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AgustaWestland Products

SERVICE BULLETIN

N° 139-483

DATE: November 17, 2021

REV. : /

TITLE

ATA 23 - MR6000R RADIO SYSTEM INSTALLATION

REVISION LOG

First Issue

1. PLANNING INFORMATION

A. EFFECTIVITY

All AW139 helicopters from S/N 31700 onwards and from S/N 41501 onwards.

B. COMPLIANCE

At Customer's option.

C. CONCURRENT REQUIREMENTS

N.A.

D. REASON

This Service Bulletin is issued in order to provide the necessary instruction on how to perform the installation of the MR6000R radio system kit P/N 4G2310F04211.

E. DESCRIPTION

The MR6000R radio system kit consists of one control panel installed in the inter-seat console, one V/UHF transceiver and one logic control unit installed in the aft lower fuselage and one V/UHF antenna installed on the aft bottom side of the fuselage.

Part I: To provide all necessary instructions on how to install the relevant structural and electrical provisions.

Part II: To provide the necessary instructions on how to install the control panel, the V/UHF transceiver, the logic control unit and the V/UHF antenna.

F. APPROVAL

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

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

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

G. MANPOWER

To comply with this Service Bulletin the following MMH are deemed necessary:

Part I: approximately one-hundred (100) MMH.

Part II: approximately twenty (20) MMH.

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

H. WEIGHT AND BALANCE

PART I

WEIGHT (Kg)	5.14	
	ARM (mm)	**MOMENT (Kgmm)**
LONGITUDINAL BALANCE	7075	36365.5
LATERAL BALANCE	-115	-591.1

PART II

WEIGHT (Kg)	5.61	
	ARM (mm)	**MOMENT (Kgmm)**
LONGITUDINAL BALANCE	7653	42933.33
LATERAL BALANCE	-133	-746.13

I. REFERENCES

1) PUBLICATIONS

Following Data Modules refer to AMP:

DATA MODULE		**DESCRIPTION**	**PART**
DM01	39-A-00-20-00-00A-120A-A	Helicopter safety – Pre operation (make the helicopter safe for maintenance)	I, II
DM02	39-A-52-44-03-00A-540A-A	Access door (latck lock). Open for access procedure.	I
DM03	39-A-25-21-01-00A-520A-K	Cabin seat. Remove procedure.	I
DM04	39-B-25-21-01-00A-520A-K	Cabin seat. Remove procedure.	I
DM05	39-A-25-22-01-00A-520A-K	Cabin seat remove procedure.	I
DM06	39-B-25-22-01-00A-520A-K	Cabin seat remove procedure.	I
DM07	39-C-25-22-01-00A-520A-K	Cabin seat remove procedure.	I
DM08	39-D-25-22-01-00A-520A-K	Cabin seat remove procedure.	I

DATA MODULE		DESCRIPTION	PART
DM09	39-E-25-22-01-00A-520A-K	Cabin seat remove procedure.	I
DM10	39-A-52-44-01-00A-520A-A	Access panels remove procedure.	I, II
DM11	39-A-52-44-04-00A-540A-A	Access door (pin lock).open for access procedure.	I
DM12	39-A-25-81-06-00A-520A-A	Right aft lining installation. Remove procedure	I
DM13	39-B-31-11-03-00A-520A-A	Instrument panel remove procedure	I
DM14	39-A-24-91-04-00A-920A-K	Integrally lighted panel replacement.	I
DM15	39-B-31-11-03-00A-720A-A	Instruments panel install procedure	I
DM16	39-A-25-81-06-00A-720A-A	Right aft lining installation. Install procedure	I
DM17	39-A-52-44-04-00A-740A-A	Access door (pin lock). Close after access procedure.	I
DM18	39-A-52-44-01-00A-720A-A	Access panels. Install procedure.	I, II
DM19	39-A-25-21-01-00A-720A-K	Cabin seat install procedure.	I
DM20	39-B-25-21-01-00A-720A-K	Cabin seat install procedure.	I
DM21	39-A-25-22-01-00A-720A-K	Cabin seat install procedure.	I
DM22	39-B-25-22-01-00A-720A-K	Cabin seat install procedure.	I
DM23	39-C-25-22-01-00A-720A-K	Cabin seat install procedure.	I
DM24	39-D-25-22-01-00A-720A-K	Cabin seat install procedure.	I
DM25	39-E-25-22-01-00A-720A-K	Cabin seat install procedure.	I
DM26	39-A-52-44-03-00A-740A-A	Access door (latch lock) - close after access procedure.	I
DM27	39-A-20-10-08-00A-622A-A	Electrical contacts - Crimp	I

Following Data Modules refer to CSRP:

DATA MODULE		DESCRIPTION	PART
DM28	CSRP-A-51-42-00-00A-720A-D	Potted Inserts – Install procedure	I

2) ACRONYMS & ABBREVIATIONS

AMDI	Aircraft Material Data Information
AMP	Aircraft Maintenance Publication
AWDP	Aircraft Wiring Data Publication
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
IPD	Illustrated Parts Data
ITEP	Illustrated Tool and Equipment Publication
LH	Leonardo Helicopters
MMH	Maintenance Man Hours
SB	Service Bulletin
W/D	Wiring Diagram

3) ANNEX

Annex A	MR6000R Acceptance test procedure

J. PUBLICATIONS AFFECTED

AW139 Aircraft Maintenance Publication (AMP)

AW139 Aircraft Wiring Data Publication (AWDP)

AW139 Aircraft Material Data Information (AMDI).

K. SOFTWARE ACCOMPLISHMENT SUMMARY

N.A.

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

1) PARTS

PART I

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL NOTE	LOG P/N
1	**4G2310F04211**		**KIT MR6000R RADIO SYSTEM KIT**	**REF**	.	-
2	**3G2310A14011**		**MR6000R RADIO COMPLETE PROVISION**	**REF**	..	-
3	**3G5311A22512**		**MR6000R RADIO STRUCTURAL PROVISION**	**REF**	...	-
4	3G5315A09232		Support Flexcomm II assy	2	....	139-483L1
5	3G5315A18951		Bonding layer	1	....	139-483L1
6	3G5315A19232		Panel assy	1	....	139-483L1
7	3G5317A61451		Cover	1	....	139-483L1
8	999-7000-07-104		Terminal	1	....	139-483L1
9	MS20426AD3-3		Rivet	0.1 Kg	....	139-483L1
10	MS20426AD3-3-5		Rivet	8	....	139-483L1
11	MS20470AD4-7		Rivet	0.1 Kg	....	139-483L1
12	MS21069L3		Nut plate	8	....	139-483L1
13	MS21069L3K		Nut plate	4	....	139-483L1
14	MS27039-1-08		Screw	6	....	139-483L1
15	MS27039-1-11		Screw	4	....	139-483L1
16	NAS1149CN616R		Washer	1	....	139-483L1
17	NAS1149D0332J		Washer	4	....	139-483L1
18	NAS1149D0332K		Washer	6	....	139-483L1
19	NAS1801-06-6		Screw	1	....	139-483L1
20	NAS1836-06-13		Insert	1	....	139-483L1
21	**3G2310A14211**		**MR6000R RADIO ELECTRICAL PROVISION**	**REF**	...	-
22	3G9A01B54801	3G2310A14211A1R	MR6000R radio C/A (A1B548)	1	....	139-483L1
23	3G9A02B51501		MR6000R radio C/A (A2B515)	1	....	139-483L1
24	3G9B01B88601	3G2310A14211A2R	MR6000R radio C/A (B1B886)	1	....	139-483L1
25	3G9B02B67001		MR6000R radio C/A (B2B670)	1	....	139-483L1
26	3G9C01B31401	3G2310A14211A3R	MR6000R radio C/A (C1B314)	1	....	139-483L1
27	3G9C02B34001		MR6000R radio C/A (C2B340)	1	....	139-483L1
28	3G9C02B34101		MR6000R radio C/A (C2B341)	1	....	139-483L1
29	3G9C03B27401		MR6000R radio C/A (C3B274)	1	....	139-483L1
30	A366A3E18C		Stud	1	....	139-483L1
31	A366A3E24C		Stud	2	....	139-483L1
32	AW001CB04H		Clamp	4	....	139-483L1
33	AW001CB05H		Clamp	4	....	139-483L1
34	AW001CL000A-X3		Support	7	....	139-483L1
35	AW001CL001-N6		Support	1	....	139-483L1
36	AW001TL3A08T		Anchor nut	1	....	139-483L1

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
37	MS21043L3	MS21043-3	Nut	3	….		139-483L1
38	NAS1149D0332J		Washer	4	….		139-483L1
39	NAS1802-3-20		Screw	1	….		139-483L1
40	NAS43DD3-16N		Spacer	3	….		139-483L1
41	NAS43DD3-37N		Spacer	3	….		139-483L1
38	A556A-T16		Wire	1 m			139-483L1
39	M39029/56-352		Electrical Contact	2			139-483L1
40	MS25036-153		Electrical Contact	1			139-483L1
41	3G2490LXXXXX		Auxiliary C/B Panel	1		(1)	-

PART II

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
42	**4G2310F04211**		**KIT MR6000R RADIO SYSTEM KIT**	**REF**	**.**		**-**
43	**3G2310A14111**		**MR6000R RADIO EQUIPMENT INSTALLATION**	**REF**	**..**		**-**
44	12-190-61P23		V/UHF antenna	1	…		139-483L2
45	7-163PIN161-0112		Logic control unit	1	…		139-483L2
46	AW001GH021A		Conductive gasket	1	…		139-483L2
47	ED300A549		Decal	1	…		139-483L2
48	ED300A550		Decal	1	…		139-483L2
49	ED300E148		Decal	1	…		139-483L2
50	ED300PL187		Decal	1	…		139-483L2
51	MS35207-266		Screw	4	…		139-483L2
52	NAS1149C0332J	NAS1149C0332R	Washer	4	…		139-483L2
53	NAS1149D0332J		Washer	16	…		139-483L2
54	NAS1802-3-8		Screw	4	…		139-483L2
55	NAS517-3-8		Screw	8	…		139-483L2

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
56	MMM-A-132, Type II, Class 2 199-05-002 Type I, Class 2	Adhesive EA9309.3NA (C021)	AR	(2)	I
56	MMM-A-132 Type I, Class 3 199-05-002, Type II, Class 2	Adhesive EA934NA (C057)	AR	(2)	I
57	MIL-C5541	Alodine 1200	AR		I
58	MIL-PRF-16173 Type II, Gr 4	Corrosion inhibitor	AR	(2)	I
59	199-05-003 Ty I, Cl 1, Sh IIB	Teflon GO-AS-0105	AR		
60	EN6049-006-25-5	Nomex self-wrap braid	AR		I
61	EE267-02-075B	Tape	AR		I
62	A-A-52084 Type V, Size 3, Finish C	Lacing cord	AR		I
63	EN6049-006-32-5	Nomex tubing	AR		I
64	CCC-C-46 / Code No. 42501025	Soft lint-free cloth (C011)	AR	(2)	II

#	P/N	DESCRIPTION	Q.TY	NOTE	PART
65	TT-N-95-B / Code No. 531055030	Aliphatic Naphtha (C059)	AR	(2)	II

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

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
139-483L1	1		Part I
3G2490LXXXXX	1	(1)	
139-483L2	1		Part II

NOTE

(1) The P/N is not properly completed because it is depending on the helicopter configuration. Customers must contact AW139 Product Support Engineering (engineering.support.lhd@leonardocompany.com) to request the new auxiliary CB panel at least three months in advance from the scheduled application of this Service Bulletin.

(2) Item to be procured as a local supply.

B. SPECIAL TOOLS

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

#	P/N	DESCRIPTION	Q.TY	NOTE	PART
66	110-6B or GB713-045-700/600	Electrical power supply (28 VDC) (BB-01-00)	1	(B1)	II
67	Commercial	Multimeter	1	(B1)	II
68	TALL5160M1A690B or equivalent	Bondimeter	1	(B1)	II
69	Anritsu MA24118A or equivalent	Power Meter Probe	1	(B1)	II

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

SPECIAL TOOLS NOTE

(B1) To be furnished as local supply.

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) 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) Use braided tubes P/N A582A25 or P/N A582A32 where cables chafing and contact with structure may occur.

g) Use tape P/N EE267-02-075B where design clamp size is too large to properly grip the harness and the next smaller clamp size would crush the harness.

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

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

j) All lengths are in mm.

PART 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-52-44-03-00A-540A-A, open access door 213AL.
3. In accordance with aircraft configuration and AMP DM 39-A-25-21-01-00A-520A-K or DM 39-B-25-21-01-00A-520A-K or DM 39-A-25-22-01-00A-520A-K or DM 39-B-25-22-01-00A-520A-K or DM 39-C-25-22-01-00A-520A-K or DM 39-D-25-22-01-00A-520A-K or DM 39-E-25-22-01-00A-520A-K, remove the passenger seats.
4. In accordance with AMP DM 39-A-52-44-01-00A-520A-A, remove access panels 132AR, 140BL, 141AL, 142AR, 150AL, 151AL, 152AR and 180AL.
5. In accordance with AMP DM 39-A-52-44-04-00A-540A-A, open the access panel 183AL.
6. In accordance with AMP DM 39-A-25-81-06-00A-520A-A, remove the right aft lining.
7. In accordance with AMP DM 39-B-31-11-03-00A-520A-A, remove the instrument panel from the helicopter.
8. With reference to Figures 1 and 4, remove all the required equipments from the interseat console to gain access to the shown area.
9. With reference to Figures 1, 2 and 3, perform Radio MR6000R structural provision P/N 3G5311A22512 as described in the following procedure:
   - 9.1 With reference to Figure 2 Section A-A and Detail F, perform the cut-out in the indicated position on the lower bonded panel assy P/N 3P5340A01732.
   - 9.2 With reference to Figure 2 Detail F, temporarily locate the V/UHF antenna P/N 12-190-61P23 on the lower bonded panel assy P/N 3P5340A01732 and countermark n°8 nut plates holes.
   - 9.3 With reference to Figure 2 Detail F, drill n°8 Ø 4.90÷5.02 holes through the lower bonded panel assy P/N 3P5340A01732 and install n°8 nut plates P/N MS21069L3 by means of n°16 rivets P/N MS20426AD3-3.
   - 9.4 In accordance with CSRP DM CSRP-A-51-42-00-00A-720A-D and with reference to Figure 2 Detail F and Section E-E, install insert P/N NAS1836-06-13 by means of adhesive EA934NA (C057).
   - 9.5 With reference to Figure 2 Detail F and Section E-E, install terminal P/N 999-7000-07-104 by means of screw P/N NAS1801-06-6 and washer P/N NAS1149CN616R.
   - 9.6 With reference to Figures 2 and 3 View D, remove locally the protective finish to assure the correct electrical grounding, from the shown area of the lower bonded panel assy P/N 3P5340A01732. Apply on bare metal MIL-C-5541 Alodine 1200 by swab or brush then a light film of MIL-PRF-16173 CL 1 GR 4 corrosion inhibitor.

