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AgustaWestland Products

SERVICE BULLETIN

N° 139-682

DATE: January 10, 2023

REV. : /

TITLE

ATA 24 - AUXILIARY OVERHEAD PANEL AND INTERSEAT CONSOLE MODIFICATIONS

REVISION LOG

First Issue

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

1. PLANNING INFORMATION

A. EFFECTIVITY

AW139 helicopter S/N 31770.

B. COMPLIANCE

At Customer's option.

C. CONCURRENT REQUIREMENTS

SB 139-035, SB 139-348, SB 139-406, SB 139-451, SB 139-619, SB 139-624, SB 139-665, SB 139-680, SB 139-681, SB 139-697, SB 139-717.

D. REASON

This Service Bulletin is issued in order to provide the necessary instruction on how to perform the installation of AUX O/H panel retromod P/N 3G2460P01027 and Interseat Console variant P/N 3G0630P29311.

E. DESCRIPTION

This Service Bulletin introduces some modifications of AUX CB panel and IS console, including the installation of the option file.

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 four (4) MMH are deemed necessary.

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

H. WEIGHT AND BALANCE

WEIGHT (Kg)	0.54	
	ARM (mm)	**MOMENT (Kgmm)**
LONGITUDINAL BALANCE	2496	1347.84
LATERAL BALANCE	-156	-84.24

I. REFERENCES

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.	-
DM03	39-A-46-20-00-00A-750A-A	Processing and integrating - Options and setting file - Load software procedure	-
DM04	39-A-24-91-04-00A-920A-K	Integrally lighted panel - Replacement	-
DM05	39-A-24-97-02-00A-921A-A	Circuit breakers - Replacement (remove and install a new item)	-
DM06	39-A-24-97-03-00A-921A-A	Switches - Replacement (remove and install a new item)	-
DM07	39-A-11-00-01-00A-720A-A	Decal - Install procedure	
DM08	39-A-20-10-18-00A-691A-A	Electrical wires and cables - Marking	-

2) ACRONYMS & ABBREVIATIONS

AMDI	Aircraft Material Data Information
AMP	Aircraft Maintenance Publication
CB	Circuit Breaker
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
IS	Interseat
LH	Leonardo Helicopters
MMH	Maintenance Man Hours
O/H	Over/Head
P/N	Part Number

S/N	Serial Number
TB	Terminal Board

3) ANNEX

N/A

J. PUBLICATIONS AFFECTED

N.A.

K. SOFTWARE ACCOMPLISHMENT SUMMARY

Software to be updated:

Option file P/N DM60004869-60203.

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

1) PARTS

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	**3G2460P01027**		**AUX O/H PNL RETROMOD**	**REF**	**.**		**-**
2	001760-935-56		Terminal board module	1	..		139-682L1
3	1035685-22		Bus bar	1	..		139-682L1
4	3G2490L06058		Panel integrally light auxiliary breaker	1	..		-
5	**3G9E01C30008**		**AUX CB PNL VARIANT C/A (E1C300)**	**REF**	**..**		**-**
6	252-8554-000		Ferrule	2	…		139-682L1
7	A556A-T12		Wire	5 m	…		139-682L1
8	A556A-T16		Wire	10 m	…		139-682L1
9	A556A-T20		Wire	15 m	…		139-682L1
10	A556A-T8		Wire	5 m	…		139-682L1
11	A578A05-9		Marker sleeve	2	…		139-682L1
12	M39029/1-102		Electrical contact	4	…		139-682L1
13	M39029/56-351		Electrical contact	4	…		139-682L1
14	M39029/56-352		Electrical contact	2	…		139-682L1
15	MS25036-103		Terminal lug	1	…		139-682L1
16	MS25036-108		Terminal lug	2	…		139-682L1
17	MS25036-112		Terminal lug	2	…		139-682L1
18	MS25036-115		Terminal lug	2	…		139-682L1
19	MS25036-149		Terminal lug	5	…		139-682L1
20	MS25036-153		Terminal lug	6	…		139-682L1
21	NAS1802-3-7		Screw	1	…		139-682L1
22	A524A2A-A		Label	1	..		139-682L1
23	AW001YC01RED		Locking ring	8	..		139-682L1
24	ED300CB161		Decal	1	..		139-682L1
25	ED300CB171		Decal	1	..		139-682L1
26	ED300CB202		Decal	1	..		139-682L1
27	ED300CB209		Decal	1	..		139-682L1
28	ED300CB210		Decal	1	..		139-682L1
29	ED300CB251		Decal	1	..		139-682L1
30	ED300S137		Decal	1	..		139-682L1
31	ED300S298		Decal	1	..		139-682L1
32	EN6049-006-05-5		Sleeve protection	15 m	..		139-682L1
33	EN6049-006-13-5		Self-wrap braid	15 m	..		139-682L1
34	MS27488-16-2		Sealing plug	2	..		139-682L1
35	MS27722-23		Switch	2	..		139-682L1
36	MS3320-1		Circuit breaker	1	..		139-682L1
37	MS3320-3		Circuit breaker	2	..		139-682L1
38	MS3320-5		Circuit breaker	3	..		139-682L1
39	MS35338-138		Washer	1	..		139-682L1
40	NAS1149C0332R		Washer	1	..		139-682L1
41	**3G0630P29311**		**INTERSEAT CONSOLE VARIANT**	**REF**	**.**		**-**
42	999-0500-85-19		Plate assy	1	..		139-682L1
43	DM60004869-60203		Option file	1	.		-
44	NAS1802-3-7		Screw	1	.		139-682L1

