
SERVICE BULLETIN

N° **139-589**

OPTIONAL

DATE: September 30, 2024

REV. : /

TITLE

ATA 28 – COMPLETION OF AUXILIARY TRANSVERSAL FUEL TANK

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 helicopters S/N 31817 and S/N 31832.

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 to complete the installation of the kit auxiliary fuel tank P/N 3G2800F00111.

LH issued this SB for the following reason:

Helicopter Reliability/Maintainability	
Product Improvement	
Obsolescence	
Customization	✓
Product/Capability Enhancement	

E. DESCRIPTION

The Transversal Auxiliary Fuel Tank is a single additional fuel tank installed in the bay between the right and left standard fuel tank, behind the cabin and isolated by bulkheads from the cabin and baggage compartments.

Leonardo Helicopter Division has developed this Service Bulletin to install the transversal fuel tank P/N 3G2810V00931 and to perform some panel assy reworks in order to install a new vent line system and connect the new auxiliary tank with the main one. An electrical connection is also performed to provide Fuel Gauging Control Unit information.

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 eighty (80) MMH are deemed necessary.

MMH are based on hands-on time and can change with personnel and facilities available. MMH are not comprehensive of the overall hours necessary to get access to work areas and to remove all the equipment that interferes with the application of the prescribed instructions.

H. WEIGHT AND BALANCE

WEIGHT (Kg)	ARM (mm)	MOMENT (Kgmm)
		0.13
LONGITUDINAL BALANCE	6242	811.5
LATERAL BALANCE	581	75.5

I. REFERENCES

I.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 on ground for a safe maintenance	-
DM02 39-A-06-41-00-00A-010A-A	Access doors and panels - General data.	-
DM03 39-A-20-10-09-00A-920A-A	Bonded studs - Replacement	-
DM04 39-A-20-30-00-00A-010A-A	Standard practices - Fuel system - General data	-
DM05 39-A-20-20-00-00A-711A-A	Hose and tube fittings - Tighten procedure	-
DM06 39-A-11-22-00-00A-010A-A	Exterior markings - General data	-

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM07 39-A-28-14-02-00A-720A-K	Top access panel - Install procedure	-
DM08 39-A-28-11-00-00A-364A-A	Fuel tank installation - Leak check	-
DM09 39-A-20-00-00-00A-711A-A	Threaded fasteners - Tighten procedure	-
DM10 39-A-12-12-01-00A-221A-A	Number 1 fuel tank - Defuel and drain fuel	-
DM11 39-A-12-12-02-00A-221A-A	Number 2 fuel tank - Defuel and drain fuel	-
DM12 39-A-12-11-01-00A-211A-A	Fuel tanks - Refuel	-

I.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
LH	Left Hand
LHD	Leonardo Spa Helicopters
MMH	Maintenance-Man-Hours
RH	Right Hand

I.3 ANNEX

N.A.

J. PUBLICATIONS AFFECTED

AW139 Aircraft Maintenance Publication (AMP)

K. SOFTWARE ACCOMPLISHMENT SUMMARY

N.A.

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

A.1 PARTS

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	3G2800F00111		KIT AUXILIARY FUEL TANK	REF	.		-
2	3G2506P00412		PANEL ASSY CEILING CLOSURE RETRO MOD.	REF	..		-
3	3G2506P00451		Panel assy ceiling closure rework	REF	...	(1)	-
4	999-5001-10-139		Plug	1	...		139-589L1
5	3G2810L03251		Rubber cover	1	..		139-589L1
6	3G2810V00931		Auxiliary tank	1	..		139-589L1
7	3G2870A02251		Sealing gasket	2	..		139-589L1
8	3G2870A02351		Protection plate	4	..		139-589L1
9	3G2870A02533		Pipe assy	1	..		139-589L1
10	3G2870A02951		Shim	1	..		139-589L1
11	3G2870A02751		Doubler	1	..		139-589L1
12	412-061-614-103		Doubler	1	..		139-589L1
13	3G5338P00211		RIGHT UPPER PANEL RETRO MODIFICATION	REF	..		-
14	3G5338P00331		Right upper panel reworked	REF	...	(2)	-
15	NAS1836-08-07		Insert	5		139-589L1
16	3G5338A22051		Right lower long plate	1	...		139-589L1
17	3G5338A22152		Cover	1	...		139-589L1
18	MS27039-0804		Screw	4	...		139-589L1
19	MS27039-0805		Screw	1	...		139-589L1
20	412-061-612-101		Cap fume boot	2	..		139-589L1
21	503588		Accessor door	1	..		139-589L1
22	507664		Passwall seal	1	..		139-589L1
23	507673		Velcro strip	20	..		139-589L1
24	508083		Flexible hose	1	..		139-589L1
25	508565-1		Bonding spacer assy	2	..		139-589L1
26	999-0065-11-47	AW008TY-11-47	Washer	10	..		139-589L1
27	A366A3E28C		Stud	1	..		139-589L1
28	A366A3E28C75		Stud	1	..		139-589L1
29	A388A3E24C75		Stud	1	..		139-589L1
30	A601A313	A601A3B13	Bonding and earthing cable assy	1	..		139-589L1
31	A601A316	A601A3B16	Bonding and earthing cable assy	1	..		139-589L1
32	AN3-3A		Bolt	1	..		139-589L1
33	AN735D12		Clamp	2	..		139-589L1
34	AN735D18		Clamp	1	..		139-589L1
35	AN815-12D	AS5174D1212	Nipple	1	..		139-589L1
36	AW001CK05HS		Strap	1	..		139-589L1
37	AW001CL001-N6		Support	1	..		139-589L1
38	AW001DSD020EQ		Stencil	1	..		139-589L1
39	AW001DST050EQ		Stencil	1	..		139-589L1
40	AW001DSW010EQ		Stencil	1	..		139-589L1
41	MS21042L3		Nut	6	..		139-589L1
42	MS21919WDG12	AS21919WDG12	Clamp	3	..		139-589L1
43	MS24693S56	MS24693-S56	Screw	4	..		139-589L1
44	MS27039-0805		Screw	5	..		139-589L1

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
45	MS27039-1-06		Screw	5	..		139-589L1
46	MS27039-1-07		Screw	3	..		139-589L1
47	MS29513-273		O-ring	1	..		139-589L1
48	MS35333-40		Washer	16	..		139-589L1
49	MS35489-20X		Grommet	1	..		139-589L1
50	MS35489-8		Grommet	1	..		139-589L1
51	MS51957-41		Screw	8	..		139-589L1
52	MS9592-062		Bracket	1	..		139-589L1
53	NAS1149C0316R		Washer	5	..		139-589L1
54	NAS1149D0316J		Washer	6	..		139-589L1
55	NAS1149D0316K		Washer	24	..		139-589L1
56	NAS1149D0332J		Washer	5	..		139-589L1
57	NAS1149D0432K		Washer	16	..		139-589L1
58	NAS1149DN832K		Washer	8	..		139-589L1
59	NAS1303-1	NAS6603-1	Bolt	24	..		139-589L1
60	NAS1802-3-18		Screw	1	..		139-589L1
61	NAS1924-58	AW001CK02HS	Clamp	2	..		139-589L1
62	NAS43DD3-46N		Spacer	1	..		139-589L1
63	NAS43DD3-65N		Spacer	1	..		139-589L1
64	NAS43DD3-83N		Spacer	1	..		139-589L1
65	NAS6204-10		Bolt	16	..		139-589L1

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

A.2 CONSUMABLES

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

#	Spec./LHD code number	DESCRIPTION	Q.TY	NOTE	PART
66	199-05-002 TY II, CL 3	Adhesive (C193)	AR	(3)	-
67	GSC-21-99604-027	Tape	AR	(3)	-
68	GSC-21-99605-027	Tape	AR	(3)	-
69	MIL-C-5040 TY III	Nylon cord (C118)	AR	(3)	-
70	MIL-S-8802	Sealant proseal 890 C (C066)	AR	(3)	-
71	199-05-002 TY II, CL 2	Adhesive (C397)	AR	(3)	-
72	AWTR033	Glass fiber HexForce 20749 1200 (C931)	AR	(3)	-
73	199-50-002 TY I	Resin	AR	(3)	-
74	199-50-002 TY II	Catalyst	AR	(3)	-
75	199-05-003 TY I, CL 2, SH 2A	Teflon	AR	(3)	-
76	MIL-S-8802 TY II; CL B2	Sealant proseal 890 B2 (C153)	AR	(3)	-

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

A.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
139-589L1	1	-	-
3G2506P00451	1	(1)	-

LOGISTIC P/N	Q.TY (PER HELO)	NOTE	PART
3G5338P00331	1	(2)	-

NOTES

- (1) Item to be obtained from the rework of the panel assy ceiling closure P/N 3G2580A12533.
- (2) Item to be obtained from the rework of the right upper bonded panel assy P/N 3G5338A16031.
- (3) Item to be procured as local supply.

