	8G2120A07032		EMC filter	1	...		189-311L1
6	8G2120A08651		Closure	REF	...	(1)	-
7	8G2120A08551		Lip	1	...		189-311L1
8	MS27039-1-07		Screw	4	...		189-311L1
9	MS27039-1-14		Screw	4	...		189-311L1
10	NAS1149C0316R		Washer	4	...		189-311L1
11	NAS1149D0316J		Washer	5	...		189-311L1
12	NAS1836-3-15		Insert	8	...		189-311L1

PART II

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
13	8G2120F00411		KIT RH AVIONIC BAY COOLING	REF	.		-
14	8G2120A11011		RIGHT AVNC BAY FAN EQPT INSTL	REF	..	(3)	-
15	ED300B202		Decal	1	...		189-311L2
16	70-177		Fingerguard grid	1	...		189-311L2
17	AW001CL001-N6		Support	3	...		189-311L2
18	NAS1802-3-4		Screw	4	...		189-311L2
19	AW001CK04HS		Strap	3	...		189-311L2
20	MS35206-228		Screw	1	...		189-311L2
21	NAS1149C0332R		Washer	8	...		189-311L2
22	NAS1149DN632J		Washer	2	...		189-311L2
23	NAS1802-3-6		Screw	4	...		189-311L2
24	109-0718-46-103		Fan	1	...		189-311L2
25	A601A2B30		Bonding cable assy	1	...		189-311L2
26	8G2120L03551		Duct	1	...		189-311L2
27	8G2120A06811		RIGHT AVNC BAY FAN C/A INST	REF	..	(3)	-
28	NAS1190E3P6AK		Screw	2	...		189-311L2
29	A388A3E06C75		Standoff	2	...		189-311L2
30	AW001CB03H		Clamp	2	...		189-311L2
31	NAS1149D0332J		Washer	2	...		189-311L2
32	8G9A21B44501	8G9A21B44501A3R	Right avnc bay fan C/A (A1B445)	1	...		189-311L2
33	8G9B21B54201	8G9B21B54201A1R	Right avnc bay fan C/A (B1B542)	1	...		189-311L2
34	M39029/56-348		Electrical contact	1	...		189-311L2
35	PU1286-16P		Electrical contact	1	...		189-311L2
36	M39029/58-364		Electrical contact	1	...		189-311L2

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
37	M39029/56-352		Electrical contact	1	...		189-311L2
38	PU1286-16S		Electrical contact	1	...		189-311L2
39	A523A-A03		Electrical contact	1	...		189-311L2
40	8G2120A00211	8G2120A00211A1	AVIONICS COOLING INSTN	REF	..	(3)	-
41	8G2120A08751		Drain outlet fitting	1	...		189-311L2
42	8G2170A04831		Drain assembly	1	...		189-311L2
43	8G2120A10031		EMC filter assembly	1	...		189-311L2
44	8G2120A01031		Inlet assembly	1	...		189-311L2
45	8G2120A00731		Duct assembly	1	...		189-311L2
46	8G2120A02031		RH cowl assembly	1	...		189-311L2
47	8G2120A09931		Spigot	1	...		189-311L2
48	A413A12		Tubing	4.0 m	...	(2)	189-311L2
49	A366A3E16C75		Stud	3	...		189-311L2
50	A428A3C11		Screw	8	...		189-311L2
51	A437A011A		Clamp	4	...		189-311L2
52	AN3C3A		Bolt	6	...		189-311L2
53	AN3C5A		Bolt	3	...		189-311L2
54	AS21919WDF06		Clamp	1	...		189-311L2
55	AS21919WDF08		Clamp	2	...		189-311L2
56	AW001CK01HS		Strap	3	...		189-311L2
57	AW001CK06HS		Strap	2	...		189-311L2
58	AW001CL001-N6		Support	3	...		189-311L2
59	AW002SB1135A		Bracket	1	...		189-311L2
60	AW008TY-09-74A		Washer	1	...		189-311L2
61	M83413/8-A006BB		Bonding cable	1	...		189-311L2
62	MS21042L3	NAS9926-3L	Nut	4	...		189-311L2
63	MS21266-1N		Grommet	1	...		189-311L2
64	MS35489-141		Grommet	1	...		189-311L2
65	NAS1149C0332R		Washer	11	...		189-311L2
66	NAS1149D0332J		Washer	2	...		189-311L2
67	NAS1375A10CA014		Flex duct	1	...		189-311L2
68	NAS43DD3-28N		Spacer	2	...		189-311L2
69	NAS43DD3-36N		Spacer	1	...		189-311L2
70	8G5310A43011		RH AVIONIC BAY STR PROVISION	REF	..	(3)	-
71	8G2120A03731		RH av cooling fan bracket assy	1	...		189-311L2
72	8G3000A11552		Closure	1	...		189-311L2
73	8G3000A11652		Closure	1	...		189-311L2
74	NAS1836C3-16		Insert	5	...		189-311L2
75	MS21069-3	MS21069L3	Nut plate	1	...		189-311L2
76	MS35489-141		Grommet	1	...		189-311L2
77	NAS6603-6		Bolt	2	...		189-311L2
78	NAS6603-7		Bolt	2	...		189-311L2
79	NAS1399C3-2		Rivet	2	...		189-311L2
80	A363A01		Terminal	1	...		189-311L2
81	NAS1149D0332K		Washer	4	...		189-311L2
82	NAS1399C3-4		Rivet	2	...		189-311L2
83	8G4640AOXXXX		AMMC option file	1	.	(6)(7)	-
84	8G4630AOXXXX		CDS option file	1	.	(6)(7)	-
85	8G4620ACXXXX		ECDU conf file	1	.	(6)(7)	-
86	8G2460ASXXXX		REPU conf file	1	.	(6)(7)	-

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

Refer also to Annex A for the spares materials required to comply with this Service Bulletin.

A.2 CONSUMABLES

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

#	SPEC./LHD CODE NUMBER	DESCRIPTION	Q.TY	NOTE	PART
87	199-05-002 TY II, CL 2 Code No. 900004603	Adhesive EA 934NA AERO (C397)	AR	(5)	I, II
88	Code No. 900001742	Filler K20 fiber bubbles	AR	(5)	I, II
89	199-05-002 Type I, Class 2.	Adhesive EA9309NA (C231)	AR	(5)	I, II
90	199-05-002 Type I, Class 2	Adhesive EA9309.3NA (C021)	AR	(5)	II
91	Code No. 99999999000005462 or /002V-XX_001	Sealant Av-DEC Thixoflex gray (C347)	AR	(4)(5)	I, II
92	Code No. 500215758	Sealant PR1428-B2 MIL-S-8784	AR	(5)	I, II
93	Code No. 99999999000005967	(MC780 class B2) Sealant (C465)	AR	(5)	I, II
94	Code No. 99999999000017301	Corrosion inhibitor Ardrex AV 40 (C551)	AR	(5)	I, II
95	Code No. 900002367	Copper foil tape	AR	(5)	I
96	AWMS28-002 TY I, CL 1, GR A or B Code No. 99999999000011095	Waterborne chromate free primer (C596)	AR	(5)	I
97	Code No. 99999999000012912	Corrosion preventive compound Ardrex 3204 (C564)	AR	(5)	II
98	DC-4	Compound	AR	(5)	II
99	ASTM-D-5363	Locking adhesive loctite 242	AR	(5)	II
100	199-05-152 TY I, CL 2	Adhesive RTV 732 (C126)	AR	(5)	II
101	Code No. 99999999000008841	Sealant PR1764-B2 (C240)	AR	(5)	II
102	GO-AS-0107 199-05-003 TY 1, CL 2	Teflon tape C230	AR	(5)	II
103	Code No. 99999999000001675	Adhesive CB200-40 (C356)	AR	(5)	II
104	199-05-107 TY I, CL 1 Code No. 9999999900000889	Adhesive EC1357 (C455)	AR	(5)	II
105	EE267-02-075B	Tape	AR	(5)	II
106	AMS-C-9084 TY VIII A, CL 2 Code No. 900005824	Fiberglass C320	AR	(5)	I
107	199-05-152, TY I, CL 2, Code No. 900002980	Adhesive, Rubber RTV732 (C126)	AR	(5)	II
108	Code No. 900005009	Adhesive EA956.NA	AR	(5)	II

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

Refer also to Annex A for the consumable materials required to comply with this Service Bulletin.

A.3 LOGISTIC MATRIX

In order to apply this Service Bulletin, the following Logistic P/N can be ordered in accordance with the applicable notes:

LOGISTIC P/N	Q.TY (PER HELO)	NOTE	PART
189-311L1	1		Part I
189-311L2	1	(3)	Part II
AMMC option file	1	(6)(7)	Part II
CDS option file	1	(6)(7)	Part II
ECDU conf file	1	(6)(7)	Part II
REPU conf file	1	(6)(7)	Part II

NOTES

- (1) Item NOT to be ordered in quantity but to be assembled. See Part I for dedicated instructions.
- (2) The final P/N A413A12-XXXX to be installed is obtained by cutting this item at appropriate length as described in Accomplishment instructions. "XXXX" is the length in mm of the piece cut.
- (3) Applicable for helicopters S/N 49054, S/N 49064 thru S/N 49067 and S/N 89002.
- (4) As alternative it is possible to use sealant PR1428-B2.
- (5) Item to procured as local supply.
- (6) Option File P/N is depending upon helicopter configuration that can be different from the one reported in relevant helicopter "Commissa di Vendita" Customers must contact Product Support Engineering (engineering.support.lhd@leonardo.com) to request the correct Option File at least three months in advance from the scheduled application of this Service Bulletin.
- (7) This software will not be supplied; as specified by Information Letter AW189-19- 017, it will be available for download, along with relevant certification document, in "My Software" sub-section of Leonardo Customer Portal website <https://customerportal.leonardocompany.com>.

B. SPECIAL TOOLS

The following special tools, or equivalent, are necessary to accomplish this Service Bulletin:

#	P/N	DESCRIPTION	Q.TY	NOTE	PART
109	8G5310A43711A005A	Drilling Template	1		I
110	8G5310A43711A005B	Drilling Template	1		I
111	8G53000A00111A005H	Drilling Template	1		II
112	M22520/1-01	Crimping tool	1		II
113	M22520/1-02	Crimping tool	1		II
114	M22520/1-04	Crimping tool	1		II
115	M22520/2-01	Crimping tool	1		II
116	M22520/2-07	Crimping tool	1		II
117	69590039	Tweezers	1		II
118	TALL5160M1A690A	Milliohmmeter (Bondimeter)	1		Annex A
119	Commercial	DC external Power (28VDC 3KW Min)	1		Annex A
120	Commercial	DC Voltmeter Tester	1		Annex A
121	Commercial	Conductor Pins and Wire Extensions	1		Annex A
122	Commercial	Low voltage continuity tester (Bond Meter (AOIP OM 16 or equivalent)	1		Annex A

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

Refer also to Annex A for the special tools required to comply with this Service Bulletin.

C. INDUSTRY SUPPORT INFORMATION

Customization.

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) Shape the cables in order to prevent interference with the structure and the other existing installations, using where necessary suitable lacing cords and plastic cable tiedown.
- c) Exercise extreme care during drilling operations to prevent instruments, cables and hoses damage.
- d) After drilling, remove all swarf and sharp edges. Apply on bare metal a light film of primer unless the hole is used for ground connection.
- e) During the installation of bonding braids or components requiring grounding, clean the surface structure in order to obtain a good ground contact.
- f) Let adhesive cure at room temperature for at least 24 hours unless otherwise specified.
- g) Unless otherwise specified and except for electrical bonding areas, in low/medium indirect/direct exposure areas perform the installation of riveted structural parts and riveted vendor components by means of sealant MC-780 C (C465). Apply a layer on all faying surface and wet assemble fixing fasteners.
- h) Unless otherwise specified and except for electrical bonding areas, in low/medium indirect/direct exposure areas perform the installation of bolted structural parts and bolted vendor parts by means of jointing compound Cor-Ban 27L (C075) or jointing compound JC5A (C001). Apply a layer on all faying surface and wet assemble fixing fasteners.
- i) All lengths are in mm.

PART I

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.

NOTE

Unless otherwise specified, in all level direct exposure zones and medium level indirect exposure zones (except engine and APU bays), protect all removable fasteners that are not fully coated with polyurethane paint, by means of corrosion inhibitor Ardrox AV 40 (C551).

2. In accordance with AMP DM 89-A-06-41-00-00A-010A-A and with reference to Figures 1 thru 3, Figure 16 and 17, remove all external panels, internal panels and internal liners as required to gain access to the area affected by the installation and perform the "RH avionic bay ventilation port structural provision" P/N 8G5310A43711 as described in the following procedure:
 - 2.1 With reference to Figure 2 View E, remove and retain the RH lower shelf assy P/N 8G5315A02532 and the attaching hardware.
 - 2.2 With reference to Figure 2 View E, remove and retain the RH lower shelf angle assy P/N 3G4315A24431 and the attaching hardware from the sidewall bonded assy RH P/N 8G5340A27631.
 - 2.3 With reference to Figure 3 View H1, locate the drilling template P/N 8G5310A43711A005A on the sidewall bonded assy RH P/N 8G5340A27631 in accordance with the existing holes.
 - 2.4 With reference to Figure 3 View H1, drill n°4 holes Ø4.8 on the sidewall bonded assy RH P/N 8G5340A27631 in accordance with the drilling template P/N 8G5310A43711A005A.
 - 2.5 With reference to Figure 3 View H1, countermark the cut-out profile in accordance with the drilling template P/N 8G5310A43711A005A.
 - 2.6 Remove the drilling template P/N 8G5310A43711A005A from the sidewall bonded assy RH P/N 8G5340A27631.
 - 2.7 With reference to Figure 3 View H1, perform the circular cut-out (Ø76.3 mm) previously countermarked thru the sidewall bonded assy RH P/N 8G5340A27631. After trimming, fill the opened cells of honeycomb with filler K20 fiber bubbles at 30% with adhesive EA9309NA (C231). Break the sharp edges with chamfering 1x1 or radius 10.25 mm.

NOTE

Restore protective treatment of any cut edges.

