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AgustaWestland Products

# SERVICE BULLETIN

# № 139-681

DATE: March 18, 2022 REV.: A - November 28, 2022

# TITLE

### ATA 33 - HELICOPTER EMERGENCY EXIT LIGHTS SYSTEM INSTALLATION

# **REVISION LOG**

Revision A of this Service Bulletins extends the document effectivity.

Helicopters already compliant with previous issues of this Service Bulletin do not need any additional action.

Revision bars identify changes.



# 1. PLANNING INFORMATION

# A. EFFECTIVITY

AW139 helicopters S/N 31763, S/N 31765, S/N 31770, S/N 31772, S/N 31773 and S/N 31775.

# **B. COMPLIANCE**

At Customer's option.

# **C. CONCURRENT REQUIREMENTS**

N.A.

# D. REASON

This Service Bulletin is issued in order to provide the necessary instructions on how to perform the installation of kit HEELS P/N 4G3350F00112 modified by HEELS High Visibility Doors Variant P/N 3G3306P06711 and HEELS Variant (for bubble windows) P/N 3G3306P07211.

# **E. DESCRIPTION**

The function of the Helicopter Emergency Exit Lights System is to provide identification of all the emergency exits when the cabin becomes submerged (partially or completely), because of ditching. The kit is activated automatically by water sensors.

This SB allows the installation of HEELS on helicopters installing High Visibility Cockpit Doors and bubble windows. Bubble windows are NOT Emergency Exit. For this reason, HEELS are NOT installed on liners surrounding bubble windows.

# 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 approximately eighty (80) MMH are deemed necessary.

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

### **H. WEIGHT AND BALANCE**

WEIGHT (Kg)		7.45
	ARM (mm)	MOMENT (Kgmm)
LONGITUDINAL BALANCE	3629	27036.05
LATERAL BALANCE	15	111.75

#### 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-C-33-52-00-00A-340A-K	Emergency exit lighting system - Function test	-
DM06	39-C-33-52-01-00B-921A-K	Left cockpit door light - Replacement	-
DM07	39-C-33-52-02-00A-921A-K	Left cockpit door light support - Replacement	-
DM08	39-C-33-52-03-00B-921A-K	Left cockpit door light wiring cover - Replacement	-
DM09	39-C-33-52-04-00B-921A-K	Left cockpit door light battery pack - Replacement	-
DM10	39-C-33-52-05-00B-921A-K	Left cockpit door light power supply - Replacement	-
DM11	39-C-33-52-06-00B-921A-K	Right cockpit door light - Replacement	-
DM12	39-C-33-52-07-00A-921A-K	Right cockpit door light support - Replacement	-
DM13	39-C-33-52-08-00B-921A-K	Right cockpit door light wiring cover - Replacement	-



DATA I	MODULE	DESCRIPTION	<u>PART</u>
DM14	39-C-33-52-09-00B-921A-K	Right cockpit door light battery pack - Replacement	-
DM15	39-C-33-52-10-00B-921A-K	Right cockpit door light power supply - Replacement	-
DM16	39-C-33-52-15-00A-921A-K	Left cabin door light - Replacement	-
DM17	39-C-33-52-16-00A-921A-K	Left cabin door battery pack - Replacement	-
DM18	39-C-33-52-17-00A-921A-K	Left cabin door power supply - Replacement	-
DM19	39-C-33-52-18-00A-921A-K	Right cabin door light - Replacement	-
DM20	39-C-33-52-19-00A-921A-K	Right cabin door battery pack - Replacement	-
DM21	39-C-33-52-20-00A-921A-K	Right cabin door power supply - Replacement	-
DM22	39-A-52-11-01-00A-520A-A	Left cockpit door - Remove procedure	-
DM23	39-A-52-11-01-00A-720A-A	Left cockpit door - Install procedure	-
DM24	39-A-52-11-02-00A-520A-A	Right cockpit door - Remove procedure	-
DM25	39-A-52-11-02-00A-720A-A	Right cockpit door - Install procedure	-
DM26	39-B-52-11-01-01A-92AA-B	Latching mechanism (left cockpit door) - Replacement of components	-
DM27	39-B-52-11-02-01A-92AA-B	Latching mechanism (right cockpit door) - Replacement of components	-

Following Data Modules refer to CSRP:

DATA MODULE		IODULE	DESCRIPTION	<u>PART</u>
	DM28	CSRP-A-51-42-00-00A-720A-D	Potted Inserts - Install procedure	-

### 2) ACRONYMS & ABBREVIATIONS

AMDI	Aircraft Material Data Information
AMP	Aircraft Maintenance Publication
AR	As Required
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
HEELS	Helicopter Emergency Exit Lights System



- ITEP Illustrated tool and equipment publication
- LHD Leonardo Helicopters Division
- LH / LHS Left Hand Side
- LWR Lower
- MMH Maintenance Man Hours
- N.A. Not Applicable
- P/N Part Number
- RH / RHS Right Hand Side
- SB Service Bulletin
- S/N Serial Number
- UPR Upper

# 3) ANNEX

N.A.

# J. PUBLICATIONS AFFECTED

N.A.

# K. SOFTWARE ACCOMPLISHMENT SUMMARY

N.A.



# 2. MATERIAL INFORMATION

# A. REQUIRED MATERIALS

# 1) PARTS

#	P/N	ALTERNATIVE P/N	RNATIVE P/N DESCRIPTION		LVL	NOTE	LOG P/N
1	4G3350F00112		KIT HEELS	REF			-
2	3G3306P06711		HEELS HIGH VISIBILITY DOORS COMPLETE PROVISION	REF			-
3	3G3306P06612		HEELS HIGH VISIBILITY DOORS VARIANT	REF			-
4	3G3350A00132		Heels Light Assy	2			139-681L1
5	3G3350A00232		Heels Light Assy	2			139-681L1
6	3G3350A00332		Heels Light Assy	2			139-681L1
7	3G3350A00432		Heels Light Assy	2			139-681L1
8	3G3350A00532		Heels Light Assy	2			139-681L1
9	3G3350A01732		Power Supply Assy	2			139-681L1
10	3G3350A01832		Battery Assy	2			139-681L1
11	3G5310A09751		Bracket	2			139-681L1
12	3G9A01A52901		Heels Lights Variant C/A (A1A529)	1			139-681L1
13	3G9A01B48901		Heels Light Variant C/A (A1B489)	1			139-681L1
14	A388A3E14C75		Standoff	2			139-681L1
15	A522A02A		Rail	2			139-681L1
16	A524A1A-A		Identification Label	2			139-681L1
17	A593A-A05		Terminal Board	2			139-681L1
18	A596A04		Junction in line	2			139-681L1
19	AW001CB03H		Clamp	2			139-681L1
20	AW001CL009-CM		Support	4			139-681L1
21	ED300BT5		Decal	1			139-681L1
22	ED300BT6		Decal	1			139-681L1
23	ED300DS61		Decal	1			139-681L1
24	ED300DS62		Decal	1			139-681L1
25	ED300DS63		Decal	1			139-681L1
26	ED300DS64		Decal	1			139-681L1
27	ED300DS65		Decal	1			139-681L1
28	ED300DS81		Decal	1			139-681L1
29	ED300DS82		Decal	1			139-681L1
30	ED300DS83		Decal	1			139-681L1
31	ED300DS84		Decal	1			139-681L1
32	ED300DS85		Decal	1			139-681L1
33	ED300G5		Decal	1			139-681L1
34	ED300G6		Decal	1			139-681L1
35	ED300S115		Decal	1			139-681L1
36	ED300S119		Decal	1			139-681L1
37	ED300S303		Decal	1			139-681L1
38	ED300S304		Decal	1			139-681L1
39	ED300TB1017		Decal	1			139-681L1
40	ED300TB1018		Decal	1			139-681L1
41	ED300TB157		Decal	1			139-681L1
42	ED300TB158		Decal	1			139-681L1
43	NAS1149D0316J		Washer	6			139-681L1