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

2) CONSUMABLES

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

#	SPEC./LHD CODE NUMBER	DESCRIPTION	Q.TY	NOTE	PART
45	A582A25 or EN6049-006-25-5	Tubing braided	AR	(1) (2)	-

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
139-682L1	1		-
3G2490L06058	1		-
DM60004869-60203	1		-

NOTE

(1) Item to be procured as local supply.

(2) Indicated P/N refer to a specific size. The last digits can be different based on the actual required installation.

B. SPECIAL TOOLS

N/A.

C. INDUSTRY SUPPORT INFORMATION

Customization.

3. ACCOMPLISHMENT INSTRUCTIONS

GENERAL NOTES

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

b) Shape the cables in order to prevent interference with the structure and the other existing installations, using where necessary suitable lacing cords and plastic cable tiedown.

c) During the installation of bonding braids or components requiring grounding, clean the surface structure in order to obtain a good ground contact.

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

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

f) All lengths are in mm.

1. In accordance with 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 DM 39-A-06-41-00-00A-010A-A and with reference to Figures 1, 2 and 4, remove all external panels, internal panels and internal liners as required to gain access to the area affected by the installation and perform Aux O/H pnl retromod P/N 3G2460P01027 as described in the following procedure:
   2.1 With reference to Figure 1 Detail A and Detail J, install the bus bar P/N 1035685-22 (W22D) on the O/H panel by means of the screw P/N NAS1802-3-7, the locking washer P/N MS35338-138 and the washer P/N NAS1149C0332R.
   2.2 With reference to Figure 2 Detail D, remove n° 8 plugs P/N AS44417-B12 from the O/H panel.

NOTE

Install lockrings P/N AW001YC01RED only if kits remain stowed.

2.3 With reference to Figure 2 Detail D and in accordance with applicable steps of DM 39-A-24-97-02-00A-921A-A (circuit breakers), DM 39-A-24-97-03-00A-921A-A (switches) and DM 39-A-11-00-01-00A-720A-A (decals), install the following components on the O/H panel:

- n°3 breakers P/N MS3320-5, n°2 breakers P/N MS3320-3, n°1 breaker P/N MS3320-1;
- n°2 switches P/N MS27722-23;
- n°8 lockrings P/N AW001YC01RED;
- n°2 plugs P/N MS27488-16-2 (for not used pins of S137/S298);
- n° 8 decals P/N ED300CB161, P/N ED300CB171, P/N ED300CB202, P/N ED300CB209, P/N ED300CB210, P/N ED300CB251,
  P/N ED300S137, P/N ED300S298.

2.4 With reference to Figure 2 View G-G, install the terminal board module P/N 001760-935-56 and the identification label P/N A524A4A-A on the TB511.

2.5 With reference to Figure 2 View F-F and in accordance with DM 39-A-24-91-04-00A-920A-K, replace the existing panel integrally light with the new panel integrally light P/N 3G2490L06058.

NOTE

Use tubing braided A582A where need for protection against chaffing and where contact with structure may occur.

2.6 Assemble AUX CB PNL VARIANT C/A (E1C300) P/N 3G9E01C30008 as described in the following procedure:

2.6.1 With reference to Figures 1, 2 and Figure 4 wiring diagram, cut n°6 wires P/N A556A-T16, n°6 wires P/N A556A-T20, n°1 wire P/N A556A-T12 and n°1 wire P/N A556A-T8 of adequate length and lay it down as shown.

