
SERVICE BULLETIN

N° **139-401**

DATE: February 17, 2016

REV. : A - May 5, 2023

TITLE

ATA 97 - KIT COCKPIT LIPSTICK CAMERA INSTALLATION

REVISION LOG

Helicopters that have complied with previous issue of this Service Bulletin do not need any additional action.

Revision A is issued to:

- Update the Part II of this SB in order to extend the effectivity to the AW139 Plus helicopters.
- Introduce minor changes.

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

Part I:

- All AW139 helicopters from S/N 31200 to S/N 31398,
- All AW139 helicopters from S/N 41200 to S/N 41299 equipped with composite liners.

Part II:

- All AW139 helicopters from S/N 31400 onwards,
- All AW139 helicopters S/N 41387, S/N 41388 and from S/N 41400 to S/N 41499 equipped with polycarbonate liners,
- All AW 139 helicopters from S/N 41500 onwards.

B. COMPLIANCE

At Customer's option.

C. CONCURRENT REQUIREMENTS

N.A.

D. REASON

Leonardo Helicopters has developed this Service Bulletin in order to provide all the necessary instructions on how to perform the installation of the kit cockpit lipstick camera P/N 4G9750F00511 or P/N 4G9750F00512, depending on the helicopter model.

Part I of this Service Bulletin provides all the necessary information to perform the installation of the kit P/N 4G9750F00511, which consists of:

- the cockpit lipstick camera structural provision P/N 3G5310A80511, which performs the installation of the required supports;
- the cockpit lipstick camera electrical installation P/N 3G9750A01111, which performs the installation of two cable assemblies, the cockpit lipstick camera and the GPS antenna.

Part II of this Service Bulletin provides all the necessary information to perform the installation of the kit P/N 4G9750F00512, which consists of:

- the cockpit lipstick camera structural provision P/N 3G5310A80512, which performs the installation of the required supports;
- the cockpit lipstick camera electrical installation P/N 3G9750A01112, which performs the installation of two cable assemblies, the cockpit lipstick camera and the GPS antenna.

E. DESCRIPTION

The Cockpit Lipstick Camera Vision 1000 is an imaging and data recording device with an independent inertial measurement. The system records the inertial and positioning data as well as the video and the sound of the cockpit during the flight to improve the aircraft safety. The system contains a 5 mega pixel CMOS digital image sensor, an ambient cockpit audio recording device and several Micro-Electro-Mechanical System (MEMS) components for International Measure Unit (IMU) data.

The data are extracted from the device via the removable SD memory card.

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 Maintenance-Man-Hours (MMH) are deemed necessary:

Part I: approximately thirty-three (33) MMH.

Part II: approximately thirty-three (33) MMH.

Maintenance-Man-Hours are based on hands-on time and can change with personnel and facilities available.

H. WEIGHT AND BALANCE

PART I

WEIGHT (kg)	ARM (mm)	MOMENT (kgmm)
		0.86
LONGITUDINAL BALANCE	2891	2486.26
LATERAL BALANCE	567	487.62

PART II

WEIGHT (kg)		0.87
	ARM (mm)	MOMENT (kgmm)
LONGITUDINAL BALANCE	2921	2541.27
LATERAL BALANCE	590	513.3

I. REFERENCES

1) PUBLICATIONS

Following Data Modules refer to AMP:

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM01 39-A-00-20-00-00A-120A-A	Helicopter safety - Pre-operation (make helicopter safe for maintenance)	I, II
DM02 39-A-25-81-04-00A-520-A	Right lining installation - Remove procedure	I, II
DM03 39-A-25-82-05-00A-520A-A	Forward lining cover - Remove procedure	I, II
DM04 39-A-97-55-03-00A-912A-K	Cockpit camera / flight data recorder bracket - Replacement	I, II
DM05 39-A-25-82-06-00A-520-A	Center lining panel - Remove procedure	I, II
DM06 39-A-06-41-00-00A-010A-A	Access doors and panels - General data	I, II
DM07 39-A-52-44-01-00A-520A-A	Access panels - Remove procedure	I, II
DM08 39-A-11-00-01-00A-720A-A	Decal - Install procedure	I, II
DM09 39-A-97-55-01-00A-720A-K	Cockpit camera/flight data recorder - Install procedure	I, II
DM10 39-A-24-91-04-00A-920A-K	Integrally lighted panel - Replacement	I, II
DM11 39-A-97-55-00-00A-340A-K	Cockpit camera / flight data recorder system - Function test	I, II
DM12 39-A-25-82-06-00A-720-A	Center lining panel - Install procedure	I, II
DM13 39-A-52-44-01-00A-720A-A	Access panels - Install procedure	I, II
DM14 39-A-25-81-04-00A-720A-A	Right lining installation - Install procedure	I, II

Following Data Modules refer to CSR:

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM15 39-A-51-42-01-00A-720A-A	Potted Inserts – Install procedure	I, II

2) ACRONYMS & ABBREVIATIONS

AL	Alternative
AMDI	Aircraft Material Data Information
AMP	Aircraft Maintenance Publication
AR	As Required
AUX	Auxiliary
AW	AgustaWestland
C/A	Cable Assembly
CB	Circuit Breaker
CSRP	Common Structural Repair Publication
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
GPS	Ground Positioning System
IMU	International Measure Unit
LH	Leonardo Helicopters
LHD	Leonardo Helicopter Division
MEMS	Micro-Electro-Mechanical System
MMH	Maintenance Man Hours
N.A.	Not Applicable
P/N	Part Number
SB	Service Bulletin
SD	Secure Digital
S/N	Serial Number
VDC	Volts of Direct Current

3) ANNEX

N/A

J. PUBLICATIONS AFFECTED

N.A.

K. SOFTWARE ACCOMPLISHMENT SUMMARY

N.A.

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

1) PARTS

The following materials are required for compliance with this Service Bulletin:

NOTE

A new auxiliary C/B panel is required to apply this Service Bulletin.

Customers must contact Product Support Engineering (engineering.support.lhd@leonardo.com) at least 3 months in advance from the scheduled Service Bulletin application, to request the new auxiliary C/B panel.