#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
44	NAS1149D0332J		Washer	2			139-681L1
45	NAS1149DN816J		Washer	4			139-681L1
46	NAS1190E3P6AK		Screw	2			139-681L1
47	NAS1802-08-4		Screw	4			139-681L1
48	NAS1802-3-4		Screw	6			139-681L1
49	3G5310A09212		HEELS HIGH VISIBILITY STRUCTURAL PROVISION	REF			-
50	3G3350A01632		Heels Support Assy LHS	1		(1)	-
51	3G3350A01932		Heels Support Assy RHS	1		(1)	-
52	3G3350A03951		Spacer LWR LH	1			139-681L1
53	3G3350A04051		Spacer LWR RH	1			139-681L1
54	3G3350A04151		Spacer UPR LH	1			139-681L1
55	3G3350A04251		Spacer UPR RH	1			139-681L1
56	3G5310A09452		Protection LHS	1		(2)	-
57	3G5310A09552		Protection RHS	1		(2)	-
58	A428A3C07		Screw	12		( )	139-681L1
59	A428A3C10		Screw	8			139-681L1
60	MS27980-18N		Stud	2			139-681L1
61	NAS1149D0316J		Washer	2			139-681L1
62	NAS1836C08-10M		Insert	4			139-681L1
63	NAS1836C3-10M		Insert	6			139-681L1
64	NAS1836C3-13M		Insert	10			139-681L1
65	NAS1830C3-13M NAS43HT3-19		Spacer	4			139-681L1
	NAS43HT3-19		•	4			139-681L1
66			Spacer	4	••••		139-681L1
67 68	NAS43HT3-6 4G3350A00112		Spacer HEELS INSTALLATION	REF			-
69	3G3350A00611		HEELS light assy	4			139-681L1
70	3G3350A00911		HEELS light assy	5			139-681L1
71	3G3350A01011		HEELS light assy	2			139-681L1
72	3G3350A01111		HEELS light assy	2			139-681L1
73	3G3350A01211		HEELS light assy	2			139-681L1
74	3G3350A01311		HEELS light assy	2			139-681L1
75	3G3350A01411		HEELS light assy	2			139-681L1
76	3G3350A01411 3G3350A01511		HEELS light assy	3			139-681L1
77	3G3350A01611		HEELS light assy	2			139-681L1
78	3G3350A01711		Power supply assy	2			139-681L1
79	3G3350A01811		Battery assy	2	•••		139-681L1
80 81	3G5310A09751 3G9B01A30001		Bracket HEEL lights C/A (B1A300)	2			139-681L1 139-681L1
82	3G9B01B30001		HEEL lights C/A (B1B300)	1			139-681L1
83	A522A02A		Rail	2			139-681L1
84	A596A04		Junction	2			139-681L1
85	AW001CB04H		Clamp	2			139-681L1
86	AW001CB0411		Clamp	1			139-681L1
87	AW001CB05H		•	1			139-681L1
			Clamp				
88	ED300BT3		Decal	1			139-681L1
89	ED300BT4		Decal	1			139-681L1
90	ED300DS100		Decal	1			139-681L1
91	ED300DS71		Decal	1			139-681L1
92	ED300DS72		Decal	1			139-681L1
93	ED300DS73		Decal	1			139-681L1



#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
94	ED300DS74		Decal	1			139-681L1
95	ED300DS75		Decal	1			139-681L1
96	ED300DS76		Decal	1			139-681L1
97	ED300DS77		Decal	1			139-681L1
98	ED300DS78		Decal	1			139-681L1
99	ED300DS79		Decal	1			139-681L1
100	ED300DS80		Decal	1			139-681L1
101	ED300DS91		Decal	1			139-681L1
102	ED300DS92		Decal	1			139-681L1
103	ED300DS93		Decal	1			139-681L1
104	ED300DS94		Decal	1			139-681L1
105	ED300DS95		Decal	1			139-681L1
106	ED300DS96		Decal	1			139-681L1
107	ED300DS97		Decal	1			139-681L1
108	ED300DS98		Decal	1			139-681L1
109	ED300DS99		Decal	1			139-681L1
110	ED300G3		Decal	1			139-681L1
111	ED300G4		Decal	1			139-681L1
112	ED300S111		Decal	1			139-681L1
113	ED300S112		Decal	1			139-681L1
114	ED300S117		Decal	1			139-681L1
115	ED300S118		Decal	1			139-681L1
116	ED300TB2048		Decal	1			139-681L1
117	ED300TB2049		Decal	1			139-681L1
118	ED300TB264		Decal	1			139-681L1
119	ED300TB265		Decal	1			139-681L1
120	MS35206-225		Screw	4			139-681L1
121	MS35207-259		Screw	6			139-681L1
122	NAS1149D0316K		Washer	6			139-681L1
123	3G2580A00117		PASSENGERS CABIN LINERS INSTALLATION HEELS	REF			-
124	3G2580A53334		Pass door liner assy LH with HEELS	1		(3)	-
125	3G2580A53434		Pass door liner assy RH with HEELS	1		(3)	-
126	AN525-832R7		Screw	10			139-681L1

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
127	MMM-A-132, Type II, Class 2 199-05-002 Type I, Class 2, Code No. 900000581	Adhesive EA9309.3NA (C021)	AR	(4)	-
128	Code No. 999999999000001113	TAPE 3M 363 (C260)	AR	(4)	-
129	MMM-A-132, Type I, Class 3 199-05-002 Type II, Class 2, Code No. 900004603	Adhesive EA934NA (C057)	AR	(4)	-
130	Code No. 999999999000004268 or RMTL430920	3M HI-performance velcro pile SJ3571 (25.4 mm width)	AR	(4)	-



#	SPEC./LHD CODE NUMBER	DESCRIPTION	Q.TY	NOTE	PART
131	Code No. 900005139	Adhesion promoter 86A (C198)	AR	(4)	-

Refer also to AMDI for the consumable materials required to comply with the AMP DMs 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
139-681L1	1		-
3G3350A01632	1	(1)	-
3G3350A01932	1	(1)	-
3G5310A09452	1	(2)	-
3G5310A09552	1	(2)	-
3G2580A53334	1	(3)	-
3G2580A53434	1	(3)	-

#### NOTES

- (1) This P/N depends upon helicopter internal painting and may be supplied as a production P/N ending with suffix –CS01 or any combination of letters or numbers.
- (2) This P/N depends upon helicopter internal painting and may be supplied as a production P/N ending with suffix -A or -CS01 or any combination of letters or numbers.
- (3) This P/N depends upon helicopter internal painting and may be supplied as a production P/N ending with suffix –CS01 or any combination of letters or numbers.
- (4) Item to be 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.

LEONA

# 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) Let adhesive cure at room temperature for at least24 hours unless otherwise specified.
- g) Exposed thread surface and nut must be protected using a layer of tectyl according to MIL-C-16173 grade I.
- h) All lengths are in mm.
- 1. In accordance with AMP DM 39-A-00-20-00-00A-120A-A, prepare the helicopter on ground for a safe maintenance. Disconnect the battery, all electrical power sources and/or the external power supply.
- In accordance with AMP DM 39-A-06-41-00-00A-010A-A and with reference to Figures 1, 9 and 12, remove all external panels, internal panels and internal liners as required to gain access to the area affected by the installation.
- With reference to Figures 1 thru 8, perform the HEELS high visibility structural provision P/N 3G5310A09212 as described in the following procedure:
  - 3.1 In accordance with AMP DM 39-A-52-11-01-00A-520A-A, remove the left cockpit door from the helicopter.



- 3.2 Put the left cockpit door on an applicable work table.
- 3.3 In accordance with applicable steps of AMP DM 39-B-52-11-01-01A-92AA-B and with reference to Figure 1, remove the cover LH P/N 3G5211A05952 with the related hardware from the left cockpit door. Retain for later re-use.
- 3.4 With reference to Figure 5, perform indicated cut out on the cover LH P/N 3G5211A05952.
- 3.5 With reference to Figure 2 View A, temporarily locate the HEELS support assy LHS P/N 3G3350A01632 on the left pilot door panel and countermark the positions of n°5 insert holes.
- 3.6 In accordance with CSRP DM CSRP-A-51-42-00-00A-720A-D and with reference to Figure 2 View A and Figure 3 Detail D, drill n°5 holes Ø 11.48÷11.61 in the previously countermarked positions and install n°5 inserts P/N NAS1836C3-13M by means of adhesive EA934NA (C057) on the left pilot door panel.
- 3.7 In accordance with CSRP DM CSRP-A-51-42-00-00A-720A-D and with reference to Figure 6 View J and Figure 3 Detail D, at the indicated positions C-D-E, install n°3 inserts P/N NAS1836C3-10M by means of adhesive EA934NA (C057) on the internal side of the left pilot door.
- 3.8 In accordance with CSRP DM CSRP-A-51-42-00-00A-720A-D and with reference to Figure 6 View J, at the indicated positions A-B, install n°2 inserts P/N NAS1836C08-10M by means of adhesive EA934NA (C057) on the internal side of the left pilot door.
- 3.9 With reference to Figure 6 View J and Figure 7 Section L-L and Section K-K, remove n°4 screws P/N A428A3C05 from the indicated positions.
- 3.10 With reference to Figure 6 View J and Figure 8 View N and Section Q-Q, install the spacer UPR LH P/N 3G3350A04151 by means of adhesive EA9309.3NA (C021) in the indicated position on the left pilot door.