2.6.2 With reference to Figure 4 wiring diagram, install n°2 ferules P/N 252-8554-000 on the wires 611-20 (pin 2 S298) and wire 612-20 (pin 3 S298).

2.6.3 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figures 1, 2 and Figure 4 wiring diagram, perform electrical

connections of the wires previously laid down to main bus 1 W21C, to main bus 2 W22C, to NON ESS BUS 1 W11A, to MAIN BUS 2 W22D, to CB202, to CB210, to CB209, to CB161, to CB171, to TB511-2, to CB251, to switch S298, to switch S137, to connector PL1J1, to connector PL1J3, to connector PL1J10, to connector PL1J4.

2.6.4 In accordance with DM 39-A-20-10-18-00A-691A-A and with reference to Figures 1, 2 and Figure 4 wiring diagram, mark the wires as shown and the cable assy so obtained as E1C300 by means of marker sleeves.

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

2.7 With reference to Figure 1, protect the cable assy E1C300 (wire 600-8) by means of nomex sleeve P/N EN6049-006-05-5.

2.8 With reference to Figure 1, protect the cable assy E1C290 (wires 800-8, 900-8) by means of nomex sleeve P/N EN6049-006-13-5.

2.9 With reference to Figures 1 and 2, protect the cable assy E1C300 by means of nomex sleeve P/N EN6049-006-13-5.

3. In accordance with DM 39-A-06-41-00-00A-010A-A and with reference to Figure 3 remove all external panels, internal panels and internal liners as required to gain access to the area affected by the installation and perform Interseat control variant P/N 3G0630P29311 as described in the following procedure:

3.1 With reference to Figure 3 View A, replace the plate assy P/N 999-0500-85-137 with the ELT deployable control panel (PL39).

3.2 With reference to Figure 3 View A, replace the plate assy P/N 999-0500-86-237 with the satcom ISAT-200A control panel (PL145).

3.3 With reference to Figure 3 View A, relocate the satcom ISAT-200A control panel (PL144) and the Emergency floats control panel (PL11) on the IS console.

3.4 With reference to Figure 3 View A, install the plate assy P/N 999-0500-85-19 on the interseat console.

4. In accordance with DM 39-A-46-20-00-00A-750A-A, install the option file P/N DM60004869-60203.

5. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).

6. Return the helicopter to flight configuration and record for compliance with this Service Bulletin on the helicopter logbook.

7. Send the attached compliance form to the following mail box:

engineering.support.lhd@leonardo.com

As an alternative, gain access to My Communications section on Leonardo WebPortal and

compile the “Service Bulletin Application Communication”.