NOTE

Perform the following step only if Part II of this Service Bulletin is not intended to be embodied immediately after Part I (Ref. Step 9.7).

9.7 With reference to Figure 2 Section A-A and Section E-E, install the cover P/N 3G5317A61451 by means of n°6 screws P/N MS27039-1-08 and n°6 washers P/N NAS1149D0332K. Apply sealant all around the closure and the screw heads by means of sealant 199-05-003 TY I CL 1 SH IIB.

9.8 With reference to Figures 2 and 3 Section B-B, temporarily locate the support Flexcomm II assy P/N 3G5315A09232 on the lower frame STA 7200 P/N 3G5340A12551 and counter drill n°34 Ø 3.26÷3.38 holes through the lower frame.

9.9 With reference to Figure 3 Section B-B, install the support Flexcomm II assy P/N 3G5315A09232 by means of n°34 rivets P/N MS20470AD4 on the lower frame STA 7200 P/N 3G5340A12551.

9.10 With reference to Figure 3 Section B-B, install the panel assy P/N 3G5315A19232 and the bonding layer P/N 3G5315A18951 by means of n°4 screws P/N MS27039-1-11 and n°4 washers P/N NAS1149D0332J on the support Flexcomm II assy P/N 3G5315A09232.

9.11 With reference to Figures 2 and 3 Section C-C, temporarily locate the logic converter unit P/N 7-163PIN161-0112 on the lower frame STA 7200 P/N 3G5340A12551 and countermark n°4 nut plates holes.

9.12 With reference to Figure 3 Section C-C, drill n°4 Ø 4.90÷5.02 holes through the lower frame STA 7200 P/N 3G5340A12551 and install n°4 nut plates P/N MS21069L3K by means of n°8 rivets P/N MS20426AD3-3-5.

9.13 With reference to Figure 3 Section C-C, remove locally the protective finish to assure the correct electrical grounding, from the shown areas of the lower frame STA 7200 P/N 3G5340A12551. Apply on bare metal MIL-C-5541 Alodine 1200 by swab or brush then a light film of MIL-PRF-16173 CL 1 GR 4 corrosion inhibitor.

10. With reference to Figures 1, 4 thru 7, perform the MR6000R radio electrical provision P/N 3G2310A14211 as described in the following procedure:

10.1 With reference to Figure 4, install the cable support P/N AW001CL001-N6 by means of the adhesive EA9309.9NA in the indicated location of the interseat console.

10.2 With reference to Figures 1 and 6 Detail A and Detail B, install the n°5 cable supports P/N AW001CL000A-X3 by means of the adhesive EA9309.9NA in the

indicated location of the lower frame STA 7200 P/N 3G5340A12551.

10.3 With reference to Figures 1 and 7, install the anchor nut P/N AW001TL3A08T by means of the adhesive EA9309.9NA in the indicated location of the lower frame STA 7200 P/N 3G5340A12551.

10.4 With reference to Figure 7, install the n°2 studs P/N A366A3E24C and the stud P/N A366A3E18C by means of the adhesive EA9309.9NA in the indicated location of the lower bonded panel assy P/N 3P5340A01732.

10.5 With reference to Figure 7, install the n°2 cable supports P/N AW001CL000A-X3 by means of the adhesive EA9309.9NA in the indicated location of the lower bonded panel assy P/N 3P5340A01732.

10.6 With reference to Figures 1, 4 thru 7, lay down the following cable assemblies following the existing route unless otherwise indicated on the figures:

- MR6000R radio cable assy (A1B548) P/N 3G9A01B54801
- MR6000R radio cable assy (A2B515) P/N 3G9A02B51501
- MR6000R radio cable assy (B1B886) P/N 3G9B01B88601
- MR6000R radio cable assy (B2B670) P/N 3G9B02B67001
- MR6000R radio cable assy (C1B314) P/N 3G9C01B31401
- MR6000R radio cable assy (C2B340) P/N 3G9C02B34001
- MR6000R radio cable assy (C2B341) P/N 3G9C02B34101
- MR6000R radio cable assy (C3B274) P/N 3G9C03B27401.

10.7 Fix the MR6000R radio cable assemblies assy to the existing harness by means of lacing cord P/N 900004953. Install tubing braided A582A where protection against chafing and prevention of contact with structure may occur.

10.8 With reference to Figure 7, fix the MR6000R radio cable assemblies assy by means of the clamp P/N AW001CB05H, the clamp P/N AW001CB04H, the screw P/N NAS1802-3-20, the washer P/N NAS1149D0332J and the spacer P/N NAS43DD3-37N at the previously installed anchor nut P/N AW001TL3A08T.

10.9 With reference to Figure 7, fix the MR6000R radio cable assemblies assy by means of the clamp P/N AW001CB05H, the clamp P/N AW001CB04H, the washer P/N NAS1149D0332J, the spacer P/N NAS43DD3-16N and the nut P/N MS21043L3 at the previously installed stud P/N A366A3E18C.

10.10 With reference to Figure 7, fix the MR6000R radio cable assemblies assy by means of the n°2 clamps P/N AW001CB05H, n°2 clamps P/N AW001CB04H, n°2 washers P/N NAS1149D0332J, n°2 spacers P/N NAS43DD3-16N, n°2 spacers P/N NAS43DD3-37N and n°2 nuts P/N MS21043L3 at the previously installed studs P/N A366A3E24C.

NOTE

Where necessary and in accordance with AMP DM 39-A-20-10-08-00A-622A-A crimp on wires the required electrical contacts (refer to Figures 15 and 16) by means of proper crimping tool.

NOTE

In case of pin M of TB132P1 is already occupied, perform following step 10.11 using pin N of TB132P1.

10.11 With reference to Figure 4 and Figure 11 wiring diagram, perform the electrical connection of the cable assy (A1B548) to the terminal block connector TB132P1. If not already installed use n°1 electrical contact P/N M39029/56-351.

NOTE

In case of pin B of TB138 is already occupied, perform following step 10.12 using pin D of TB138.

10.12 With reference to Figure 4 and Figure 11 wiring diagram, perform the electrical connection of the cable assy (A1B548) to the ground module TB138. If not already installed use n°1 electrical contact P/N A523A05.

NOTE

In case of pin L of TB136/3 is already occupied, perform following step 10.13 using pin P of TB136/3.

10.13 With reference to Figure 4 and Figure 11 wiring diagram, perform the electrical connection of the cable assy (A1B548) to the junction module TB136/3. If not already installed use n°1 electrical contact P/N A523A05.

10.14 With reference to Figure 4 and Figure 14 wiring diagram, perform the electrical connection of the cable assy (A2B515) to the terminal bloc connector TB104P1. If not already installed use n°5 electrical contact P/N M39029/56-348.

10.15 With reference to Figure 4 and Figure 11 wiring diagram, perform the electrical connection of the cable assy (A1B548) to the sectioning connector P106. If not already installed use n°4 electrical contact P/N M39029/58-360.

10.16 With reference to Figure 4 and Figure 11 and 14 wiring diagram, perform the electrical connection of the cable assy (A2B515) to the sectioning connector P110. If not already installed use n°7 electrical contact P/N M39029/58-360.

10.17 With reference to Figure 4 and Figure 11 wiring diagram, perform the electrical connection of the cable assy (B2B886) to the sectioning connector J106. If not already installed use n°4 electrical contact P/N M39029/56-348.

10.18 With reference to Figure 4 and Figure 11 and 14 wiring diagram, perform the

electrical connection of the cable assy (B2B670) to the sectioning connector J110. If not already installed use n°6 electrical contact P/N M39029/56-348.

10.19 With reference to Figure 6 and Figure 11 and 14 wiring diagram, perform the electrical connection of the cable assy (B2B670) to the sectioning connector J206. If not already installed use n°6 electrical contact P/N M39029/56-351.

10.20 With reference to Figure 6 and Figure 11 wiring diagram, perform the electrical connection of the cable assy (B2B886) to the sectioning connector J204. If not already installed use n°5 electrical contact P/N M39029/56-351 and n°1 electrical contact P/N M39029/56-352.

10.21 With reference to Figure 5 and Figure 11 wiring diagram, perform the electrical connection of the cable assy (B2B886) to the circuit breaker connector PL1P4. If not already installed use n°1 electrical contact P/N M39029/58-364.

10.22 With reference to Figure 6 and Figure 12 and 14 wiring diagram, perform the electrical connection of the cable assy (C2B340) to the sectioning connector P206. If not already installed use n°7 electrical contact P/N M39029/58-363.

10.23 With reference to Figure 6 and Figure 12 wiring diagram, perform the electrical connection of the cable assy (C1B314) to the sectioning connector P204. If not already installed use n°5 electrical contact P/N M39029/58-363 and n°1 electrical contact P/N M39029/58-364.

10.24 With reference to Figure 6 and Figure 12 wiring diagram, perform the electrical connection of the cable assy (C1B314) to the ground module TB310. If not already installed use n°2 electrical contact P/N A523A05.

10.25 With reference to Figure 6 and Figure 12 wiring diagram, perform the electrical connection of the cable assy (C1B314) to the DC power ground module TB306. If not already installed use n°1 electrical contact P/N A523A05.

10.26 Modify the auxiliary CB panel on the overhead panel, as described in the following procedure:

NOTE

Customer must contact LHD (engineering.support.lhd@leonardocompany.com) 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 (Ref. Step 10.26.1).

10.26.1 In accordance with AMP DM 39-A-24-91-04-00A-920A-K, remove from the Overhead C/B panel the existing Integrally-light panel and install the new integrally-lit panel P/N 3G2490LXXXXX.

10.26.2 Perform electrical connection between pin U of connector PL1P4 and pin 2 of circuit breaker CB465 by means of A556A-T16 wire. Use electrical contact P/N M39029/56-352 for pin U of PL1P4 and electrical contact P/N MS25036-153 for pin 2 of CB465.

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

10.27 With reference to Figure 4, fix the connector PL187P1 and the n°2 stowed wires by means of lacing cord P/N 900004953 at the previously installed cable support P/N AW001CL001-N6.

NOTE

Perform the following step only if Part II of this Service Bulletin is not intended to be embodied immediately after Part I (Ref. Step 10.28).

10.28 With reference to Figure 7 Detail C, protect and stow the cable assemblies connectors A549P1, A549P2, A593P3, A550P1, A550P3, E148P1 and E148P3 as described in the following procedure.

10.28.1 Install the applicable protective plug on the connector assembly.

10.28.2 Cover with Nomex self-wrap braid P/N EN6049-006-25-5 and use lacing and tying tape P/N AA5284-C-3 to firmly tie down the sleeve on the connector.

10.29 With reference to Figures 7 and 8, fix the connectors A549P1, A549P2, A593P3, A550P1, A550P3, E148P1 and E148P3 by means of lacing cord P/N 900004953 at the previously installed cable supports P/N AW001CL000A-X3

11. With reference to Figure 4, reinstall all the equipments previously removed in the interseat console.

12. In accordance with AMP DM 39-B-31-11-03-00A-720A-A, reinstall the instrument panel

on the helicopter.

13. In accordance with AMP DM 39-A-25-81-06-00A-720A-A, reinstall the right aft lining.
14. In accordance with AMP DM 39-A-52-44-04-00A-740A-A, close the access panel 183AL.
15. In accordance with AMP DM 39-A-52-44-01-00A-720A-A, reinstall access panels 132AR, 140BL, 141AL, 142AR, 150AL, 151AL, 152AR and 180AL.
16. In accordance with aircraft configuration and AMP DM 39-A-25-21-01-00A-720A-K or DM 39-B-25-21-01-00A-720A-K or DM 39-A-25-22-01-00A-720A-K or DM 39-B-25-22-01-00A-720A-K or DM 39-C-25-22-01-00A-720A-K or DM 39-D-25-22-01-00A-720A-K or DM 39-E-25-22-01-00A-720A-K, reinstall the passenger seats.
17. In accordance with AMP DM 39-A-52-44-03-00A-740A-A, close access door 213AL.
18. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
19. Return the helicopter to flight configuration and record for compliance with Part I of this Service Bulletin on the helicopter logbook.
20. 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”.

PART II

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. With reference to Figure 8 to 10, perform the radio MR6000R equipment installation P/N 3G2310A14111 as described in the following procedure:

2.1 With reference to Figures 8 and 9, remove the plate assy P/N 999-0500-85-237 from the interseat console.

NOTE

Perform the following step only if Part II of this Service Bulletin has not been embodied immediately after Part I (Ref.2.2).

2.2 With reference to Figure 9 Detail B, prepare the connector PL187P1 as described in the following procedure:

2.2.1 Cut the lacing cord P/N 900004953 and remove the connector PL187P1 from the cable support P/N AW001CL001-N6.

2.2.2 Cut the lacing and tying tape P/N AA5284-C-3 and remove the Nomex self-wrap braid P/N EN6049-006-25-5 from the connector PL187P1.

2.2.3 Remove the protective plug from the connector PL187P1.

2.3 With reference to Figure 9 and Figures 11 and 14 wiring diagrams, connect the MR6000R radio cable assemblies connector PL187P1 to the GB6500 control panel (PL187) P/N 6087.4518.33.

2.4 With reference to Figure 9, install the GB6500 control panel (PL187) P/N 6087.4518.33 in the interseat console.

2.5 With reference to Figure 9, apply the decal P/N ED300PL187 in a visible area adjacent to GB6500 control panel (PL187) P/N 6087.4518.33.