- 2.8 With reference to Figure 3 View H2, prepare the surface for bonding and apply n°2 plies of fiberglass C320 inside the cut-out by means of the adhesive EA9309NA (C231). Realize the closure P/N 8G2120A08651 on the sidewall bonded assy RH P/N 8G5340A27631 (only internal side Ø135.0 mm).
- 2.9 With reference to Figure 3 View H2, countermark n°4 holes positions on the closure P/N 8G2120A08651.
- 2.10 With reference to Figure 3 View H2, enlarge n°4 holes up to Ø11.48÷11.61 on the sidewall bonded assy RH P/N 8G5340A27631.
- 2.11 With reference to Figure 3 View H2, install n°4 inserts P/N NAS1836-3-15 on the sidewall bonded assy RH P/N 8G5340A27631 by means of the adhesive EA 934NA AERO (C397).
- 2.12 Disassemble the drilling template P/N 8G5310A43711A005B (internal part, external part).
- 2.13 With reference to Figure 2 View D, locate the internal part of the drilling template inside the cut-out of the sidewall bonded assy RH P/N 8G5340A27631 in accordance with the two holes previously performed.
- 2.14 With reference to Figure 2 View C, assemble the external part of the drilling template with the internal part by means of the existing bolts.
- 2.15 With reference to Figure 2 View C, drill n°4 holes Ø4.8 on the sidewall bonded assy RH P/N 8G5340A27631 in accordance with the drilling template P/N 8G5310A43711A005B.
- 2.16 Remove the drilling template P/N 8G5310A43711A005B (internal and external part).
- 2.17 With reference to Figure 1 Detail A1, enlarge n°4 holes up to Ø11.48÷11.61 on the sidewall bonded assy RH P/N 8G5340A27631.
- 2.18 With reference to Figure 1 Detail A1, install n°4 inserts P/N NAS1836-3-15 on sidewall bonded assy RH P/N 8G5340A27631 by means of the adhesive EA 934NA AERO (C397).
- 2.19 With reference to Figure 1 Detail A1, prepare the surface for electrical bonding. Clean, swab degrease and carefully abrade the closure using 220 grit garnet or “scotch brite” pad until the closure surface is entirely removed and the bare metal surface of the aircraft skin is exposed.

- 2.20 With reference to Figure 16 Detail Y1 and Figure 17 Detail BB, cut the Scotch tape 1181 in accordance with the dimensions shown and apply the Scotch tape 1181 to the sidewall bonded assy RH P/N 8G5340A27631 (internal side) covering the closure.
- 2.21 With reference to Figure 16 Detail Y1, drill n°4 holes in the Scotch tape 1181 in accordance with the existing insert holes in the sidewall bonded assy RH P/N 8G5340A27631.
- 2.22 With reference to Figure 16 Detail Z1 and Figure 17 Detail AA, repeat the steps 2.20 and 2.21 on the external side of the sidewall bonded assy RH P/N 8G5340A27631.

CAUTION

Do not damage the central band of the tape.

- 2.23 With reference to Figure 16 TEMPLATE, cut the Scotch tape 1181 of a specific geometry, in accordance with the dimension shown.

NOTE

Insert the scotch tape into the existing cut out with the shorter fringes towards the internal side of the lower panel assy.

NOTE

Bond first the central band of the scotch tape to the internal wall of the cut-out.

- 2.24 With reference to Figure 16 TEMPLATE, Detail Z2 and Detail Y2 and Figure 17, apply the Scotch tape 1181 previously shaped to the internal and external side of the sidewall bonded assy RH P/N 8G5340A27631.
- 2.25 With reference to Figure 16 Detail Z2 and Detail Y2, drill n°8 holes in the Scotch tape 1181 in accordance with the existing insert holes in the sidewall bonded assy RH P/N 8G5340A27631.
- 2.26 With reference to Figure 3 View H3, apply a fillet sealant around the perimeter of the internal copper foil by means of sealant PR1428-B2.
- 2.27 Clean the area reworked in the previous steps by means of Isopropyl alcohol (C039) or MEK (C005) and a clean cheesecloth (C916).
- 2.28 With reference to Figure 17 Detail AA, apply the tape HT3000FR-125 covering the copper foil on the external side.
- 2.29 With reference to Figure 1 Detail A2, apply two coats of the waterborne chromate free primer (C596) on the exposed surface to allow the sealant adhesion.

- 2.30 With reference to Figure 1 Detail A2 and Figure 17 Detail AA, install the wire mesh assy P/N 8G2120A10631 and the lip P/N 8G2120A10851 by means of n°4 screws P/N MS27039-1-07 and n°4 washers P/N NAS1149C0316R. Apply a fillet on the closure perimeter internal side by means of the sealant PR1428-B2.
- 2.31 With reference to Figure 3 View H3, apply two coats of the waterborne chromate free primer (C596) on the exposed surface to allow the sealant adhesion.
- 2.32 With reference to Figure 3 View H3 and Figure 17 Detail BB, install the EMC filter P/N 8G2120A07032 and the EMC filter scoop RH P/N 8G2120A11651 on the closure P/N 8G2120A08651 by means of n°4 screws P/N MS27039-1-14 and n°5 washers P/N NAS1149D0316J. Apply a fillet of the sealant PR1428-B2 on the perimeter of the installed parts.
- 2.33 With reference to Figure 2 View E, re-install the RH lower shelf angle assy P/N 3G4315A24431 on the sidewall bonded assy RH P/N 8G5340A27631 previously removed by means of the existing hardware.
- 2.34 With reference to Figure 2 View E, re-install the RH lower shelf assy P/N 8G5315A02532 previously removed by means of the existing hardware.
3. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
4. Return the helicopter to flight configuration and record for compliance with Part I of this Service Bulletin on the helicopter logbook.
5. Gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

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PART II

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-06-41-00-00A-010A-A and with reference to Figures 4 thru 7, Figure 9 and 15, remove all external panels, internal panels and internal liners as required to gain access to the area affected by the installation and perform the RH avionic bay structural provision P/N 8G5310A43011 as described in the following procedure:
 - 2.1 With reference to Figure 4 View K, remove n°3 existing rivets from the STA 6700 upper angle RHS P/N 4F5330A16053 from the indicated positions.
 - 2.2 With reference to Figure 4 View K, enlarge n°2 holes up to $\varnothing 5.33 \pm 5.45$ thru the STA 6700 upper angle RHS P/N 4F5330A16053 and the STA 6700 panel sub assy P/N 8G5330A67131.
 - 2.3 With reference to Figure 4 View K, enlarge the hole up to $\varnothing 12.0$ thru the STA 6700 upper angle RHS P/N 4F5330A16053 and the STA 6700 panel sub assy P/N 8G5330A67131.
 - 2.4 With reference to Figure 4 Detail M, remove the existing rivet from the STA 6700 upper T-shape profile P/N 8G5330A25751 from the indicated position.
 - 2.5 With reference to Figure 4 Detail M, enlarge the hole up to $\varnothing 5.33 \pm 5.45$ thru the STA 6700 upper T-shape profile P/N 8G5330A25751 and the STA 6700 panel sub assy P/N 8G5330A67131.
 - 2.6 With reference to Figure 4 View K, temporarily locate the terminal P/N A363A01 on the STA 6700 panel sub assy P/N 8G5330A67131 and countermark n°2 rivet holes.
 - 2.7 With reference to Figure 4 Detail M, drill n°2 rivet holes $\varnothing 2.5$ thru the STA 6700 panel sub assy P/N 8G5330A67131 and thru the STA 6700 upper T-shape profile P/N 8G5330A25751. Countersink 100° on the STA 6700 panel sub assy side.
 - 2.8 With reference to Figure 4 Detail M, enlarge the center hole up to $\varnothing 13.0$ only thru the STA 6700 panel sub assy P/N 8G5330A67131.

NOTE

Restore corrosion protection prior to dry assembly.
Ensure that chemical conversion process has been performed on all cleaned surfaces.

- 2.9 With reference to Figure 4 View K, install and assemble the terminal P/N A363A01 by means of n°2 rivets P/N NAS1399C3-4. Apply a fillet of sealant C465.

- 2.10 With reference to Figure 4 View J, remove n°4 existing pins and collars from the STA 6700 lower corner RH P/N 4F5330A37552 and the STA 6700 upper T-shape profile P/N 8G5330A25751.
- 2.11 With reference to Figure 4 View J, enlarge n°4 holes up to $\text{Ø}4.86\pm 4.90$ thru the STA 6700 lower horizontal clip RH P/N 8G5300A03851, STA 6700 lower corner RH P/N 4F5330A37552 and the STA 6700 upper T-shape profile P/N 8G5330A25751.
- 2.12 With reference to Figure 4 View J, locate the drilling template P/N 8G53000A00111A005H on the STA 6700 panel sub assy P/N 8G5330A67131 in accordance with the existing hole.
- 2.13 With reference to Figure 4 View K, drill n°5 holes $\text{Ø}4.8$ thru the STA 6700 panel sub assy P/N 8G5330A67131 in accordance with the drilling template P/N 8G53000A00111A005H.
- 2.14 With reference to Figure 4 View J, countermark the cut-out profile in accordance with the drilling template P/N 8G53000A00111A005H.
- 2.15 Remove the drilling template P/N 8G53000A00111A005H from the STA 6700 panel sub assy P/N 8G5330A67131.
- 2.16 With reference to Figure 4 View J, perform the circular cut-out ($\text{Ø}77.0$) thru the STA 6700 panel sub assy P/N 8G5330A67131. After trimming, fill the opened cells of honeycomb with filler K20 fiber bubbles at 30% with adhesive EA9309NA (C231). Break the sharp edges with chamfering 1x1 or radius 1 ± 0.25 mm. Restore protective treatment of any cut edges.
- 2.17 With reference to Figure 4 View J, temporarily locate the closure P/N 8G3000A11652 on the STA 6700 panel sub assy P/N 8G5330A67131 and countermark n°5 hole positions.
- 2.18 With reference to Figure 4 View J, enlarge n°5 holes up to $\text{Ø}11.48\pm 11.61$ thru the STA 6700 panel sub assy P/N 8G5330A67131 and the closure P/N 8G3000A11652.
- 2.19 With reference to Figure 4 View J, install the closure P/N 8G3000A11652 and the closure P/N 8G3000A11552 inside the performed cut-out by means of adhesive EA9309NA (C231). If the fit between the two closures is too tight to allow the installation perform step 2.20.

NOTE

Perform step 2.20, only if the fit between the two closures P/N 8G3000A11652 and P/N 8G2120A11552 is too tight to allow the installation.

- 2.20 With reference to Figure 15, perform the installation of the two closures P/N 8G3000A11652 and P/N 8G3000A11552 as described in the following procedure:
- 2.20.1 With reference to Figure 15 View J1, enlarge the circular cut-out up to $\varnothing 78.0$ mm thru the STA 6700 panel sub assy P/N 8G5330A67131. After trimming, fill the opened cells of honeycomb with filler K20 fiber bubbles at 30% with adhesive EA9309NA (C231). Break the sharp edges with chamfering 1x1 or radius 1 ± 0.25 mm. Restore protective treatment of any cut edges.
- 2.20.2 With reference to Figure 15 Detail W, perform the indicated cut-out of the cylindrical flange of the closure P/N 8G3000A11652.
- 2.20.3 With reference to Figure 15 Detail X, perform the indicated cut-out of the cylindrical flange of the closure P/N 8G2120A11552.

NOTE

Align the five holes of the closure with those existing on the STA 6700 panel sub assy.

- 2.20.4 With reference to Figure 15 View K1, prepare the contact surface for bonding and install the closure P/N 8G3000A11652 around the cut-out (FWD side) on the STA 6700 panel sub assy P/N 8G5330A67131 by means of adhesive EA9309.3NA (C021).
- 2.20.5 With reference to Figure 15 View J1, prepare the contact surface for bonding and install the closure P/N 8G2120A11552 around the cut-out (AFT side) on the STA 6700 panel sub assy P/N 8G5330A67131 by means of adhesive EA9309.3NA (C021).
- 2.20.6 With reference to Figure 15 View J1 and View K1, apply n°1 ply of fiberglass (C320) inside the cylindrical cut-out by means of adhesive EA956.NA. Restore aircraft finish.
- 2.21 With reference to Figure 4 View J, install n°5 inserts P/N NAS1836C3-16 on the STA 6700 panel sub assy P/N 8G5330A67131 by means of the adhesive EA 934NA AERO (C397).

- 2.22 With reference to Figure 5 View L, install the RH av cooling fan bracket assy P/N 8G2120A03731 by means of n°2 bolts P/N NAS6603-7, n° 2 bolts P/N NAS6603-6 and n°4 washers P/N NAS1149D0332K.
- 2.23 With reference to Figure 6 View P and Figure 7 Detail Q, drill the hole $\varnothing 5.33 \pm 5.45$ thru the right wall P/N 8G5330A52751 and n°2 rivet holes $\varnothing 2.5$ in accordance with the dimensions shown and the nut plate P/N MS21069-3.

NOTE

Restore corrosion protection prior to dry installation.
Ensure that chemical conversion process has been performed on all cleaned surfaces.

- 2.24 With reference to Figure 7 Detail Q, install the nut plate P/N MS21069-3 on the right wall P/N 8G5330A52751 by means of n°2 rivets P/N NAS1399C3-2.
- 2.25 With reference to Figure 9 View T, drill the hole $\varnothing 14.28 \pm 14.46$ thru the sidewall bonded assy RH P/N 8G5340A27631 in accordance with the dimensions shown.
- 2.26 With reference to Figure 9 View T, install the grommet P/N MS35489-141 in the hole by means of the adhesive EC1357 (C455).
- 2.27 With reference to Figure 7 View F2, remove n°4 indicated existing anchor nuts P/N A407A3C2P.
- 2.28 With reference to Figure 7 View F2 and Figure 9 Detail B, remove the vent cover RH P/N 4F5335A41552 and the drainer RH sidewall rear vent P/N 4F5335A44951 from the helicopter.

NOTE

Unless otherwise specified, in all level direct exposure zones and medium level indirect exposure zones (except engine and APU bays), protect all removable fasteners that are not fully coated with polyurethane paint, by means of corrosion inhibitor Ardrox AV 40 (C551).

3. In accordance with AMP DM 89-A-06-41-00-00A-010A-A and with reference to Figures 11 thru 14, remove all external panels, internal panels and internal liners as required to gain access to the area affected by the installation and perform the right avionic bay fan C/A installation P/N 8G2120A06811 as described in the following procedure:
- 3.1 In accordance with CSPP DM CSPP-A-20-10-12-02A-920A-D and with reference to Figure 13 View E, install n°2 standoffs P/N A388A3E06C75 by means of adhesive CB200-40 (C356) in accordance with the dimensions shown.

NOTE

Use the edging P/N A236A and P/N NASM21266 on edges which are liable to cause damage to cable assemblies or where abrasion may occur.

NOTE

Install the tubing braided P/N EN6049-003 and/or P/N EN6049-006 where protection against chafing and prevention of contact with structure may occur, but the tubing protection is not substitute for good routing practice.

NOTE

When necessary, replace existing clamp with suitable clamp.

NOTE

To ensure a proper installation, it is allowed to install:

- clamps (diameter only) two dash greater or lesser than the nominal one;
- bolts (length only) two dash shorter or longer than the nominal one;
- screws (length only) two dash shorter or longer than the nominal one;
- washers (thickness only) two dash greater or lesser than the nominal one;
- spacers (length only) two dash shorter or longer than the nominal one.