#### **NOTE**

#### Velcro pile can be trimmed during installation.

- 3.11 With reference to Figure 6 View J and Figure 8 View N and Section Q-Q, install velcro pile SJ3571 by means of adhesion promoter 86A (C198) as required.
- 3.12 With reference to Figure 6 View J and Figure 8 View P and Section R-R, install the spacer LWR LH P/N 3G3350A03951 by means of adhesive EA9309.3NA (C021) in the indicated position on the left pilot door.



#### **NOTE**

#### Velcro pile can be trimmed during installation.

- 3.13 With reference to Figure 6 View J and Figure 8 View P and Section R-R, install velcro pile SJ3571 by means of adhesion promoter 86A (C198) as required.
- 3.14 In accordance with AMP DM 39-A-52-11-02-00A-520A-A, remove the right cockpit door from the helicopter.
- 3.15 Put the right cockpit door on an applicable work table.
- 3.16 In accordance with applicable steps of AMP DM 39-B-52-11-02-01A-92AA-B and with reference to Figure 1, remove the cover RH P/N 3G5211A06052 with the related hardware from the right cockpit door. Retain for later re-use.
- 3.17 With reference to Figure 5, perform indicated cut out on the cover RH P/N 3G5211A06052.
- 3.18 With reference to Figure 2 View A, temporarily locate the HEELS support assy RHS P/N 3G3350A01932 on the right pilot door panel and countermark the positions of n°5 insert holes.
- 3.19 In accordance with CSRP DM CSRP-A-51-42-00-00A-720A-D and with reference to Figure 2 View A and Figure 3 Detail D, drill n°5 holes Ø 11.48÷11.61 in the previously countermarked positions and install n°5 inserts P/N NAS1836C3-13M by means of adhesive EA934NA (C057) on the right pilot door panel.
- 3.20 In accordance with CSRP DM CSRP-A-51-42-00-00A-720A-D and with reference to Figure 6 View J and Figure 3 Detail D, at the indicated positions C-D-E, install n°3 inserts P/N NAS1836C3-10M by means of adhesive EA934NA (C057) on the internal side of the right pilot door.
- 3.21 In accordance with CSRP DM CSRP-A-51-42-00-00A-720A-D and with reference to Figure 6 View J, at the indicated positions A-B, install n°2 inserts P/N NAS1836C08-10M by means of adhesive EA934NA (C057) on the internal side of the right pilot door.
- 3.22 With reference to Figure 6 View J and Figure 7 Section L-L and Section K-K, remove n°4 screws P/N A428A3C05 from the indicated positions.
- 3.23 With reference to Figure 6 View J and Figure 8 View N and Section Q-Q, install the spacer UPR RH P/N 3G3350A04251 by means of adhesive EA9309.3NA (C021) in the indicated position on the right pilot door.

#### <u>NOTE</u>

#### Velcro pile can be trimmed during installation.

3.24 With reference to Figure 6 View J and Figure 8 View N and Section Q-Q, install velcro pile SJ3571 by means of adhesion promoter 86A (C198) as required.

3.25 With reference to Figure 6 View J and Figure 8 View P and Section R-R, install the spacer LWR RH P/N 3G3350A04051 by means of adhesive EA9309.3NA (C021) in the indicated position on the right pilot door.

## <u>NOTE</u>

#### Velcro pile can be trimmed during installation.

- 3.26 With reference to Figure 6 View J and Figure 8 View P and Section R-R, install velcro pile SJ3571 by means of adhesion promoter 86A (C198) as required.
- 4. With reference to Figures 9 thru 11, perform the HEELS high visibility doors variant P/N 3G3306P06612 as described in the following procedure:
  - 4.1 With reference to Figure 10, install HEELS lights on the left pilot door as described in the following procedure:
    - 4.1.1 Install rail P/N A522A02A by means of n°2 screws P/N NAS1802-08-4 and n°2 washers P/N NAS11149DN816J.
    - 4.1.2 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300TB157 in an area adjacent to previously installed rail.
    - 4.1.3 In accordance with applicable steps of AMP DM 39-C-33-52-04-00B-921A-K and DM 39-C-33-52-05-00B-921A-K, install battery pack assy P/N 3G3350A01832 and power supply assy P/N 3G3350A01732 by means of bracket P/N 3G5310A09751, n°3 washers P/N NAS1149D0316J and n°3 screws P/N NAS1802-3-4.
    - 4.1.4 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300G5 and decal P/N ED300BT5 respectively in an area adjacent to previously installed power supply assy and battery pack assy.
    - 4.1.5 At locations n°1-2, install n°2 supports P/N AW001CL009-CM by means of adhesive EA9309.3NA (C021) on the bracket P/N 3G5310A09751.
    - 4.1.6 At location n°3, install standoff P/N A388A3E14C75 by means of adhesive EA9309.3NA (C021) and clamp P/N AW001CB03H by means of screw P/N NAS1190E3P6AK and washer P/N NAS1149D0332J.
    - 4.1.7 Install junction P/N A596A04.
    - 4.1.8 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300TB1017 in an area adjacent to previously installed junction.
    - 4.1.9 Install terminal board P/N A593A-A05 and identification label P/N A524A1A-A on the rail previously installed.



- 4.1.10 Lay down the HEEL lights C/A P/N 3G9A01A52901 (A1A529).
- 4.1.11 With reference to Figure 10 (View A), install the cable assy A1A529 by means of adhesive tape (C260).
- 4.1.12 In accordance with applicable steps of AMP DM 39-C-33-52-01-00B-921A-K, install the following HEELS lights by means of adhesive EA934NA (C057) on the HEELS support assy LHS P/N 3G3350A01632:
  - Light assy P/N 3G3350A00132;
  - Light assy P/N 3G3350A00232;
  - Light assy P/N 3G3350A00332;
  - Light assy P/N 3G3350A00432;
  - Light assy P/N 3G3350A00532.

If necessary, it is allowed to trim the support assy P/N 3G3350A01632 to prevent interference between the support assy and the window seal.

#### <u>NOTE</u>

If necessary, it is allowed to locally rework liners to perform required water sensors test holes.

- 4.1.13 AMP In accordance with applicable steps of DM 39-C-33-52-01-00B-921A-K and with reference to Figures 1, 3 and 4, install HEELS support assy LHS P/N 3G3350A01632 on the left pilot door by means of n°6 screws P/N A428A3C07, spacer P/N NAS43HT3-6, stud P/N MS27980-18N and washer P/N NAS1149D0316J.
- 4.1.14 In accordance with applicable steps of AMP DM 39-C-33-52-01-00B-921A-K and with reference to Figure 1 and Figure 7, install protection LHS P/N 3G5310A09452 on the left pilot door by means of n°4 screws P/N A428A3C10, n°2 spacers P/N NAS43HT3-19, n°2 spacers P/N NAS43HT3-21.
- 4.1.15 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install the following decals in an area adjacent to previously installed HEELS lights:
  - Decal ED300DS61;
  - Decal ED300DS62;
  - Decal ED300DS63;



- Decal ED300DS64;
- Decal ED300DS65.
- 4.1.16 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300S115 in an area adjacent to water sensor S115.
- 4.1.17 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300S303 in an area adjacent to water sensor S303.
- 4.1.18 With reference to Figure 10 and Figure 17 wiring diagram, perform the electrical connections of C/A A1A529 between water sensors S115 and S303, splices SPG5-1 and SPG5-2.

If necessary, it is allowed to trim the cover LH to prevent interference between the battery pack and power supply assemblies.

- 4.2 In accordance with applicable steps of AMP DM 39-B-52-11-01-01A-92AA-B and with reference to Figure 1, re-install the cover LH P/N 3G5211A05952 by means of relative hardware previously removed (Ref. step 3.3).
- 4.3 With reference to Figure 11, install HEELS lights on the right pilot door as described in the following procedure:
  - 4.3.1 Install rail P/N A522A02A by means of n°2 screws P/N NAS1802-08-4 and n°2 washers P/N NAS11149DN816J.
  - 4.3.2 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300TB158 in an area adjacent to previously installed rail.
  - 4.3.3 In accordance with applicable steps of AMP DM 39-C-33-52-09-00B-921A-K and DM 39-C-33-52-10-00B-921A-K install battery pack assy P/N 3G3350A01832 and power supply assy P/N 3G3350A01732 by means of bracket P/N 3G5310A09751, n°3 washers P/N NAS1149D0316J and n°3 screws P/N NAS1802-3-4.
  - 4.3.4 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300G6 and decal P/N ED300BT6 respectively in an area adjacent to previously installed power supply assy and battery pack assy.
  - 4.3.5 At locations n°4-5, install n°2 supports P/N AW001CL009-CM by means of adhesive EA9309.3NA (C021) on the bracket P/N 3G5310A09751.