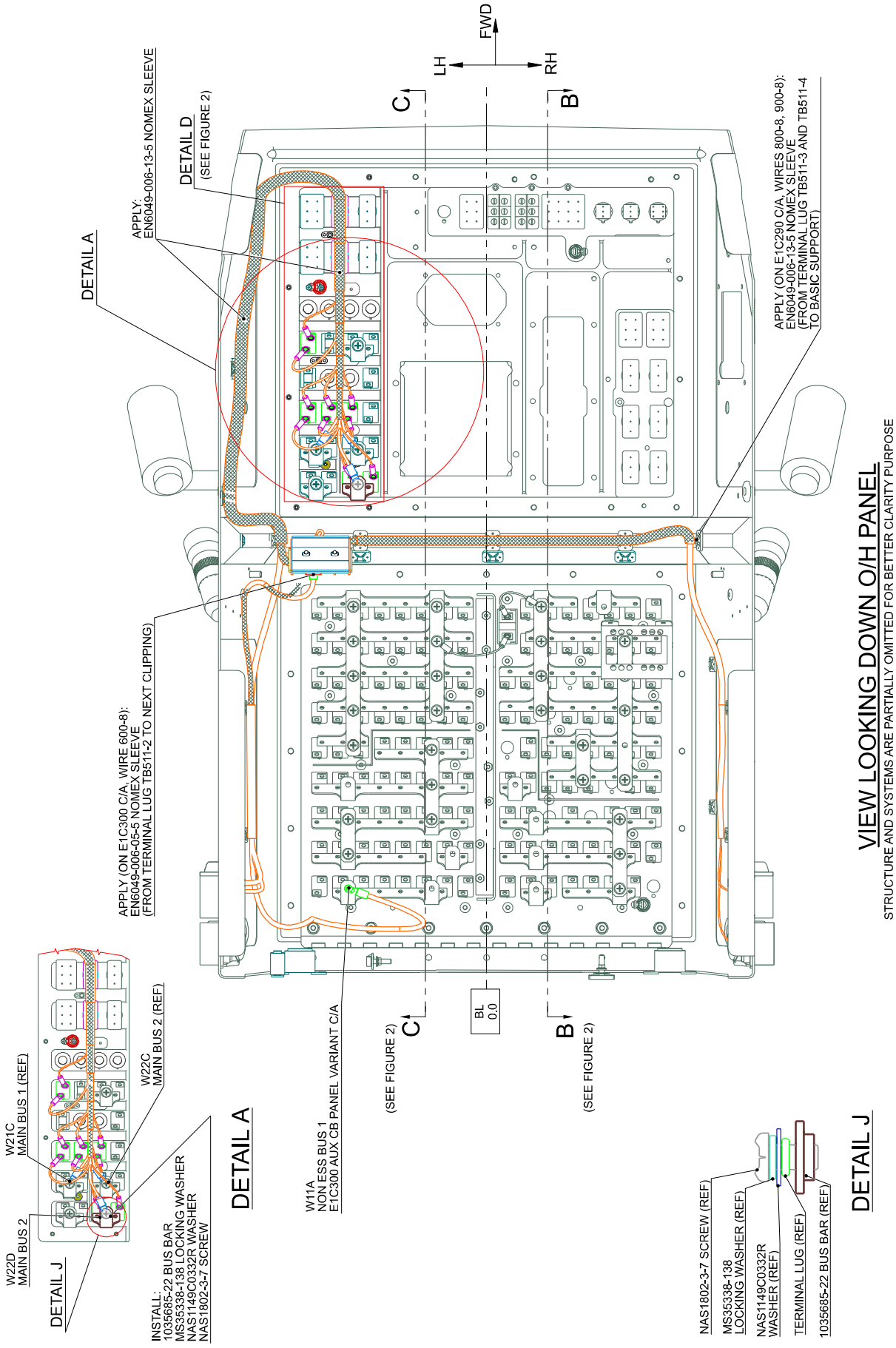

FWD
LH
RH
C
B
DETAIL A
DETAIL D
(SEE FIGURE 2)
APPLY:
EN6049-006-13-5 NOMEX SLEEVE
APPLY (ON E1C300 C/A, WIRE 600-8):
EN6049-006-05-5 NOMEX SLEEVE
(FROM TERMINAL LUG TB511-2 TO NEXT CLIPPING)
APPLY (ON E1C290 C/A, WIRES 800-8, 900-8):
EN6049-006-13-5 NOMEX SLEEVE
(FROM TERMINAL LUG TB511-3 AND TB511-4
TO BASIC SUPPORT)
VIEW LOOKING DOWN O/H PANEL
STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE
W11A
NON ESS BUS 1
E1C300 AUX CB PANEL VARIANT C/A
BL
0.0
(SEE FIGURE 2)
(SEE FIGURE 2)
DETAIL A
DETAIL J
W21C
MAIN BUS 1 (REF)
W22C
MAIN BUS 2 (REF)
W22D
MAIN BUS 2
INSTALL:
1035685-22 BUS BAR
MS35338-138 LOCKING WASHER
NAS1149C0332R WASHER
NAS1802-3-7 SCREW
NAS1802-3-7 SCREW (REF)
MS35338-138
LOCKING WASHER (REF)
NAS1149C0332R
WASHER (REF)
TERMINAL LUG (REF)
1035685-22 BUS BAR (REF)