2.6 With reference to Figure 8 View A-A, remove the relevant lock ring P/N Y30700501 from the V/UHF circuit breaker in the C/B panel.

2.7 In accordance with AMP DM 39-A-52-44-01-00A-520A-A, open the access panel 183AL.

NOTE

Perform the following step only if Part II of this Service Bulletin has not been embodied immediately after Part I (Ref. Step 2.8).

2.8 With reference to Figure 9 Detail B and Figure 10, prepare the connectors A549P1, A549P2 and A549P3 as described in the following procedure:

2.8.1 Cut the lacing cord P/N 900004953 and remove the connectors A549P1, A549P2 and A549P3 from the cable support P/N AW001CL000A-X3.

2.8.2 Cut the lacing and tying tapes P/N AA5284-C-3 and remove the Nomex self-wrap braids P/N EN6049-006-25-5 from the connectors A549P1, A549P2 and A549P3.

2.8.3 Remove the protective plugs from the connectors A549P1, A549P2 and A549P3.

2.9 With reference to Figure 10, install the Logic control unit (A549) P/N 7-163PIN161-0112 by means of n°4 screws P/N NAS1802-3-8, n°4 washers P/N NAS1149D0332J and n°4 washers P/N NAS1149C0332J on the structural provision performed in Part I of this Service Bulletin.

2.10 With reference to Figure 10 and Figure 12 wiring diagram, connect the MR6000R radio cable assemblies connectors A549P1, A549P2 and A549P3 to the Logic control unit (A549) P/N 7-163PIN161-0112.

2.11 With reference to Figure 10, apply the decal P/N ED300A549 in a visible area adjacent to Logic control unit (A549) P/N 7-163PIN161-0112.

NOTE

Perform the following step only if Part II of this Service Bulletin has not been embodied immediately after Part I (Ref. Step 2.12).

2.12 With reference to Figure 10 and 9 Detail B, prepare the connectors A550P1, A550P2 and A550P3 as described in the following procedure:

2.12.1 Cut the lacing cord P/N 900004953 and remove the connectors A550P1, A550P2 and A550P3 from the cable support P/N AW001CL000A-X3.

2.12.2 Cut the lacing and tying tapes P/N AA5284-C-3 and remove the Nomex self-wrap braids P/N EN6049-006-25-5 from the connectors A550P1, A550P2 and A550P3.

2.12.3 Remove the protective plugs from the connectors A550P1, A550P2 and A550P3.

2.13 With reference to Figure 10, install the KR6010 mounting tray P/N 6131.5426.02 by means of n°4 screws P/N MS35207-266 and n°4 washers P/N NAS1149D0332J on the support Flexcomm II assemblies P/N 3G5315A09232 and the panel assy P/N 3G5315A19232 installed in Part I of this Service Bulletin.

2.14 With reference to Figure 10, install V/UHF transceiver (A550) P/N 6111.7252.12 in the KR6010 mounting tray P/N 6131.5426.02.

2.15 With reference to Figure 10 and Figures 12, 13 and 14 wiring diagrams, connect the MR6000R radio cable assemblies connectors A550P1, A550P2 and A550P3 to the V/UHF transceiver (A550) P/N 6111.7252.12.

2.16 With reference to Figure 9, apply the decal P/N ED300A550 in a visible area adjacent to V/UHF transceiver (A550) P/N 6111.7252.12.

NOTE

Perform the following step only if Part II of this Service Bulletin has not been embodied immediately after Part I (Ref. Step 2.17).

2.17 With reference to Figure 8 and 10 View C, remove the cover P/N 3G5317A61451 with the n°6 screws P/N MS27039-1-07 and the n°6 washers P/N NAS1149D0332K. Remove any trace of sealant by means of aliphatic naphtha TT-N-95-B and a clean, dry, lint-free cloth CCC-C-46.

NOTE

Perform the following step only if Part II of this Service Bulletin has not been embodied immediately after Part I (Ref. Step 2.18).

2.18 With reference to Figure 9 Detail B and 10, prepare the connectors E148P1 and E148P3 as described in the following procedure:

2.18.1 Cut the lacing cord P/N 900004953 and remove the connectors E148P1 and E148P3 from the cable support P/N AW001CL000A-X3.

2.18.2 Cut the lacing and tying tapes P/N AA5284-C-3 and remove the Nomex self-wrap braids P/N EN6049-006-25-5 from the connectors E148P1 and E148P3.

2.18.3 Remove the protective plugs from the connectors E148P1 and E148P3.

2.19 With reference to Figure 10, locate the conductive gasket P/N AW001GH021A in its position on the V/UHF antenna (E148) P/N 12-190-61P23.

2.20 With reference to Figure 10 and Figure 13 wiring diagram, connect the MR6000R radio cable assemblies connectors E148P1 and E148P3 to the V/UHF antenna (E148) P/N 12-190-61P23.

2.21 With reference to Figure 10, install the V/UHF antenna (E148) P/N 12-190-61P23 by means of n°8 screws P/N NAS517-3-8 and n°8 washers P/N NAS1149D0332J on the structural provision performed in Part I of this Service Bulletin.

2.22 With reference to Figure 10, apply the decal P/N ED300E148 inside the helicopter in a visible area adjacent to the connectors E148P1 and E148P3.

2.23 In accordance with Annex A, perform the operational check of the radio MR6000R.

3. In accordance with AMP DM 39-A-52-44-01-00A-720A-A, close the access panel 183AL.
4. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
5. Return the helicopter to flight configuration and record for compliance with Part II of this Service Bulletin on the helicopter logbook.
6. 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”.

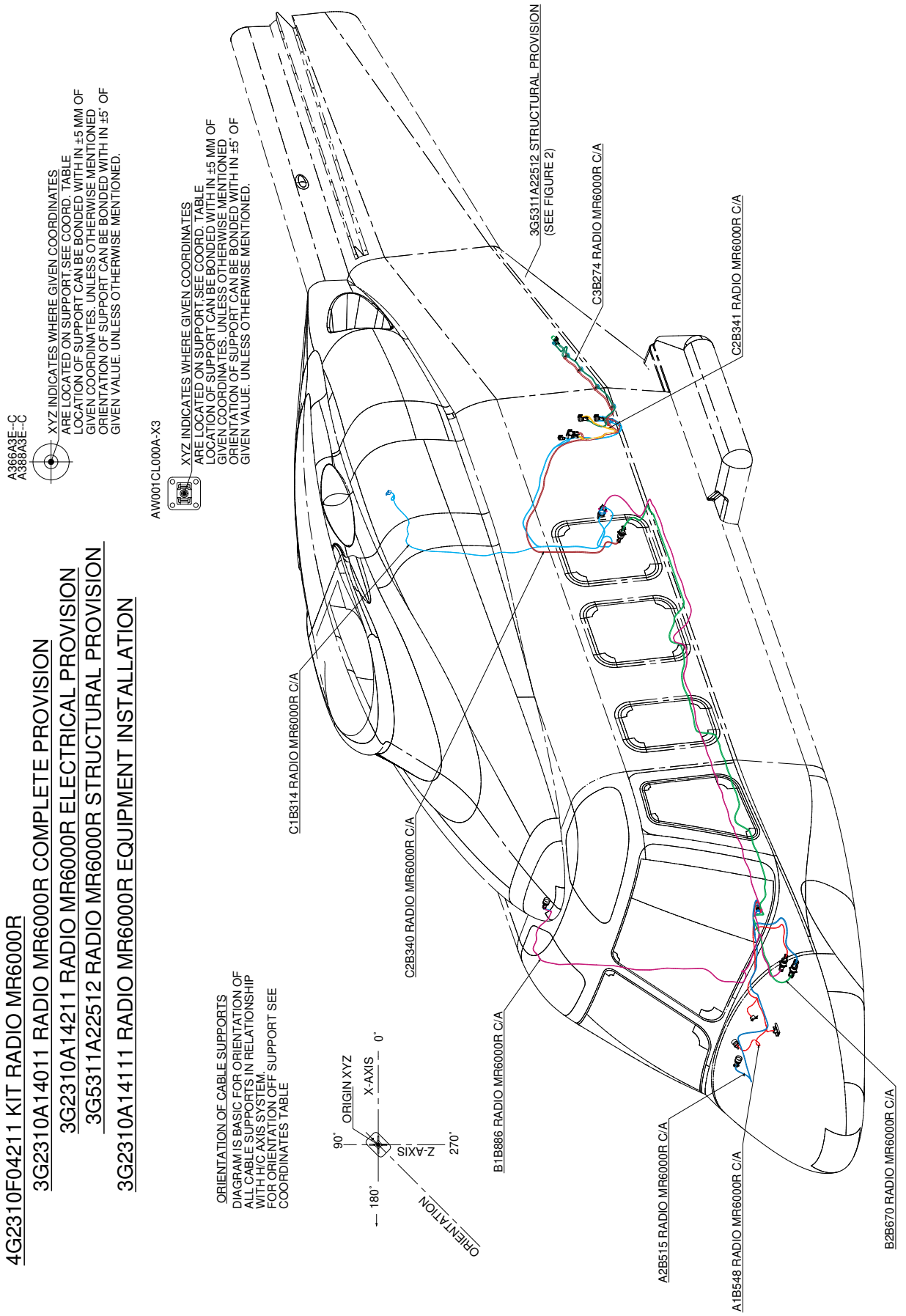

4G2310F04211 KIT RADIO MR6000R
3G2310A14011 RADIO MR6000R COMPLETE PROVISION
3G2310A14211 RADIO MR6000R ELECTRICAL PROVISION
3G5311A22512 RADIO MR6000R STRUCTURAL PROVISION
3G2310A14111 RADIO MR6000R EQUIPMENT INSTALLATION
A366A3E--C
A388A3E--C
XYZ INDICATES WHERE GIVEN COORDINATES ARE LOCATED ON SUPPORT.SEE 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 ±5° OF GIVEN VALUE. UNLESS OTHERWISE MENTIONED.
AW001CL000A-X3
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 ±5° OF GIVEN VALUE. UNLESS OTHERWISE MENTIONED.
ORIENTATION OF CABLE SUPPORTS
DIAGRAM IS BASIC FOR ORIENTATION OF ALL CABLE SUPPORTS IN RELATIONSHIP WITH H/C AXIS SYSTEM.
FOR ORIENTATION OFF SUPPORT SEE COORDINATES TABLE
90°
ORIGIN XYZ
X-AXIS
0°
180°
Z-AXIS
270°
ORIENTATION
C1B314 RADIO MR6000R C/A
C2B340 RADIO MR6000R C/A
B1B886 RADIO MR6000R C/A
A2B515 RADIO MR6000R C/A
A1B548 RADIO MR6000R C/A
B2B670 RADIO MR6000R C/A
3G5311A22512 STRUCTURAL PROVISION (SEE FIGURE 2)
C3B274 RADIO MR6000R C/A
C2B341 RADIO MR6000R C/A