PART I

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	4G9750F00511		KIT COCKPIT LIPSTICK CAMERA	REF	.		-
2	3G5310A80511		COCKPIT LIPSTICK CAMERA STRUCTURAL PROVISION	REF	..		-
3	MS21075L08	MS21075L08N	Nut plate	3	...		139-401L1
4	MS27039-0804		Screw	2	...		139-401L1
5	MS27039-0807		Screw	3	...		139-401L1
6	NAS1149DN816K		Washer	3	...		139-401L1
7	NAS1149DN832K		Washer	2	...		139-401L1
8	NAS1836-08-13		Insert	2	...		139-401L1
9	3G5316A80651		Bracket	1	...		139-401L1
10	3G5316A89331		Lipstick Camera Bracket Assy	1	...		139-401L1
11	MS20426AD3-4		Rivet	0,1 kg	...		139-401L1
12	3G9750A01111		COCKPIT LIPSTICK CAMERA ELECTRICAL INSTALLATION	REF	..		-
13	AW001CL001-N6		Support	2	...		139-401L1
14	AW002FT502		Grommet	5	...		139-401L1
15	ED300A430		Decal	1	...		139-401L1
16	ED300E104		Decal	1	...		139-401L1
17	LN9025-0305L		Washer	2	...		139-401L1
18	LN9038-03006		Screw	2	...		139-401L1
19	MS21043-3		Nut	2	...		139-401L1
20	MS35489-19		Grommet	1	...		139-401L1
21	NAS1149D0332J		Washer	4	...		139-401L1
22	NAS1802-3-7		Screw	2	...		139-401L1
23	153025-000033		Hardware kit components	1	...	(2)	139-401L1
24	153027-000027		Installation kit components	1	...	(3)	139-401L1
25	3G9B01B72701		Cockpit Camera C/A (B1B727)	1	...		139-401L1
26	3G9B03B24301		Cockpit Camera C/A (B3B243)	1	...	(7)	139-401L1

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
27	MS3320-1		Breaker	1	...		139-401L1
28	ED300CB429		Decal	1	...		139-401L1
29	MS25036-149		Terminal Lug	2	...		139-401L1
30	M39029/56-351		Electrical contact	2	...		139-401L1
31	A556A-T22		Electrical wire	2 m	...		139-401L1
32	M39029/58-363		Electrical contact	1	...		139-401L1
33	M39029/56-351		Electrical contact	1	...		139-401L1
34	3G2490LXXXXX		Panel integrally lighted aux breaker	1	.	(4)	-

PART II

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
35	4G9750F00512		KIT COCKPIT LIPSTICK CAMERA	REF	.		
36	3G5310A80512		COCKPIT LIPSTICK CAMERA STRUCTURAL PROVISION	REF	..		
37	MS21075L08	MS21075L08N	Nut plate	3	...		139-401L2
38	MS27039-0804		Screw	2	...		139-401L2
39	MS27039-0807		Screw	3	...		139-401L2
40	NAS1149DN816K		Washer	3	...		139-401L2
41	NAS1149DN832K		Washer	2	...		139-401L2
42	NAS1836-08-13		Insert	2	...		139-401L2
43	3G5316A80651		Bracket	1	...		139-401L2
44	3G5316A89331	3G5316A89332	Lipstick Camera Bracket Assy	1	...		139-401L2
45	MS20426AD3-4		Rivet	0,1 kg	...		139-401L2
46	3G9750P00211		COCKPIT CAMERA (APPAREO) VARIANT	REF	..		-
47	3G9B01B83202		Cockpit Camera (APPAREO) C/A (B1B832)	1	...	(1)	
48	3G9750A01112		COCKPIT LIPSTICK CAMERA ELECTRICAL INSTALLATION	REF	..		-
49	153025-000033		Hardware kit components	1	...	(2)	139-401L2
50	153027-000027		Installation kit components	1	...	(3)	139-401L2
51	3G9B03B24301		Cockpit Camera (APPAREO) C/A (B3B243)	1	...	(7)	139-401L2
52	3G9B01B72701		Cockpit Camera (APPAREO) C/A (B1B727)	1	...	(5)	139-401L2
53	AW001CL001-N6		Support	3	...		139-401L2
54	AW002FT502		Grommet	5	...		139-401L2
55	ED300A430		Decal	1	...		139-401L2
56	ED300E104		Decal	1	...		139-401L2
57	LN9025-0305L		Washer	2	...		139-401L2
58	LN9038-03006		Screw	2	...		139-401L2
59	MS21043-3		Nut	2	...		139-401L2
60	MS35489-19		Grommet	1	...		139-401L2
61	NAS1149D0332J		Washer	4	...		139-401L2
62	NAS1802-3-7		Screw	2	...		139-401L2
63	MS3320-1		Breaker	1	...		139-401L2
64	ED300CB429		Decal	1	...		139-401L2
65	MS25036-149		Terminal Lug	2	...		139-401L2
66	M39029/56-351		Electrical contact	2	...		139-401L2
67	A556A-T22		Electrical wire	2 m	...		139-401L2
68	M39029/58-363		Electrical contact	1	...		139-401L2

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
69	M39029/56-351		Electrical contact	1	...		139-401L2
70	3G2490LXXXXX		Panel integrally lighted aux breaker	1	.	(4)	-

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
71	199-05-002 Type II, Class 2 / Code No. 900004603 (MMM-A-132)	Adhesive EA934NA (C054)	AR	(6)	I, 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
139-401L1	1		Part I
139-401L2	1		Part II
3G9B01B83202	1	(1)	
3G2490LXXXXX	1	(4)	Part I, II

NOTE

(1) Cable assy P/N 3G9B01B83202 related to cockpit camera variant P/N 3G9750P00211 will only be delivered if requested by the customer in the relevant sales order. Refer to note 5 instead.

(2) Technical P/N 153025-000033 is composed of:

- Q.ty 1 P/N 104030-000019 16GB SD CARD ASSEMBLY,
- Q.ty 1 P/N 150575-000017 VISION 1000 COCKPIT CAMERA.

(3) Technical P/N 153027-000027 is composed of:

- Q.ty 1 P/N 153560-000002 GPS ANTENNA ASSEMBLY,
- Q.ty 1 P/N 351005-000013 CAMERA MOUNTING BRACKET,
- Q.ty 1 P/N 352010-000045 M5X80 BOLT,
- Q.ty 1 P/N 352011-000035 M5 SS NUT,
- Q.ty 2 P/N 352012-000011 M5 SS WASHER,
- Q.ty 2 P/N 352040-000007 MOUNTING BRACKET SPACER.

(4) The P/N is not properly completed because it is depending on the helicopter

configuration. Customers must contact AW139 Customer Support Engineering (engineering.support.lhd@leonardo.com) to request the new CB panel at least three months in advance from the scheduled application of this Service Bulletin.

- (5) The C/A P/N 3G9B01B83202 is installed accordingly to variant P/N 3G9750P00211 and can be provided also as P/N 3G9B01B72701 Rev. C or 3G9B01B72701 Rev. D. If Rev. C is provided, it is necessary to switch the pins according to Fig. 7 Wiring Diagram.
- (6) Item to be procured as local supply.
- (7) The C/A P/N 3G9B03B24301 can be provided also as P/N 3G9B03B24301-B.