Figure 1

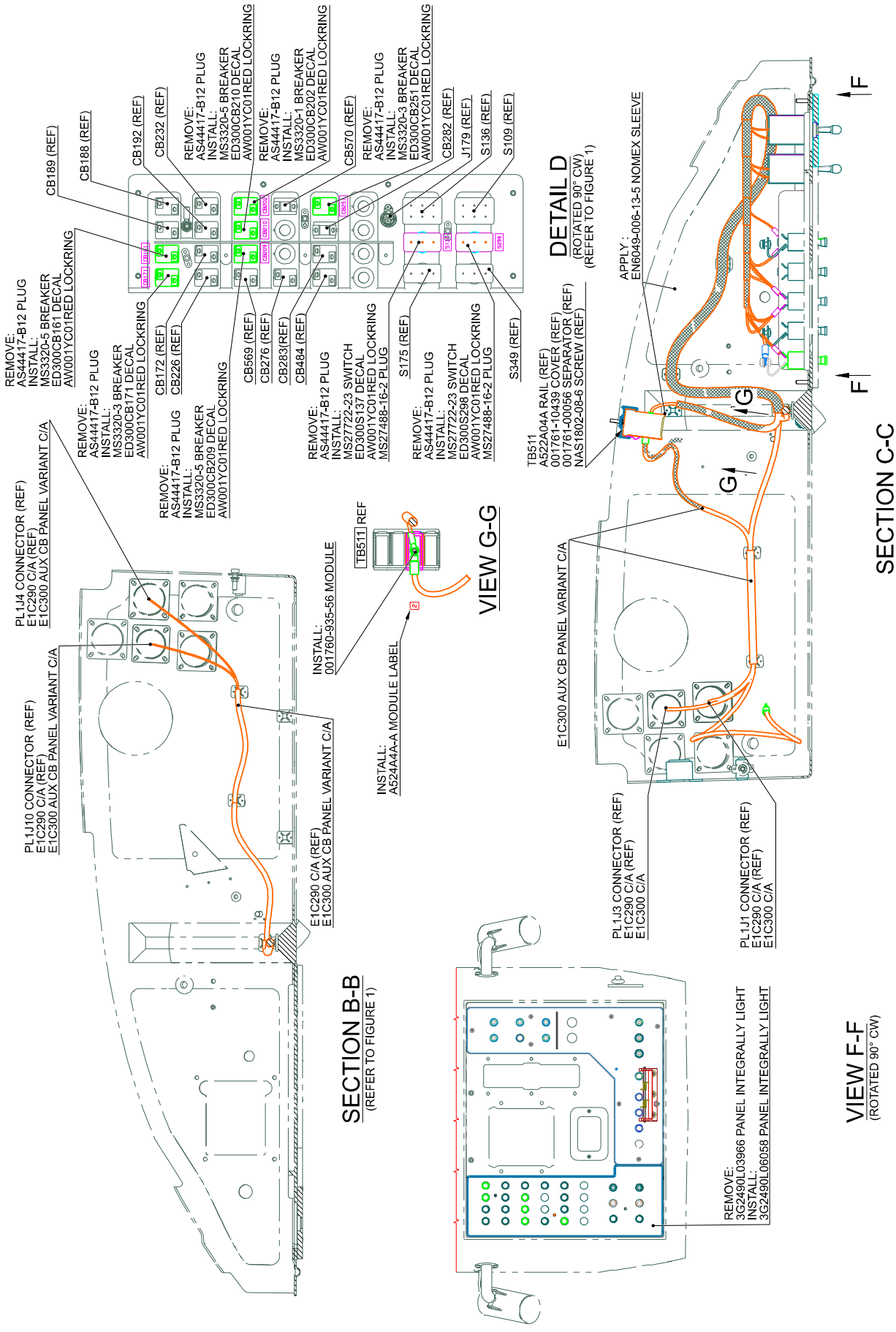
