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AgustaWestland Products

SERVICE BULLETIN

N° 139-667

DATE: July 9, 2021

REV. : /

TITLE

ATA 24 - AUXILIARY OVERHEAD PANEL AND INTERSEAT CONSOLE MODIFICATIONS

REVISION LOG

First Issue

1. PLANNING INFORMATION

A. EFFECTIVITY

AW139 helicopters S/N 31756 and S/N 31769.

B. COMPLIANCE

At Customer's option.

C. CONCURRENT REQUIREMENTS

SB 139-313, SB 139-348, SB 139-439, SB 139-590, SB 139-665 and SB 139-666.

D. REASON

This Service Bulletin is issued in order to provide the necessary instruction on how to perform the installation of the auxiliary O/H panel retromod P/N 3G2460P01021 and of the I/S console variant toll P/N 3G0630P23611.

E. DESCRIPTION

This Service Bulletin has been developed to:

- allow the introduction of four new circuit breakers associated with kits TCAS II, EGPWS, DF and SATCOM;
- Update the Option File;
- allow the introduction of a new plate assy in the I/S console.

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 forty (40) MMH are deemed necessary.

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

H. WEIGHT AND BALANCE

N.A.

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-11-00-01-00A-720A-A	Decal - Install procedure	-
DM04	39-A-20-10-08-00A-622A-A	Electrical contacts - Crimp	-
DM05	39-A-20-10-18-00A-691A-A	Electrical wires and cables - Marking	-
DM06	39-A-00-00-00-00A-750A-A	Helicopter - Options and setting file - Load software procedure	-

2) ACRONYMS & ABBREVIATIONS

AMDI	Aircraft Material Data Information
AMP	Aircraft Maintenance Publication
CB	Circuit Breaker
DF	Directional Finder
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
EGPWS	Enhanced Ground Proximity Warning System
IBF	Inlet Barrier Filter
I/S	Inter Seat
ITEP	Illustrated Tool and Equipment Publication
LH	Leonardo Helicopters
MMH	Maintenance Man Hours
O/H	Over Head

P/N	Part Number
SATCOM	SATellite COMmunication
S/N	Serial Number
TCAS	Traffic alert and Collision Avoidance System

3) ANNEX

N.A.

J. PUBLICATIONS AFFECTED

N.A.

K. SOFTWARE ACCOMPLISHMENT SUMMARY

Software to be updated:

Option file P/N DM60004869-20458.

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

1) PARTS

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	**3G2460P01021**		**AUXILIARY O/H PANEL RETROMOD**	**REF**	**.**		**-**
2	001760-935-56		Terminal board stud	1	..		139-667L1
3	3G2490L05755		Panel integrally light auxiliary breaker	1	..		139-667L1
4	**3G9E01C30002**		**Auxiliary O/H panel variant C/A (E1C300)**	**REF**	**..**		**-**
5	A556A-T8		Electrical wire	0.7 m	...		139-667L1
6	A556A-T12		Electrical wire	0.8 m	...		139-667L1
7	A556A-T20		Electrical wire	7.2 m	...		139-667L1
8	M39029/56-351		Electrical contact	4	...		139-667L1
9	MS25036-112		Terminal lug	4	...		139-667L1
10	MS25036-115		Terminal lug	2	...		139-667L1
11	MS25036-149		Terminal lug	4	...		139-667L1
12	MS25036-156		Terminal lug	2	...		139-667L1
13	A578A05-9		Insulation sleeving	2	...		139-667L1
14	ED300CB161		Decal	1	..		139-667L1
15	ED300CB171		Decal	1	..		139-667L1
16	ED300CB177		Decal	1	..		139-667L1
17	ED300CB516		Decal	1	..		139-667L1
18	LN9025-0510L		Washer	1	..		139-667L1
19	LN9338-05		Nut	1	..		139-667L1
20	MS3320-3		Circuit breaker	2	..		139-667L1
21	MS3320-5		Circuit breaker	2	..		139-667L1
22	1035685-22	999-8001-73-211	Bus bar	1	..		139-667L1
23	MS35338-138		Washer	1	..		139-667L1
24	NAS1149D0332K		Washer	1	..		139-667L1
25	NAS1802-3-7		Screw	1	..		139-667L1
26	**3G0630P23611**		**I/S CONSOLE VARIANT TOLL**	**REF**	**.**		**-**
27	999-0500-85-9		Plate assy	1	..		139-667L1
28	DM60004869-20458		Option file	1	.		139-667L1