- 3.2 With reference to Figures 11 thru 13, lay down the following cable assemblies on the existing routes unless otherwise indicated on the figures:
- 8G9A21B44501 Right avionic bay fan C/A (A1B445)
 - 8G9B21B54201 Right avionic bay C/A (B1B542)
- 3.3 With reference to Figures 11 thru 13, secure the cable assemblies laid down at the previous step by means of existing hardware and lacing cords.
- 3.4 With reference to Figure Figure 13 View E, install n°2 clamps P/N AW001CB03H on the C/A B1B542 by means of n°2 washers P/N NAS1149D0332J and n°2 screws P/N NAS1190E3P6AK.

NOTE

In case TB218 is already fit on the Aircraft, reuse the existing one.

- 3.5 In accordance with CSPP DM CSPP-A-20-10-13-00A-622A-D and with reference to Figure 14 Wiring Diagram and Table, perform the electrical connections of the C/A B1B542 to the connector J116 and to the terminal board TB218.
- 3.6 In accordance with CSPP DM CSPP-A-20-10-13-00A-622A-D and with reference to Figure 14 Wiring Diagram and Table, perform the electrical connections of the C/A A1B445 to the connector A2P1, to the connector P116 and to the splice SP1480.
- 3.7 Apply the corrosion preventive compound Ardrex 3204 (or equivalent) on the connectors, back shells, or any metallic accessory. Additional protection by tape or tubing heat shrinkable to improve the salt spray resistance (corrosion).
- 3.8 Apply DC-4 (or equivalent) for the protection of the internal part of electrical connectors from entry of water or liquid.
- 3.9 Perform a pin-to-pin continuity check of all the electrical connections made.
4. In accordance with AMP DM 89-A-06-41-00-00A-010A-A and with reference to Figures 4, 5 and 13, remove all external panels, internal panels and internal liners as required to gain access to the area affected by the installation and perform the right avionic bay fan equipment installation P/N 8G2120A11011 as described in the following procedure:
 - 4.1 With reference to Figure 4 View J, install n°2 supports P/N AW001CL001-N6 on the Upper Drainage Cowling RH P/N 4F5300A00732 (not shown) installed on top of the STA 6700 panel sub assy P/N 8G5330A67131 by means of adhesive CB200-40 (C356) in accordance with the dimensions shown.
 - 4.2 With reference to Figure 5 View L, install the support P/N AW001CL001-N6 on the RH av cooling fan bracket assy P/N 8G2120A03731 by means of adhesive CB200-40 (C356).
 - 4.3 With reference to Figure 5 View L, install the fingerguard grid P/N 70-177 on the fan P/N 109-0718-46-103 by means of n°4 washers P/N NAS1149C0332R and n°4 screws P/N NAS1802-3-4.
 - 4.4 Install n°3 layers of tape P/N EE267-02-075B around the duct insulation in order to avoid chaffing of the fan against the heating duct P/N 70688A010001.

NOTE

If necessary, remove the RH av cooling fan bracket assy P/N 8G2120A03731 and re-install in conjunction with the fan and the duct.

- 4.5 With reference to Figure 5 View N, install the duct P/N 8G2120L03551 and the fan (B202) P/N 109-0718-46-103 on the RH av cooling fan bracket assy P/N 8G2120A03731 by means of n°4 washers P/N NAS1149C0332R and n°4 screws P/N NAS1802-3-6. Tighten the screws to 3.40÷4.50 Nm torque value then paint mark the screws.
- 4.6 With reference to Figure 5 View N, apply the locking adhesive loctite 242 to secure the screws.
- 4.7 In accordance with AMP DM 89-A-11-00-01-00A-720A-A and with reference to Figure 5 View L, install the decal P/N ED300B202 on the RH av cooling fan bracket assy P/N 8G2120A03731.
- 4.8 With reference to Figure 13 View C, perform the electrical connection of the connector B202P1 (C/A B1B542) to the fan B202.
- 4.9 With reference to Figure 5 View L, install the bonding cable P/N A601A2B30 and fix one end to the terminal P/N A363A01 by means of existing hardware and one end to the fan B202 by means of the screw P/N MS35206-228 and n°2 washers P/N NAS1149DN632J.
- 4.10 With reference to Figure 5 View L, secure the bonding cable P/N A601A2B30 to n°3 supports P/N AW001CL001-N6 by means of n°3 straps P/N AW001CK04HS.
5. In accordance with AMP DM 89-A-06-41-00-00A-010A-A and with reference to Figures 6 thru 10, remove all external panels, internal panels and internal liners as required to gain access to the area affected by the installation and perform the avionics cooling installation P/N 8G2120A00211 as described in the following procedure:
 - 5.1 With reference to Figure 7 View F2, install the grommet P/N MS21266-1N by means of the adhesive RTV 732 (C126).
 - 5.2 With reference to Figure 6 View F1, install the EMC filter assembly P/N 8G2120A10031 and the spigot P/N 8G2120A09931 on the STA 6700 panel sub assy P/N 8G5330A67131 by means of n°4 bolts P/N AN3C3A and n°4 washers P/N NAS1149C0332R.
 - 5.3 With reference to Figure 7 View F2 and Detail Q, install the bonding cable P/N M83413/8-A006BB and fix one end by means of the bolt P/N AN3C3A and the washer P/N NAS1149D0332J and one end by means of the bolt P/N AN3C5A, the washer P/N NAS1149D0332J and the washer P/N AW008TY-09-74A. Apply sealant PR1764-B2 (C240) for cable grounding connection.

- 5.4 With reference to Figure 6 View F1, install the drain assembly P/N 8G2170A04831 by means of n°2 bolts P/N AN3C5A and n°2 washers P/N NAS1149C0332R.
- 5.5 With reference to Figure 6 View F1, install the tubing P/N A413A12 (A413A12-50) between the drain assembly P/N 8G2170A04831 and the spigot P/N 8G2120A09931 by means of n°2 clamps P/N A437A011A. Apply sealant C465 on the drain tube connections.
- 5.6 With reference to Figure 9 Detail B, if damaged, remove the existing teflon tape and apply the new teflon tape C230.

NOTE

RTV732 can be applied to the central area between inlet assy 8G2120A01031 & duct assy 8G2120A00731 to ensure water ingress does not occur.

- 5.7 With reference to Figure 7 View F2 and Figure 9 Detail B, install the inlet assembly P/N 8G2120A01031, the RH cowl assembly P/N 8G2120A02031 and the duct assembly P/N 8G2120A00731 by means of n°8 screws P/N A428A3C11.
- 5.8 With reference to Figure 9 Detail B, apply a fillet of sealant PR1428-B2 around the perimeter of the RH cowl assembly P/N 8G2120A02031.
- 5.9 With reference to Figure 7 View F2, install the flex duct P/N NAS1375A10CA014 between the spigot P/N 8G2120A09931 and the duct assembly P/N 8G2120A00731 by means of n°2 straps P/N AW001CK06HS.
- 5.10 In accordance with CSPP DM CSPP-A-20-10-12-02A-920A-D with reference to Figure 9 View T, install the stud P/N A366A3E16C75 on the sidewall bonded assy RH P/N 8G5340A27631 by means of adhesive CB200-40 (C356) in accordance with the dimensions shown.
- 5.11 In accordance with CSPP DM CSPP-A-20-10-12-02A-920A-D and with reference to Figure 10 View U1, install n°2 studs P/N A366A3E16C75 on the STA 6700 panel sub assy P/N 8G5330A67131 by means of adhesive CB200-40 (C356) in accordance with the dimensions shown.
- 5.12 With reference to Figure 10 View U1, install n°3 supports P/N AW001CL001-N6 on the STA 6700 panel sub assy P/N 8G5330A67131 by means of adhesive CB200-40 (C356) in accordance with the dimensions shown.
- 5.13 With reference to Figure 8 Detail V, install the grommet P/N MS35489-141 in the hole by means of the adhesive EC1357 (C455).

- 5.14 With reference to Figure 8 Detail V, fix the drain outlet fitting P/N 8G2120A08751 by means of the clamp P/N AS21919WDF06, the bolt P/N AN3C3A, the spacer P/N NAS43DD3-36N, the bracket AW002SB1135A, n°3 washers P/N NAS1149C0332R and n°2 nuts P/N MS21042L3.
- 5.15 With reference to Figure 8 Detail V and Figure 10 View U, cut the tubing P/N A413A12 of adequate length and install the tubing (A413A12-1570) between the drain outlet fitting P/N 8G2120A08751 and the drain assembly P/N 8G2170A04831 by means of n°2 clamps P/N A437A011A. Apply sealant C465 on the tubing connection.
- 5.16 With reference to Figure 8 Detail R, install n°3 straps P/N AW001CK01HS to secure the tubing P/N A413A12 to the support P/N AW001CL001-N6.
- 5.17 With reference to Figure 8 Detail S, install n°2 clamps P/N AS21919WDF08 on the tubing P/N A413A12 by means of n°2 spacers P/N NAS43DD3-28N, n°2 nuts P/N MS21042L3 and n°2 washers NAS1149C0332R.
6. In accordance with the applicable steps of AMP DM 89-A-46-21-00-00A-750A-A, perform the load software procedure of the AMMC.
7. In accordance with the applicable steps of AMP DM 89-A-46-31-00-00A-750A-A, perform the load software procedure of the CDS.
8. In accordance with the applicable steps of AMP DM 89-A-24-81-00-00A-752A-A, perform the load software procedure of the ECDU.
9. In accordance with the applicable steps of AMP DM 89-A-24-81-00-05A-752A-A, perform the load software procedure of the REPU.
10. In accordance with Annex A, perform the AW189 additional avionic ventilation ATP.
11. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
12. Return the helicopter to flight configuration and record for compliance with Part II of this Service Bulletin on the helicopter logbook.
13. Gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

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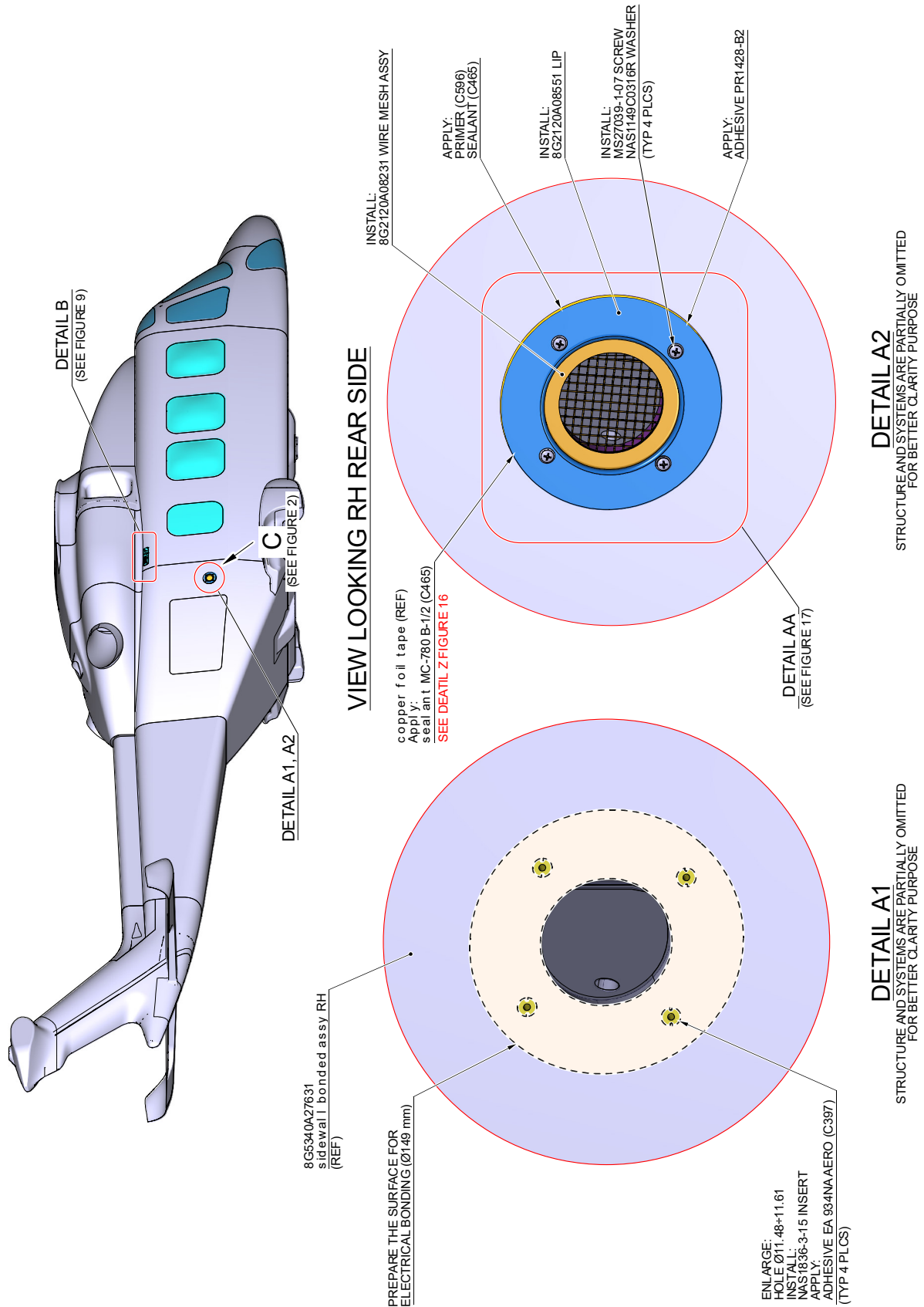


