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AgustaWestland Products

SERVICE BULLETIN

OPTIONAL

N° 139-611

DATE: May 30, 2024

REV. : /

TITLE

ATA 93 – INSTALLATION OF BMS VIDEO DOWNLINK

REVISION LOG

First Issue

1. PLANNING INFORMATION

A. EFFECTIVITY

AB139/AW139 helicopters from S/N 31005 to S/N 31157, except S/N 31007, and from S/N 41001 to S/N 41023.

B. COMPLIANCE

At Customer's option.

C. CONCURRENT REQUIREMENTS

N.A.

D. REASON

This Service Bulletin is issued in order to provide the necessary instructions on how to perform the installation of the BMS video downlink P/N 4G9300F01512.

LH issued this SB for the following reason:

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

E. DESCRIPTION

Installation of BMS video downlink system contained in this Service Bulletin is composed by a Heli-coder transmitter installed under the floor of the rear avionic bay, a Downlink RF Antenna installed on the belly of the helicopter and a Downlink control panel installed in the interseat console. To connect all these parts, cable assy shall be laid down from the tail, through the rear avionic bay and the floor and to the cockpit.
In order to properly use kit BMS Video Downlink an avionic customization is needed.

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 LH 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 ninety-six (96) MMH are deemed necessary.

MMH are based on hands-on time and can change with 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

NOTE

Consider weight and balance data contained in the following table only if kit BMS downlink has to be installed with BMS video downlink GPS antenna P/N 3G9300A04411 (refer to 2.A.1. PARTS).

NOTE

Weight and balance data contained in the following table refer to all parts installed except for DLC50N control panel P/N 8714395003, HC4 transmitter P/N 8614521202, mounting tray P/N 8014521010 and Downlink antenna P/N 1201325240.

WEIGHT (Kg)	2.245	
	ARM (mm)	**MOMENT (Kgmm)**
LONGITUDINAL BALANCE	7763.9	17430
LATERAL BALANCE	-219.3	-492.3

NOTE

Consider weight and balance data contained in the following table only if kit BMS downlink has to be installed with BMS video downlink variant electrical provision P/N 3G4600P01111 (refer to 2.A.1. PARTS).

NOTE

Weight and balance data contained in the following table refer to all parts installed except for DLC50N control panel P/N 8714395003, HC4 transmitter P/N 8614521202, mounting tray P/N 8014521010 and Downlink antenna P/N 1201325240.

WEIGHT (Kg)	1.9	
	ARM (mm)	**MOMENT (Kgmm)**
LONGITUDINAL BALANCE	7270,9	13814,7
LATERAL BALANCE	-249,3	-473,7

NOTE

Weight and balance data contained in the following table refer to DLC50N control panel P/N 8714395003, HC4 transmitter P/N 8614521202, mounting tray P/N 8014521010 and Downlink antenna P/N 1201325240.

WEIGHT (Kg)	4.130	
	ARM (mm)	**MOMENT (Kgmm)**
LONGITUDINAL BALANCE	6941,4	28668,0
LATERAL BALANCE	-225,2	-930,1

I. REFERENCES

I.1 PUBLICATIONS

Following Data Modules refer to AMP:

DATA MODULE		**DESCRIPTION**	**PART**
DM01	39-A-00-20-00-00A-120A-A	Helicopter on ground for a safe maintenance	-
DM02	39-A-06-41-00-00A-010A-A	Access doors and panels - General data	-

DATA MODULE		DESCRIPTION	PART
DM03	39-A-11-00-01-00A-720A-A	Decal - Install procedure	-
DM04	39-D-23-63-00-00A-320A-K	Video down-link system - Operation test	-
DM05	39-D-23-63-02-00A-720A-K	Encoder/modulator - Install procedure	-
DM06	39-D-23-63-03-00A-720A-K	Antenna - Install procedure	-
DM07	39-D-23-63-04-00A-720A-K	GPS antenna - Install Procedure	-
DM08	39-A-20-10-08-00A-622A-A	Electrical contacts - Crimp	-
DM09	39-A-20-10-18-00A-691A-A	Electrical wires and cables - Marking	-

Following Data Modules refer to CSRP:

DATA MODULE		DESCRIPTION	PART
DM10	CSRP-A-51-21-06-00A-644A-D	Chromate conversion treatments of alluminium alloys – Chromate	-
DM11	CSRP-A-51-21-02-02A-257A-D	Waterborne chromate free primer (AWMS28-002) – Paint and apply marking	-

I.2 ACRONYMS & ABBREVIATIONS

AMDI	Aircraft Material Data Information
AMP	Aircraft Maintenance Publication
C/A	Cable Assembly
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
LHD	Leonardo Helicopters Division
MMH	Maintenance-Man-Hours

I.3 ANNEX

Annex A EMC Test Procedure for BMS.

J. PUBLICATIONS AFFECTED

N.A.

K. SOFTWARE ACCOMPLISHMENT SUMMARY

N.A.

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

A.1 PARTS

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	**4G9300F01512**		**KIT BMS VIDEO DOWNLINK**	**REF**	.		-
2	**3G9300A04012**		**BMS VIDEO DOWNLINK INSTALLATION**	**REF**	..		-
3	8714395003		DLC50N control panel	1	…		139-611L1
4	ED300PL197		Decal	1	…		139-611L1
5	MS25281-R13		Clamp	5	…		139-611L1
6	MS21919WDG4		Clamp	5	…		139-611L1
7	MS21919WDG2		Clamp	5	…		139-611L1
8	MS25281-R6		Clamp	5	…		139-611L1
9	AW002FT1		Grommet	6	…		139-611L1
10	AW002FT102		Grommet	5	…		139-611L1
11	NAS1801-3-16		Screw	5	…		139-611L1
12	NAS1149D0332J		Washer	5	…		139-611L1
13	8614521202		Heli-coder 4 transmitter	1	…		139-611L1
14	ED300A580		Decal	1	…		139-611L1
15	8014521010		Mounting tray	1	…		139-611L1
16	LN29943-06003	LN29943-06003C	Bolt	4	…		139-611L1
17	AW007TZ-06		Washer	4	…		139-611L1
18	999-7000-20-107	120-055-1-5	Bonding cable	1	…		139-611L1
19	AW001CL509-N6	MS3340-1-9	Mount tie	3	…		139-611L1
20	NAS1720H5L4A	AGS4719-512	Rivet	6	…		139-611L1
21	A388A3E22C		Stud	5	…		139-611L1
22	AW001CL001-N6		Support	2	…		139-611L1
23	1201325240		Downlink antenna	1	…		139-611L1
24	ED300E160		Decal	1	…		139-611L1
25	NAS1802-3-9		Screw	4	…		139-611L1
26	NAS1149D0316J		Washer	4	…		139-611L1
27	999-0500-85-19		Plate assy	1	…		139-611L1
28	MS27039-1-06		Screw	8	…		139-611L1
29	NAS1149D0332K		Washer	8	…		139-611L1
30	3G5318A14731		Support assy	1	…	(1)	-
31	**3G5311A26212**		**BMS STRUCTURAL PROVISION**	**REF**	**…**		**-**
32	3G5317A76431		Antenna support assy	1	….		139-611L1
33	3G5318A15051		Bonding layer	1	….	(2)	-
34	999-5000-30-109		Insert	8	….		139-611L1
35	MS20470AD4-7		Rivet	0.1 kg	….		139-611L1
36	MS27039-0805		Screw	5	….		139-611L1
37	NAS1149DN832K		Washer	5	….		139-611L1
38	NAS1832-08-3		Insert	5	….		139-611L1
39	**3G9B01L15201**		**BMS VIDEO DOWNLINK C/A (B1L152)**	**REF**	**…**		**-**
40	A556A-T20		Wire	10 m	….		139-611L1
41	A556A-T22		Wire	1 m	….		139-611L1
42	M39029/56-351		Electrical contact	2	….		139-611L1
43	M39029/58-363		Electrical contact	1	….		139-611L1
44	M39029/64-369		Electrical contact	1	….		139-611L1
45	M81824/1-2		Splice	1	….		139-611L1
46	PT06E-12-4S(SR)		Electrical connector	1	….		139-611L1

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
47	**3G9B02L15501**		**BMS VIDEO DOWNLINK C/A (B2L155)**	**REF**	**...**		**-**
48	A561A-T1-20		Wire	35 m	....		139-611L1
49	A561A-T3-20		Wire	30 m	....		139-611L1
50	250-8501-010		Screw	2	....		139-611L1
51	DB121073-151		Backshell	1	....		139-611L1
52	M23053/8-004-C		Insulating sleeve	4	....		139-611L1
53	M23053/8-005-C		Insulating sleeve	1	....		139-611L1
54	M24308/4-3F		Electrical connector	1	....		139-611L1
55	M39029/56-351		Electrical contact	7	....		139-611L1
56	M39029/64-369		Electrical contact	7	....		139-611L1
57	**3G9C02A44801**		**BMS VIDEO DOWNLINK C/A (C2A448)**	**REF**	**...**		**-**
58	A561A-T1-20		Wire	8 m	....		139-611L1
59	A561A-T3-20		Wire	8 m	....		139-611L1
60	M23053/8-004-C		Insulating sleeve	8	....		139-611L1
61	M23053/8-005-C		Insulating sleeve	2	....		139-611L1
62	M39029/5-115		Electrical contact	7	....		139-611L1
63	M39029/58-363		Electrical contact	7	....		139-611L1
64	MS3476W12-10S		Electrical connector	1	....		139-611L1
65	A529A300-1202C		Cable clamp	1	....		139-611L1
66	A529A390-1202		Adapter	1	....		139-611L1
67	**3G9C03A33601**		**BMS VIDEO DOWNLINK C/A (C3A336)**	**REF**	**...**		**-**
68	LMR400FR		Wire	1.5 m	....		139-611L1
69	TC-400-NMH-RA-D		Coaxial connector	1	....		139-611L1
70	TC-400-SM		Coaxial connector	1	....		139-611L1
71	**3G9C01A38301**		**BMS VIDEO DOWNLINK C/A (C1A383)**	**REF**	**...**		**-**
72	A528A3A12		Shield	1	....		139-611L1
73	A556A-T20		Wire	5 m	....		139-611L1
74	M39029/5-116		Electrical contact	2	....		139-611L1
75	M39029/56-351		Electrical contact	1	....		139-611L1
76	M39029/58-363		Electrical contact	1	....		139-611L1
77	MS3476W12-3S		Connector	1	....		139-611L1
78	**3G4600P01111**		**BMS VIDEO DOWNLINK VARIANT ELECT PROV**	**REF**	**..**	**(3)**	
79	7-397-3-3		Splitter	1	...		139-611L2
80	NAS1802-3-6		Screw	1	...		139-611L2
81	NAS1802-3D6		Screw	1	...		139-611L2
82	ED300CP301-ME		Decal	1	...		139-611L2
83	NAS43DD3-50N		Spacer	4	...		139-611L2
84	MS25281-R13		Clamp	8	...		139-611L2
85	AW002FT103		Grommet	8	...		139-611L2
86	NAS43DD3-27N		Spacer	2	...		139-611L2
87	NAS43DD3-36N		Spacer	3	...		139-611L2
88	MS21919WDG21	MS25281-R18	Clamp	1	...		139-611L2
89	AW002FT101		Grommet	2	...		139-611L2
90	A366A3E10C		Stud	2	...		139-611L2
91	MS25281-R6		Clamp	2	...		139-611L2
92	AW002FT102		Grommet	2	...		139-611L2
93	NAS1149D0332J		Washer	4	...		139-611L2
94	MS21042L3		Nut	2	...		139-611L2
95	A631A01B		Support	4	...		139-611L2
96	**3G5311A45511**		**GPS COUPLER STRUCTURAL PROVISION**	**REF**	**...**	**(3)**	**-**
97	NAS1836-3-13		Insert	2	....		139-611L2

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
98	**3G9C03B32101**		**BMS DOWNLINK GPS ANT VARIANT C/A (C3B321)**	**REF**	**...**	**(3)**	**-**
99	S86208		Wire	1 m	....		139-611L2
100	190808		Coaxial connector	1	....		139-611L2
101	190821		Coaxial connector	1	....		139-611L2
102	**3G9C03A33801**		**BMS DOWNLINK GPS ANT VARIANT C/A (C3A338)**	**REF**	**...**	**(3)**	**-**
103	S86208		Wire	3 m	....		139-611L2
104	190808		Coaxial connector	1	....		139-611L2
105	190812		Coaxial connector	1	....		139-611L2
106	**3G9C03A33901**		**BMS DOWNLINK GPS ANT VARIANT C/A (C3A339)**	**REF**	**...**	**(3)**	**-**
107	S86208		Wire	3 m	....		139-611L2
108	190808		Coaxial connector	1	....		139-611L2
109	190809		Coaxial connector	1	....		139-611L2
110	3G2490LXXXXX		Integrally Light Auxiliary C/B Panel	1	.	(5)	-
111	MS3320-5		Circuit breaker	1	.		139-611L1
112	ED300CB578		Decal	1	.		139-611L1
113	A556A-T20		Wire	1 m	.		139-611L1
114	MS25036-149		Electrical contact	1	.		139-611L1
115	M39029/56-351		Electrical contact	1	.		139-611L1
116	**3G9300A04411**		**BMS VIDEO DOWNLINK GPS ANTENNA**	**REF**	**.**	**(4)**	**-**
117	**3G5311A07711**		**3RD GPS STRUCTURAL PROVISION**	**REF**	**..**	**(4)**	**-**
118	3G5315A92251		Bonding layer	1	...		139-611L3
119	3G5316A90832		GPS antenna support assy	1	...		139-611L3
120	A297A04TW02		Rivet	20	...		139-611L3
121	NAS1720C4L1P		Rivet	4	...		139-611L3
122	NAS1836-3-08M		Insert	3	...		139-611L3
123	**3G9C03A33701**		**BMS VIDEO DOWNLINK C/A (C3A337)**	**1**	**..**	**(4)**	**-**
124	S86208		Wire	4 m	...		139-611L3
125	190809		Coaxial connector	1	...		139-611L3
126	190821		Coaxial connector	1	...		139-611L3
127	M23053/8-005-C		Insulating sleeve	2	...		139-611L3
128	**3G9D03A23301**		**BMS video downlink C/A (D3A233)**	**1**	**..**	**(4)**	**-**
129	S86208		Wire	2 m	...		139-611L3
130	190809		Coaxial connector	1	...		139-611L3
131	190808		Coaxial connector	1	...		139-611L3
132	M23053/8-005-C		Insulating sleeve	2	...		139-611L3
133	4G1215A-XT-1		GPS antenna	1	..		139-611L3
134	A366A3E08C75		Stud	1	..		139-611L3
135	A366A3E16C		Stud	1	..		139-611L3
136	A366A3E16C75		Stud	2	..		139-611L3
137	A366A3E22C		Stud	4	..		139-611L3
138	AW002FT103		Grommet	1	..		139-611L3
139	ED300E161		Decal	1	..		139-611L3
140	MS21042L3		Nut	7	..		139-611L3
141	MS21919WDG3	AS21919WDG03	Clamp	21	..		139-611L3
142	MS35207-262		Screw	2	..		139-611L3
143	NAS1149D0332J		Washer	12	..		139-611L3
144	NAS1190E3P4AK		Screw	3	..		139-611L3
145	NAS43DD3-35	NAS43DD3-35N	Spacer	3	..		139-611L3
146	NAS43DD3-56	NAS43DD3-56N	Spacer	4	..		139-611L3
147	NAS5312V3A12		Screw	4	..		139-611L3

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

A.2 CONSUMABLES

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

#	SPEC./LH CODE NUMBER	DESCRIPTION	Q.TY	NOTE	PART
148	Commercial	Glass fiber 20749 1200	AR	(6)	-
149	199-50-002 Ty I	Resin Araldit LY5138-2	AR	(6)	-
150	199-50-002 Cl I	Amine hardener	AR	(6)	-
151	199-05-003 Ty I; Cl 2; Form II B	Sealant tape (C230)	AR	(6)	-
152	199-05-002 Ty II Cl 2	Adhesive	AR	(6)	-
153	A236A	Edging	AR	(6)	-
154	A582A	Tubing braided	AR	(6)	-
155	MS9226-05	Lockwire (C159)	AR	(6)	-
156	Commercial	Adhesive Loctite 454	AR	(6)	-
157	MIL-DTL-5541 Type I Class 3	Chromate conversion coating	AR	(6)	-
158	AWMS28-002 Type I Class 1	Waterborne chromate free primer	AR	(6)	-
159	199-05-002 Ty I; Cl 2	Adhesive	AR	(6)	-

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

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
139-611L1	1		-
3G5318A14731	1	(1)	-
3G5318A15051	1	(2)	-
139-611L2	1	(3)	-
139-611L3	1	(4)	-
3G2490LXXXXX	1	(5)	-

NOTES

(1) This item can be obtained from raw materials and is composed by the following parts:

P/N	DESCRIPTION	MATERIAL	DIMENSION/Q.TY
3G5318A14751	Support	AL-ALY 2024, thk 1.27	0.3 m2
3G5318A14851	Stiffener	AL-ALY 2024, thk 1.27	0.1 m2
3G5318A14951	Stiffener	AL-ALY 2024, thk 1.27	0.1 m2
MS20470AD4-7	Rivet	-	0.1 kg

(2) This item can be obtained from raw material and is composed by the following parts:

P/N	DESCRIPTION	MATERIAL	DIMENSION/Q.TY
3G5318A15051	Bonding layer	AL-ALY 2024, thk 0.2	0.1 m2

(3) Item to be ordered only if kit digital map Skyforce P/N 3G9310F00112 is already equipped and ADS-B out is NOT installed on the helicopter.

(4) Item to be ordered if kit digital map Skyforce P/N 3G9310F00112 is NOT installed on the helicopter or kit digital map Skyforce P/N 3G9310F00112 is installed along

with the ADS-B out.

(5) This P/N is not properly completed because it is depending on A/C configuration. To request the new panel, Customers must contact AW139 Product Support Engineering at least three months in advance of scheduled embodiment of this Service Bulletin.

(6) Item to be procured as local supply.

B. SPECIAL TOOLS

N.A.

C. INDUSTRY SUPPORT INFORMATION

N.A.

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) Exposed thread surface and nut must be protected using a layer of tectyl according to MIL-C-16173 grade I.

h) All lengths are in mm.

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 Figures 1 thru 3, gain access to the affected area and perform the BMS structural provision P/N 3G5311A26212 as described in the following procedure:
   - 2.1 With reference to Figure 2 Detail C and Section D-D, drill a hole Ø117.0 thru the forward panel P/N 3P5340A01431.
   - 2.2 With reference to Figure 2 Section D-D and Schematic Section D-D, fill the honeycomb with the adhesive 199-05-002 Ty II Cl 2 and apply n°2 plies of glass

fiber 20749 1200 on the cutout edges of the forward panel P/N 3P5340A01431 by means of the resin Araldit 199-50-002 Ty I and the Amine hardener 199-50-002 Cl I.

2.3 With reference to Figure 2 Detail C and Section D-D, drill n°5 insert holes Ø14.25÷14.38 thru the forward panel P/N 3P5340A01431.

2.4 With reference to Figure 2 Detail C and Section D-D, prepare the indicated surface to assure a good ground contact.

2.5 With reference to Figure 2 Section D-D, install n°5 inserts P/N NAS1832-08-3 on the forward panel P/N 3P5340A01431 by means of the adhesive 199-05-002 Ty II, Cl 2.

2.6 In accordance with the applicable steps of AMP DM 39-D-23-63-06-00A-921A-K and with reference to Figure 1 View A and Figure 2 Section D-D, install the antenna support assy P/N 3G5317A76431 on the forward panel P/N 3P5340A01431 by means of n°5 screws P/N MS27039-0805 and n°5 washers P/N NAS1149DN832K.

2.7 With reference to Figure 2 Section D-D, seal all around the support assy P/N 3G5317A76431 by means of the tape 199-05-003 Ty I Cl 2.

2.8 With reference to Figure 3 View B and Section E-E, drill n°8 insert holes Ø9.50÷9.60 thru the middle floor panel.

2.9 With reference to Figure 3 View B and Section E-E, install n°8 inserts P/N 999-5000-30-109 on the middle floor panel by means of the adhesive 199-05-002 Ty II, Cl 2.

2.10 With reference to Figure 3 View B, remove n°4 existing rivets.

NOTE

Perform following Step 2.11 only if bonding layer P/N 3G5318A15051 has to be obtained from raw materials.

2.11 With reference to Figure 4, build up bonding layer P/N 3G5318A15051 as described in the following procedure:

2.11.1 With reference to Figure 4, perform the cut-out of the 2024 AL-ALY T3 (thickness 0.2 mm) metal sheet in accordance with the dimensioning shown.

2.11.2 With reference to Figure 4 View A, drill n°4 holes Ø2.5 on the metal sheet, coordinated with existing rivets on structure.

2.11.3 With reference to Figure 4 View A, drill n°4 holes Ø5.0 on the metal sheet.

2.11.4 In accordance with CSRP-A-51-21-06-00A-644A-D, apply chromate conversion coating MIL-DTL-5541.

2.11.5 In accordance with CSRP-A-51-21-02-02A-257A-D, apply primer AWMS28-002.

2.11.6 Remark the metal sheet with the P/N 3G5318A15051.

2.12 With reference to Figure 3 View B, install the bonding layer P/N 3G5318A15051 by means of n°4 rivets P/N MS20470AD4.

3. In accordance with AMP DM 39-A-06-41-00-00A-010A-A and with reference to Figure 5, gain access to the affected area and perform the GPS coupler structural provision P/N 3G5311A45511 as described in the following procedure:

3.1 With reference to Figure 5 Detail A and section B-B, drill n°2 insert holes Ø11.48÷11.61 thru the middle floor panel.

3.2 With reference to Figure 5 Detail A and section B-B, install n°2 inserts P/N NAS1836-3-13 on the right skin assy by means of the adhesive 199-05-002 Ty II, Cl 2.

NOTE

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

NOTE

Install the tubing braided P/N A582A where chafing and contact with structure may occur. The tubing protection is not substitute for good routing practice.

4. In accordance with AMP DM 39-A-06-41-00-00A-010A-A and with reference to Figures 6 thru 10 and Figures 18 and 19 wiring diagram, gain access to the area affected by the installation and perform the BMS video downlink installation P/N 3G9300A04012 as described in the following procedure:

NOTE

Perform following Step 4.1 only if support assy P/N 3G5318A14731 has to be obtained from raw materials.

4.1 With reference to Figure 11 thru 13, assemble the support assy P/N 3G5318A14731 as described in the following procedure:

4.1.1 With reference to Figure 11, rework the 2024 AL-ALY T4 metal sheet to obtain the stiffener P/N 3G5318A14851 as described in the following procedure:

4.1.1.1 With reference to Figure 11, perform the cut-out of the 2024 AL-ALY T4 metal sheet (thickness 1.27 mm) in accordance with the dimensioning shown.

4.1.1.2 With reference to Figure 11, drill n°1 hole Ø2.5 on the metal sheet.

4.1.1.3 With reference to Figure 11, bend the metal sheet where necessary with an internal radius of 4.55 mm.

4.1.1.4 In accordance with CSRP-A-51-21-02-02A-257A-D, apply one layer of primer AWMS28-002.

4.1.1.5 Remark the metal sheet with the P/N 3G5318A14851.

4.1.2 With reference to Figure 11, rework the 2024 AL-ALY T4 metal sheet to obtain the stiffener P/N 3G5318A14951 as described in the following procedure:

4.1.2.1 With reference to Figure 11, perform the cut-out of the 2024 AL-ALY T4 metal sheet (thickness 1.27 mm) in accordance with the dimensioning shown.

4.1.2.2 With reference to Figure 11, drill n°1 hole Ø2.5 on the metal sheet.

4.1.2.3 With reference to Figure 11, bend the metal sheet where necessary with an internal radius of 4.55 mm.

4.1.2.4 In accordance with CSRP-A-51-21-02-02A-257A-D, apply one layer of primer AWMS28-002.

4.1.2.5 Remark the metal sheet with the P/N 3G5318A14951.

4.1.3 With reference to Figure 12, rework the 2024 AL-ALY T3 metal sheet to obtain the support P/N 3G5318A14751 as described in the following procedure:

4.1.3.1 With reference to Figure 12, perform the cut-out of the 2024 AL-ALY T3 metal sheet (thickness 1.27 mm) in accordance with the dimensioning shown.