2) CONSUMABLES

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

#	SPEC./LH CODE NUMBER	DESCRIPTION	Q.TY	NOTE	PART
29	A582A	Tubing braided	AR	(1)	-
30	EN6049-006-05-5	Nomex sleeving	AR	(1)	-
31	EN6049-006-13-5	Nomex sleeving	AR	(1)	-

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
139-667L1	1	-	-

NOTE

(1) Item to procured as local supply.

B. SPECIAL TOOLS

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

C. INDUSTRY SUPPORT INFORMATION

Customization.

3. ACCOMPLISHMENT INSTRUCTIONS

GENERAL NOTES

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

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

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 4, gain access to the area affected by the installation and perform the auxiliary O/H panel retromod P/N 3G2460P01021 and the I/S console variant toll P/N 3G0630P23611 as described in the following procedure:
   - 2.1 With reference to Figure 2 Detail D, remove n°4 lock rings P/N AW001YC01RED from panel integrally light auxiliary breaker P/N 3G2490L03966.
   - 2.2 With reference to Figure 2 Detail D and Detail E, remove the bonding cable from panel integrally light auxiliary breaker P/N 3G2490L03966.
   - 2.3 With reference to Figure 2 View F, remove the panel integrally light auxiliary breaker P/N 3G2490L03966 and n°4 plugs P/N AS44417-B12.
   - 2.4 With reference to Figure 2 View F, install the panel integrally light auxiliary breaker P/N 3G2490L05755 on the O/H panel.
   - 2.5 With reference to Figure 2 Detail D and Detail E, install the bonding cable previously removed on the panel integrally light auxiliary breaker P/N 3G2490L05755 by means the existing hardware.
   - 2.6 With reference to Figure 2 Detail D, install n°2 circuit breaker P/N MS3320-3 and n°2 circuit breaker P/N MS3320-5 on the panel integrally light auxiliary breaker P/N 3G2490L05755.

2.7 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 2 Detail D, install the decal P/N ED300CB161, the decal P/N ED300CB171, the decal P/N ED300CB177 and the decal P/N ED300CB516 on the panel integrally light auxiliary breaker P/N 3G2490L05755.

2.8 With reference to Figure 2 View G, install the terminal board stud P/N 001760-935-56, the washer P/N LN9025-0510L and the nut P/N LN9338-05.

NOTE

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

2.9 With reference to Figures 1 and 2 and Figure 4 Wiring Diagram and Table 1, assemble the Auxiliary O/H panel variant C/A P/N 3G9E01C30002 (E1C300) as described in the following procedure:

2.9.1 With reference to Figure 1 View Looking Down O/H Panel, Figure 2 Section B-B and Figure 4 Wiring Diagram, cut a wire P/N A556A-T20 of adequate length and lay it down between connector PL1J10 and circuit breaker CB161.

2.9.2 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 1 View Looking Down O/H Panel, Figure 2 Section B-B and Figure 4 Wiring Diagram and Table 1, perform electrical connections of C/A E1C300 to connector PL1J10 and to circuit breaker CB161.

2.9.3 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 4 Wiring Diagram, mark wire as 511-20 by means of marker sleeve.

2.9.4 With reference to Figure 1 View Looking Down O/H Panel, Figure 2 Section B-B and Figure 4 Wiring Diagram, cut a wire P/N A556A-T20 of adequate length and lay it down between connector PL1J4 and circuit breaker CB171.

2.9.5 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 1 View Looking Down O/H Panel, Figure 2 Section B-B and Figure 4 Wiring Diagram and Table 1, perform electrical connections of C/A E1C300 to connector PL1J4 and to circuit breaker CB171.

2.9.6 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 4 Wiring Diagram, mark wire as 512-22 by means of marker sleeve.

2.9.7 With reference to Figure 1 View Looking Down O/H Panel, Figure 2 Section B-B and Figure 4 Wiring Diagram, cut a wire P/N A556A-T20 of adequate length and lay it down between connector PL1J6 and circuit breaker CB177.