B. SPECIAL TOOLS

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

#	P/N	DESCRIPTION	Q.TY	NOTE	PART
77	Commercial	6 mOhm - 60 Ohm, Low Resistance Ohmmeter Ducter type D201	1	(B1)	-

SPECIAL TOOLS NOTE

- (B1) Item to be procured as local supply.

C. INDUSTRY SUPPORT INFORMATION

N.A.

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 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 DM 39-A-06-41-00-00A-010A-A and with reference to Figure 1, gain access to the area affected by the installation.
 3. In accordance with AMP DM 39-A-12-12-01-00A-221A-A and AMP DM 39-A-12-12-02-00A-221A-A, empty the number 1 and the number 2 fuel tanks from all the fuel. Ventilate the tanks to remove fuel vapours.

CAUTION

The fuel tank surface may be easily damaged. Do not use pointed or sharp edges tools when you touch or move the fuel tank. Do not put the fuel tank on surfaces which have sharp edges.

The fuel tank material is sensitive to light and low temperature conditions:

- Do not let the fuel tank in heavy light (such as sun rays) more than necessary
- Do not touch the fuel tank when the environment temperature is low

Damage to the fuel tank can occur if you do not obey these instructions.

NOTE

Before complying with the following procedure, refer to fuel-system standard practices. Make sure to follow standard practices during this procedure. Refer to AMP DM 39-A-20-30-00-00A-010A-A.

4. With reference to Figures 1 thru 13, complete the installation of the kit auxiliary fuel tank P/N 3G2800F00111 as described in the following procedure:
 - 4.1 With reference to Figure 2, perform the rework of the panel assy ceiling closure retro mod. P/N 3G2506P00412 as follows:
 - 4.1.1 With reference to Figure 2 View A, remove the panel assy ceiling closure P/N 3G2580A12533 from the helicopter and retain existing hardware for later reuse.
 - 4.1.2 With reference to Figure 2 Detail D, Section E-E and Section F-F, countermark and drill the hole Ø25.40 thru the panel assy ceiling closure P/N 3G2580A12533.
 - 4.1.3 With reference to Figure 2 Section E-E, install the plug P/N 999-5001-10-139 on the panel assy ceiling closure rework P/N 3G2506P00451.
 - 4.2 With reference to Figure 1, remove and retain the rear closure panel assy P/N 3G2580A13831, existing angle assemblies and existing hardware.
 - 4.3 With reference to Figure 1, remove and retain the upper panel assy P/N 3G5338A02532 and existing fixing hardware.
 - 4.4 With reference to Figure 8 Section K-K, remove existing holes closure plates on the right panel P/N 3P5338A01831 and on the left panel P/N 3P5338A01731.

NOTE

In case of interference with the related angle, the reworking (trimming) of plates P/N 3G2870A02351 is allowed.

- 4.5 With reference to Figure 8 section K-K, bond n°2 protection plates P/N 3G2870A02351 on right panel P/N 3P5338A01831 by means of the proseal

890C.

- 4.6 With reference to Figure 8 section K-K and Figure 9 Section M-M install n°2 protection plates P/N 3G2870A02351 by means of n°4 screws P/N MS51957-41 and n°4 washers P/N NAS1149DN832K on the right panel P/N 3P5338A01831.
- 4.7 Repeat steps 4.5 thru 4.6 to install n°2 protection plates P/N 3G2870A02351 on the left panel P/N 3P5338A01731.
- 4.8 With reference to Figures 3 and 4, perform the rework of the right upper panel retro modification P/N 3G5338P00211 as described in the following procedure:
 - 4.8.1 With reference to Figure 3 Detail G and Section H-H, remove and discard the lower long plate P/N 3G5338A16451 from the gasket P/N 3G5338A14551 and retain existing hardware for later reuse.
 - 4.8.2 With reference to Figure 3 Detail G and Section H-H, remove and retain the upper long plate P/N 3G5338A14451, the gasket P/N 3G5338A14551 and existing hardware from the right upper bonded panel assy P/N 3G5338A16031.
 - 4.8.3 With reference to Figures 5 and 6, rework the right upper panel as described in the following procedure:
 - 4.8.3.1 With reference to Figure 5 Detail Q, remove the right upper bonded panel assy P/N 3G5338A16031 and retain existing hardware for later reuse.
 - 4.8.3.2 With reference to Figure 5 Detail Q and Section S-S, countermark and drill n°5 insert holes $\varnothing 11.48 \div 11.61$ thru the right upper bonded panel assy P/N 3G5338A16031.
 - 4.8.3.3 With reference to Figure 5 Detail Q and Section S-S, install n°5 inserts P/N NAS1836-08-07 by means of the adhesive 199-05-002 Ty II Cl 2.
 - 4.8.3.4 With reference to Figure 5 Detail R1 and Figure 6 Detail R2 and Section T-T, perform the indicated cut-out and remove the material in the area indicated.
 - 4.8.3.5 With reference to Figure 6 Schematic Section T-T, fill all around the cut-out with the adhesive 199-05-002 Ty II Cl 3.
 - 4.8.3.6 With reference to Figure 6 Schematic Section T-T, apply n°2 layers of glass fiber HexForce (C931) by means of the resin 199-50-002 Ty I and the catalyst 199-50-002 Ty II in the previously drilled area.

- 4.8.3.7 With reference to Figure 5 Detail Q and Section S-S, apply the teflon 199-05-003 Ty I Cl 2 Sh 2A around the right upper bonded panel assy P/N 3G5338A16031.
- 4.8.4 With reference to Figure 3 Detail G and Section H-H and Figure 4 Detail L, temporarily locate the right upper panel reworked P/N 3G5338P00331, the right lower long plate P/N 3G5338A22051 and the gasket P/N 3G5338A14551 and countermark the hole on the plate and the gasket.
- 4.8.5 With reference to Figure 3 Detail G, drill the hole $\text{Ø}4.27\div 4.39$ thru the right lower long plate P/N 3G5338A22051 and the gasket P/N 3G5338A14551.
- 4.8.6 With reference to Figure 3 Detail G and View B, temporarily locate the cover P/N 3G5338A22152 on the right lower long plate P/N 3G5338A22051 and the right upper panel reworked P/N 3G5338P00331 and countermark n°5 holes.
- 4.8.7 With reference to Figure 3 Detail G, drill n°5 holes $\text{Ø}4.27\div 4.39$ thru the cover P/N 3G5338A22152.
- 4.8.8 With reference to Figure 3 Detail G and Section H-H and Figure 4 Section M-M, Section N-N and Detail P, install the right upper panel reworked P/N 3G5338P00331, the right lower long plate P/N 3G5338A22051, the gasket P/N 3G5338A14551, the upper long plate P/N 3G5338A14451 by means of existing hardware previously removed.
- NOTE**
- Perform the following Step 4.8.9 only if auxiliary tank P/N 3G2810V00931 is NOT intended to be installed immediately. Otherwise skip to Step 4.9.
- 4.8.9 With reference to Figure 3 Detail G and Section H-H, install the cover P/N 3G5338A22152 on the right upper panel reworked P/N 3G5338P00331 by means of n°4 screws P/N MS27039-0804 , the screw P/N MS27039-0805 and n°5 washers P/N 999-0065-11-47.
- 4.8.10 Remark the right upper panel reworked as P/N 3G5338P00331.
- 4.9 With reference to Figures 7 and 8, install the auxiliary tank P/N 3G2810V00931 as described in the following procedure:

- 4.9.1 With reference to Figure 7 and Figure 8 View Z, apply n°10 velcro strips P/N 507673 on the auxiliary tank P/N 3G2810V00931 and n°10 velcro strips P/N 507673 on the panels in the corresponding positions.
 - 4.9.2 Cover the rivets/nuts heads or any other protrusion by means of the tape GSC-21-99604-027 (width 50) or the tape GSC-21-99605-027 (width 30).
 - 4.9.3 With reference to Figure 12 Section D-D, remove the auxiliary cap P/N 503770-1, the electrical bonding strip P/N 120-055-2-8 and relevant hardware from the right main tank P/N 3G2810V00232.
 - 4.9.4 Repeat step 4.9.3 for the left main tank P/N 3G2810V00132.
 - 4.9.5 With reference to Figure 3, locate the auxiliary tank P/N 3G2810V00931 in its position inside the helicopter.
 - 4.9.6 Attach the auxiliary tank rings to the tie-down rings on the structure with the nylon cord (C118) MIL-C-5040 Ty III.
 - 4.9.7 Push the velcro patches on the auxiliary tank P/N 3G2810V00931 against the applicable velcro patches on the structure. Do this from the inside of the auxiliary tank.
- NOTE**
- Use fluorescent lamp from steps 4.9.8 to 4.9.10.
- NOTE**
- Make sure that that the interconnection ducts of the auxiliary fuel tank are aligned with the related auxiliary ducts.
- 4.9.8 With reference to Figure 12 View N and Section D-D, install the bonding spacer assy P/N 508565-1 on the RH side of the auxiliary tank P/N 3G2810V00931 by means of n°1 existing screw P/N AN525-10-6.
 - 4.9.9 With reference to Figure 12 Section D-D, attach the auxiliary tank P/N 3G2810V00931 to the right main tank P/N 3G2810V00232 by means of n°8 bolts P/N NAS6204-10, n°8 washers P/N NAS1149D0432K and n°8 washers P/N MS35333-40. Tighten the eight bolts to a torque value of 5.65 to 7.91 Nm.
 - 4.9.10 Repeat steps 4.9.8 thru 4.9.9 for the LH side of the auxiliary fuel tank.
 - 4.10 With reference to Figure 7 Kit auxiliary fuel tank, remove and retain for later reuse n°2 washers P/N 3G2810A00551 from the right panel P/N 3P5338A03431.
 - 4.11 Repeat step 4.10 for the left panel P/N 3P5338A03331.
 - 4.12 In accordance with the applicable steps of AMP DM 39-A-28-14-02-00A-720A-K

and with reference to Figure 8 Section L-L, install the accessor door P/N 503588 on the auxiliary tank P/N 3G2810V00931. Use n°4 washers P/N 3G2810A00551 previously removed.

NOTE

If necessary it is allowed to cut the grommet.

- 4.13 With reference to Figure 13 View R, install the grommet P/N MS35489-20X on the right upper panel reworked P/N 3G5338P00331.
- 4.14 With reference to Figure 9 View A, remove the cap tube P/N AN929-12D from the tee-flared fitting P/N AN824-12D.
- 4.15 With reference to Figure 9 View A, remove the rubber cover P/N 3G2810L00351.
- 4.16 With reference to Figure 9 View A, install the rubber cover P/N 3G2810L03251.
- 4.17 In accordance with AMP DM 39-A-20-10-09-00A-920A-A and with reference to Figure 9 View A, install the stud P/N A366A3E28C75 (STA 6362.4), the stud P/N A366A3E28C (STA 6476.0) and the stud P/N A388A3E24C75 (STA 6518.8).
- 4.18 With reference to Figures 9 thru 11, lay down and install the pipe assy P/N 3G2870A02533 as described in the following procedure:

NOTE

Torque gradually the nut until the parts are rigidly closed, then tighten 1/4 turns further.

- 4.18.1 With reference to Figure 9 View A and Figure 10 View T and View U, connect the pipe assy P/N 3G2870A02533 to the tee-flared fitting P/N AN824-12D as shown.
- 4.18.2 With reference to Figure 11 View E, install the clamp P/N AN735D12 on the pipe assy P/N 3G2870A02533.
- 4.18.3 With reference to Figure 11 View E, install the bonding cable P/N A601A313 securing one end to the clamp previously installed by means of the screw P/N MS27039-1-07, n°2 washers P/N NAS1149D0316J and the nut P/N MS21042L3; the other end to the existing bonding cable by means of existing hardware.
- 4.18.4 With reference to Figure 9 View A, install the clamp P/N MS21919WDG12 on the pipe assy P/N 3G2870A02533 by means of the spacer P/N NAS43DD3-65N, the washer P/N NAS1149D0332J and the nut P/N MS21042L3.
- 4.18.5 With reference to Figure 9 View A, install the clamp P/N MS21919WDG12 on the pipe assy P/N 3G2870A02533 by means of the spacer P/N NAS43DD3-83N, the bracket P/N MS9592-062, the

bolt P/N AN3-3A, n°3 washers P/N NAS1149D0332J and n°2 nuts P/N MS21042L3.

- 4.18.6 With reference to Figure 9 View A, install the clamp P/N MS21919WDG12 on the pipe assy P/N 3G2870A02533 by means of the spacer P/N NAS43DD3-46N, the washer P/N NAS1149D0332J and the screw P/N NAS1802-3-18.

NOTE

If the minimum clearance between pipe and panel is not granted, check the fixing point positions and the position of the passage hole of the panel. If necessary enlarge the panel cut-out as required.

- 4.19 After the installation of pipe assy P/N 3G2870A02533, verify that the minimum clearance between the pipe and the right upper panel reworked P/N 3G5338P00331 is 3.
- 4.20 With reference to Figure 11 View V, install the support P/N AW001CL001-N6 (STA 6450.0) on the right upper panel reworked P/N 3G5338P00331.

NOTE

Perform the following Step 4.21 only if cover P/N 3G5338A22152 has been previously installed. Otherwise skip to Step 4.22.

- 4.21 With reference to Figure 12 Detail B, remove the cover P/N 3G5338A22152 and existing hardware from the right upper panel reworked P/N 3G5338P00331.
- 4.22 With reference to Figure 1, install the upper panel assy P/N 3G5338A02532 by means of existing fixing hardware previously removed.

NOTE

During the tightening of the hose ends, be careful to not introduce a twist on the hose.

- 4.23 With reference to Figure 7 View J, install the flexible hose P/N 508083 as described in the following procedure:
- 4.23.1 With reference to Figure 13 Detail B, put in position the doubler P/N 3G2870A02751 and the cap fume boot P/N 412-061-612-101 on the flexible hose P/N 508083.
- 4.23.2 In accordance to AMP DM 39-A-20-20-00-00A-711A-A and with reference to Figure 11 View F, install the nipple P/N AN815-12D on the flexible hose P/N 508083 and connect it to the pipe assy

- P/N 3G2870A02533. Tighten the top end of the flexible hose to the standard torque value.
- 4.23.3 In accordance to AMP DM 39-A-20-00-00-00A-711A-A and with reference to Figure 11 View F, install the bonding cable P/N A601A316 securing one end to the pipe assy P/N 3G2870A02533 by means of the clamp P/N AN735D12, the screw P/N MS27039-1-07, n°2 washers P/N NAS1149D0316J and the nut P/N MS21042L3; the other end to the flexible hose P/N508083 by means of the clamp P/N AN735D18, the screw P/N MS27039-1-07, n°2 washers P/N NAS1149D0316J and the nut P/N MS21042L3. Tighten the two nuts to the standard torque value.
- 4.23.4 In accordance to AMP DM 39-A-20-00-00-00A-711A-A and with reference to Figure 13 Detail B, Section S-S, View R and View P, install the shim P/N 3G2870A02951, the doubler P/N 3G2870A02751 and the cap fume boot P/N 412-061-612-101 by means of n°5 washers P/N 999-0065-11-47 and n°5 screws P/N MS27039-0805 on the right upper panel reworked P/N 3G5338P00331. Tighten the five screws to the standard torque value.
- 4.23.5 With reference to Figure 13 Detail B and View P, install the sealing gasket P/N 3G2870A02251 and apply the proseal 890C around the flexible hose P/N 508083 beside the gasket.
- NOTE**
- [It is possible to use the tie-strap MS3367-2-9 instead of the clamp P/N NAS1924-58 to avoid possible extra tightening of the hose assy.](#)
- 4.23.6 With reference to Figure 13 View P, install the clamp P/N NAS1924-58 on the cap fume boot P/N 412-061-612-101.
- 4.23.7 With reference to Figure 9 Detail C, install the passwall seal P/N 507664 on the upper panel assy P/N 3G5338A02532.
- 4.23.8 With reference to Figure 9 Detail H, put in position the doubler P/N 412-061-614-103 and the cap fume boot P/N 412-061-612-101 on the flexible hose P/N 508083.
- 4.23.9 In accordance to AMP DM 39-A-20-20-00-00A-711A-A and with reference to Figure 9 Detail C, connect the flexible hose P/N 508083 with the auxiliary fuel tank P/N 3G2810V00931. Tighten the bottom end of the flexible hose to the standard torque value.