- 4.3.6 At location n°6, install standoff P/N A388A3E14C75 by means of adhesive EA9309.3NA (C021) and clamp P/N AW001CB03H by means of screw P/N NAS1190E3P6AK and washer P/N NAS1149D0332J.
- 4.3.7 Install junction P/N A596A04.
- 4.3.8 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300TB1018 in an area adjacent to previously installed junction.
- 4.3.9 Install terminal board P/N A593A-A05 and identification label P/N A524A1A-A on the rail previously installed.
- 4.3.10 Lay down the HEEL lights C/A P/N 3G9A01B48901 (A1B489).
- 4.3.11 With reference to Figure 11 (View B), install the cable assy A1B489 by means of adhesive tape (C260).
- 4.3.12 In accordance with applicable steps of AMP DM 39-C-33-52-06-00B-921A-K, install the following HEELS lights by means of adhesive EA934NA (C057) on the HEELS support assy RHS P/N 3G3350A01932:
  - Light assy P/N 3G3350A00132;
  - Light assy P/N 3G3350A00232;
  - Light assy P/N 3G3350A00332;
  - Light assy P/N 3G3350A00432;
  - Light assy P/N 3G3350A00532.

If necessary, it is allowed to trim the support assy P/N 3G3350A01932 to prevent interference between the support assy and the window seal.

#### **NOTE**

If necessary, it is allowed to locally rework liners to perform required water sensors test holes.

4.3.13 In accordance with applicable of AMP steps DM 39-C-33-52-06-00B-921A-K and with reference to Figures 1, 3 and 4, install HEELS support assy RHS P/N 3G3350A01932 on the right pilot door by means of n°6 screws P/N A428A3C07, spacer P/N NAS43HT3-6. stud P/N MS27980-18N and washer P/N NAS1149D0316J.

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- 4.3.14 In accordance with applicable steps of AMP DM 39-C-33-52-06-00B-921A-K and with reference to Figure 1 and Figure 7, install protection RHS P/N 3G5310A09552 on the right pilot door by means of n°4 screws P/N A428A3C10, n°2 spacers P/N NAS43HT3-19, n°2 spacers P/N NAS43HT3-21.
- 4.3.15 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install the following decals in an area adjacent to previously installed HEELS lights:
  - Decal ED300DS81;
  - Decal ED300DS82;
  - Decal ED300DS83;
  - Decal ED300DS84;
  - Decal ED300DS85.
- 4.3.16 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300S119 in an area adjacent to water sensor S119.
- 4.3.17 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300S304 in an area adjacent to water sensor S304.
- 4.3.18 With reference to Figure 11 and Figure 18 wiring diagram, perform the electrical connections of C/A A1B489 between water sensors S119 and S304, splices SPG6-1 and SPG6-2.

If necessary, it is allowed to trim the cover RH to prevent interference between the battery pack and power supply assemblies.

- 4.4 In accordance with applicable steps of AMP DM 39-B-52-11-02-01A-92AA-B and with reference to Figure 1, re-install the cover RH P/N 3G5211A06052 by means of relative hardware previously removed (Ref. step 3.16).
- 5. With reference to Figures 12 thru 14, perform the HEELS installation P/N 4G3350A00112 as described in the following procedure:
  - 5.1 With reference to Figure 13, install HEELS lights on the pass door liner assy LH P/N 3G2580A53334 as described in the following procedure:
    - 5.1.1 Install rail P/N A522A02A by means of n°2 screws P/N MS35206-225.
    - 5.1.2 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300TB265 in an area adjacent to previously installed rail.

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- 5.1.3 In accordance with applicable AMP steps of DM 39-C-33-52-16-00A-921A-K and DM 39-C-33-52-17-00A-921A-K, install battery pack assy P/N 3G3350A01811, power supply assy P/N 3G3350A01711, clamp P/N AW001CB04H and clamp P/N AW001CB05H by means of bracket P/N 3G5310A09751, n°3 washers P/N NAS1149D0316K and n°3 screws P/N MS35207-259.
- 5.1.4 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300G3 and decal P/N ED300BT3 respectively in an area adjacent to previously installed power supply assy and battery pack assy.
- 5.1.5 Fix junction P/N A596A04 by means of clamp P/N AW001CB05H.
- 5.1.6 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300TB2049 in an area adjacent to previously installed junction.
- 5.1.7 Lay down the HEEL lights C/A P/N 3G9B01A30001 (B1A300).
- 5.1.8 With reference to Figure 13 (View looking passenger door LH side from external side), install the cable assy B1A300 on the liner by means of adhesive tape (C260).
- 5.1.9 In accordance with with applicable steps of AMP DM 39-C-33-52-15-00A-921A-K, install the following HEELS lights by means of adhesive EA934NA (C057):
  - n°3 Light assemblies P/N 3G3350A00911;
  - Light assy P/N 3G3350A01011;
  - Light assy P/N 3G3350A01111;
  - Light assy P/N 3G3350A01211;
  - Light assy P/N 3G3350A01311;
  - Light assy P/N 3G3350A01411;
  - Light assy P/N 3G3350A01511;
  - Light assy P/N 3G3350A01611.
- 5.1.10 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install the following decals in an area adjacent to previously installed HEELS lights:
  - Decal ED300DS71;
  - Decal ED300DS72;
  - Decal ED300DS73;
  - Decal ED300DS74;
  - Decal ED300DS75;



- Decal ED300DS76;
- Decal ED300DS77;
- Decal ED300DS78;
- Decal ED300DS79;
- Decal ED300DS80.
- 5.1.11 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300S111 in an area adjacent to water sensor S111.
- 5.1.12 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300S112 in an area adjacent to water sensor S112.
- 5.1.13 With reference to Figure 13 and Figure 15 wiring diagram, perform the electrical connections of C/A B1A300 between water sensors S111 and S112, splices SPG3-1 and SPG3-2.
- 5.2 With reference to Figure 14, install HEELS lights on the pass door liner assy RH P/N 3G2580A53434 as described in the following procedure:
  - 5.2.1 Install rail P/N A522A02A by means of n°2 screws P/N MS35206-225.
  - 5.2.2 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300TB264 in an area adjacent to previously installed rail.
  - 5.2.3 In accordance with applicable steps of AMP DM 39-C-33-52-19-00A-921A-K and DM 39-C-33-52-20-00A-921A-K, install battery pack assy P/N 3G3350A01811, power supply assy P/N 3G3350A01711. clamp P/N AW001CB04H and clamp P/N AW001CB06H by means of bracket P/N 3G5310A09751, n°3 washers P/N NAS1149D0316K and n°3 screws P/N MS35207-259.
  - 5.2.4 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300G4 and decal P/N ED300BT4 respectively in an area adjacent to previously installed power supply assy and battery pack assy.
  - 5.2.5 Fix junction P/N A596A04 by means of clamp P/N AW001CB06H.
  - 5.2.6 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300TB2048 in an area adjacent to previously installed junction.
  - 5.2.7 Lay down the HEEL lights C/A P/N 3G9B01B30001 (B1B300).
  - 5.2.8 With reference to Figure 14 (View looking passenger door RH side from external side), install the cable assy B1B300 on the liner by means of adhesive tape (C260).
  - 5.2.9 In accordance with with applicable steps of AMP DM 39-C-33-52-18-00A-921A-K, install the following HEELS lights by means of adhesive EA934NA (C057):



- n°2 Light assemblies P/N 3G3350A00911;
- Light assy P/N 3G3350A01011;
- Light assy P/N 3G3350A01111;
- Light assy P/N 3G3350A01211;
- Light assy P/N 3G3350A01311;
- Light assy P/N 3G3350A01411;
- n°2 Light assemblies P/N 3G3350A01511;
- Light assy P/N 3G3350A01611.
- 5.2.10 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install the following decals in an area adjacent to previously installed HEELS lights:
  - Decal ED300DS91;
  - Decal ED300DS92;
  - Decal ED300DS93;
  - Decal ED300DS94;
  - Decal ED300DS95;
  - Decal ED300DS96;
  - Decal ED300DS97;
  - Decal ED300DS98;
  - Decal ED300DS99;
  - Decal ED300DS100.
- 5.2.11 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300S117 in an area adjacent to water sensor S117.
- 5.2.12 In accordance with AMP DM 39-A-11-00-01-00A-720A-A, install decal P/N ED300S118 in an area adjacent to water sensor S118.
- 5.2.13 With reference to Figure 14 and Figure 16 wiring diagram, perform the electrical connections of C/A B1B300 between water sensors S117 and S118, splices SPG4-1 and SPG4-2.
- 6. Perform a pin-to-pin continuity check of all the electrical connection made.

If necessary, it is allowed to locally rework liners to perform required water sensors test holes and avoid interference.

7. In accordance with AMP DM 39-A-06-41-00-00A-010A-A, re-install all external panels, internal panels and internal liners previously removed.