2.9.8 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 1 View Looking Down O/H Panel, Figure 2 Section B-B and Figure 4 Wiring Diagram and Table 1, perform electrical connections of C/A E1C300 to connector PL1J6 and to circuit breaker CB177.

2.9.9 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 4 Wiring Diagram, mark wire as 841-20 by means of marker sleeve.

2.9.10 With reference to Figure 1 View Looking Down O/H Panel, Figure 2 Section C-C and Figure 4 Wiring Diagram, cut a wire P/N A556A-T20 of adequate length and lay it down between connector PL1J3 and circuit breaker CB516.

2.9.11 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 1 View Looking Down O/H Panel, Figure 2 Section C-C and Figure 4 Wiring Diagram and Table 1, perform electrical connections of C/A E1C300 to connector PL1J3 and to circuit breaker CB516.

2.9.12 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 4 Wiring Diagram, mark wire as 621-20 by means of marker sleeve.

2.9.13 With reference to Figure 1 View Looking Down O/H Panel, Figure 2 Section C-C and View G and Figure 4 Wiring Diagram, cut a wire P/N A556A-T12 of adequate length and lay it down between terminal board TB511/2 and circuit breaker CB516.

2.9.14 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 1 View Looking Down O/H Panel, Figure 2 Section C-C and View G and Figure 4 Wiring Diagram and Table 1, perform electrical connections of C/A E1C300 to terminal board TB511/2 and circuit breaker CB516.

2.9.15 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to and Figure 4 Wiring Diagram, mark wire as 620-12 by means of marker sleeve.

2.9.16 With reference to Figure 1 View Looking Down O/H Panel, Figure 2 View G and Figure 4 Wiring Diagram, cut a wire P/N A556A-T8 of adequate length and lay it down between terminal board TB511/2 and attachment point W11A.

2.9.17 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 1 View Looking Down O/H Panel, Figure 2 View G and Figure 4 Wiring Diagram and Table 1, perform electrical connections of C/A E1C300 to terminal board TB511/2 and attachment point W11A.

2.9.18 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 4 Wiring Diagram, mark wire as 600-8 by means of marker sleeve.

2.9.19 With reference to Figure 1 View Looking Down O/H Panel, Detail A and Detail G and Figure 4 Wiring Diagram, cut a wire P/N A556A-T12 of adequate length and lay it down between circuit breaker CB177 and attachment point W21C.

2.9.20 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 1 View Looking Down O/H Panel, Detail A and Detail G and Figure 4 Wiring Diagram and Table 1, perform electrical connections of C/A E1C300 to circuit breaker CB177 and attachment point W21C.

2.9.21 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 4 Wiring Diagram, mark wire as 840-16 by means of marker sleeve.

2.9.22 With reference to Figure 1 View Looking Down O/H Panel, Detail A and Detail G and Figure 4 Wiring Diagram, cut a wire P/N A556A-T12 of adequate length and lay it down between attachment point W22B and attachment point W22C.

2.9.23 With reference to Figure 1 Detail G, install Bus Bar P/N 1035685-22 (or 999-8001-73-211) by means of washer P/N NAS1149D0332K, washer P/N MS35338-138 and screw P/N NAS1802-3-7.

2.9.24 In accordance with AMP DM 39-A-20-10-08-00A-622A-A and with reference to Figure 1 View Looking Down O/H Panel, Detail A and Detail G and Figure 4 Wiring Diagram and Table 1, perform electrical

connections of C/A E1C300 to attachment point W22B and attachment point W22C.

2.9.25 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 4 Wiring Diagram, mark wire as 820-16 by means of marker sleeve.

2.9.26 In accordance with AMP DM 39-A-20-10-18-00A-691A-A and with reference to Figure 4 Wiring Diagram, mark the C/A so obtained as E1C300 by means of marker sleeve.

2.9.27 With reference to Figure 1 View Looking Down O/H Panel, protect the C/A E1C300 from TB511-2 to attachment point W11A with nomex sleeving P/N EN6049-006-05-5.

2.9.28 With reference to Figure 1 View Looking Down O/H Panel and Figure 2 Section C-C, protect the C/A E1C300 from TB511-2 to panel integrally light auxiliary breaker P/N 3G2490L05755 with nomex sleeving P/N EN6049-006-13-5.

