
SERVICE BULLETIN

N° 139-496

DATE: November 17, 2021

REV. : /

TITLE

ATA 06 - AVIONIC VARIANT 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

AW139 helicopters S/N 31706 and S/N 31707.

B. COMPLIANCE

At Customer's option.

C. CONCURRENT REQUIREMENTS

N.A.

D. REASON

This Service Bulletin provides instruction to upgrade video/radio installation on helicopters S/N 31706 and S/N 31707 in order to align their configuration to the last delivered PA aircraft.

E. DESCRIPTION

Avionic variant P/N 3G0630P08011 consists of different modifications to be performed according to the following drawings:

- ✓ P/N 3G2306P02411 VHF/FM NAT NPX138 (COM4) installation variant, to allow the simultaneous presence of two different radio kits, shifting NPX138 radio from COM3 to COM4;
- ✓ P/N 3G4600A10811 PA electrical variant, to modify pin connections on a connector used by both kit radio HF and kit Enviro;
- ✓ P/N 3G9310A15611 PA video interface, to install the new cable assemblies required to complete the video interface with the video module of the MAU 1, reaching the requirements already provided by PA S/N 31761 customization;
- ✓ P/N 3G0630P10011 I/C PA variant, to modify the interseat console panels layout, according to the Customer requirements;
- ✓ P/N 3G2460P01012 PA auxiliary CB panel variant, to install new circuit breakers and related connections to complete the above mentioned configuration changes ONLY on helicopter S/N 31706.
- ✓ P/N 3G2460P01013 PA auxiliary CB panel variant, to install new circuit breakers and related connections to complete the above mentioned configuration changes ONLY on helicopter S/N 31707.

- ✓ P/N 3G2310P02911 antenna VHF/FM (NPX138) variant, to allow the installation of antenna E68 on the tail boom due to the presence of kit MR600R antenna in the original position.

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 one-hundred (100) MMH are deemed necessary. MMH are based on hands-on time and can change with personnel and facilities available.

H. WEIGHT AND BALANCE

WEIGHT (Kg)		4.675
	ARM (mm)	MOMENT (Kgmm)
LONGITUDINAL BALANCE	4594.8	21480.7
LATERAL BALANCE	-3.39	-15.85

I. REFERENCES

1) PUBLICATIONS

Following Data Modules refer to AMP:

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM01 39-A-00-20-00-00A-120A-A	Helicopter on ground for a safe maintenance.	-

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM02 39-A-06-41-00-00A-010A-A	Access doors and panels - General data	-
DM03 39-A-11-00-01-00A-720A-A	Decal - install procedure	-
DM04 39-A-20-10-18-00A-691A-A	Electrical wires and cables - Marking	-
DM05 39-A-24-91-04-00A-920A-K	Integrally lighted panel - replacement	-

Following Data Modules refer to CSRP:

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM06 CSRP-A-51-42-00-00A-720A-D	Potted inserts -Install procedure	-

2) ACRONYMS & ABBREVIATIONS

AMDI	Aircraft Material Data Information
AMP	Aircraft Maintenance Publication
CB	Circuit Breaker
CSRP	Common Structural Repair Publication
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
HF	High Frequency
ITEP	Illustrated Tool and Equipment Publication
LH	Leonardo Helicopters
MMH	Maintenance Man-Hours
VMU	Video Management Unit

3) ANNEX

N.A.

J. PUBLICATIONS AFFECTED

N.A.

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	3G0630P08011		PA AVIONIC VARIANT	REF	.		-
2	3G4600A10811		PA ELECTRICAL VARIANT	REF	..		-
3	3G9C01A34001		PA electrical variant C/A C1A340	REF	...	(1)	-
4	3G9310A15611		VIDEO INTERFACE PA	REF	..		-
5	3G9A02A43102		Fin camera & Video Module I/F (A2A431)	1	...		139-496L1
6	3G9A03B22901		IR camera and cd I/F C/A (A3B229)	1	...		139-496L1
7	3G9A03B23001		IR camera and Video Module I/F C/A (A3B230)	1	...		139-496L1
8	3G9A03B23101		IR camera and Video Module I/F C/A (A3B231)	1	...		139-496L1
9	3G9B02A36201		DMAP Skyforce-DSPL Sirio PNL I/F(B2A362)	1	...		139-496L1
10	3G9B02A59601		FIN Camera and cd I/F C/A (B2A596)	1	...		139-496L1
11	3G9C01A27301		DMAP Skyforce-DSPL Sirio PNL I/F (C1A273)	1	...		139-496L1
12	3G9C02A33502		FIN Camera & Video Module I/F (C2A335)	1	...		139-496L1
13	A631A02A		Spacer	1	...		139-496L1
14	AW001CL001-N6		Support	3	...		139-496L1
15	AW001CL005C01-X1		Support	1	...		139-496L1
16	AW002FT401		Grommet	6	...		139-496L1
17	ED300CP32		Decal	1	...		139-496L1
18	ED300CP33		Decal	1	...		139-496L1
19	KC99-20		Adapter	2	...		139-496L1
20	MS25281-R12		Clamp	2	...		139-496L1
21	NAS1149D0332J		Washer	2	...		139-496L1
22	NAS1802-3-12		Screw	1	...		139-496L1
23	NAS1802-3-9		Screw	1	...		139-496L1
24	3G0630P10011		I/C VARIANT PA	REF	..		-
25	999-0500-85-213		Panel Blank	1	...		139-496L1
26	3G2460P01012		AUX O/H PANEL RETROMOD	REF	..	(3)	-
27	1035685-22		Bus Bar	3	...	(3)	139-496L2
28	3G2490L04357		Panel integrally light aux breaker	1	...	(3)	139-496L2
29	3G9E01C29802		AUX CB PNL VARIANT C/A (E1C298)	REF	...	(3)	-
30	252-8554-000		Ferrule	2	....	(3)	139-496L2
31	A523A-A02		Contact	2	....	(3)	139-496L2
32	A523A-A07		Contact	3	....	(3)	139-496L2
33	A556A-T12		Wire	1 m	....	(3)	139-496L2
34	A556A-T16		Wire	7 m	....	(3)	139-496L2
35	A556A-T20		Wire	3 m	....	(3)	139-496L2
36	A556A-T8		Wire	1 m	....	(3)	139-496L2
37	BJE41		Fuse	1	....	(3)	139-496L2
38	M39029/1-102		Contact	4	....	(3)	139-496L2

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
39	M39029/56-351		Contact	3	....	(3)	139-496L2
40	M39029/56-352		Contact	7	....	(3)	139-496L2
41	M81824/1-2		Splice	1	....	(3)	139-496L2
42	M81824/1-3		Splice	1	....	(3)	139-496L2
43	MS25036-108		Terminal lug	6	....	(3)	139-496L2
44	MS25036-112		Terminal lug	2	....	(3)	139-496L2
45	MS25036-115		Terminal lug	2	....	(3)	139-496L2
46	MS25036-149		Terminal lug	1	....	(3)	139-496L2
47	MS25036-153		Terminal lug	2	....	(3)	139-496L2
48	3G9E01C29803		AUX CB PNL VARIANT C/A (E1C298)	REF	...	(3)	-
49	A556A-T20		Wire	1 M	....	(3)	139-496L2
50	M39029/1-102		Contact	2	....	(3)	139-496L2
51	M39029/56-351		Contact	1	....	(3)	139-496L2
52	MS25036-149		Terminal lug	1	....	(3)	139-496L2
53	A524A2A-A		Identification label	1	....	(3)	139-496L2
54	AW001YC01RED		Ring retaining	5	...	(3)	139-496L2
55	ED300CB164		Decal	1	...	(3)	139-496L2
56	ED300CB168		Decal	1	...	(3)	139-496L2
57	ED300CB175		Decal	1	...	(3)	139-496L2
58	ED300CB305		Decal	1	...	(3)	139-496L2
59	ED300CB345		Decal	1	...	(3)	139-496L2
60	ED300CB346		Decal	1	...	(3)	139-496L2
61	ED300CB465		Decal	1	...	(3)	139-496L2
62	ED300S108		Decal	1	...	(3)	139-496L2
63	ED300S186		Decal	1	...	(3)	139-496L2
64	ED300S204		Decal	1	...	(3)	139-496L2
65	MS27488-16-2		Filler plug	3	...	(3)	139-496L2
66	MS27722-23		Switch	3	...	(3)	139-496L2
67	MS3320-1		Circuit breaker	1	...	(3)	139-496L2
68	MS3320-10		Circuit breaker	3	...	(3)	139-496L2
69	MS3320-3		Circuit breaker	1	...	(3)	139-496L2
70	MS3320-5		Circuit breaker	1	...	(3)	139-496L2
71	NAS1149D0332K		Washer	3	...	(3)	139-496L2
72	NAS1802-3-7		Screw	3	...	(3)	139-496L2
73	3G2460P01013		AUX O/H PANEL RETROMOD	REF	..	(4)	-
74	1035685-22		Bus Bar	3	...	(4)	139-496L3
75	3G2490L04362		Panel integrally light aux breaker	1	...	(4)	139-496L3
76	3G9E01C29802		AUX CB PNL VARIANT C/A (E1C298)	REF	...	(4)	-
77	252-8554-000		Ferrule	2	....	(4)	139-496L3
78	A523A-A02		Contact	2	....	(4)	139-496L3
79	A523A-A07		Contact	3	....	(4)	139-496L3
80	A556A-T12		Wire	1 m	....	(4)	139-496L3
81	A556A-T16		Wire	7 m	....	(4)	139-496L3
82	A556A-T20		Wire	3 m	....	(4)	139-496L3
83	A556A-T8		Wire	1 m	....	(4)	139-496L3
84	BJE41		Fuse	1	....	(4)	139-496L3
85	M39029/1-102		Contact	4	....	(4)	139-496L3
86	M39029/56-351		Contact	3	....	(4)	139-496L3
87	M39029/56-352		Contact	7	....	(4)	139-496L3
88	M81824/1-2		Splice	1	....	(4)	139-496L3
89	M81824/1-3		Splice	1	....	(4)	139-496L3
90	MS25036-108		Terminal lug	6	....	(4)	139-496L3

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
91	MS25036-112		Terminal lug	2	....	(4)	139-496L3
92	MS25036-115		Terminal lug	2	....	(4)	139-496L3
93	MS25036-149		Terminal lug	1	....	(4)	139-496L3
94	MS25036-153		Terminal lug	2	....	(4)	139-496L3
95	A524A2A-A		Identification label	1	...	(4)	139-496L3
96	AW001YC01RED		Retaining ring	5	...	(4)	139-496L3
97	ED300CB164		Decal	1	...	(4)	139-496L3
98	ED300CB175		Decal	1	...	(4)	139-496L3
99	ED300CB305		Decal	1	...	(4)	139-496L3
100	ED300CB345		Decal	1	...	(4)	139-496L3
101	ED300CB346		Decal	1	...	(4)	139-496L3
102	ED300CB465		Decal	1	...	(4)	139-496L3
103	ED300S186		Decal	1	...	(4)	139-496L3
104	ED300S204		Decal	1	...	(4)	139-496L3
105	MS27488-16-2		Filler plug	2	...	(4)	139-496L3
106	MS27722-23		Switch	2	...	(4)	139-496L3
107	MS3320-1		Circuit breaker	1	...	(4)	139-496L3
108	MS3320-10		Circuit breaker	3	...	(4)	139-496L3
109	MS3320-3		Circuit breaker	1	...	(4)	139-496L3
110	MS3320-5		Circuit breaker	1	...	(4)	139-496L3
111	NAS1149D0332K		Washer	3	...	(4)	139-496L3
112	NAS1802-3-7		Screw	3	...	(4)	139-496L3
113	3G2306P02411		VHF/FM NAT NPX138 (COM4) INSTALLATION VARIANT	REF	.		-
114	3G9A02B32801		VHF/FM (NPX138 COM 3) C/A (A2B328)	REF	..	(2)	-
115	3G2310P02911		ANTENNA VHF/FM (NPX138) VARIANT	REF	.		-
116	3G5311A20811		ANTENNA VHF/FM STRUCTURAL PROVISION (PLUS TAIL)	REF	..		-
117	3G5316A51232		Antenna Support Assy	1	...		139-496L1
118	MS20426AD3-7		Rivet	0.1 kg	...		139-496L1
119	MS21075-08	MS21075L08N	Anchor Nut	3	...		139-496L1
120	MS27039-0805		Screw	4	...		139-496L1
121	MS27039-0806		Screw	3	...		139-496L1
122	NAS1149DN832K		Washer	7	...		139-496L1
123	NAS1832-08-3		Insert	4	...		139-496L1
124	3G5316A51952		Support	1	..		139-496L1
125	3G9B03B22701		ANTENNA VHF/FM (NFX 138) VARIANT C/A (B3B227)	REF	..		-
126	M17/128-RG400		Coaxial Wire	10 m	...		139-496L1
127	M23053/8-007-C		Electrical Insulation Sleeving	2 m	...		139-496L1
128	M39012/16-0503		Electrical Connector	2	...		139-496L1
129	3G9D03B21701		ANTENNA VHF/FM (NFX 138) VARIAN C/A (D3B217)	REF	..		-
130	M17/128-RG400		Coaxial Wire	3 m	...		139-496L1
131	M23053/8-007-C		Electrical Insulation Sleeving	1 m	...		139-496L1
132	M39012/18-0503		Electrical Connector	1	...		139-496L1
133	M39012/20-0503		Electrical Connector	1	...		139-496L1
134	A366A3C16E	A366A3E16C	Stud	3	..		139-496L1
135	A366A3E22C		Stud	2	..		139-496L1
136	A388A3E08C		Standoff	2	..		139-496L1

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
137	AW001TL3A06T		Anchor Nut	1	..		139-496L1
138	AW001TL3A08T		Anchor Nut	1	..		139-496L1
139	AW002FT502		Grommet	18	..		139-496L1
140	AW002FT503		Grommet	1	..		139-496L1
141	ED300J3030		Decal	1	..		139-496L1
142	EN6049-006-32-5		Nomex Sleeve	1 m	..		139-496L1
143	MS21042L02		Nut	4	..		139-496L1
144	MS21043-3		Nut	5	..		139-496L1
145	MS25281-R12		Clamp	1	..		139-496L1
146	MS25281-R6		Clamp	18	..		139-496L1
147	MS35206-204		Screw	4	..		139-496L1
148	NAS1149DN216J		Washer	8	..		139-496L1
149	NAS1190E3P20AK		Screw	5	..		139-496L1
150	NAS1190E3P24AK		Screw	1	..		139-496L1
151	NAS1802-3-10		Screw	2	..		139-496L1
152	NAS1802-3-18		Screw	1	..		139-496L1
153	NAS43DD3-30N		Spacer	3	..		139-496L1
154	NAS43DD3-40N		Spacer	1	..		139-496L1
155	NAS43DD3-48N		Spacer	2	..		139-496L1
156	NAS43DD3-50N		Spacer	2	..		139-496L1
157	3G9310P00111		DIGITAL MAP READER ELECTRICAL PROVISION VARIANT	REF	.	(4)	-
158	3G9A02A49401		DIGITAL MAP READER VARIANT C/A (A2A494)	REF	.	(4)(6)	-
159	3G9C02A37101		DIGITAL MAP READER VARIANT C/A (C2A371)	REF	.	(4)(7)	-

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:

#	P/N	DESCRIPTION	Q.TY	NOTE	PART
160	199-05-002 Type I, Class 2 / (MMM-A-132)	Adhesive EA9309.3NA (C021)	AR	(5)	-
161	MMM-A-132 Type 1, Class 3 199-05-002 Type II, Class 2	Adhesive EA934NA (C057)	AR	(5)	-
162	A574A01-01	Insulation sleeving	4	(5)	-
163	EN6049-006-05-5	Self-wrap braid nomex	AR	(5)	-
164	AS44417-B12	Plug	AR	(5)	-
165	Commercial / 199-50-002 Type I	Araldit resin LY5138-2	AR	(5)	-
166	Commercial / 199-50-002 Type II	Hardener HY5173	AR	(5)	-
167	Commercial	Fiberglass fabric 20644-1200 8H Satin EC9 34X2	AR	(5)	-
168	AMS-S-8802 Type II, Class B2	Sealing compound Proseal 890 (C004)	AR	(5)	-
169	A578A06-9	Cable marker sleeve	AR	(5)	-

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

3) LOGISTIC MATRIX

LOGISTIC P/N	Q.TY (PER HELO)	NOTE	PART
139-496L1	1		-
139-496L2	1	(3)	
139-496L3	1	(4)	

NOTE

- (1) This cable assy will be obtained reworking existing cable assy P/N 3G9C01A22001.
- (2) This cable assy will be obtained reworking existing cable assy P/N 3G9A02B32701.
- (3) Applicable ONLY to S/N 31706.
- (4) Applicable ONLY to S/N 31707.
- (5) Item to be procured as local supply.
- (6) This cable assy will be obtained reworking existing cable assy A2A247.
- (7) This cable assy will be obtained reworking existing cable assy C2A215.

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

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.
 - c) During the installation of bonding braids or components requiring grounding, clean the surface structure in order to obtain a good ground contact.
 - d) Let the adhesive cure at room temperature for at least 24 hours unless otherwise specified.
 - e) Exposed thread surface and nut must be protected using a layer of tectyl according to MIL-C-16173 grade I.
1. In accordance with AMP DM 39-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 39-A-06-41-00-00A-010A-A and with reference to Figure 1, gain access to the area affected by the installation.
 3. With reference to Figures 1 thru 7, perform the PA electrical variant P/N 3G4600A10811, 2ND VHF/FM (NPX138) COM4 variant and video interface PA P/N 3G9310A15611 as described in the following procedure:
 - 3.1 With reference to Figure 2 detail B, install spacer P/N A631A02A.
 - 3.2 With reference to Figure 2 detail B, install T splitter P/N KC99-20.
 - 3.3 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 2 Detail B, install decal P/N ED300CP33 in an area adjacent to T-splitter.
 - 3.4 With reference to Figure 3 view looking cockpit A.D.O.F., at location n°1 install support P/N AW001CL005C01-X1 and grommet P/N AW002FT401.
 - 3.5 With reference to Figure 5 view C, remove the existing clamp and grommet of kit external video camera electrical provision P/N 4G9750A00313.

- 3.6 With reference to Figure 5 view C, install clamp P/N MS25281-R12 and grommet P/N AW002FT401 by means of washer P/N NAS1149D0332J and screw P/N NAS1802-3-9.
- 3.7 With reference to Figure 5 view C, install clamp P/N MS25281-R12 and grommet P/N AW002FT401 by means of washer P/N NAS1149D0332J and screw P/N NAS1802-3-12.
- 3.8 With reference to Figure 5 view looking down floor from STA 2105 to STA 4700 remove the existing grommet and install n°3 grommets P/N AW002FT401.
- 3.9 With reference to Figure 5 detail D and view looking down floor from STA 2105 to STA 4700, at locations n°2, 3 and 4 install n°3 supports P/N AW001CL001-N6 by means of adhesive EA9309.3NA (C021).
- 3.10 With reference to Figure 5 detail D, install T splitter P/N KC99-20.
- 3.11 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 5 detail D, install decal P/N ED300CP32 in an area adjacent to T-splitter.
- 3.12 With reference to Figures 1 thru 7, lay down the cable assemblies listed below (following the existing route, unless otherwise indicated on the figures):
- 3G9A02A43102 FIN CAMERA & VIDEO MODULE I/F (A2A431);
 - 3G9A03B22901 IR camera and CD I/F C/A (A3B229);
 - 3G9A03B23001 IR camera and Video M. I/ F C/A (A3B230);
 - 3G9A03B23101 IR camera and Video M. I/ F C/A (A3B231);
 - 3G9B02A36201 DMAP SKYFORCE-DSPL sirio PNL I/F(B2A362);
 - 3G9B02A59601 FIN camera and CD I/F C/ A (B2A596);
 - 3G9C01A27301 DMAP Skyforce-DSPL Sirio PNL I/F(C1A273);
 - 3G9C02A33502 FIN camera & Video Module I/F (C2A335).
- 3.13 With reference to Figure 19 wiring diagram, remove the electrical connection of C/A C1A220 with terminal board TB303 and restore the electrical connection with terminal board TB315. Re-mark the cable assy as C1A340 by means of insulation sleeving P/N A574A01-01.
- 3.14 With reference to Figure 21 wiring diagram, remove the electrical connection of C/A C3A206 between MAU 1 connector A1-3P3 and power supply connector PS24P2.
- 3.15 With reference to Figure 15 wiring diagram, remove the electrical connection of C/A A2B327 with junction TB104 connector TB104P1 and restore the electrical connection with TB104 on the new pins. Re-mark the wires as indicated and the cable assy as A2B328 by means of insulation sleeving P/N A574A01-01.

- 3.16 With reference to Figures 5, 6, 7 and Figure 21 wiring diagram, perform the electrical connection of C/A C2A335 between power supply PS24 connector PS24P2 and coupler CP32 connector CP32P3.
- 3.17 With reference to Figures 2 thru 5 and to Figure 21 wiring diagram, perform the electrical connection of C/A A2A431 between MAU 1 connector A1-3P3 and coupler CP32 connector CP32P2.
- 3.18 With reference to Figures 3 thru 5 and to Figure 22 wiring diagram, perform the electrical connection of C/A B2A596 between coupler CP32 connector CP32P1 and central display A278 connector A278P1.
- 3.19 With reference to Figures 2 thru 4 and to Figure 24 wiring diagram, perform the electrical connection of C/A A3B231 between coupler CP33 connector CP33P1 and power module PS43 connector PS43P2.
- 3.20 With reference to Figure 2 and Figure 24 wiring diagram, perform the electrical connection of C/A A3B230 between coupler CP33 connector CP33P2 and MAU 1 connector A1-3P3.
- 3.21 With reference to Figures 2, 3 and Figure 23 wiring diagram, perform the electrical connection of C/A A3B229 between coupler CP33 connector CP33P3 and central display A278 connector A278P1.
- 3.22 With reference to Figure 6 and Figure 20 wiring diagram, perform the electrical connection of C/A C1A273 between processor unit connector A103PA pin 40 and processor unit connector A103PA pin 41.
- 3.23 With reference to Figures 2 thru 7 and to Figure 20 wiring diagram, perform the electrical connection of C/A B2A362 between central display A278 connector A278P1 and processor unit A103 connector A103PB.
4. With reference to Figures 25 thru 32, perform the antenna VHF/FM (NPX138) variant P/N 3G2310P02911 as described in the following procedure:
 - 4.1 With reference to Figures 30 and 31, perform the antenna VHF/FM structural provision P/N 3G5311A20811 as described in the following procedure:
 - 4.1.1 With reference to Figures 31 section B-B and schematic section B-B, perform indicated cut out on the tail assy panel.
 - 4.1.2 With reference to Figures 31 schematic section B-B, seal all around the cut out edges by means of adhesive EA934NA (C057).
 - 4.1.3 Prepare a compound mixing 100 parts by weight of araldit resin LY5138-2 and 23 parts by weight of hardener HY5173.
 - 4.1.4 With reference to Figure 31 schematic section B-B, apply on the cut out edges n°2 plies of fiberglass fabric 20644-1200 soaked with the previously prepared compound. Let adhesive cure.