- 4.23.10 In accordance to AMP DM 39-A-20-00-00-00A-711A-A and with reference to Figure 9 Detail H, install the doubler P/N 412-061-614-103 and the cap fume boot P/N 412-061-612-101 by means of n°5 screws P/N MS27039-1-06 and n°5 washers P/N NAS1149C0316R on the upper panel assy P/N 3G5338A02532. Tighten the five screws to the standard torque value.
- 4.23.11 With reference to Figure 9 Detail H, install the sealing gasket P/N 3G2870A02251 and apply the proseal 890C around the flexible hose P/N 508083 beside the sealing gasket.
- NOTE**
- It is possible to use the tie-strap MS3367-2-9 instead of the clamp P/N NAS1924-58 to avoid the possible extra tightening of the hose assy.
- 4.23.12 With reference to Figure 9 Detail H, install the clamp P/N NAS1924-58 on the cap fume boot P/N 412-061-612-101.
- 4.24 With reference to Figure 1, install the rear closure panel assy P/N 3G2580A13831 by means of existing angle assemblies and hardware.
- 4.25 With reference to Figure 2 Detail D, install the panel assy ceiling closure rework P/N 3G2506P00451 by means of existing hardware previously removed.
- 4.26 With reference to Figure 10 View G, install the grommet P/N MS35489-8 on the panel assy ceiling closure rework P/N 3G2506P00451.
- 4.27 With reference to Figure 9 View A and Detail C and Figure 10 View G, route the auxiliary fuel connector thru the grommet P/N MS35489-8 previously installed and connect the connector A66P1 to the connector A66J1.
- 4.28 With reference to Figure 11 View V, fix the auxiliary fuel connector to the support P/N AW001CL001-N6 previously installed by means of the strap P/N AW001CK05HS.
- 4.29 In accordance with AMP DM 39-A-28-11-00-00A-364A-A, perform the leak check. If the test is successful seal the structural panel of the auxiliary tank with the proseal 890B2.
- 4.30 With reference to Figure 9 Detail H, apply the stencil P/N AW001DSD020EQ and the stencil P/N AW001DSW010EQ on the upper panel assy P/N 3G5338A02532 in an area adjacent to flexible hose P/N 508083.
- 4.31 In accordance to AMP DM 39-A-11-22-00-00A-010A-A and with reference to Figure 1 View C, apply the stencil P/N AW001DST050EQ just above the existing stencil on the RH side of the helicopter.

- 4.32 Perform electrical bonding check of the fuel venting pipes as described in the following procedure:

NOTE

Prior to measurement make sure that the calibration of the milliohm meter is correct and not expired.

Where possible, measurement must be carried out on clean metallic surfaces. If a measurement must be carried out on a finished surface it is permitted to perforate the finish by light contact pressure of the probe ends to ensure good electrical contact and not cause too much damage.

Use duplex probes unless access problems exist and position probes so that "P" (Potential) contacts are within current path (i.e. the innermost position among four probe contacts)

- 4.32.1 Measure electrical bonding on each of the following vent pipes and hose assemblies:

- Pipe assy P/N 3G2870A02533
- Flexible hose P/N 508083.

- 4.32.2 Perform the measurement by placing probe A on pipe or hose assy and probe B on the local structure near the bonding cable connection.

- 4.32.3 Make sure that measured resistance at each position is less than 5 mΩ. If the measured resistance is more than 5 mΩ, improve metallic surface contacts at both ends of the affected bonding cable.

4.33 In accordance with AMP DM 39-A-12-11-01-00A-211A-A, refuel the fuel tanks.

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. Gain access to My Communications section on [Leonardo Customer Portal](#) and compile the "Service - Technical Bulletin Application".