2.9.29 Perform a pin to pin test of all electrical connections performed.

2.10 With reference to Figure 3 Isometric View and View A, if necessary remove n°2 plate assy P/N 999-0500-85-213, the plate assy P/N 999-0500-85-219, the plate assy P/N 999-0500-85-237 and install the plate assy P/N 999-0500-85-9 from the I/S console.

3. In accordance with AMP DM 39-A-00-00-00-00A-750A-A, upgrade the option file P/N DM60004869-20458.
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 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”.

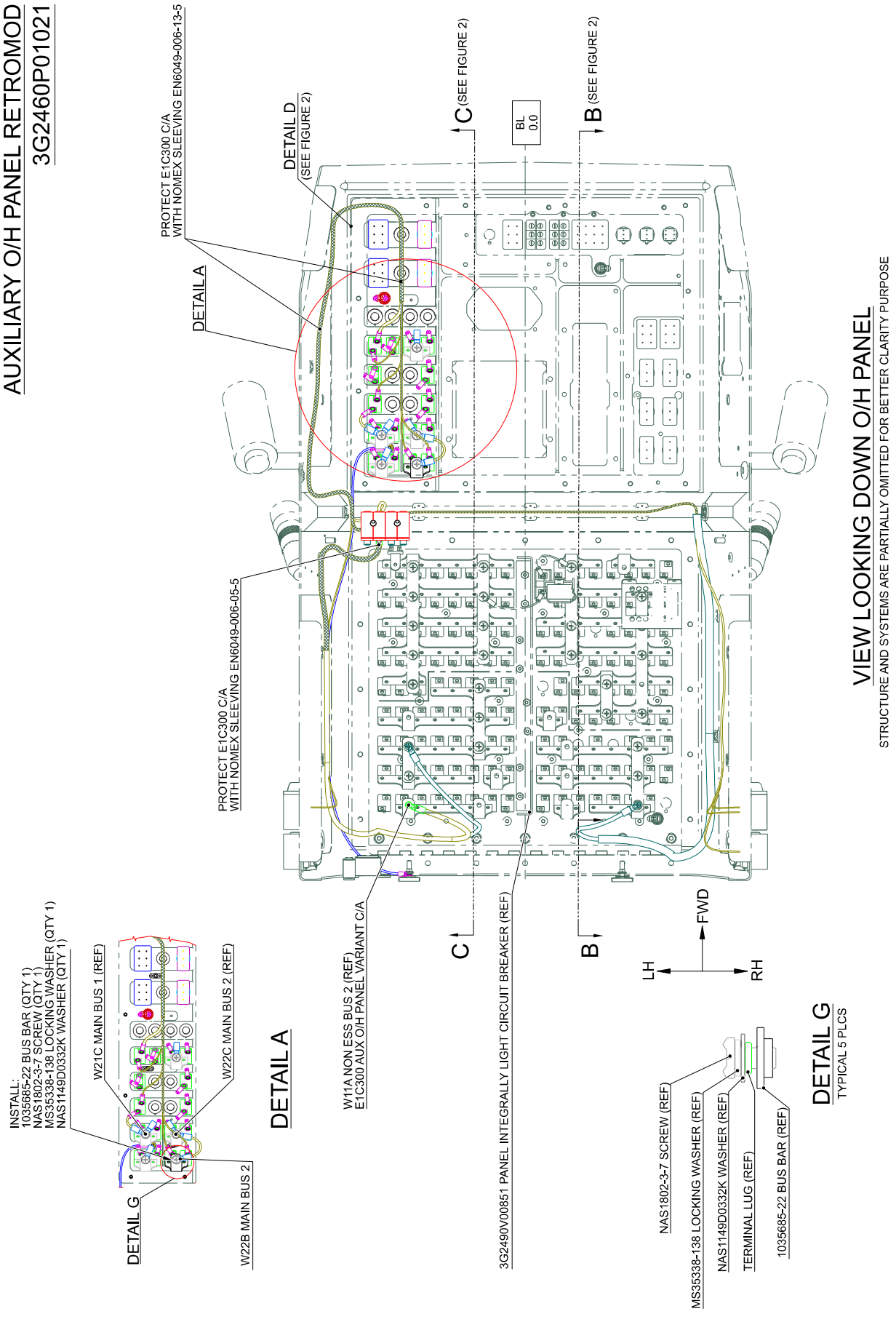


Figure 1

S.B. N°139-667
DATE: July 9, 2021
REVISION: /

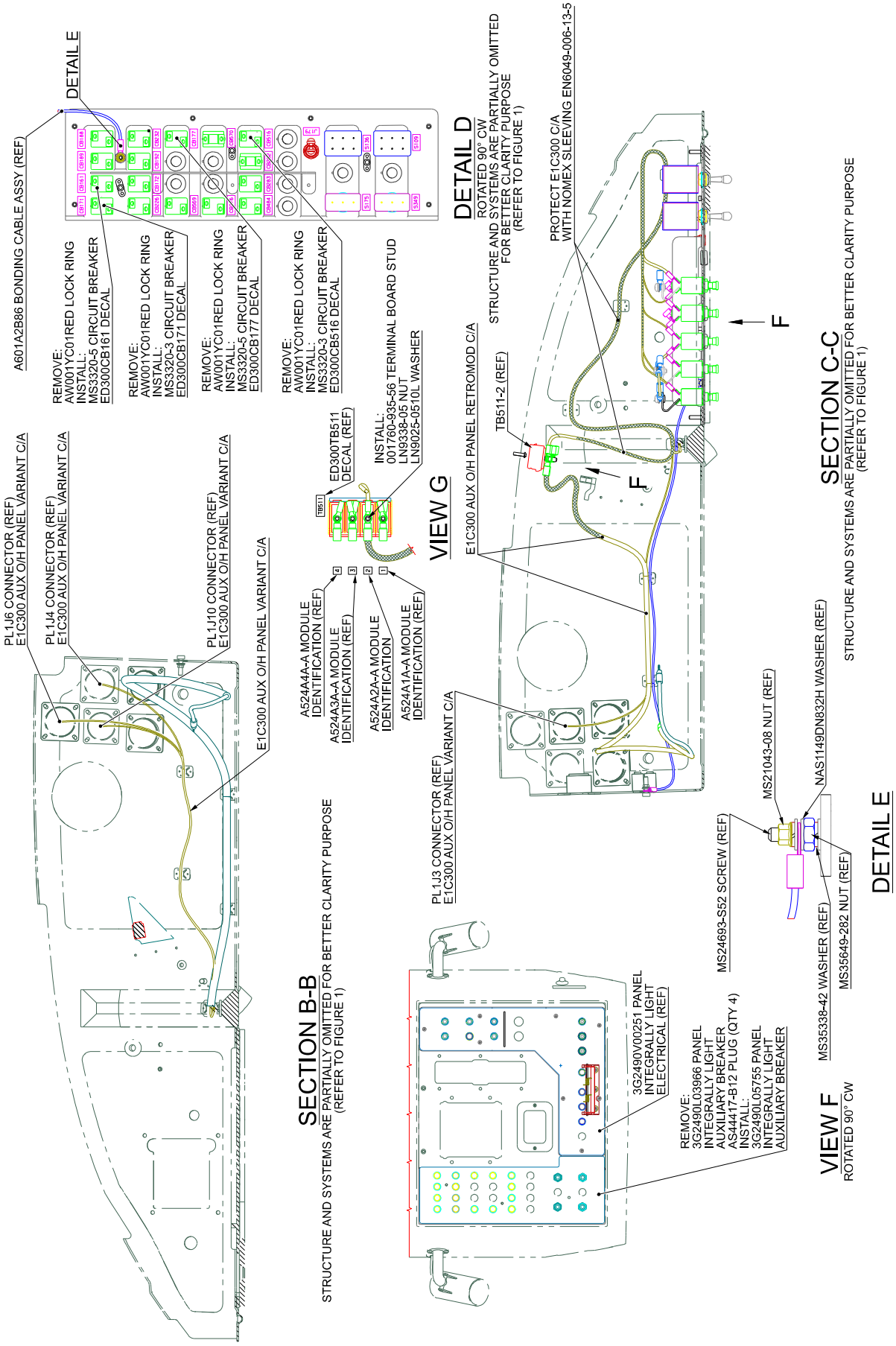

DETAIL E
A601A2B86 BONDING CABLE ASSY (REF)
REMOVE:
AW001YC01RED LOCK RING
INSTALL:
MS3320-5 CIRCUIT BREAKER
ED300CB161 DECAL
REMOVE:
AW001YC01RED LOCK RING
INSTALL:
MS3320-3 CIRCUIT BREAKER
ED300CB171 DECAL
REMOVE:
AW001YC01RED LOCK RING
INSTALL:
MS3320-5 CIRCUIT BREAKER
ED300CB177 DECAL
REMOVE:
AW001YC01RED LOCK RING
INSTALL:
MS3320-3 CIRCUIT BREAKER
ED300CB516 DECAL
DETAIL D
ROTATED 90° CW
STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED
FOR BETTER CLARITY PURPOSE