- 4.1.5 With reference to Figure 30 detail A, temporarily locate antenna support assy P/N 3G5316A51232 on the tail assy panel and countermark position of n°4 insert holes and n°3 anchor nut holes.
- 4.1.6 With reference to Figure 30 detail A and Figure 31 view C, drill n°3 anchor nut pilot holes in the previously countermarked positions.
- 4.1.7 With reference to Figure 31 view C, remove honeycomb core as indicated from the internal side of the tail assy panel. Seal honeycomb edge by means of adhesive EA934NA (C057).
- 4.1.8 With reference to Figure 31 view C, install n°3 anchor nuts P/N MS21075-08 by means of n°6 rivets P/N MS20426AD3.
- 4.1.9 With reference to Figures 31 section B-B, drill n°4 holes \varnothing 14.25÷14.38 through external skin and honeycomb core in the previously countermarked positions.
- 4.1.10 In accordance with CSRP DM CSRP-A-51-42-00-00A-720A-D and with reference to Figure 31 section B-B, install n°4 inserts P/N NAS1832-08-3 by means of adhesive EA934NA (C057).
- 4.1.11 With reference to Figures 31 section B-B, prepare the indicated contact surfaces to assure the correct electrical bonding.
- 4.1.12 With reference to Figure 30 detail A and Figure 31 section B-B, install antenna support assy P/N 3G5316A51232 by means of n°3 screws P/N MS27039-0806, n°4 screws P/N MS27039-0805 and n°7 washers P/N NAS1149DN832K.
- 4.1.13 With reference to Figure 31 section B-B, seal all around the antenna support assy P/N 3G5316A51232 by means of sealing compound proseal 890 (C004).

NOTE

Perform the following step 4.1.14 only if antenna E68 will not be installed immediately.

- 4.1.14 With reference to Figure 31 section B-B, seal all around the closure sheet P/N 3G5315A96852 by means of sealing compound proseal 890 (C004).
- 4.2 With reference to Figure 26, at position n°1, install grommet P/N°AW002FT502.
- 4.3 With reference to Figure 28, at positions n°2 and n°3, replace existing screws and spacers with n°2 screws P/N°NAS1190E3P20AK and n°2 spacers P/N°NAS43DD3-48N.

- 4.4 With reference to Figure 28, at position n°4, remove existing screw and install screw P/N°NAS1190E3P24AK, clamp P/N°MS25281-R6 and grommet P/N°AW002FT502.
- 4.5 With reference to Figure 28, at position n°5, install support P/N°AW001TL3A08T by means of adhesive EA9309.3NA (C021), install clamp P/N°MS25281-R6 and grommet P/N°AW002FT502 by means of screw P/N°NAS1802-3-10.
- 4.6 With reference to Figure 28, at position n°6, remove existing screw and install screw P/N°NAS1190E3P20AK, clamp P/N°MS25281-R6, grommet P/N°AW002FT502 and spacer P/N°NAS43DD3-40N.
- 4.7 With reference to Figure 28, at positions n°7 and n°8, install standoffs n°2 P/N°A388A3E08C by means of adhesive EA9309.3NA (C021), install n°2 clamps P/N°MS25281-R6, n°2 grommets P/N°AW002FT502 and n°2 spacers P/N°NAS43DD3-50N by means of n°2 screws P/N°NAS1190E3P20AK.
- 4.8 With reference to Figure 28, at position n°9, install support P/N°AW001TL3A06T by means of adhesive EA9309.3NA (C021), install clamp P/N°MS25281-R6, grommet P/N°AW002FT502 and spacer P/N°NAS43DD3-30N by means of screw P/N°NAS1802-3-18.
- 4.9 With reference to Figure 29, at positions n°10-11-12, install on existing hardware n°3 clamps P/N°MS25281-R6 and n°3 grommets P/N°AW002FT502.
- 4.10 With reference to Figure 29, at position n°13, install on existing hardware clamp P/N°MS25281-R12, spacer P/N°NAS43DD3-30N and grommet P/N°AW002FT503.
- 4.11 With reference to Figure 29, at position n°14, install on existing hardware clamp P/N°MS25281-R6 and grommet P/N°AW002FT502.
- 4.12 With reference to Figure 29, at position n°15, install stud P/N°A366A3C16E by means of adhesive EA9309.3NA (C021), install clamp P/N°MS25281-R6, grommet P/N°AW002FT502 and nut P/N°MS21043-3.
- 4.13 With reference to Figure 29, at position n°16, install on existing hardware clamp P/N°MS25281-R6 and grommet P/N°AW002FT502.
- 4.14 With reference to Figure 29, at position n°17, install on existing hardware clamp P/N°MS25281-R6, spacer P/N°NAS43DD3-30N and grommet P/N°AW002FT5023.
- 4.15 With reference to Figure 29, at position n°18, install support P/N°AW001TL3A06B by means of adhesive EA9309.3NA (C021), install clamp P/N°MS25281-R6 and grommet P/N°AW002FT502 by means of screw P/N°NAS1802-3-10.

- 4.16 With reference to Figure 29, at positions n°19 and n°20, install n°2 studs P/N°A366A3C16E by means of adhesive EA9309.3NA (C021), install n°2 clamps P/N°MS25281-R6, n°2 grommets P/N°AW002FT502 and n°2 nuts P/N°MS21043-3.
- 4.17 With reference to Figure 29, at positions n°21 and n°22, install n°2 studs P/N°A366A3E22C by means of adhesive EA9309.3NA (C021), install n°2 clamps P/N°MS25281-R6, n°2 grommets P/N°AW002FT502 and n°2 nuts P/N°MS21043-3.

NOTE

Use edging P/N A236A on metallic edges which can damage cable assemblies and where abrasion may occur.

Use braided tubing P/N A582A where cable assemblies chafing or contact with structure may occur.

Secure the cables by means of previously installed fixing hardware and existing hardware. If necessary replace existing clamps with suitable clamps.

- 4.18 With reference to Figures 26 thru 29 and Figure 32 wiring diagram, cut n°1 wire P/N M17/128-RG400 of adequate length and lay it down, following the existing route as shown, between NPX138 VHF/FM XCVR connector PL104P702 and sectioning connector P3030.
- 4.19 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 32 wiring diagram, mark wire as R2930A-F by means of marker sleeve P/N A578A.
- 4.20 With reference to Figures 26, 29 and Figure 32 wiring diagram, connect the wire marked as R2930A-F to NPX138 VHF/FM XCVR connector PL104P702 P/N°M39012/16-0503 and sectioning connector P3030 P/N°M39012/16-0503.
- 4.21 With reference to Figure 29 and Figure 32 wiring diagram, cut n°1 wire P/N°M17/128-RG400 of adequate length and lay it down, following the existing route as shown, between sectioning connector J3030 and E68 antenna connector E68P1.
- 4.22 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 32 wiring diagram, mark wire as R2930B-F by means of marker sleeve P/N A578A.

- 4.23 With reference to Figure 29, protect as indicated the wire marked as R2930B-F by means of nomex sleeve P/N EN6049-006-32-5.
- 4.24 With reference to Figure 29 and Figure 32 wiring diagram, connect the wire marked as R2930B-F to sectioning connector J3030 P/N°M39012/18-0503 and E68 antenna connector E68P1 P/N°M39012/20-0503.
- 4.25 With reference to Figure 29 view B, install sectioning connector J3030 P/N°M39012/18-0503 by means of n°4 screws P/N°MS35206-204, n°8 washers P/N°NAS1149DN216J and n°4 nuts P/N°MS21042L02.
- 4.26 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 29, install decal P/N ED300J3030 in an area adjacent to previously installed connector.
- 4.27 With reference to Figure 29 and Figure 32 wiring diagram, connect sectioning connector P3030 to sectioning connector J3030.

NOTE

Following step 7 is applicable ONLY to helicopter
S/N 31707.

- 5. With reference to Figures 33 thru 36 and Figure 37 wiring diagram, perform the digital map reader electrical provision variant P/N 3G9310P00111 as described in the following procedure:
 - 5.1 With reference to Figures 34 and 35 and Figure 37 wiring diagram, perform the changes to the existing electrical connections on the MAU 1 connectors A1-3P4 and A1-9P1 relating to the digital map reader variant C/A A2A494.
 - 5.2 With reference to Figure 36 and Figure 37 wiring diagram, perform the changes to the existing electrical connections on the A110 RIB switching unit connectors A110P2 and A110P3 relating to the digital map reader variant C/A C2A371.

NOTE

Following step 6 is applicable ONLY to helicopter
S/N 31706.

- 6. With reference to Figures 8 thru 10, perform the auxiliary CB panel variant P/N 3G2460P01012 as described in the following procedure:
 - 6.1 With reference to Figure 10 view F-F, remove the existing panel integrally light aux breaker.
 - 6.2 In accordance with AMP DM 39-A-24-91-04-00A-920A-K and with reference to Figure 10 view F-F, install the new integrally light aux breaker P/N 3G2490L04357 and close open positions with plugs P/N AS44417-B12.

- 6.3 With reference to Figure 9 detail C, remove n°2 breakers P/N MS3320-5 and relevant decals P/N ED300CB210 and P/N ED300CB345.
- 6.4 With reference to Figure 9 detail C, install n°2 breakers P/N MS3320-5, n°1 breaker P/N MS3320-1, n°1 breaker P/N MS3320-3, n°3 breakers P/N MS3320-10 and n°5 lock rings P/N AW001YC01RED.
- 6.5 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 9 detail C, install decals P/N ED300CB164, P/N ED300CB168, P/N ED300CB175, P/N ED300CB305, P/N ED300CB345, P/N ED300CB346, P/N ED300CB465, in an area adjacent to previously installed breakers.
- 6.6 With reference to Figure 9 detail C, install n°3 switches P/N MS27722-23 and n°2 plugs P/N MS27488-16-2.
- 6.7 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 9 detail C, install decals P/N P/N ED300S108, P/N ED300S186, ED300S204 in an area adjacent to previously installed switches.
- 6.8 With reference to Figure 8 detail B, install n°3 bus bars P/N 1035685-22 by means of n°3 screws P/N NAS1802-3-7, n°3 washers P/N NAS1149D0332K.
- 6.9 With reference to Figures 8 and 10, lay down the auxiliary CB panel cable assembly P/N 3G9E01C29802 (E1C298) and protect with nomex P/N EN6049-006-05-5.
- 6.10 With reference to Figures 8 and 9, lay down the auxiliary CB panel cable assembly P/N 3G9E01C29803 (E1C298) and protect with nomex P/N EN6049-006-05-5.
- 6.11 With reference to Figure 17, remove the indicated electrical connections from CB345 and TB511-4.
- 6.12 With reference to Figure 9 and Figure 18 wiring diagram, perform the electrical connection of C/A E1C298 between connector PL1J2, switch S108, CB168 and 28 VDC Main BUS 2 W22D.
- 6.13 With reference to Figures 9, 10 and Figure 16 wiring diagram, perform the electrical connection of C/A E1C298 between connectors PL1J4, PL1J5, PL1J8, switches S204, S186, terminal board TB504, circuit breakers CB305, CB346, 28VDC Main BUS 1 W21D and terminal board TB511-1.
- 6.14 With reference to Figures 9, 10 and Figure 16 wiring diagram, perform the electrical connection of C/A E1C298 between connectors PL1J4, PL1J7, PL1J9, terminal board TB504, circuit breakers CB465, CB175, CB164, 28VDC Main BUS 2 W22E, 28VDC NON ESS BUS 1 W11B, 28VDC Main BUS 2 W22B, terminal board TB511-2 and 28VDC NON ESS BUS 1 W11A.

NOTE

Following step 7 is applicable ONLY to helicopter
S/N 31707.

7. With reference to Figures 11 thru 13, perform the auxiliary CB panel variant P/N 3G2460P01013 as described in the following procedure:
 - 7.1 With reference to Figure 13 view F-F, remove the existing panel integrally light aux breaker.
 - 7.2 In accordance with AMP DM 39-A-24-91-04-00A-920A-K and with reference to Figure 13 view F-F, install the new integrally light aux breaker P/N 3G2490L04362 and close open positions with plugs P/N AS44417-B12.
 - 7.3 With reference to Figure 12 detail C, remove n°1 breaker P/N MS3320-5 and relevant decal P/N ED300CB345.
 - 7.4 With reference to Figure 12 detail C, install n°1 breaker P/N MS3320-5, n°1 breaker P/N MS3320-3, n°3 breakers P/N MS3320-10 and n°5 lock ring P/N AW001YC01RED.
 - 7.5 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 12 detail C, install decals P/N ED300CB164, P/N ED300CB175, P/N ED300CB305, P/N ED300CB345, P/N ED300CB346, P/N ED300CB465 in an area adjacent to previously installed breakers.
 - 7.6 With reference to Figure 12 detail C, install n°3 switches P/N MS27722-23 and n°2 plugs P/N MS27488-16-2.
 - 7.7 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 12 detail C, install decals P/N ED300S186, ED300S204 in an area adjacent to previously installed switches.
 - 7.8 With reference to Figure 11 detail B, install n°3 bus bars P/N 1035685-22 by means of n°3 screws P/N NAS1802-3-7, n°3 washers P/N NAS1149D0332K.
 - 7.9 With reference to Figures 11 and 13, lay down the auxiliary CB panel cable assembly P/N 3G9E01C29802 (E1C298) and protect with nomex P/N EN6049-006-05-5.
 - 7.10 With reference to Figure 17 wiring diagram, remove the indicated electrical connections from CB345 and TB511-4.
 - 7.11 With reference to Figures 9, 10 and Figure 16 wiring diagram, perform the electrical connection of C/A E1C298 between connectors PL1J4, PL1J5, PL1J8, switches S204, S186, terminal board TB504, circuit breakers CB305, CB346, 28VDC Main BUS 1 W21D and terminal board TB511-1.

- 7.12 With reference to Figures 9, 10 and Figure 16 wiring diagram, perform the electrical connection of C/A E1C298 between connectors PL1J4, PL1J7, PL1J9, terminal board TB504, circuit breakers CB465, CB175, CB164, 28VDC Main BUS 2 W22E, 28VDC NON ESS BUS 1 W11B, 28VDC Main BUS 2 W22B, terminal board TB511-2 and 28VDC NON ESS BUS 1 W11A.
8. With reference to Figure 14, relocate the interseat console control panels as shown and install plate assy P/N 999-0500-85-213.
 9. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
 10. Return the helicopter to flight configuration and record for compliance with this Service Bulletin on the helicopter logbook.
 11. Send the attached compliance form to the following mail box:

engineering.support.lhd@leonardocompany.com

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

3G0630P08011
AVIONIC VARIANT PAKISTAN ARMY

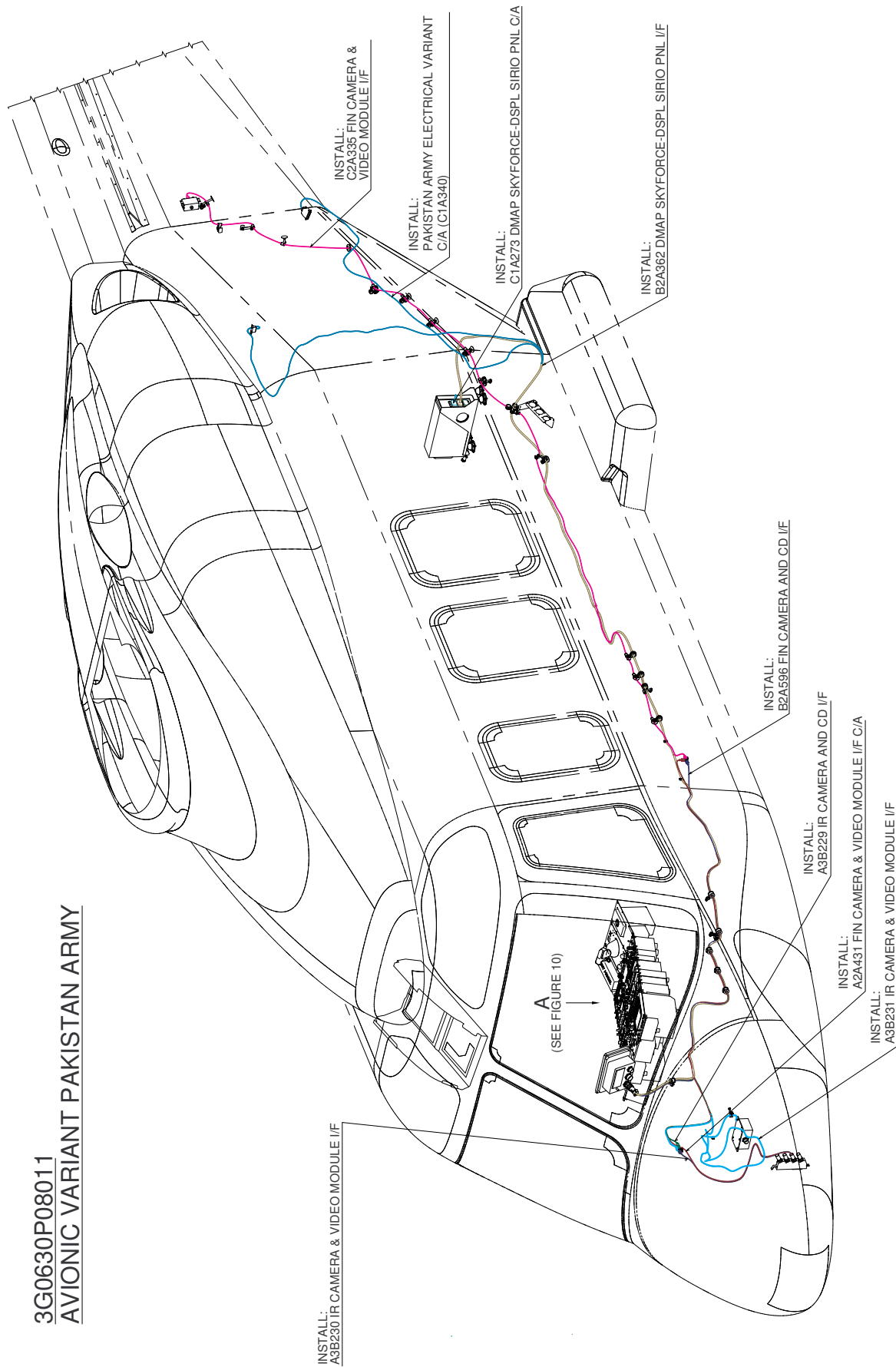


Figure 1

S.B. N°139-496
DATE: November 17, 2021
REVISION: /

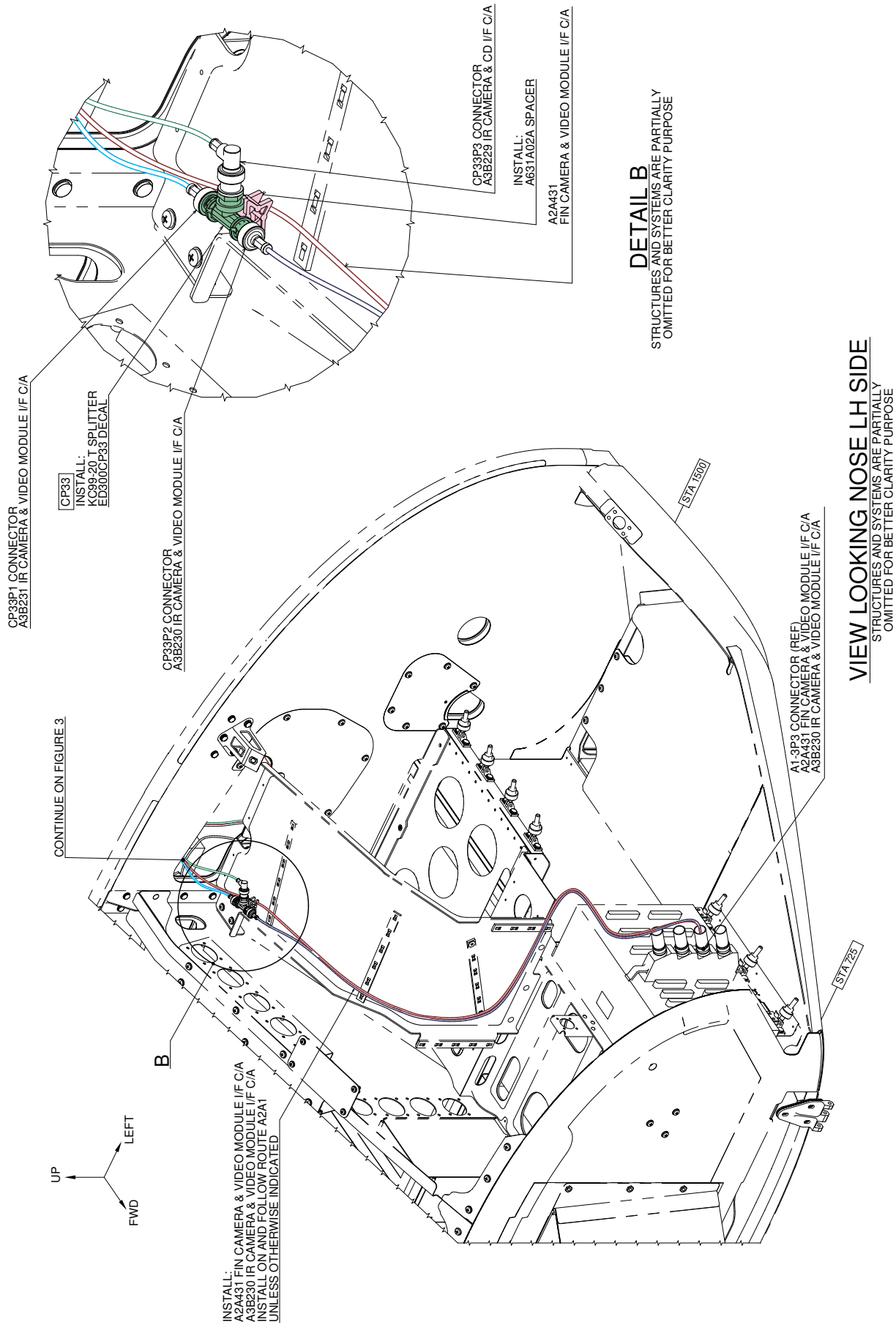
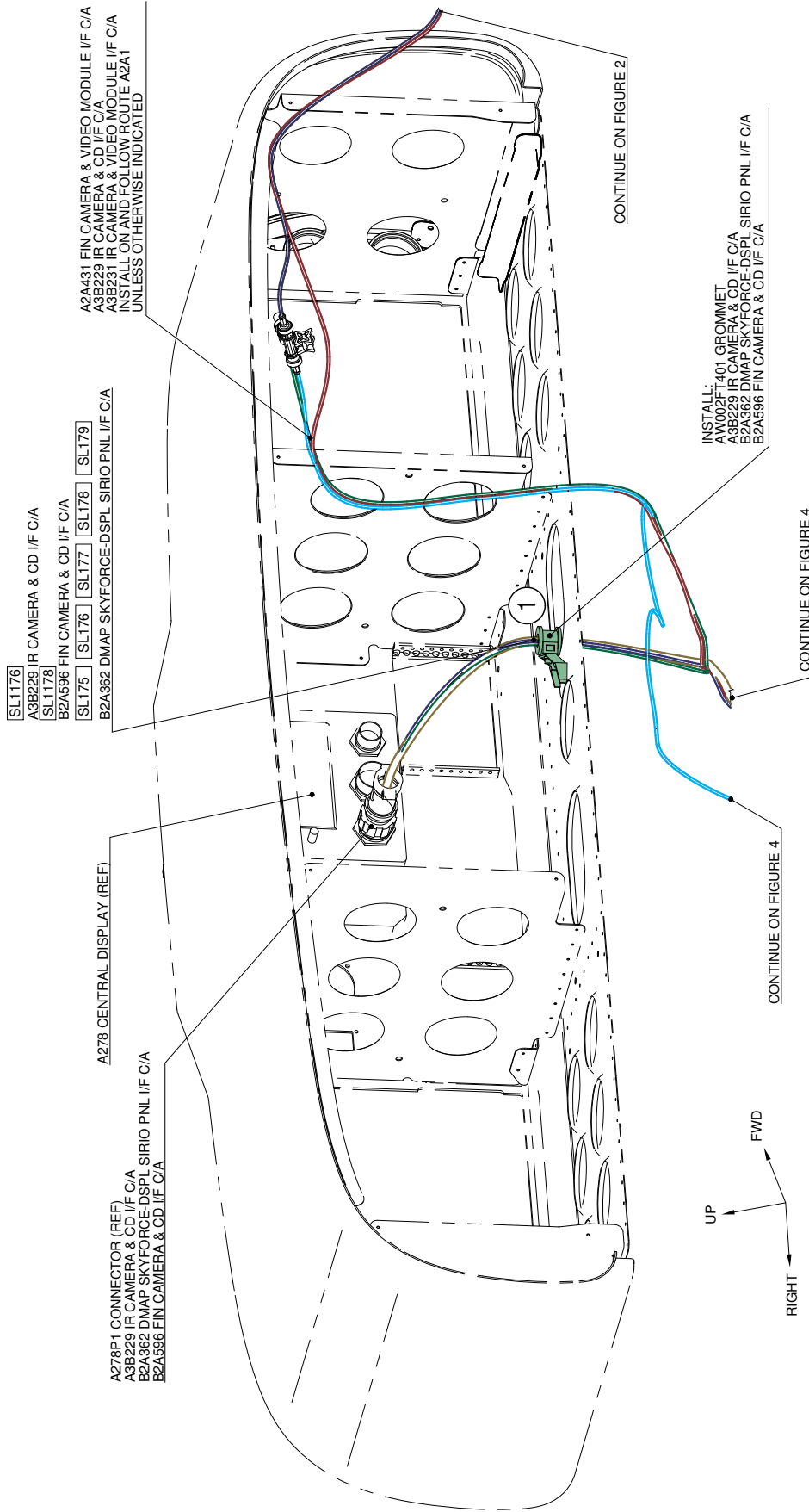


Figure 2

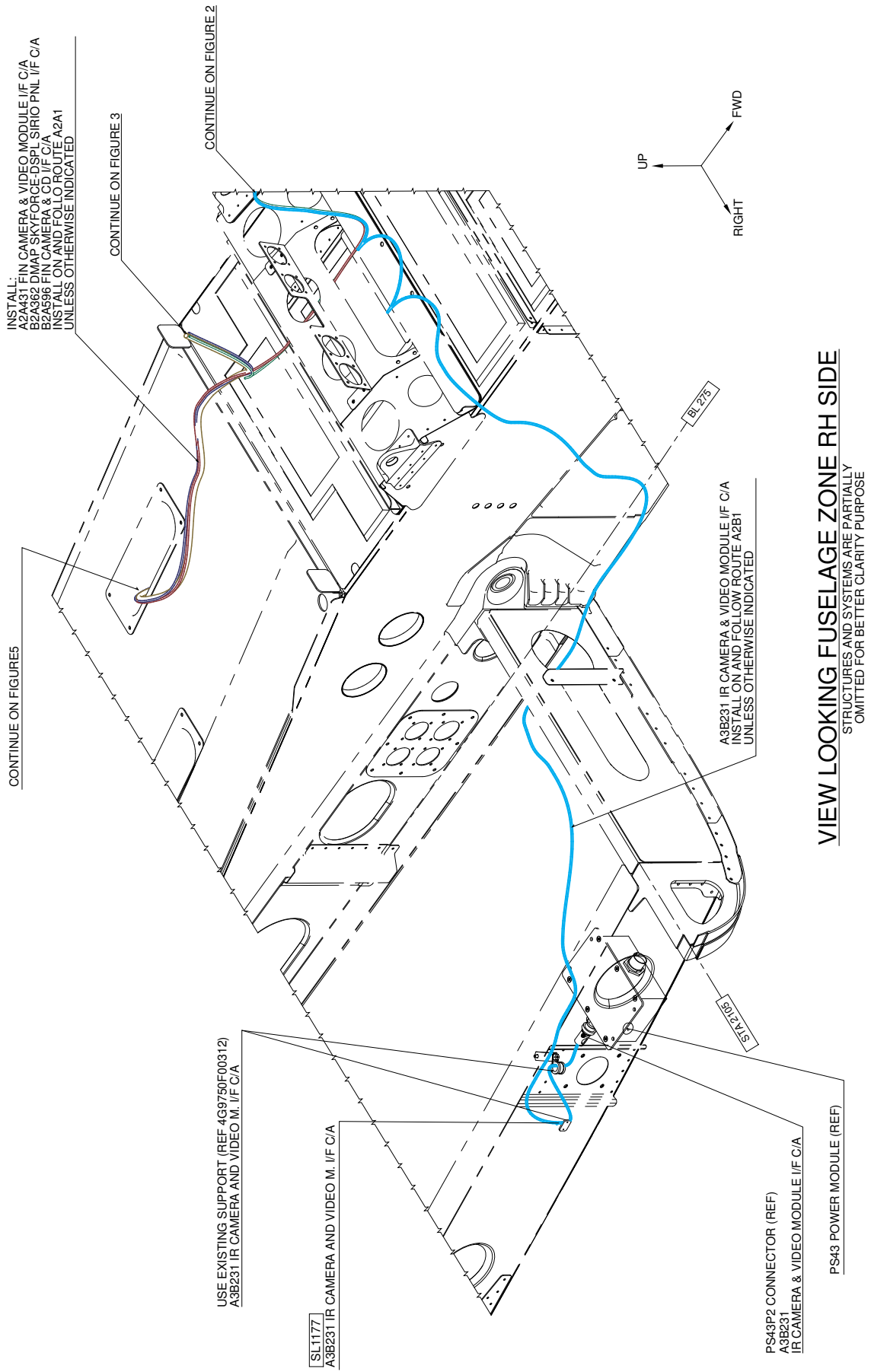


VIEW LOOKING COCKPIT A.D.O.F.

STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

LOCATION NUMBER	PART NUMBER	STA	BL	WL	ORIENTATION
1	AW001CL005C01-X1	1958	-65	1497	115°

Figure 3



VIEW LOOKING FUSELAGE ZONE RH SIDE
STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

Figure 4

LOCATION NUMBER	PART. NUMBER	STA	BL	WL	ORIENTATION
2	AW001CL001-N6	4168	-276	869	0°
3	AW001CL001-N6	4478	-276	869	0°
4	AW001CL001-N6	4206	-383	844	0°

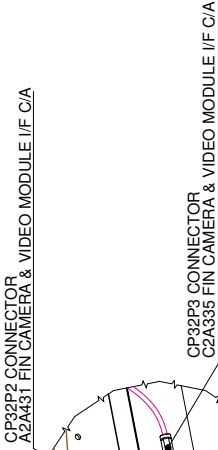
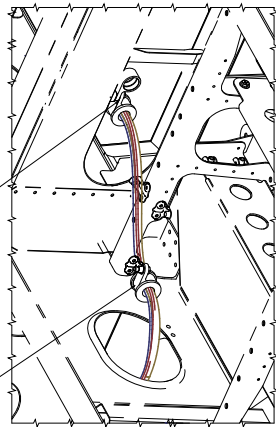
USE EXISTING HARDWARE REMOVE CLAMP AND GROMMET OF KIT EXT VIDEO CAMERA ELECT PROV (REF 4G9750A00313)

INSTALL:
NAS1802-3-12 SCREW
NAS14900332J WASHER
MS528-LR12 CLAMP
B2A362 DMAP SKYFORCE
A2A431 FIN CAMERA & VIDEO MODULE I/F C/A
B2A596 FIN CAMERA & CD I/F C/A

USE EXISTING HARDWARE REMOVE CLAMP AND GROMMET OF KIT EXT VIDEO CAMERA ELECT PROV (REF 4G9750A00313)

INSTALL:
NAS1802-3-9 SCREW
NAS114900332J WASHER
MS528-LR12 CLAMP
B2A362 DMAP SKYFORCE
A2A431 FIN CAMERA & VIDEO MODULE I/F C/A
B2A596 FIN CAMERA & CD I/F C/A

2



DETAIL D

STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

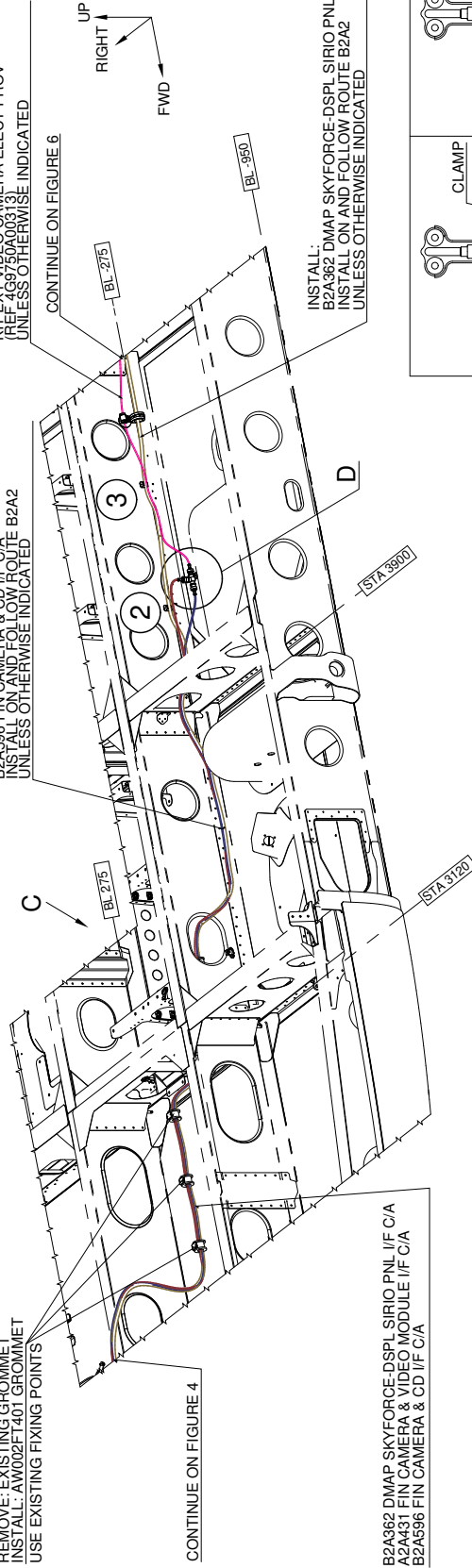
VIEW C

STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

INSTALL:
B2A362 DMAP SKYFORCE-DSPL SIRIO PNL I/F C/A
A2A431 FIN CAMERA & VIDEO MODULE I/F C/A
B2A596 FIN CAMERA & CD I/F C/A
INSTALL ON AND FOLLOW ROUTE B2A2 UNLESS OTHERWISE INDICATED

INSTALL:
B2A362 DMAP SKYFORCE-DSPL SIRIO PNL I/F C/A
A2A431 FIN CAMERA & VIDEO MODULE I/F C/A
B2A596 FIN CAMERA & CD I/F C/A
INSTALL ON AND FOLLOW ROUTE B2A2 UNLESS OTHERWISE INDICATED

KIT EXT VIDEO CAMERA ELECT PROV (REF 4G9750A00313)
REMOVE EXISTING GROMMET
INSTALL: AW002FT401 GROMMET
USE EXISTING FIXING POINTS