Figure 1

S.B. N°189-311 OPTIONAL
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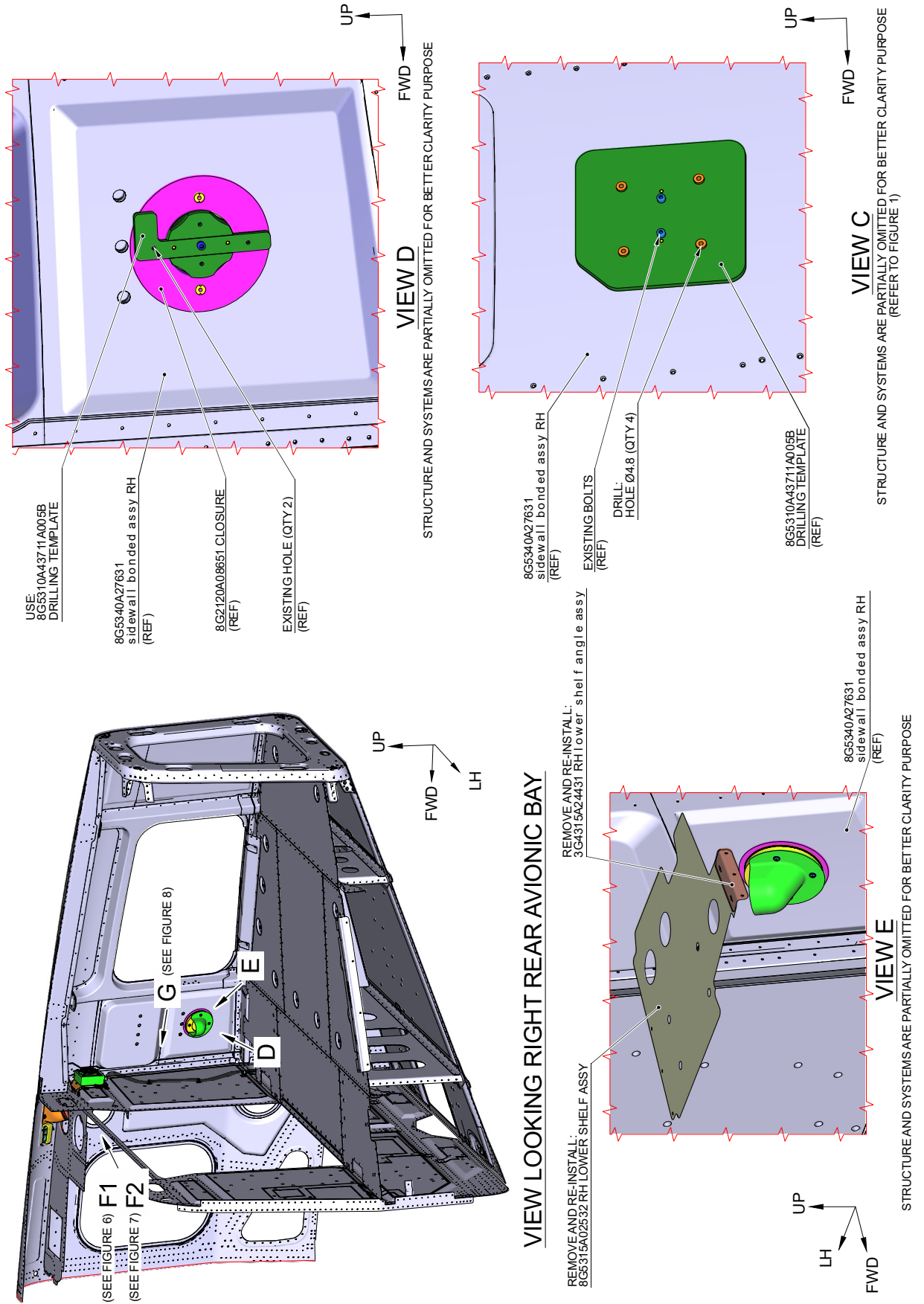


Figure 2

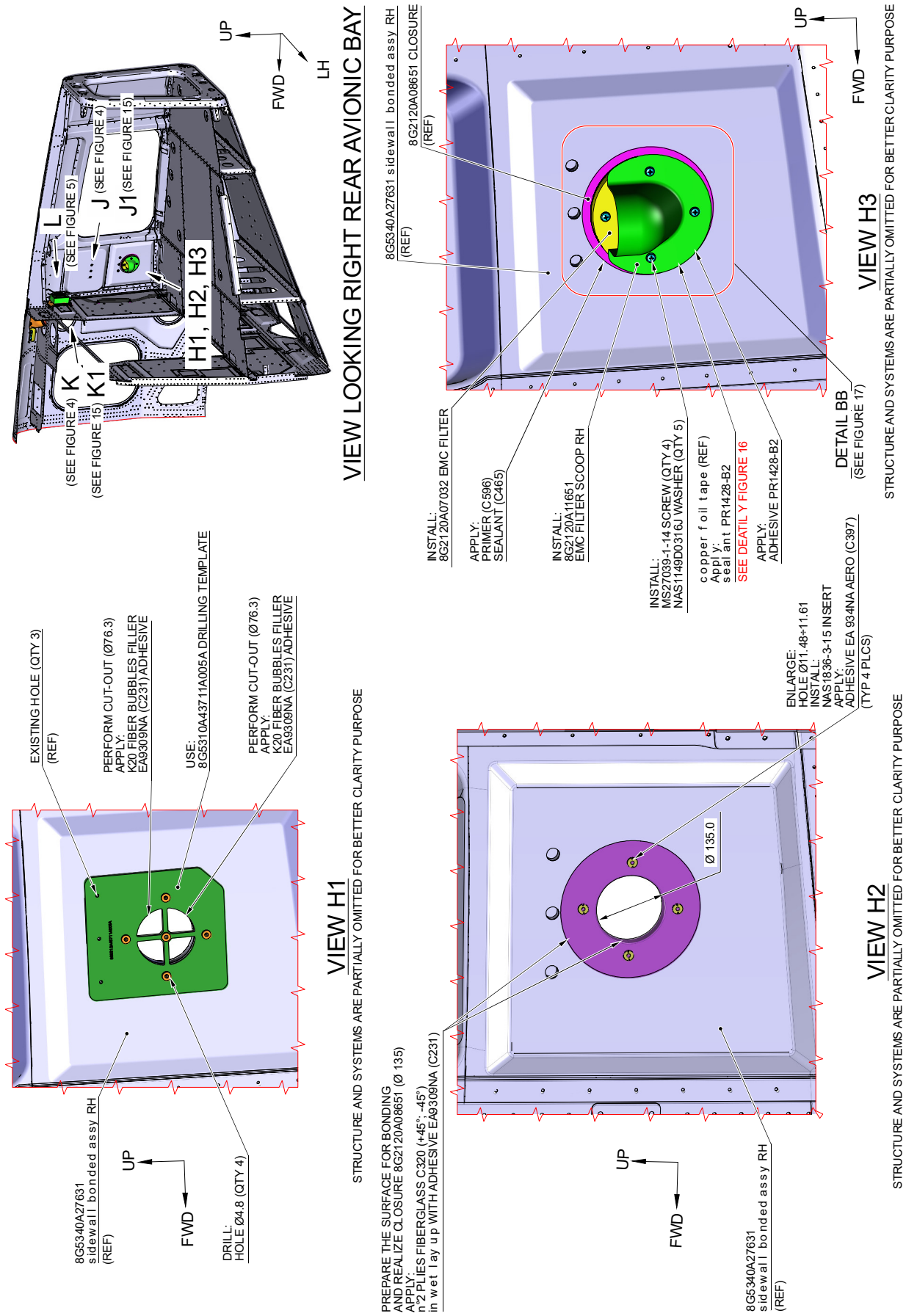


Figure 3

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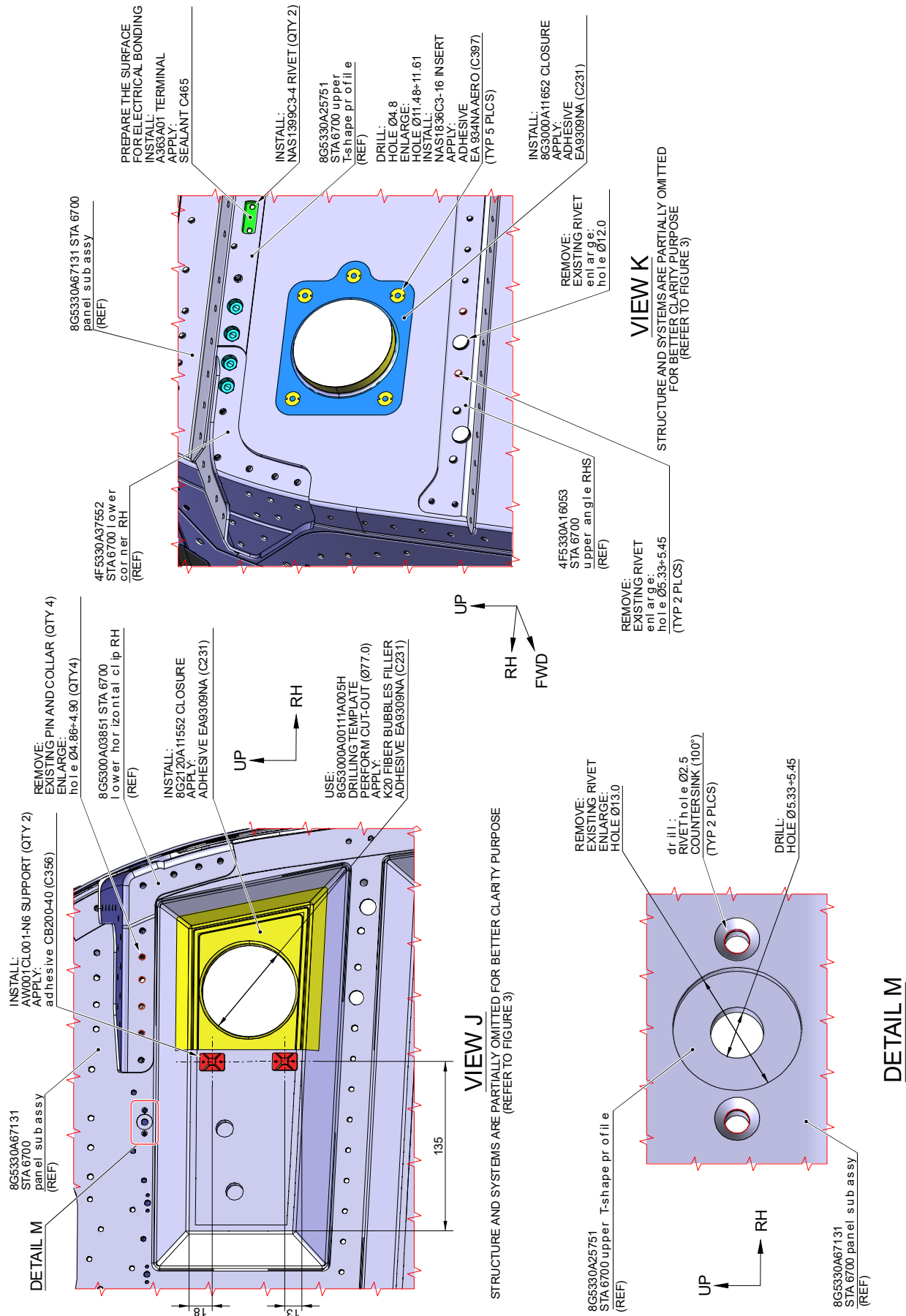