(REFER TO FIGURE 1)
PROTECT E1C300 C/A
WITH NOMEX SLEEVING EN6049-006-13-5
PL1J6 CONNECTOR (REF)
E1C300 AUX O/H PANEL VARIANT C/A
PL1J4 CONNECTOR (REF)
E1C300 AUX O/H PANEL VARIANT C/A
PL1J10 CONNECTOR (REF)
E1C300 AUX O/H PANEL VARIANT C/A
E1C300 AUX O/H PANEL VARIANT C/A
ED300TB511
DECAL (REF)
INSTALL:
001760-935-56 TERMINAL BOARD STUD
LN9338-05 NUT
LN9025-0510L WASHER
VIEW G
A524A4A-A MODULE
IDENTIFICATION (REF)
A524A3A-A MODULE
IDENTIFICATION (REF)
A524A2A-A MODULE
IDENTIFICATION
A524A1A-A MODULE
IDENTIFICATION (REF)
E1C300 AUX O/H PANEL RETROMOD C/A
TB511-2 (REF)
F
F
SECTION C-C
STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE
(REFER TO FIGURE 1)
SECTION B-B
STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE
(REFER TO FIGURE 1)
PL1J3 CONNECTOR (REF)
E1C300 AUX O/H PANEL VARIANT C/A
3G2490V00251 PANEL
INTEGRALLY LIGHT
ELECTRICAL (REF)
REMOVE:
3G2490L03966 PANEL
INTEGRALLY LIGHT
AUXILIARY BREAKER
AS44417-B12 PLUG (QTY 4)
INSTALL:
3G2490L05755 PANEL
INTEGRALLY LIGHT
AUXILIARY BREAKER
MS24693-S52 SCREW (REF)
MS21043-08 NUT (REF)
NAS1149DN832H WASHER (REF)
MS35338-42 WASHER (REF)
MS35649-282 NUT (REF)
VIEW F
ROTATED 90° CW
DETAIL E