VIEW LOOKING DOWN FLOOR STA 2105 TO STA 4700

STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

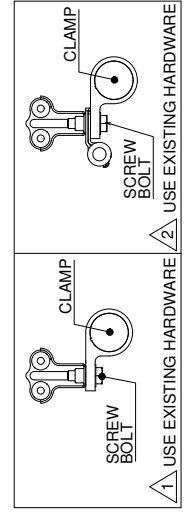


Figure 5

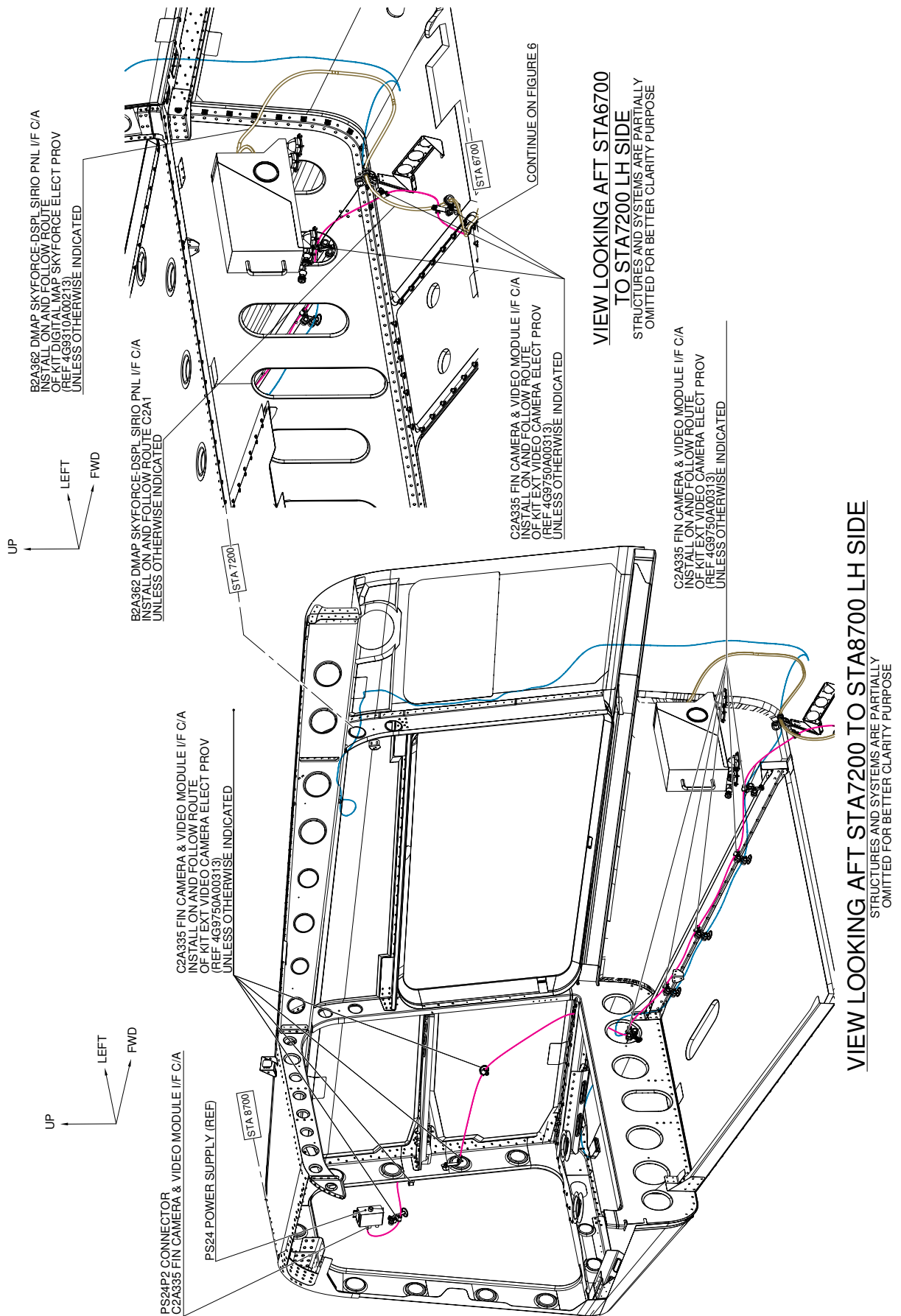


Figure 7

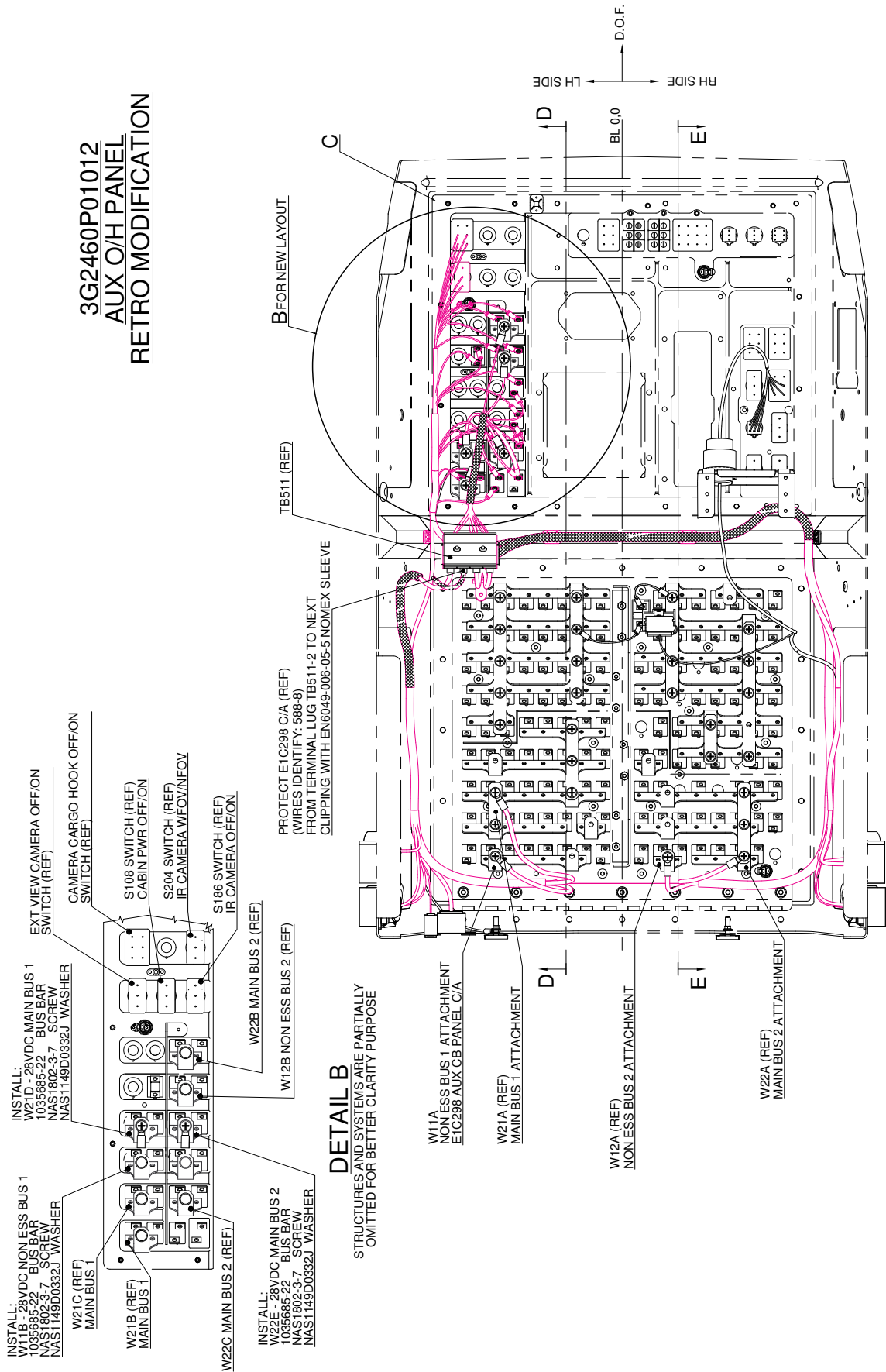


Figure 8

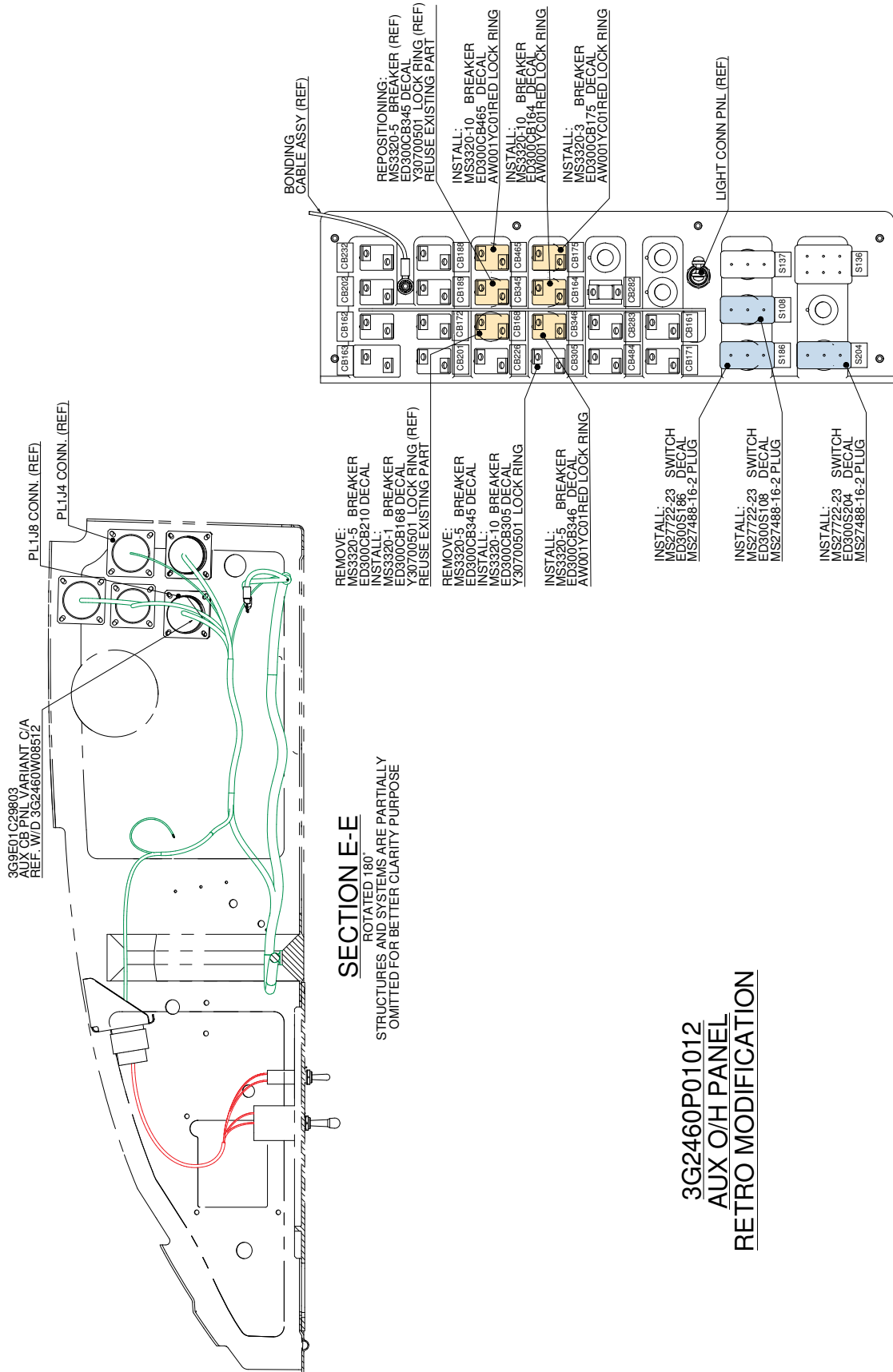


Figure 9

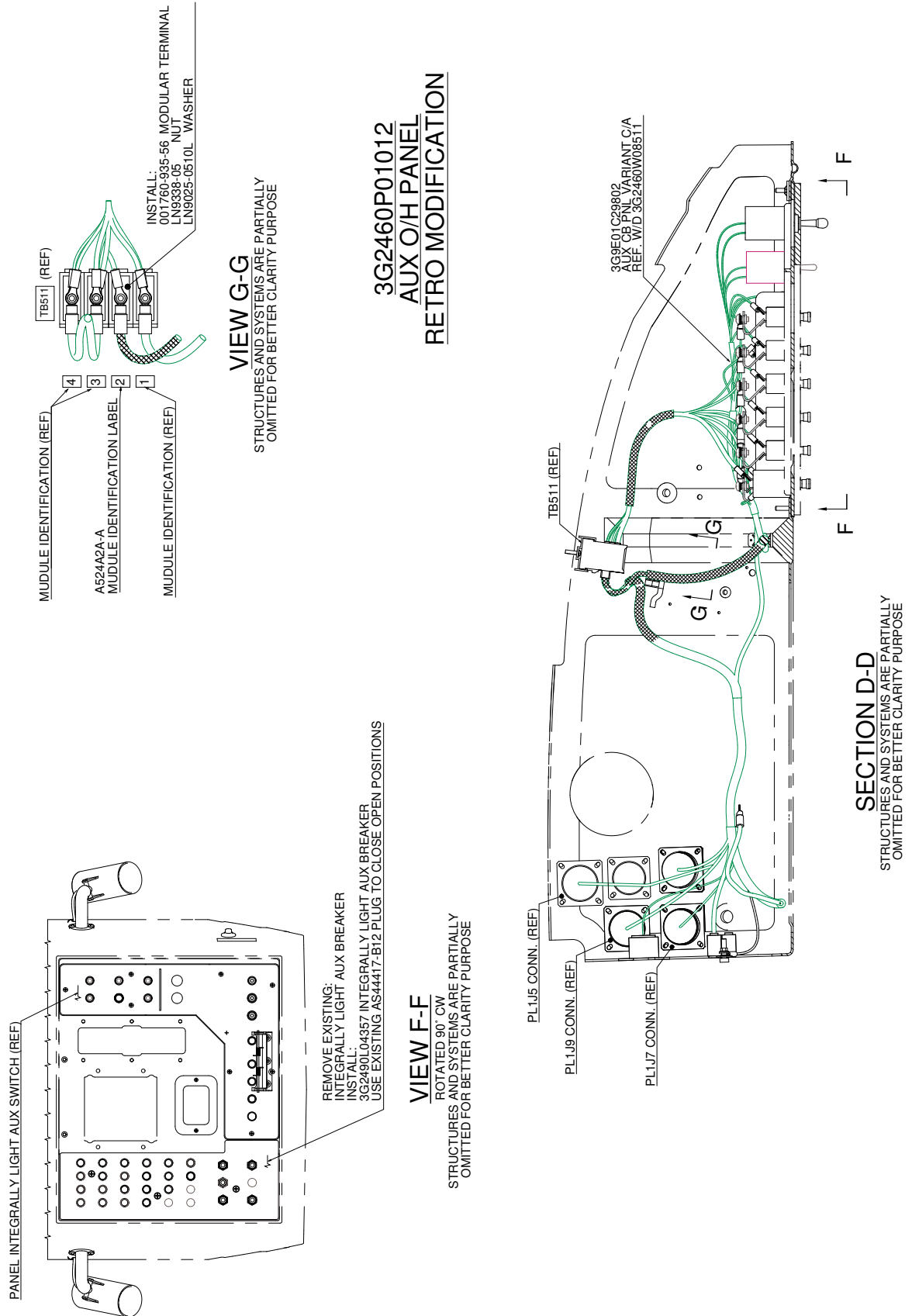
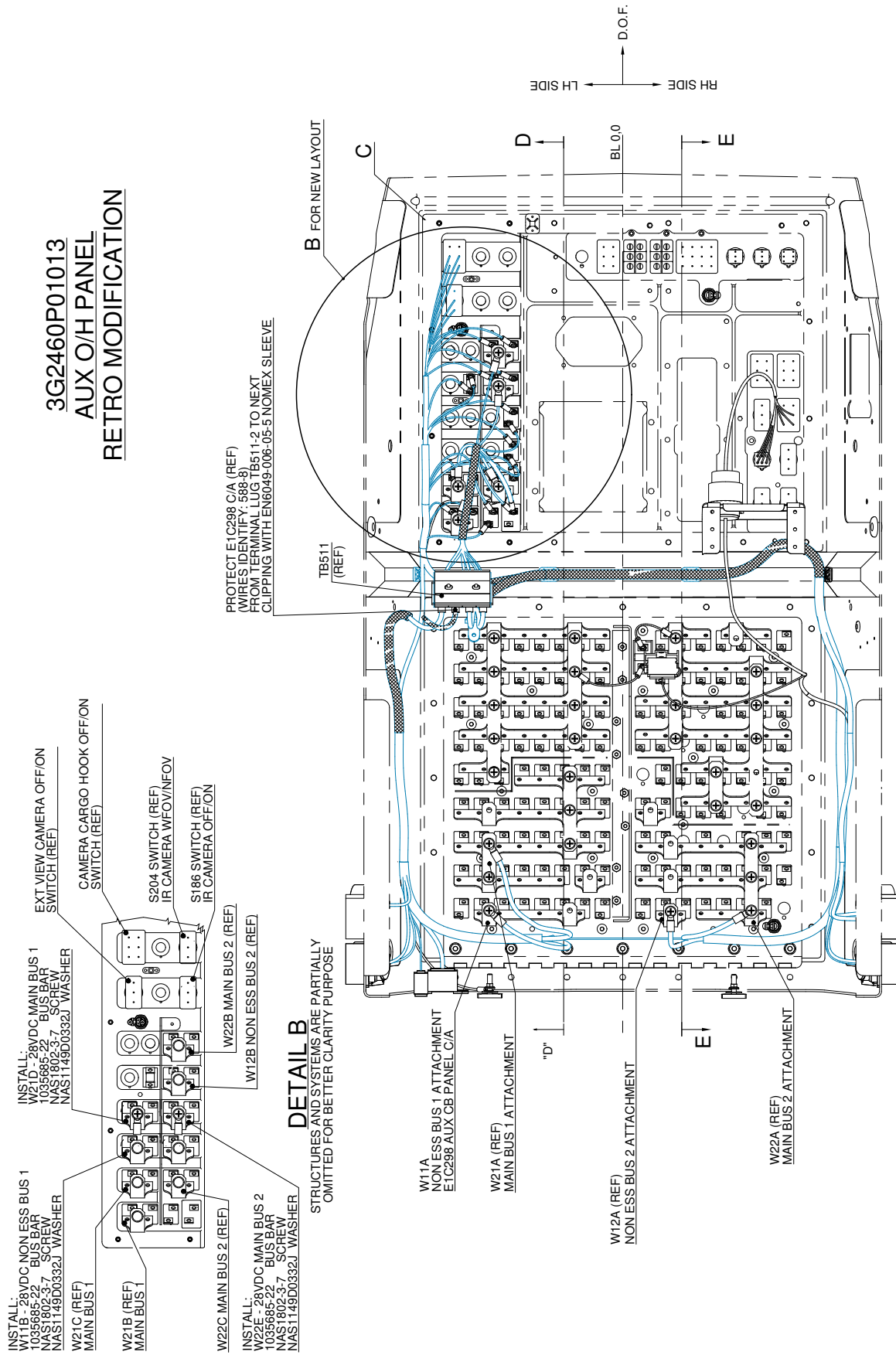


Figure 10



VIEW A - LOOKING DOWN O/H PANEL
STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

Figure 11

S.B. N°139-496
DATE: November 17, 2021
REVISION: /

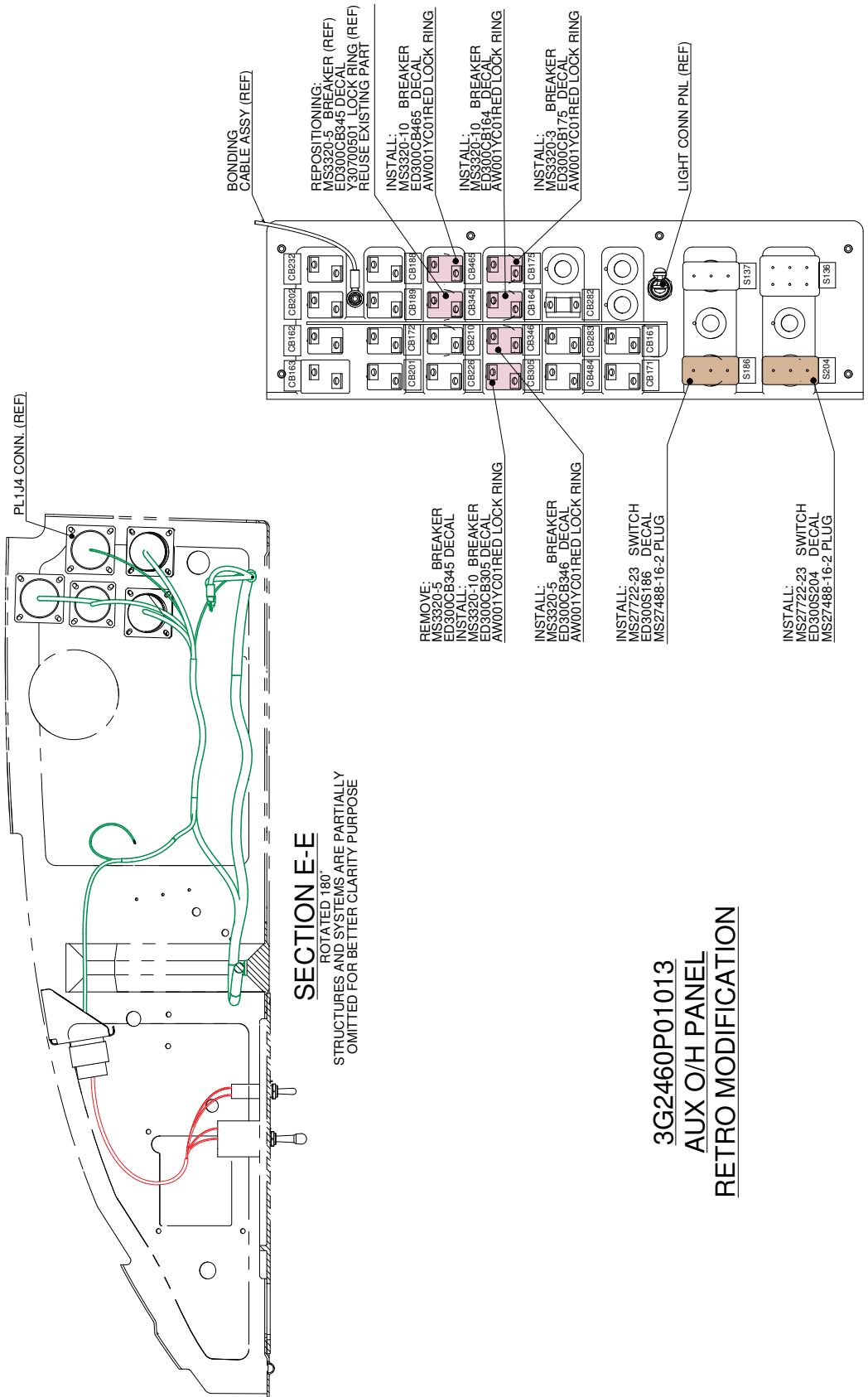


Figure 12

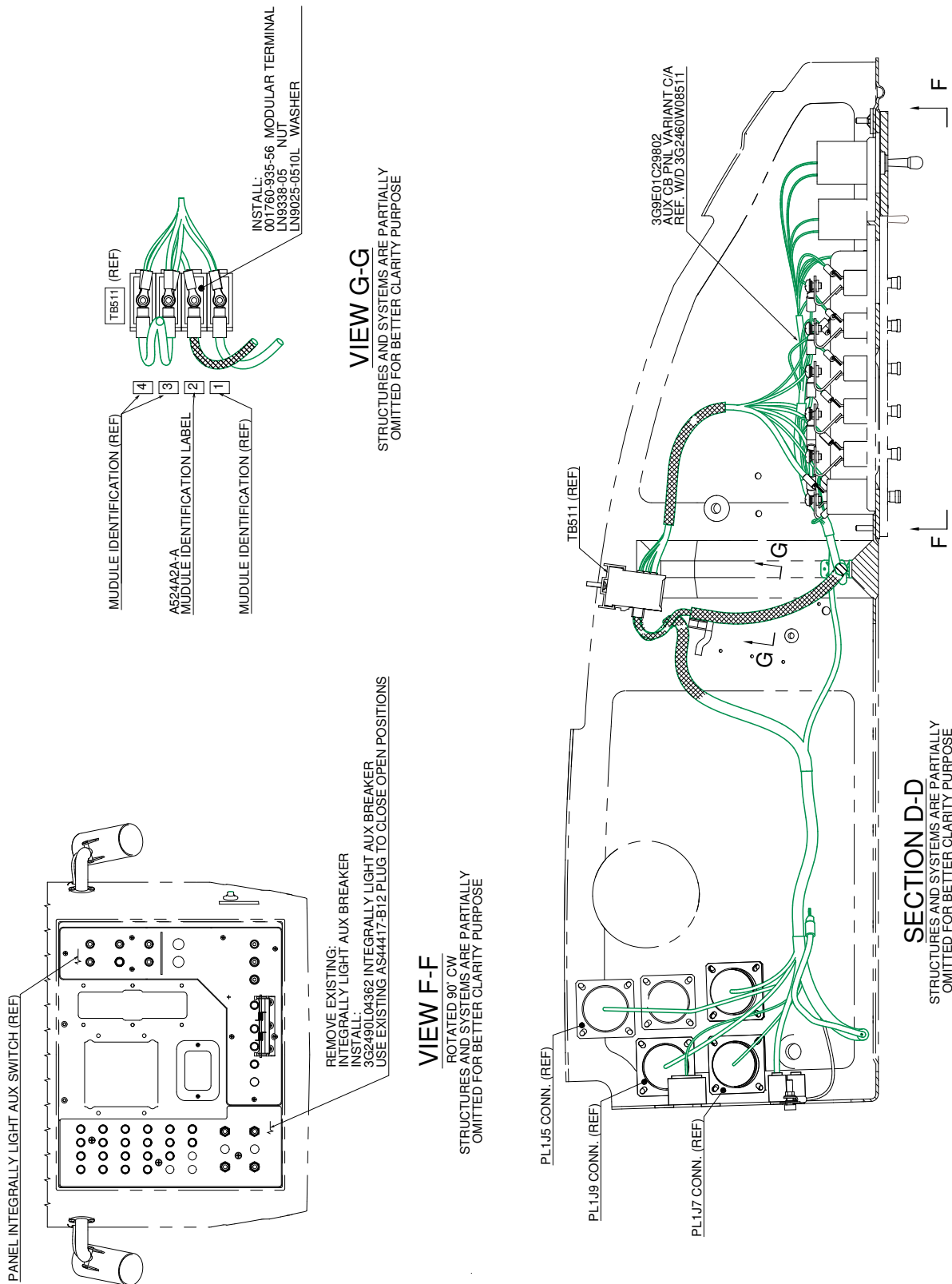
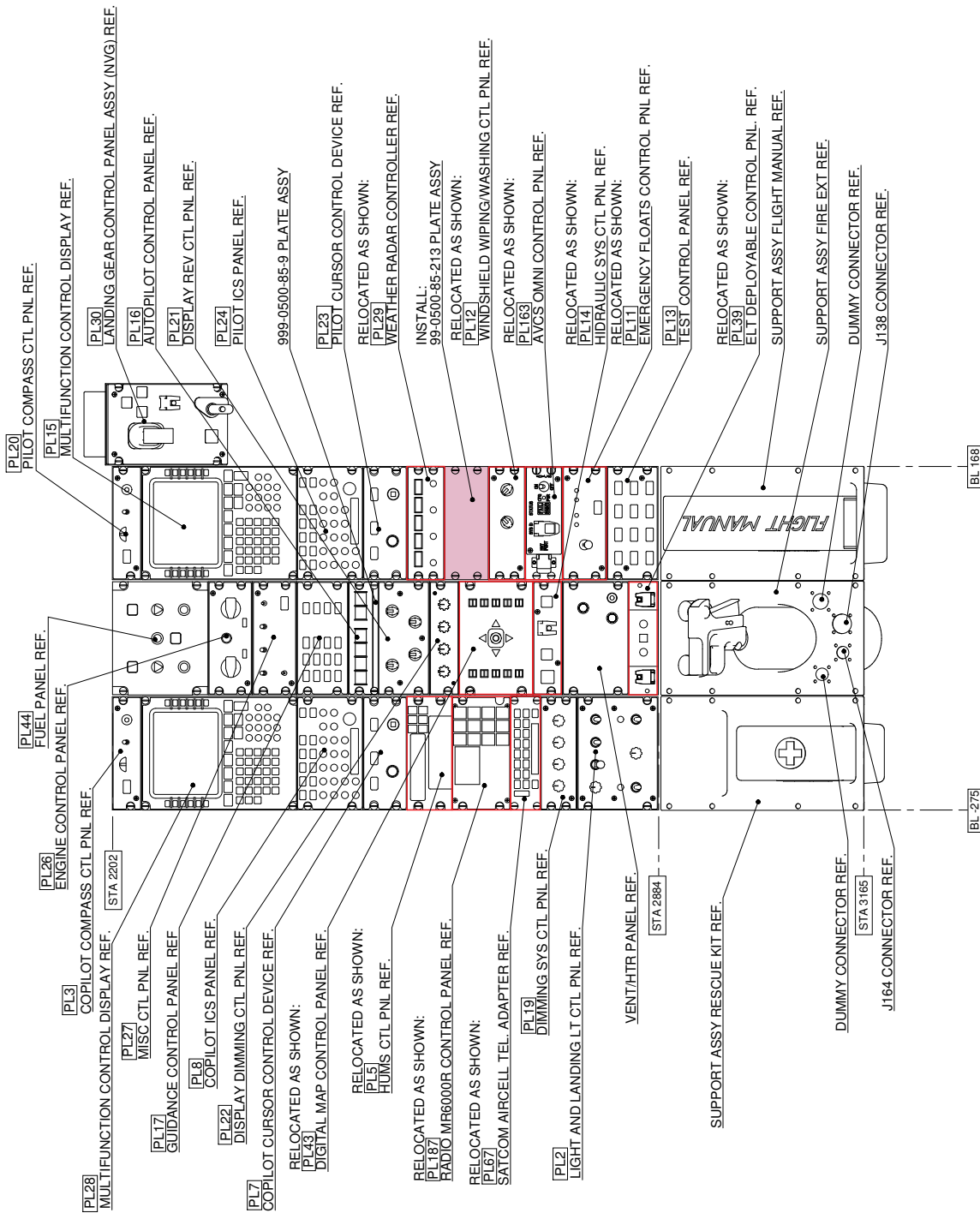
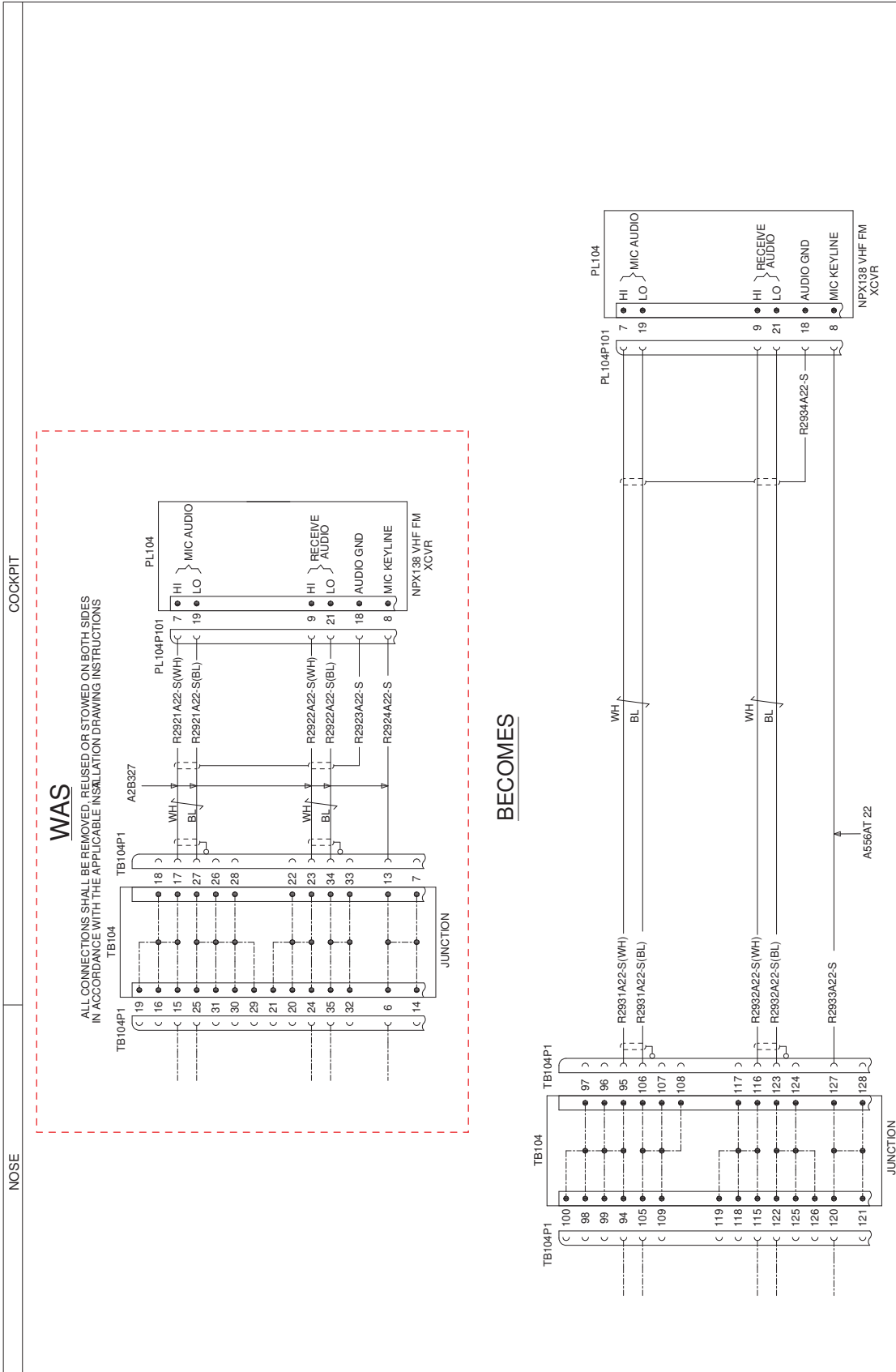