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) Exercise extreme care during drilling operations to prevent instruments, cables and hoses damage.
- d) After drilling, remove all swarf and sharp edges. Apply on bare metal a light film of primer unless the hole is used for ground connection.
- e) During the installation of bonding braids or components requiring grounding, clean the surface structure in order to obtain a good ground contact.
- f) Let adhesive cure at room temperature for at least 24 hours unless otherwise specified.
- g) All lengths are in mm.

PART I / PART II

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.

NOTE

Perform the installation of the cockpit lipstick camera structural provision P/N 3G5310A80511 only on AW139 helicopters from S/N 41200 to S/N 41299 equipped with composite liners and from S/N 31200 to S/N 31398.

NOTE

Perform the installation of the cockpit lipstick camera structural provision P/N 3G5310A80512 only on AW139 helicopters from S/N 41387 to S/N 41388, from S/N 41400 to S/N 41499 equipped with polycarbonate liners, from S/N 31400 onwards and from S/N 41500 onwards.

2. With reference to Figure 1, gain access to the area affected by the installation and perform the cockpit lipstick camera structural provision P/N 3G5310A80511 (or P/N 3G5310A80512) as described in the following procedure:
 - 2.1 In accordance with AMP DM 39-A-25-81-04-00A-520-A and with reference to Figure 1 view B, remove the right lining P/N 3G5320A06451.
 - 2.2 With reference to Figure 1 view B and section H-H, temporarily locate the bracket P/N 3G5316A80651 and countermark position of n° 2 insert holes on the panel P/N 3G5320A02033.
 - 2.3 With reference to Figure 1 section H-H, drill n°2 holes \varnothing 11.48±11.61 in the previously marked positions through the top skin and honeycomb.
 - 2.4 In accordance with CSRP DM 39-A-51-42-01-00A-720A-A and with reference to Figure 1 section H-H, install n°2 inserts P/N NAS1836-08-13 by means of adhesive EA934NA (C054).
 - 2.5 With reference to Figure 1 section H-H, install bracket P/N 3G5316A80651 on the panel P/N 3G5320A02033 by means of n°2 screws P/N MS27039-0804 and n°2 washers P/N NAS1149DN832K.
 - 2.6 With reference to Figure 1 View B and Isometric view, perform the indicated cut-out thru the right lining P/N 3G5320A06451 in accordance with the bracket P/N 3G5316A80651.

NOTE

If the rigid liner P/N 3G2580A17531 (ref. forward liner cover 150ZT in AMP DM 39-A-25-82-05-00A-520A-A) without bulkhead is installed, perform the following step otherwise skip to step 2.8.

- 2.7 Trim the rigid liner P/N 3G2580A17531 (ref. forward liner cover 150ZT in AMP DM 39-A-25-82-05-00A-520A-A) to allow the installation of the lipstick camera bracket assy P/N 3G5316A89331.
- 2.8 With reference to Figure 2 view C, temporarily locate the lipstick camera bracket assy P/N 3G5316A89331 (P/N 3G5316A89332 AL) and countermark the position of n°3 nut-plate holes on the panel P/N 3G5321A00133.
- 2.9 With reference to Figure 2 section G-G, drill n°3 holes $\varnothing 4.27 \pm 4.39$ in the previously marked positions.
- 2.10 With reference to Figure 2 section G-G, install n°3 nut plates P/N MS21075L08 by means of n°6 rivets P/N MS20426AD3-4.
- 2.11 In accordance with AMP DM 39-A-97-55-03-00A-912A-K and with reference to Figure 2 detail E and section G-G, install the lipstick camera bracket assy P/N 3G5316A89331 (P/N 3G5316A89332 AL) by means of n°3 screws P/N MS27039-0807 and n°3 washers P/N NAS1149DN816K.
- 2.12 With reference to Figure 2 Section F-F and Isometric View, drill n°1 hole $\varnothing 25.4$ through the cover STA 3120 RH Upper P/N 3G5320A03833.

NOTE

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

NOTE

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

NOTE

When necessary, replace an existing clamp with a suitable one.

3. With reference to Figures 3, 4 and 5 gain access to the area affected by the installation and perform the cockpit lipstick camera electrical installation P/N 3G9750A01111 (or P/N 3G9750A01112) as described in the following procedure:

- 3.1 In accordance with AMP DM 39-A-25-82-06-00A-520-A, remove the access panel 150DT.
- 3.2 With reference to AMP DM 39-A-06-41-00-00A-010A-A and in accordance with AMP DM 39-A-52-44-01-00A-520A-A, remove the access panels 140CT and 150AT.
- 3.3 With reference to Figure 3, install the n°2 electrical cable supports P/N AW001CL001-N6 in the indicated positions.
- 3.4 With reference to Figure 4 view L, install the grommet P/N MS35489-19 on the cover STA 3120 RH Upper P/N 3G5320A03833.
- 3.5 With reference to Figure 4 view L, install the electrical cable support P/N AW001CL001-N6 in the position n°3.
- 3.6 With reference to Figure 3 and Figure 4 view L, install n°5 grommets P/N AW002FT502 in the indicated positions.

CAUTION

The GPS Antenna is electrostatic discharge sensitive. Follow the precautions applicable to the electrostatic-discharge sensitive devices when this component is removed or installed. Damage can occur from electrostatic discharge (ref. step 3.7).

- 3.7 With reference to Figure 4 detail N, install the GPS antenna assembly P/N 153560-000002 by means of n°2 bolts P/N LN9038-03006 and n°2 washers P/N LN9025-0305L.
- 3.8 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 4 Detail N, install n°1 decal P/N ED300E104 next to GPS antenna in a visible location.
- 3.9 In accordance with AMP DM 39-A-97-55-01-00A-720A-K and with reference to Figure 4 Detail M, install camera mounting bracket P/N 351005-000013 by means of n°2 screws P/N NAS1802-3-7, n°4 washers P/N NAS1149D0332J and n°2 nuts P/N MS21043-3.
- 3.10 In accordance with AMP DM 39-A-97-55-01-00A-720A-K and with reference to Figure 4 Detail M, install the Vision 1000 cockpit camera P/N 150575-000017 and the related 16GB SD card assembly P/N 104030-000019 on the camera mounting bracket P/N 351005-000013 by means of n°2 spacers P/N 352040-000007, the bolt P/N 352010-000045, n°2 washers P/N 352012-000011 and the nut P/N 352011-000035.
- 3.11 In accordance with AMP DM 39-A-11-00-01-00A-720A-A and with reference to

Figure 4 Detail M, install n°1 decal P/N ED300A430 next to the Cockpit Camera in a visible location.