Figure 1

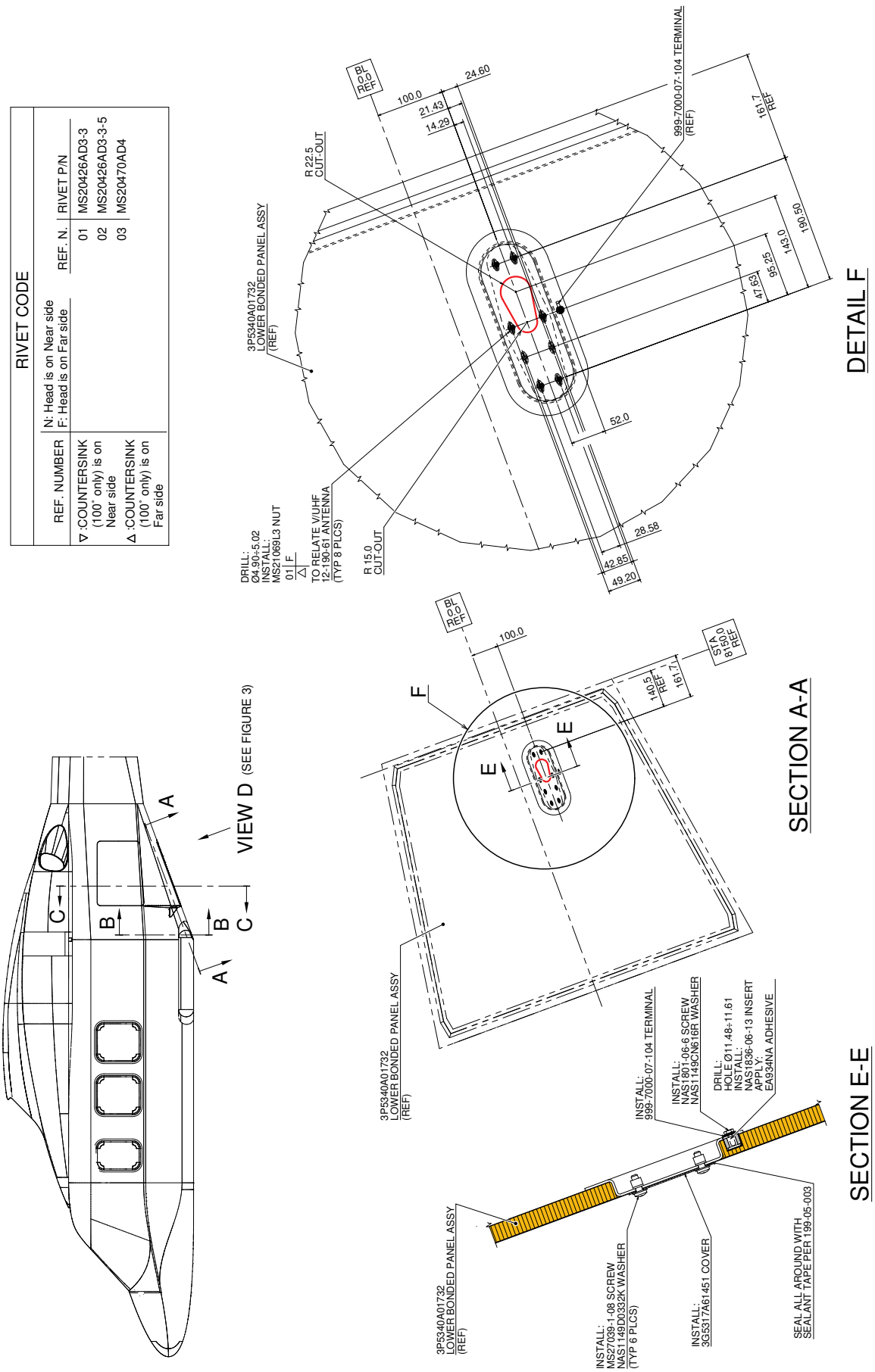

RIVET CODE
REF. NUMBER
N: Head is on Near side
F: Head is on Far side
REF. N.
RIVET P/N
▽ :COUNTERSINK (100° only) is on Near side
01
MS20426AD3-3
02
MS20426AD3-3-5
△ :COUNTERSINK (100° only) is on Far side
03
MS20470AD4
VIEW D (SEE FIGURE 3)
A
B
C
DETAIL F
3P5340A01732
LOWER BONDED PANEL ASSY
(REF)
DRILL:
Ø4.90÷5.02
INSTALL:
MS21069L3 NUT
01 F
△
TO RELATE V/UHF
12-190-61 ANTENNA
(TYP 8 PLCS)
R 15.0
CUT-OUT
R 22.5
CUT-OUT
BL
0.0
REF
100.0
24.60
21.43
14.29
999-7000-07-104 TERMINAL
(REF)
161.7
REF
190.50
143.0
95.25
47.63
52.0
28.58
42.85
49.20
SECTION A-A
STA.
815.0
REF
140.5
REF
161.7
E
F
SECTION E-E
INSTALL:
999-7000-07-104 TERMINAL
INSTALL:
NAS1801-06-6 SCREW
NAS1149C0616R WASHER
DRILL:
HOLE Ø11.48÷11.61
INSTALL:
NAS1836-06-13 INSERT
APPLY:
EA934NA ADHESIVE
INSTALL:
MS27039-1-08 SCREW
NAS1149D0332K WASHER
(TYP 6 PLCS)
INSTALL:
3G5317A61451 COVER
SEAL ALL AROUND WITH
SEALANT TAPE PER 199-05-003

Figure 2

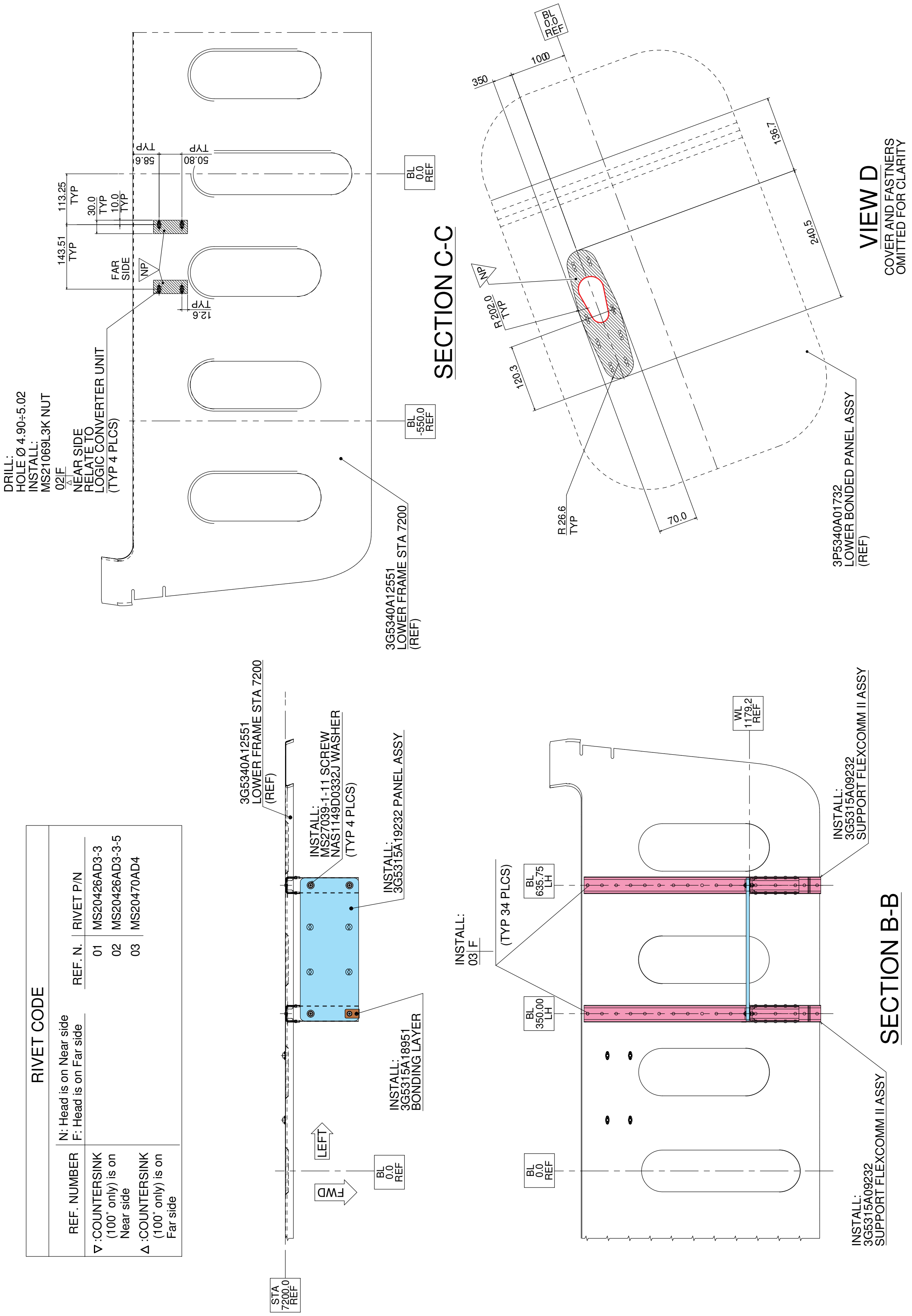
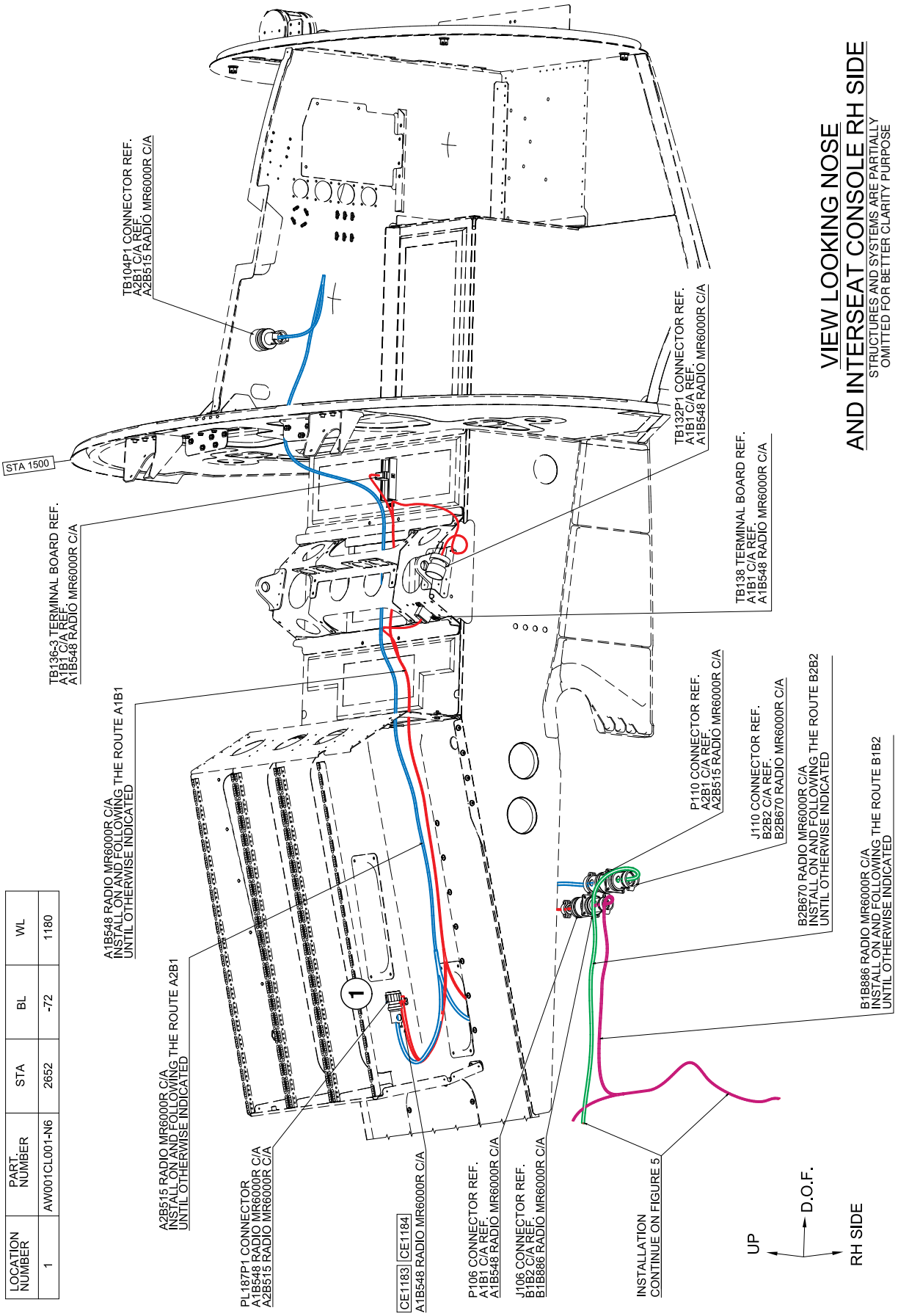

SECTION C-C
VIEW D
COVER AND FASTNERS OMITTED FOR CLARITY
SECTION B-B
DRILL: HOLE Ø 4.90÷5.02
INSTALL: MS21069L3K NUT
02 F
NEAR SIDE RELATE TO LOGIC CONVERTER UNIT (TYP 4 PLCS)
FAR SIDE
NP
143.51 TYP
113.25 TYP
30.0 TYP
10.0 TYP
58.6 TYP
50.80 TYP
12.6 TYP
BL 0.0 REF
BL -550.0 REF
3G5340A12551 LOWER FRAME STA 7200 (REF)
R 202.0 TYP
120.3
R 26.6 TYP
70.0
350
100.0
BL 0.0 REF
136.7
240.5
3P5340A01732 LOWER BONDED PANEL ASSY (REF)
RIVET CODE
REF. NUMBER
N: Head is on Near side
F: Head is on Far side
∇ :COUNTERSINK (100° only) is on Near side
Δ :COUNTERSINK (100° only) is on Far side
REF. N.
RIVET P/N
01 MS20426AD3-3
02 MS20426AD3-3-5
03 MS20470AD4
3G5340A12551 LOWER FRAME STA 7200 (REF)
INSTALL: MS27039-1-11 SCREW NAS1149D0332J WASHER (TYP 4 PLCS)
INSTALL: 3G5315A19232 PANEL ASSY
INSTALL: 3G5315A18951 BONDING LAYER
LEFT
FWD
BL 0.0 REF
STA 7200.0 REF
INSTALL: 03 F
(TYP 34 PLCS)
BL 635.75 LH
BL 350.00 LH
BL 0.0 REF
WL 1179.2 REF
INSTALL: 3G5315A09232 SUPPORT FLEXCOMM II ASSY