Figure 13



VIEW A
 STRUCTURES AND SYSTEMS ARE PARTIALLY
 OMITTED FOR BETTER CLARITY PURPOSE

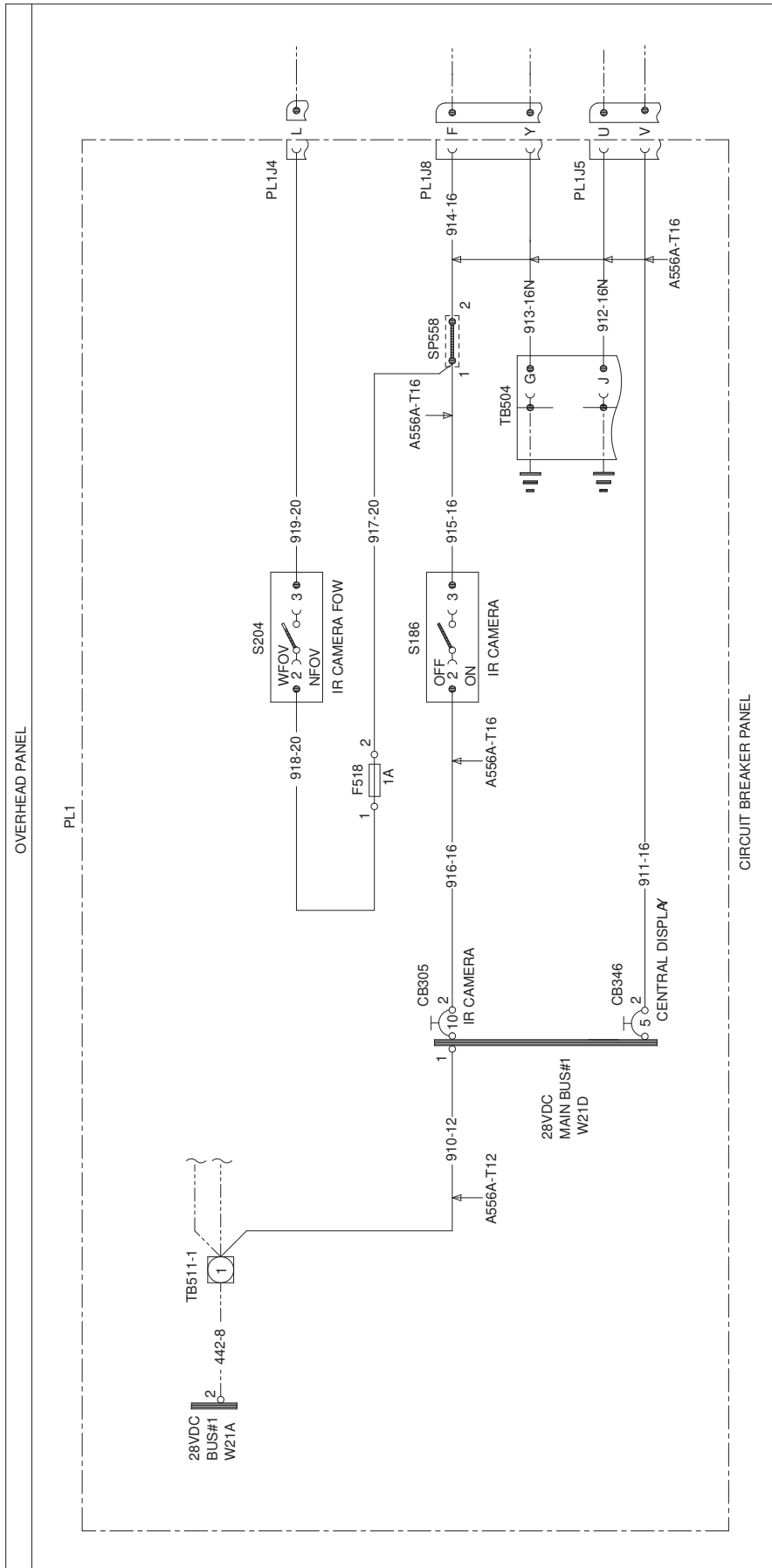
Figure 14



3G2310W03811
WIRING DIAGRAM VHF/FM (NPX138 COM 4)

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM A2B328 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A561A22 UNLESS SPECIFIED

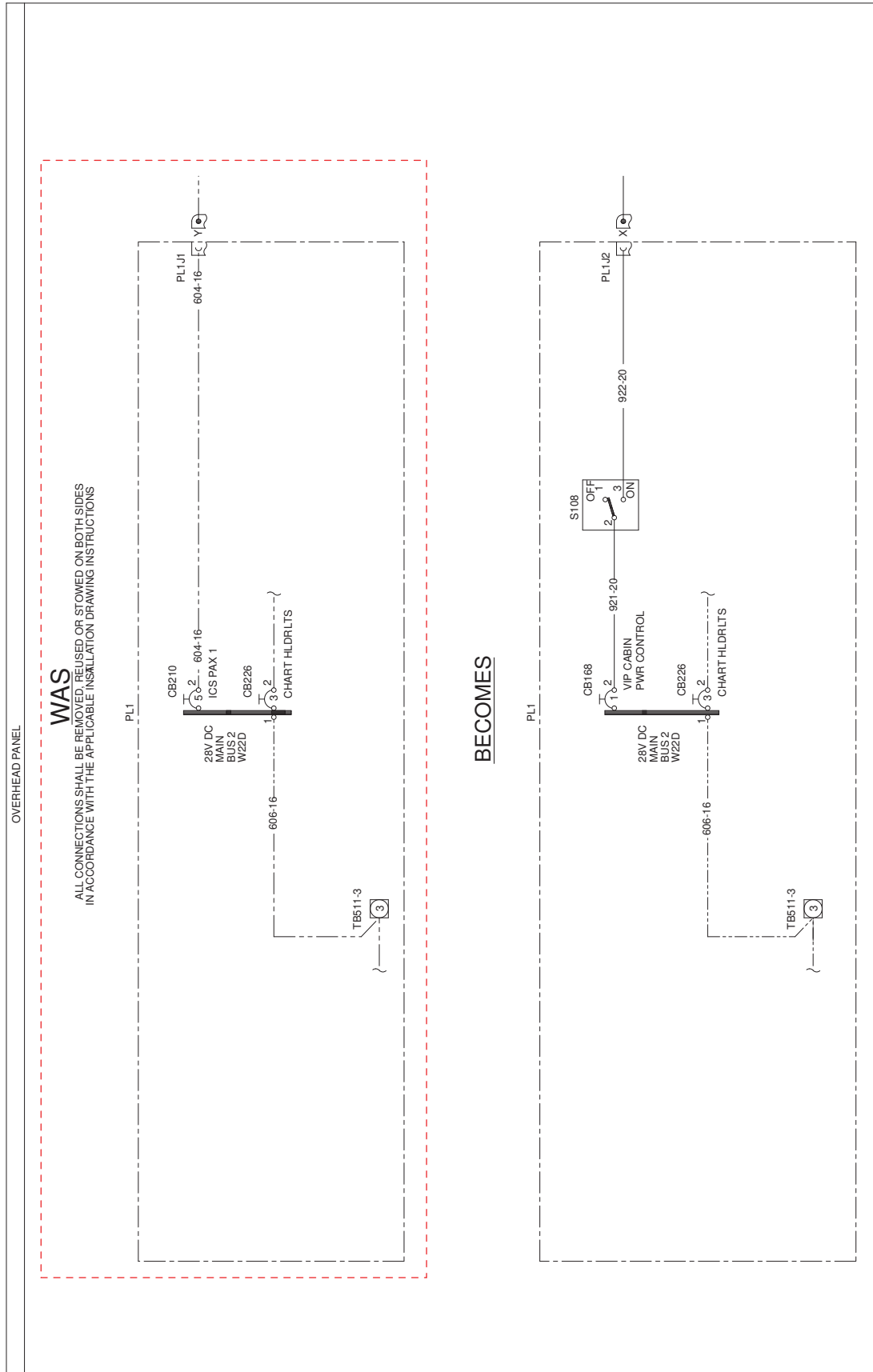
Figure 15



3G2460W08511
WIRING DIAGRAM AUX CB PNL VARIANT
SHEET 1

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOME1/C298 UNLESS SPECIFIED
ALL CABLES ARE OF TYPEA556A-120 UNLESS SPECIFIED

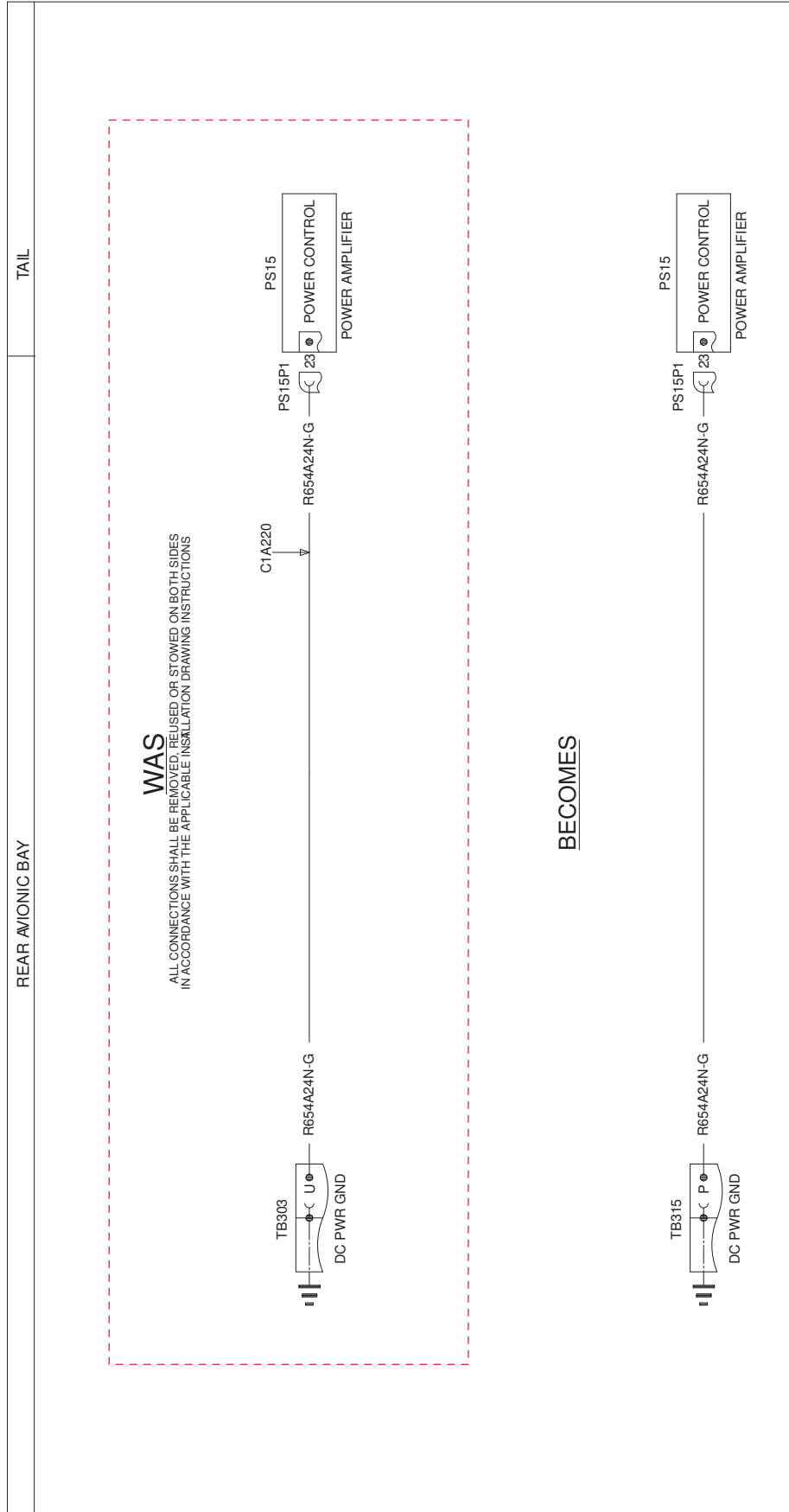
Figure 16



3G2460W08512
WIRING DIAGRAM AUXILIARY CB PANEL VARIANT
SHEET 1

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM E1C298 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A556A-T20 UNLESS SPECIFIED

Figure 18

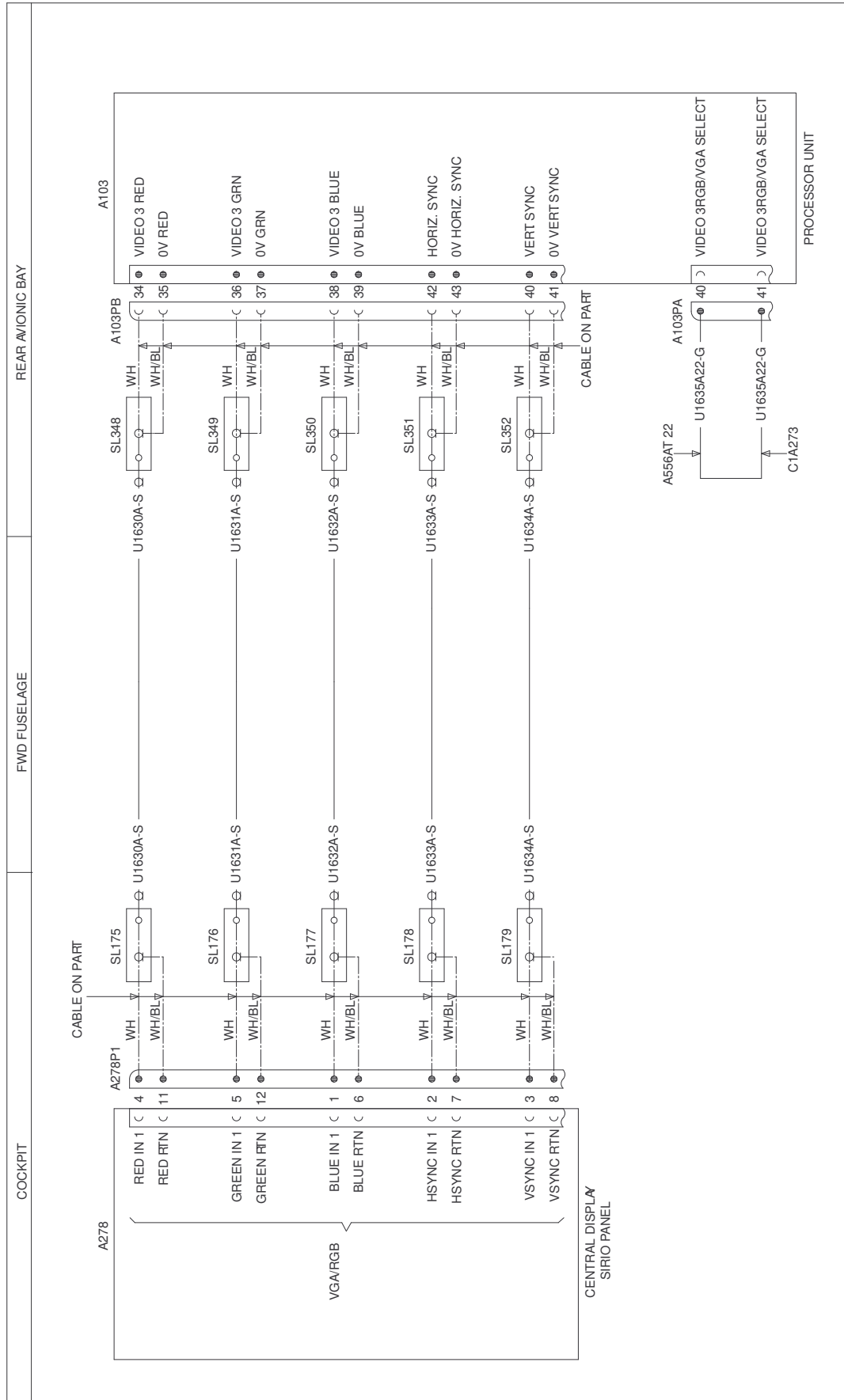


3G4600W10711
WIRING DIAGRAM PAKISTAN ELECT VARIANT
SHEET 1

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOMC1A340 UNLESS SPECIFIED
ALL CABLES ARE OF TYPEA556AT 24 UNLESS SPECIFIED