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

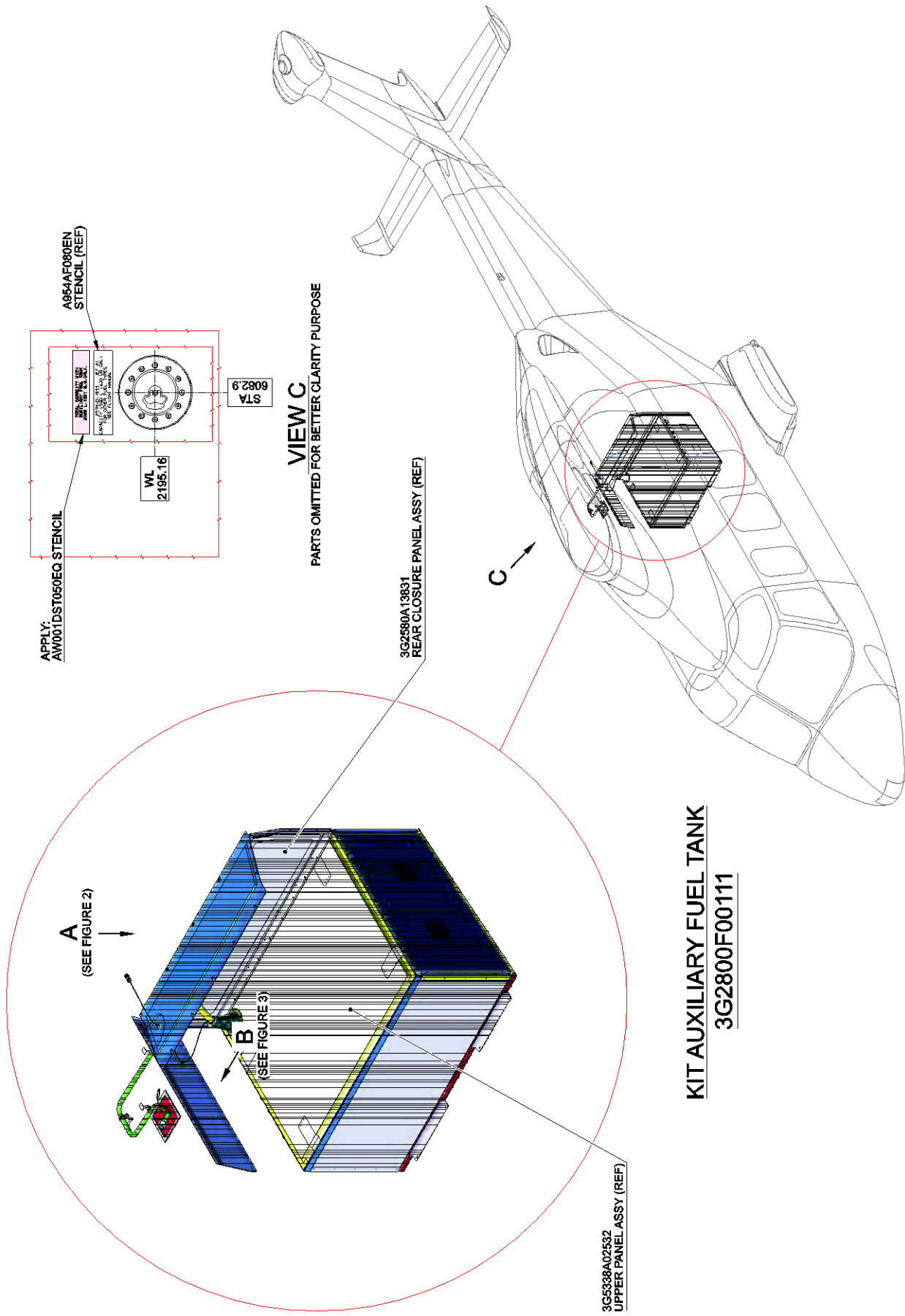


Figure 1

PANEL ASSY CEILING CLOSURE RETRO MODIFICATION
3G2506P00412

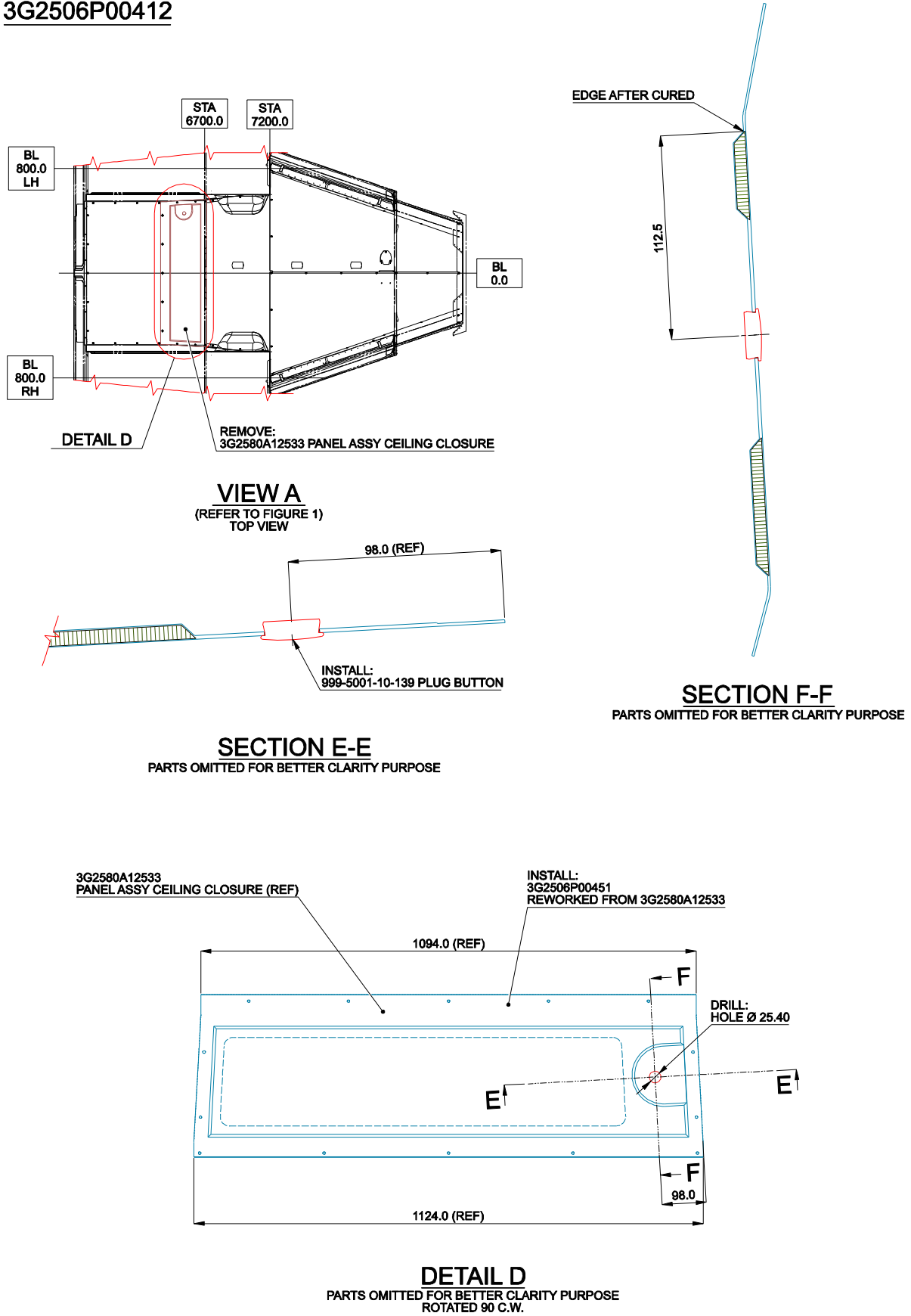


Figure 2

**RIGHT UPPER PANEL RETRO MODIFICATION
3G5338P00211**

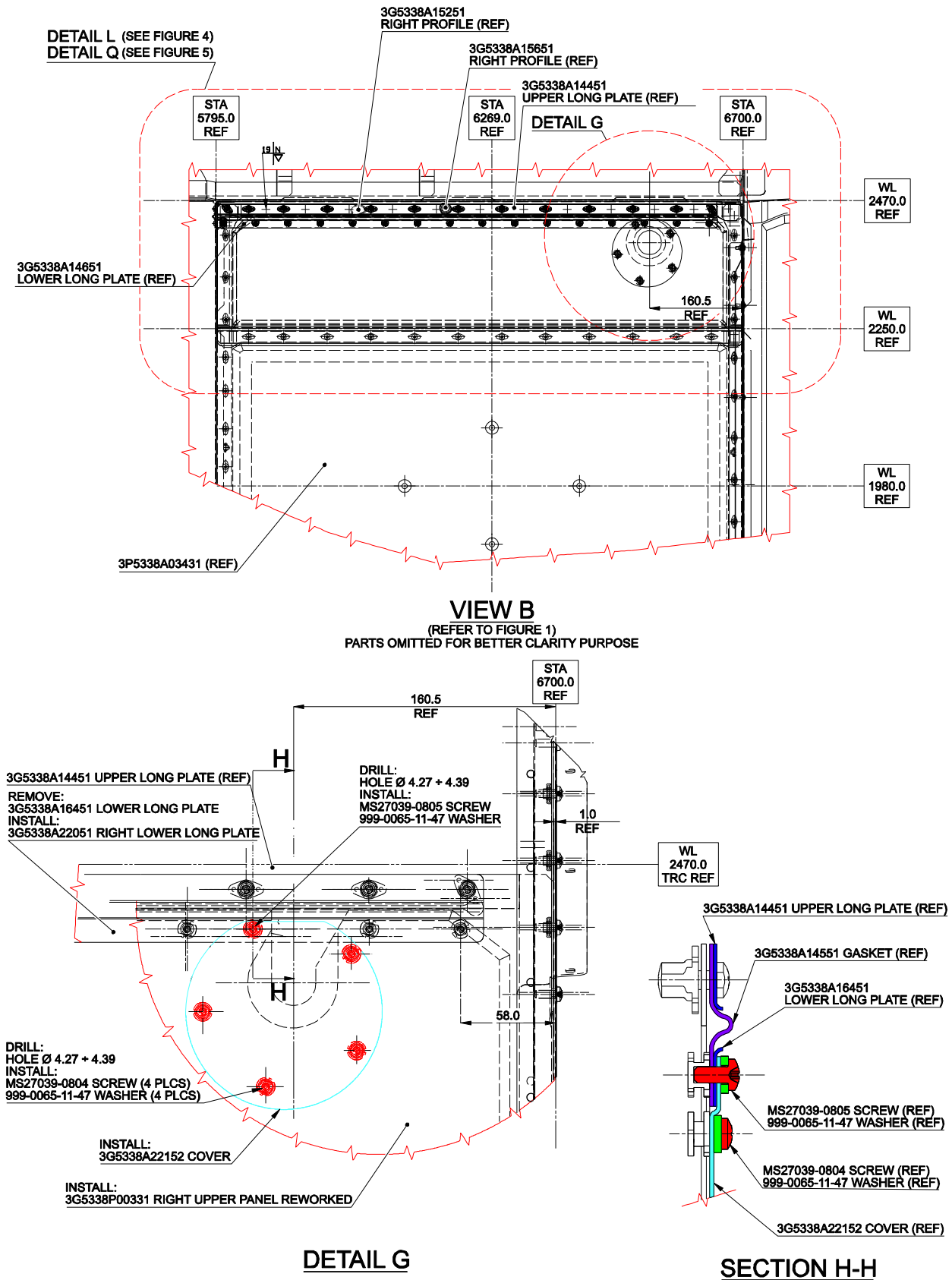
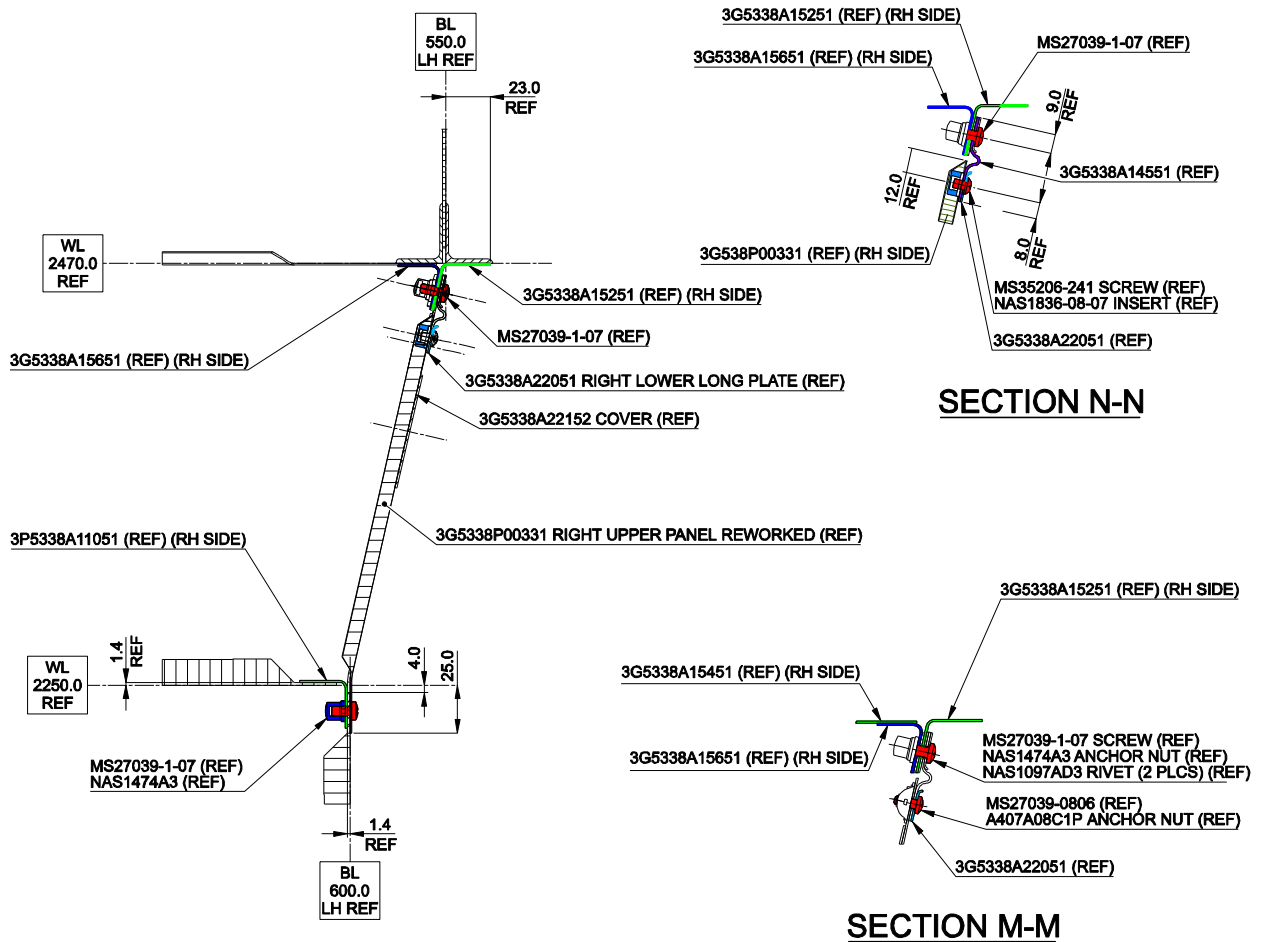
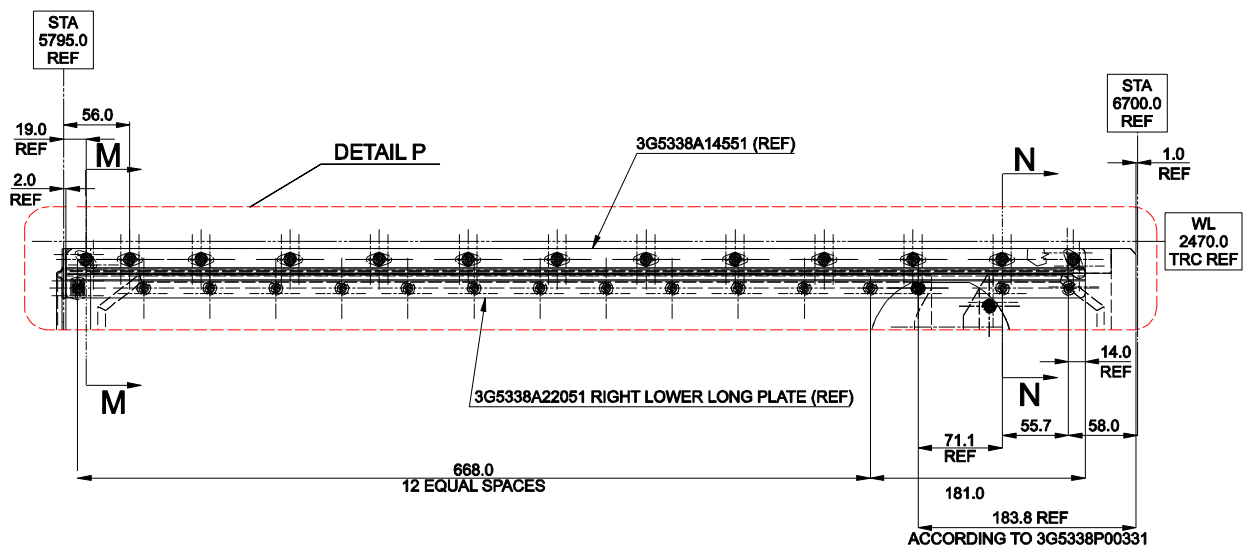