NOTE

Perform the installation of the C/A B1B727 only if the cockpit camera variant P/N 3G9750P00211 will NOT be applied.

- 3.12 With reference to Figures 3 and 4, lay down the following cable assemblies following the existing route unless otherwise indicated:
- Cockpit camera (APPAREO) Cable Assy P/N 3G9B01B72701 (B1B727);
 - Cockpit camera (APPAREO) Cable Assy P/N 3G9B03B24301 (B3B243).
- 3.13 With reference to Figures 3, 4 and Figure 6 wiring diagram, perform the electrical connection of cable assy B3B243 between Camera connector A430P2 and sectioning connector J1038.
- 3.14 With reference to Figure 6 wiring diagram, perform the electrical connection of the GPS Antenna connector P1038.
- 3.15 With reference to Figure 4 View L and Figure 6 wiring diagram, perform the electrical connection of cable assy B1B727 between camera connector A430P1 pin 7 and circuit breaker panel connector PL1P2.
- 3.16 With reference to Figure 3, 4 and Figure 6 wiring diagram, perform the electrical connection of cable assy B1B727 between Camera connector A430P1 pin 3 and Terminal Board TB204P1.

NOTE

Perform the following step 4 only if the cockpit camera variant P/N 3G9750P00211 is intended to be applied, otherwise skip to step 5.

NOTE

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

NOTE

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

4. With reference to Figure 5, gain access to the area affected by the installation and perform

the cockpit camera variant P/N 3G9750P00211 installation as described in the following procedure:

NOTE

Perform the following steps 4.1 and 4.2 only if the cable assembly B1B727 has already been installed and must be replaced with the cable assembly B1B832.

- 4.1 With reference to Figure 5 and Figure 7 wiring diagram (was), disconnect the cable assembly B1B727 from the connector PL1P2 and from the terminal board TB204P1.
 - 4.2 With reference to Figure 5, disconnect the connector A430P1 from the cockpit camera P/N 150575-000017 (A430), then remove the cable assembly B1B727 from the helicopter.
 - 4.3 With reference to Figure 5, lay down the cockpit camera (APPAREO) cable assembly P/N 3G9B01B83202 (B1B832) following the existing route unless otherwise indicated.
 - 4.4 With reference to Figure 5 and Figure 7 wiring diagram, perform the electrical connection of the cable assembly B1B832 to the circuit breaker panel connector PL1P2.
 - 4.5 With reference to Figure 5 and Figure 7 wiring diagram, perform the electrical connection of the cable assembly B1B832 to the terminal board TB204P1.
5. Modify the Auxiliary CB panel on the overhead panel, as described in the following procedure:

NOTE

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

- 5.1 With reference to AMP DM 39-A-24-91-04-00A-920A-K, remove from the Overhead CB panel the existing integrally-lit panel and install the new integrally-lit panel P/N 3G2490LXXXXX.
- 5.2 Install n°1 circuit breaker P/N MS3320-1 in the position indicated as Cockpit camera on the new integrally-lit panel P/N 3G2490LXXXXX. Apply the decal P/N ED300CB429 in an adjacent area.
- 5.3 Perform the electrical connection between CB429 pin 2 and sectioning connector PL1J2 pin X by means of A556A-T22 wire. Use terminal lug P/N MS25036-149 for pin 2 of circuit breaker CB429 and electrical contact P/N M39029/56-351 for pin X

of sectioning connector PL1J2.

5.4 Connect CB429 to 28V DC NON ESS BUS 1 W11A.

6. Perform a pin-to-pin continuity check of all the electrical connections previously performed.
7. In accordance with AMP DM 39-A-97-55-00-00A-340A-K, perform the Cockpit camera / flight data recorder system operational check.
8. In accordance with AMP DM 39-A-25-82-06-00A-720-A, re-install the access panel 150DT.
9. In accordance with AMP DM 39-A-52-44-01-00A-720A-A, re-install the access panels 140CT and 150AT.
10. In accordance with 39-A-25-81-04-00A-720A-A and with reference to Figure 1 View B, re-install the right lining P/N 3G5320A06451.
11. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
12. Return the helicopter to flight configuration and record for compliance with this Service Bulletin on the helicopter logbook.
13. Gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