Figure 4

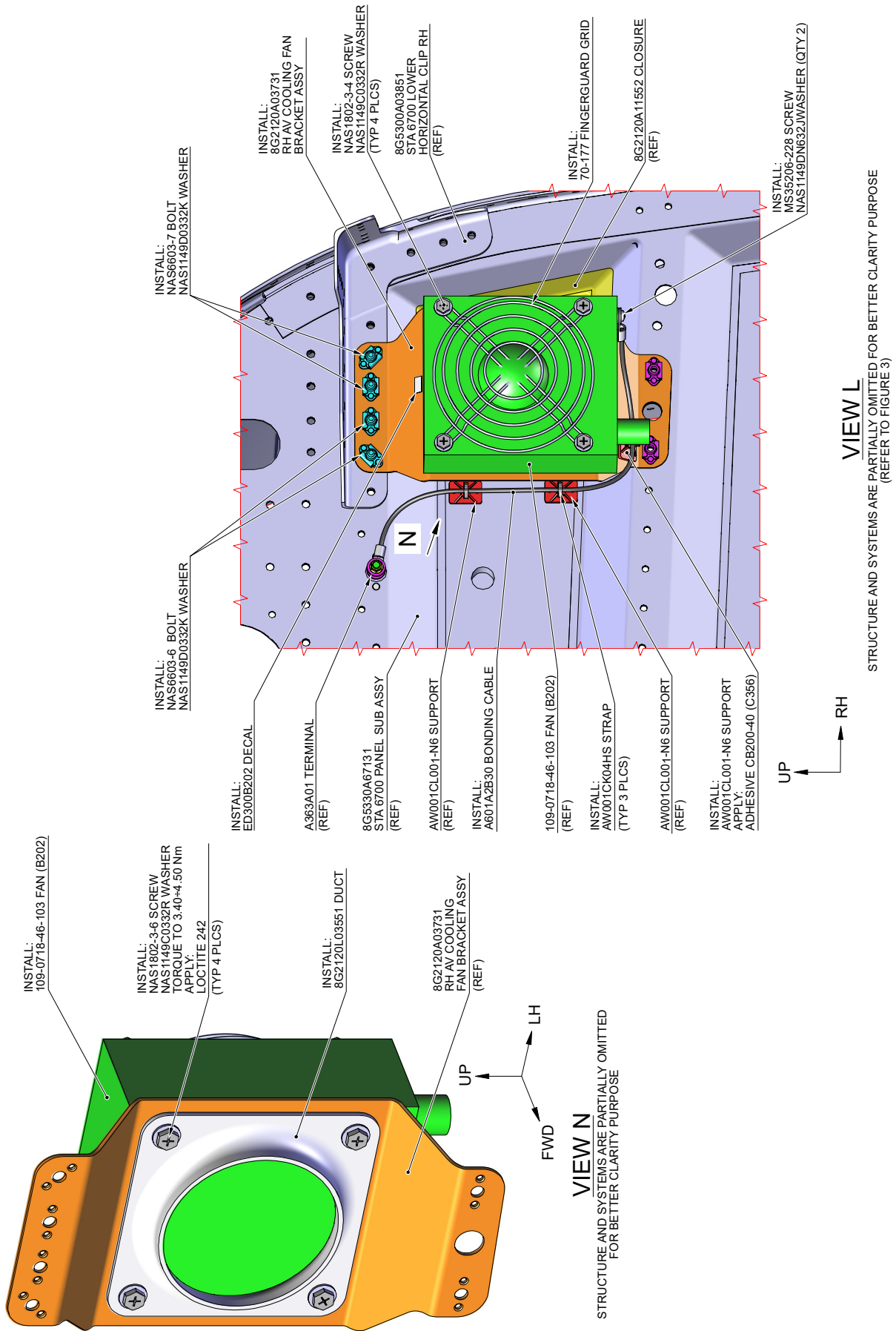
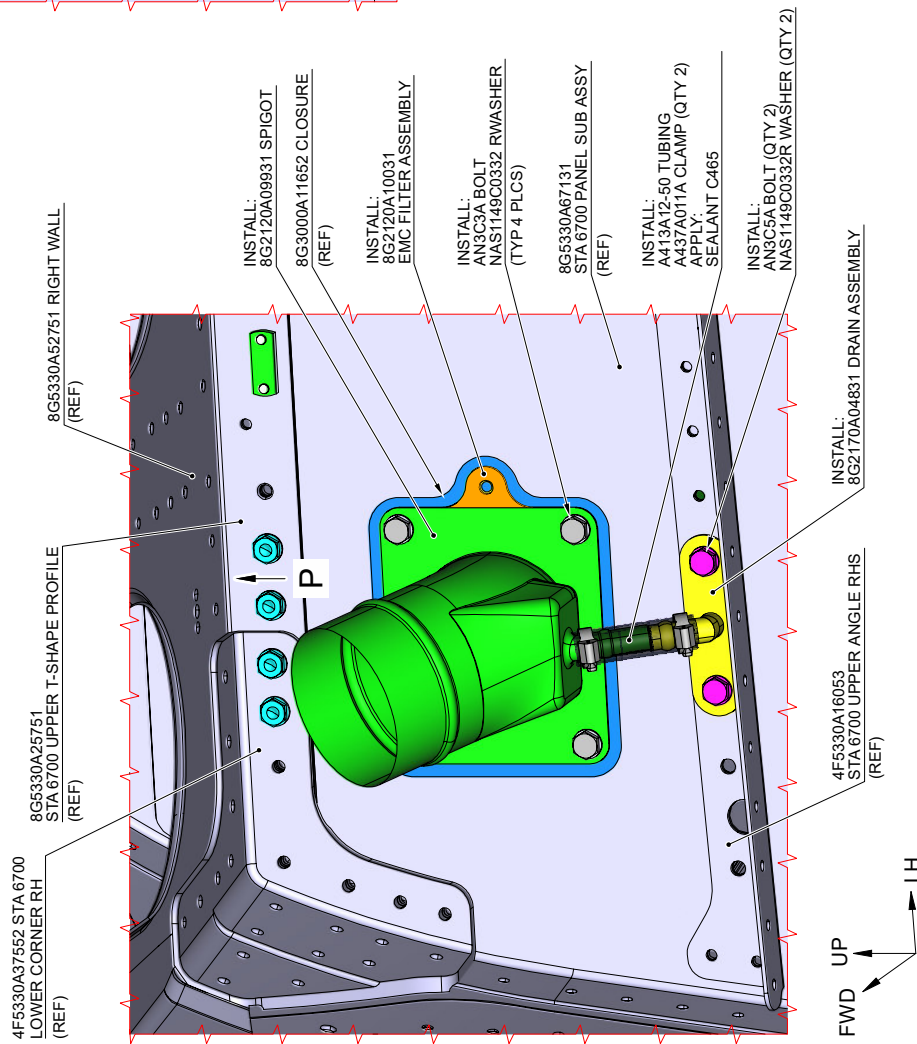
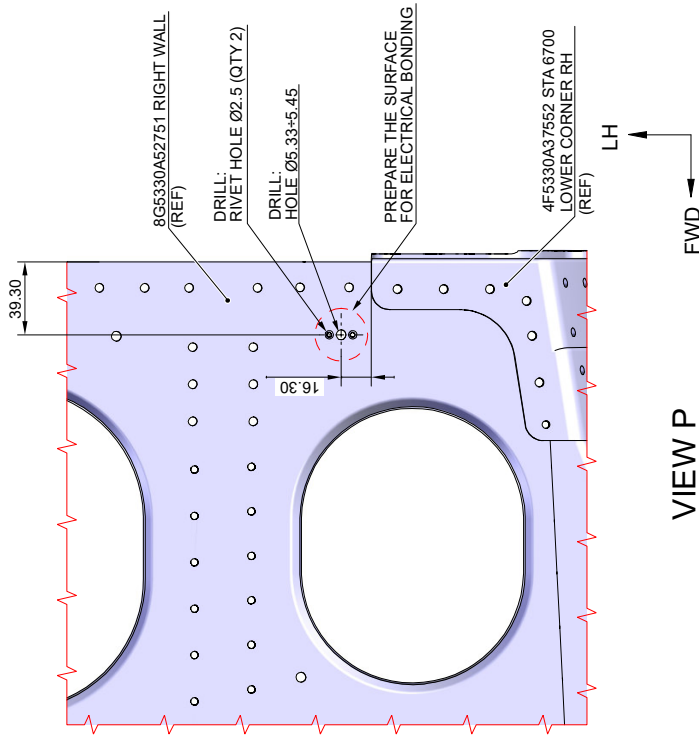
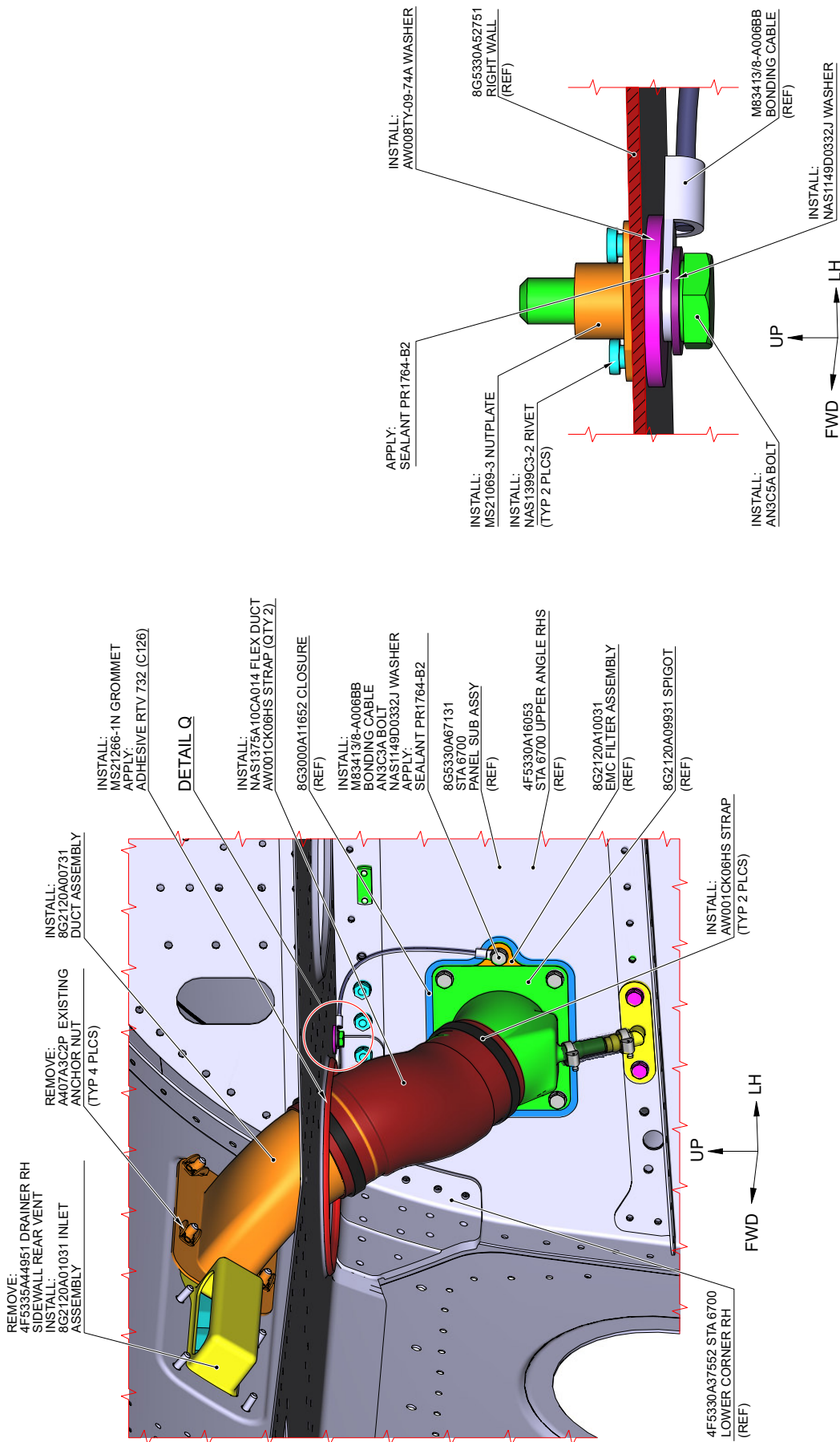


Figure 5



VIEW F1
STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE
(REFER TO FIGURE 2)

Figure 6



DETAIL Q

STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED
FOR BETTER CLARITY PURPOSE

VIEW F2

STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE
(REFER TO FIGURE 2)