Figure 3

S.B. N°139-589 OPTIONAL
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DETAIL P

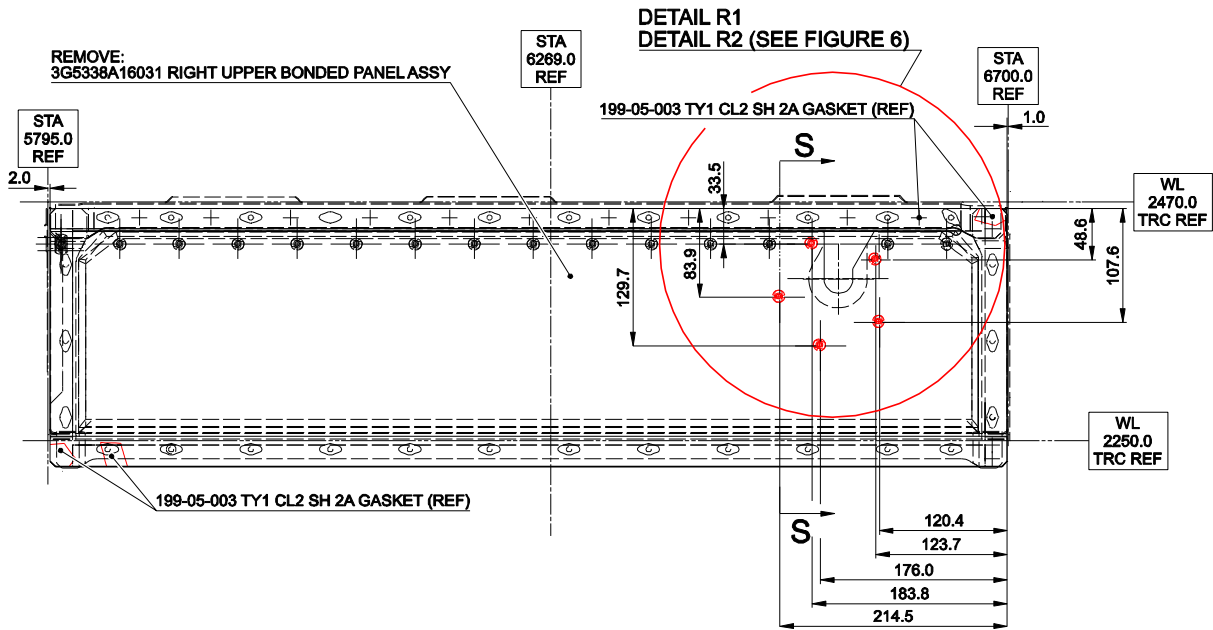


DETAIL L

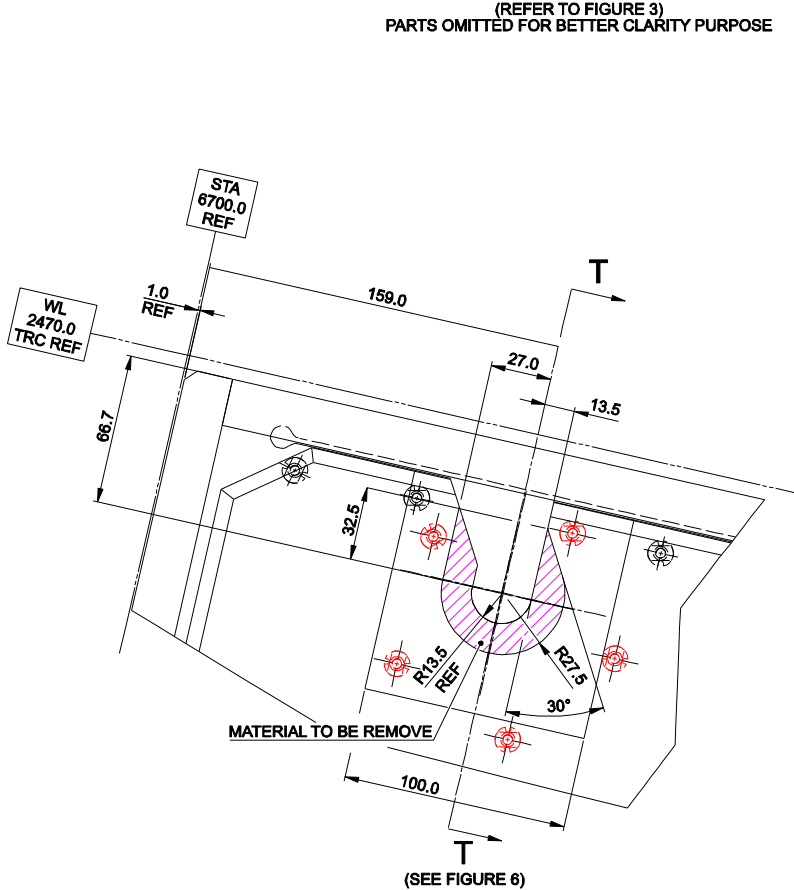
PARTS OMITTED FOR BETTER CLARITY PURPOSE
(REFER TO FIGURE 3)

Figure 4

RIGHT UPPER PANEL REWORKED
3G5338P00331



DETAIL Q
(REFER TO FIGURE 3)
PARTS OMITTED FOR BETTER CLARITY PURPOSE



DETAIL R1
PARTS OMITTED FOR BETTER CLARITY PURPOSE

APPLY:
199-05-003 TY1 CL2 SH 2A GASKET

3G5338A16031 REF (RH SIDE)