Figure 19

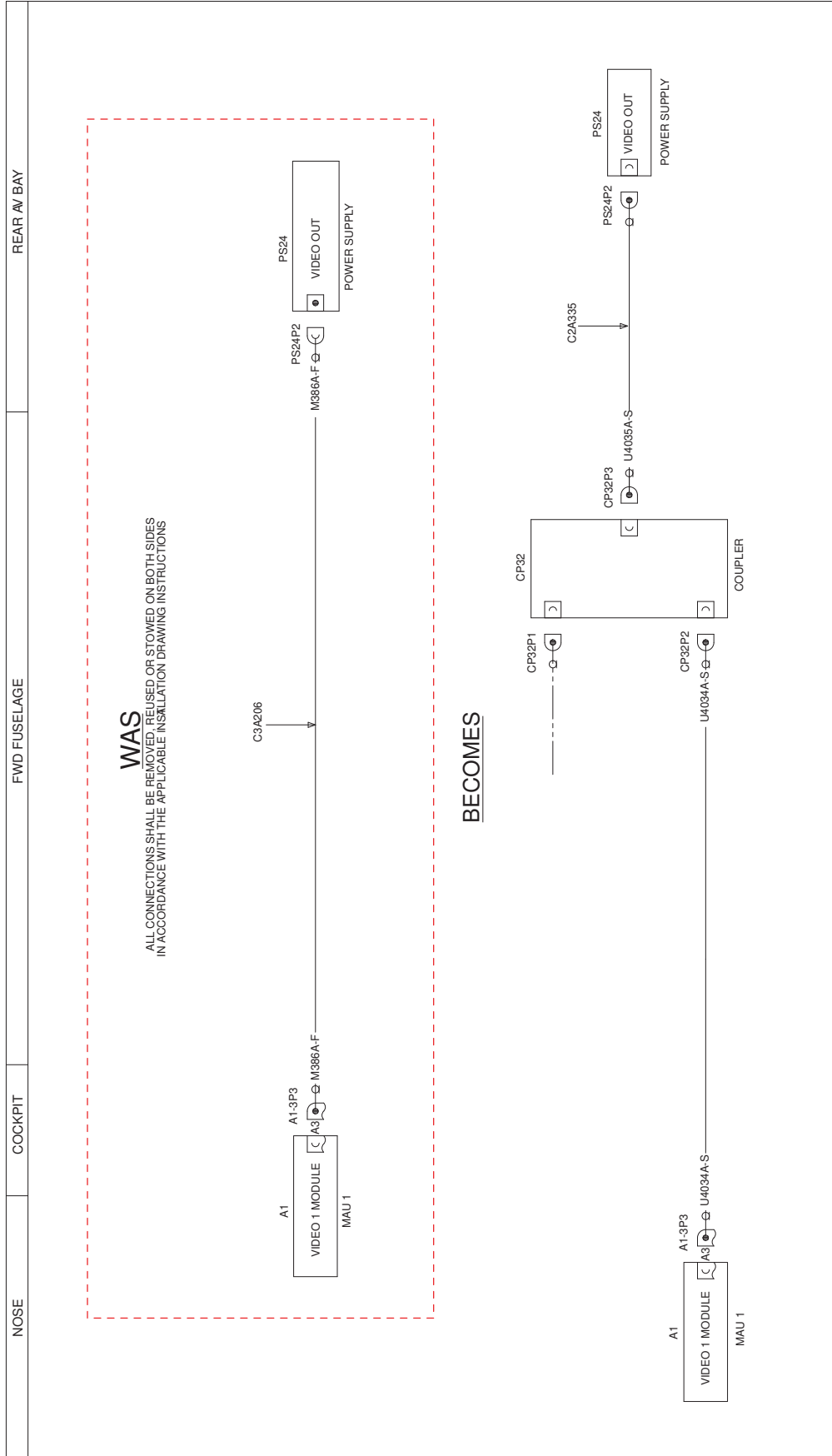
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3G9310W02311
WIRING DIAGRAM DMAP SKYFORCE-DSPL SIRIO PNL I/F
SHEET 1

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOMB2A362 UNLESS SPECIFIED
ALL CABLES ARE OF TYPBM17-94RGT79 UNLESS SPECIFIED

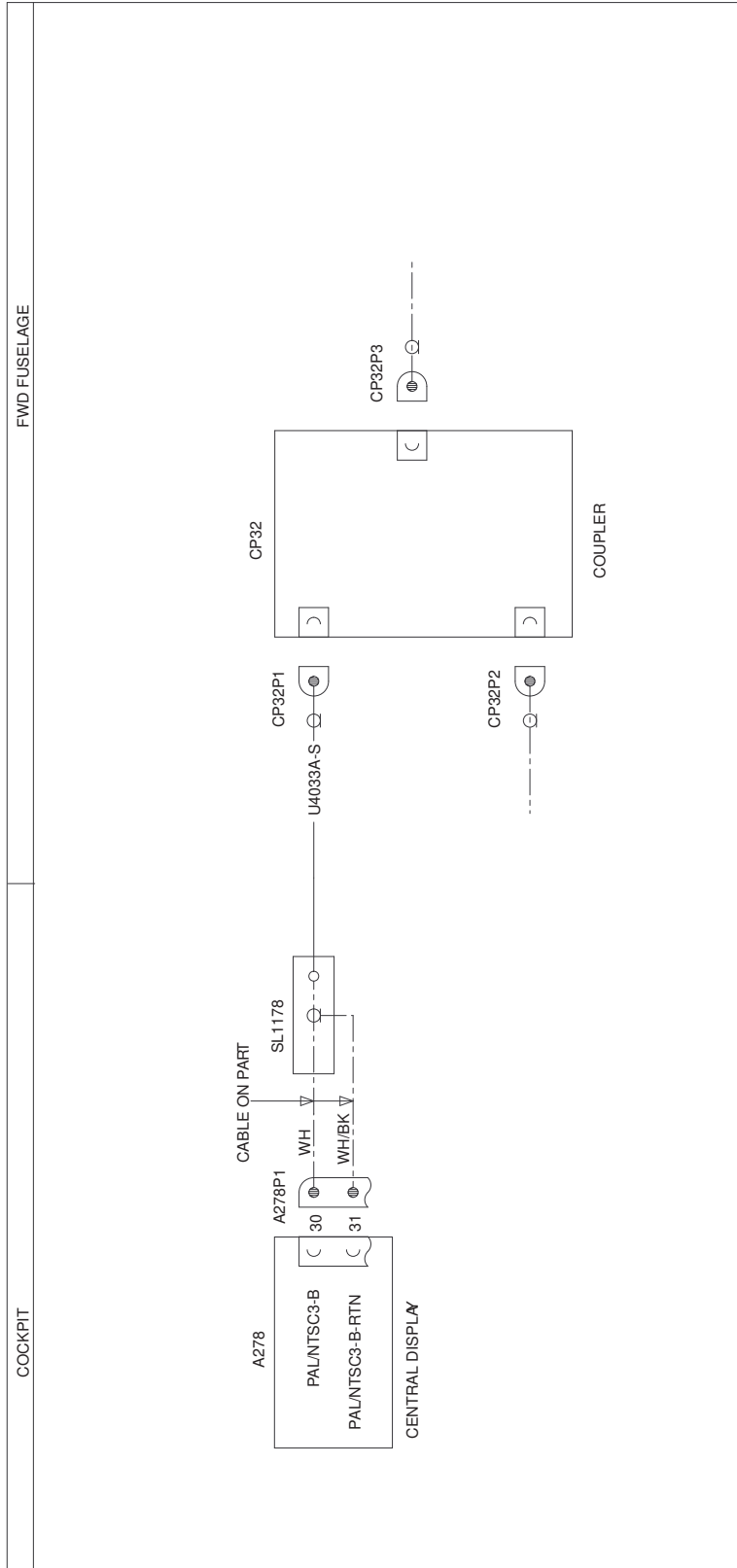
Figure 20



3G9310W10511
WIRING DIAGRAM FIN CAMERA & VIDEO MODULE I/F
SHEET 1

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM A2A431 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE M17-94RG179 UNLESS SPECIFIED

Figure 21



3G9310W10611
WIRING DIAGRAM FIN CAMERA & CENTRAL DISPLAY I/F
SHEET 1

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOMB2A506 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE M17-94RG179 UNLESS SPECIFIED

Figure 22

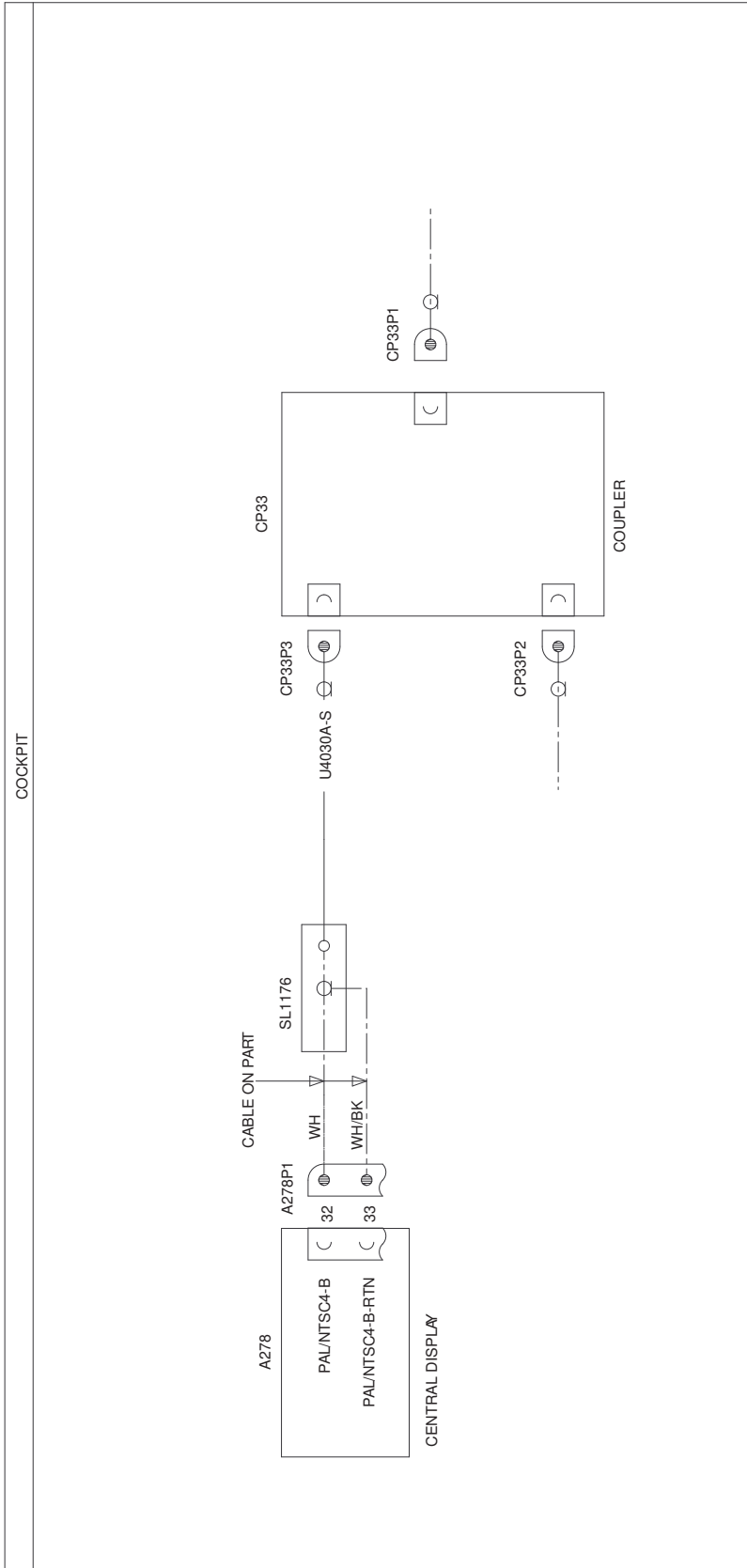
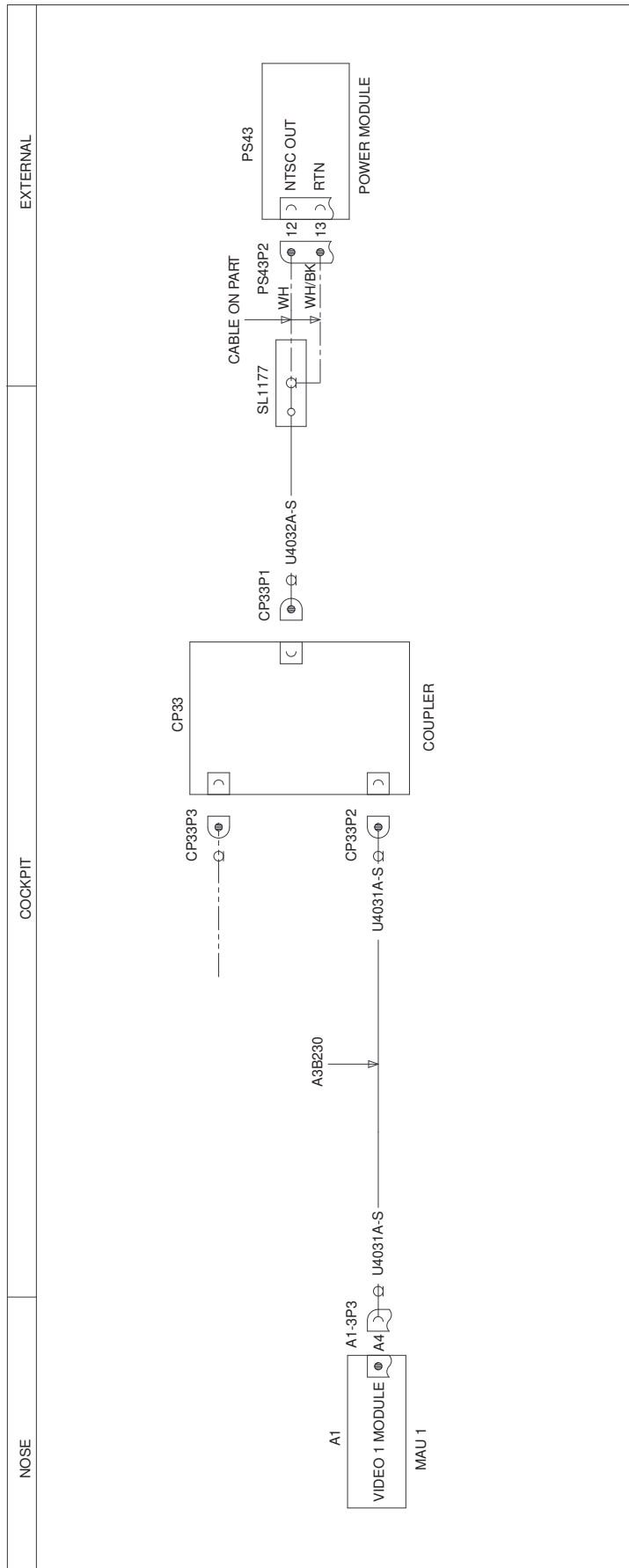


Figure 23

3G9310W10711
WIRING DIAGRAM IIR CAMERA & CENTRAL DISPLAY I/F
SHEET 1

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOMA3B229 UNLESS SPECIFIED
ALL CABLES ARE OF TYPBM17-94RG179 UNLESS SPECIFIED

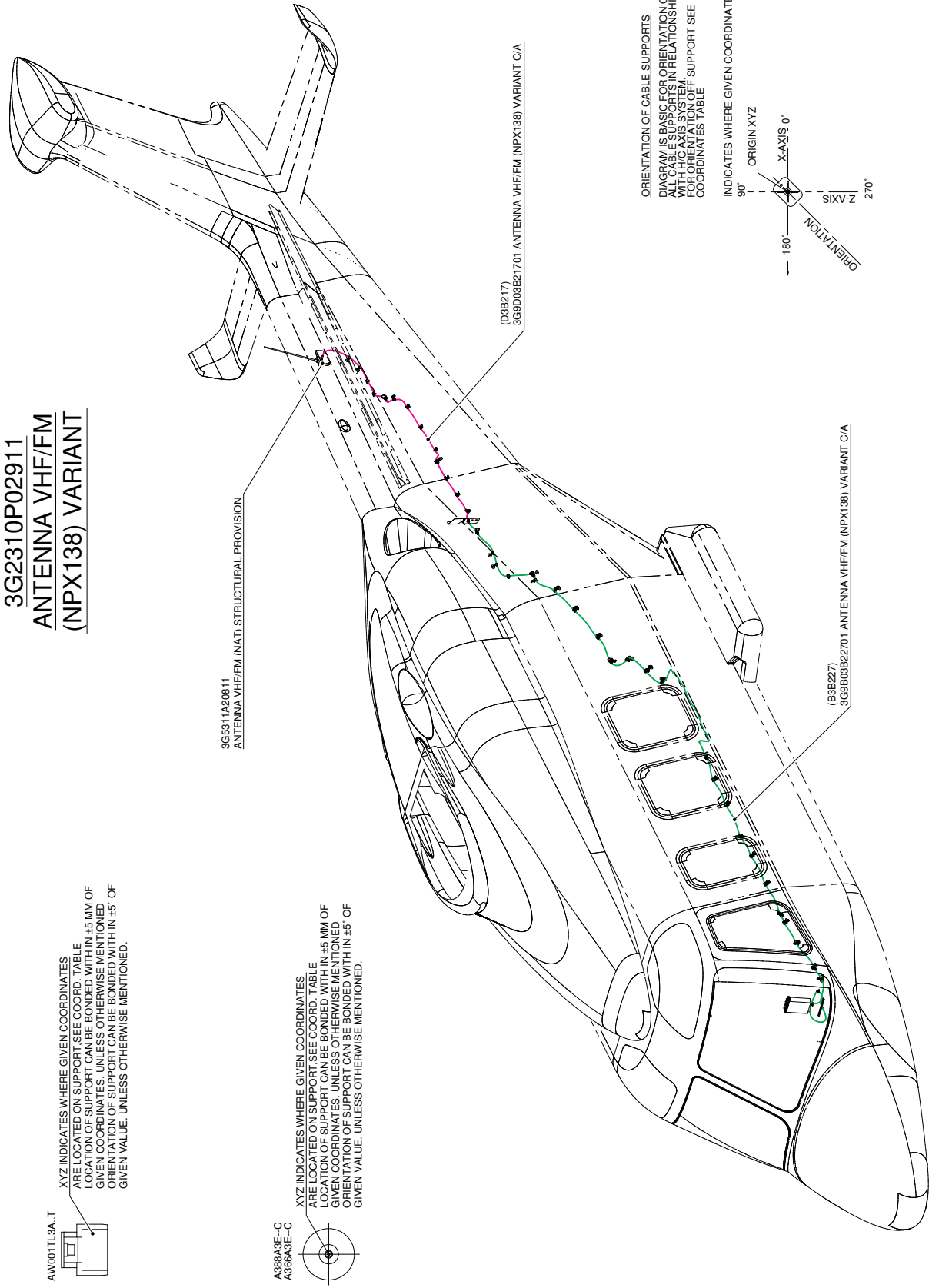


3G9750W01111
WIRING DIAGRAM IR CAMERA & VIDEO MODULE I/F
SHEET 1

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM A3B231 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE M17-94RG179 UNLESS SPECIFIED

Figure 24

3G2310P02911
ANTENNA VHF/FM
(NPX138) VARIANT



AW001TL3A..T

XYZ INDICATES WHERE GIVEN COORDINATES ARE LOCATED ON SUPPORT. SEE COORD. TABLE LOCATION OF SUPPORT CAN BE BONDED WITH IN ± 5 MM OF GIVEN COORDINATES. UNLESS OTHERWISE MENTIONED ORIENTATION OF SUPPORT CAN BE BONDED WITH IN $\pm 5^\circ$ OF GIVEN VALUE. UNLESS OTHERWISE MENTIONED.

A388A3E-C
A388A3E-C

XYZ INDICATES WHERE GIVEN COORDINATES ARE LOCATED ON SUPPORT. SEE COORD. TABLE LOCATION OF SUPPORT CAN BE BONDED WITH IN ± 5 MM OF GIVEN COORDINATES. UNLESS OTHERWISE MENTIONED ORIENTATION OF SUPPORT CAN BE BONDED WITH IN $\pm 5^\circ$ OF GIVEN VALUE. UNLESS OTHERWISE MENTIONED.