4.1.3.2 With reference to Figure 12, drill n°2 holes Ø2.5, n°4 holes Ø6.40÷6.65 and n°8 holes Ø4.90÷5.03 on the metal sheet.

4.1.3.3 With reference to Figure 12, bend the metal sheet where necessary with an internal radius of 4.55 mm.

4.1.3.4 In accordance with CSRP-A-51-21-02-02A-257A-D, apply one layer of primer AWMS28-002.

4.1.3.5 Remark the metal sheet with the P/N 3G5318A14751.

4.1.4 With reference to Figure 13, drill n°19 rivet holes on the stiffeners P/N 3G5318A14851 and P/N 3G5318A14951.

NOTE

Make sure that the two holes on the bottom side of the stiffeners are aligned with the two holes on the support.

4.1.5 With reference to Figure 13, temporarily locate the stiffeners P/N 3G5318A14851 and 3G5318A14951 on the support P/N 3G5318A14751, countermark and drill n°38 rivet holes thru the support.

4.1.6 With reference to Figure 13, install the stiffeners P/N 3G5318A14851 and 3G5318A14951 on the support P/N 3G5318A14751 by means of n° 38 rivets P/N MS20470AD4.

4.1.7 Remark the support assy obtained with the P/N 3G5318A14731.

4.2 With reference to Figure 10 View A, install the support assy P/N 3G5318A14731 by means of n°8 washers P/N NAS1149D0332K and n°8 screws P/N MS27039-1-06.

4.3 With reference to Figure 9 View looking aft LH avionic bay, install n°3 mount ties P/N AW001CL509-N6 in the indicated positions on the structure by means of rivets P/N NAS1720H5L4A.

4.4 With reference to Figure 10 View A, install n°5 studs P/N A388A3E22C in the indicated positions on the structure by means of adhesive Loctite 454.

4.5 With reference to Figure 10 View A, install n°2 supports P/N AW001CL001-N6 in the indicated positions on the structure.

4.6 With reference to Figures 7 thru 9 and Figure 18 wiring diagram, assemble the BMS video downlink C/A P/N 3G9B02L15501 (B2L155) as described in the following procedure:

4.6.1 Assemble the new connector PL197PY using the electrical connector P/N M24308/4-3F, the backshell P/N DB121073-151 and n°2 screws P/N 250-8501-010.

4.6.2 With reference to Figures 7 thru 9 and Figure 18 wiring diagram, cut an adequate length of wire P/N A561A-T1-20 and lay it down between connector PL197PY and connector P109.

4.6.3 With reference to Figures 7 thru 9 and Figure 18 wiring diagram, cut an adequate length of wire P/N A561A-T3-20 and lay it down between connector PL197PY and connector P109.

4.6.4 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 18 wiring diagram, crimp n°7 electrical contact P/N M39029/64-369 (PL197PY side) and n°7 electrical contact

P/N M39029/56-351 (P109 side) on wires by means of proper crimping tool.

4.6.5 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 18 wiring diagram, mark the wires P/N A561A-T1-20 as T1002A20-S-ME, T1003A20-S-ME, T1005A20-S-ME and T1006A20-S-ME by means of marker sleeves.

4.6.6 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 18 wiring diagram, mark the wire P/N A561A-T3-20 as T1004A20-S-ME by means of marker sleeves.

4.6.7 With reference to Figure 18 wiring diagram, protect every wire on PL197PY and P109 by means of insulation sleeving P/N M23053/8-004-C insulation.

4.6.8 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and Figure 18 wiring diagram, mark the so obtained cable assembly as B2L155 by means of marker sleeves

4.6.9 With reference to Figures 7 thru 9 and Figure 18 wiring diagram, perform the electrical connection of C/A B1L152 between connector PL197PXI P/N PT06E-12-4S (SR), TB27P1, PL1P3 and P101.

NOTE

Perform following Step 4.6.10 only if wire S174A22-G is already present on pin 128 of TB29P1 connector. Then skip to Step 4.6.12.

4.6.10 With reference to Figures 7 thru 9, perform electrical connection of wire ident T10007A22-G-ME between connector PL197PY pin 14 to TB19P1 pin 40

NOTE

Perform following Step 4.6.11 only if pin 128 of TB29P1 connector is not occupied.

4.6.11 With reference to Figures 7 thru 9 and Figure 18 wiring diagram, perform electrical connection of wire ident T10007A22-G-ME between connector PL197PY pin 14 to TB29P1 pin 128.

4.6.12 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and Figure 18 wiring diagram, mark the so obtained cable assembly as B2L155 by means of marker sleeves.

4.7 With reference to Figures 7 thru 9, lay down and secure the C/A B2L155 by means of existing hardware and lacing cords.

4.8 With reference to Figures 7 thru 9 and Figure 18 wiring diagram, perform the electrical connection of C/A B2L155 to the new connector PL197PY previously assembled and the connector P109.

4.9 With reference to Figures 7 thru 9 and Figure 18 wiring diagram, assemble the BMS video downlink C/A P/N 3G9B01L15201 (B1L152) as described in the following procedure:

4.9.1 With reference to Figures 7 and 9 and Figure 18 wiring diagram, cut an adequate length of wire P/N A556A-T20 and lay it down between connector P101 and electrical splice SP21122 P/N M81824/1-2.

4.9.2 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 18 wiring diagram, crimp on wire n°1 electrical contact P/N M39029/56-351 (P101 side) by means of proper crimping tool.

4.9.3 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 18 wiring diagram, mark wire as T1000C20-G-ME by means of marker sleeves.

4.9.4 With reference to Figure 7 View looking cockpit and interseat console zone and Figure 18 wiring diagram, cut an adequate length of wire P/N A556A-T20 and lay it down between connector PL197PX P/N PT06E-12-4S(SR) and electrical splice SP21122 P/N M81824/1-2.

4.9.5 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 18 wiring diagram, mark wire as T1000A20-G-ME by means of marker sleeves.

4.9.6 With reference to Figure 7 View looking cockpit and interseat console zone and Figure 18 wiring diagram, cut an adequate length of wire P/N A556A-T20 and lay it down between new connector PL197PX P/N PT06E-12-4S(SR) and terminal board TB27P1.

4.9.7 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 18 wiring diagram, crimp on wire n°1 electrical contact P/N M39029/56-351 (TB27P1 side) by means of proper crimping tool.

4.9.8 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 18 wiring diagram, mark wire as T1001A20N-G-ME by means of marker sleeves.

4.9.9 With reference to Figure 7 View looking cockpit and interseat console zone and Figure 18 wiring diagram, cut an adequate length of wire

P/N A556A-T22 and lay it down between connector PL197PY and terminal board TB29P1.

4.9.10 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 18 wiring diagram, crimp on wire n°1 electrical contact P/N M39029/64-369 (PL197PYside) and n°1 electrical contact P/N 001104-202-02 (TB29P1 side) by means of proper crimping tool.

4.9.11 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 18 wiring diagram, mark wire as T1007A22-G-ME by means of marker sleeves.

4.9.12 With reference to Figure 7 View looking cockpit and interseat console zone and Figure 18 wiring diagram, cut an adequate length of wire P/N A556A-T20 and lay it down between connector PL1P3 and electrical splice SP21122 P/N M81824/1-2.

4.9.13 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 18 wiring diagram, crimp on wire n°1 electrical contact P/N M39029/58-363 (PL1P3 side) by means of proper crimping tool.

4.9.14 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 18 wiring diagram, mark wire as T1000B20-G-ME by means of marker sleeves.

4.9.15 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and Figure 18 wiring diagram, mark the so obtained cable assembly as B1L152 by means of marker sleeves.

4.10 With reference to Figures 7 thru 9, lay down and secure the C/A B1L152 by means of existing hardware and lacing cords.

4.11 With reference to Figures 7 thru 9 and Figure 18 wiring diagram, perform the electrical connection of C/A B1L152 to the connector P101, the new connector PL197PY previously assembled, the new connector PL197PX P/N PT06E-12-4S(SR), connector PL1P3 and terminal board TB29P1.

4.12 With reference to Figures 9 and 10 and Figure 19 wiring diagram, assemble the BMS video downlink C/A P/N 3G9C03A33601 (C3A336) as described in the following procedure:

4.12.1 With reference to Figures 9 and 10 and Figure 19 wiring diagram, cut an adequate length of wire P/N LMR400FR and lay it down between new connector A580P5 P/N TC-400-NMH-RA-D and new connector E160P1 P/N TC-400-SM.

4.12.2 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 19 wiring diagram, mark wire as T1009A-F-ME by means of marker sleeves.

4.12.3 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 19 wiring diagram, mark the so obtained cable assembly as C3A336 by means of marker sleeves.

4.13 With reference to Figure 9 View looking aft LH avionic bay, lay down and secure the C/A C3A336 to the mount tie P/N AW001CL509-N6 previously installed by means of n°1 grommet P/N AW002FT1 and lacing cord.

4.14 With reference to Figures 9 and 10 and Figure 19 wiring diagram, assemble the BMS video downlink C/A P/N 3G9C02A44801 (C2A448) as described in the following procedure:

4.14.1 Assemble the new connector A580P7 using the connector P/N MS3476W12-10S, the adapter P/N A529A390-1202 and the cable clamp P/N A529A300-1202C.

4.14.2 With reference to Figures 9 and 10 and Figure 19 wiring diagram, cut an adequate length of wire P/N A561A-T1-20 and lay it down between connector J109 and connector A580P7.

4.14.3 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 19 wiring diagram, crimp on wire n°1 electrical contact P/N M39029/58-363 (J109 side) and n°1 electrical contact P/N M39029/5-115 (A580P7 side) by means of proper crimping tool.

4.14.4 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 19 wiring diagram, mark wire as T1002B20-S-ME by means of marker sleeves.

4.14.5 With reference to Figure 19 wiring diagram, protect the wire on both sides by means of n°2 insulation sleeving P/N M23053/8-004-C.

4.14.6 With reference to Figures 9 and 10 and Figure 19 wiring diagram, cut an adequate length of wire P/N A561A-T1-20 and lay it down between connector J109 and connector A580P7.

4.14.7 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 19 wiring diagram, crimp on wire n°1 electrical contact P/N M39029/58-363 (J109 side) and n°1 electrical contact P/N M39029/5-115 (A580P7 side) by means of proper crimping tool.

4.14.8 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 19 wiring diagram, mark wire as T1003B20-S-ME by means of marker sleeves.

4.14.9 With reference to Figure 19 wiring diagram, protect the wire on both sides by means of n°2 insulation sleeving P/N M23053/8-004-C.

4.14.10 With reference to Figures 9 and 10 and Figure 19 wiring diagram, cut an adequate length of wire P/N A561A-T3-20 and lay it down between connector J109 and connector A580P7.

4.14.11 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 19 wiring diagram, crimp on white, blue and orange wires n°1 electrical contact P/N M39029/58-363 (J109 side) and n°1 electrical contact P/N M39029/5-115 (A580P7 side) by means of proper crimping tool.

4.14.12 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 19 wiring diagram, mark wire as T1004B20-S-ME by means of marker sleeves.

4.14.13 With reference to Figure 19 wiring diagram, protect the wire on both sides by means of n°2 insulation sleeving P/N M23053/8-005-C.

4.14.14 With reference to Figures 9 and 10 and Figure 19 wiring diagram, cut an adequate length of wire P/N A561A-T1-20 and lay it down between connector J109 and connector A580P7.

4.14.15 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 19 wiring diagram, crimp on wire n°1 electrical contact P/N M39029/58-363 (J109 side) and n°1 electrical contact P/N M39029/5-115 (A580P7 side) by means of proper crimping tool.

4.14.16 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 19 wiring diagram, mark wire as T1005B20-S-ME by means of marker sleeves.

4.14.17 With reference to Figure 19 wiring diagram, protect the wire on both sides by means of n°2 insulation sleeving P/N M23053/8-004-C.

4.14.18 With reference to Figures 9 and 10 and Figure 19 wiring diagram, cut an adequate length of wire P/N A561A-T1-20 and lay it down between connector J109 and connector A580P7.

4.14.19 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 19 wiring diagram, crimp on wire n°1 electrical contact P/N M39029/58-363 (J109 side) and n°1 electrical contact P/N M39029/5-115 (A580P7 side) by means of proper crimping tool.

4.14.20 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 19 wiring diagram, mark wire as T1006B20-S-ME by means of marker sleeves.

4.14.21 With reference to Figure 19 wiring diagram, protect the wire on both sides by means of n°2 insulation sleeving P/N M23053/8-004-C.

4.14.22 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 19 wiring diagram, mark the so obtained cable assembly as C2A448 by means of marker sleeves.

4.15 With reference to Figures 9 and 10 and Figure 19 wiring diagram, assemble the BMS video downlink C/A P/N 3G9C01A38301 (C1A383) as described in the following procedure:

4.15.1 Assemble the new connector A580P2 using the connector P/N MS3476W12-3S and the shield P/N A528A3A12.

4.15.2 With reference to Figures 9 and 10 and Figure 19 wiring diagram, cut an adequate length of wire P/N A556A-T20 and lay it down between connector J101 and connector A580P2.

4.15.3 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 19 wiring diagram, crimp on wire n°1 electrical contact P/N M39029/58-363 (J101 side) and n°1 electrical contact P/N M39029/5-116 (A580P2 side) by means of proper crimping tool.

4.15.4 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 19 wiring diagram, mark wire as T1000D20-G-ME by means of marker sleeves.

4.15.5 With reference to Figures 9 and 10 and Figure 19 wiring diagram, cut an adequate length of wire P/N A556A-T20 and lay it down between connector TB143P1 and connector A580P2.

4.15.6 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 19 wiring diagram, crimp on wire n°1 electrical contact P/N M39029/56-351 (TB143P1 side) and n°1 electrical contact P/N M39029/5-116 (A580P2 side) by means of proper crimping tool.

4.15.7 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 19 wiring diagram, mark wire as T1008A20N-G-ME by means of marker sleeves.

4.15.8 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 19 wiring diagram, mark the so obtained cable assembly as C1A383 by means of marker sleeves.

4.16 With reference to Figure 10 View A, secure the C/A C3A336, the C/A C2A448 and the C/A C1A383 to n°5 studs P/N A388A3E22C previously installed by means of n°5 clamps P/N MS25281-R13, n°5 clamps P/N MS21919WDG4, n°5 clamps P/N MS21919WDG2, n°5 clamps P/N MS25281-R6, n°5 grommets

P/N AW002FT1, n°5 grommets P/N AW002FT102, n°5 washers P/N NAS1149D0332J and n°5 screws P/N NAS1801-3-16.

4.17 With reference to Figures 9 and 10 and Figure 19 wiring diagram, perform the electrical connection of C/A C2A448 to the new connector A580P7 previously assembled and the connector J109.

4.18 With reference to Figures 9 and 10 and Figure 19 wiring diagram, perform the electrical connection of C/A C3A336 to the new connector E160P1 P/N TC-400-SM and the new connector A580P5 P/N TC-400-NHM-RA-D.

4.19 With reference to Figures 9 and 10 and Figure 19 wiring diagram, perform the electrical connection of C/A C1A383 to the new connector A580P2 previously assembled, the connector J101 and the connector TB143P1.

4.20 With reference to Figure 10 View B, install the mounting tray P/N 8014521010 on the support assy P/N 3G5318A14731 by means of n°4 bolts P/N LN29943-06003 and n°4 washers P/N AW007TZ-06 and the bonding cable P/N 120-055-1-5.

4.21 In accordance with applicable steps of AMP DM 39-D-23-63-02-00A-720A-K and with reference to Figure 10 View A, install the Heli-coder 4 transmitter P/N 8614521202 on the mounting tray P/N 8014521010.

4.22 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 10 View A, apply decal P/N ED300A580 next to the Heli-coder 4 transmitter.

4.23 In accordance with AMP DM 39-D-23-63-03-00A-720A-K and with reference to Figure 9 View looking aft LH avionic bay, install the downlink antenna P/N 1201325240 by means of n°4 washers P/N NAS1149D0316J and n°4 screws P/N NAS1802-3-9.

4.24 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 9 View looking aft LH avionic bay, apply decal P/N ED300E160 next to the downlink antenna.

4.25 With reference to Figure 7 View looking cockpit and interseat console zone, connect the connectors PL197PX and PL197PY to the downlink control panel P/N 8714395003.

4.26 With reference to Figure 7 View looking cockpit and interseat console zone, install the downlink control panel P/N 8714395003 on the interseat console.

4.27 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 7 View looking cockpit and interseat console zone, apply decal P/N ED300PL197 next to the downlink control panel.

4.28 With reference to Figure 7 View looking cockpit and interseat console zone, install the plate assy P/N 999-0500-85-19 on the interseat console.

NOTE

Perform following step 5 only if the kit Digital Map Skyforce P/N 3G9310F00112 is NOT installed on the helicopter or kit digital map Skyforce is installed along with the ADS-B out.

NOTE

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

NOTE

Install the tubing braided P/N A582A where chafing and contact with structure may occur. The tubing protection is not substitute for good routing practice.

5. In accordance with AMP DM 39-A-06-41-00-00A-010A-A and with reference to Figures 21 thru 26 and Figure 27 wiring diagram, gain access to the area affected by the installation and perform the BMS video downlink GPS antenna P/N 3G9300A04411 as described in the following procedure:

   5.1 With reference to Figures 21 thru 24 perform the 3rd GPS structural provision P/N 3G5311A07711 as described in the following procedure:

      5.1.1 With reference to Figure 21 Section B-B and Detail C, perform the indicated cutout thru the upper panel assy P/N 3P5340A01135.

      5.1.2 With reference to Figure 23 Section G-G, perform the indicated cutout thru the tail rotor shaft cowling assy P/N 3G5355A00635.

      5.1.3 With reference to Figure 22 View D and Figure 23 Section G-G, apply n°2 plies of glass fiber 20749 1200 on the tail rotor shaft cowling assy P/N 3G5355A00635 by means of the resin Araldit 199-50-002 Ty II and the catalyst 199-50-002 Ty II.

      5.1.4 With reference to Figure 22 Detail A, Figure 23 Section E-E and Figure 24 Section F-F, temporarily locate the GPS antenna support assy P/N 3G5316A90832 and the bonding layer P/N 3G5315A92251 on the tail rotor shaft cowling assy P/N 3G5355A00635 and countermark n°2 rivet holes positions on the bonding layer P/N 3G5315A92251.

      5.1.5 With reference to Figure 22 View D and Figure 23 Section E-E, drill n°2 rivet holes in the previously marked positions thru the bonding layer P/N 3G5315A92251.

5.1.6 With reference to Figure 23 Section E-E and Figure 24 Section F-F, prepare the indicated surface to assure a good ground contact.

5.1.7 With reference to Figure 24 section F-F, install the bonding layer P/N 3G5315A92251 on the tail rotor shaft cowling assy P/N 3G5355A00635 by means of the adhesive 199-05-002 Ty I Cl 2.

5.1.8 With reference Figure 24 Section F-F and Section L-L, fix one end of the bonding layer P/N 3G5315A92251 to the existing bonding layer P/N 3G5315A21851 by means of n°4 rivets P/N NAS1720C4L1P.

5.1.9 With reference Figure 22 View D and Figure 23 Section E-E, install the GPS antenna support assy P/N 3G5316A90832 on the tail rotor shaft cowling assy P/N 3G5355A00635 by means of n°20 rivets P/N A297A04TW02.

5.1.10 With reference Figure 24 Section H-H, drill n°3 insert holes Ø11.48÷11.61 thru the tail rotor shaft cowling assy P/N 3G5355A00635.

5.1.11 With reference Figure 24 Section H-H, install n°3 inserts P/N NAS1836-3-08M on the tail rotor shaft cowling assy P/N 3G5355A00635 by means of the adhesive 199-05-002 Ty II, Cl 2.

5.2 With reference to Figure 25 View A, install n°4 studs P/N A366A3E22C in the indicated positions on the structure.

5.3 With reference to Figure 25 View A, install n°2 studs P/N A366A3E16C75 in the indicated positions on the structure.

5.4 With reference to Figure 25 View A, install the stud P/N A366A3E08C75 in the indicated position on the structure.

5.5 With reference to Figure 25 View A, remove the grommet P/N AW002FT102.

5.6 With reference to Figure 26 View B, remove the stud P/N A366A3E08C and replace it with the stud P/N A366A3E16C in the same position.

5.7 With reference to Figures 25 and 26 and Figure 27 wiring diagram, assemble the BMS video downlink C/A P/N 3G9C03A33701 (C3A337) as described in the following procedure:

5.7.1 With reference to Figures 25 and 26 and Figure 27 wiring diagram, cut an adequate length of wire P/N S86208 and lay it down between new connector A580P1 P/N 190809 and new connector J3137 P/N 190821.

5.7.2 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 27 wiring diagram, mark wire as T1010A-F-ME by means of marker sleeves.

5.7.3 With reference to Figure 27 wiring diagram, protect the wire on both sides by means of n°2 insulation sleeving P/N M23053/8-005-C.

5.7.4 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 27 wiring diagram, mark the so obtained cable assembly as C3A337 by means of marker sleeves.

5.8 With reference to Figure 26 and Figure 27 wiring diagram, assemble the BMS video downlink C/A P/N 3G9D03A23301 (D3A233) as described in the following procedure:

5.8.1 With reference to Figure 26 and Figure 27 wiring diagram, cut an adequate length of wire P/N S86208 and lay it down between new connector E161P1 P/N 190809 and new connector P3137 P/N 190808.

5.8.2 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 27 wiring diagram, mark wire as T1010B-F-ME by means of marker sleeves.

5.8.3 With reference to Figure 27 wiring diagram, protect the wire on both sides by means of n°2 insulation sleeving P/N M23053/8-005-C.

5.8.4 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 27 wiring diagram, mark the so obtained cable assembly as D3A233 by means of marker sleeves.

5.9 With reference to Figures 25 and 26, secure the cable assemblies laid down at the previous steps by means of existing hardware and lacing cords.

5.10 With reference to Figures 25 View A, install n°4 clamps P/N AS21919WDG03 on the C/A C3A337 by means of n°4 spacers P/N NAS43DD3-56N, n°4 washers P/N NAS1149D0332J and n°4 nuts P/N MS21042L3.

5.11 With reference to Figures 25 View A, install n°2 clamps P/N AS21919WDG03 on the C/A C3A337 by means of n°2 spacers P/N NAS43DD3-35N, n°2 washers P/N NAS1149D0332J and n°2 nuts P/N MS21042L3.

5.12 With reference to Figures 25 View A, install the clamp P/N AS21919WDG03 on the C/A C3A337 by means of the washer P/N NAS1149D0332J and the nut P/N MS21042L3.

5.13 With reference to Figures 25 View A, install the grommet P/N AW002FT103 on the C/A C3A337.

5.14 With reference to Figure 26 View B, install the clamp P/N AS21919WDG03 on the C/A C3A337 by means of the spacer P/N NAS43DD3-35N and existing hardware.

5.15 With reference to Figure 26 View B, install n°5 clamps P/N AS21919WDG03 on the C/A C3A337 by means of existing hardware.

5.16 With reference to Figure 26 View C, install n°3 clamps P/N AS21919WDG03 on C/A D3A233 by means of existing hardware.

5.17 With reference to Figure 26 View C, install n°2 clamps P/N AS21919WDG03 on

C/A D3A233 by means of n°2 washers P/N NAS1149D0332J and n°2 screws P/N MS35207-262.

5.18 With reference to Figure 26 View C, install n°3 clamps P/N AS21919WDG03 on C/A D3A233 by means of n°3 washers P/N NAS1149D0332J and n°3 screws P/N NAS1190E3P4AK.

5.19 With reference to Figure 25 View A and Figure 27 wiring diagram, perform the electrical connection between the connector A580P1 and the respective receptacle of the Heli-coder 4 transmitter.

5.20 With reference to Figure 26 View B and View C and Figure 27 wiring diagram, perform the electrical connection between the connector P3137 and the connector J3137.

5.21 In accordance with the applicable steps of AMP DM 39-D-23-63-04-00A-720A-K and with reference to Figure 26 View C, install the GPS antenna P/N 4G1215A-XT-1 by means of n°4 screws P/N NAS5312V3A12.

5.22 In accordance with the applicable steps of AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 26 View C, apply the decal P/N ED300E161 in an adjacent area next to GPS antenna P/N 4G1215A-XT-1.

5.23 Perform a pin-to-pin continuity check of all the electrical connections made.

NOTE

Perform the step 6 only if the kit Digital Map Sky Force P/N 3G9310F00112 is installed and ADS-B out is NOT installed on the helicopter.