DRILL:
HOLE Ø 11.48 + 11.61
INSTALL:
NAS1836-08-07 INSERT
APPLY:
199-05-002 TY2 CL2 ADHESIVE
(TYP 5 PLACES)

SECTION S-S

Figure 5

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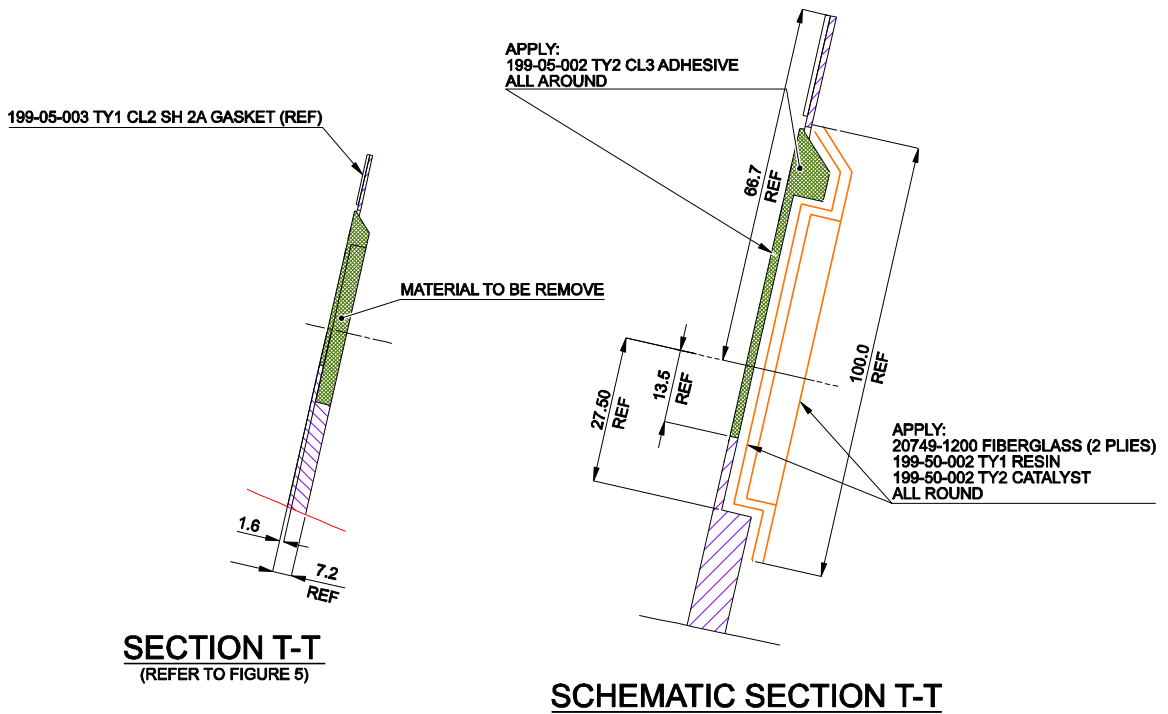
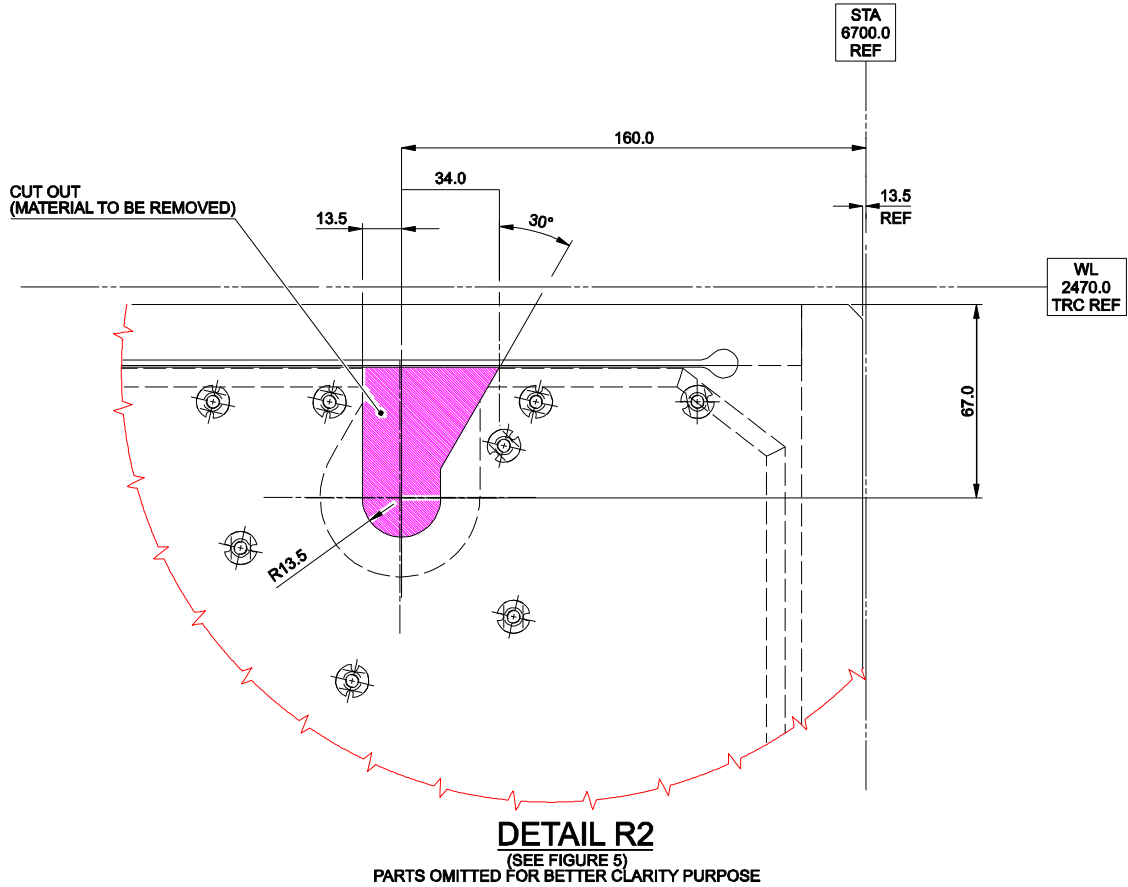
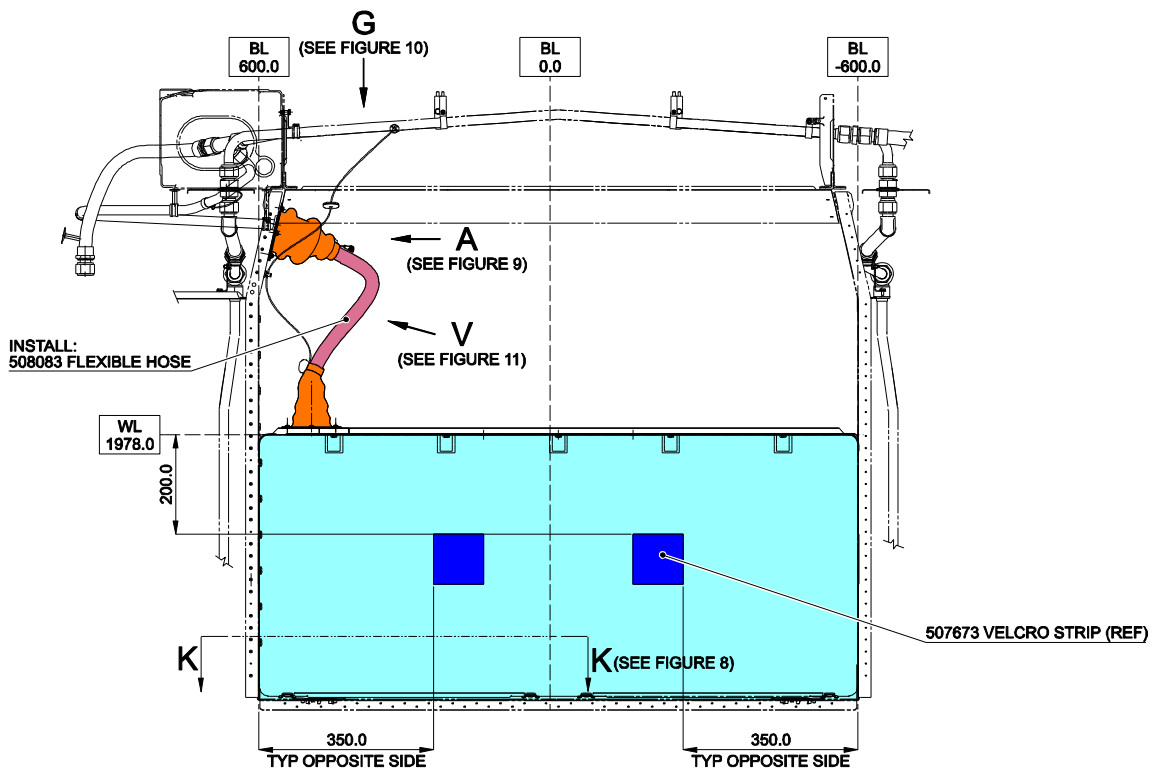
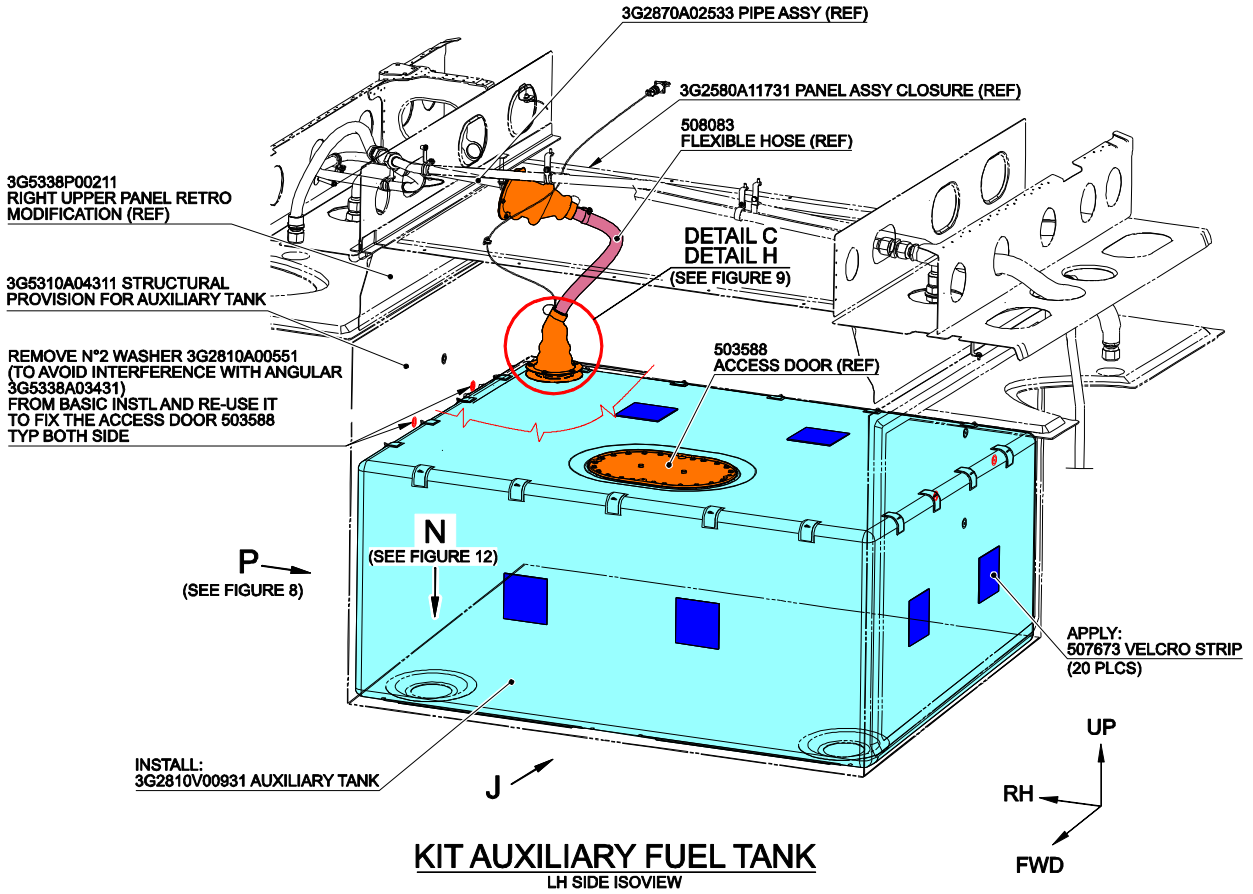
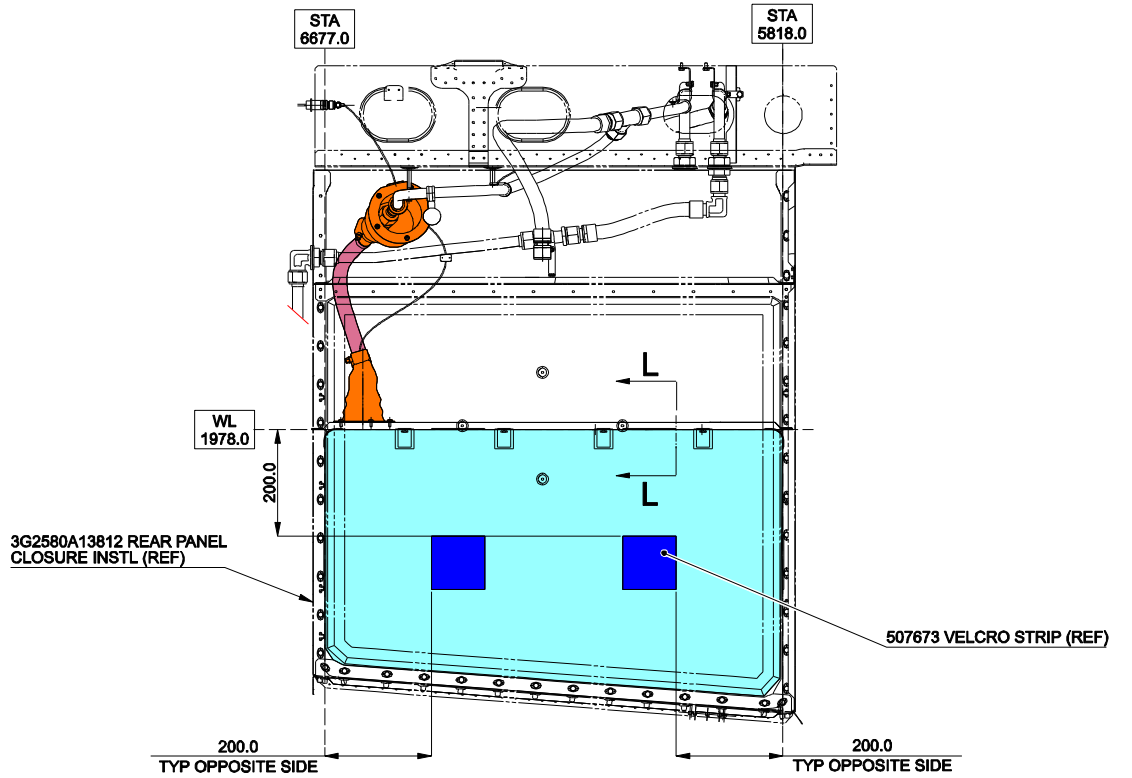