Figure 3



LOCATION NUMBER	PART NUMBER	STA	BL	WL
1	AW001CL001-N6	2652	-72	1180

Figure 4

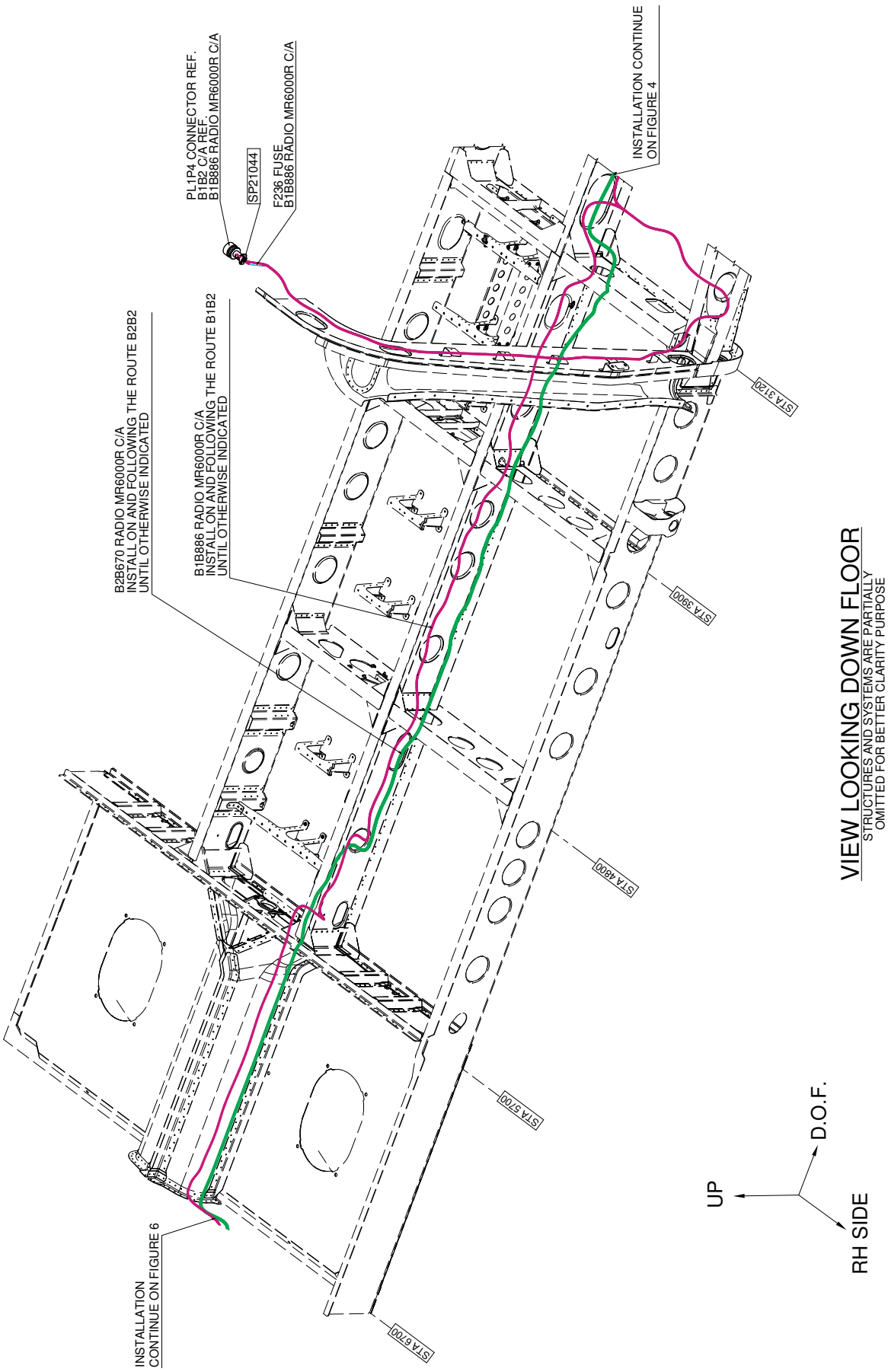
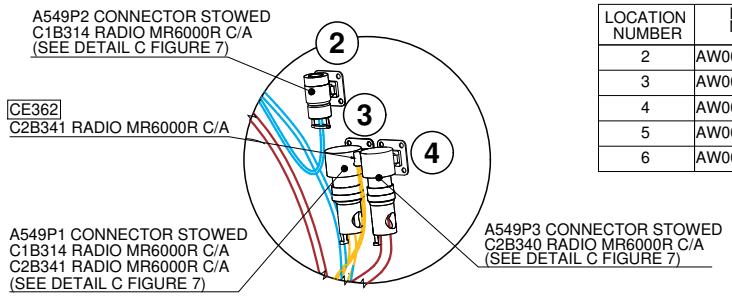
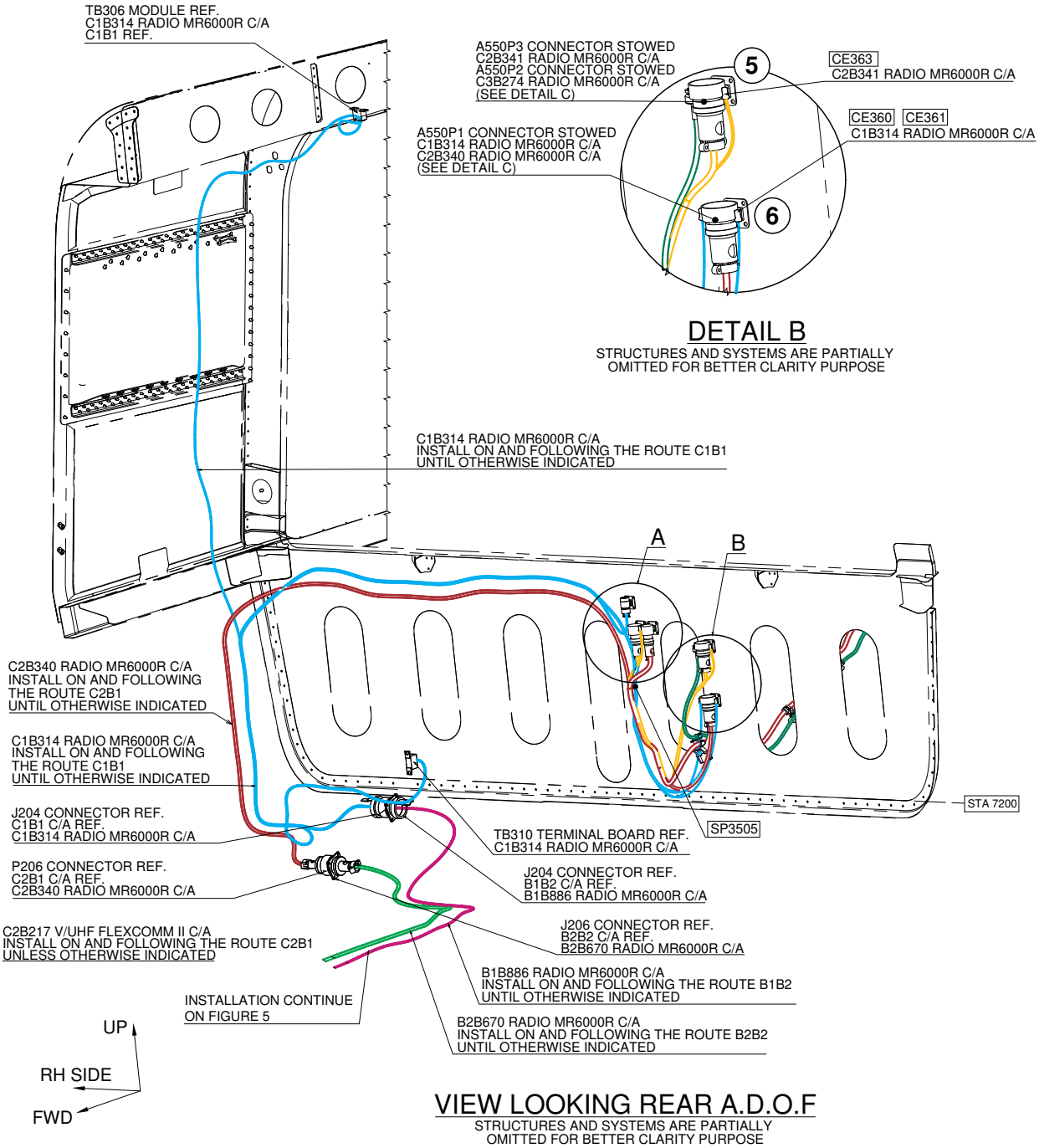

PL1P4 CONNECTOR REF.
B1B2 C/A REF.
B1B886 RADIO MR6000R C/A
SP21044
F236 FUSE
B1B886 RADIO MR6000R C/A
INSTALLATION CONTINUE
ON FIGURE 4
B2B670 RADIO MR6000R C/A
INSTALL ON AND FOLLOWING THE ROUTE B2B2
UNTIL OTHERWISE INDICATED
B1B886 RADIO MR6000R C/A
INSTALL ON AND FOLLOWING THE ROUTE B1B2
UNTIL OTHERWISE INDICATED
STA 3120
STA 3900
STA 4900
STA 5700
STA 6700
INSTALLATION
CONTINUE ON FIGURE 6
VIEW LOOKING DOWN FLOOR
STRUCTURES AND SYSTEMS ARE PARTIALLY
OMITTED FOR BETTER CLARITY PURPOSE
UP
D.O.F.
RH SIDE

Figure 5



LOCATION NUMBER	PART NUMBER	STA	BL	WL	ORIENTATION
2	AW001CL000A-X3	7199	-76	1473	0°
3	AW001CL000A-X3	7199	-101	1418	0°
4	AW001CL000A-X3	7199	-135	1418	0°
5	AW001CL000A-X3	7199	-289	1372	0°
6	AW001CL000A-X3	7199	-288	1251	0°

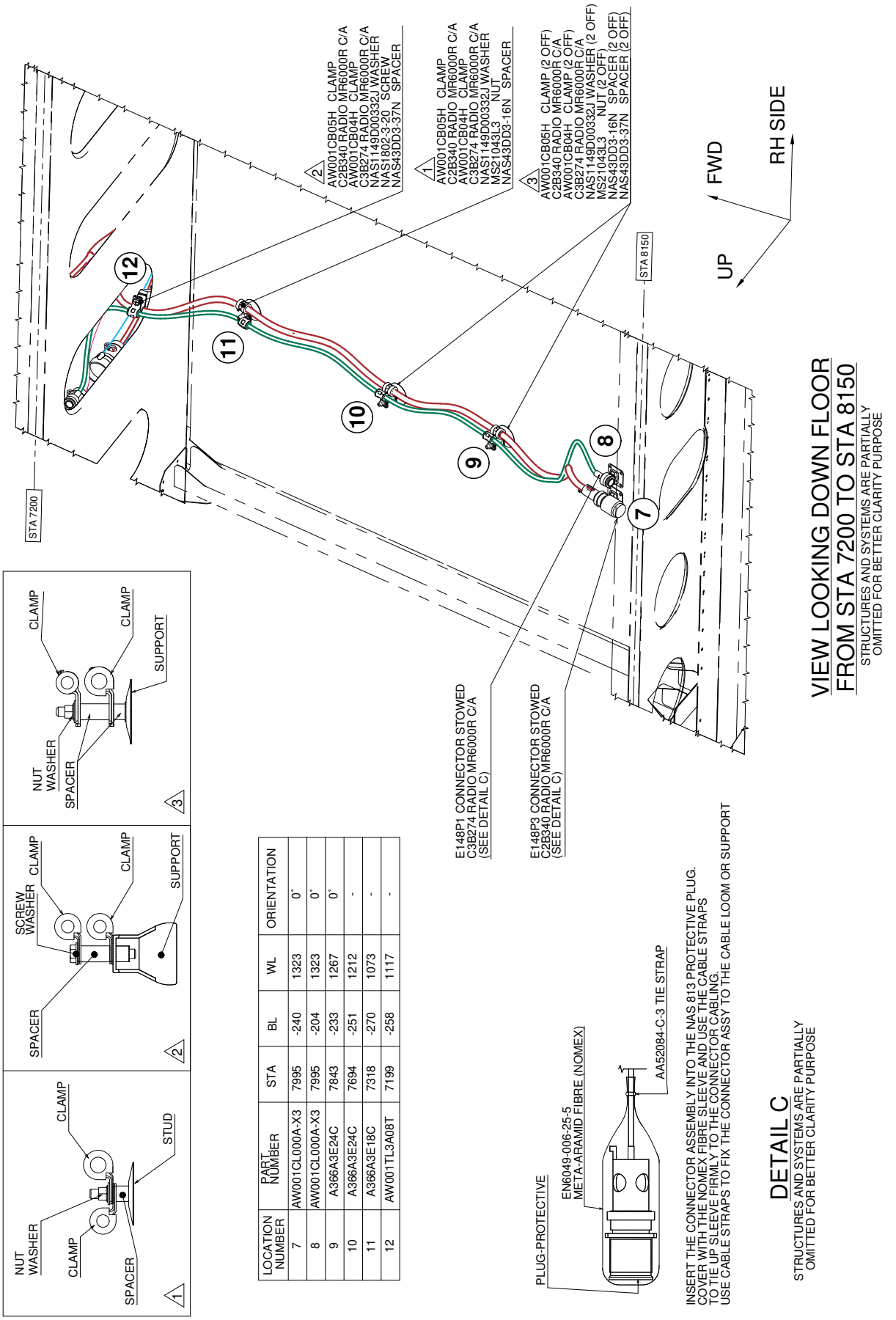
DETAIL A
STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE



DETAIL B
STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

VIEW LOOKING REAR A.D.O.F
STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

Figure 6



LOCATION NUMBER	PART NUMBER	STA	BL	WL	ORIENTATION
7	AW001CL000A-X3	7995	-240	1323	0°
8	AW001CL000A-X3	7995	-204	1323	0°
9	A366A3E24C	7843	-233	1267	0°
10	A366A3E24C	7694	-251	1212	-
11	A366A3E18C	7318	-270	1073	-
12	AW001TL3A08T	7199	-258	1117	-