NOTE

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

NOTE

Install the tubing braided P/N A582A where chafing and contact with structure may occur. The tubing protection is not substitute for good routing practice.

6. In accordance with AMP DM 39-A-06-41-00-00A-010A-A and with reference to Figures 14 thru 17 and Figure 20 wiring diagram, gain access to the area affected by the installation and perform the BMS video downlink variant electrical provision P/N 3G4600P01111 as described in the following procedure:

6.1 With reference to Figures 15 thru 17 and Figure 20 wiring diagram, assemble the BMS downlink GPS ant variant C/A P/N 3G9C03A33801 (C3A338) as described

in the following procedure:

6.1.1 With reference to Figures 15 thru 17 and Figure 20 wiring diagram, cut an adequate length of wire P/N S86208 and lay it down between new connector A103P2 P/N 190812 and new connector CP301P2-ME P/N 190808.

6.1.2 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 20 wiring diagram, mark wire as T1011-F-ME by means of marker sleeves.

6.1.3 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 20 wiring diagram, mark the so obtained cable assembly as C3A338 by means of marker sleeves.

6.2 With reference to Figures 16 and 17 and Figure 20 wiring diagram, assemble the BMS downlink GPS ant variant C/A P/N 3G9C03A33901 (C3A339) as described in the following procedure:

6.2.1 With reference to Figures 16 and 17 and Figure 20 wiring diagram, cut an adequate length of wire P/N S86208 and lay it down between new connector A580P1 P/N 190809 and new connector CP301P3-ME P/N 190808.

6.2.2 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 20 wiring diagram, mark wire as T1012-F-ME by means of marker sleeves.

6.2.3 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 20 wiring diagram, mark the so obtained cable assembly as C3A339 by means of marker sleeves.

6.3 With reference to Figure 16 View B, install n°2 studs P/N A366A3E10C in the indicated positions on the structure by means of adhesive Loctite 454.

6.4 With reference to Figure 16 View B and Figure 17 View C, remove n°2 spacers P/N NAS43DD3-35, n°4 spacers P/N NAS43DD3-55, n°3 spacers P/N NAS43DD3-45, n°11 clamps P/N MS21919WDG3 and n°1 grommet P/N 999-1700-03-103.

6.5 With reference to Figures 15 thru 17, lay down and secure the C/A C3A338 and the C/A C3A339 to existing hardware by means of lacing cords.

6.6 With reference to Figures 16 and 17, lay down and secure the C/A C3A338 and C3A339 to existing hardware using n°2 spacers P/N NAS43DD3-27N, n°3 spacers P/N NAS43DD3-36N, n°4 spacers P/N NAS43DD3-50N, n°8 clamps P/N MS25281-R13, n°1 clamp P/N MS21919WDG21, n°8 grommets P/N AW002FT103, n°2 grommets P/N AW002FT101.

6.7 With reference to Figures 16 View B, lay down and secure the C/A C3A339 to the two studs P/N A366A3E10C previously installed using n°2 clamps P/N MS25281-R6, n°2 grommets P/N AW002FT102, n°2 washers P/N NAS1149D0332J and n°2 nuts P/N MS21042L3.

6.8 With reference to Figures 16 View B, install n°4 supports P/N A631A01B on C/A C3A338 and C/A C3A339.

6.9 With reference to Figure 17 and Figure 20 wiring diagram, assemble the BMS downlink GPS ant variant C/A P/N 3G9C03B32101 (C3B321) as described in the following procedure:

6.9.1 With reference to Figures 17 View C and Figure 20 wiring diagram, cut an adequate length of wire P/N S86208 and lay it down between new connector J84 P/N 190821 and new connector CP301P1-ME P/N 190808.

6.9.2 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 20 wiring diagram, mark wire as T1013-F-ME by means of marker sleeves.

6.9.3 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 20 wiring diagram, mark the so obtained cable assembly as C3B321 by means of marker sleeves.

6.10 With reference to Figures 17 View C, lay down and secure the C/A C3B321 to existing hardware by means of lacing cords.

6.11 With reference to Figure 17 View C, install the splitter P/N 7-397-3-3 by means of n°2 washers P/N NAS1149D0332J, n°1 screw P/N NAS1802-3-6 and n°1 screw P/N NAS1802-3D6.

6.12 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 17 View C, apply decal P/N ED300CP301-ME next to the splitter.

6.13 With reference to Figures 15 thru 17, perform the electrical connection of C/A C3A338 to the new connector A103P2 P/N 190812 and the new connector CP301P2-ME P/N 190808.

6.14 With reference to Figures 16 and 17, perform the electrical connection of C/A C3A339 to the new connector A580P1 P/N 190809 and the new connector CP301P3-ME P/N 190808.

6.15 With reference to Figure 17, perform the electrical connection of C/A C3B321 to the new connector J84 P/N 190821 and the new connector CP301P1-ME P/N 190808.

6.16 With reference to Figure 15 View A, connect the connector A103P2 to the processor unit A103.

6.17 With reference to Figure 16 View B, connect the connector A580P1 to the Heli-code 4 transmitter A580.

6.18 With reference to Figure 17 View C, connect the connectors CP301P1-ME, CP301P2-ME and CP301P3-ME to the splitter CP301-ME. Safety the connectors with the lockwire P/N MS9226-05.

NOTE

Customer must contact AW139 PSE at least 3 months in advance of embodiment date of this Service Bulletin in order to collect the exact W/D applicable to helicopter configuration.

7. Modify the Auxiliary C/B panel on the overhead panel, as described in the following procedure:

7.1 With reference to AMP DM 39-A-24-91-04-00A-920A-K, remove from the Overhead C/B panel the existing Integrally-lit panel and install the new integrally-lit panel P/N 3G2490LXXXXX.

7.2 Install one circuit breaker P/N MS3320-5 in the position indicated as BMS on the new integrally-lit panel P/N 3G2490LXXXX; apply decal P/N ED300CB578 in an adjacent area

7.3 Perform electrical connection between circuit breaker CB578 pin 2 and connector of overhead breaker panel PL1J3 pin v by means of A556A-T20 wire. Use pin P/N MS25036-149 for pin 2 of CB578 and pin P/N M39029/56-351 for pin v of PL1J3.

7.4 Connect CB578 to 28V MAIN BUS 1 W21.

7.5 Perform a pin-to-pin continuity check of all the electrical connections made.

8. In accordance with AMP DM 39-D-23-63-00-00A-320A-K, perform the operation test of the video downlink system.

NOTE

Perform following Step 9 only if kit TALON RT-8108 P/N 3G2310F00311 is installed on helicopter.

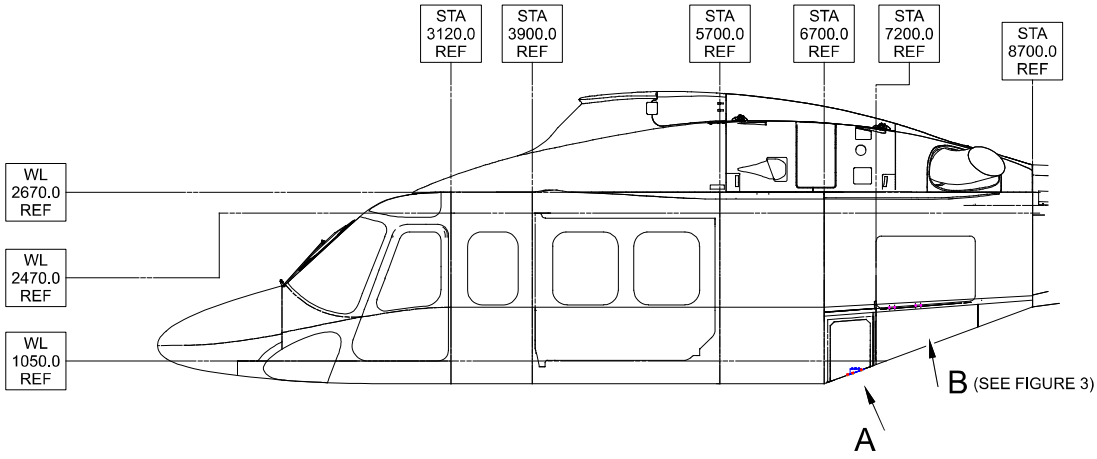
9. In accordance with Annex A, perform the EMC Test Procedure.
10. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
11. Return the helicopter to flight configuration and record for compliance with this Service Bulletin on the helicopter logbook.
12. Gain access to My Communications section on Leonardo Customer Portal and compile the “Service - Technical Bulletin Application”.

As an alternative, send the attached compliance form to the following mail box:

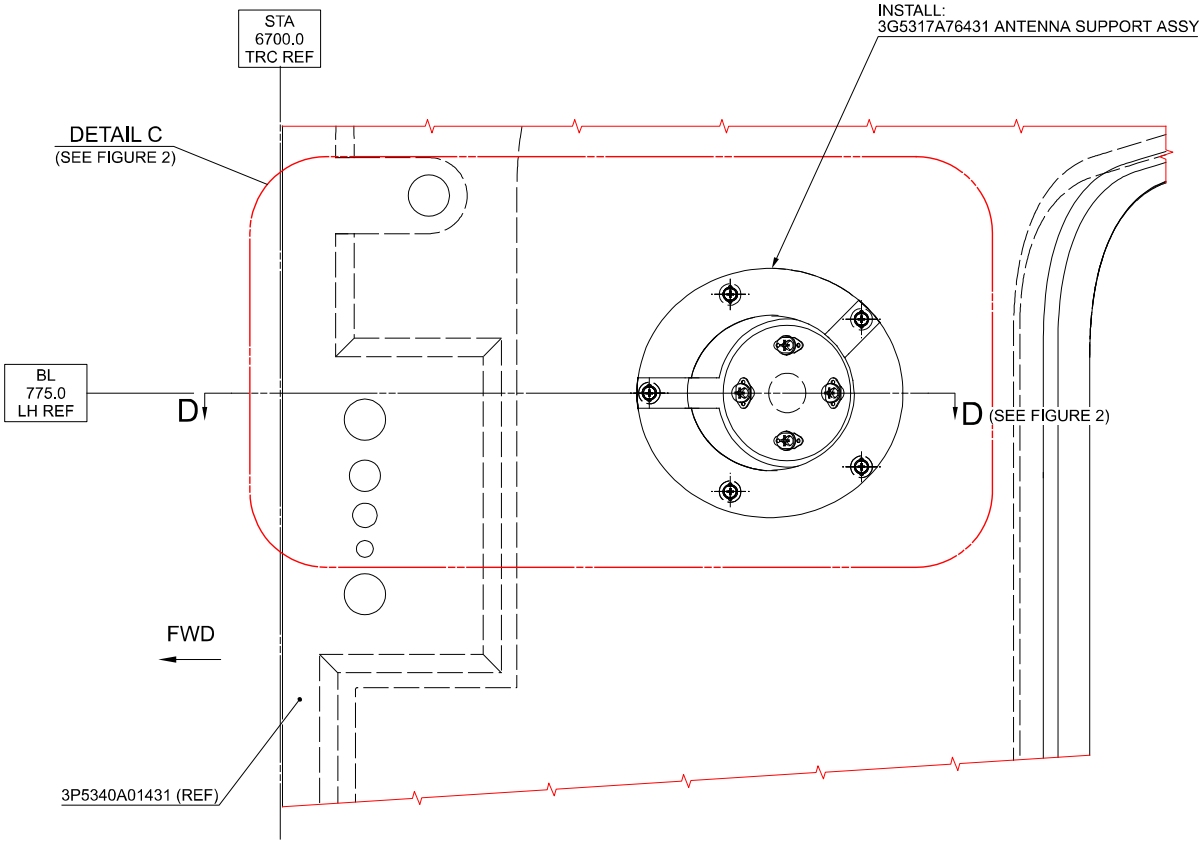
engineering.support.lhd@leonardo.com

and (for North, Central and South America) also to:

AWPC.Engineering.Support@leonardocompany.us



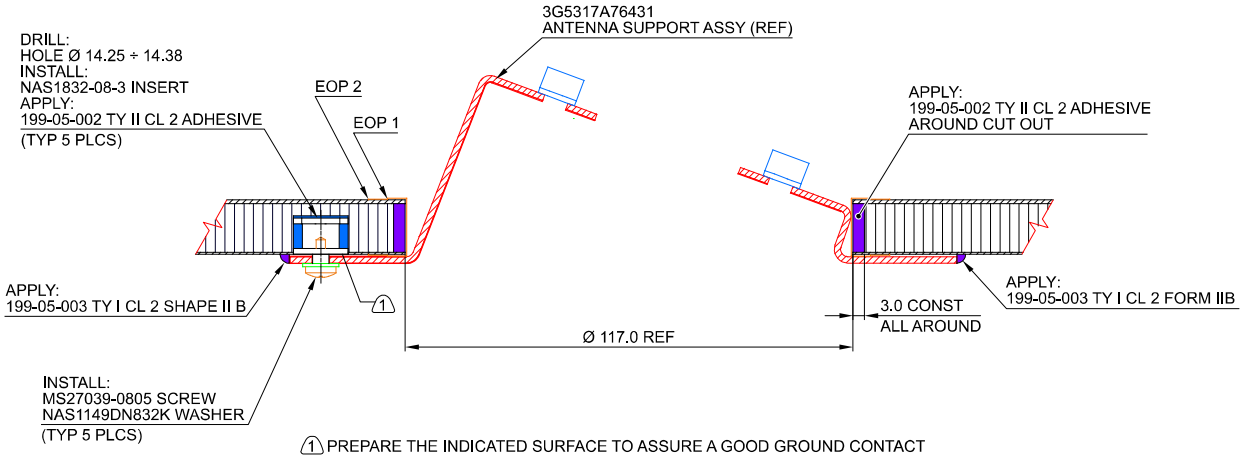
VIEW LOOKING INBOARD LEFT SIDE



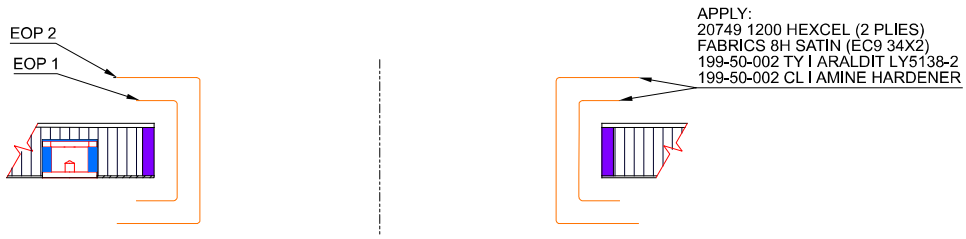
VIEW A
VIEW NORMAL TO PANEL PLANE
ROTATED 20.3° CW
PARTS OMITTED FOR BETTER CLARITY PURPOSE

BMS STRUCTURAL PROVISION
3G5311A26212

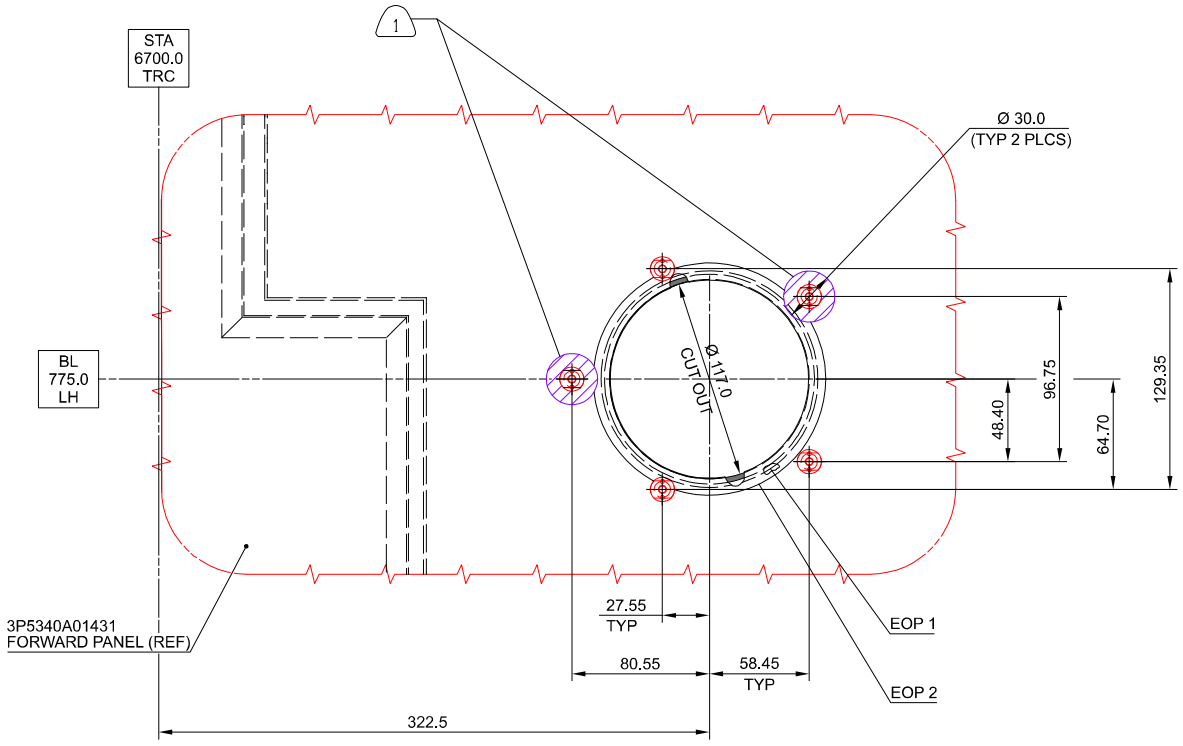
Figure 1



SECTION D-D
(REFER TO FIGURE 1)



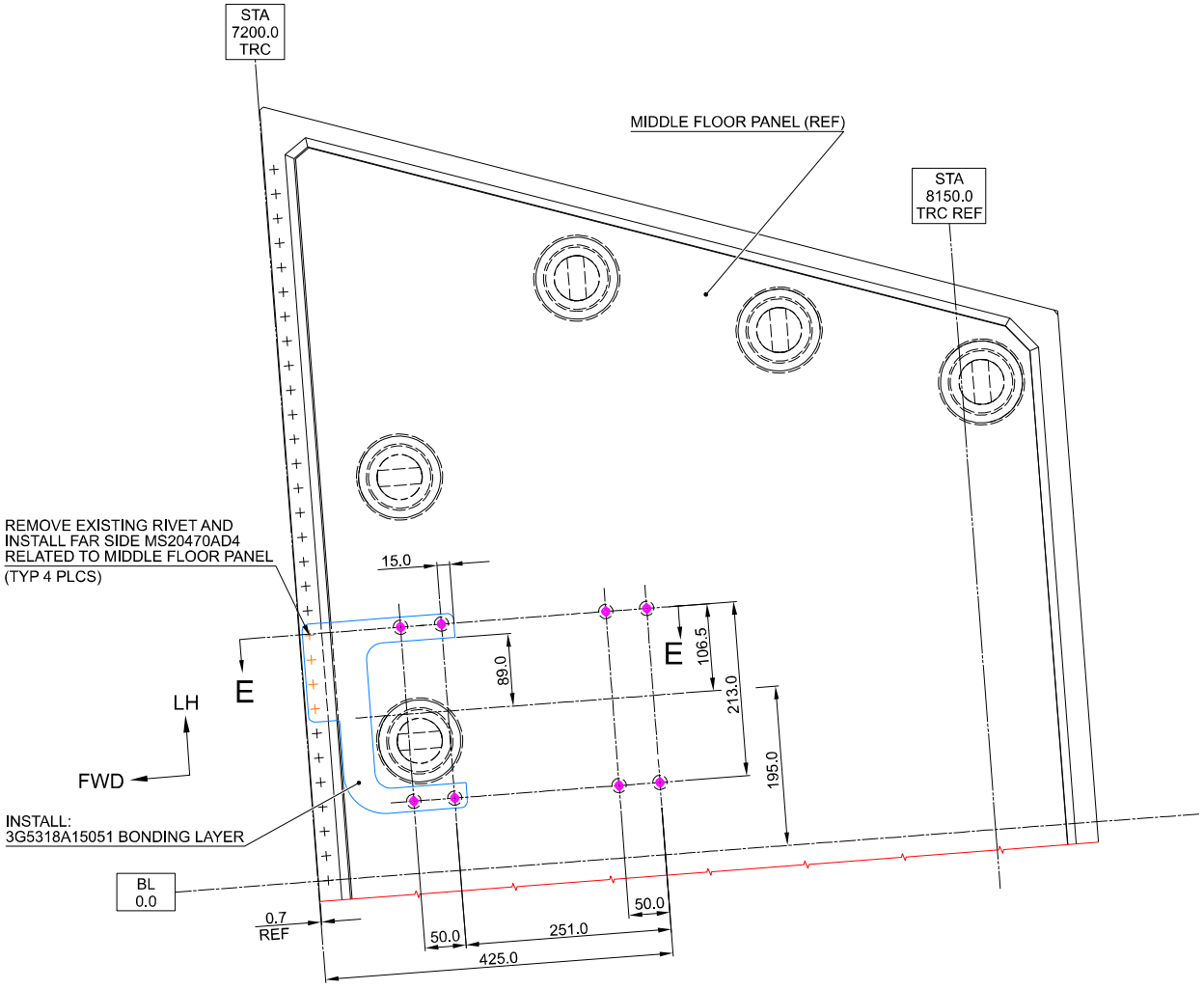
SCHEMATIC SECTION D-D



1 PREPARE THE INDICATED SURFACE TO ASSURE A GOOD GROUND CONTACT

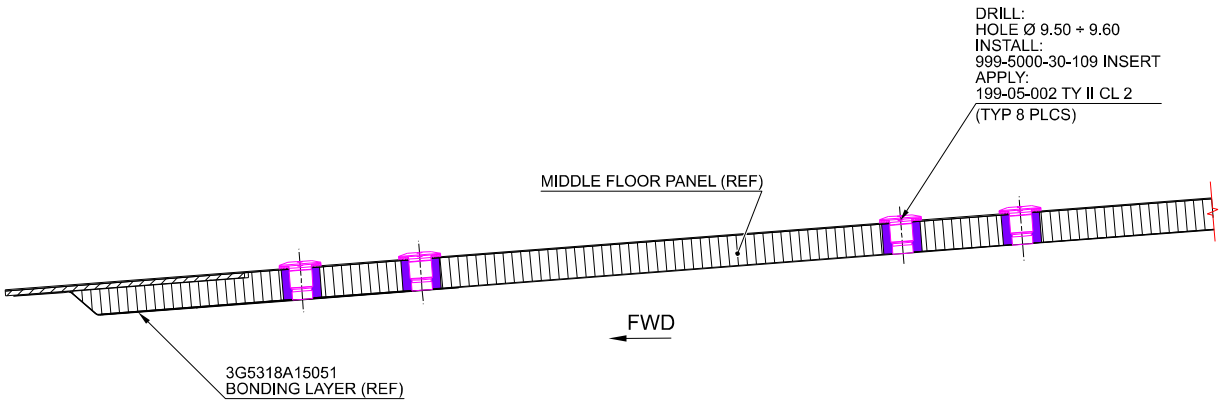
DETAIL C
3G5317A76431 AND FASTENERS OMITTED FOR BETTER CLARITY PURPOSE
(REFER TO FIGURE 1)