ORIENTATION OF CABLE SUPPORTS
DIAGRAM IS BASIC FOR ORIENTATION OF ALL CABLE SUPPORTS IN RELATIONSHIP WITH THE AXIS SYSTEM. SUPPORT COORDINATES TABLE OFF-SUPPORT SEE COORDINATES TABLE

INDICATES WHERE GIVEN COORDINATES

90° ORIGIN XYZ
X-AXIS 0°
Z-AXIS
180°
ORIENTATION
270°

Figure 25

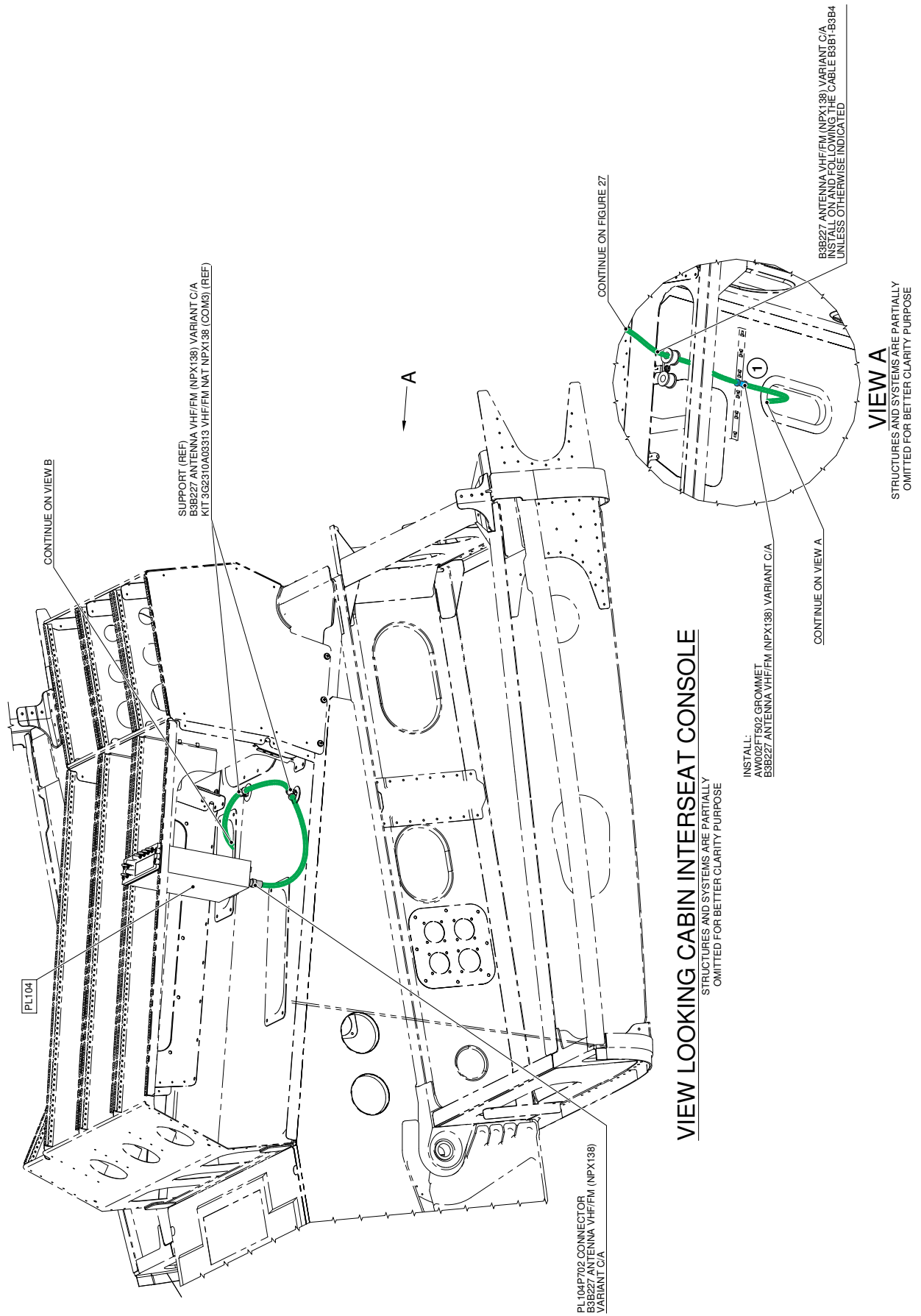


Figure 26

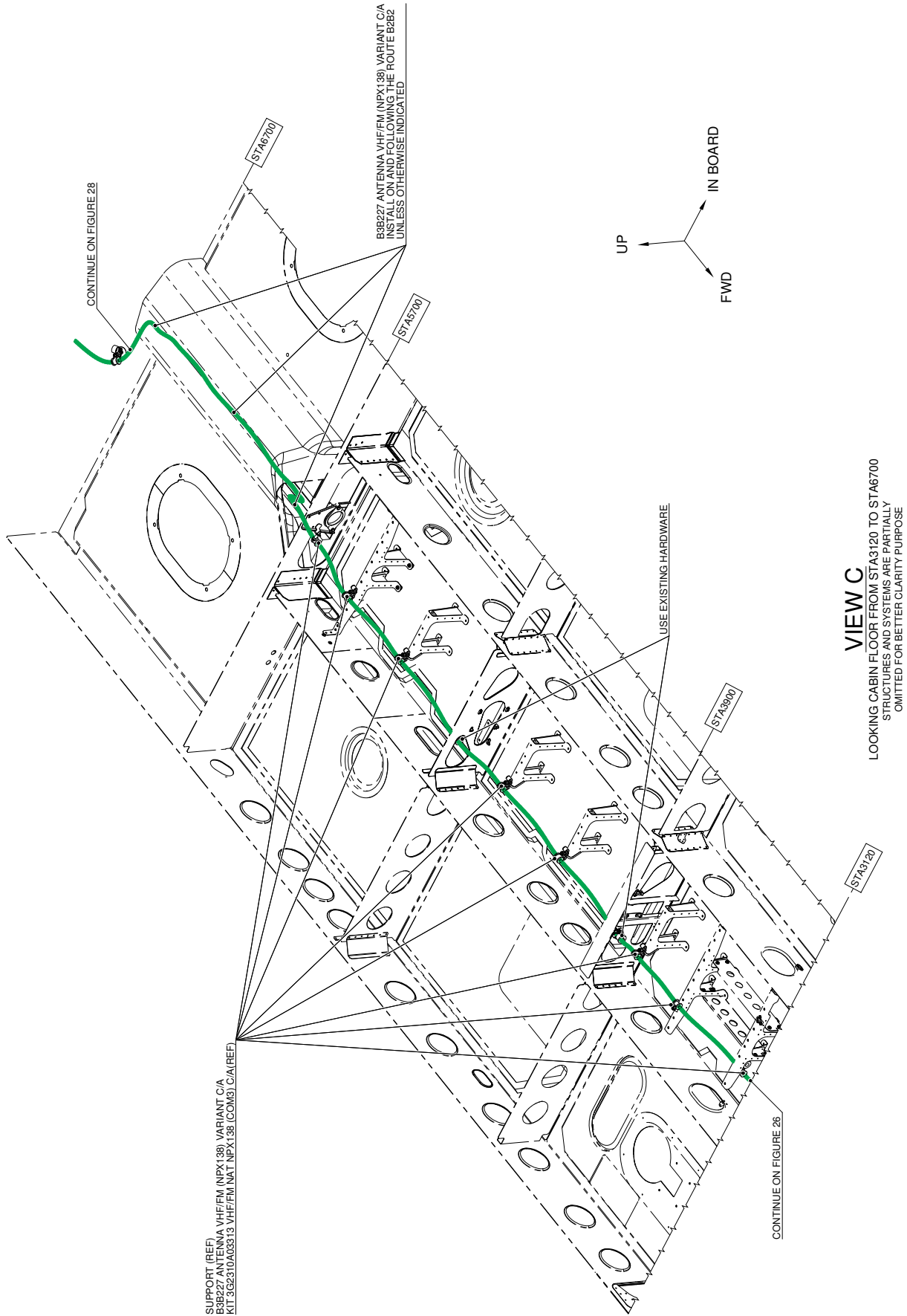


Figure 27

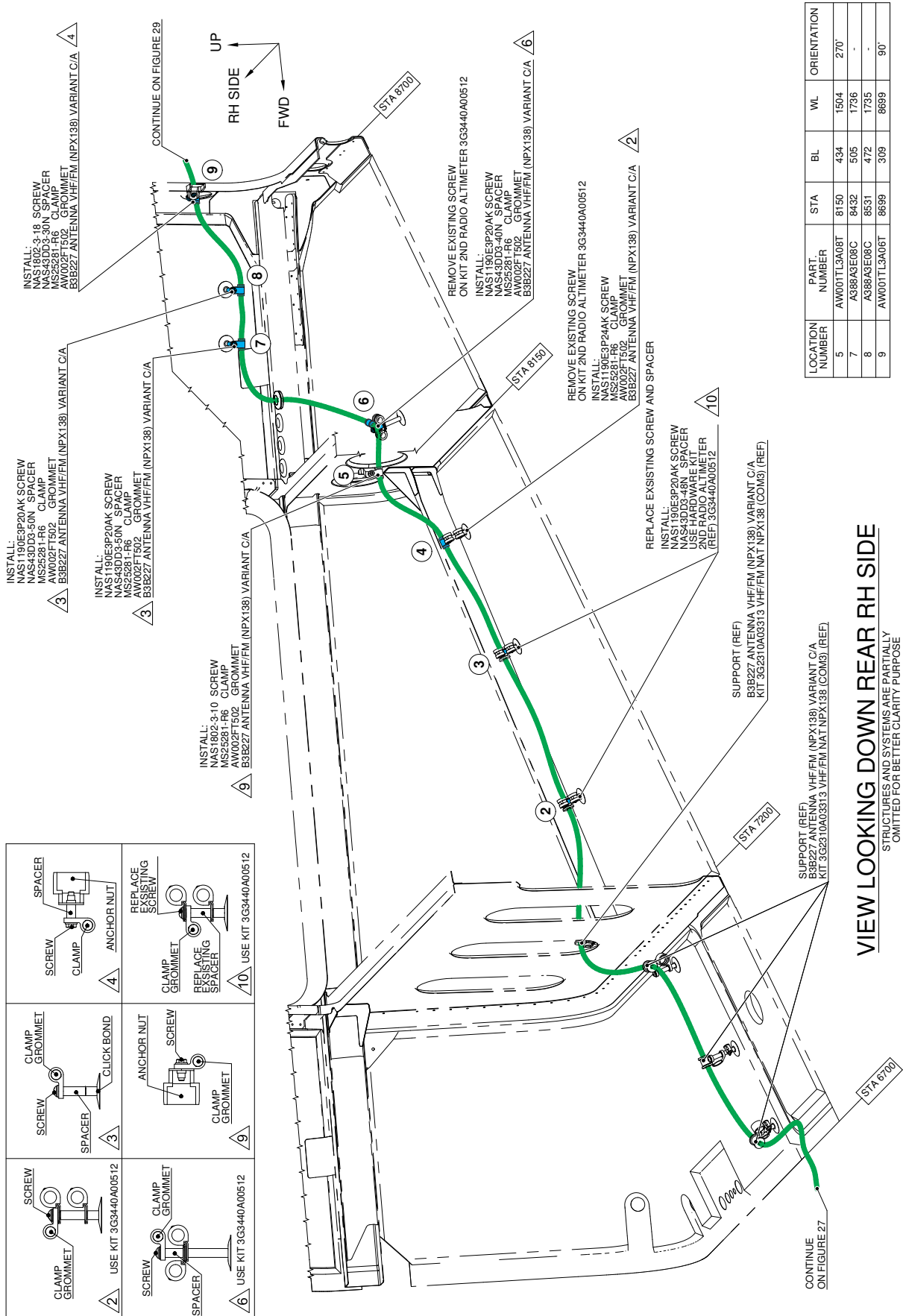
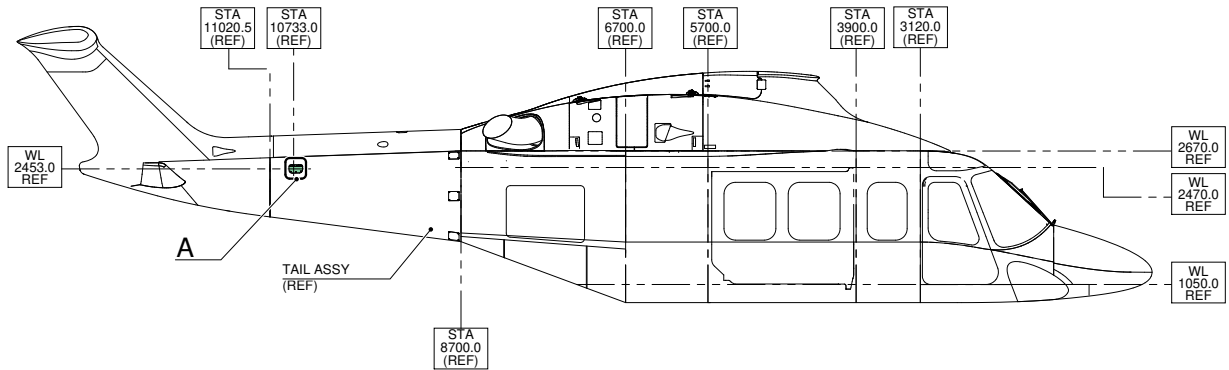


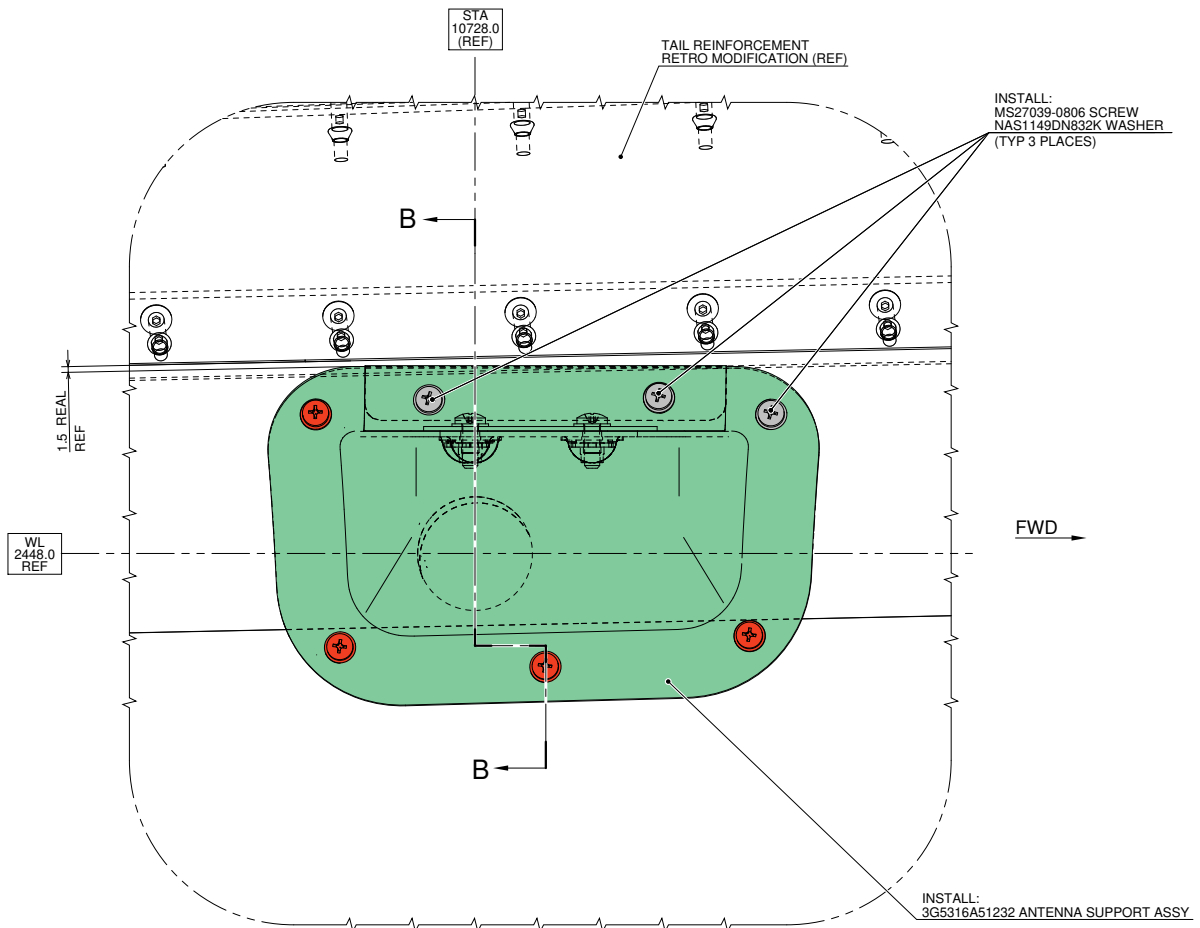
Figure 28

**3G5311A20811
ANTENNA VHF/FM
STRUCTURAL PROVISION
(PLUS TAIL)**



VIEW LOOKING INBOARD RIGHT SIDE

STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE



DETAIL A

STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

Figure 30

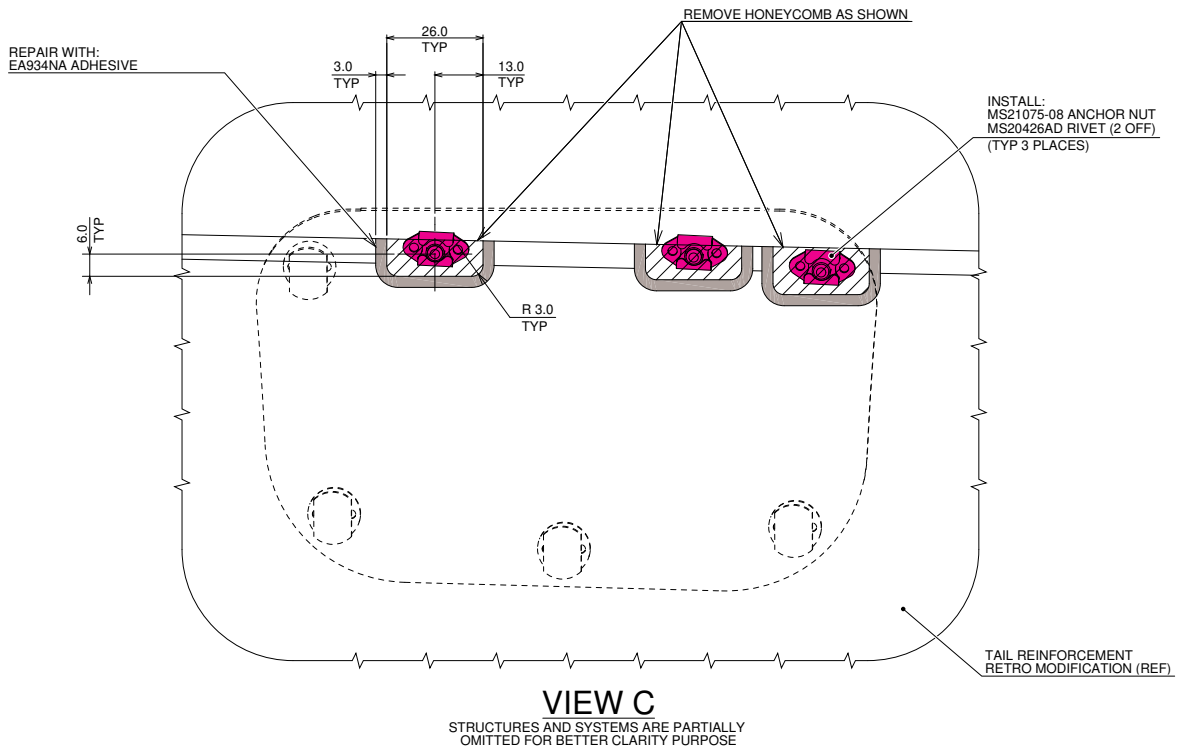
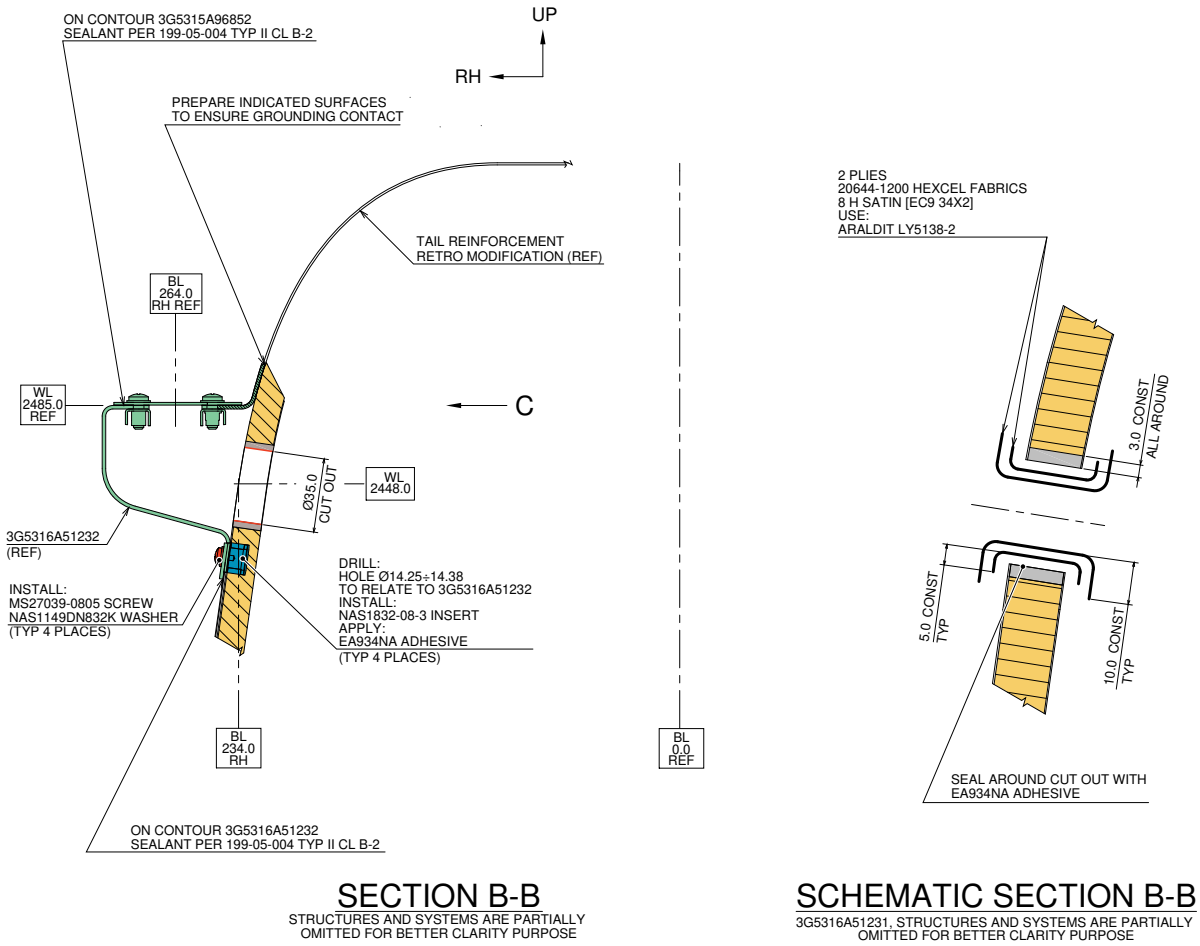
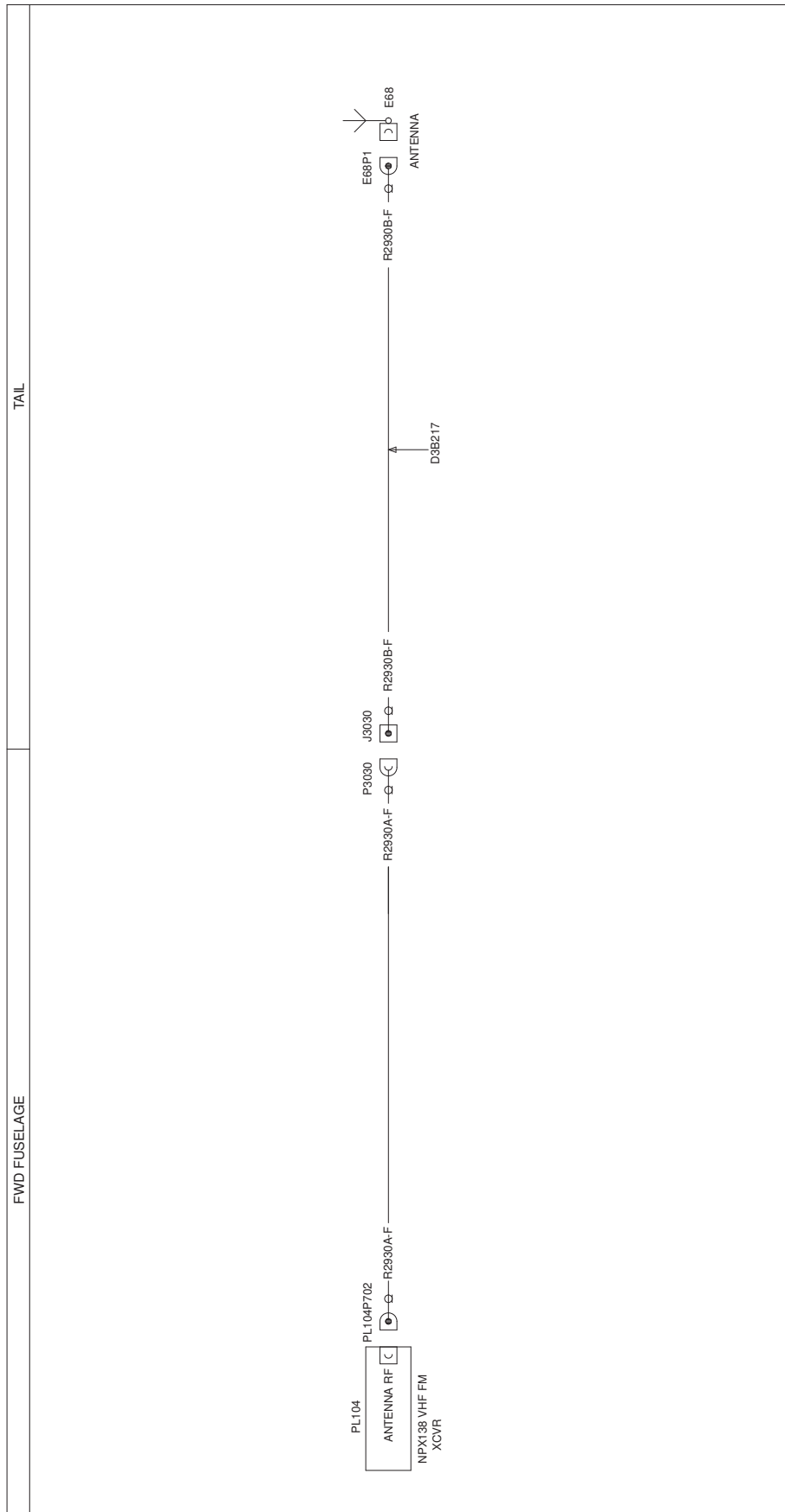