Figure 7

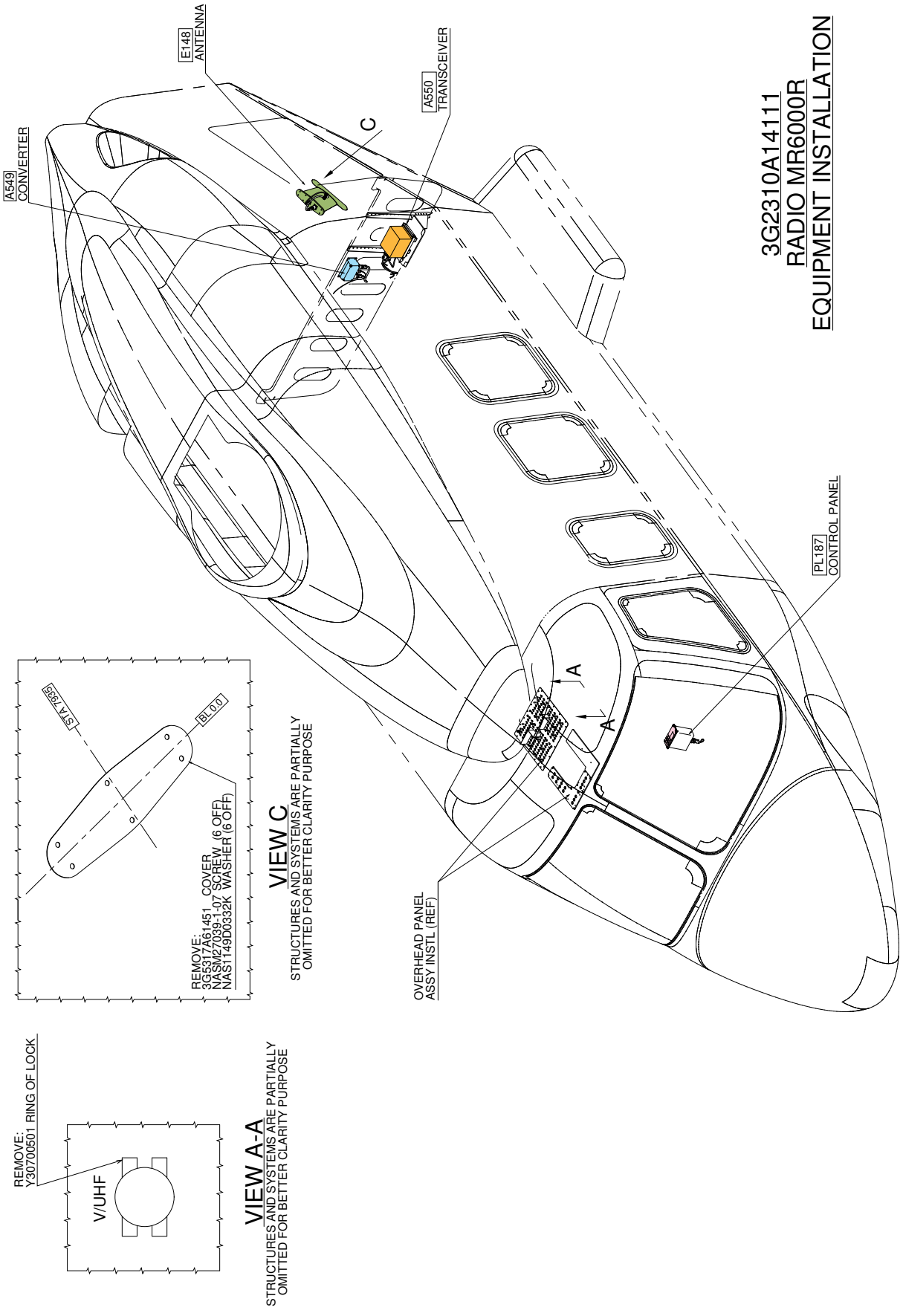
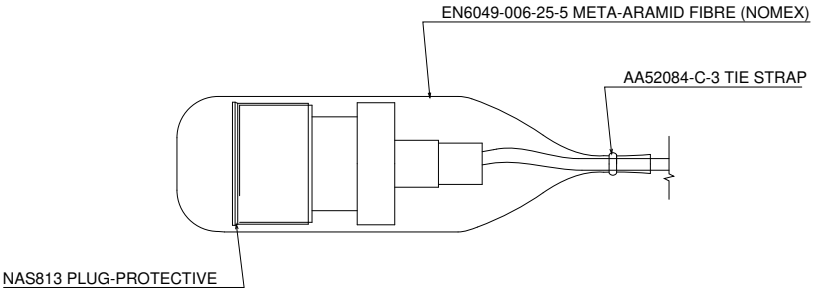
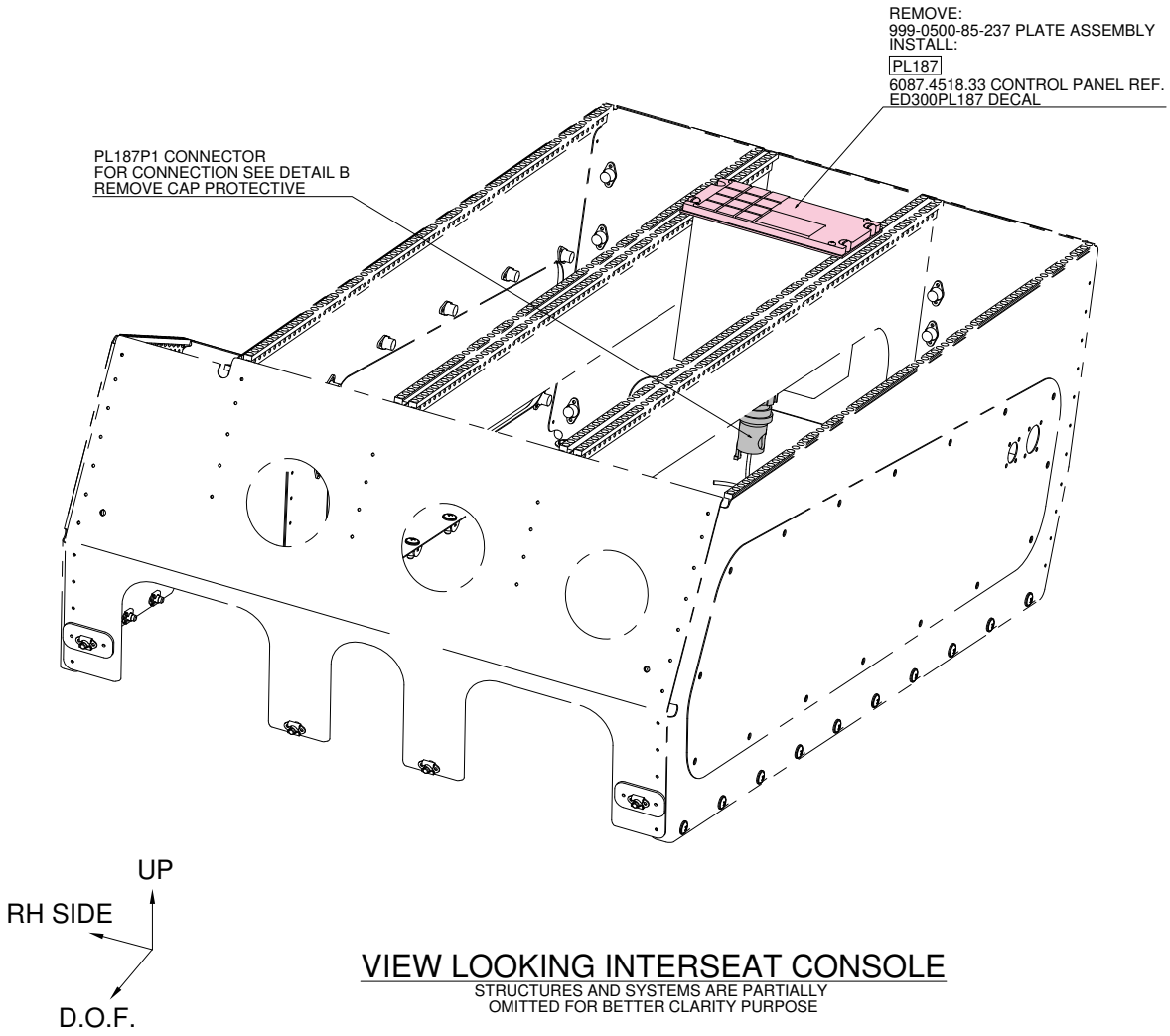

3G2310A14111
RADIO MR6000R
EQUIPMENT INSTALLATION
E148
ANTENNA
A550
TRANSCEIVER
A549
CONVERTER
C
A
A
PL187
CONTROL PANEL
OVERHEAD PANEL
ASSY INSTL (REF)
VIEW C
STRUCTURES AND SYSTEMS ARE PARTIALLY
OMITTED FOR BETTER CLARITY PURPOSE
REMOVE:
3G5317A61451 COVER
NASM27039-1-07 SCREW (6 OFF)
NAS1149D0332K WASHER (6 OFF)
STA 7935
BL 0.0
VIEW A-A
STRUCTURES AND SYSTEMS ARE PARTIALLY
OMITTED FOR BETTER CLARITY PURPOSE
REMOVE:
Y30700501 RING OF LOCK
V/UHF

Figure 8



UNTIE CONNECTOR ASSY FROM THE LOOM.
REMOVE THE NOMEX FIBRE SLEEVE AND THE PROTECTIVE PLUG
FROM THE CONNECTOR AND FIX THE CONNECTOR
TO THE CONTROL PANEL.