Figure 7

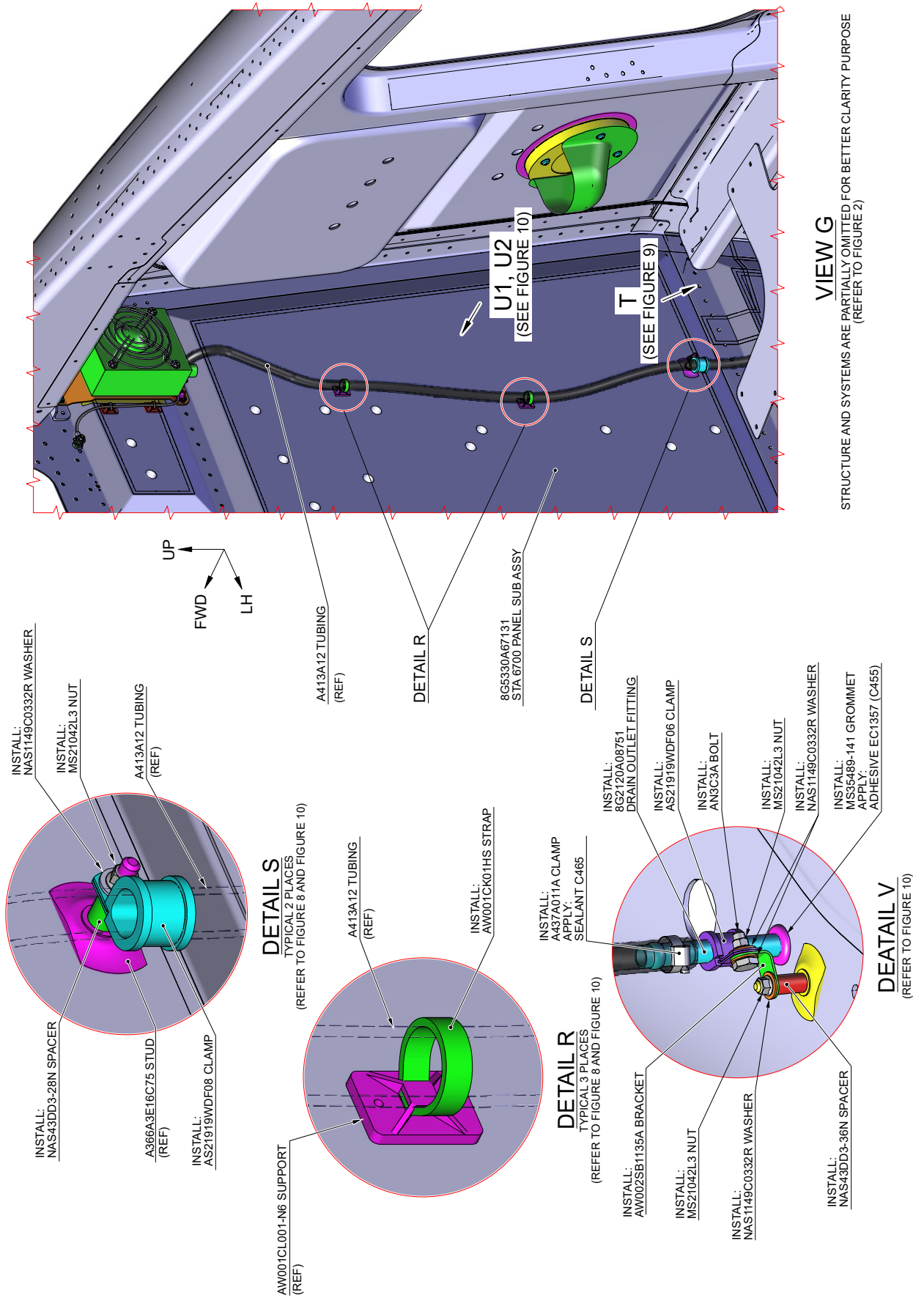


Figure 8

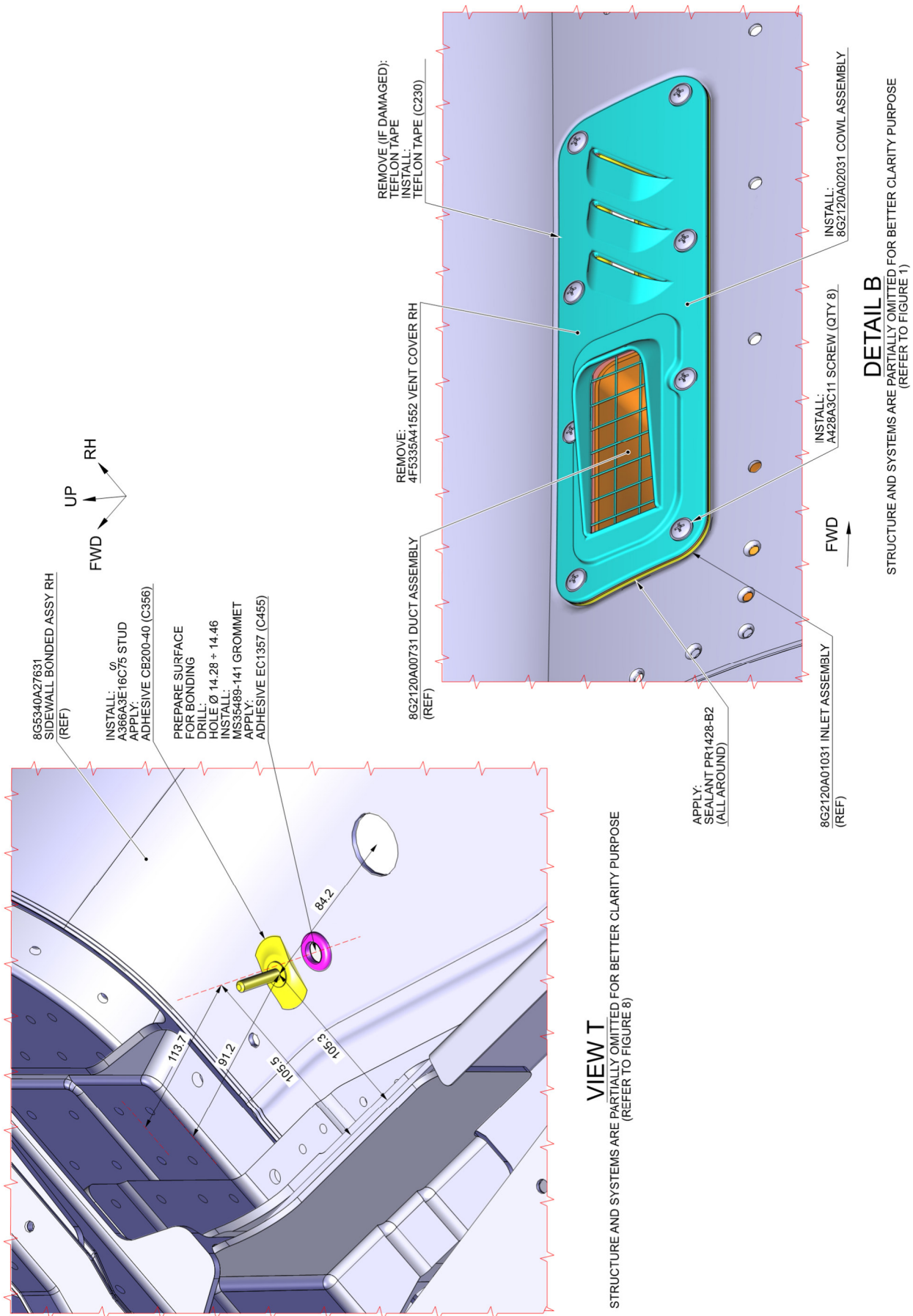


Figure 9

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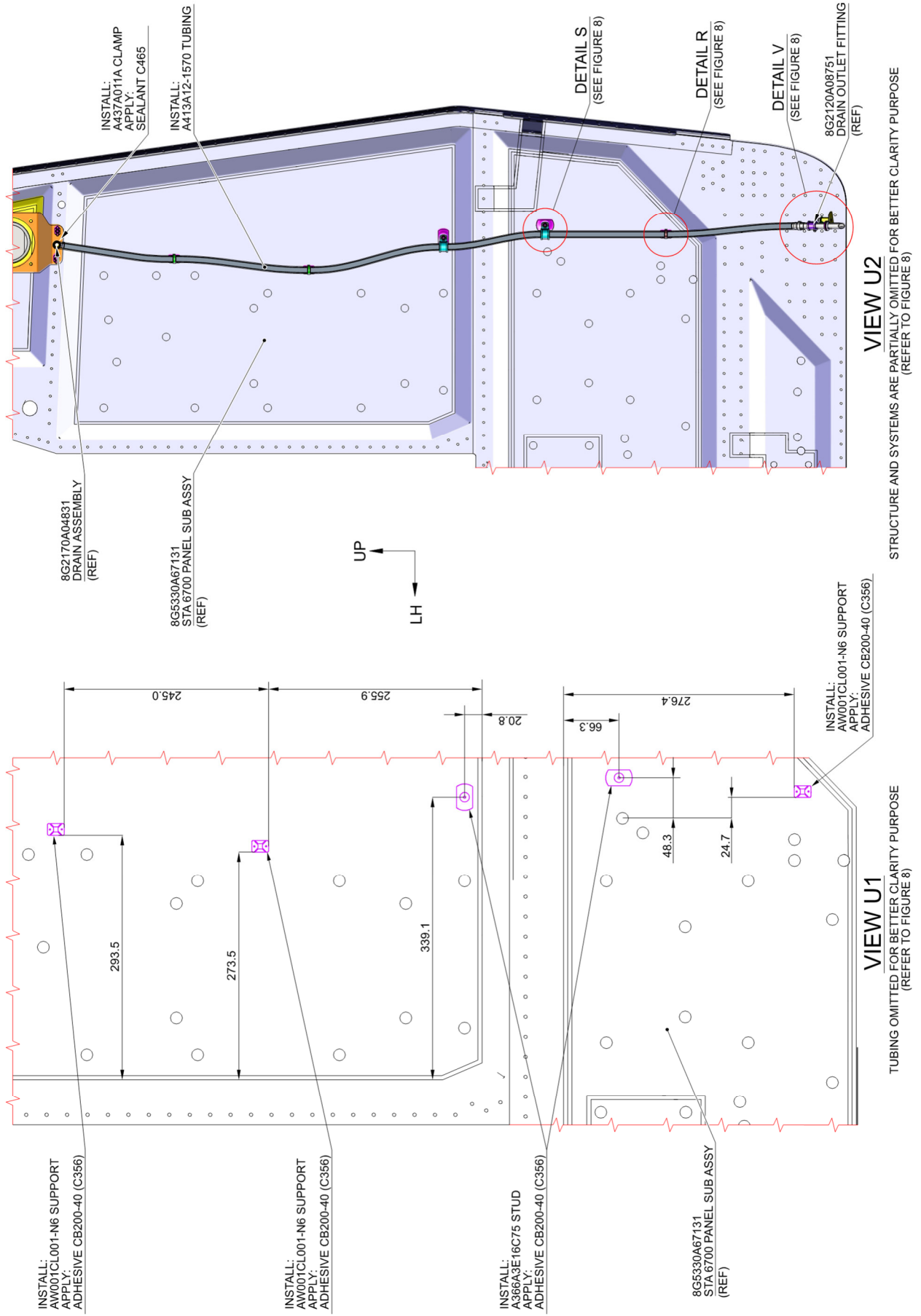
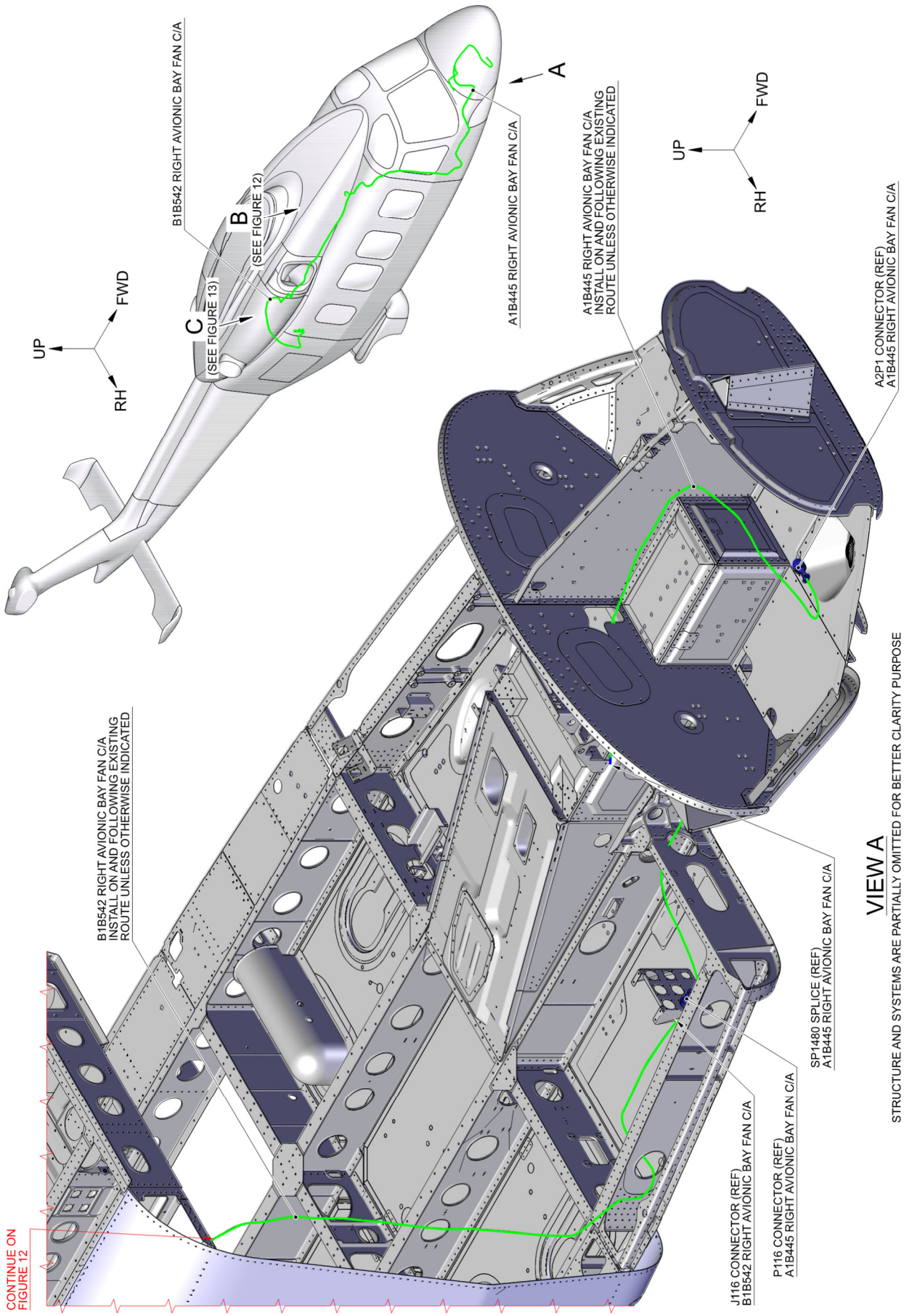


Figure 10



VIEW A

STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

Figure 11

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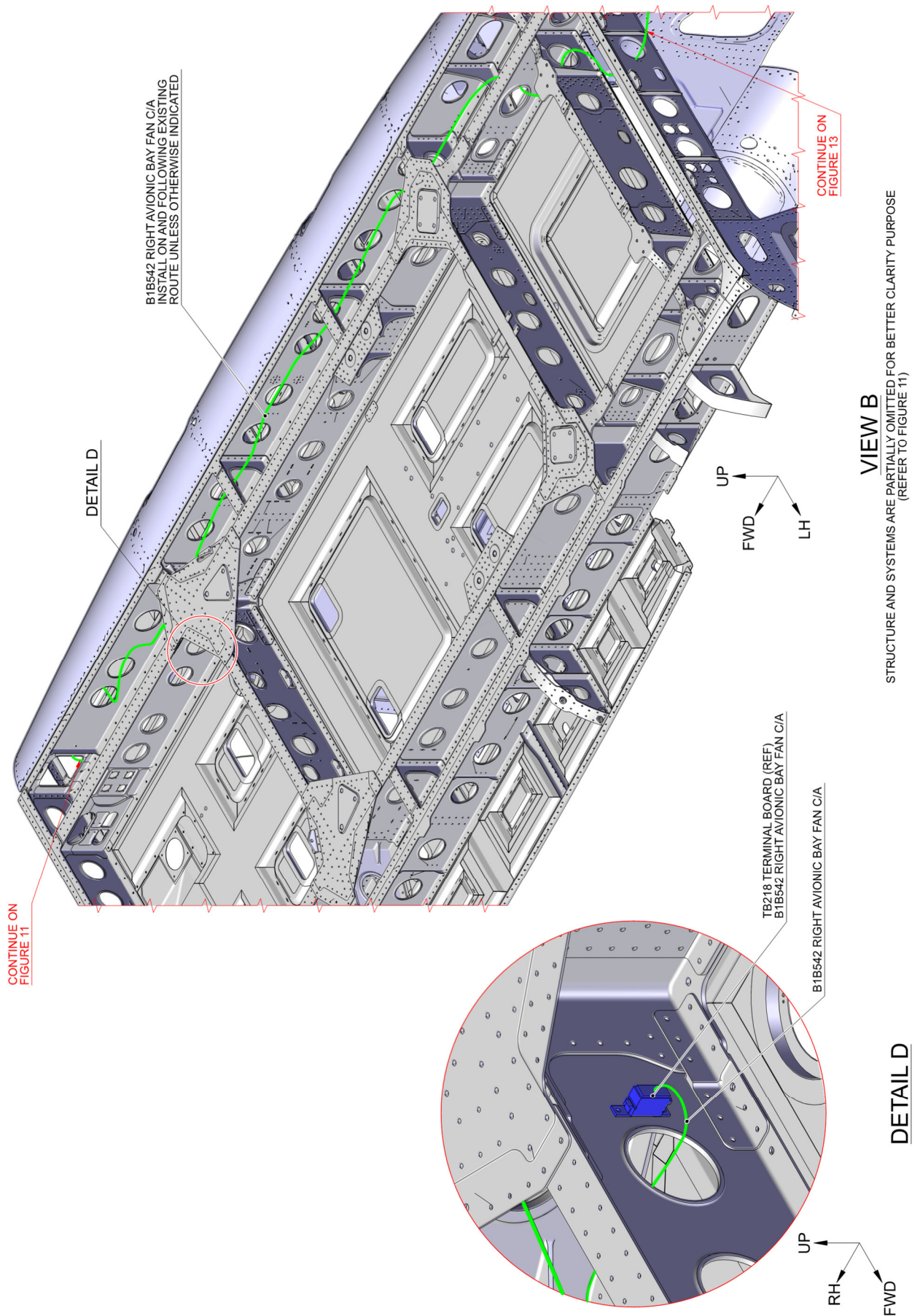