Figure 2



VIEW B

(REFER TO FIGURE 1)
PARTS OMITTED FOR BETTER CLARITY PURPOSE



SECTION E-E

Figure 3

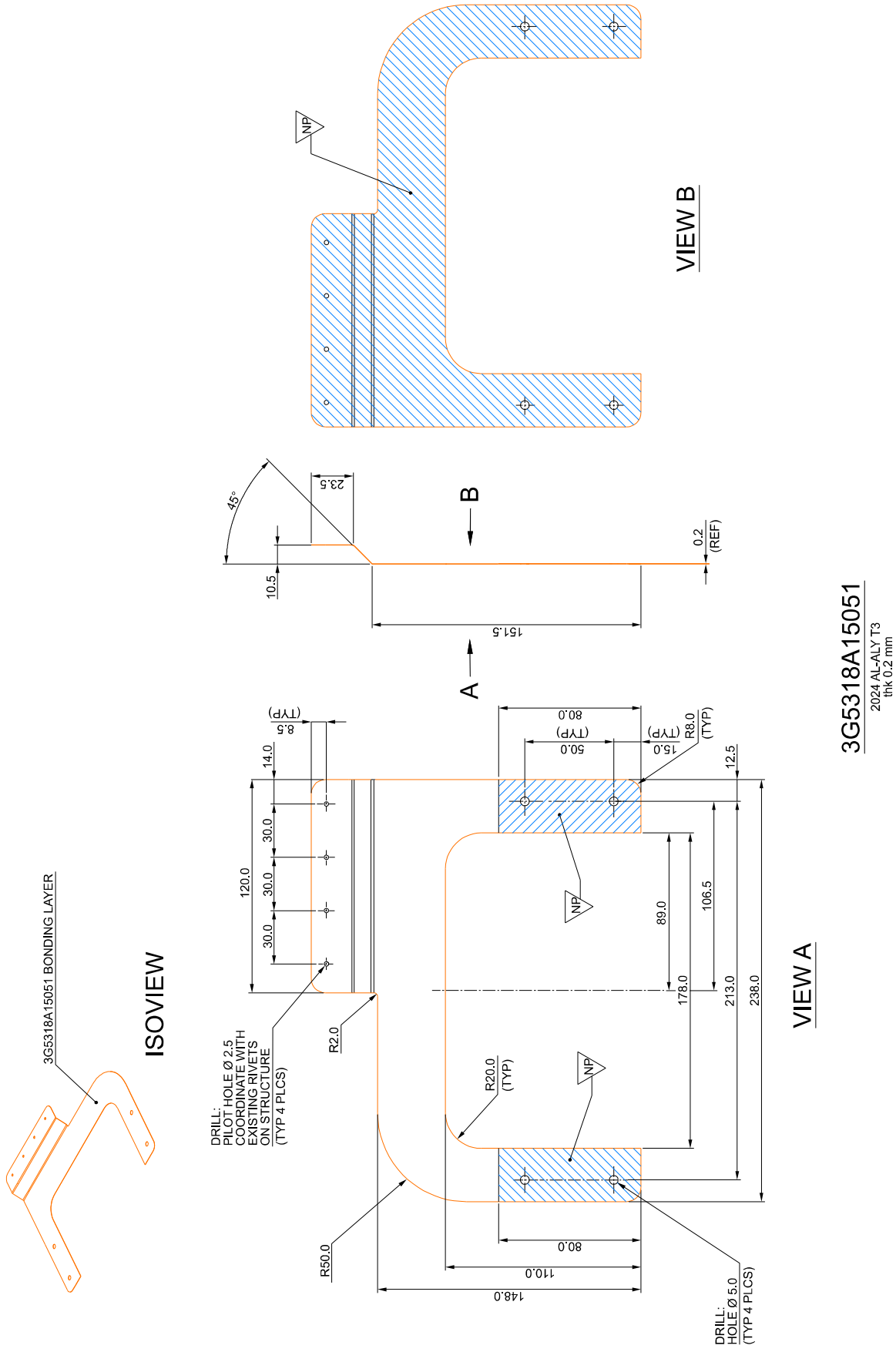

3G5318A15051
2024 AL-ALY T3
thk 0.2 mm
VIEW B
NP
VIEW A
ISOVIEW
3G5318A15051 BONDING LAYER
A
B
45°
23.5
10.5
0.2
(REF)
151.5
8.5
(TYP)
14.0
30.0
30.0
30.0
120.0
80.0
50.0
(TYP)
15.0
(TYP)
R8.0
(TYP)
12.5
89.0
106.5
178.0
213.0
238.0
R2.0
DRILL:
PILOT HOLE Ø 2.5
COORDINATE WITH
EXISTING RIVETS
ON STRUCTURE
(TYP 4 PLCS)
R20.0
(TYP)
R50.0
80.0
110.0
148.0
DRILL:
HOLE Ø 5.0
(TYP 4 PLCS)

Figure 4

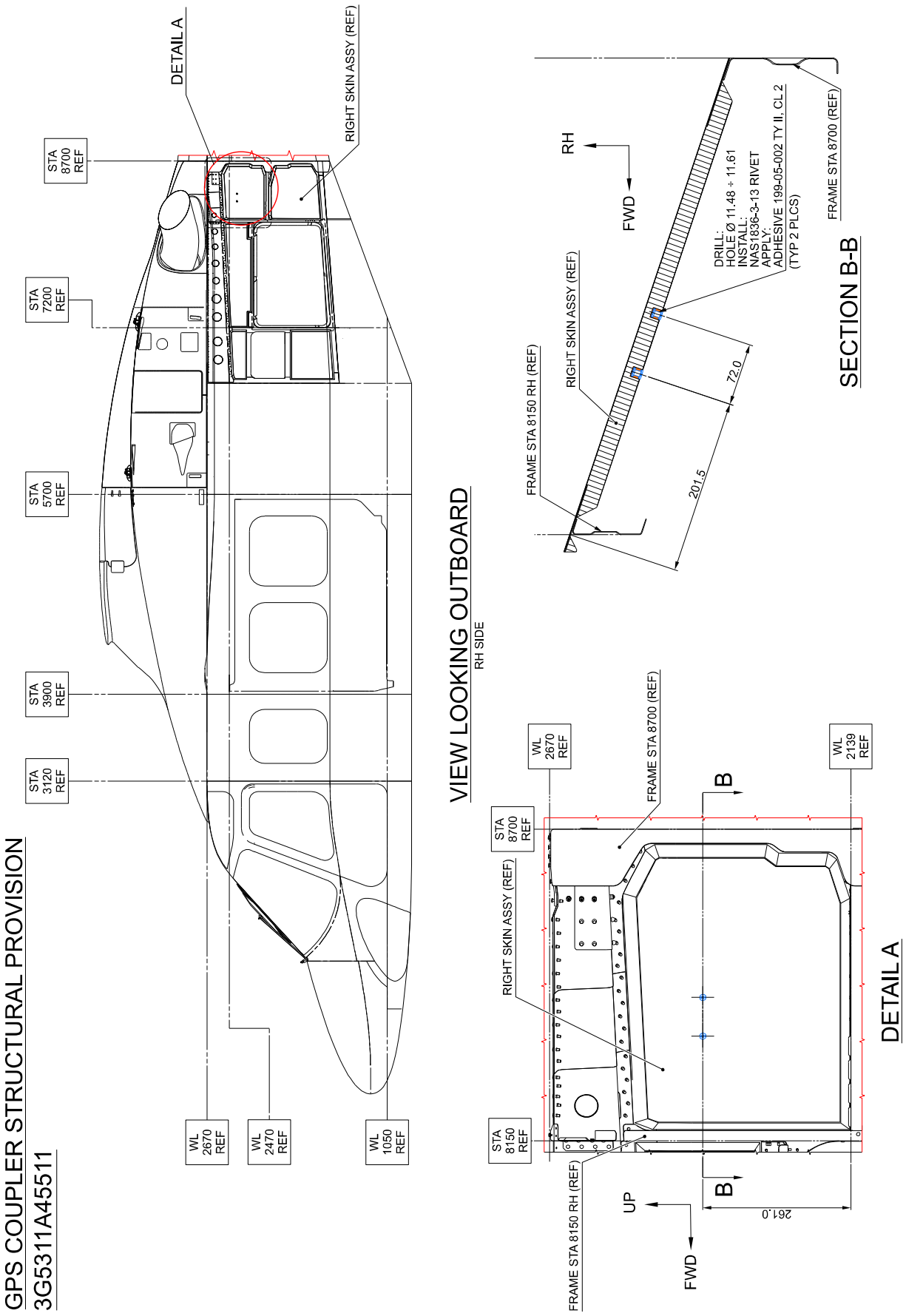

GPS COUPLER STRUCTURAL PROVISION
3G5311A45511
VIEW LOOKING OUTBOARD
RH SIDE
DETAIL A
RIGHT SKIN ASSY (REF)
STA 8700 REF
STA 7200 REF
STA 5700 REF
STA 3900 REF
STA 3120 REF
WL 2670 REF
WL 2470 REF
WL 1050 REF
SECTION B-B
RH
FWD
DRILL:
HOLE Ø 11.48 ÷ 11.61
INSTALL:
NAS1836-3-13 RIVET
APPLY:
ADHESIVE 199-05-002 TY II, CL 2
(TYP 2 PLCS)
FRAME STA 8700 (REF)
RIGHT SKIN ASSY (REF)
FRAME STA 8150 RH (REF)
72.0
201.5
DETAIL A
WL 2670 REF
FRAME STA 8700 (REF)
WL 2139 REF
STA 8700 REF
RIGHT SKIN ASSY (REF)
STA 8150 REF
FRAME STA 8150 RH (REF)
B
B
UP
FWD
261.0

Figure 5

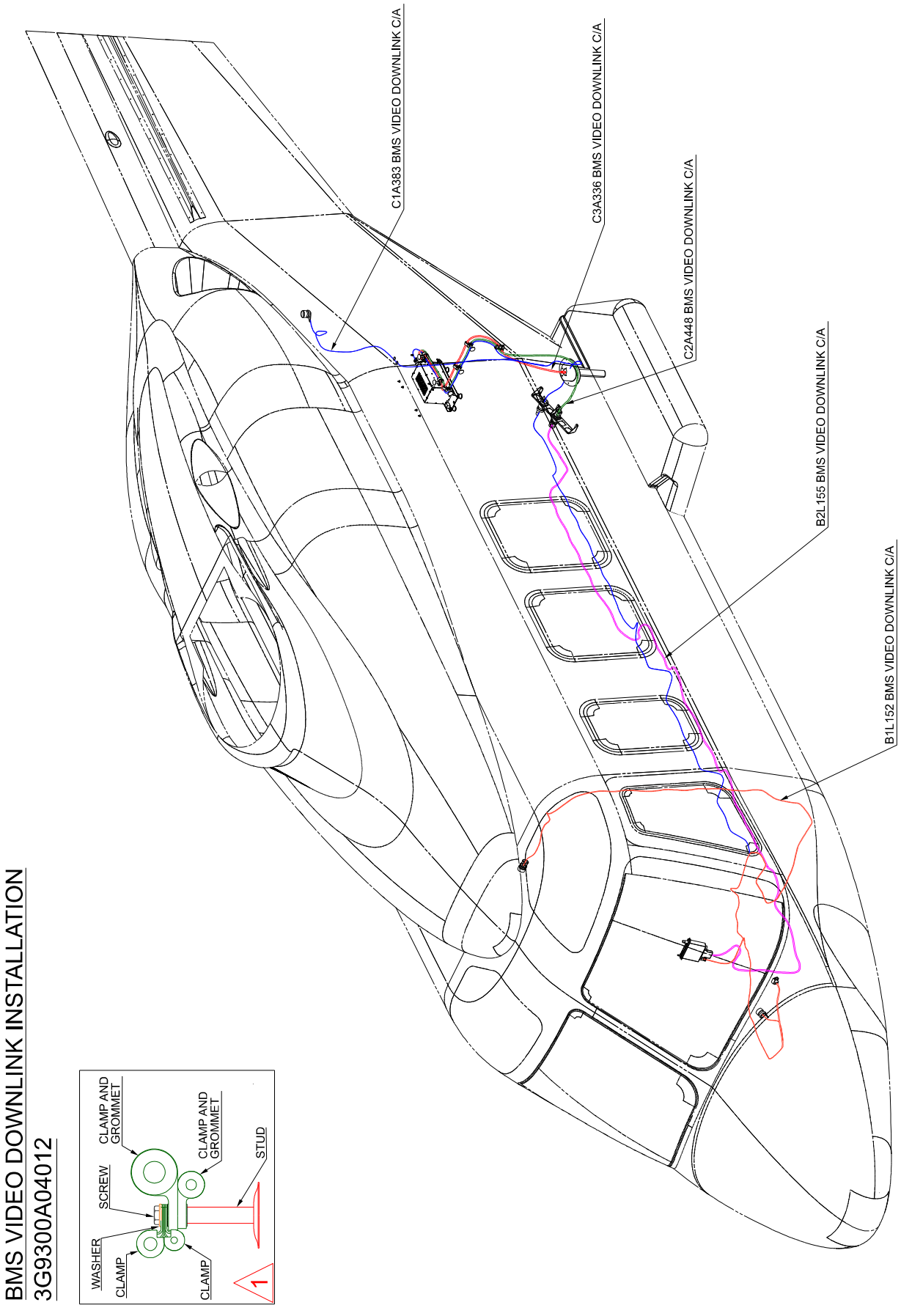

BMS VIDEO DOWNLINK INSTALLATION
3G9300A04012
C1A383 BMS VIDEO DOWNLINK C/A
C3A336 BMS VIDEO DOWNLINK C/A
C2A448 BMS VIDEO DOWNLINK C/A
B2L155 BMS VIDEO DOWNLINK C/A
B1L152 BMS VIDEO DOWNLINK C/A
WASHER
SCREW
CLAMP AND GROMMET
CLAMP AND GROMMET
STUD
CLAMP
CLAMP
1

Figure 6

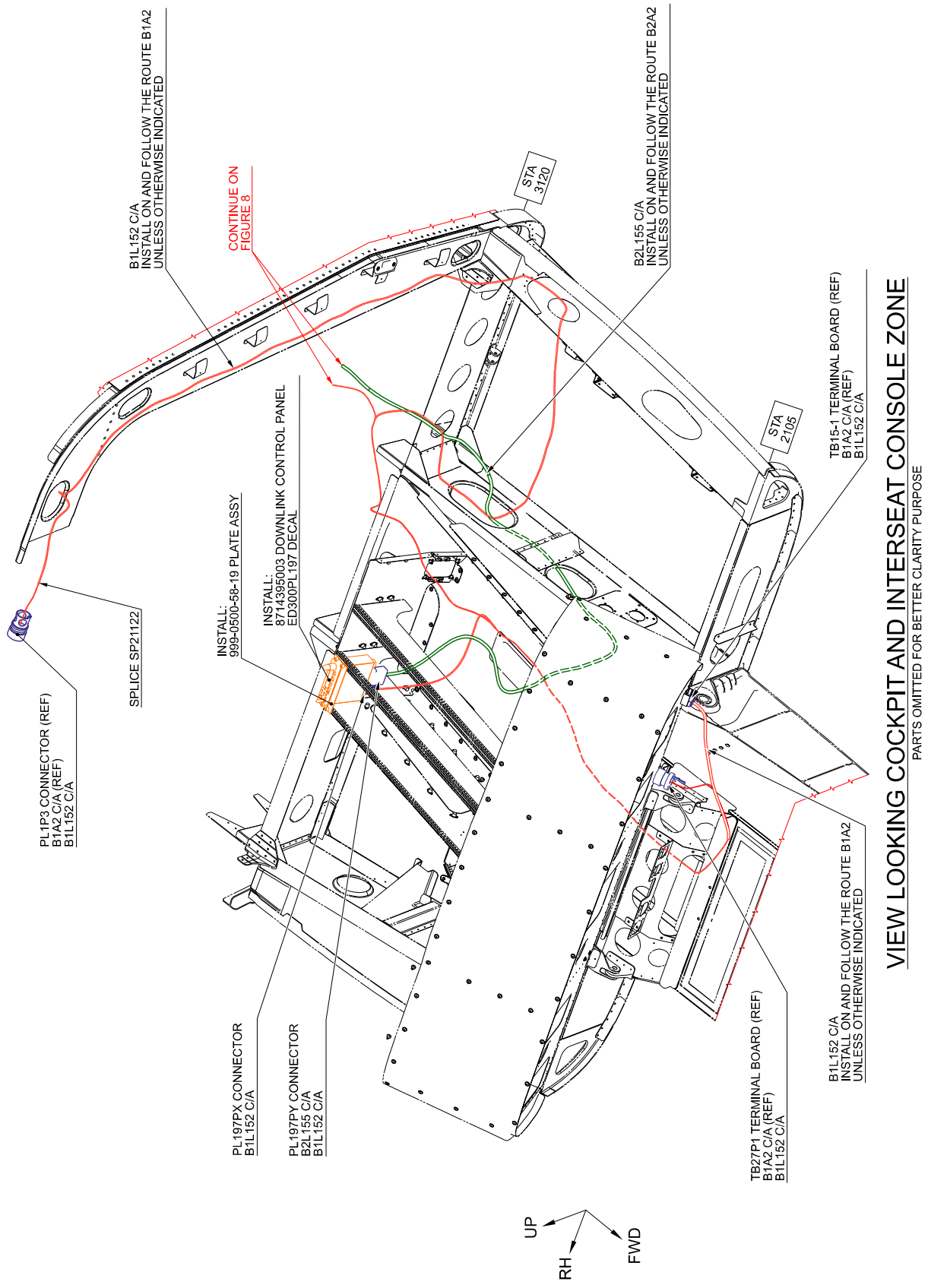

VIEW LOOKING COCKPIT AND INTERSEAT CONSOLE ZONE
PARTS OMITTED FOR BETTER CLARITY PURPOSE
B1L152 C/A
INSTALL ON AND FOLLOW THE ROUTE B1A2
UNLESS OTHERWISE INDICATED
CONTINUE ON
FIGURE 8
STA
3120
B2L155 C/A
INSTALL ON AND FOLLOW THE ROUTE B2A2
UNLESS OTHERWISE INDICATED
STA
2105
TB15-1 TERMINAL BOARD (REF)
B1A2 C/A (REF)
B1L152 C/A
SPLICE SP21122
PL1P3 CONNECTOR (REF)
B1A2 C/A (REF)
B1L152 C/A
INSTALL:
999-0500-58-19 PLATE ASSY
INSTALL:
8714395003 DOWNLINK CONTROL PANEL
ED300PL197 DECAL
PL197PX CONNECTOR
B1L152 C/A
PL197PY CONNECTOR
B2L155 C/A
B1L152 C/A
B1L152 C/A
INSTALL ON AND FOLLOW THE ROUTE B1A2
UNLESS OTHERWISE INDICATED
TB27P1 TERMINAL BOARD (REF)
B1A2 C/A (REF)
B1L152 C/A
UP
RH
FWD

Figure 7

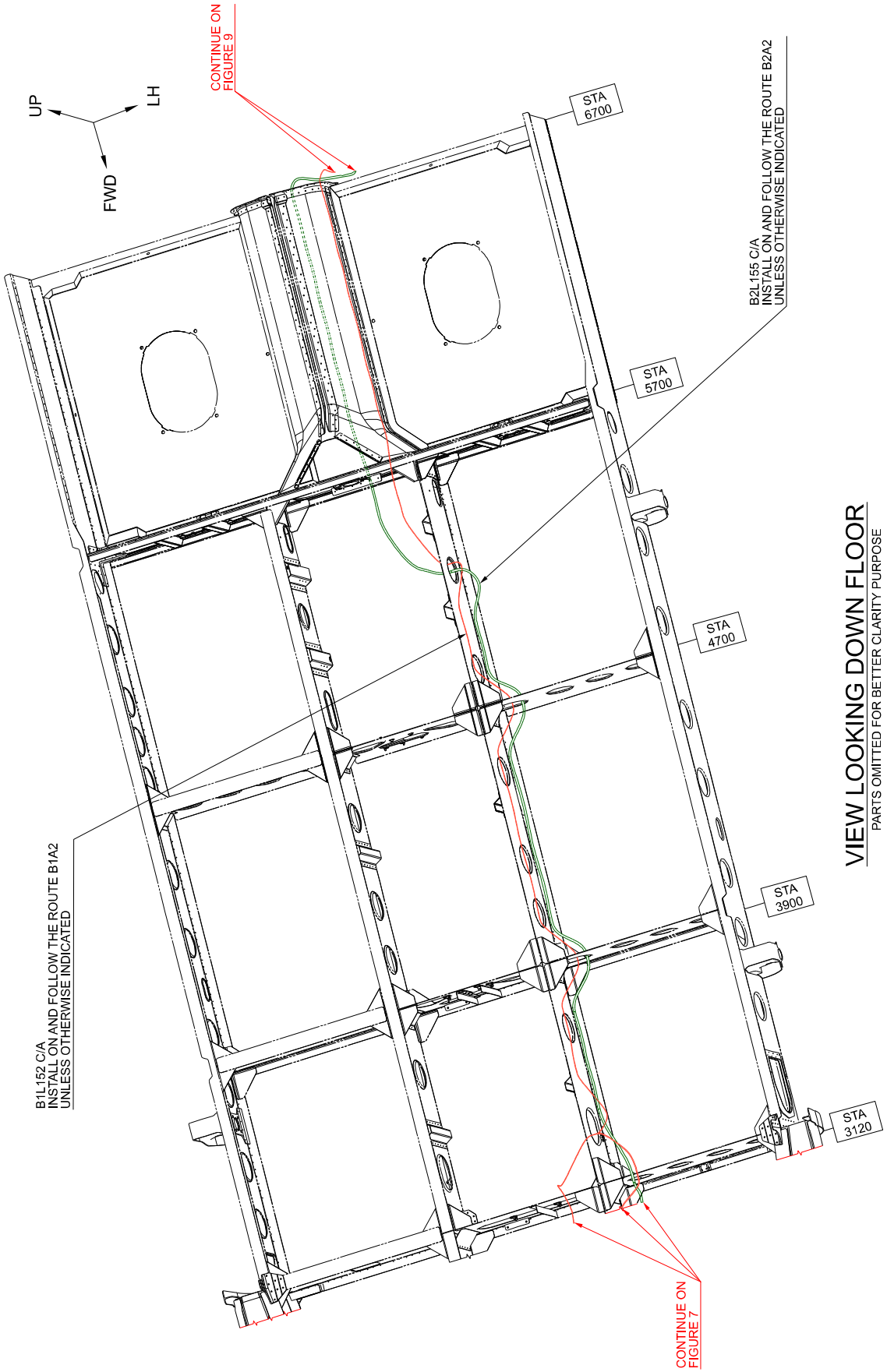
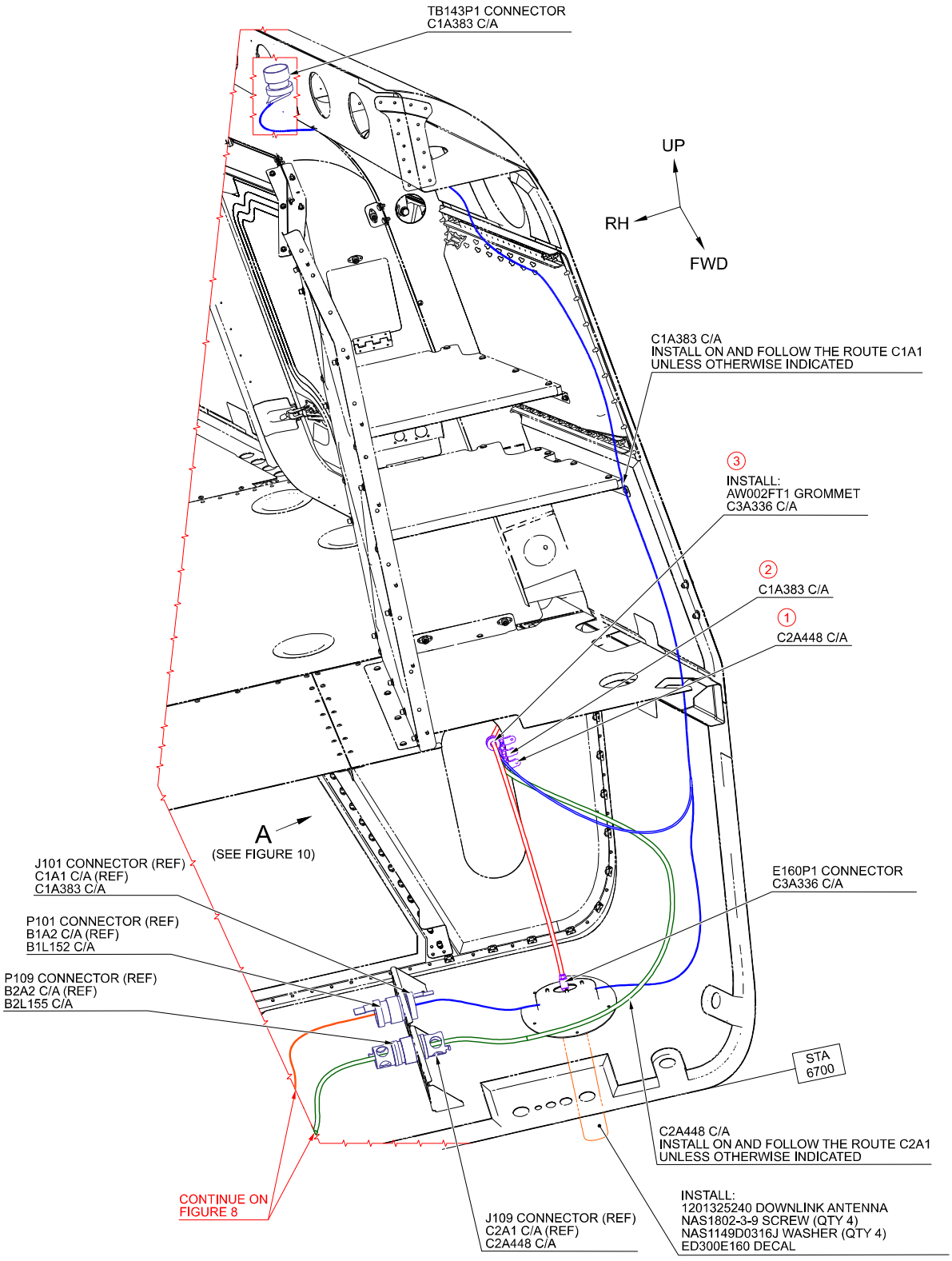