Figure 2

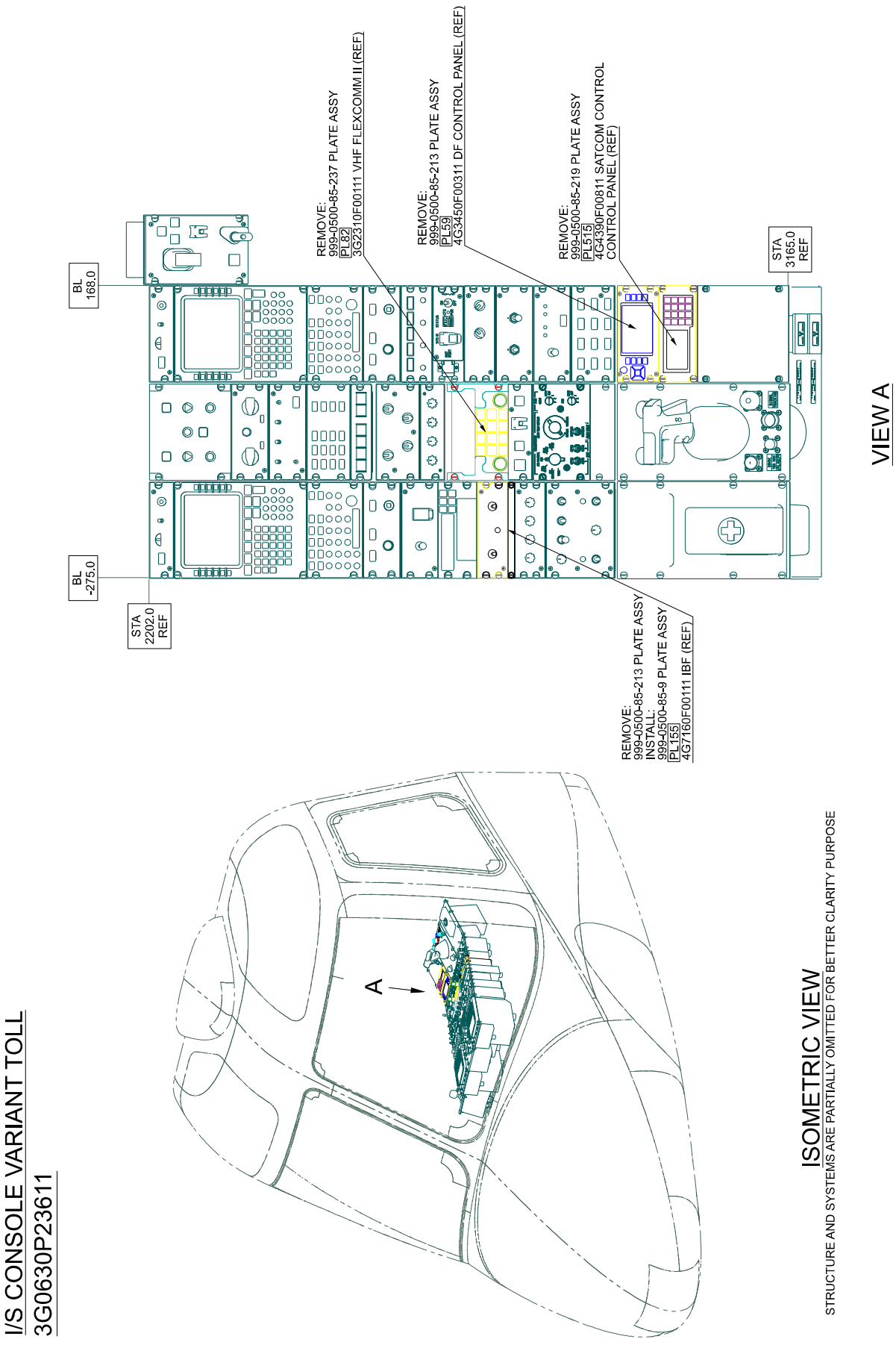