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

engineering.support.lhd@leonardo.com

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

AWPC.Engineering.Support@leonardocompany.us

3G5310A80511
COCKPIT LIPSTICK CAMERA
STRUCTURAL PROVISION

FIG. 1
FIG. 2

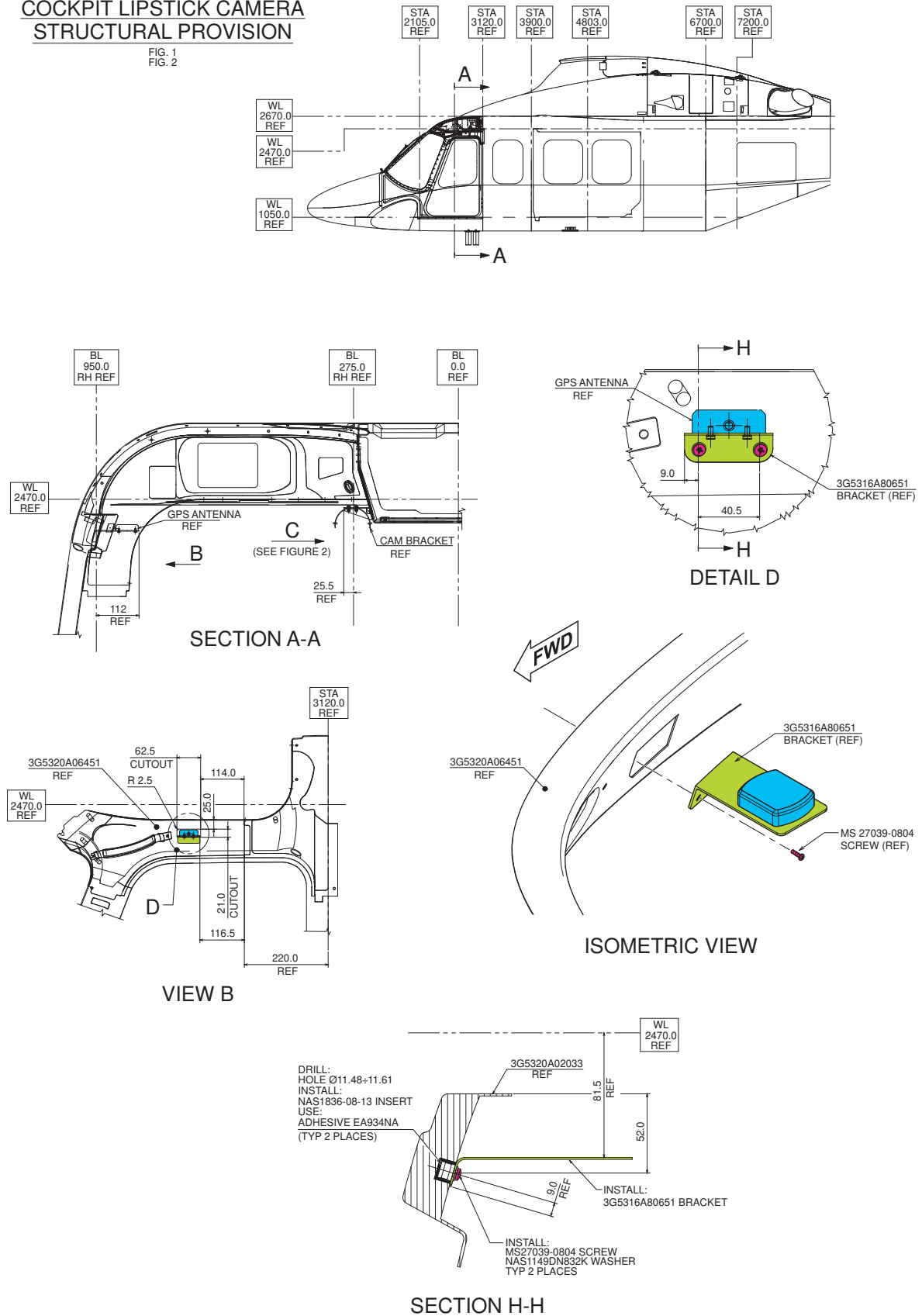


Figure 1

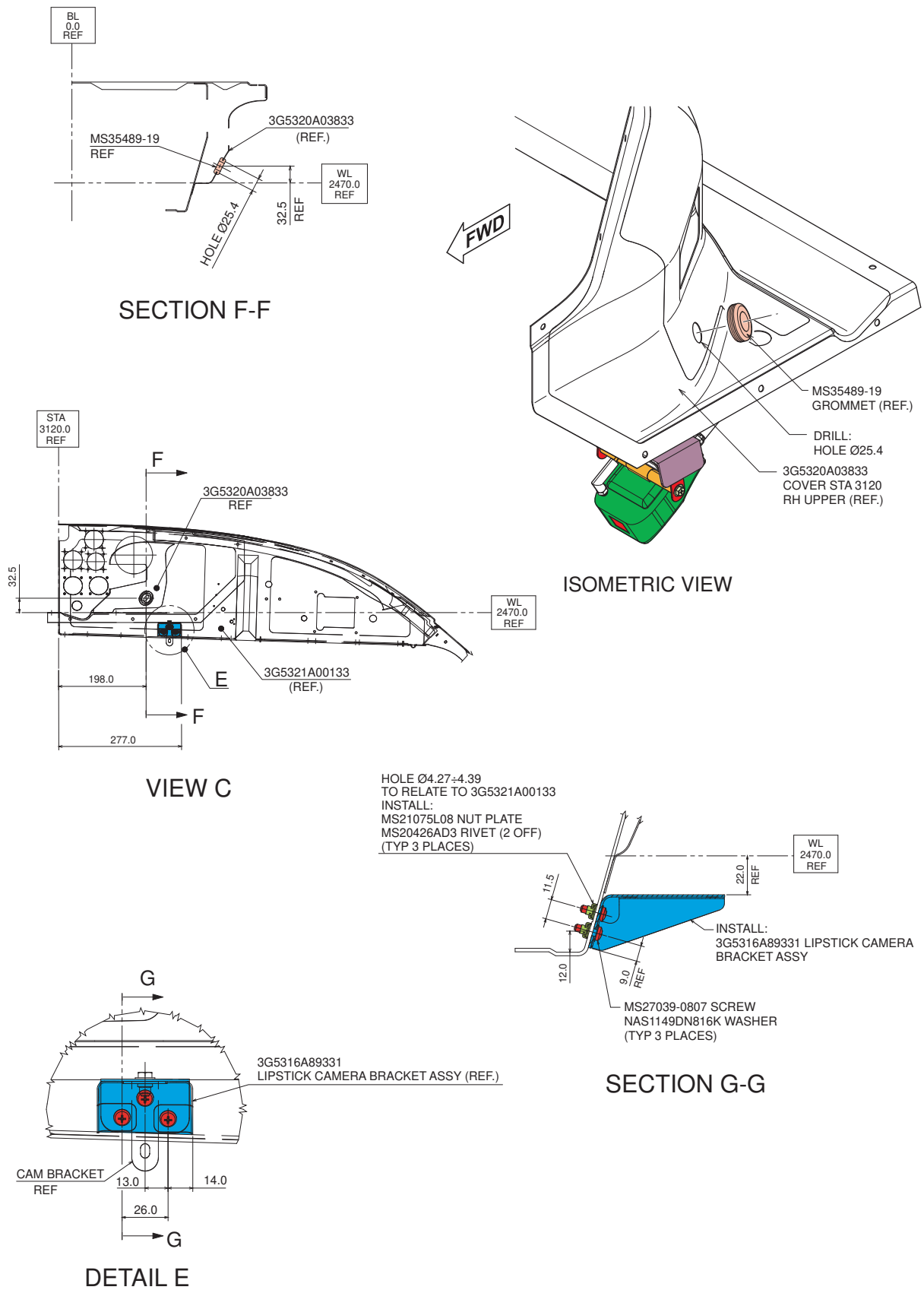
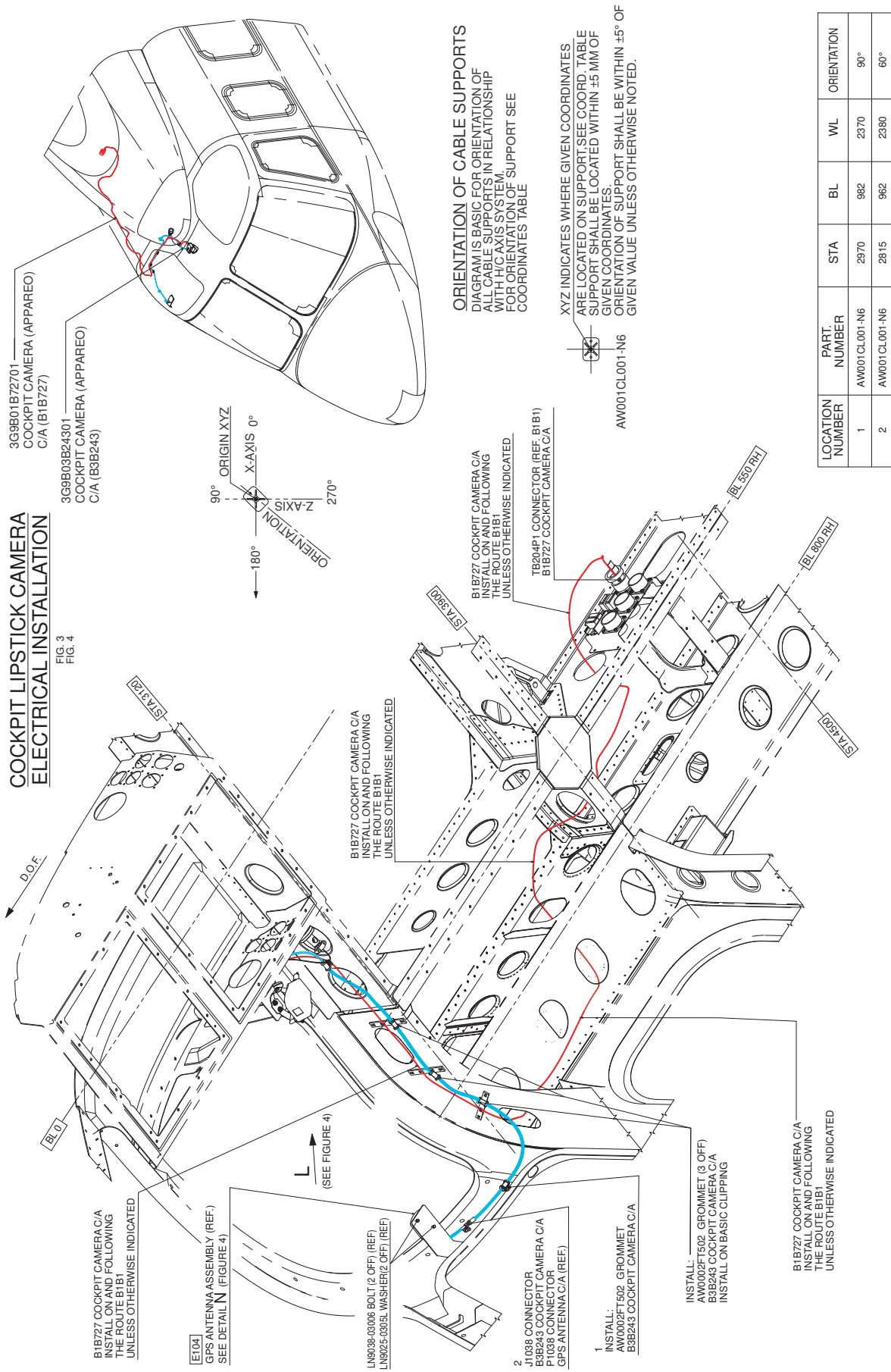
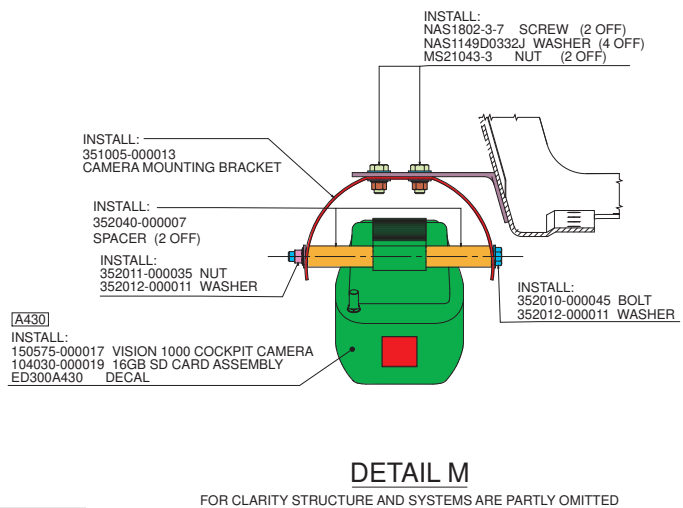
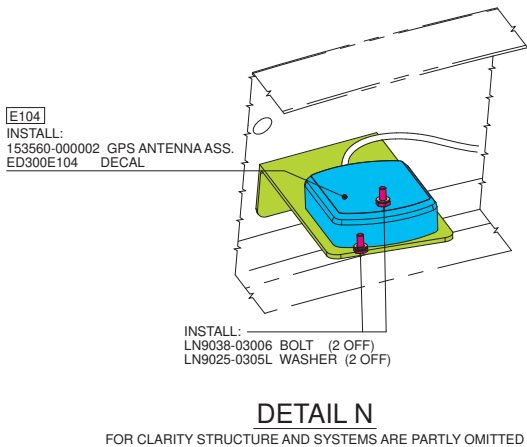
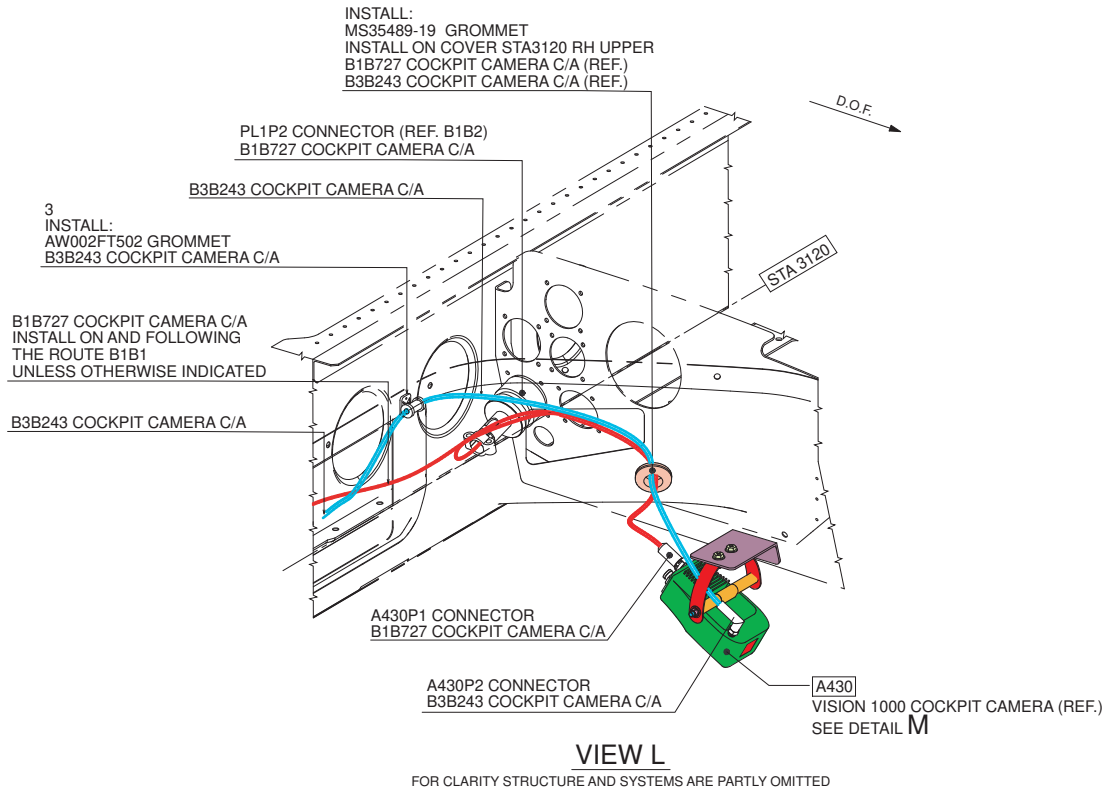