UP
LH
FWD
CONTINUE ON FIGURE 9
STA 6700
STA 5700
STA 4700
STA 3900
STA 3120
B2L155 C/A
INSTALL ON AND FOLLOW THE ROUTE B2A2
UNLESS OTHERWISE INDICATED
B1L152 C/A
INSTALL ON AND FOLLOW THE ROUTE B1A2
UNLESS OTHERWISE INDICATED
CONTINUE ON FIGURE 7
VIEW LOOKING DOWN FLOOR
PARTS OMITTED FOR BETTER CLARITY PURPOSE

Figure 8

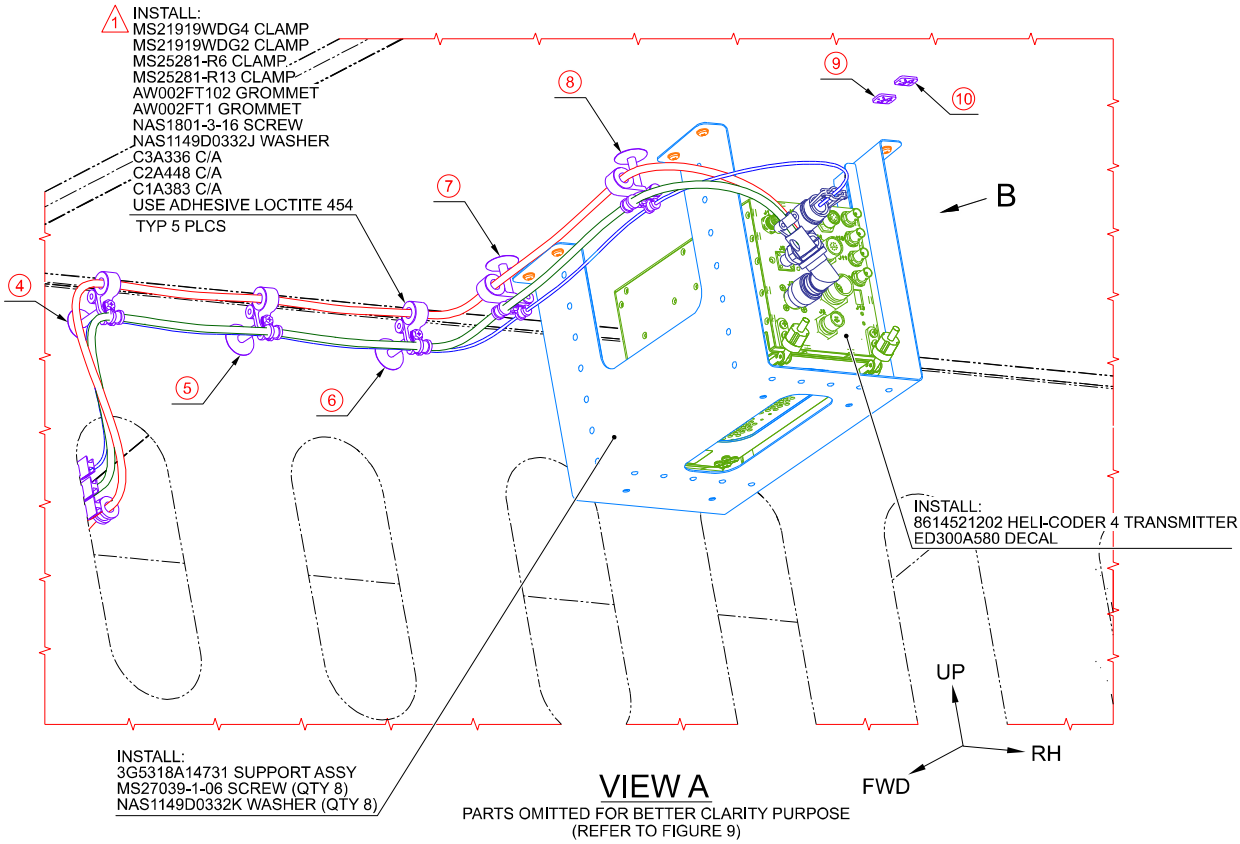


VIEW LOOKING AFT LH AVIONIC BAY

PARTS OMITTED FOR BETTER CLARITY PURPOSE

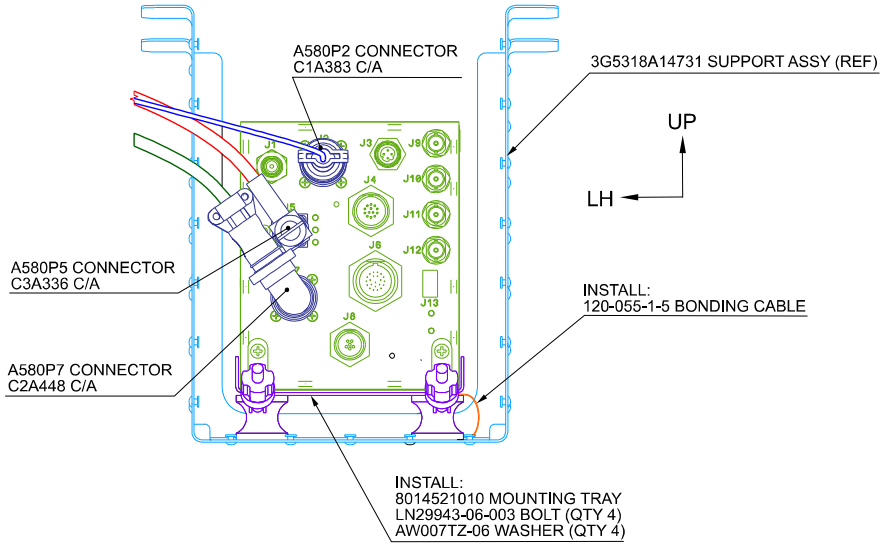
LOCATION NUMBER	PART. NUMBER	STA	BL	WL	ORIENTATION
1	MS3340-1-9	7200	-787	1324	-
2	MS3340-1-9	7200	-787	1344	-
3	MS3340-1-9	7200	-787	1365	-

Figure 9



VIEW A

PARTS OMITTED FOR BETTER CLARITY PURPOSE
(REFER TO FIGURE 9)

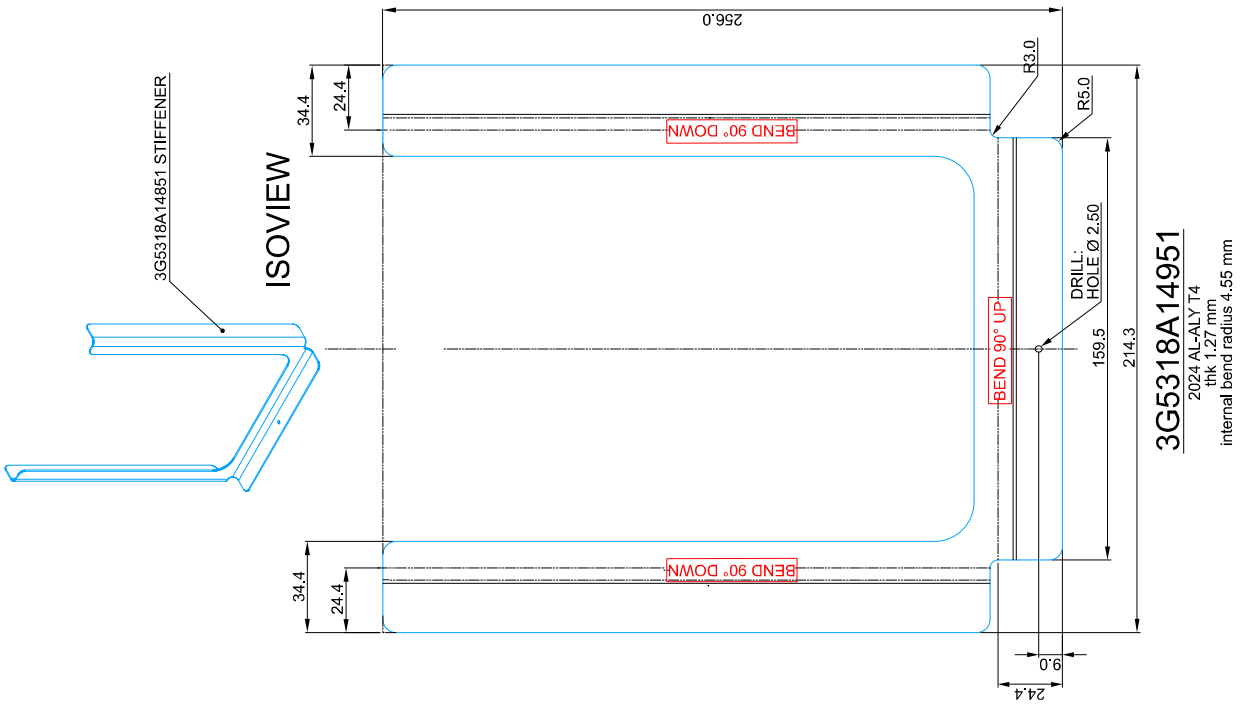


VIEW B

PARTS OMITTED FOR BETTER CLARITY PURPOSE

LOCATION NUMBER	PART. NUMBER	STA	BL	WL	ORIENTATION
4	A388A3E22C	7202	-743	1515	-
5	A388A3E22C	7202	-559	1515	-
6	A388A3E22C	7202	-386	1515	-
7	A388A3E22C	7341	-343	1554	-
8	A388A3E22C	7563	-343	1571	-
9	AW001CL001-N6	7717	-152	1583	-
10	AW001CL001-N6	7754	-152	1585	-

Figure 10


3G5318A14851 STIFFENER
ISOVIEW
256.0
34.4
24.4
R3.0
R5.0
BEND 90° DOWN
BEND 90° UP
DRILL:
HOLE Ø 2.50
159.5
214.3
9.0
24.4
3G5318A14951
2024 AL-ALY T4
thk 1.27 mm
internal bend radius 4.55 mm

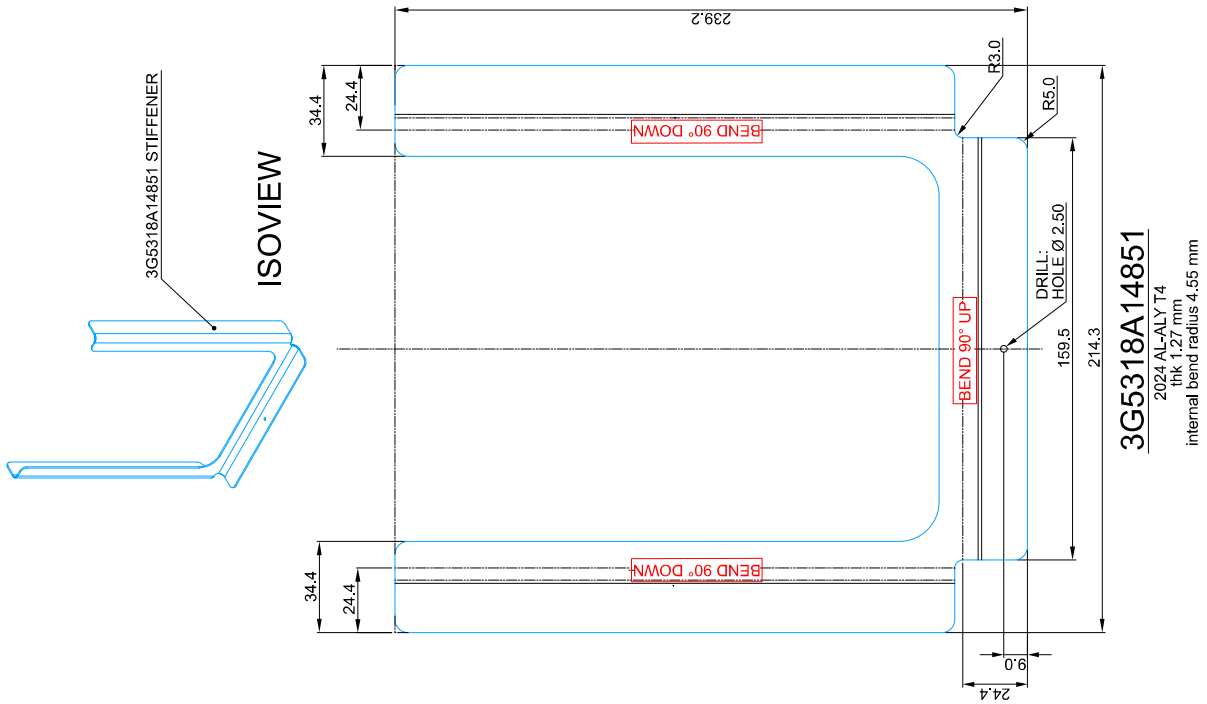

3G5318A14851 STIFFENER
ISOVIEW
239.2
34.4
24.4
R3.0
R5.0
BEND 90° DOWN
BEND 90° UP
DRILL:
HOLE Ø 2.50
159.5
214.3
9.0
24.4
3G5318A14851
2024 AL-ALY T4
thk 1.27 mm
internal bend radius 4.55 mm

Figure 11

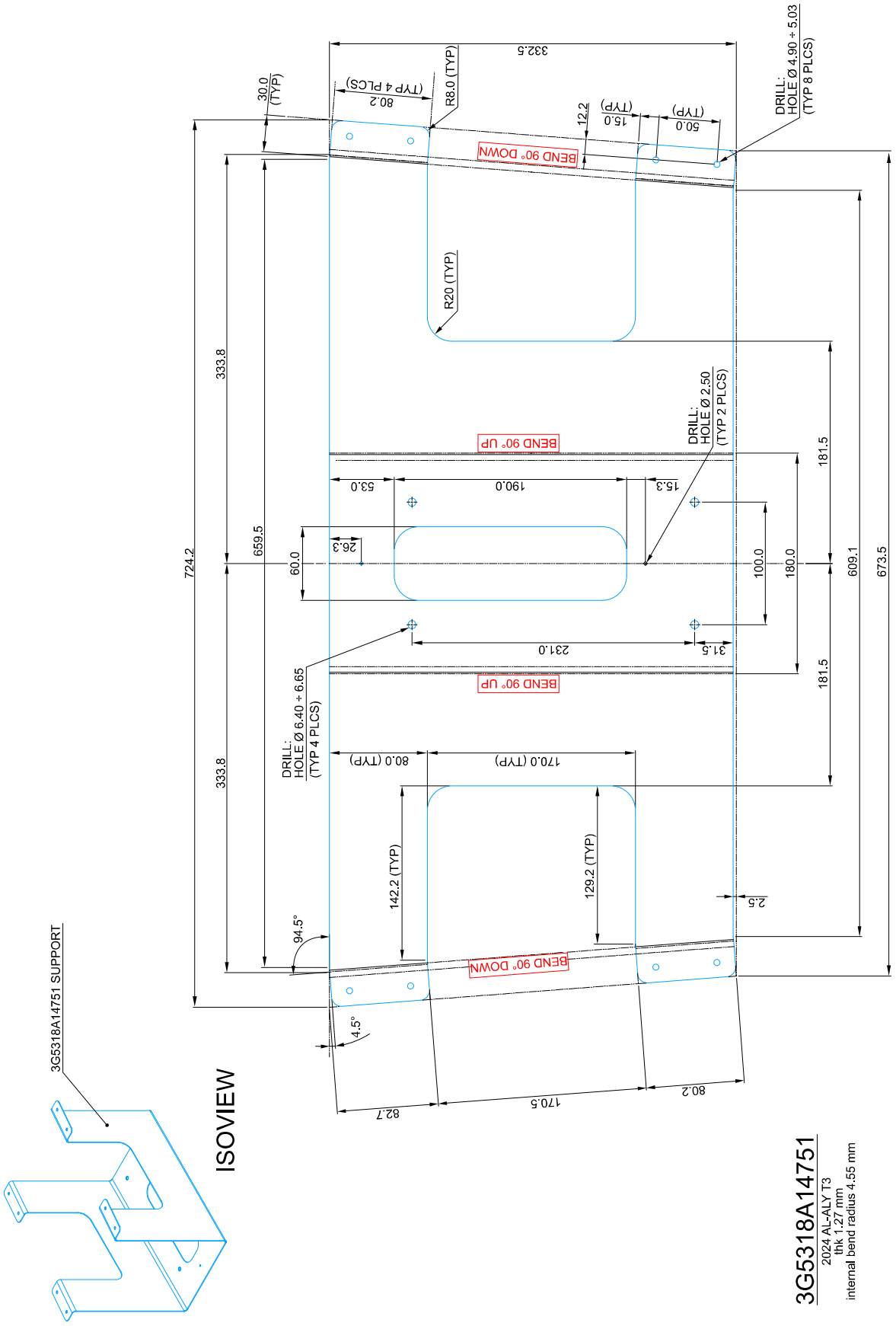

3G5318A14751 SUPPORT
ISOVIEW
332.5
30.0 (TYP)
80.2 (TYP 4 PLCS)
R8.0 (TYP)
12.2
15.0 (TYP)
50.0 (TYP)
DRILL: HOLE Ø 4.90 ÷ 5.03 (TYP 8 PLCS)
BEND 90° DOWN
R20 (TYP)
333.8
724.2
659.5
DRILL: HOLE Ø 2.50 (TYP 2 PLCS)
BEND 90° UP
53.0
190.0
15.3
181.5
26.3
60.0
100.0
180.0
609.1
673.5
231.0
31.5
DRILL: HOLE Ø 6.40 ÷ 6.65 (TYP 4 PLCS)
80.0 (TYP)
170.0 (TYP)
142.2 (TYP)
129.2 (TYP)
2.5
94.5°
4.5°
82.7
170.5
80.2
3G5318A14751
2024 AL-ALY T3
thk 1.27 mm
internal bend radius 4.55 mm

Figure 12

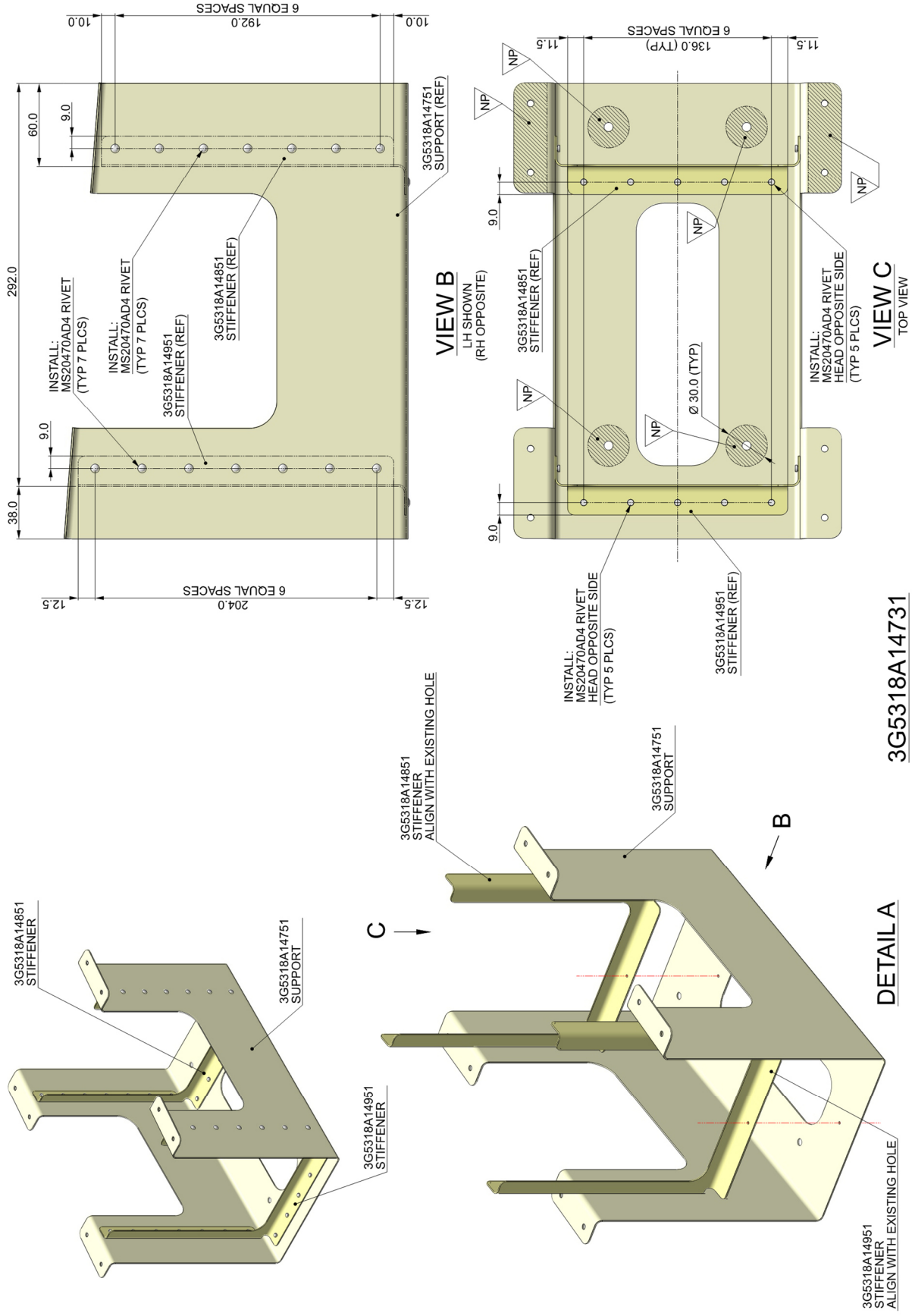

3G5318A14731
VIEW B
LH SHOWN
(RH OPPOSITE)
VIEW C
TOP VIEW
DETAIL A
6 EQUAL SPACES
192.0
204.0
136.0 (TYP)
292.0
60.0
38.0
9.0
10.0
12.5
11.5
NP
Ø 30.0 (TYP)
INSTALL:
MS20470AD4 RIVET
(TYP 7 PLCS)
INSTALL:
MS20470AD4 RIVET
HEAD OPPOSITE SIDE
(TYP 5 PLCS)
3G5318A14851
STIFFENER (REF)
3G5318A14951
STIFFENER (REF)
3G5318A14751
SUPPORT (REF)
3G5318A14851
STIFFENER
ALIGN WITH EXISTING HOLE
3G5318A14751
SUPPORT
3G5318A14951
STIFFENER
ALIGN WITH EXISTING HOLE
B
C