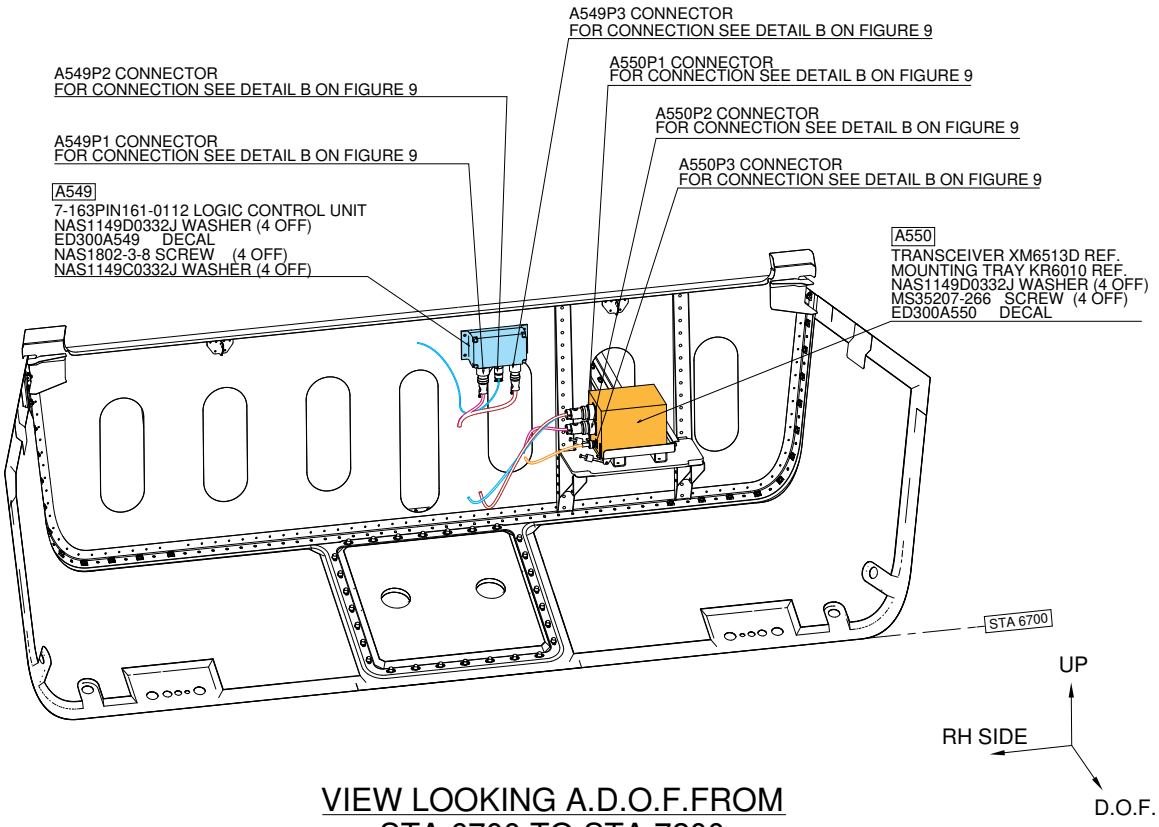
DETAIL B



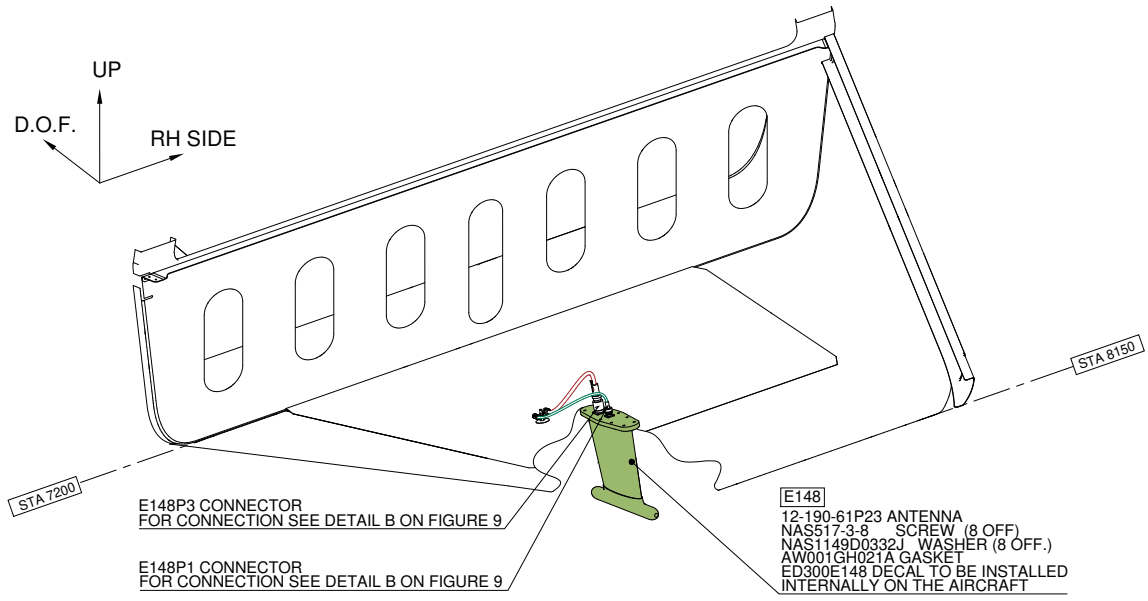
VIEW LOOKING INTERSEAT CONSOLE

STRUCTURES AND SYSTEMS ARE PARTIALLY
OMITTED FOR BETTER CLARITY PURPOSE

Figure 9



VIEW LOOKING A.D.O.F.FROM
STA 6700 TO STA 7200
STRUCTURES AND SYSTEMS ARE PARTIALLY
OMITTED FOR BETTER CLARITY PURPOSE



VIEW LOOKING FROM
STA 7200 TO STA 8150
STRUCTURES AND SYSTEMS ARE PARTIALLY
OMITTED FOR BETTER CLARITY PURPOSE

Figure 10

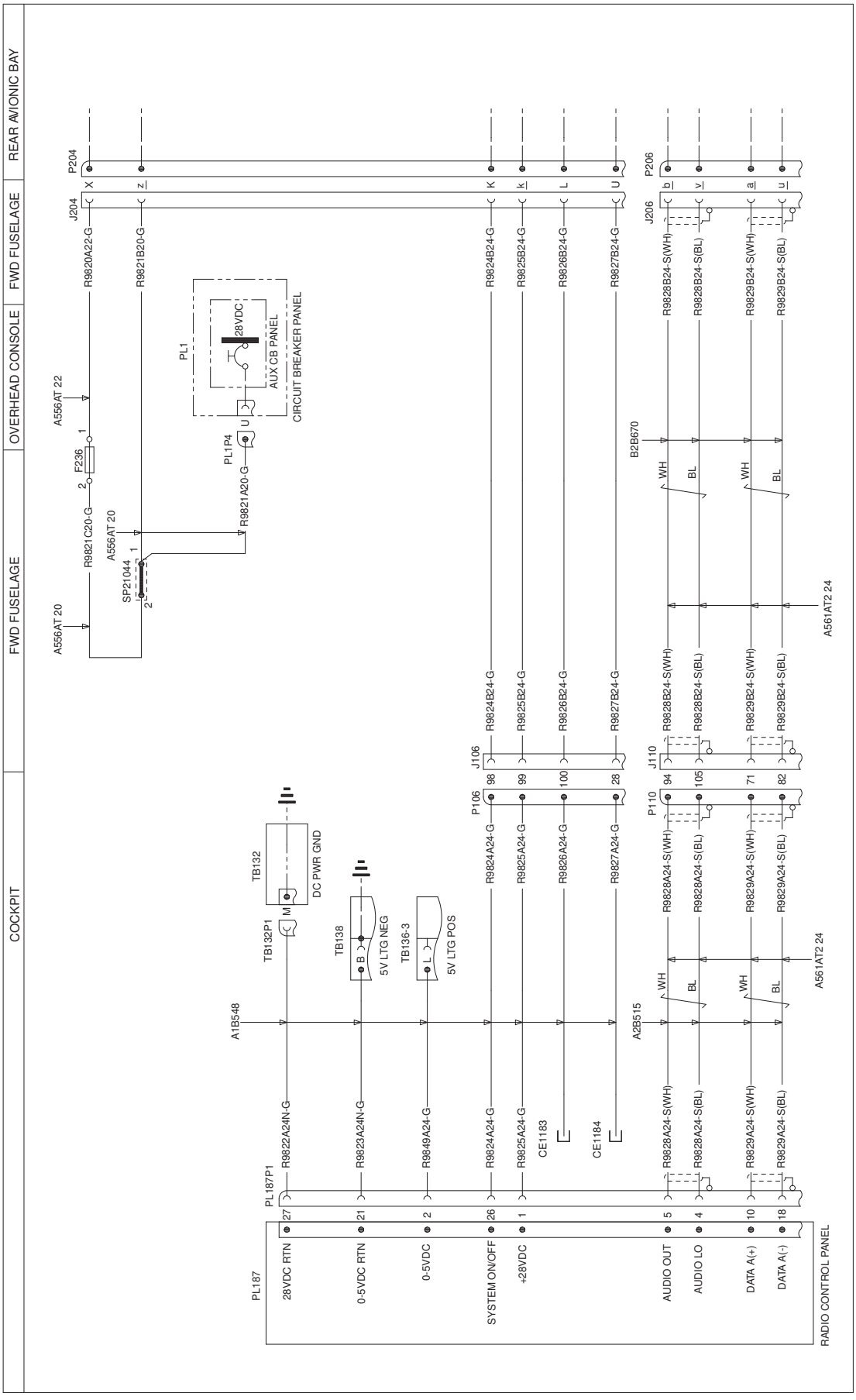

COCKPIT
FWD FUSELAGE
OVERHEAD CONSOLE
FWD FUSELAGE
REAR AVIONIC BAY
3G2310W12011
WIRING DIAGRAM RADIO M6000R
SHEET 1
FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM B1B886 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A556AT 24 UNLESS SPECIFIED
RADIO CONTROL PANEL
PL187
28VDC RTN
0-5VDC RTN
0-5VDC
SYSTEM ON/OFF
+28VDC
AUDIO OUT
AUDIO LO
DATA A(+)
DATA A(-)
PL187P1
A1B548
A2B515
A561AT2 24
TB132
DC PWR GND
TB138
5V LTG NEG
TB136-3
5V LTG POS
CE1183
CE1184
P106
J106
P110
J110
B2B670
P204
J204
P206
J206
A556AT 22
A556AT 20
F236
SP21044
PL1
PL1P4
AUX CB PANEL
CIRCUIT BREAKER PANEL
28VDC

Figure 11

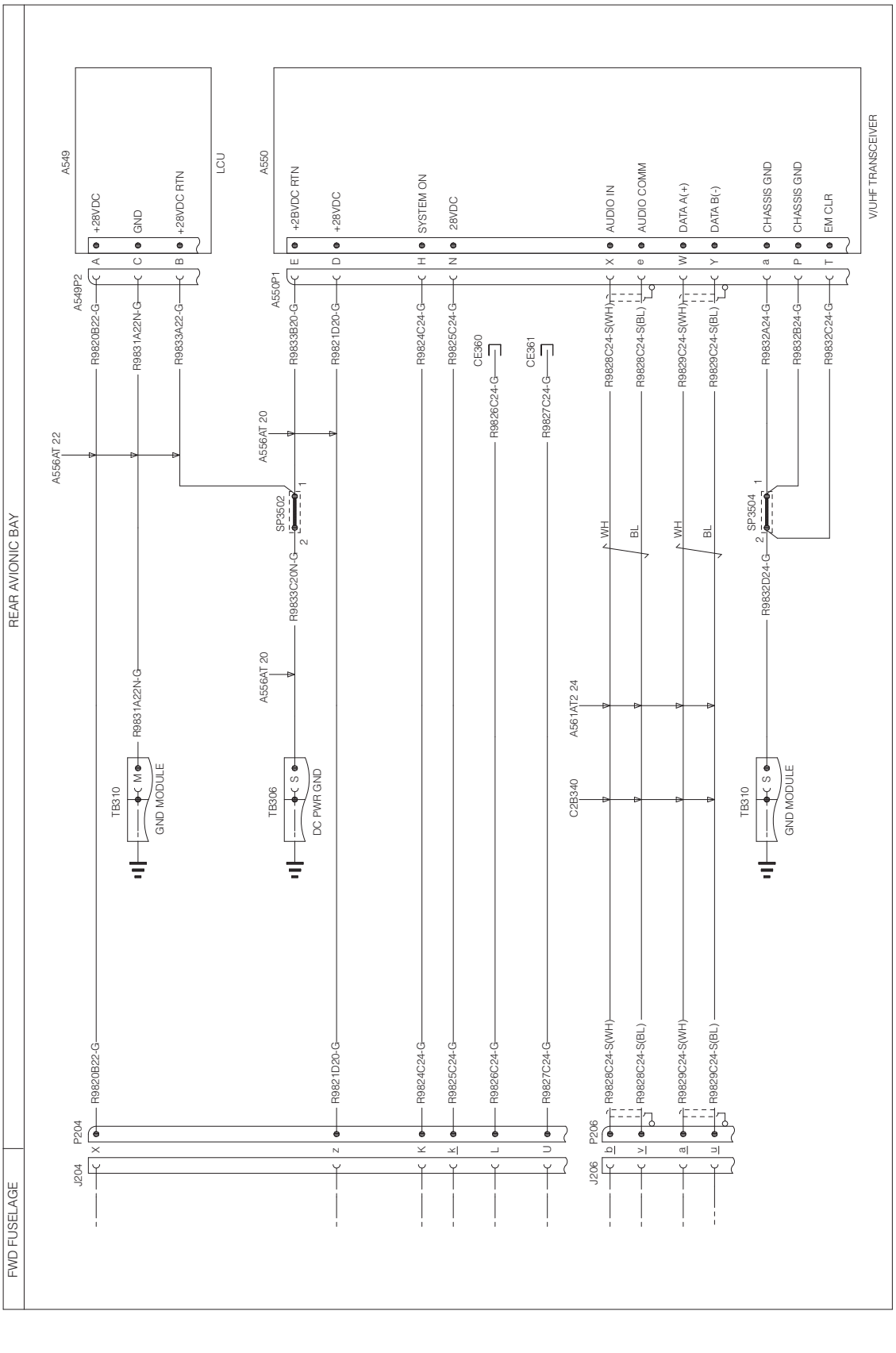

3G2310W12011
WIRING DIAGRAM RADIO M6000R
SHEET 2
FWD FUSELAGE
REAR AVIONIC BAY
A549
LCU
+28VDC
GND
+28VDC RTN
A549P2
A
C
B
R9820B22-G
R9831A22N-G
R9833A22-G
A556AT 22
TB310
M
GND MODULE
R9831A22N-G
A556AT 20
R9833C20N-G
SP3502
TB306
S
DC PWR GND
A550
+2BVDC RTN
+28VDC
SYSTEM ON
28VDC
AUDIO IN
AUDIO COMM
DATA A(+)
DATA B(-)
CHASSIS GND
CHASSIS GND
EM CLR
V/UHF TRANSCEIVER
A550P1
E
D
H
N
X
e
W
Y
a
P
T
R9833B20-G
R9821D20-G
R9824C24-G
R9825C24-G
R9826C24-G
R9827C24-G
R9828C24-S(WH)
R9828C24-S(BL)
R9829C24-S(WH)
R9829C24-S(BL)
R9832A24-G
R9832B24-G
R9832C24-G
CE360
CE361
A556AT 20
A561AT2 24
C2B340
WH
BL
WH
BL
SP3504
R9832D24-G
TB310
S
GND MODULE
P204
J204
X
z
K
k
L
U
R9820B22-G
R9821D20-G
R9824C24-G
R9825C24-G
R9826C24-G
R9827C24-G
P206
J206
b
v
a
u
R9828C24-S(WH)
R9828C24-S(BL)
R9829C24-S(WH)
R9829C24-S(BL)
FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM C1B314 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A556AT 24 UNLESS SPECIFIED

Figure 12

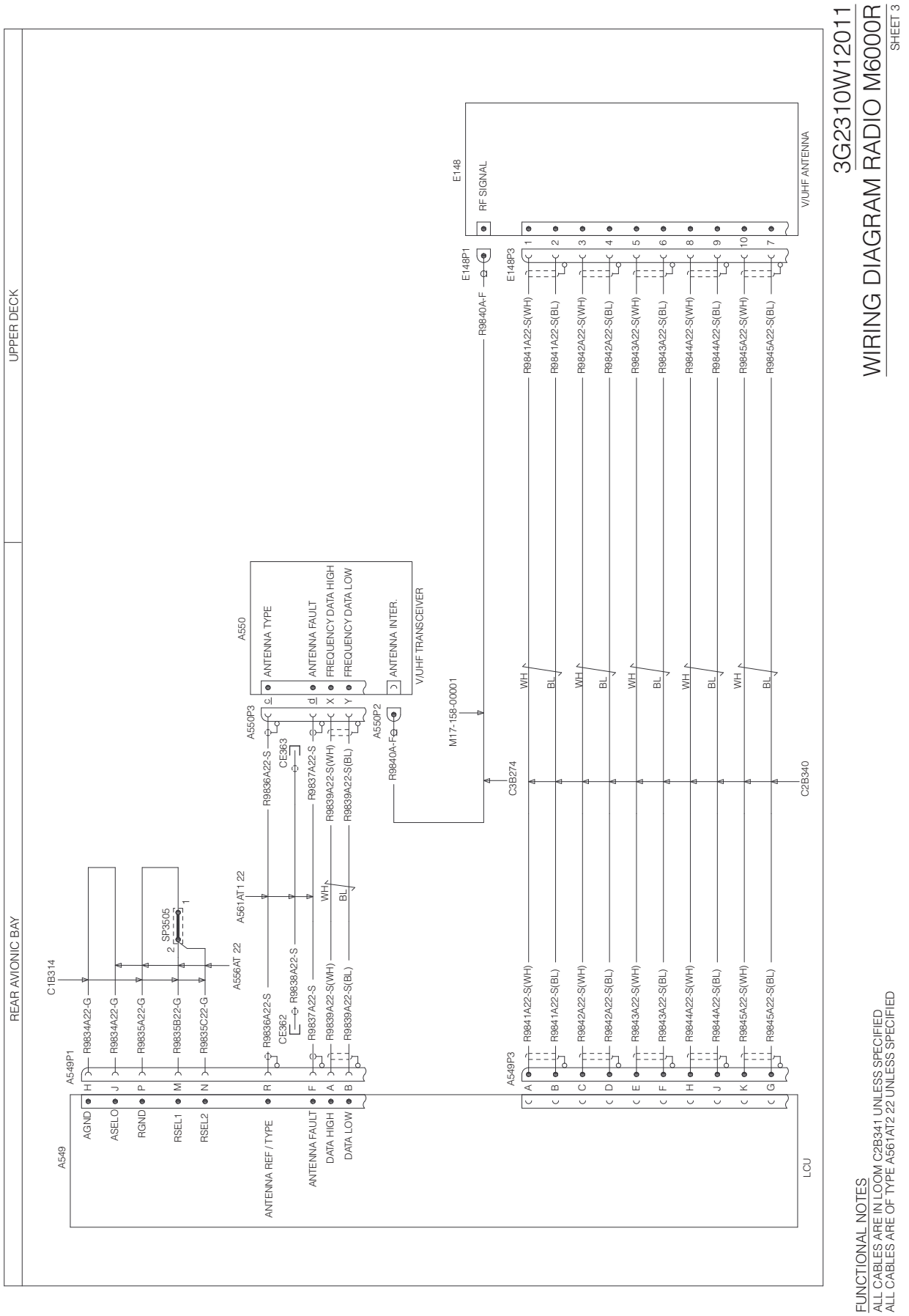
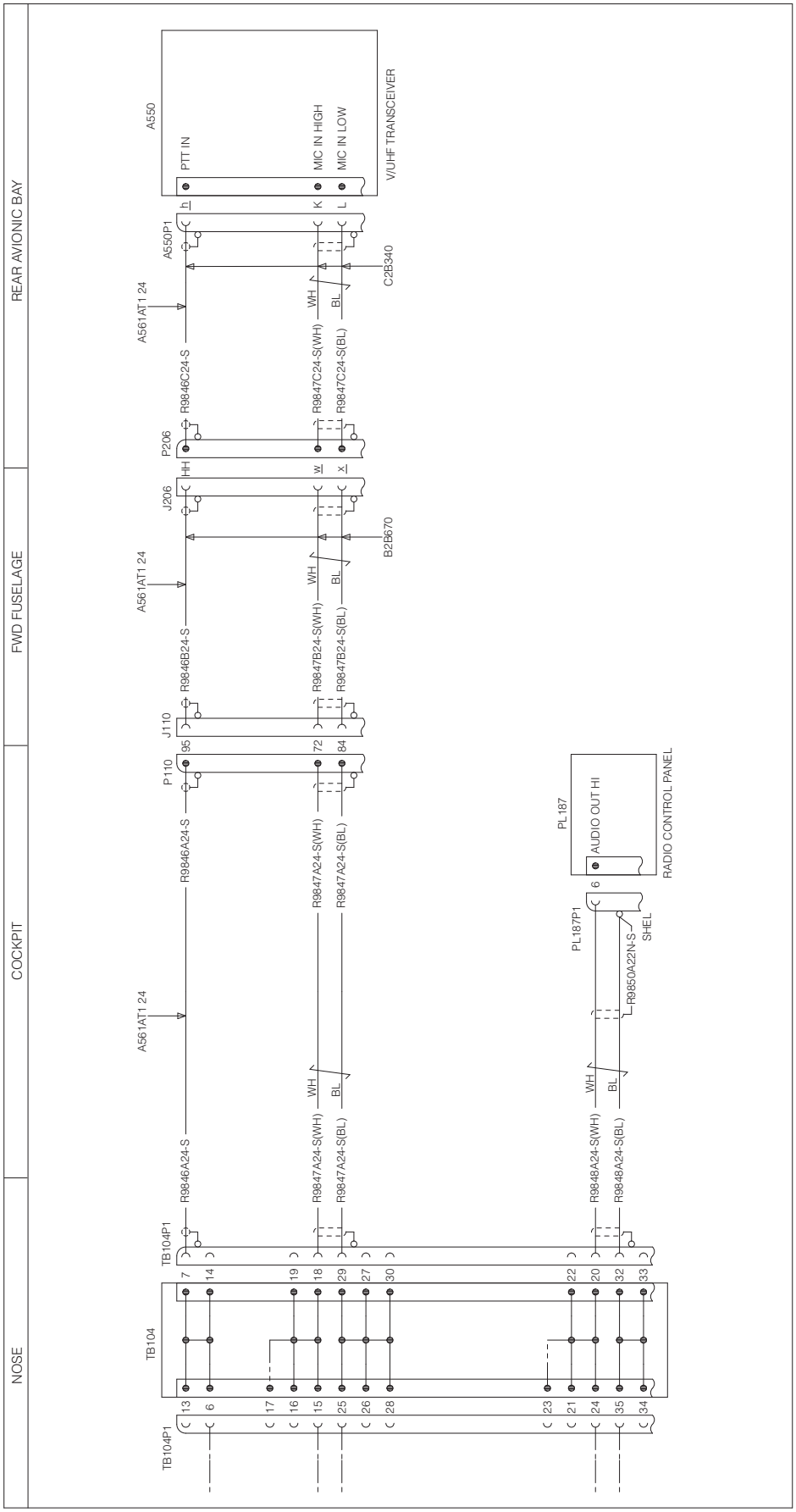