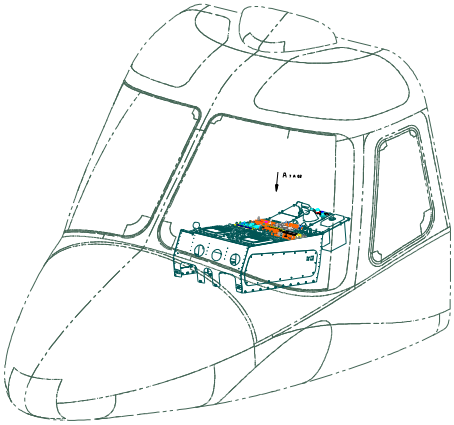
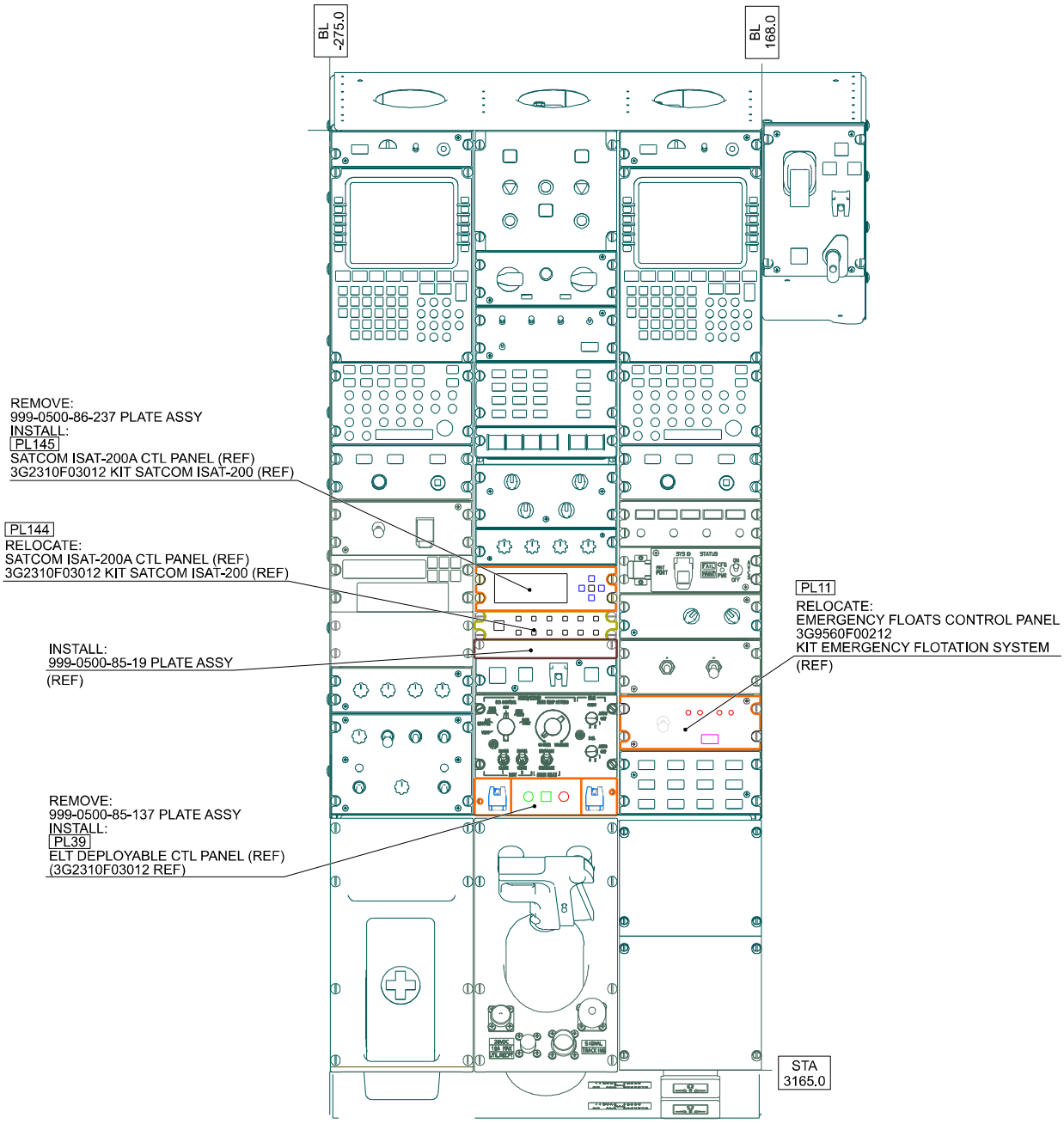