Figure 13

BMS VIDEO DOWNLINK VARIANT ELECTRICAL PROVISION
3G4600P01111

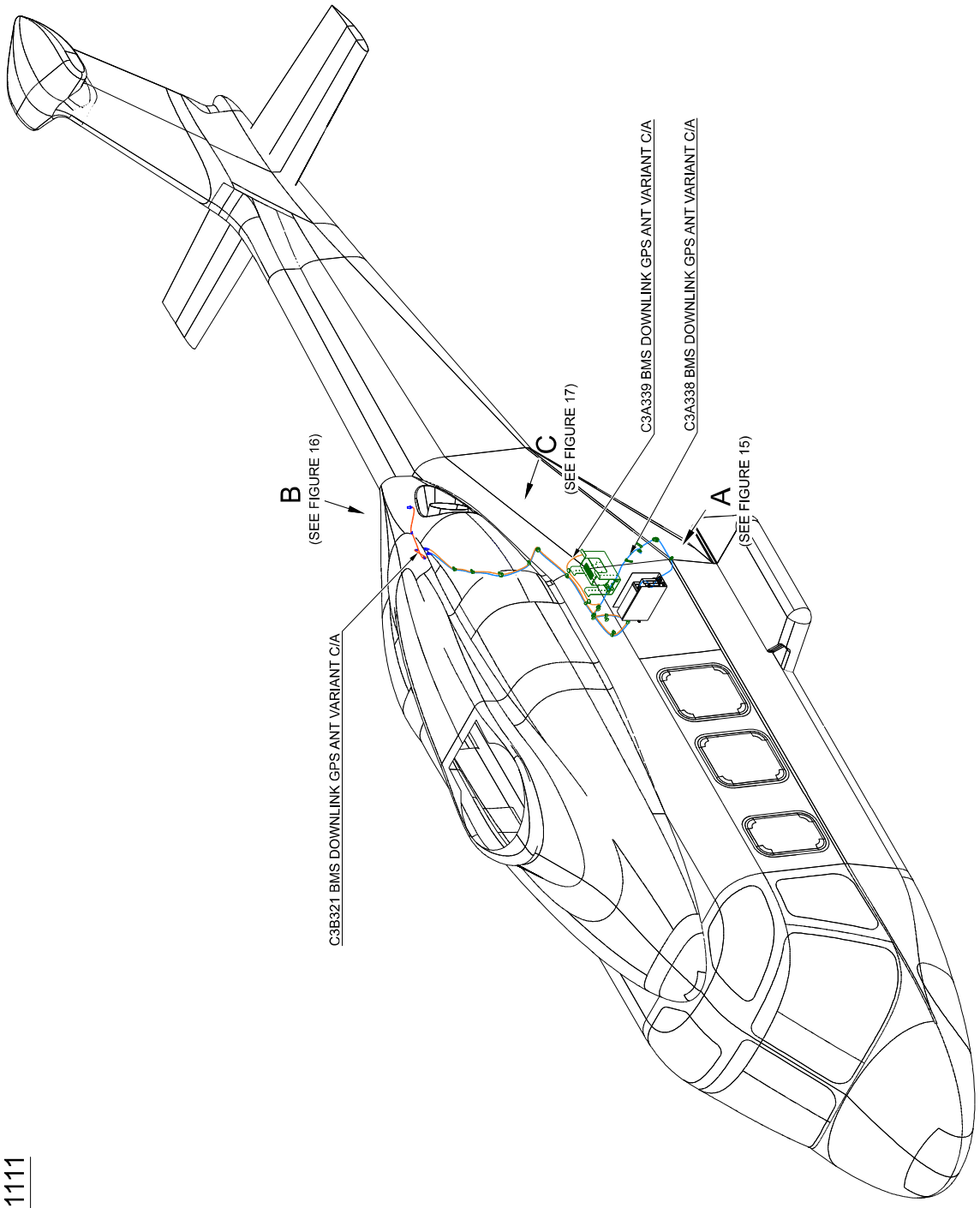
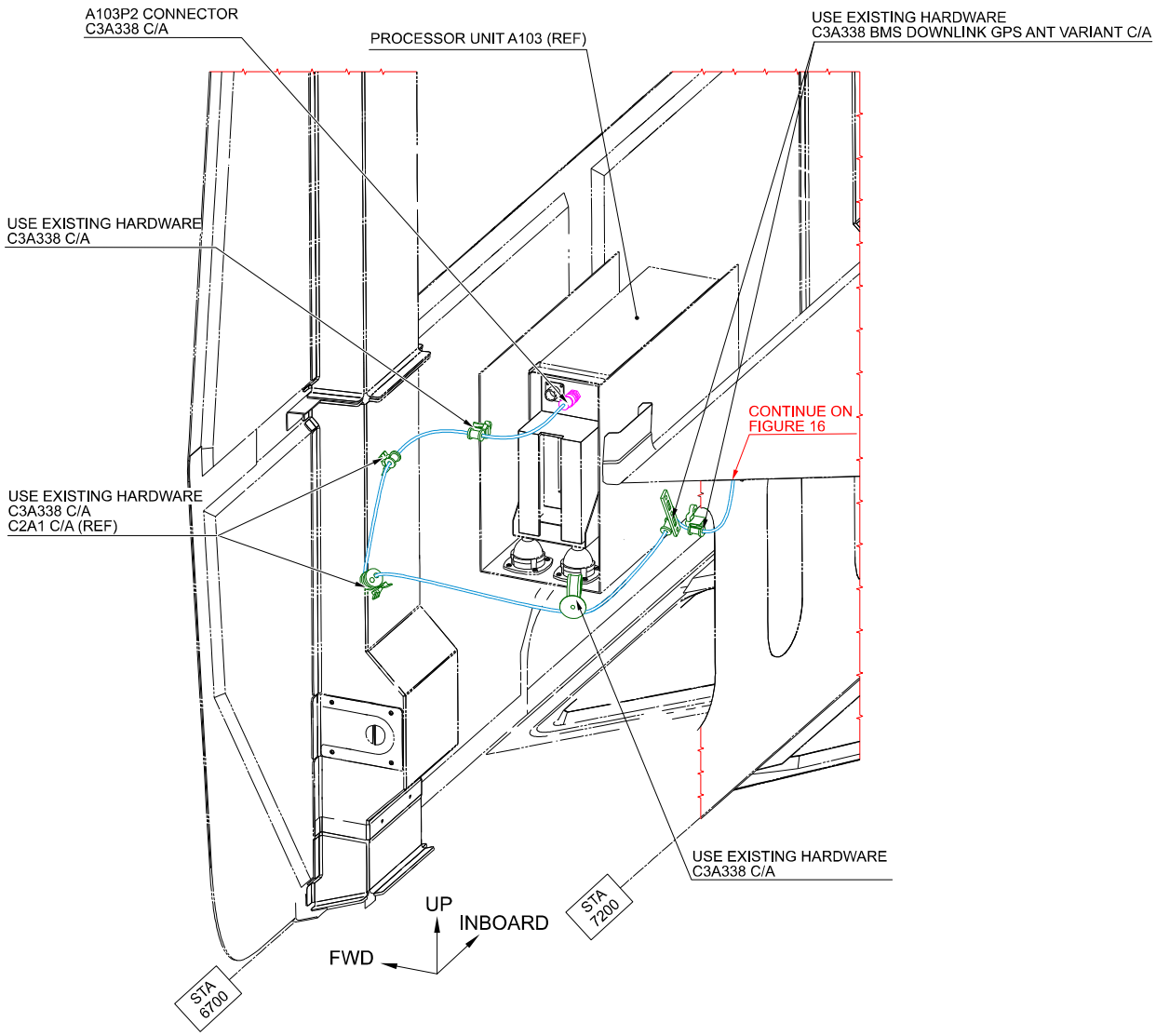


Figure 14



VIEW A

PARTS OMITTED FOR BETTER CLARITY PURPOSE
(REFER TO FIGURE 14)

Figure 15

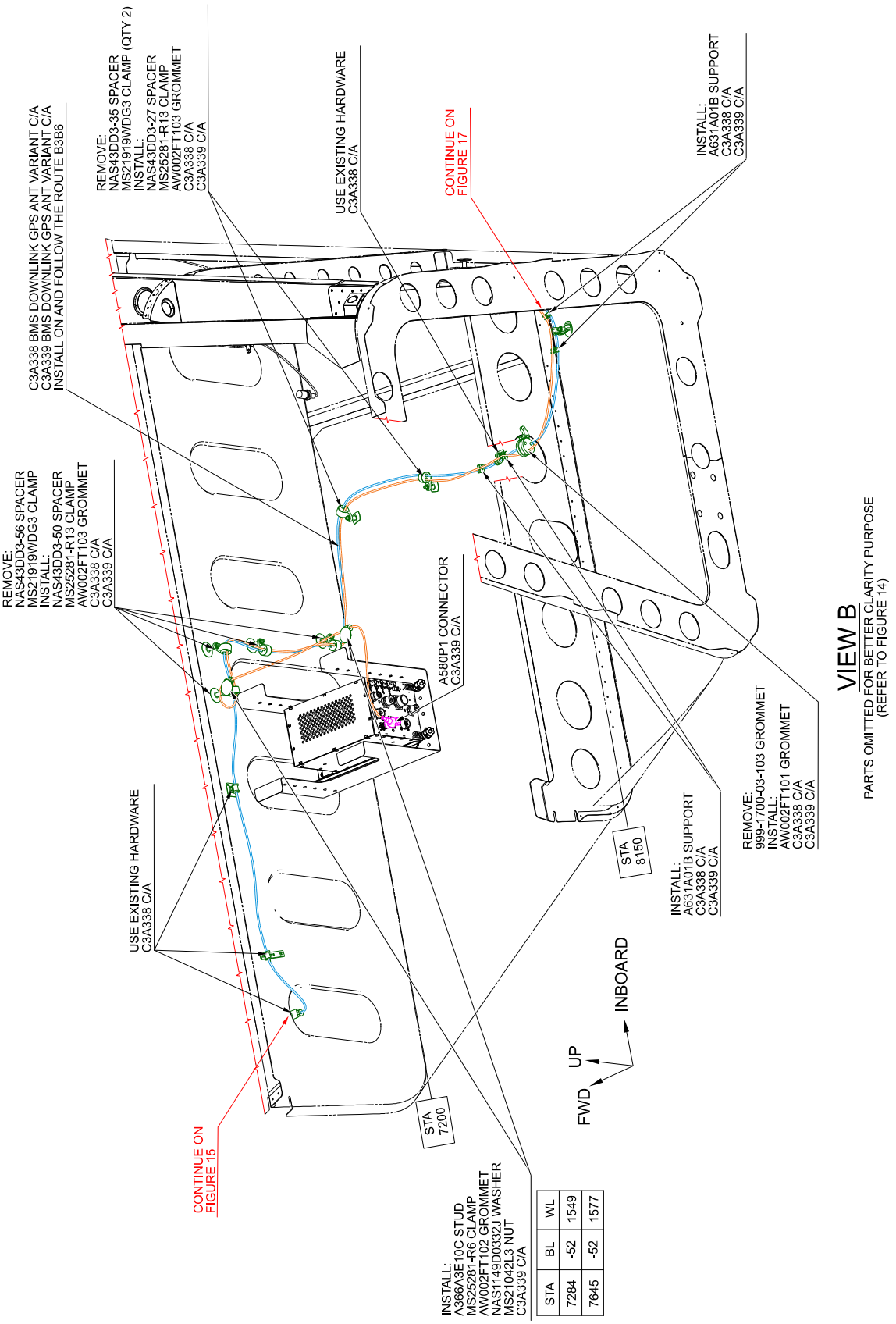
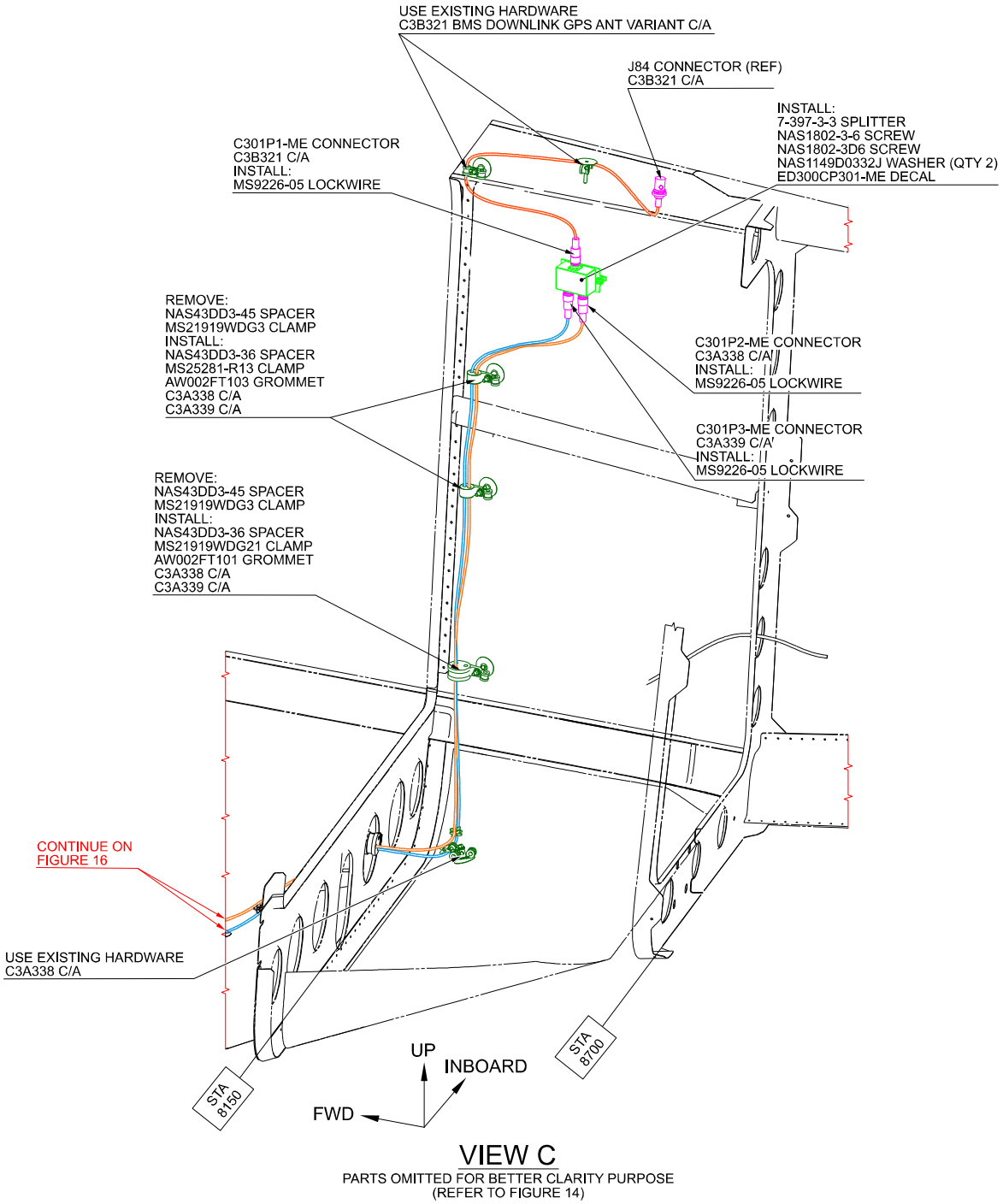

C3A338 BMS DOWNLINK GPS ANT VARIANT C/A
C3A339 BMS DOWNLINK GPS ANT VARIANT C/A
INSTALL ON AND FOLLOW THE ROUTE B3B6
REMOVE:
NAS43DD3-56 SPACER
MS21919WDG3 CLAMP
INSTALL:
NAS43DD3-50 SPACER
MS25281-R13 CLAMP
AW002FT103 GROMMET
C3A338 C/A
C3A339 C/A
REMOVE:
NAS43DD3-35 SPACER
MS21919WDG3 CLAMP (QTY 2)
INSTALL:
NAS43DD3-27 SPACER
MS25281-R13 CLAMP
AW002FT103 GROMMET
C3A338 C/A
C3A339 C/A
USE EXISTING HARDWARE
C3A338 C/A
CONTINUE ON
FIGURE 17
INSTALL:
A631A01B SUPPORT
C3A338 C/A
C3A339 C/A
A580P1 CONNECTOR
C3A339 C/A
USE EXISTING HARDWARE
C3A338 C/A
CONTINUE ON
FIGURE 15
STA
7200
STA
8150
INSTALL:
A631A01B SUPPORT
C3A338 C/A
C3A339 C/A
REMOVE:
999-1700-03-103 GROMMET
INSTALL:
AW002FT101 GROMMET
C3A338 C/A
C3A339 C/A
INSTALL:
A366A3E10C STUD
MS25281-R6 CLAMP
AW002FT102 GROMMET
NAS1149D0332J WASHER
MS21042L3 NUT
C3A339 C/A
STA BL WL
7284 -52 1549
7645 -52 1577
UP
FWD
INBOARD
VIEW B
PARTS OMITTED FOR BETTER CLARITY PURPOSE
(REFER TO FIGURE 14)

Figure 16



VIEW C

PARTS OMITTED FOR BETTER CLARITY PURPOSE
(REFER TO FIGURE 14)

Figure 17

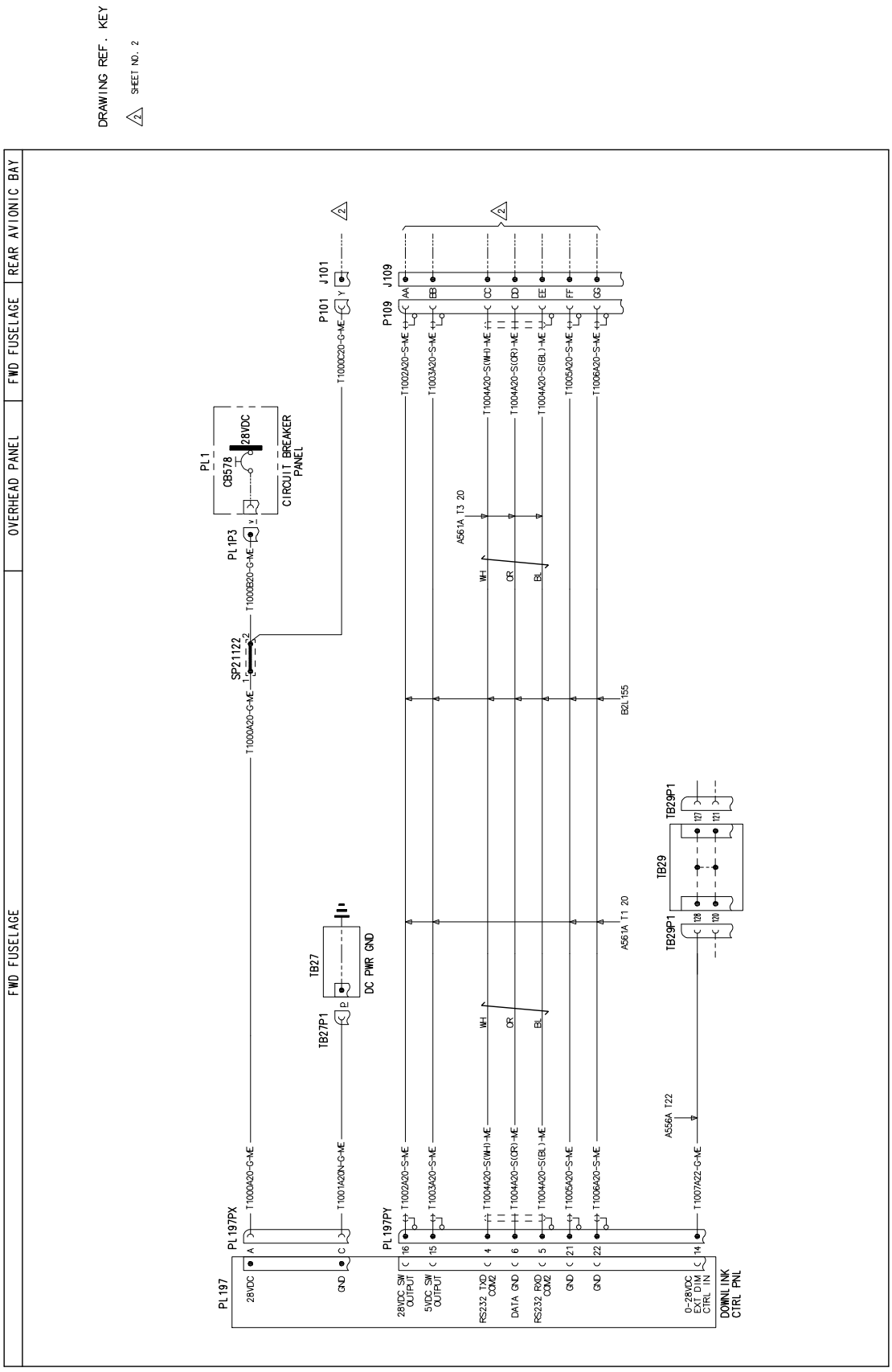

3G9300W01601
WIRING DIAGRAM BMS VIDEO DOWNLINK
SHEET 1
DRAWING REF. KEY
SHEET NO. 2
FWD FUSELAGE
OVERHEAD PANEL
FWD FUSELAGE
REAR AVIONIC BAY
PL 1
CB578
28VDC
CIRCUIT BREAKER PANEL
PL1P3
T1000B20-G-ME
SP21122
T1000A20-G-ME
P101 J101
T1000C20-G-ME
P109 J109
T1002A20-S-ME
T1003A20-S-ME
T1004A20-S(WH)-ME
T1004A20-S(GR)-ME
T1004A20-S(BL)-ME
T1005A20-S-ME
T1006A20-S-ME
A561A T3 20
WH
GR
BL
B2L155
TB27
TB27P1
DC PWR GND
T1000A20-G-ME
T1001A20N-G-ME
PL 197PX
PL 197PY
PL 197
28VDC
GND
28VDC SW OUTPUT
5VDC SW OUTPUT
RS232 TXD COM2
DATA GND
RS232 RXD COM2
GND
GND
0-28VDC EXT DIM CTRL IN
DOWNLINK CTRL PNL
A561A T1 20
A556A T22
TB29
TB29P1
T1007A22-G-ME
FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM B1L152 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A556A T20 UNLESS SPECIFIED

Figure 18

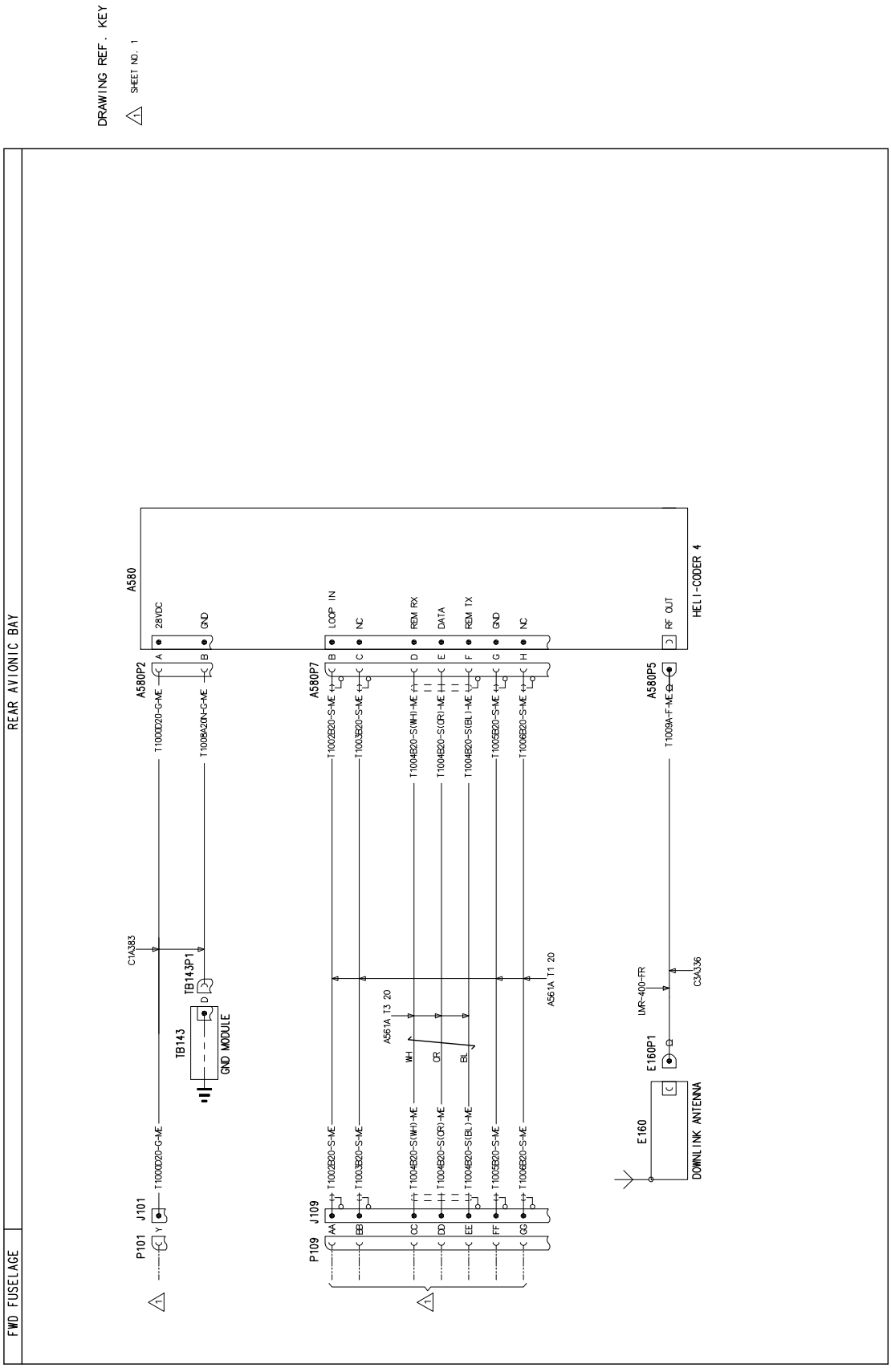

3G9300W01601
WIRING DIAGRAM BMS VIDEO DOWNLINK
SHEET 2
DRAWING REF. KEY
SHEET NO. 1
FWD FUSELAGE
REAR AVIONIC BAY
A580
28VDC
GND
LOOP IN
NC
RDM RX
DATA
RDM TX
GND
NC
RF OUT
HELI-CODER 4
A580P2
A580P7
A580P5
T1000D20-G-ME
T1008A20N-G-ME
T1002B20-S-ME
T1003B20-S-ME
T1004B20-S(WH)-ME
T1004B20-S(GR)-ME
T1004B20-S(BL)-ME
T1005B20-S-ME
T1006B20-S-ME
T1009A-F-ME
C1A383
TB143P1
TB143
GND MODULE
A561A T3 20
A561A T1 20
WH
GR
BL
P101 J101
P109 J109
LMR-400-FR
C3A336
E160P1
E160
DOWNLINK ANTENNA
FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM C2A448 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A556A T20 UNLESS SPECIFIED