Figure 12

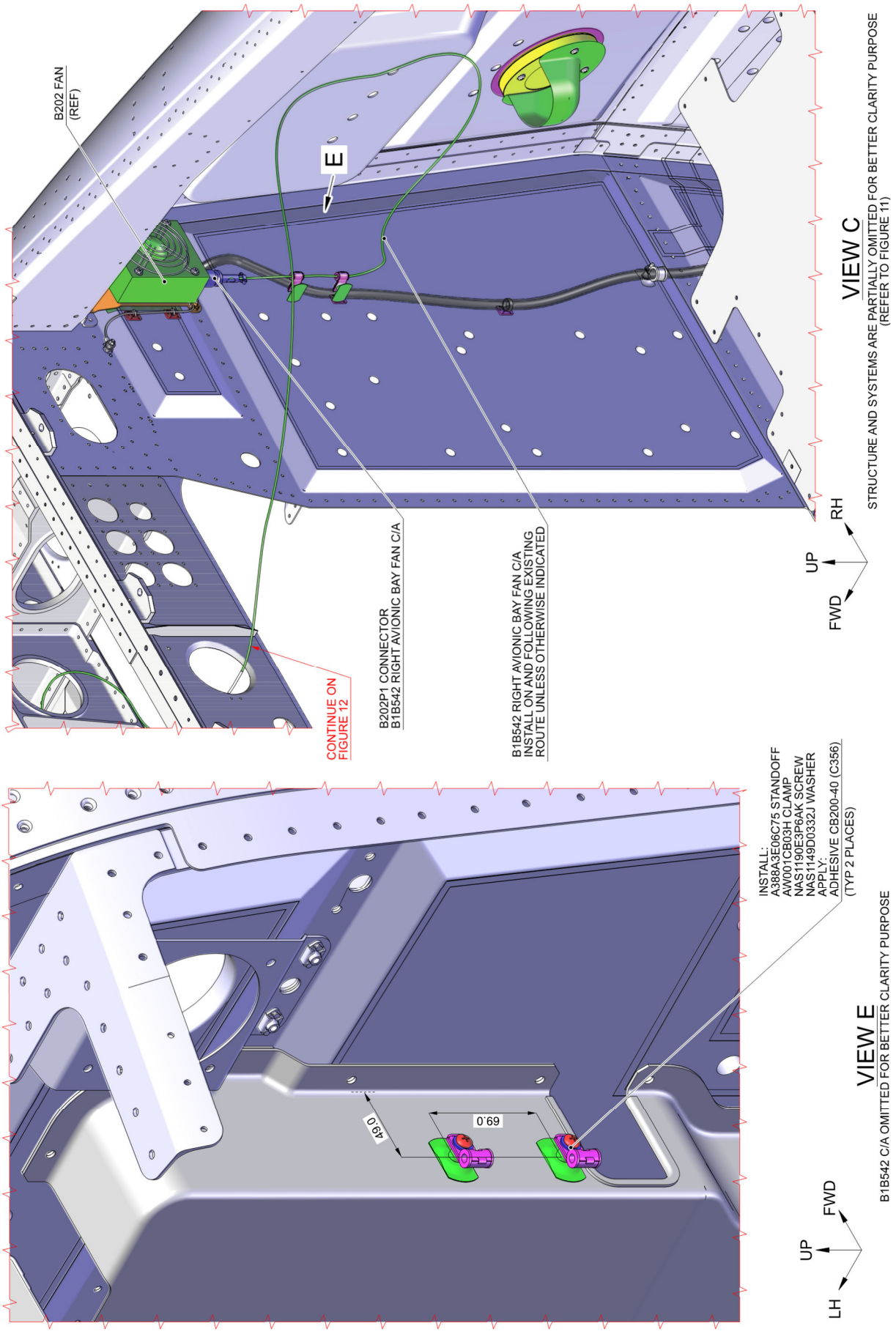
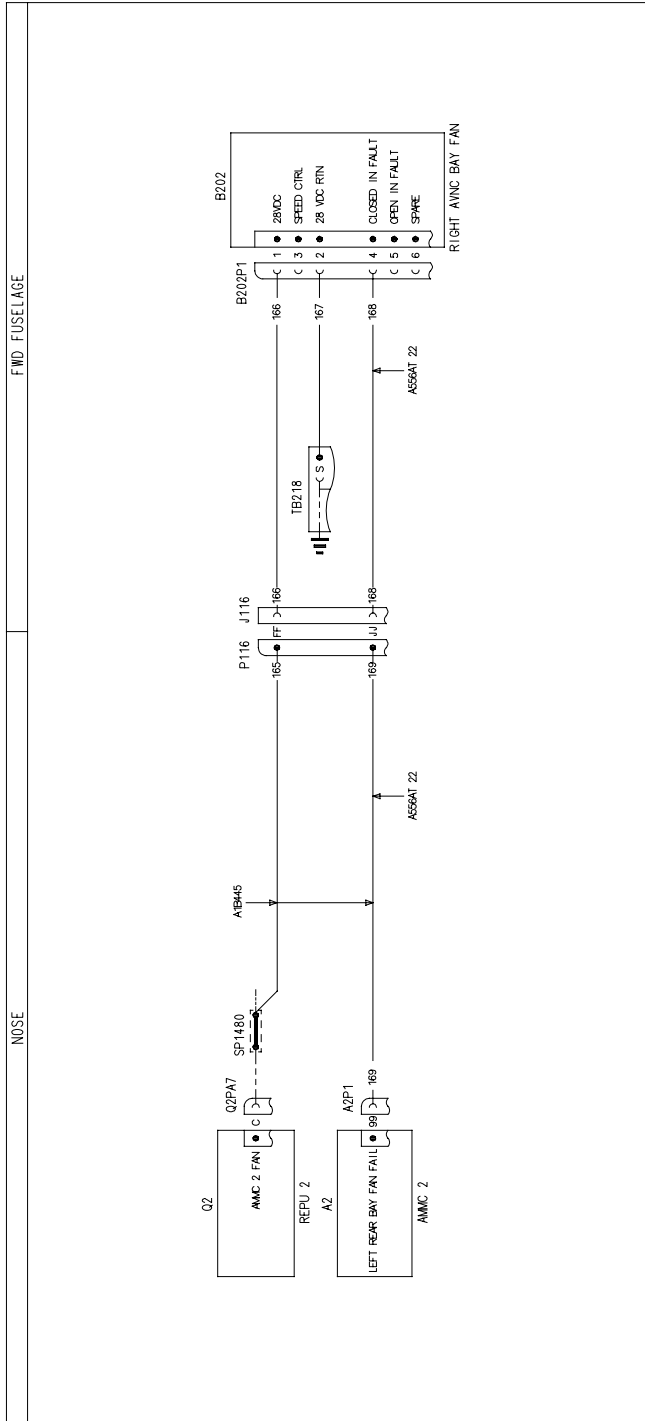


Figure 13



FUNCTIONAL NOTES

ALL CABLES ARE IN UOM B1B542 UNLESS SPECIFIED.
 ALL CABLES ARE WIRE A556AT 22 UNLESS SPECIFIED.
 CABLE IDENT. EVERY WIRE NUMBER IS PRECEDED BY THE AIA 100 DESCRIPTION 2120 AND FOLLOWED BY WIRE SIZE AND EMC CODE.

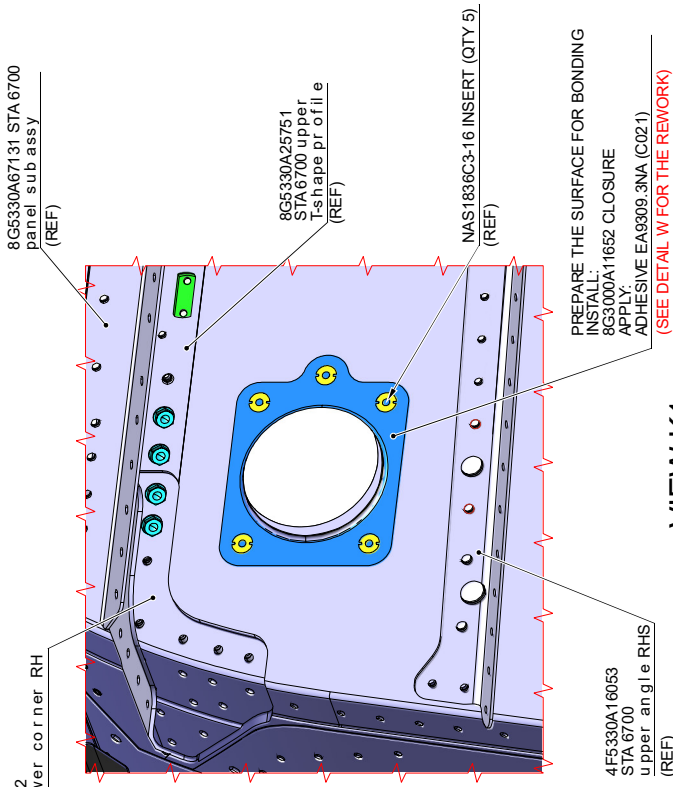
8G2120W00501
 WIRING DIAGRAM RIGHT AVNC BAY FAN
 SHEET 1

CABLE ASSY	WIRE		FROM REF-DES	ELECTRICAL CONTACT	TO REF-DES	ELECTRICAL CONTACT
	ID	COL.				
8G9A21B44501 (A1B445)	2120-169-22G	-	A2P1	M39029/56-348	P116	PU1286-16P
8G9A21B44501 (A1B445)	2120-165-20G	-	SP1480	-	P116	M39029/58-364
8G9B21B54201 (B1B542)	2120-166-20G	-	J116	M39029/56-352	B202P1	850-018-22 (REF)
8G9B21B54201 (B1B542)	2120-168-22G	-	J116	PU1286-16S	B202P1	M39029/56-348 (REF)
8G9B21B54201 (B1B542)	2120-167-20G	-	TB218	A523A-A03	B202P1	850-018-22 (REF)

TABLE

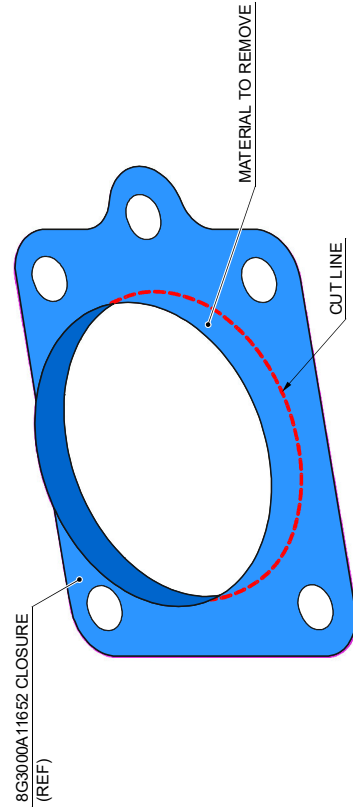
CRIMP ON WIRES THE ELECTRICAL CONTACT INDICATED

Figure 14



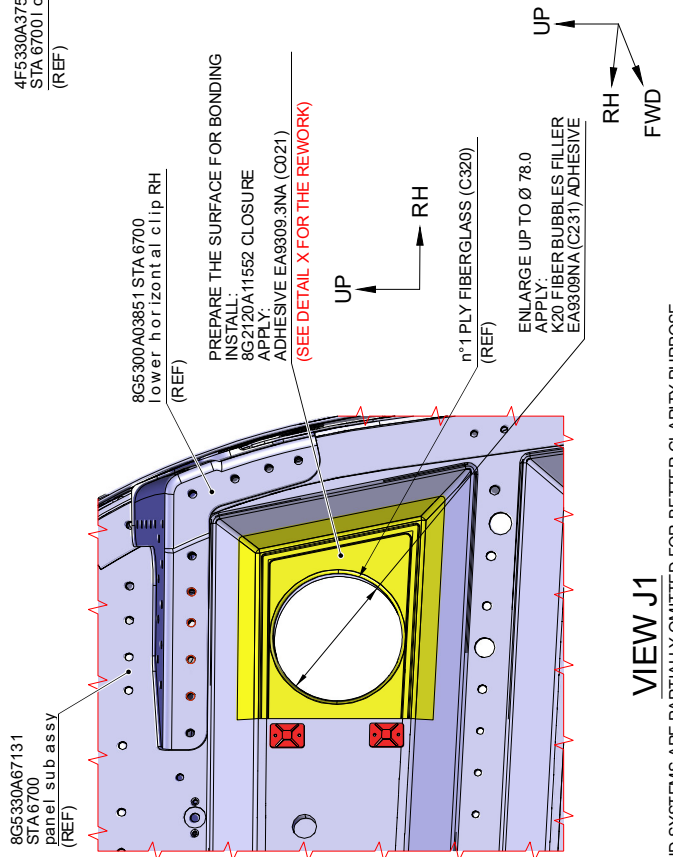
VIEW K1

STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE (REFER TO FIGURE 3)



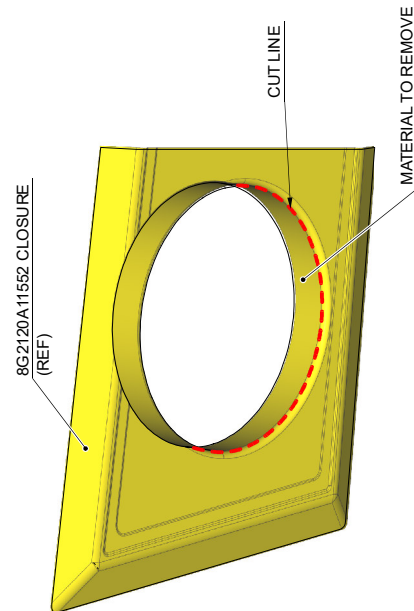
DETAIL W

STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE



VIEW J1

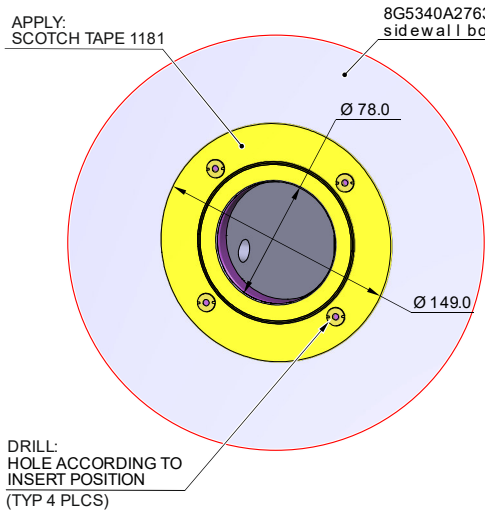
STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE (REFER TO FIGURE 3)



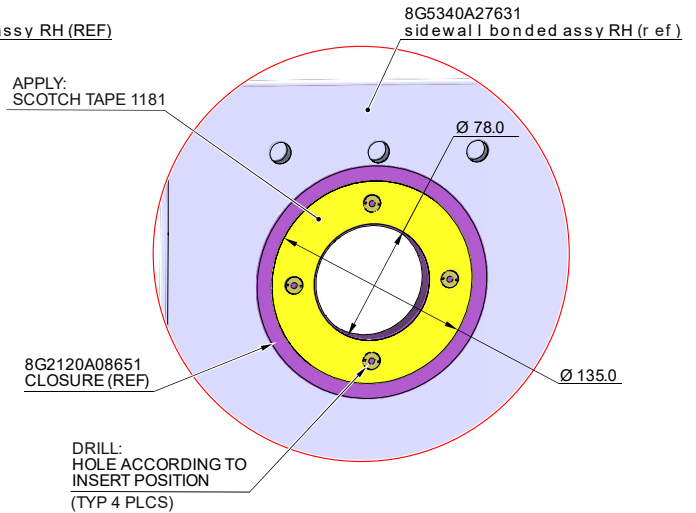
DETAIL X

STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

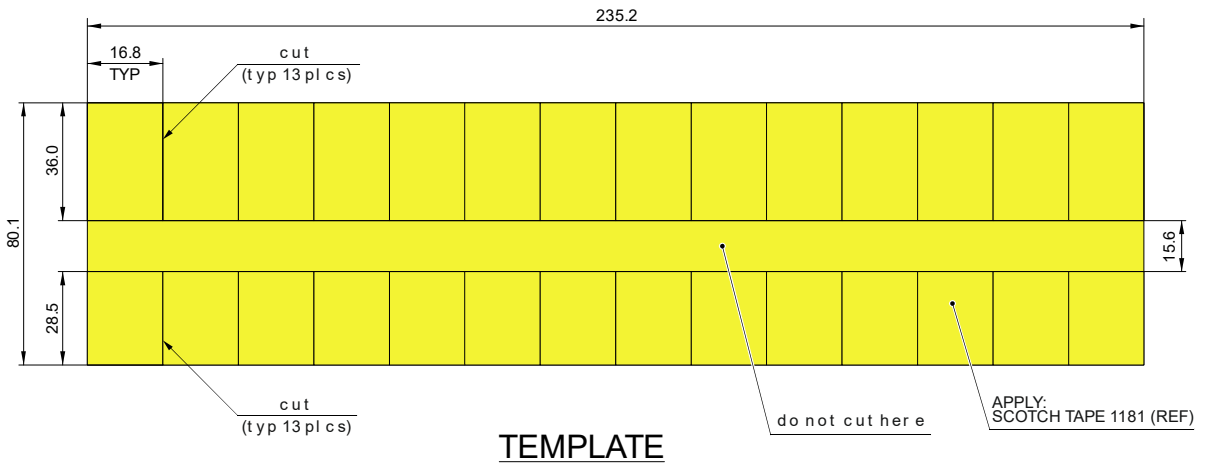
Figure 15



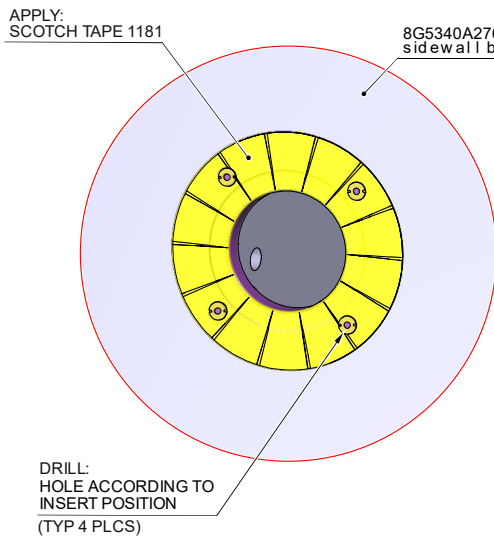
DETAIL Z1
STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE (REFER TO FIGURE 1)