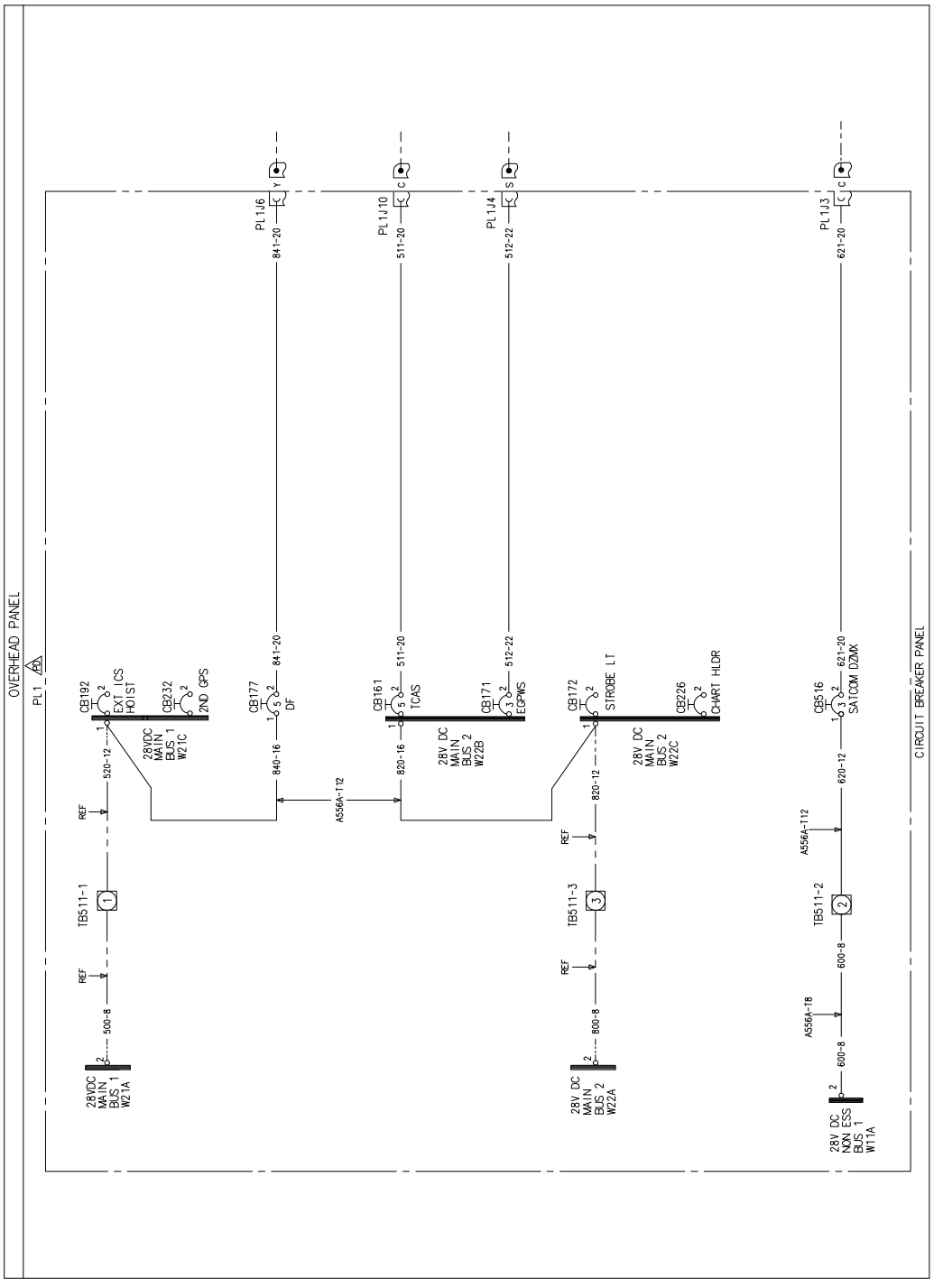