Figure 19

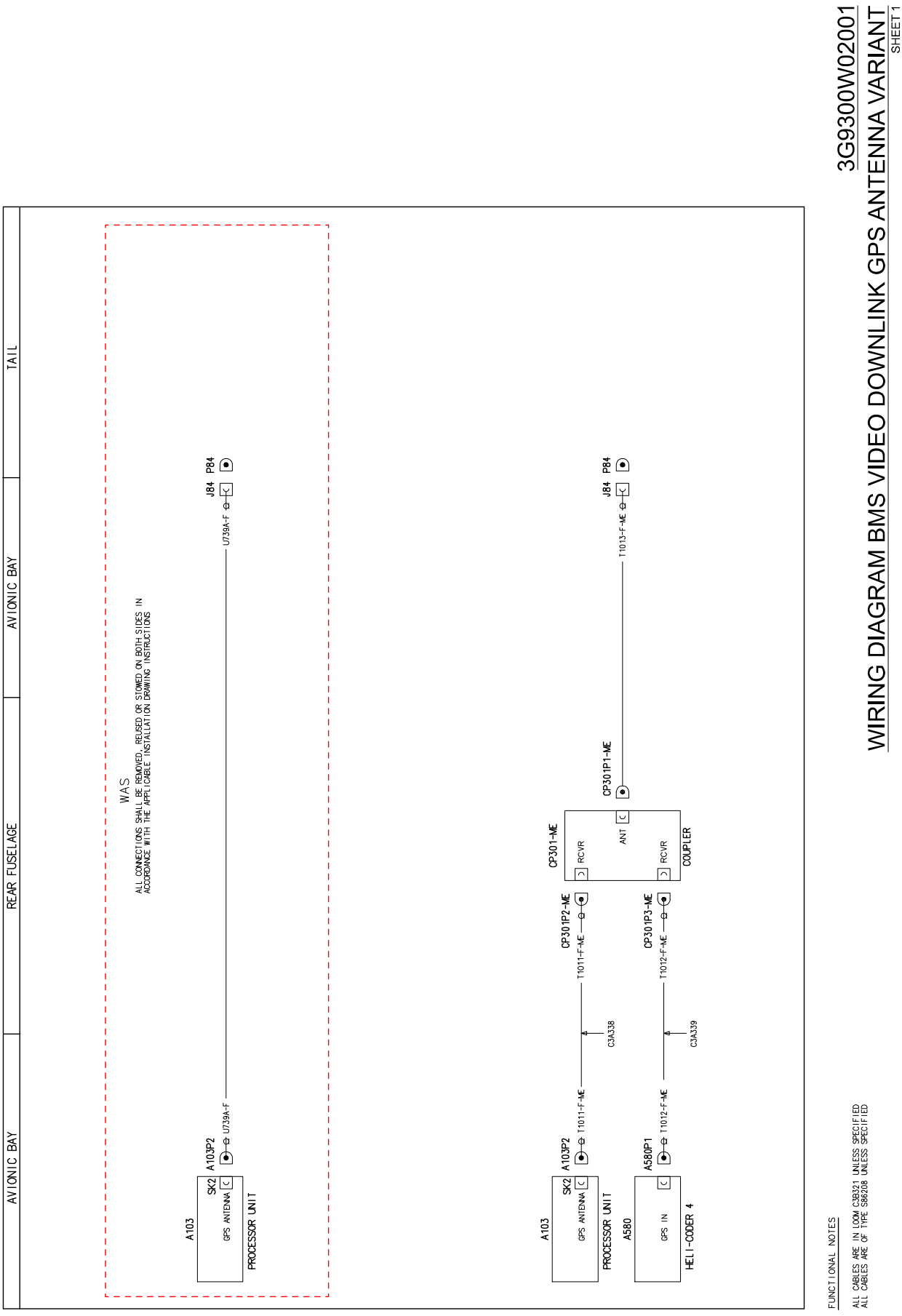
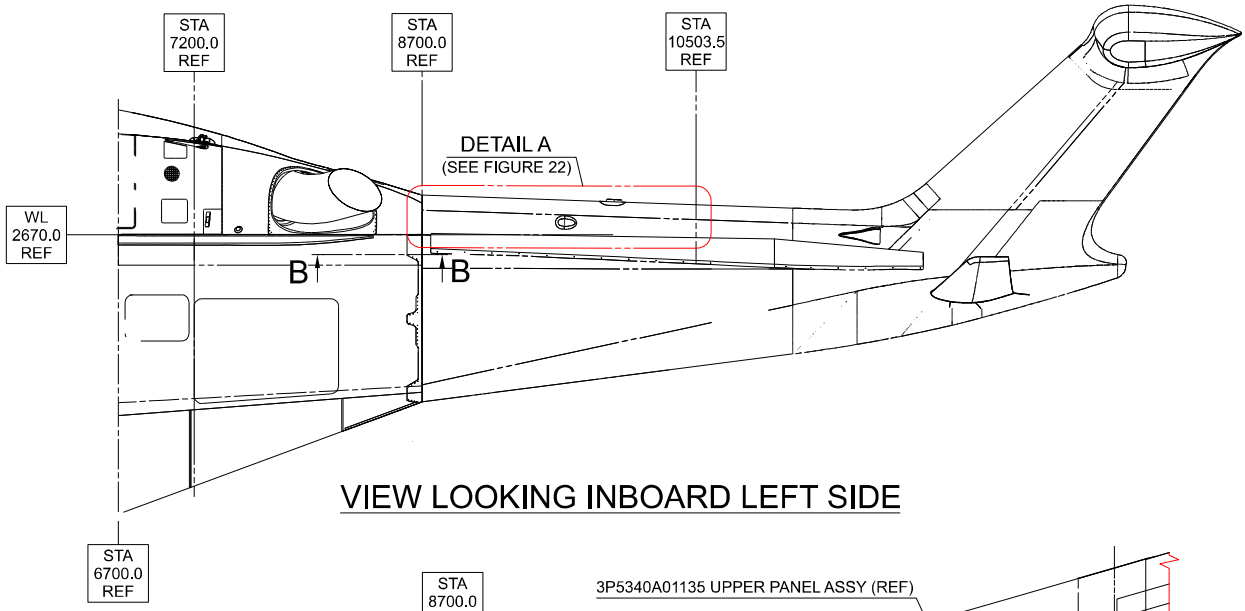
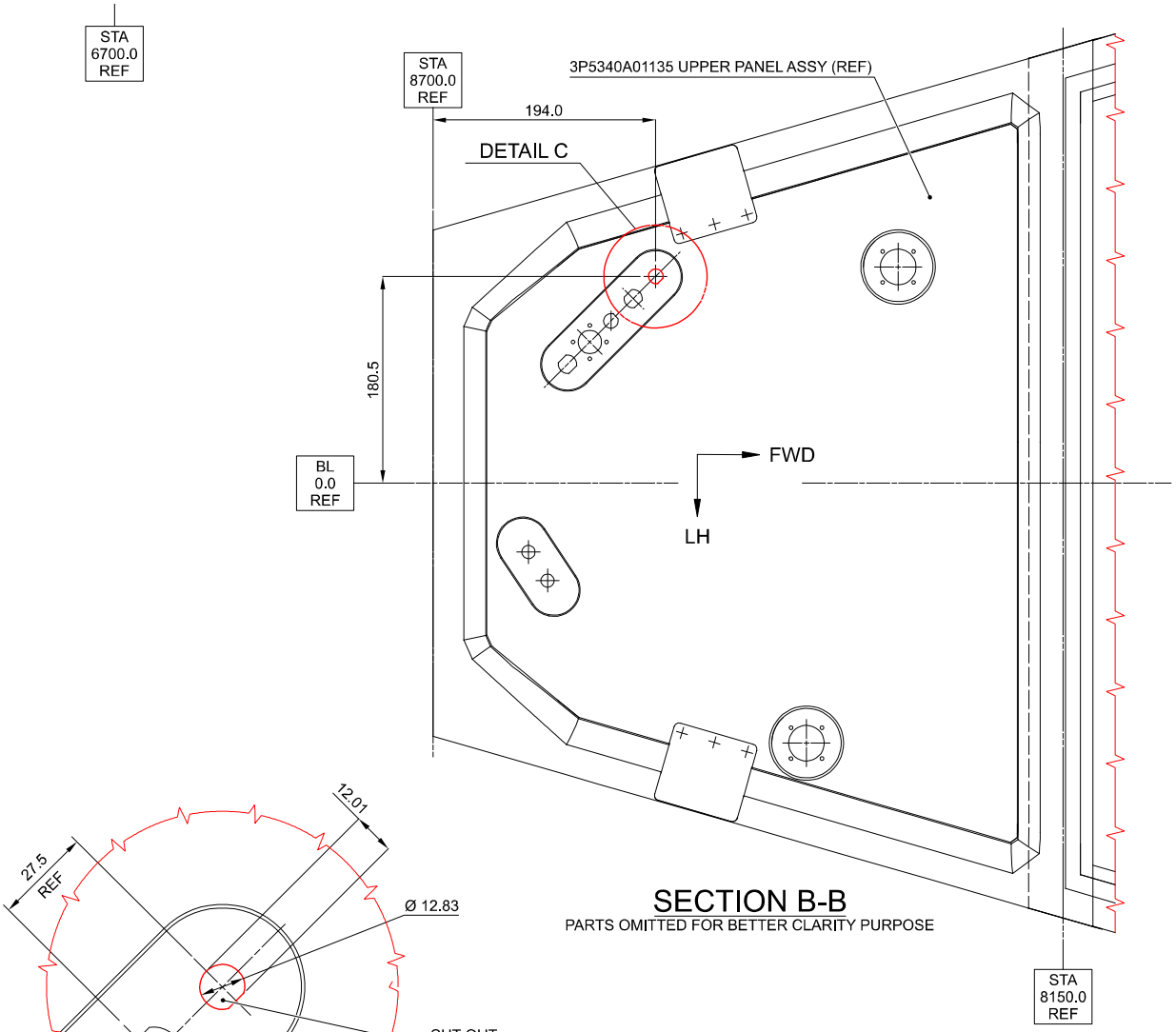

3G9300W02001
WIRING DIAGRAM BMS VIDEO DOWNLINK GPS ANTENNA VARIANT
SHEET 1
AVIONIC BAY
REAR FUSELAGE
AVIONIC BAY
TAIL
WAS
ALL CONNECTIONS SHALL BE REMOVED, RELOCATED OR STOWED ON BOTH SIDES IN ACCORDANCE WITH THE APPLICABLE INSTALLATION DRAWING INSTRUCTIONS
A103
SK2
GPS ANTENNA
A103P2
U739A-F
PROCESSOR UNIT
J84 P84
U739A-F
CP301P1-ME
T1013-F-ME
CP301-ME
RCVR
ANT
RCVR
COUPLER
CP301P2-ME
T1011-F-ME
C3A338
CP301P3-ME
T1012-F-ME
C3A339
A103
SK2
GPS ANTENNA
A103P2
T1011-F-ME
PROCESSOR UNIT
A580
A580P1
T1012-F-ME
GPS IN
HELI-CODER 4
FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM C3B321 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE S86208 UNLESS SPECIFIED

Figure 20



VIEW LOOKING INBOARD LEFT SIDE



SECTION B-B
PARTS OMITTED FOR BETTER CLARITY PURPOSE

DETAIL C

BMS VIDEO DOWNLINK GPS ANTENNA
3G9300A04411

Figure 21

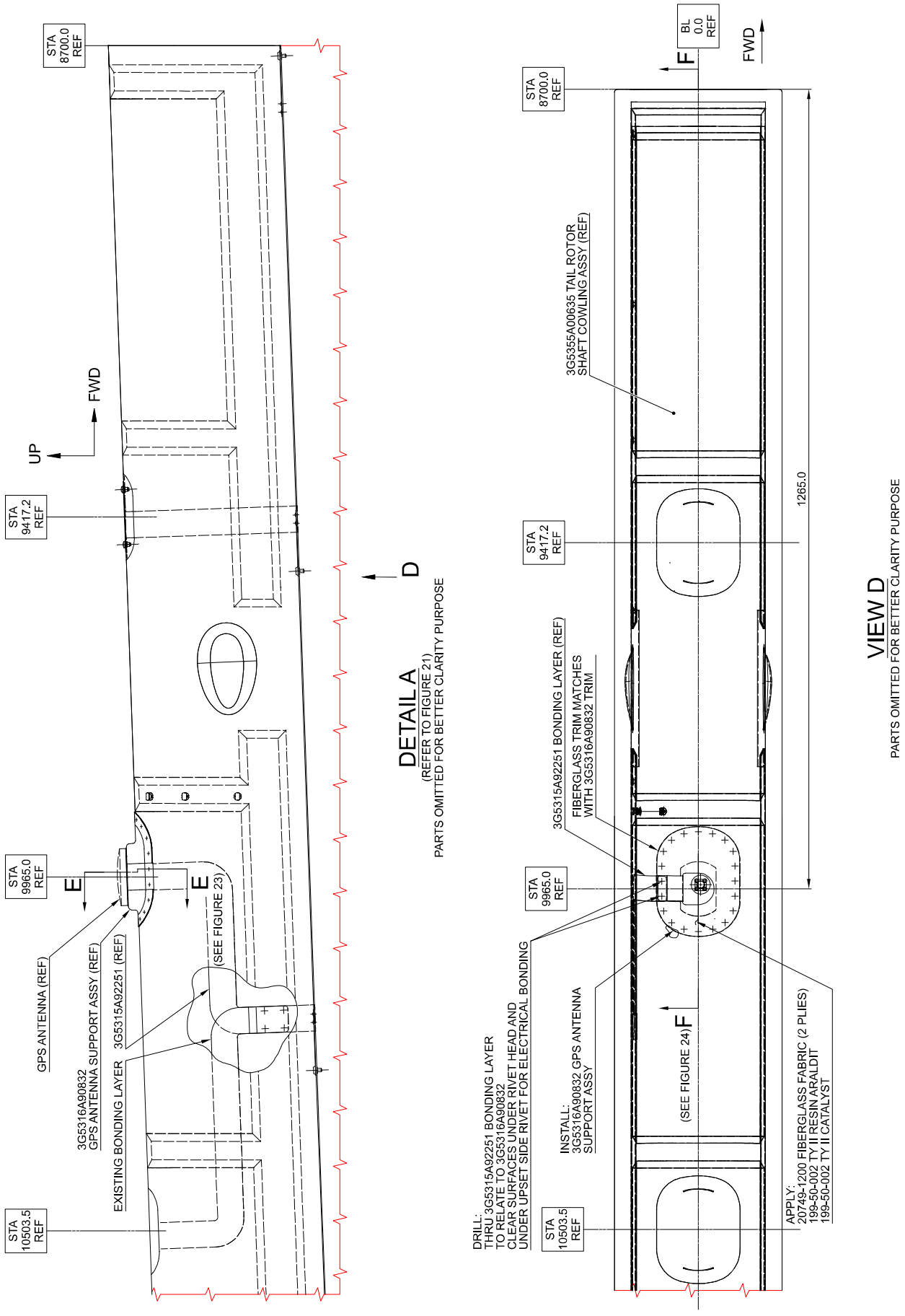
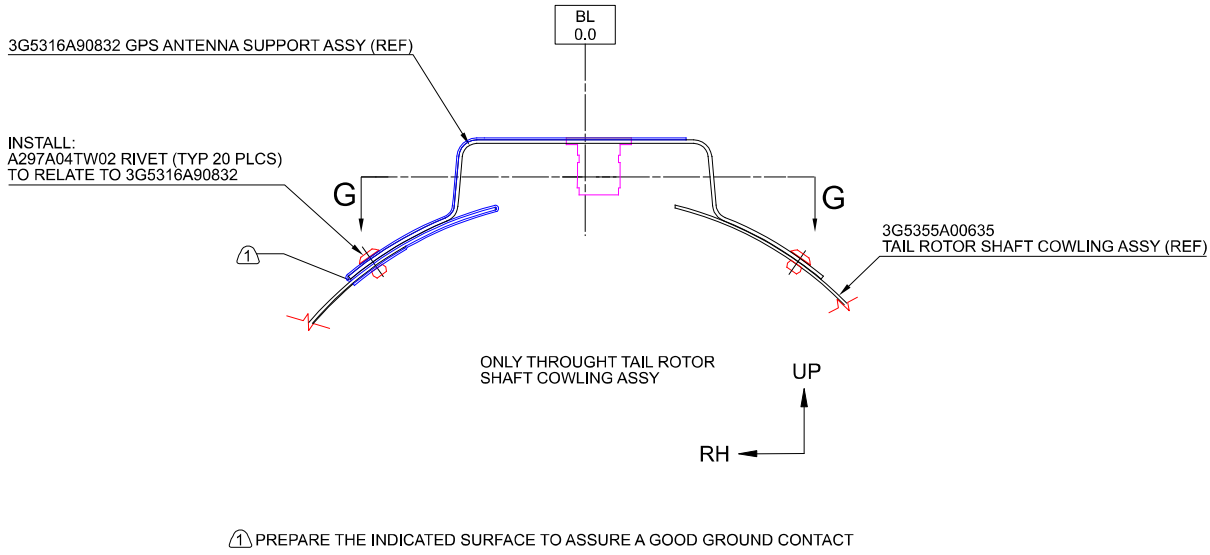

STA 8700.0 REF
FWD
UP
STA 9417.2 REF
STA 9965.0 REF
E
E
(SEE FIGURE 23)
GPS ANTENNA (REF)
3G5316A90832 GPS ANTENNA SUPPORT ASSY (REF)
3G5315A92251 (REF)
EXISTING BONDING LAYER
STA 10503.5 REF
D
DETAIL A
(REFER TO FIGURE 21)
PARTS OMITTED FOR BETTER CLARITY PURPOSE
BL 0.0 REF
F
FWD
STA 8700.0 REF
3G5355A00635 TAIL ROTOR SHAFT COWLING ASSY (REF)
STA 9417.2 REF
1265.0
3G5315A92251 BONDING LAYER (REF)
FIBERGLASS TRIM MATCHES WITH 3G5316A90832 TRIM
STA 9965.0 REF
DRILL:
THRU 3G5315A92251 BONDING LAYER
TO RELATE TO 3G5316A90832
CLEAR SURFACES UNDER RIVET HEAD AND
UNDER UPSET SIDE RIVET FOR ELECTRICAL BONDING
INSTALL:
3G5316A90832 GPS ANTENNA
SUPPORT ASSY
(SEE FIGURE 24)
F
STA 10503.5 REF
APPLY:
20749-1200 FIBERGLASS FABRIC (2 PLIES)
199-50-002 TY II RESIN ARALDIT
199-50-002 TY II CATALYST
VIEW D
PARTS OMITTED FOR BETTER CLARITY PURPOSE

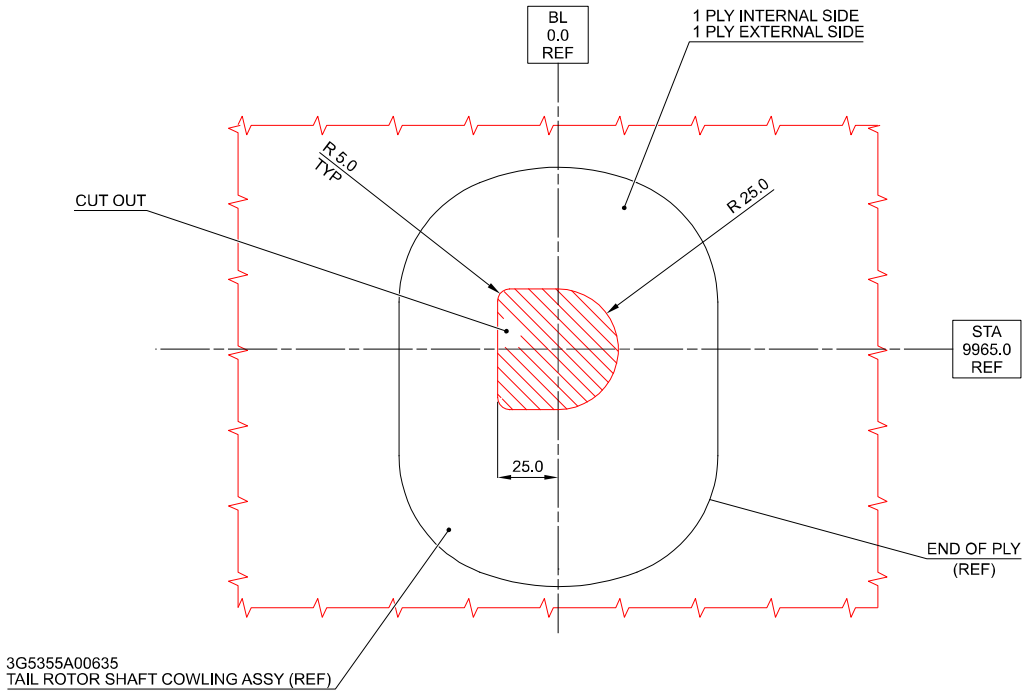
Figure 22



1 PREPARE THE INDICATED SURFACE TO ASSURE A GOOD GROUND CONTACT

SECTION E-E

PARTS OMITTED FOR BETTER CLARITY PURPOSE
(REFER TO FIGURE 22)