Figure 31

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3G2310W04011
WIRING DIAGRAM VHF/FM (NFX138) VARIANT

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM B3B227 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE M17-128RG400 UNLESS SPECIFIED

Figure 32

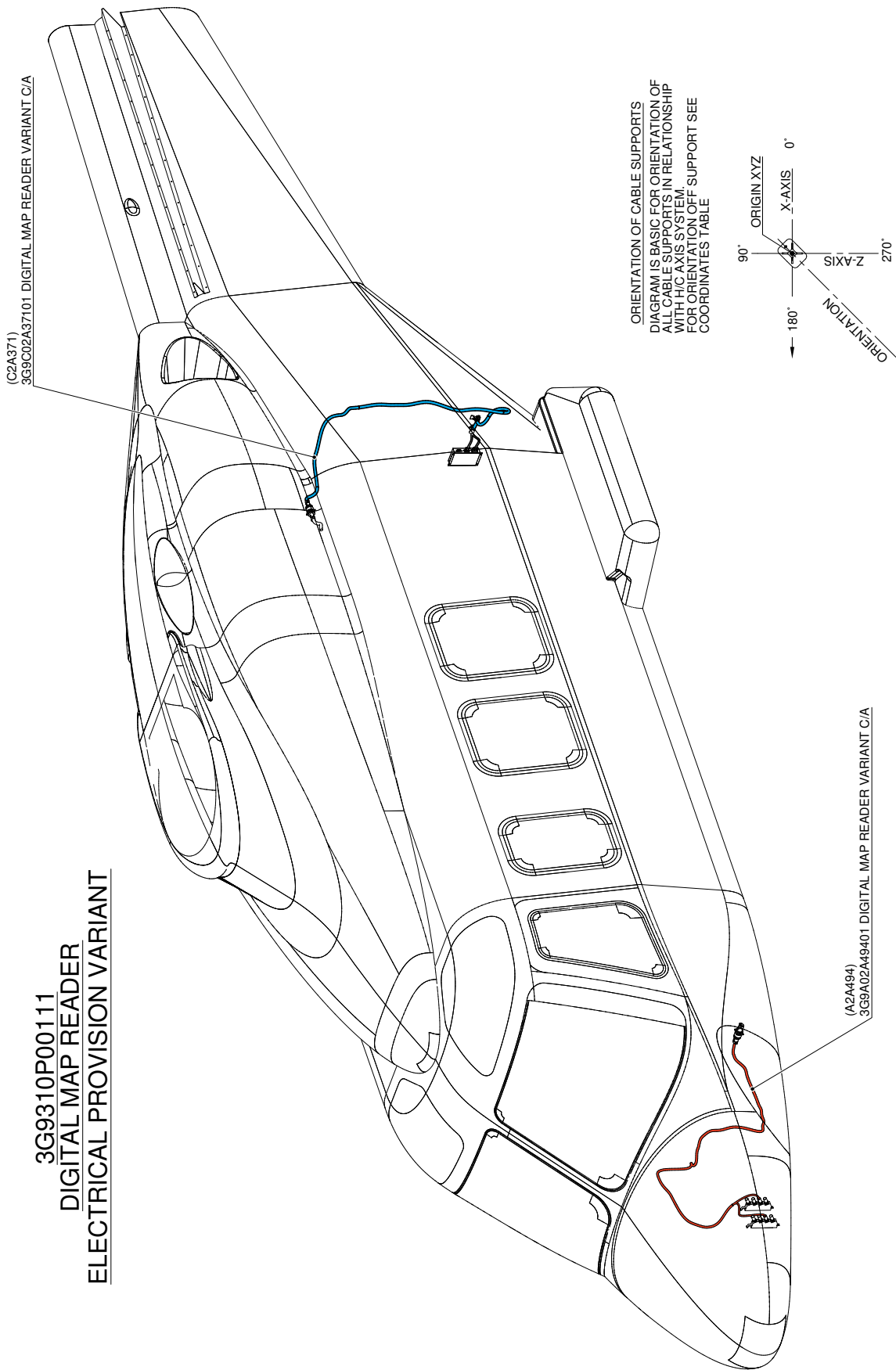


Figure 33

S.B. N°139-496
DATE: November 17, 2021
REVISION: /

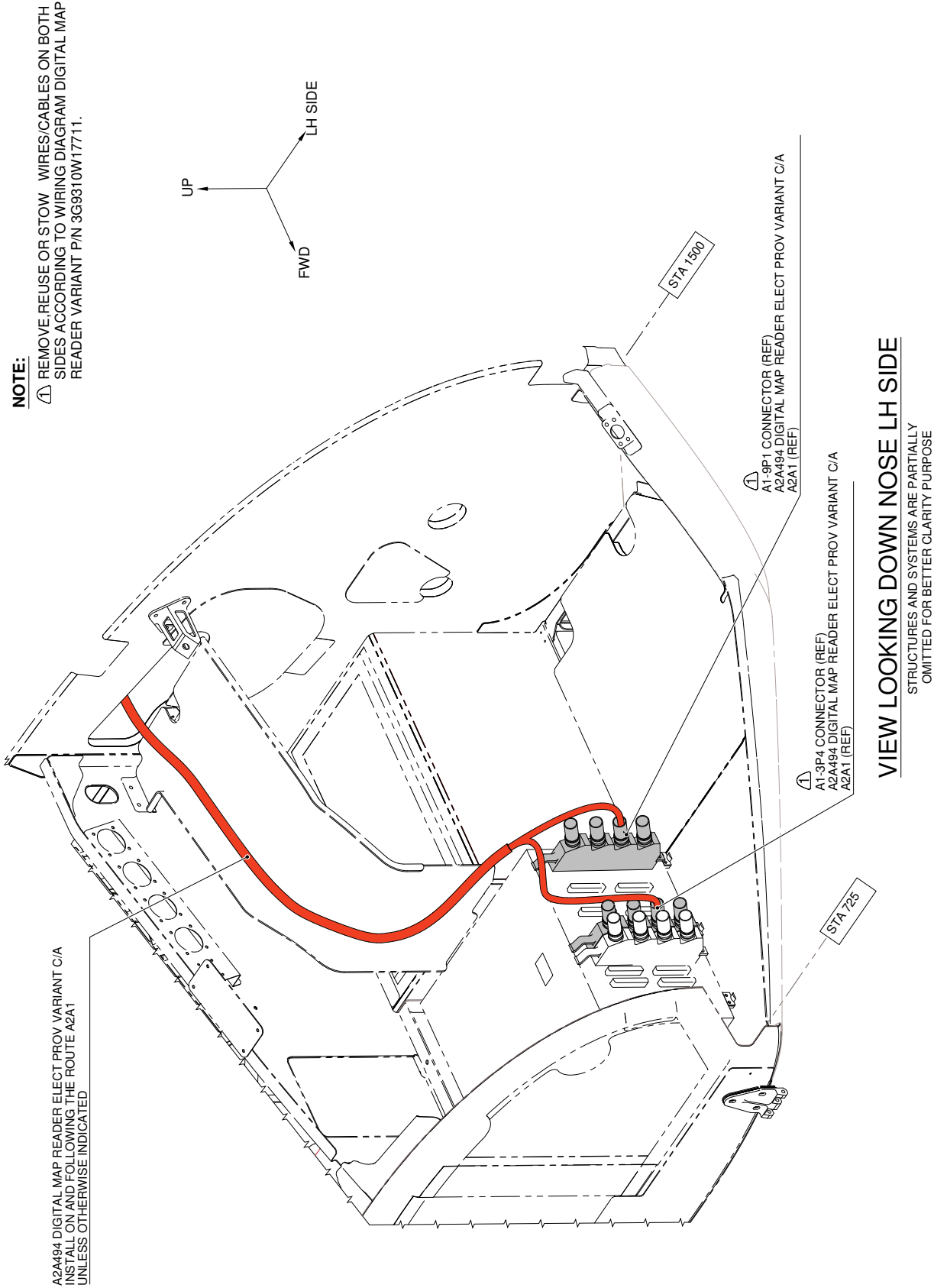


Figure 34

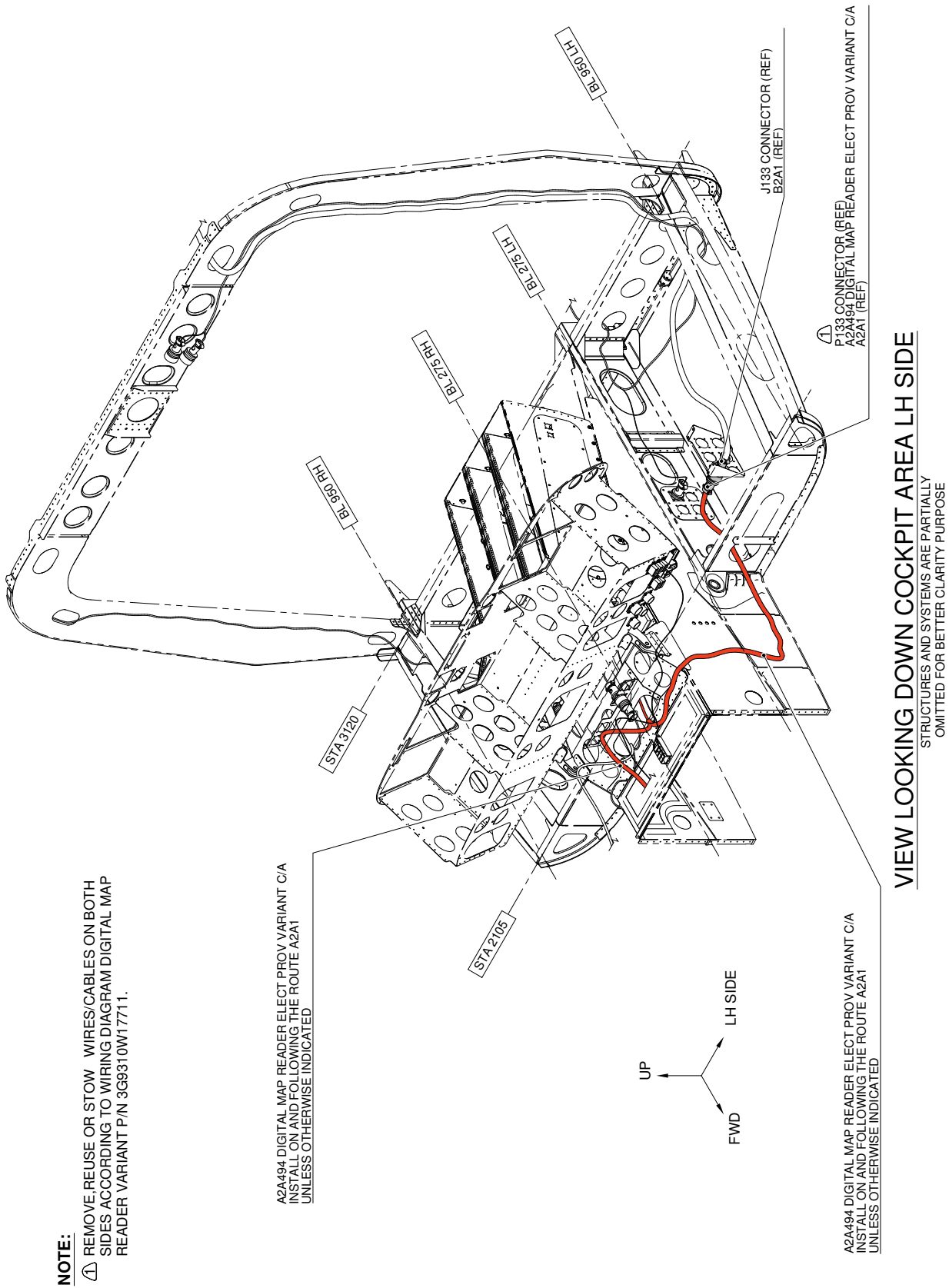


Figure 35

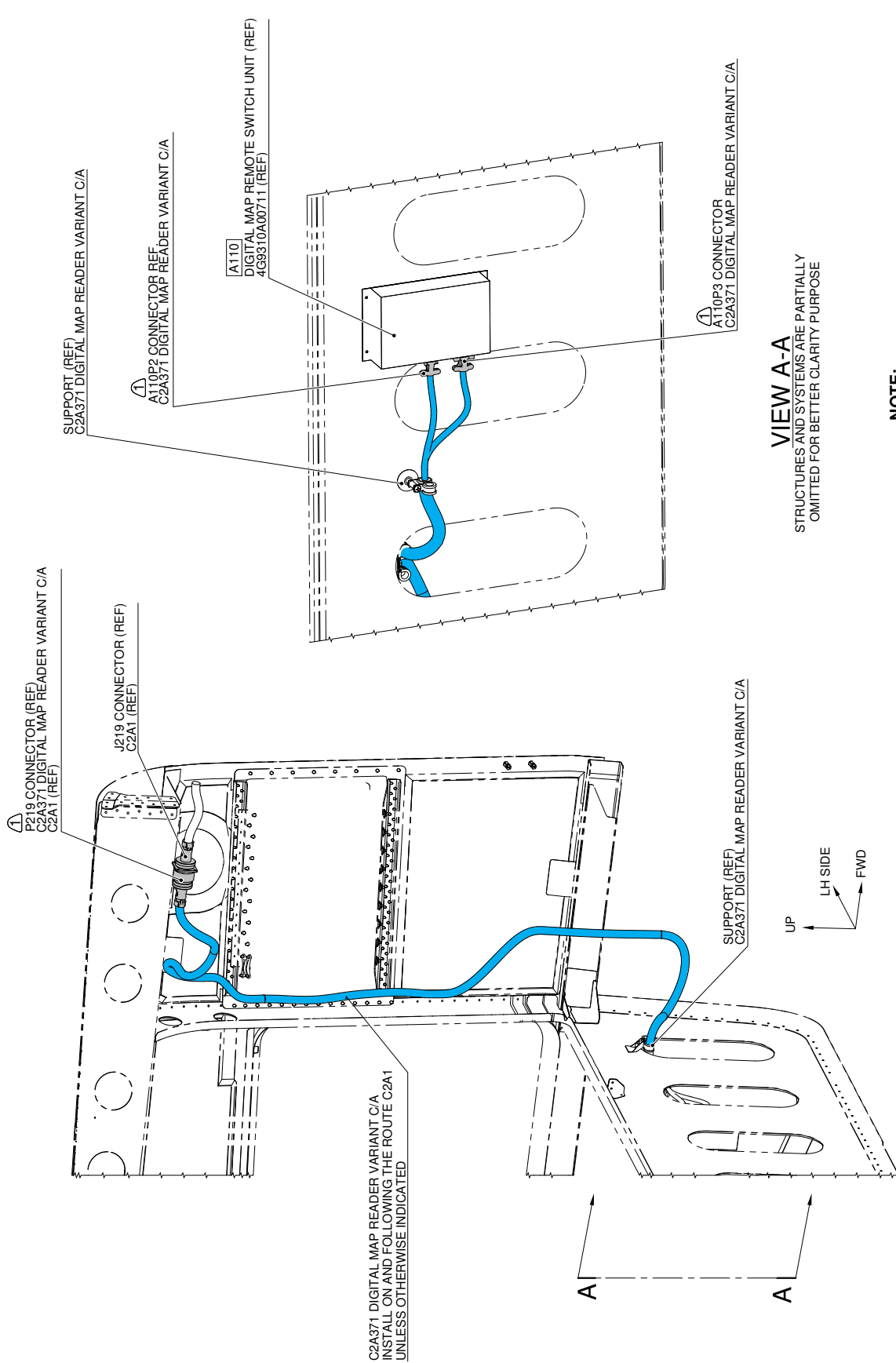
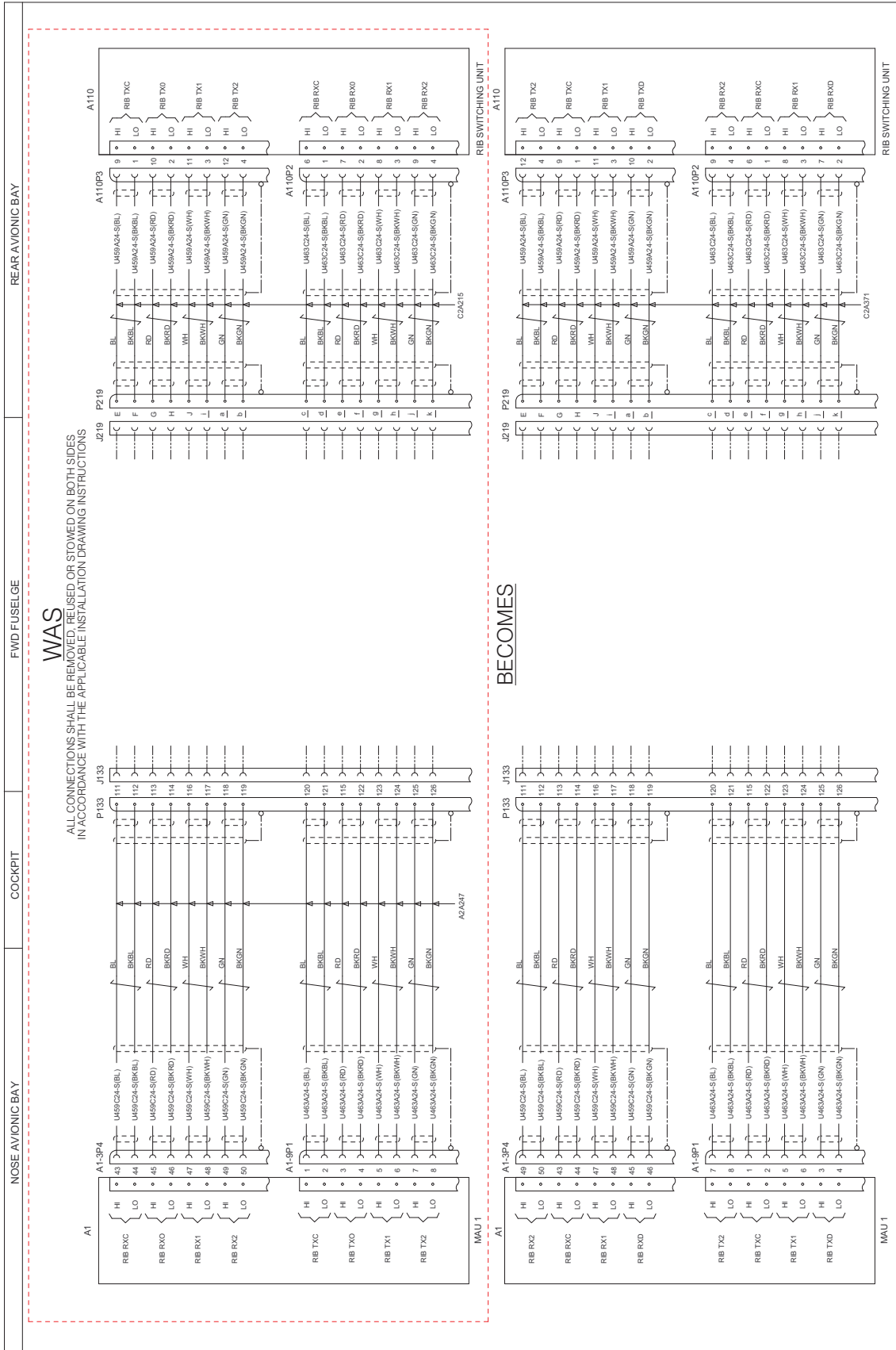


Figure 36



WAS
ALL CONNECTIONS SHALL BE REMOVED, REUSED OR STOWED ON BOTH SIDES
IN ACCORDANCE WITH THE APPLICABLE INSTALLATION DRAWING INSTRUCTIONS

BECOMES

3G9310W17711

WIRING DIAGRAM DIGITAL MAP READER VARIANT

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM A2A494 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE D100-082402T01 UNLESS SPECIFIED

Figure 37

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.					