Figure 2



VIEW LOOKING UP COCKPIT/CABIN ROOF RH SIDE
FOR CLARITY STRUCTURE AND SYSTEMS ARE PARTLY OMITTED

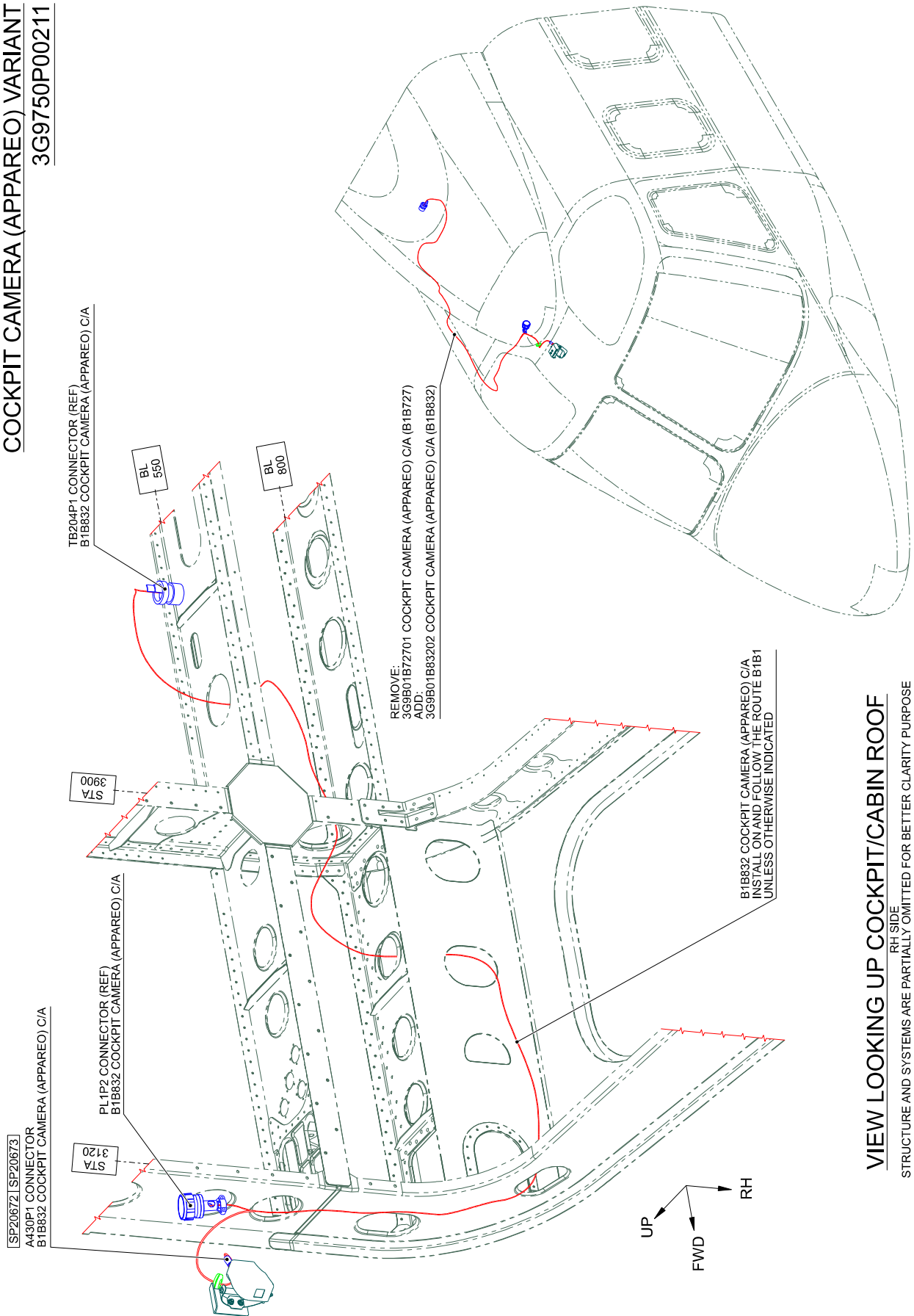
Figure 3



LOCATION NUMBER	PART NUMBER	STA	BL	WL	ORIENTATION
3	AW001CL001-N6	3120	403	2567	90°

Figure 4

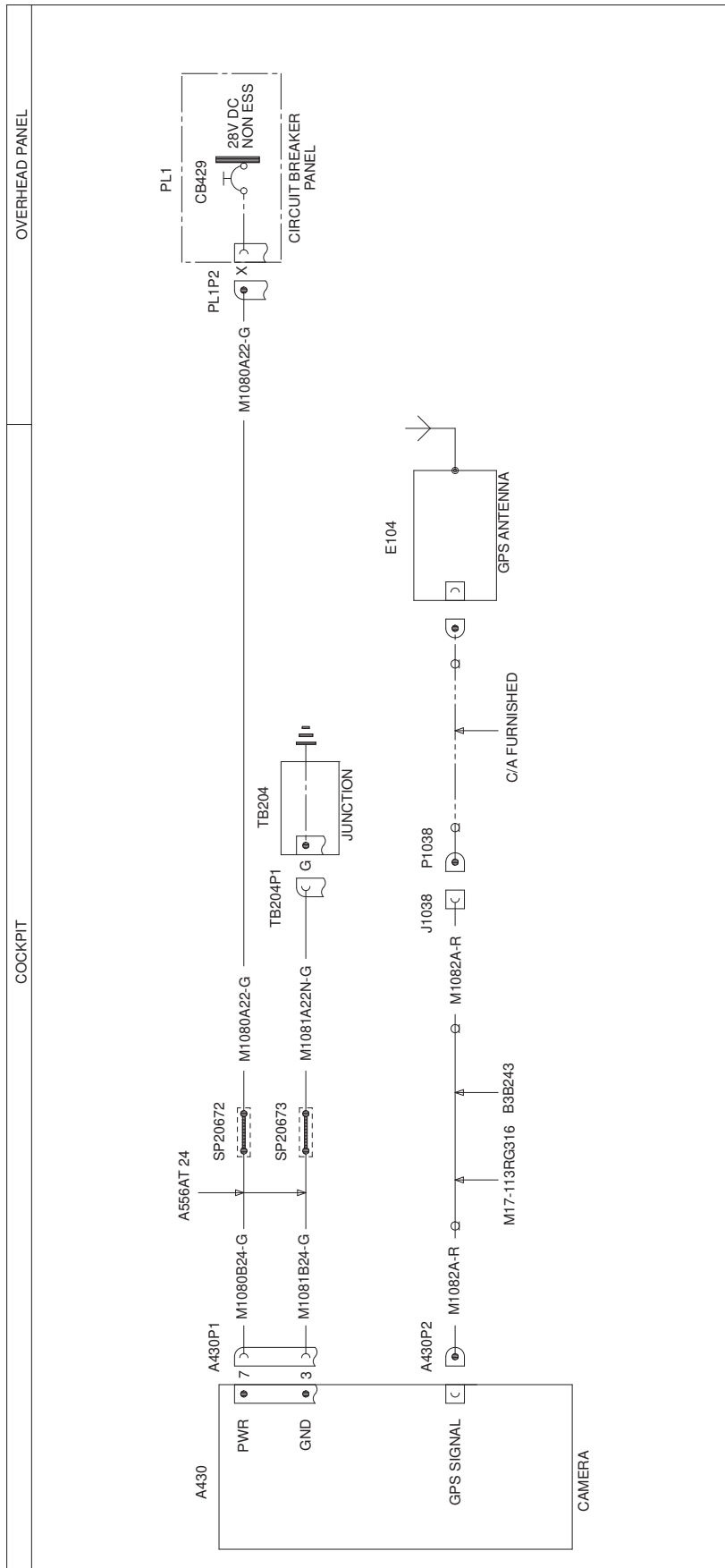
**COCKPIT CAMERA (APPAREO) VARIANT
3G9750P00211**