3G2310W12011
WIRING DIAGRAM RADIO M6000R
SHEET 3
UPPER DECK
REAR AVIONIC BAY
LCU
A549
AGND
ASELO
RGND
RSEL1
RSEL2
ANTENNA REF / TYPE
ANTENNA FAULT
DATA HIGH
DATA LOW
A549P1
A549P3
C1B314
SP3505
A556AT 22
A561AT1 22
A550
ANTENNA TYPE
ANTENNA FAULT
FREQUENCY DATA HIGH
FREQUENCY DATA LOW
ANTENNA INTER.
V/UHF TRANSCEIVER
A550P3
A550P2
CE362
CE363
M117-158-00001
C3B274
C2B340
E148
RF SIGNAL
V/UHF ANTENNA
E148P1
E148P3
R9840A-F
R9834A22-G
R9835A22-G
R9835B22-G
R9835C22-G
R9836A22-S
R9838A22-S
R9837A22-S
R9839A22-S(WH)
R9839A22-S(BL)
R9841A22-S(WH)
R9841A22-S(BL)
R9842A22-S(WH)
R9842A22-S(BL)
R9843A22-S(WH)
R9843A22-S(BL)
R9844A22-S(WH)
R9844A22-S(BL)
R9845A22-S(WH)
R9845A22-S(BL)
FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM C2B341 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A561AT2 22 UNLESS SPECIFIED

Figure 13



3G2310W12011
WIRING DIAGRAM RADIO M6000R
SHEET 4

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM A2B515 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A561AT2 24 UNLESS SPECIFIED

Figure 14

Cable Assy	Wire	From Ref Des	Electrical Contact	To Ref Des	Electrical Contact
A1B548	R9825A24-G	P106	M39029/58-360	PL187P1	M39029/56-348
	R9826A24-G	P106	M39029/58-360	CE1183	N.A.
	R9827A24-G	P106	M39029/58-360	CE1184	N.A.
	R9822A24N-G	PL187P1	M39029/56-348	TB132P1	M39029/56-351
	R9824A24-G	PL187P1	M39029/56-348	P106	M39029/58-360
	R9849A24-G	PL187P1	M39029/56-348	TB136/3	A523A-A05
	R9823A24N-G	TB138	A523A-A05	PL187P1	M39029/56-348
A2B515	R9828A24-S (WH)	P110	M39029/58-360	PL187P1	M39029/56-348
	R9828A24-S (BL)	P110	M39029/58-360	PL187P1	M39029/56-348
	R9829A24-S (WH)	P110	M39029/58-360	PL187P1	M39029/56-348
	R9829A24-S (BL)	P110	M39029/58-360	PL187P1	M39029/56-348
	R9846A24-S	P110	M39029/58-360	TB104P1	M39029/56-348
	R9848A24-S (BL)	PL187P1	MS25036-148	TB104P1	M39029/56-348
	R9848A24-S (WH)	PL187P1	M39029/56-348	TB104P1	M39029/56-348
	R9850A22N-S	PL187P1	MS25036-148	PL187P1	N.A.
	R9847A24-S (WH)	TB104P1	M39029/56-348	P110	M39029/58-360
	R9847A24-S (BL)	TB104P1	M39029/56-348	P110	M39029/58-360
B1B886	R9820A22-G	F236	A523A-A02	J204	M39029/56-351
	R9821C20-G	F236	A523A-A02	SP21044	N.A.
	R9824B24-G	J106	M39029/56-348	J204	M39029/56-351
	R9826B24-G	J106	M39029/56-348	J204	M39029/56-351
	R9825B24-G	J204	M39029/56-351	J106	M39029/56-348
	R9827B24-G	J204	M39029/56-351	J106	M39029/56-348
	R9821A20-G	SP21044	N.A.	PL1P4	M39029/58-364
	R9821B20-G	SP21044	N.A.	J204	M39029/56-352
B2B670	R9828B24-S (WH)	J206	M39029/56-351	J110	M39029/56-348
	R9828B24-S (BL)	J206	M39029/56-351	J110	M39029/56-348
	R9829B24-S (WH)	J206	M39029/56-351	J110	M39029/56-348
	R9829B24-S (BL)	J206	M39029/56-351	J110	M39029/56-348
	R9846B24-S	J206	M39029/56-351	J110	M39029/56-348
	R9847B24-S (WH)	J206	M39029/56-351	J110	M39029/56-348
	R9847B24-S (BL)	J206	M39029/56-351	J110	M39029/56-348
C1B314	R9834A22-G	A549P1	M39029/5-115	A549P1	M39029/5-115
	R9824C24-G	A550P1	M39029/57-357	P204	M39029/58-363
	R9832A24-G	A550P1	M39029/57-357	SP3504	N.A.
	R9826C24-G	CE360	N.A.	P204	M39029/58-363
	R9820B22-G	P204	M39029/58-363	A549P2	M39029/5-115
	R9821D20-G	P204	M39029/58-364	A550P1	M39029/57-357
	R9825C24-G	P204	M39029/58-363	A550P1	M39029/57-357
	R9827C24-G	P204	M39029/58-363	CE361	N.A.
	R9833A22-G	SP3502	N.A.	A549P2	M39029/5-115

Figure 15

Cable Assy	Wire	From Ref Des	Electrical Contact	To Ref Des	Electrical Contact
	R9833B20-G	SP3502	N.A.	A550P1	M39029/57-357
	R9832B24-G	SP3504	N.A.	A550P1	M39029/57-357
	R9832C24-G	SP3504	N.A.	A550P1	M39029/57-357
	R9835A22-G	SP3505	N.A.	A549P1	M39029/5-115
	R9835B22-G	SP3505	N.A.	A549P1	M39029/5-115
	R9835C22-G	SP3505	N.A.	A549P1	M39029/5-115
	R9831A22N-G	SP3563	N.A.	A549P2	M39029/5-115
	R9831B22N-G	SP3563	N.A.	TB310	A523A-A05
	R9831C22N-G	SP3563	N.A.	A549P1	M39029/57-357
	R9831D22N-G	SP3563	N.A.	A550P3	M39029/57-357
	R9833C20N-G	TB306	A523A-A02	SP3502	N.A.
	R9832D24-G	TB310	A523A-A05	SP3504	N.A.
C2B340	R9841A22-S (WH)	A549P3	M39029/4-110	E148P3	M39029/56-348
	R9841A22-S (BL)	A549P3	M39029/4-110	E148P3	M39029/56-348
	R9842A22-S (WH)	A549P3	M39029/4-110	E148P3	M39029/56-348
	R9842A22-S (BL)	A549P3	M39029/4-110	E148P3	M39029/56-348
	R9846C24-S	A550P1	M39029/57-357	P206	M39029/58-363
	R9843A22-S (WH)	E148P3	M39029/56-348	A549P3	M39029/56-348
	R9843A22-S (BL)	E148P3	M39029/56-348	A549P3	M39029/56-348
	R9844A22-S (WH)	E148P3	M39029/56-348	A549P3	M39029/56-348
	R9844A22-S (BL)	E148P3	M39029/56-348	A549P3	M39029/56-348
	R9845A22-S (BL)	E148P3	M39029/56-348	A549P3	M39029/4-110
	R9845A22-S (WH)	E148P3	M39029/56-348	A549P3	M39029/4-110
	R9828C24-S (WH)	P206	M39029/58-363	A550P1	M39029/57-357
	R9828C24-S (BL)	P206	M39029/58-363	A550P1	M39029/57-357
	R9829C24-S (WH)	P206	M39029/58-363	A550P1	M39029/57-357
	R9829C24-S (BL)	P206	M39029/58-363	A550P1	M39029/57-357
	R9847C24-S(WH)	P206	M39029/58-363	A550P1	M39029/57-357
	R9847C24-S (BL)	P206	M39029/58-363	A550P1	M39029/57-357
C2B341	R9836A22-S	A549P1	M39029/5-115	A550P3	MS27491-20
	R9837A22-S	A549P1	M39029/5-115	A550P3	MS27491-20
	R9839A22-S (WH)	A549P1	M39029/5-115	A550P3	MS27491-20
	R9839A22-S (BL)	A549P1	M39029/5-115	A550P3	MS27491-20
	R9838A22-S	CE363	N.A.	CE362	N.A.

Figure 16

ANNEX A

RADIO MR6000R

FUNCTIONAL TEST PROCEDURE

1. Verify that all the Electrical Power Distribution System Circuit Breakers listed below are pushed in except for the radio R&S MR6000R circuit breakers and “IGN #1/2” and “START #1/2” which shall be pulled out:

Nomenclature	System	Position Required	Done / Verified
V/UHF	V/UHF Control Panel	IN	
V/UHF PWR	V/UHF Transceiver	IN	
MAU 1 PRI PWR	MAU 1 Power Supply (Primary)	IN	
MAU 2 PRI PWR	MAU 2 Power Supply (Primary)	IN	
MAU 1 AUX PWR	MAU 1 Power Supply (Secondary)	IN	
MAU 2 AUX PWR	MAU 2 Power Supply (Secondary)	IN	
(NAV/COMM) NIM 2	MRC 2 NIM	IN	
(NAV/COMM) ICS PLT	Pilot Inter Communication System	IN	
(NAV/COMM) ICS CPLT	Copilot Inter Communication System	IN	
(NAV/COMM) PA	ICS Cabin System	IN	

2. Disconnect the aircraft external grounding cable
3. Disconnect all the connector of the LCU (A549) and antenna (E148)
4. Perform bonding measurements for LCU and Antenna; register values of resistance measured in the following Table and verify they don’t exceed limits reported.

Ref-des	Description	Probe B	Limit Value	Measured Value
E148	Antenna	Neg. Battery	2.5 mΩ	_____ mΩ
A549	LCU	Local Structure	5 mΩ	_____ mΩ

5. Disconnect all the connectors PL187, A549, A550.
6. Verify the grounding of the following sockets PL187P1-27, PL187P1-21, A549P2-B, A549P2-C, A550P1-E, A550P1-a, A550P1-P, A550P1-T.
7. Verify the continuity of the core of coaxial RF cable between the couple of connectors E148P1 and A550P2; verify the isolation between core and shield of coaxial of connector.
8. With the helicopter electrically powered push in the “RADIO MR6000R” circuit breaker.
9. Verify the voltage 28VDC between the following elements:

   A549P2-A (+) A549P2-B (-)

A550P1-D (+) A550P1-E (-)

10. Verify the continuity of the cable between the listed couple of sockets.
    PL187P1-1 A550P1-N
11. Rotate the LT CONSOLE knob from OFF to BRT and contemporaneously verify the voltage varies from 0 VDC to 5 VDC between the following elements:
    PL187P1-2 (+) PL187P1-21 (-)
12. Using instrument or equivalent, select the VNA mode and set the RF limits as follows:
    Start Frequency 30 MHz
    Stop Frequency 400 MHz
13. Perform an instrument calibration, if necessary
14. Pull out MR6000R Radio Circuit Breaker
15. Disconnect the MR6000R's RF connector A550P2
16. Disconnect the V/UHF Antenna coaxial connector E148P1
17. Connect the instrument to the E148P1 connector
18. Connect an enclosed precision "short" at the A550P2 connector
19. Using the calibrated instrument, perform the "Cable Loss" measure and verify the following limits:

ANTENNA (KIT ROHDE&SCHWARZ)	**Theorist Limit Values**
Line Attenuation or Cable Loss Attenuation [dB]	
	(PASS if A < 3dB ± 0.15dB)

20. Disconnect the "short" and connect the antenna on the A550P2 connector.
21. Connect all the LRU's connectors under test.

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

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

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

Remarks:

Information:

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