SECTION G-G

Figure 23

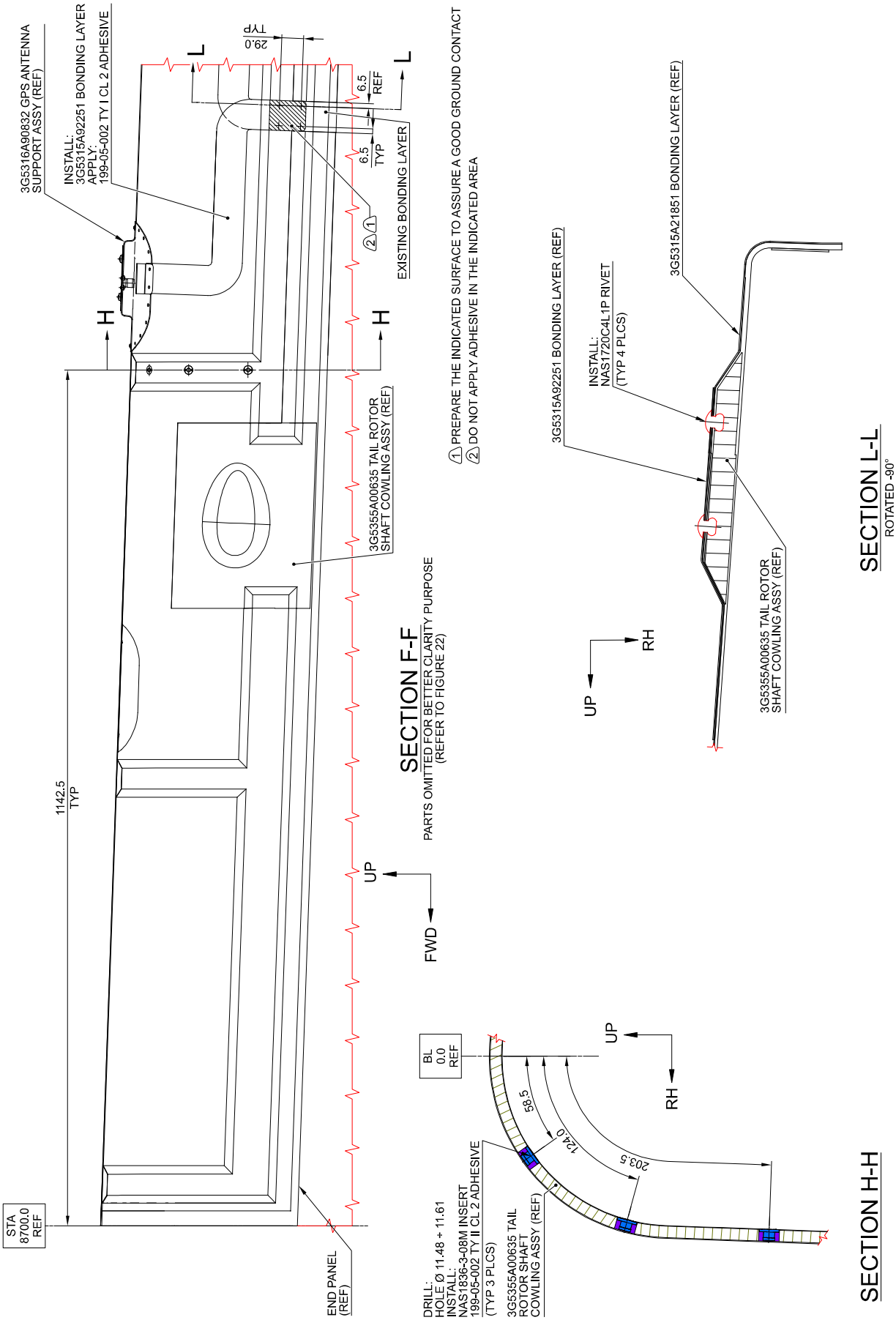
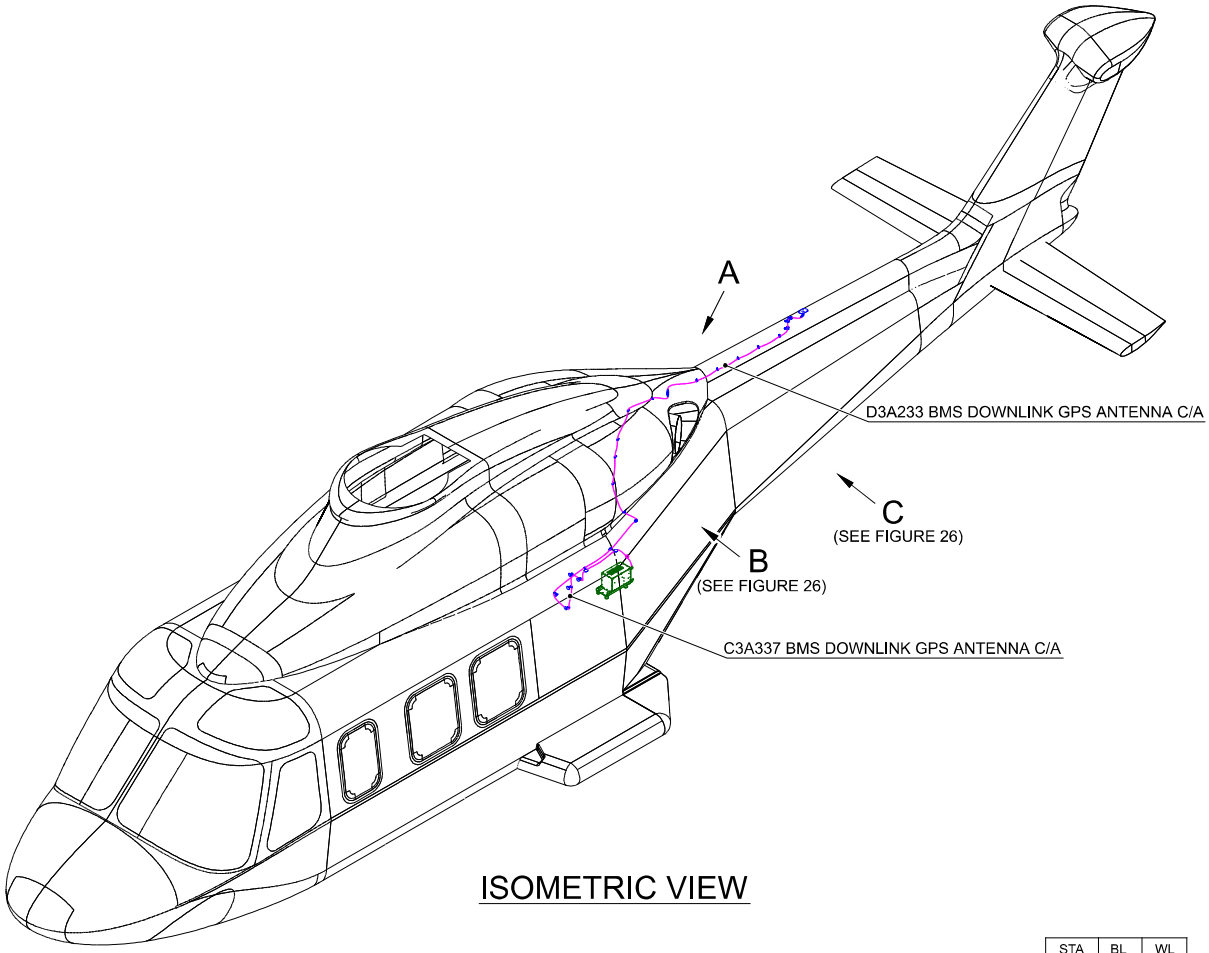
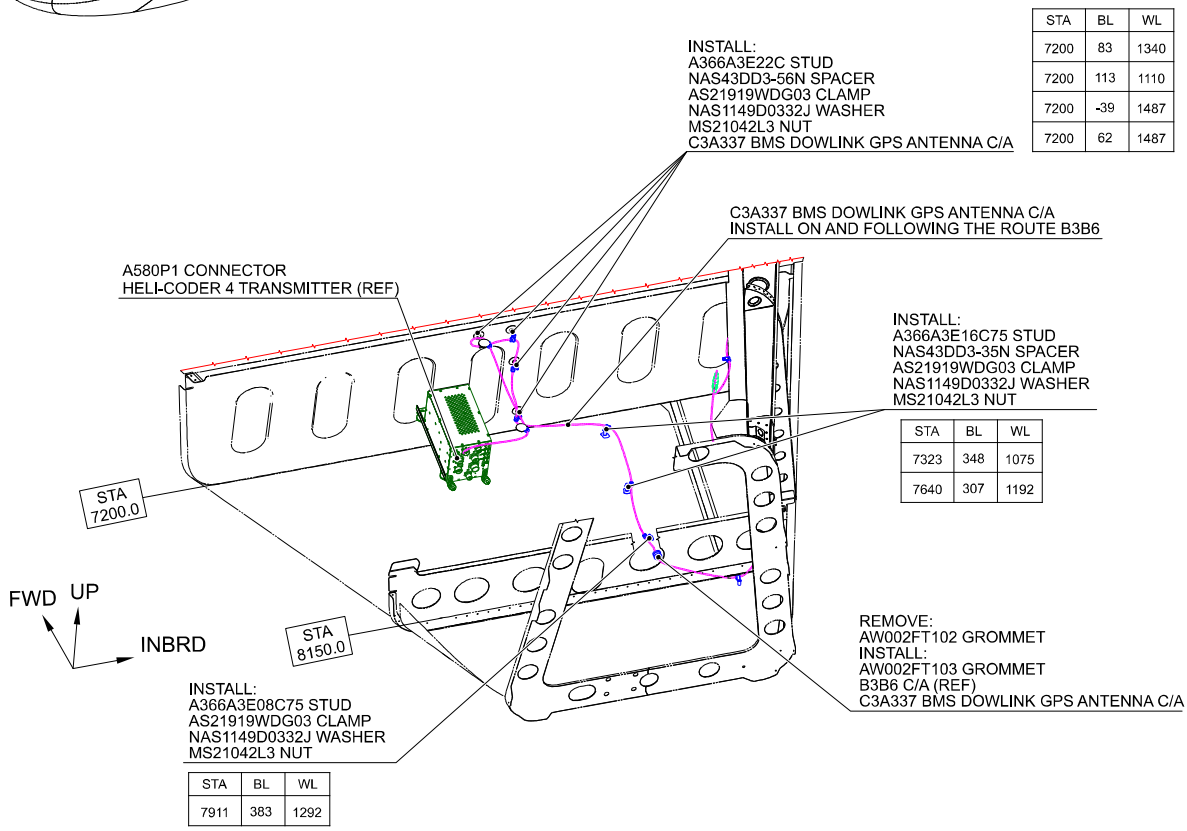

3G5316A90832 GPS ANTENNA SUPPORT ASSY (REF)
INSTALL: 3G5315A92251 BONDING LAYER
APPLY: 199-05-002 TY I CL 2 ADHESIVE
29.0 TYP
6.5 REF
6.5 TYP
EXISTING BONDING LAYER
3G5355A00635 TAIL ROTOR SHAFT COWLING ASSY (REF)
1142.5 TYP
STA 8700.0 REF
END PANEL (REF)
SECTION F-F
PARTS OMITTED FOR BETTER CLARITY PURPOSE (REFER TO FIGURE 22)
FWD
UP
1 PREPARE THE INDICATED SURFACE TO ASSURE A GOOD GROUND CONTACT
2 DO NOT APPLY ADHESIVE IN THE INDICATED AREA
3G5315A92251 BONDING LAYER (REF)
INSTALL: NAS1720C4L1P RIVET (TYP 4 PLCS)
3G5315A21851 BONDING LAYER (REF)
3G5355A00635 TAIL ROTOR SHAFT COWLING ASSY (REF)
UP
RH
SECTION L-L
ROTATED -90°
BL 0.0 REF
58.5
124.0
203.5
UP
RH
DRILL: HOLE Ø 11.48 ÷ 11.61
INSTALL: NAS1836-3-08M INSERT 199-05-002 TY II CL 2 ADHESIVE (TYP 3 PLCS)
3G5355A00635 TAIL ROTOR SHAFT COWLING ASSY (REF)
SECTION H-H

Figure 24



ISOMETRIC VIEW



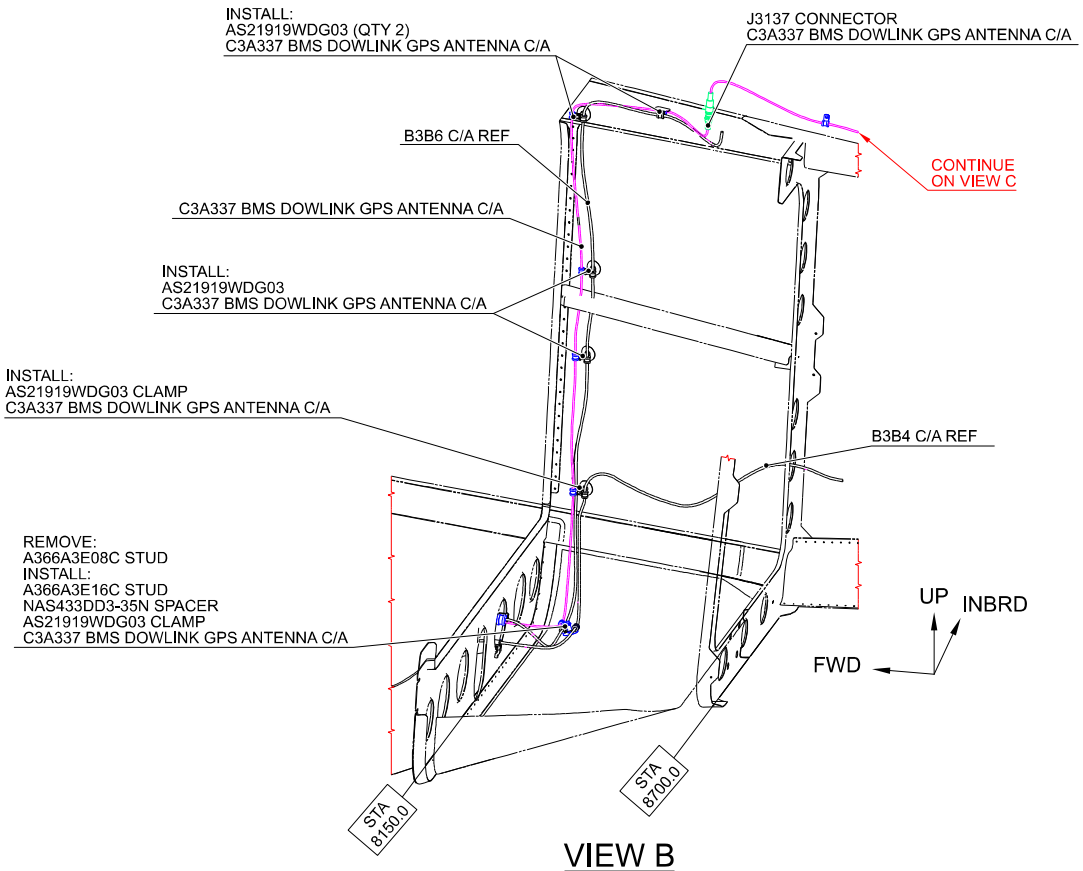
STA	BL	WL
7200	83	1340
7200	113	1110
7200	-39	1487
7200	62	1487

STA	BL	WL
7323	348	1075
7640	307	1192

STA	BL	WL
7911	383	1292

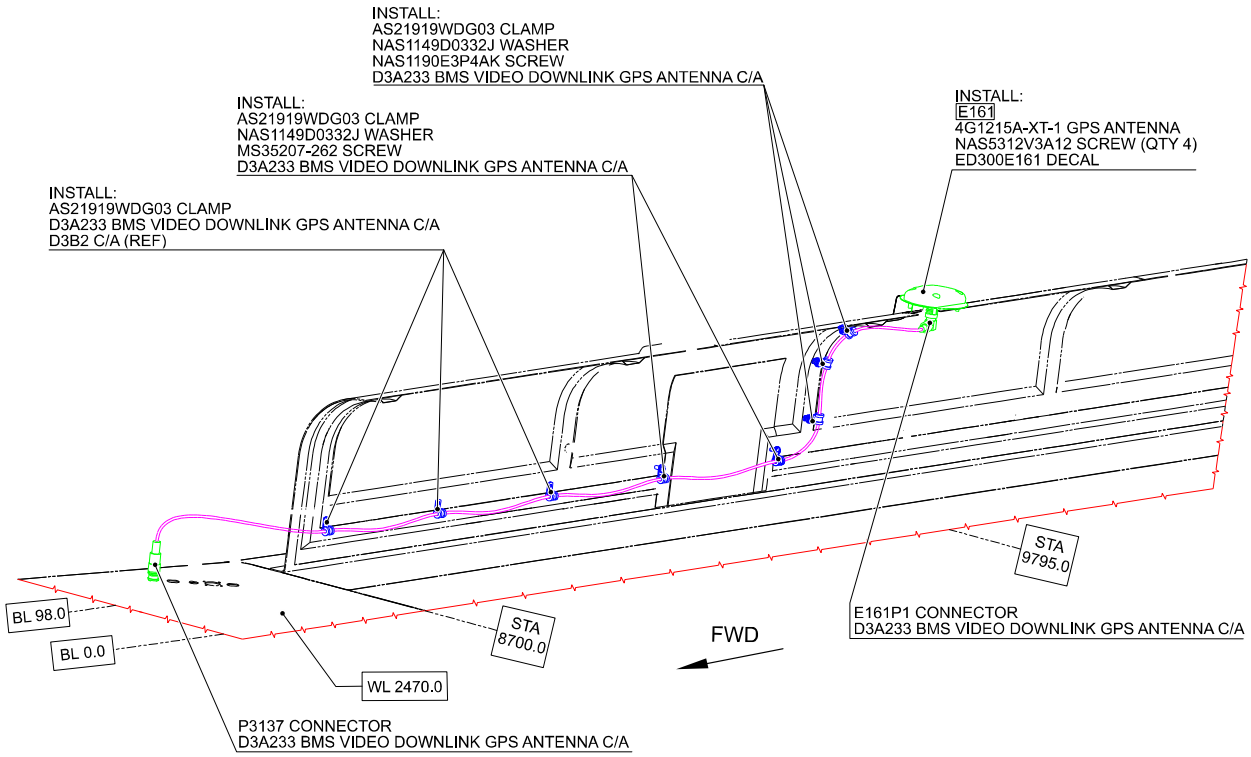
VIEW A
PARTS OMITTED FOR BETTER CLARITY PURPOSE

Figure 25



VIEW B

(REFER TO FIGURE 25)
PARTS OMITTED FOR BETTER CLARITY PURPOSE



VIEW C

VIEW LOOKING TAIL FROM WL 2498
(REFER TO FIGURE 25)
PARTS OMITTED FOR BETTER CLARITY PURPOSE

Figure 26

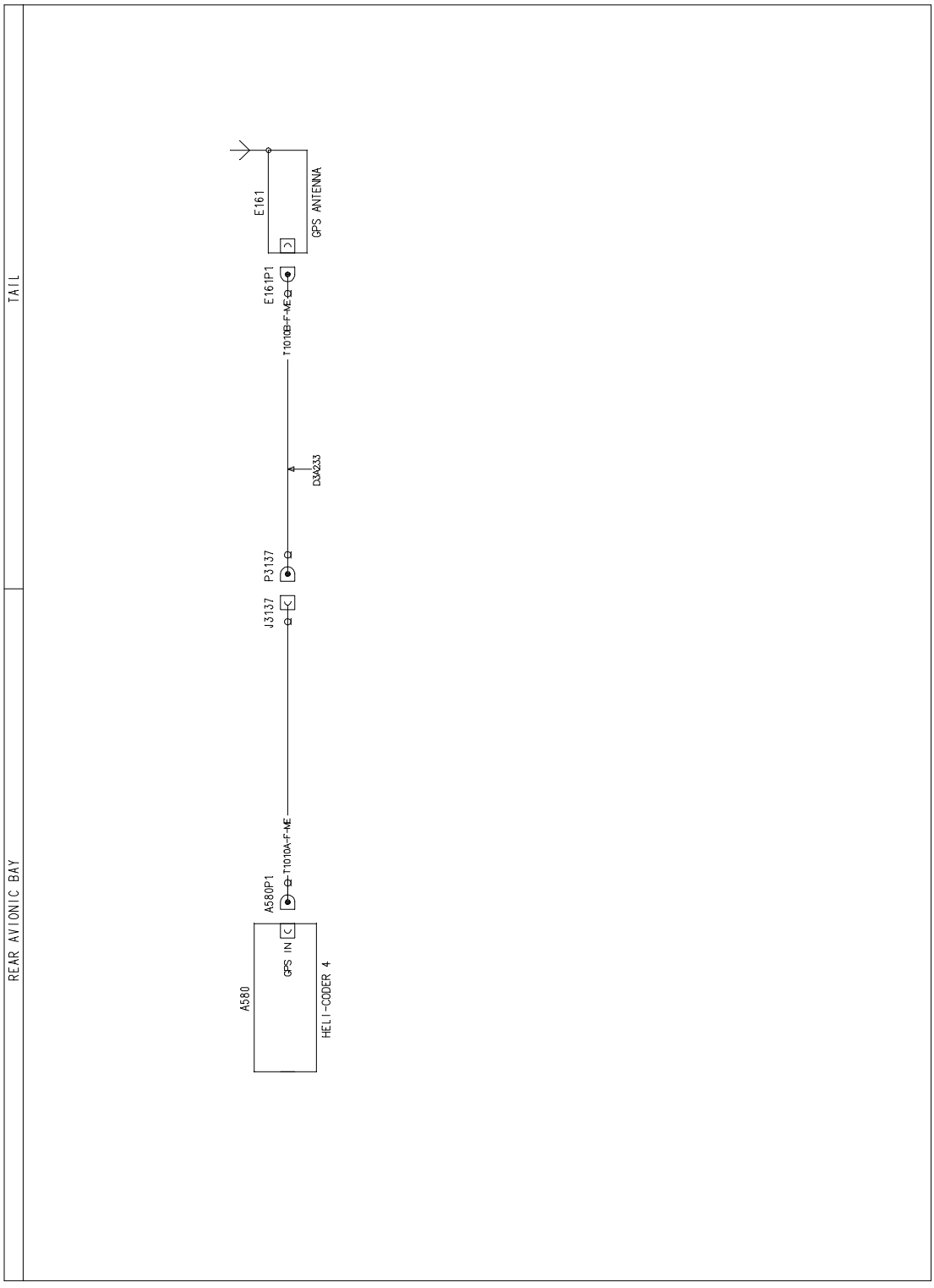

3G9300W01901
WIRING DIAGRAM BMS VIDEO DOWNLINK GPS ANTENNA
SHEET 1
TAIL
REAR AVIONIC BAY
E161
GPS ANTENNA
E161P1
T1010B-F-ME
DXA033
P3137
J3137
A580P1
T1010A-F-ME
A580
GPS IN
HELI-CODER 4
FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM C3A337 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE S86208 UNLESS SPECIFIED

Figure 27

ANNEX A

EMC TEST PROCEDURE FOR BMS

1 GENERAL

Scope of these intrasystem electromagnetic tests is to verify the possible interaction between the Kit BMS Video Downlink and radio Talon RT-8108 whose antenna (short nose configuration) is placed near the EMI susceptible component Heli-Coder 4 Transmitter P/N 8614521202. The tests will be carried out by visual assessment.
The EMC test will be performed on ground with all the electro-avionic systems working in their normal condition.
Any unacceptable response detected shall be noted and re-checked in flight.

2 TEST CONDITION

The EMC test shall be carried out in the following condition:

- Aircraft on ground powered by external power source;
- Aircraft in flight (to retest for eventual interference observed on ground)

3 TEST METHOD

The EMC tests on the aircraft will be qualitative.

- Test 1:
  Consider the system Kit BMS Downlink as victim. It will be necessary to verify that, during the activation of Radio TALON RT-8108, there will be no malfunctions with transitory or permanent variations of the regular mode of operation of the system considered as victim (BMS Downlink) due to electromagnetic interference.
- Test 2:

Consider the system Radio TALON RT-8108 as victim. It will be necessary to verify that, during the activation of Kit BMS Downlink, there will be no malfunctions with transitory or permanent variations of the regular mode of operation of the system considered as victim (Radio TALON RT-8108) due to electromagnetic interference.

4 TEST PROCEDURE

4.1 Radio TALON RT-8108 versus BMS Downlink (EMI Victim)

4.1.1 Set the frequency on TALON control plan in selected radio for TX on the following frequency (MHZ)

FREQUENCY [MHz]	MODE	CHECK
35.150	FM	
70.150	FM	
87.150	FM	
110.150	AM	
136.150	AM	
145.150	AM & FM	
160.150	FM	
173.150	FM	
225.150	AM & FM	
240.150	AM & FM	
275.150	AM & FM	
190.150	AM & FM	
300.150	FM	
315.150	FM	
350.150	AM & FM	
370.150	AM & FM	
399.150	AM & FM	

4.1.2 Victim: BMS DownLink

Equipment pre-setting: Set the channel to CP and Ground Station;

Susceptibility criteria: Information correctly visualized in the ground station. No unexpected behaviours.

4.2 BMS Downlink versus Radio TALON RT-8108 (EMI Victim)

4.2.1 Set same Channel to CP and Ground Station

4.2.2 Victim: Radio TALON RT-8108

Set the frequency on TALON Control Panel and selected radio for RX on the following frequencies:

FREQUENCY [MHz]	MODE	CHECK
35.150	FM	
87.150	FM	
110.150	AM	
145.150	AM & FM	
173.150	FM	
225.150	AM & FM	
275.150	AM & FM	
300.150	FM	
350.150	AM & FM	
399.150	AM & FM	

Verify that no interference and audio noise are present in ICS control panel and in all headsets during the BMS downlink activation (verify all stations).

LEONARDO
HELICOPTERS

AgustaWestland Products

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.