VIEW LOOKING UP COCKPIT/CABIN ROOF
RH SIDE

STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

Figure 5



FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM B1B727 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A556AT 22 UNLESS SPECIFIED

Figure 6

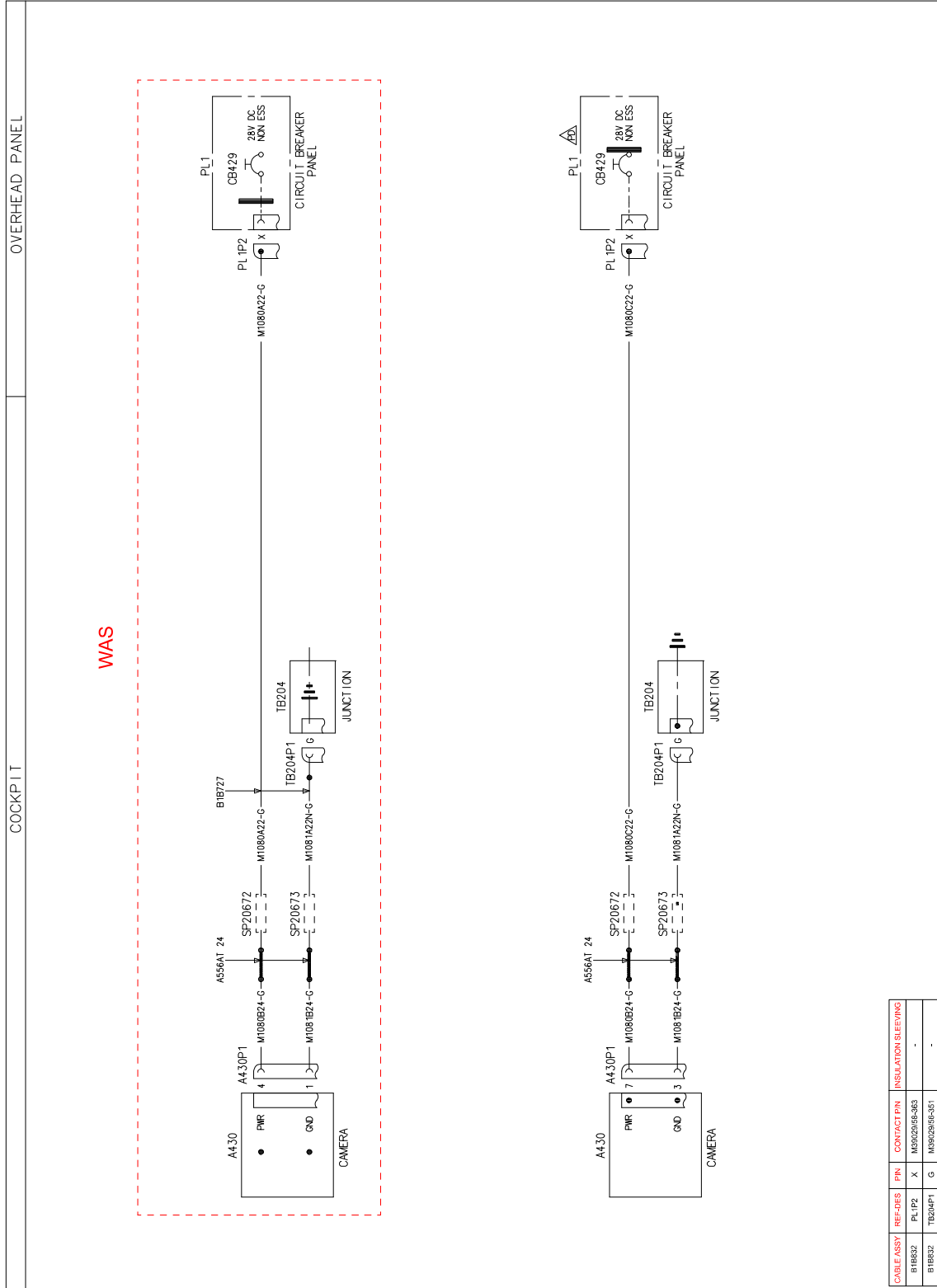


Figure 7

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.					