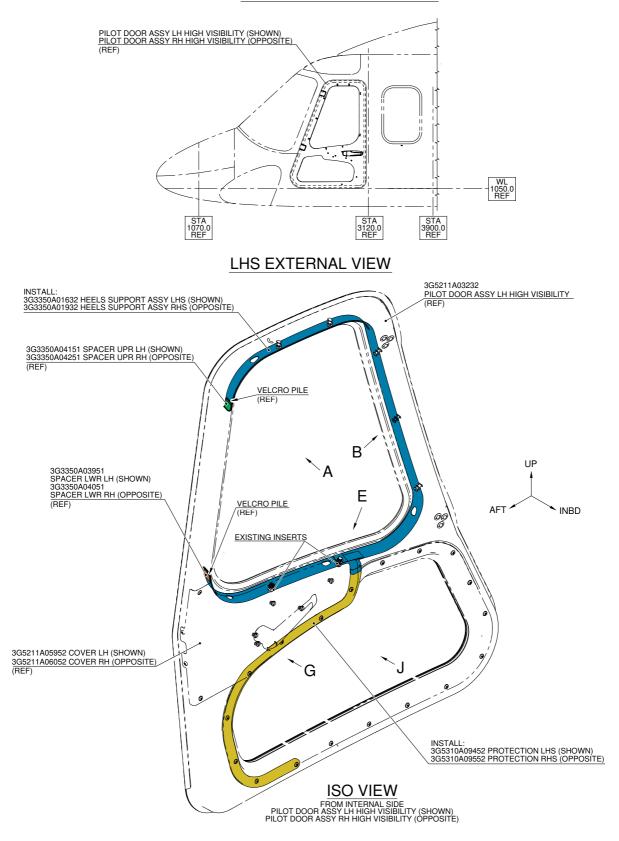
- 8. In accordance with AMP DM 39-A-52-11-01-00A-720A-A, re-install the left cockpit door on the helicopter.
- 9. In accordance with AMP DM 39-A-52-11-02-00A-720A-A, re-install the right cockpit door on the helicopter.
- 10. In accordance with AMP DM 39-C-33-52-00-00A-340A-K, perform the function test of the emergency exit lighting system.
- 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. 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".

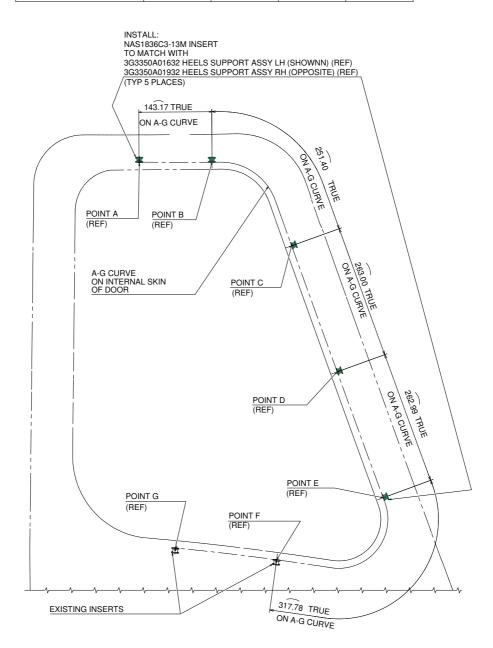


#### 3G5310A09212 HEELS HIGH VISIBILITY STRUCTURAL PROVISION





POINT (ON INTERNAL	COORDINATES (REF)				
SKIN OF DOOR)	Х	Y/LHS	Y/RHS	Z	
A	2887.00	-998.14	998.14	2301.73	
В	2745.00	-979.25	979.25	2300.66	
С	2587.81	-987.94	987.94	2137.95	
D	2495.61	-1021.11	1021.11	1893.91	
E	2403.36	-1044.66	1044.66	1648.77	
F(REF)	2609.78	-1085.69	1085.69	1529.41	
G(REF)	2807.80	-1100.53	1100.53	1552.69	

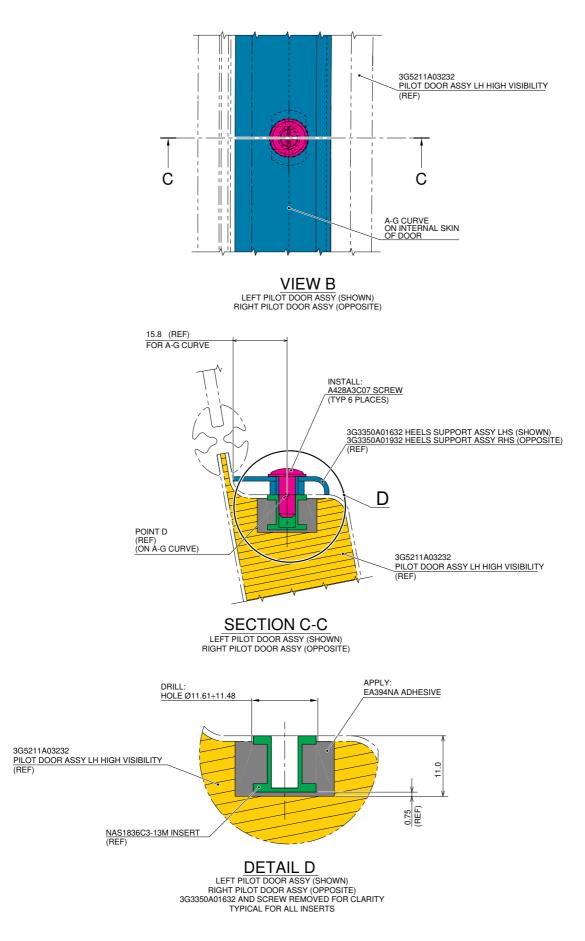


LEFT PILOT DOOR ASSY (SHOWN) RIGHT PILOT DOOR ASSY (OPPOSITE) HEELS SUPPORT ASSY AND SCREWS REMOVED FOR CLARITY

#### Figure 2

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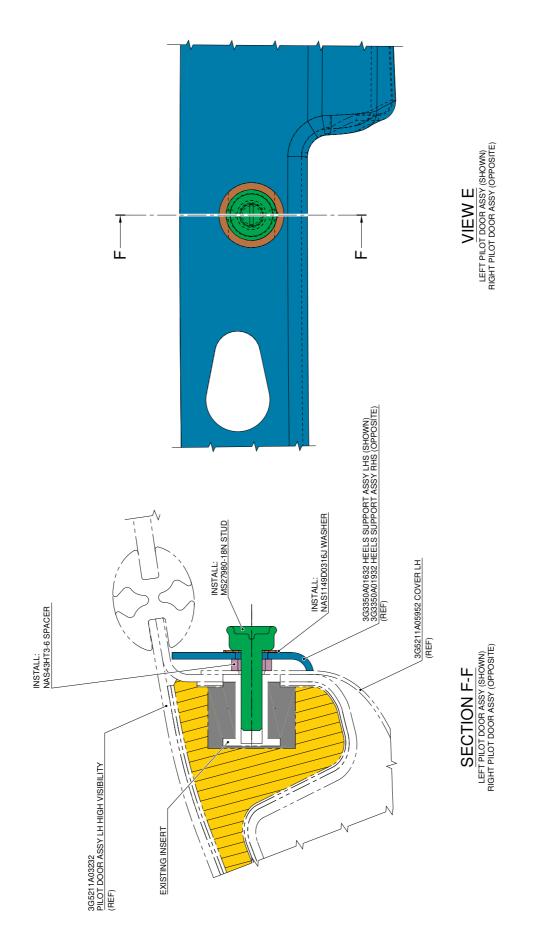