CB189 (REF)
CB188 (REF)
CB192 (REF)
CB232 (REF)
REMOVE:
AS44417-B12 PLUG
INSTALL:
MS3320-5 BREAKER
ED300CB210 DECAL
AW001YC01RED LOCKRING
REMOVE:
AS44417-B12 PLUG
INSTALL:
MS3320-1 BREAKER
ED300CB202 DECAL
AW001YC01RED LOCKRING
CB570 (REF)
REMOVE:
AS44417-B12 PLUG
INSTALL:
MS3320-3 BREAKER
ED300CB251 DECAL
AW001YC01RED LOCKRING
CB282 (REF)
J179 (REF)
S136 (REF)
S109 (REF)
REMOVE:
AS44417-B12 PLUG
INSTALL:
MS3320-5 BREAKER
ED300CB161 DECAL
AW001YC01RED LOCKRING
CB172 (REF)
CB226 (REF)
REMOVE:
AS44417-B12 PLUG
INSTALL:
MS3320-3 BREAKER
ED300CB171 DECAL
AW001YC01RED LOCKRING
REMOVE:
AS44417-B12 PLUG
INSTALL:
MS3320-5 BREAKER
ED300CB209 DECAL
AW001YC01RED LOCKRING
CB569 (REF)
CB276 (REF)
CB283(REF)
CB484 (REF)
REMOVE:
AS44417-B12 PLUG
INSTALL:
MS27722-23 SWITCH
ED300S137 DECAL
AW001YC01RED LOCKRING
MS27488-16-2 PLUG
S175 (REF)
REMOVE:
AS44417-B12 PLUG
INSTALL:
MS27722-23 SWITCH
ED300S298 DECAL
AW001YC01RED LOCKRING
MS27488-16-2 PLUG
S349 (REF)
PL1J4 CONNECTOR (REF)
E1C290 C/A (REF)
E1C300 AUX CB PANEL VARIANT C/A
PL1J10 CONNECTOR (REF)
E1C290 C/A (REF)
E1C300 AUX CB PANEL VARIANT C/A
E1C290 C/A (REF)
E1C300 AUX CB PANEL VARIANT C/A
INSTALL:
001760-935-56 MODULE
TB511 REF
INSTALL:
A524A4A-A MODULE LABEL
VIEW G-G
SECTION B-B
(REFER TO FIGURE 1)
DETAIL D
(ROTATED 90° CW)
(REFER TO FIGURE 1)
APPLY :
EN6049-006-13-5 NOMEX SLEEVE
TB511
A522A04A RAIL (REF)
001761-10439 COVER (REF)
001761-00096 SEPARATOR (REF)
NAS1802-08-6 SCREW (REF)
E1C300 AUX CB PANEL VARIANT C/A
PL1J3 CONNECTOR (REF)
E1C290 C/A (REF)
E1C300 C/A
PL1J1 CONNECTOR (REF)
E1C290 C/A (REF)
E1C300 C/A
SECTION C-C
(REFER TO FIGURE 1)
REMOVE:
3G2490L03966 PANEL INTEGRALLY LIGHT
INSTALL:
3G2490L06058 PANEL INTEGRALLY LIGHT
VIEW F-F
(ROTATED 90° CW)