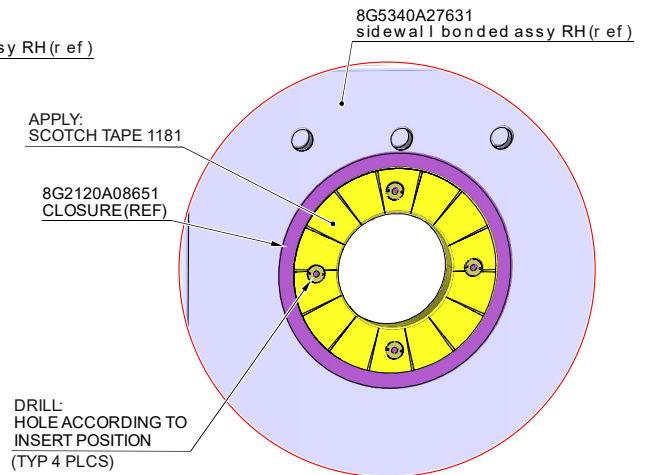
DETAIL Y1
STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE (REFER TO FIGURE 2)



TEMPLATE

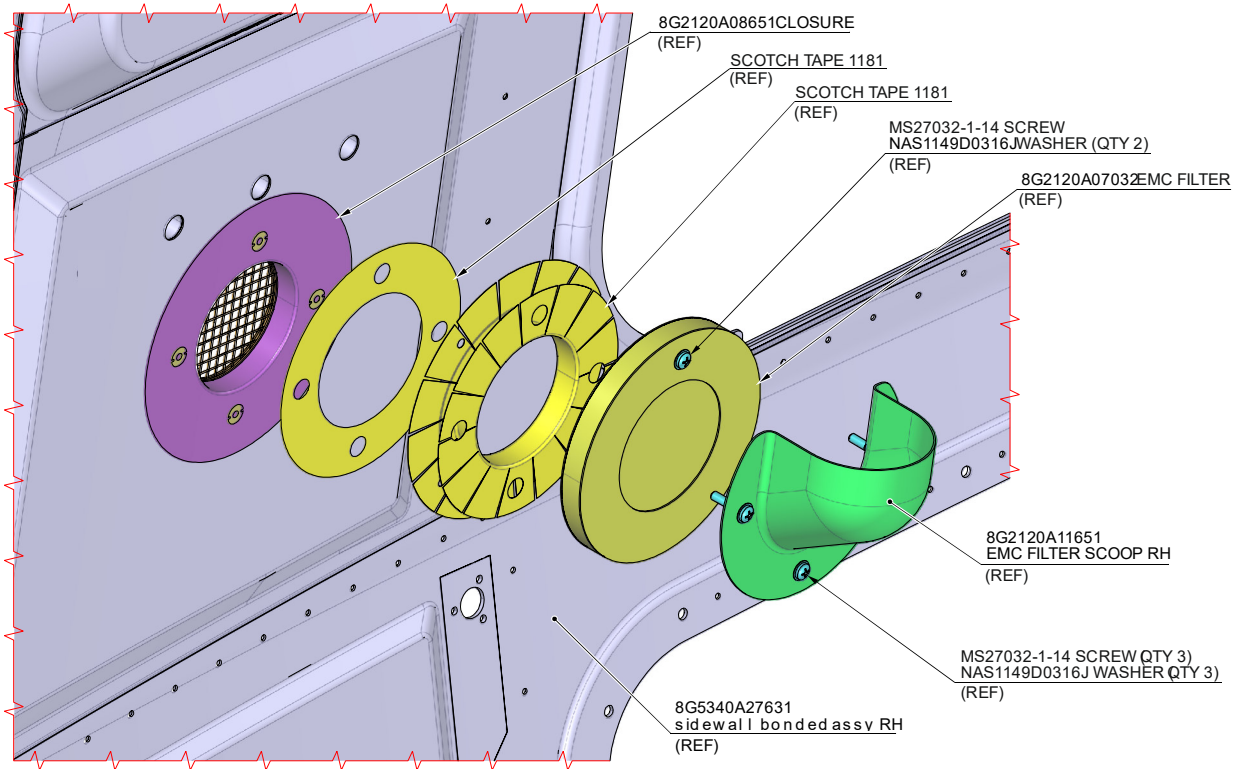


DETAIL Z2
STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE (REFER TO FIGURE 1)



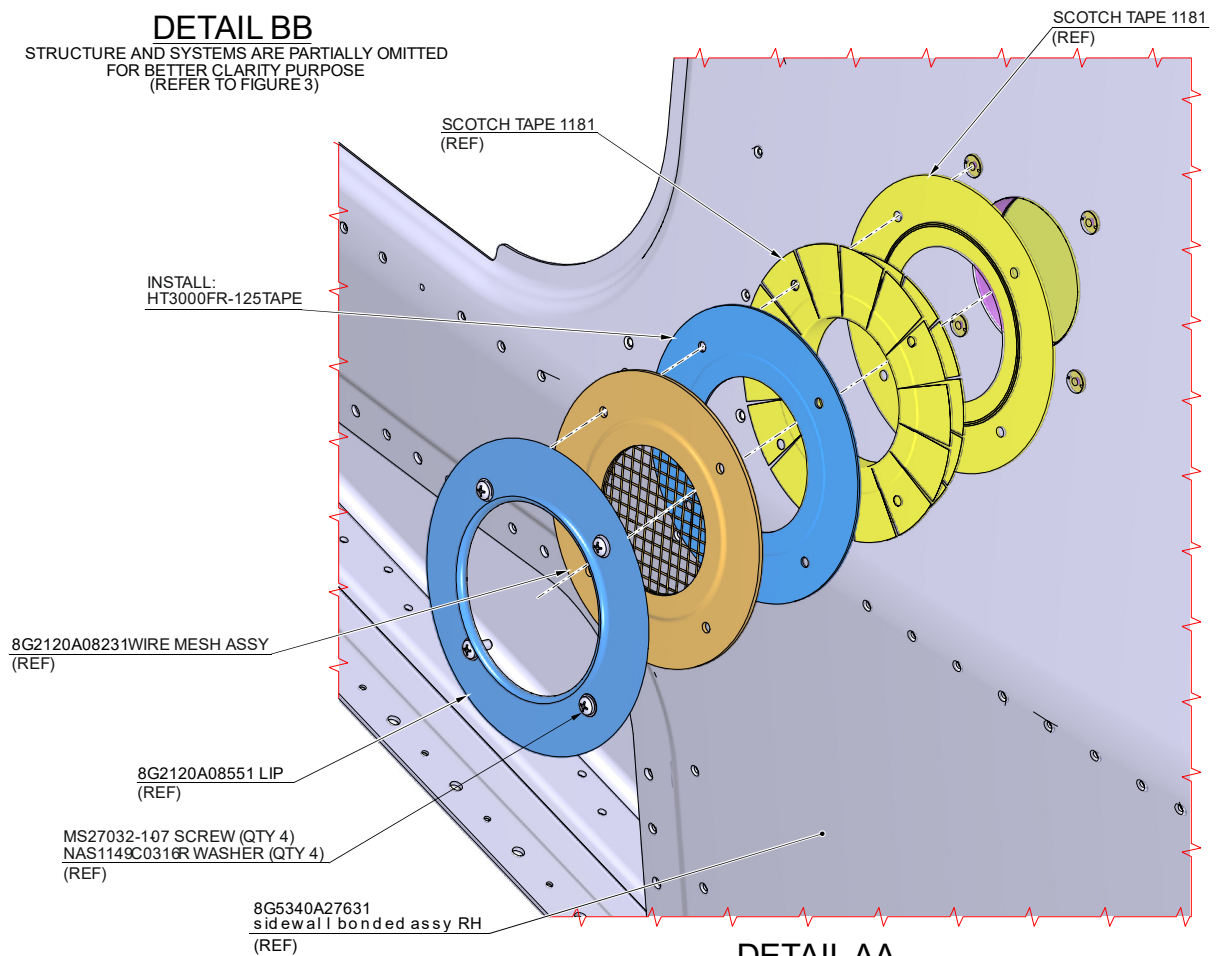
DETAIL Y2
STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE (REFER TO FIGURE 2)

Figure 16



DETAIL BB

STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE (REFER TO FIGURE 3)



DETAIL AA

STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE (REFER TO FIGURE 1)

Figure 17

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ANNEX A

AW189 ADDITIONAL AVIONIC VENTILATION ACCEPTANCE TEST PROCEDURE

1 PRELIMINARY TEST

1.1 SAFETY PROVISION

- When required, for continuity testing a low voltage tester may be used.
- When it is required testing at pins and sockets of plug and receptacles connectors, contact is to be made by means of the correct mating socket or pin.
- No electrical Power Supply applied to the aircraft before starting with the Test Procedure.
- The ATP is to be performed with External Power.

Under no circumstances must be used any other form of probe.

Do not handle and operate plug/receptacle connectors with voltage presence.

1.2 EXPERIMENTAL EQUIPMENT

- DC external Power (28VDC 3KW Min)
- DC Voltmeter Tester for troubleshooting operations
- Conductor Pins and Wire Extensions for troubleshooting operation
- Low voltage continuity tester (Bond Meter (AOIP OM 16 or equivalent)
- Milliohmmer (Bondimeter).

1.3 TEST PREREQUISITES

The following requirements shall be fulfilled prior to proceeding with the test procedures described within this document:

CAUTION: Do not handle plug/receptacle connectors while voltage is on.

TEST DESCRIPTION	PASS/FAIL
1. The electrical wiring harness installation has been successfully tested by DIT-MCO checking the correct electrical voltage, end-points continuity (pin-to-pin) and proper insulation resistance.	
2. The following system shall be operative: EPGDS, AMMS and ECDU.	
3. Before all the test procedures verify that the External Power Bench is operative and set to the appropriate Voltage (28 VDC).	
4. <u>During test with helicopter, both ENG 1 & 2 selector installed on ENG CNTR PNL called "ENG MODE" are in OFF position.</u>	

2 FUNCTIONAL TESTS

2.1 RIGHT REAR BAY FAN

2.1.1 BONDING CHECK

Phase	Test Description	Check	Pass/Fail
1	Ensure the helicopter is powered OFF		
2	Disconnect the external power		
3	Disconnect external grounding cable		
4	Measure the RIGHT AVIONIC BAY FAN (B202) bonding value between FAN Bonding Point and local H/C structure on which it is bonded through bonding cable		
5	Register the value in the table below		
6	Re-Connect external grounding cable		
7	Re-Connect the external power		

LRU	Ref. Des.	Measured Value	Max value
RIGHT REAR BAY FAN	B202		$\leq 6m\Omega$

2.1.2 INSTALLATION AND POWER SUPPLY CHECKS

THE ELECTRICAL CHECK CAN BE AVOIDED ONLY IF THE AIRCRAFT HARNESS HAS BEEN TESTED WITH DT-MCO.

Select "ON" the electrical generation system by the DC external power.

Phase	Test Description	Check	Pass/Fail
1	Visually verify the proper installation of the RIGHT AVIONIC BAY FAN		
2	Turn OFF the following CB: NOSE FAN 2		

3	Disconnect B202P1 connector from B202 FAN		
4	Disconnect A2P1 connector from AMMC2		
5	Verify the continuity between RIGHT AVIONIC BAY FAN (B202P1) and AMMC2 connector (A2P1).	Check the continuity between the following pin: - B202P1 pin 4 to A2P1 pin 99	
6	Connect A2P1 connector to AMMC2		
7	Turn ON the following CB: NOSE FAN 2		
8	Verify the presence of power supply	- Check with a voltmeter the 28 VDC signal on following pin of B202P1 RIGHT AVIONIC BAY FAN connector: - PIN 1 (+); - Check with a voltmeter the GND signal on following pin of B202P1 RIGHT AVIONIC BAY FAN connector: - PIN 2 (-);	
9	Turn OFF the following CB: NOSE FAN 2		
10	Connect B202P1 connector to B202 FAN		
11	Turn ON the following CB: NOSE FAN 2		
12	Verify FAN functionality	Visually check that the fan is working properly (the fan is spinning)	
13	Turn OFF the following CB: NOSE FAN 2		

3 TEST RESULT

<p><u>TEST RESULT SUMMARY</u> A/C N°:</p> <p>189H2120D002</p> <p>AW189 ADDITIONAL AVIONIC VENTILATION ATP</p>				
REF.	DESCRIPTION	OPERATOR	DATE	REMARKS
1.1	Safety provisions			
1.2	Experimental Equipment			
1.3	Test Prerequisites			
2.1.1	Bonding Check			
2.1.2	Installation and Power Supplies check (*)	DT-MCO		
		ATP		
<p>Engineering dept signature (if required):-----</p>				
<p>Quality dept approval:-----</p>				

(*) Specify whether DT-MCO or ATP have been carried out to cover Power Supply checks.

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.						