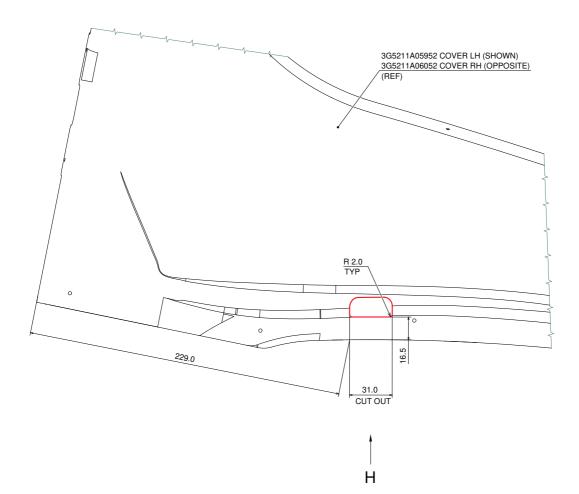
Figure 4

S.B. N°139-681 DATE: March 18, 2022 REVISION: A - November 28, 2022

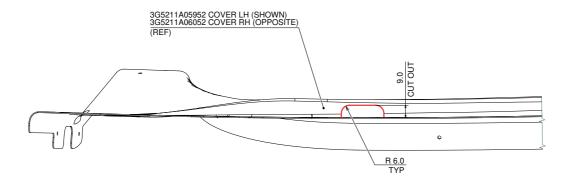
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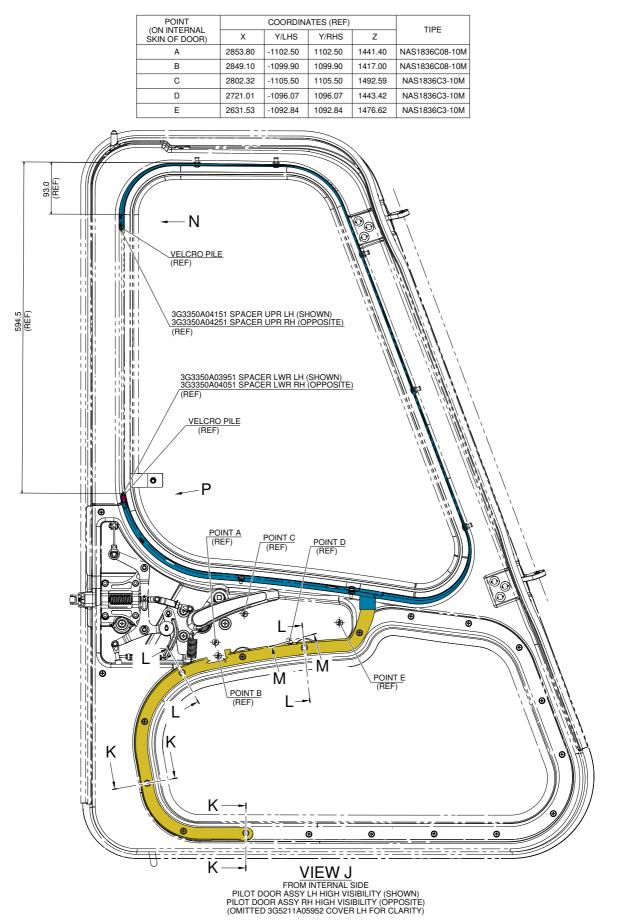