Figure 2





VIEW A

STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

Figure 3

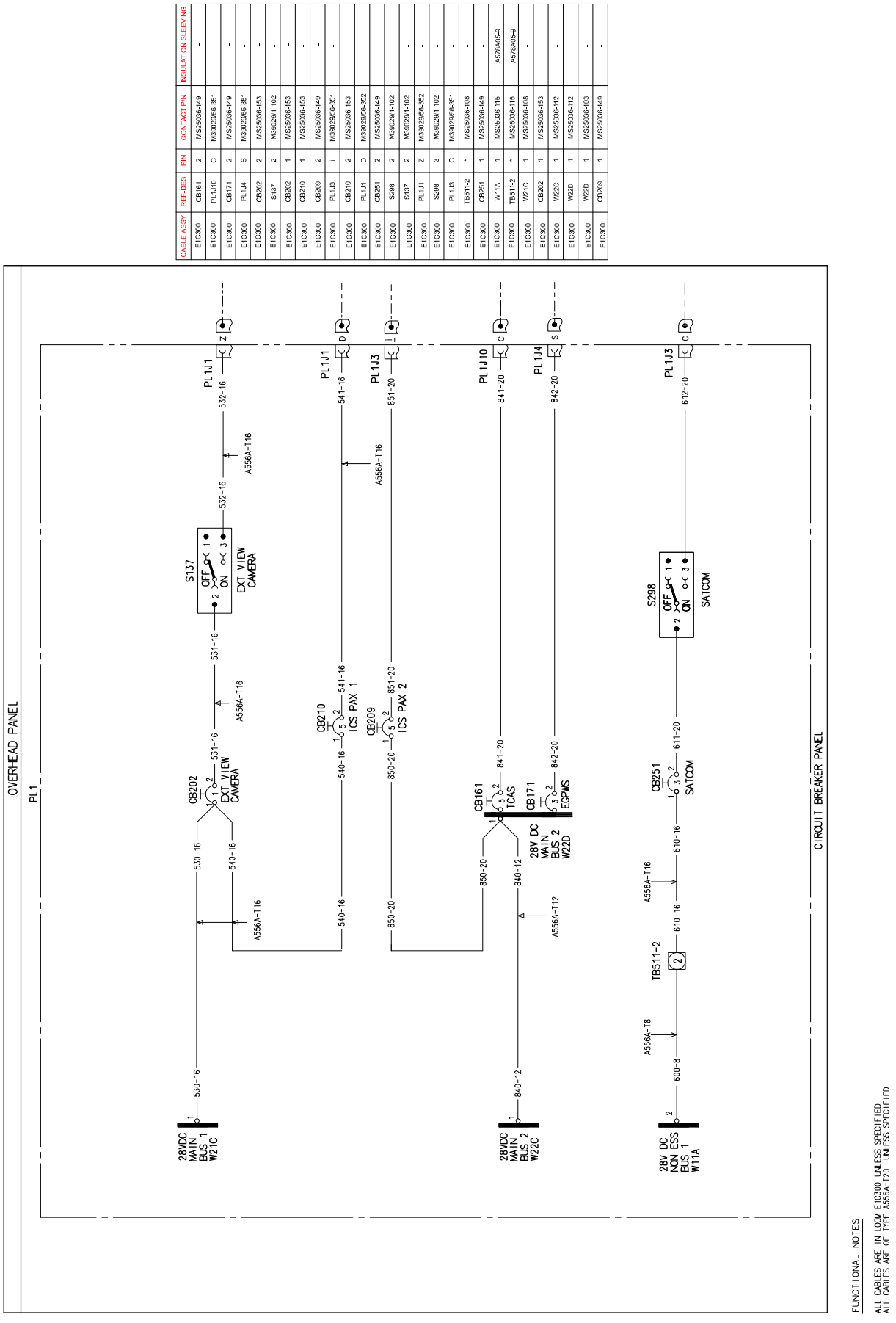

CABLE ASSY | REF-DES | PIN | CONTACT P/N | INSULATION SLEEVING
E1C300 | CB161 | 2 | MS25036-149 | -
E1C300 | PL1J10 | C | M39029/56-351 | -
E1C300 | CB171 | 2 | MS25036-149 | -
E1C300 | PL1J4 | S | M39029/56-351 | -
E1C300 | CB202 | 2 | MS25036-153 | -
E1C300 | S137 | 2 | M39029/1-102 | -
E1C300 | CB202 | 1 | MS25036-153 | -
E1C300 | CB210 | 1 | MS25036-153 | -
E1C300 | CB209 | 2 | MS25036-149 | -
E1C300 | PL1J3 | I | M38029/56-351 | -
E1C300 | CB210 | 2 | MS25036-153 | -
E1C300 | PL1J1 | D | M38029/56-352 | -
E1C300 | CB251 | 2 | MS25036-149 | -
E1C300 | S298 | 2 | M39029/1-102 | -
E1C300 | S137 | 2 | M39029/1-102 | -
E1C300 | PL1J1 | Z | M39029/56-352 | -
E1C300 | S298 | 3 | M39029/1-102 | -
E1C300 | PL1J3 | C | M39029/56-351 | -
E1C300 | TB511-2 | * | MS25036-106 | -
E1C300 | CB251 | 1 | MS25036-149 | -
E1C300 | W11A | 1 | MS25036-115 | A578A05-9
E1C300 | TB511-2 | * | MS25036-115 | A578A05-9
E1C300 | W21C | 1 | MS25036-108 | -
E1C300 | CB202 | 1 | MS25036-153 | -
E1C300 | W22C | 1 | MS25036-112 | -
E1C300 | W22D | 1 | MS25036-112 | -
E1C300 | W22D | 1 | MS25036-103 | -
E1C300 | CB209 | 1 | MS25036-149 | -
OVERHEAD PANEL
PL1
CIRCUIT BREAKER PANEL
28VDC MAIN BUS 1 W21C
28VDC MAIN BUS 2 W22C
28V DC NON ESS BUS 1 W11A
CB202
EXT VIEW CAMERA
S137
OFF
ON
EXT VIEW CAMERA
CB210
ICS PAX 1
CB209
ICS PAX 2
CB161
TCAS
CB171
28V DC MAIN BUS 2 W22D
EGPWS
CB251
SATCOM
S298
OFF
ON
SATCOM
TB511-2
PL1J1
PL1J3
PL1J10
PL1J4
PL1J3
530-16
531-16
532-16
540-16
541-16
850-20
851-20
840-12
841-20
842-20
610-16
611-20
612-20
600-8
A556A-T16
A556A-T12
A556A-T8
FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM E1C300, UNLESS SPECIFIED.
ALL CABLES ARE OF TYPE A556A-T20 UNLESS SPECIFIED

Figure 4

LEONARDO HELICOPTERS

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.