I/S CONSOLE VARIANT TOLL
3G0630P23611
ISOMETRIC VIEW
STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE
A
VIEW A
BL 168.0
BL -275.0
STA 2202.0 REF
STA 3165.0 REF
REMOVE:
999-0500-85-237 PLATE ASSY
PL82
3G2310F00111 VHF FLEXCOMM II (REF)
REMOVE:
999-0500-85-213 PLATE ASSY
PL59
4G3450F00311 DF CONTROL PANEL (REF)
REMOVE:
999-0500-85-219 PLATE ASSY
PL515
4G4390F00811 SATCOM CONTROL
CONTROL PANEL (REF)
REMOVE:
999-0500-85-213 PLATE ASSY
INSTALL:
999-0500-85-9 PLATE ASSY
PL155
4G7160F00111 IBF (REF)

Figure 3

TABLE 1

CABLE ASSY	REF-DES	PIN	CONTACT P/N	INSULATION SLEEVING
E1C300	CB161	2	MS25036-149	-
E1C300	CB171	2	MS25036-149	-
E1C300	CB177	1	MS25036-156	-
E1C300	CB177	2	MS25036-149	-
E1C300	CB516	1	MS25036-156	-
E1C300	CB516	2	MS25036-149	-
E1C300	PL1J3	C	M39029/56-351	-
E1C300	PL1J4	S	M39029/56-351	-
E1C300	PL1J6	Y	M39029/56-351	-
E1C300	PL1J10	C	M39029/56-351	-
E1C300	TB511-2	*	MS25036-112	-
E1C300	TB511-2	*	MS25036-115	MS25036-115
E1C300	W11A	2	MS25036-115	MS25036-115
E1C300	W21C	1	MS25036-112	-
E1C300	W22B	1	MS25036-112	-
E1C300	W22C	1	MS25036-112	-



FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM E1C300 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A556A-T20 UNLESS SPECIFIED

Figure 4

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.