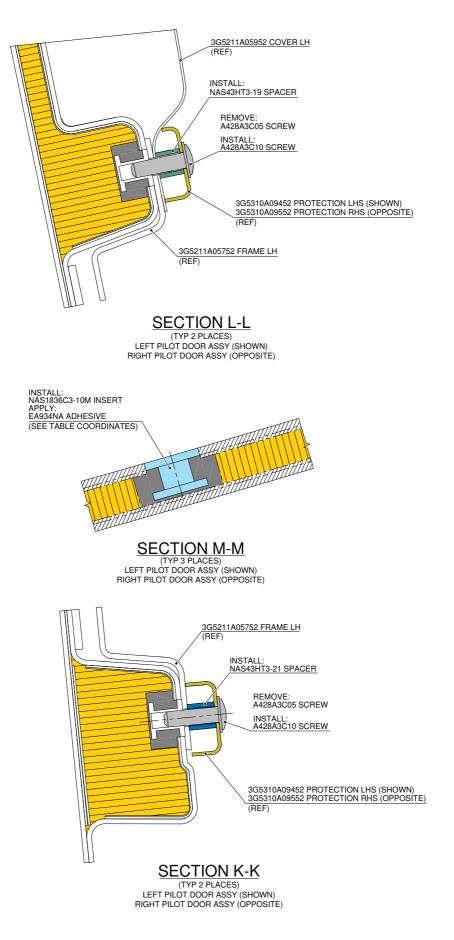




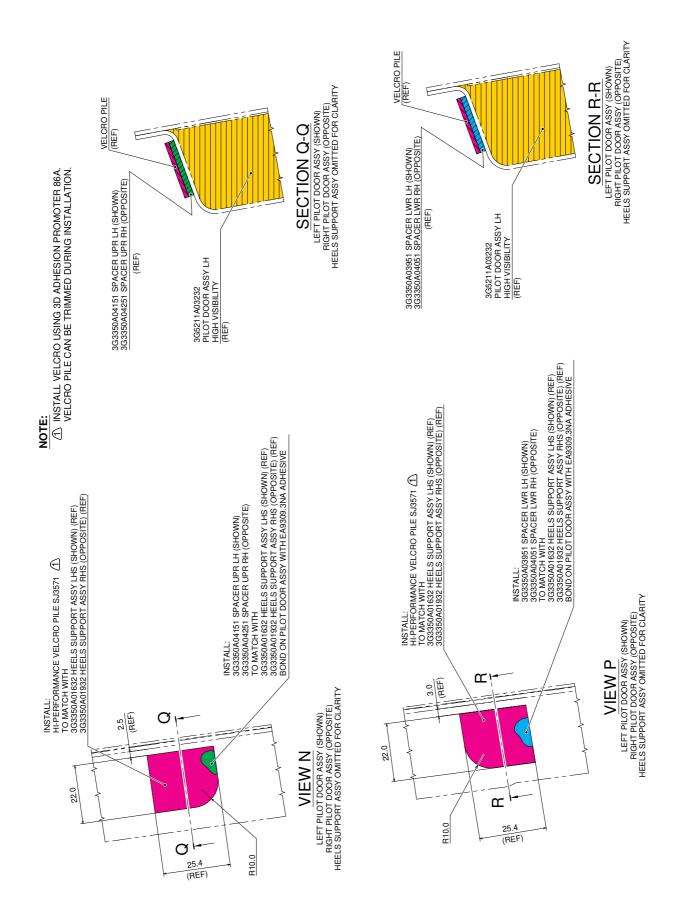


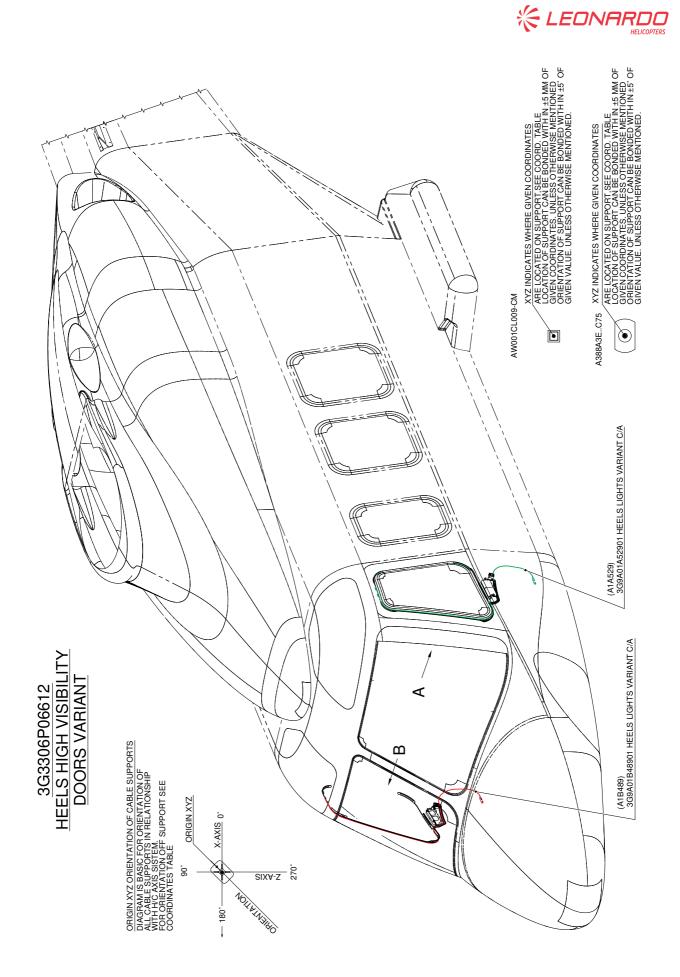




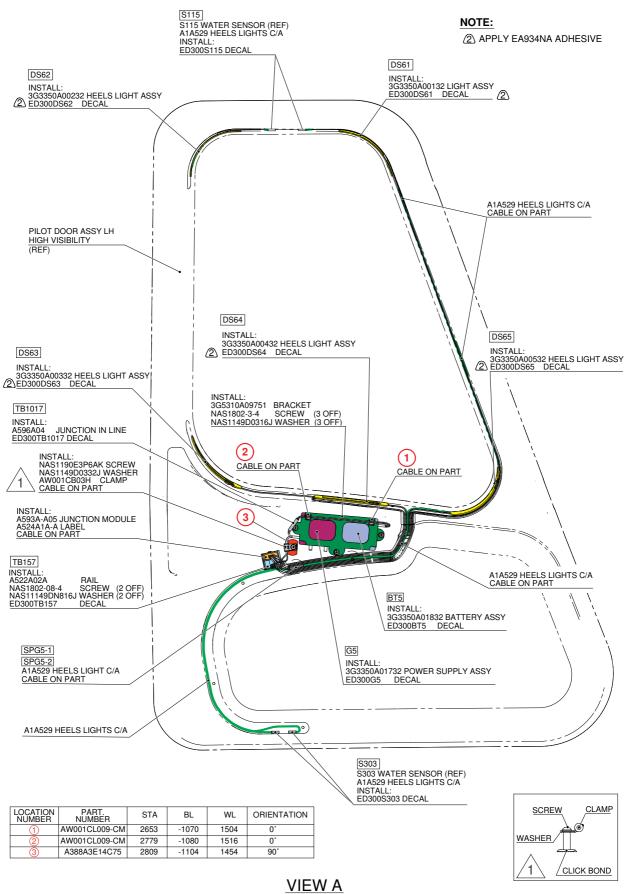






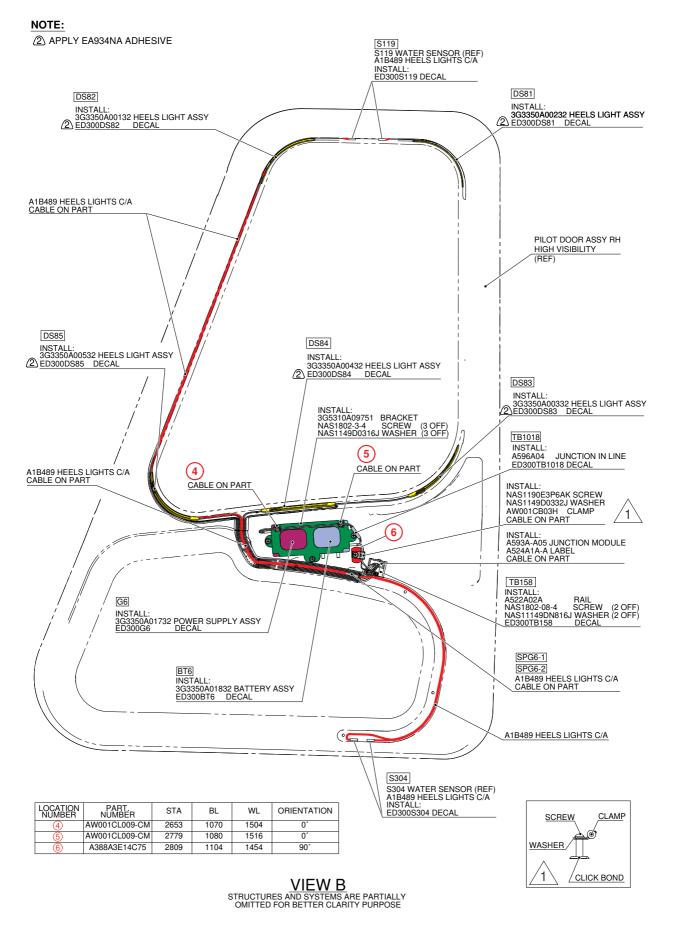




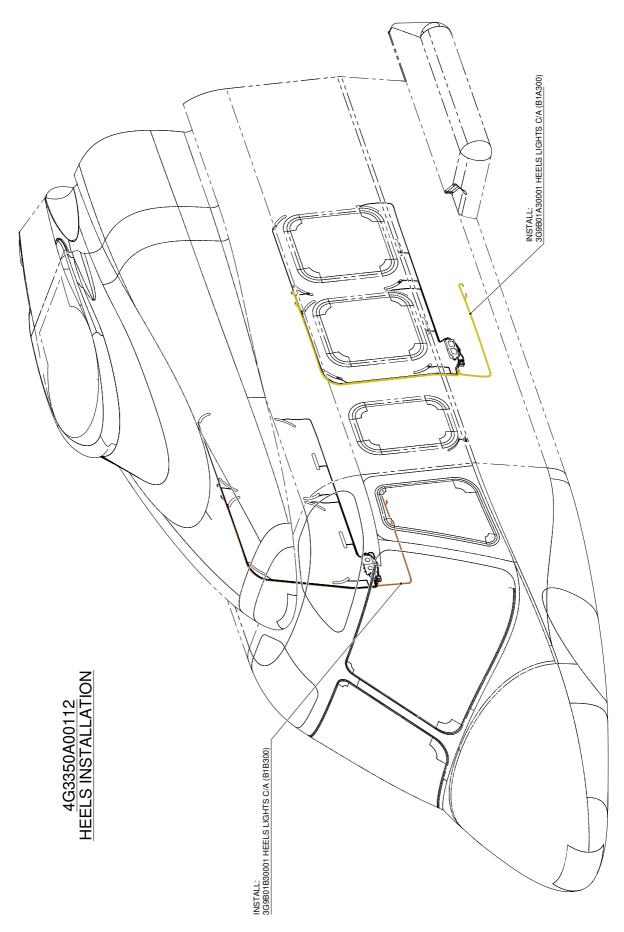


STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

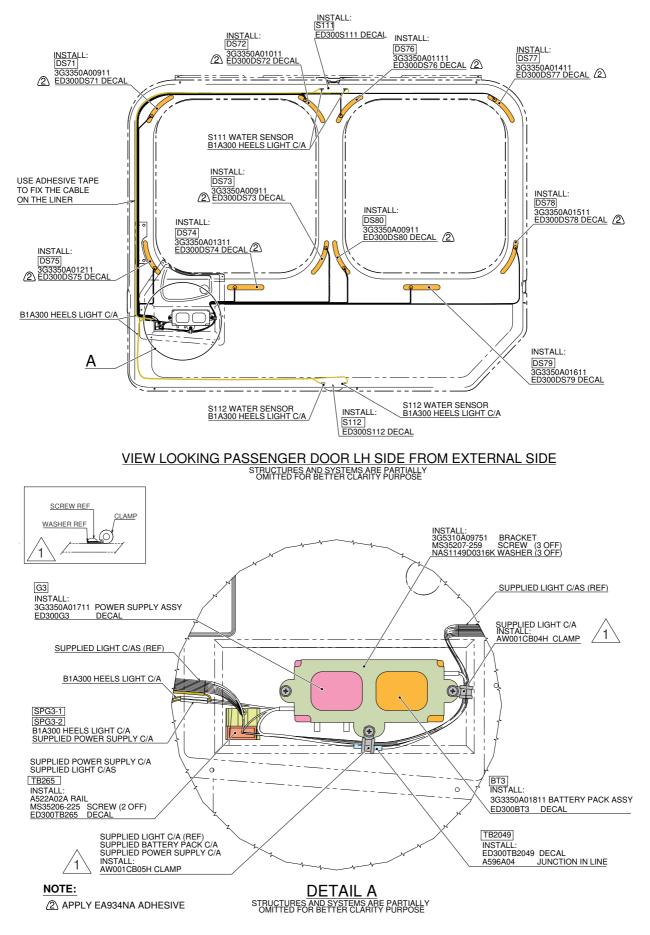




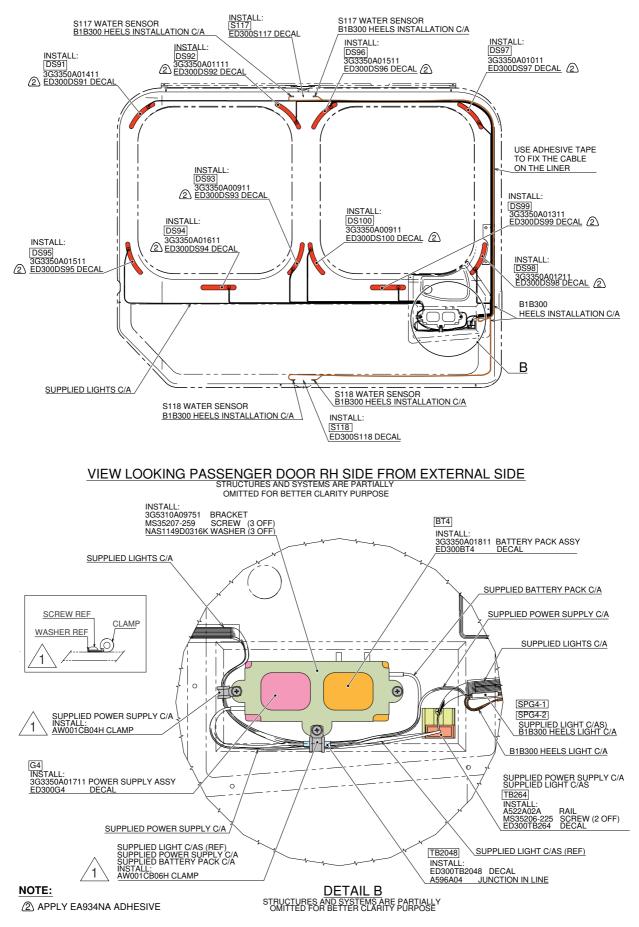


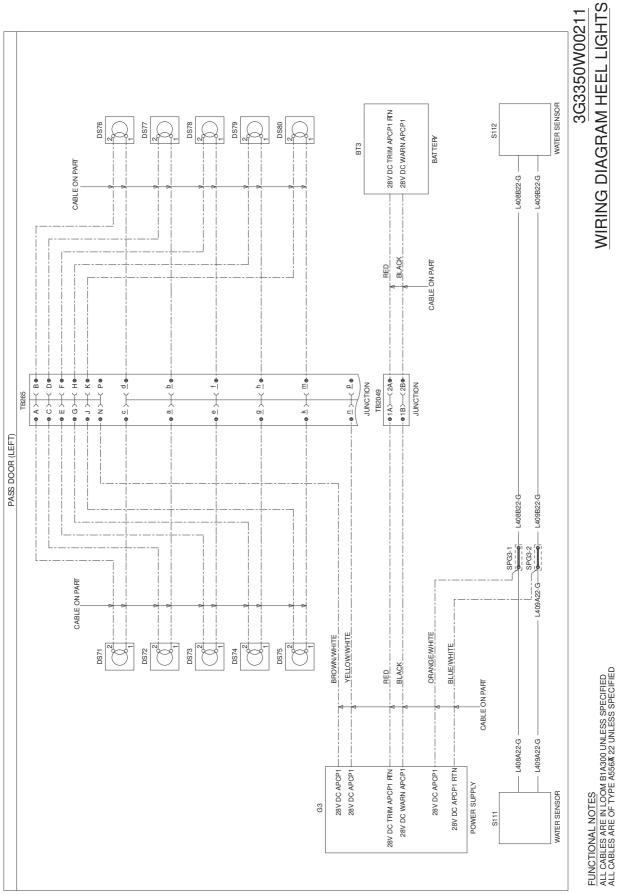


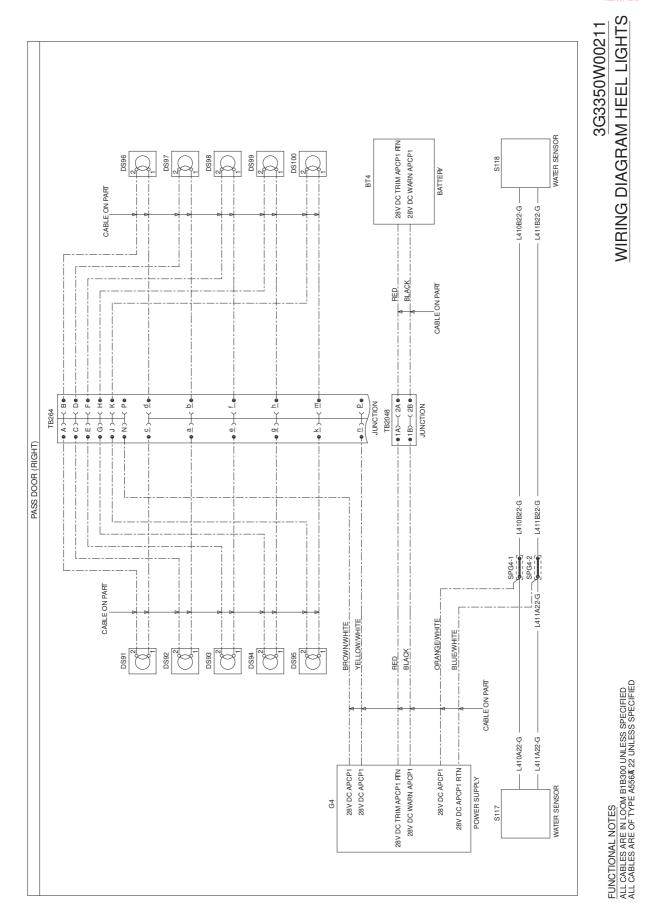






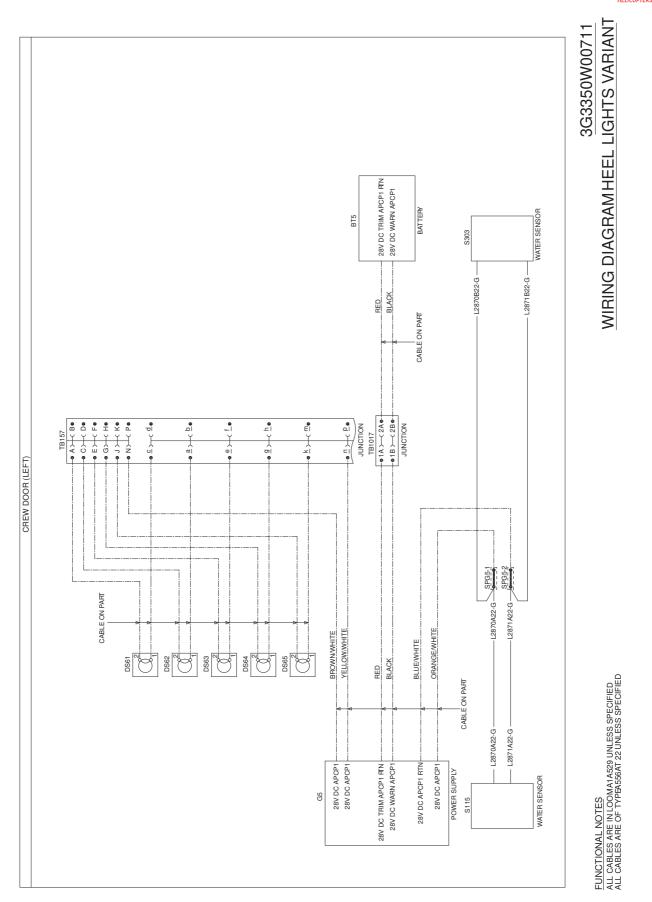


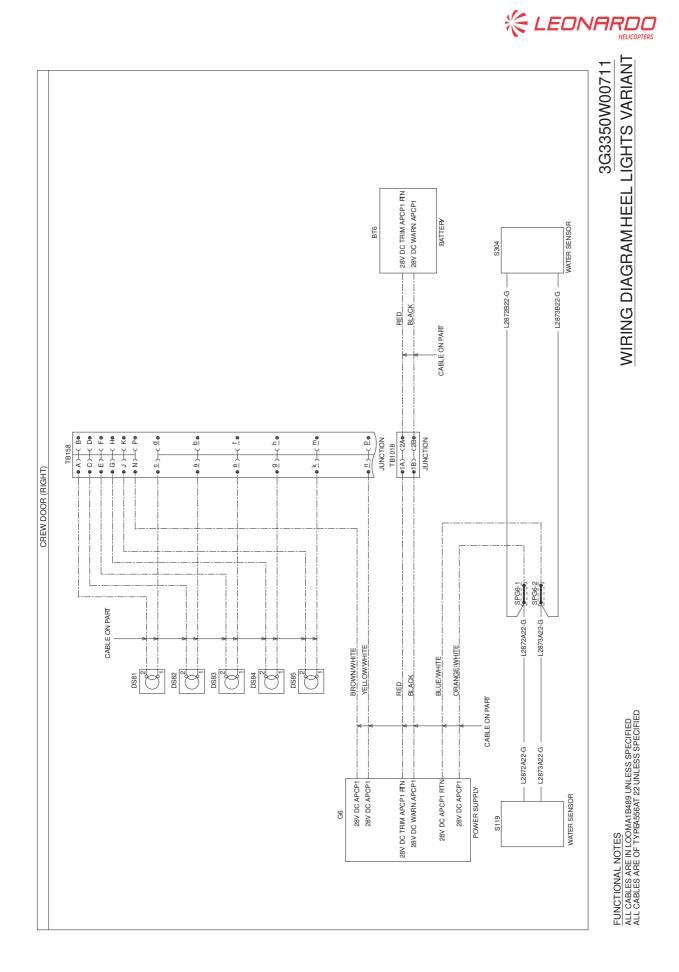




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Please send to the following address: LEONARDO S.p.A. CUSTOMER SUPPORT & SERVICES - ITALY		SERVICE BULLETIN COMPLIANCE FORM			Date:	
		Number:				
PRODUCT SUPPORT ENGINEERING & LICENSES DEPT. Via Giovanni Agusta, 520 21017 Cascina Costa di Samarate (VA) - ITALY Tel.: +39 0331 225036 Fax: +39 0331 225988						
		Revision:				
Customer Name and Address:				Telephone:		
		Fax:				
			B.T. Compliance Date:			
Helicopter Model S/N		Total Number		umber	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.