Figure 6



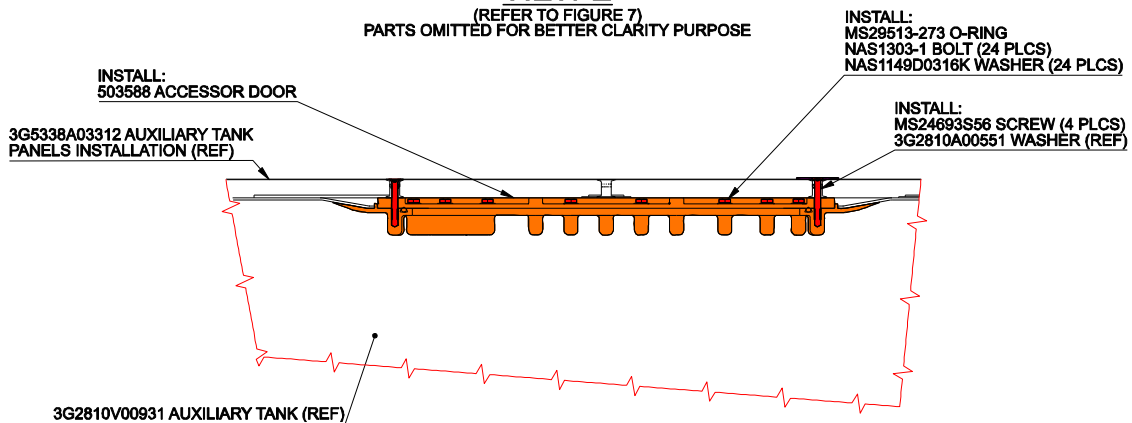
VIEW J
PARTS OMITTED FOR BETTER CLARITY PURPOSE

Figure 7

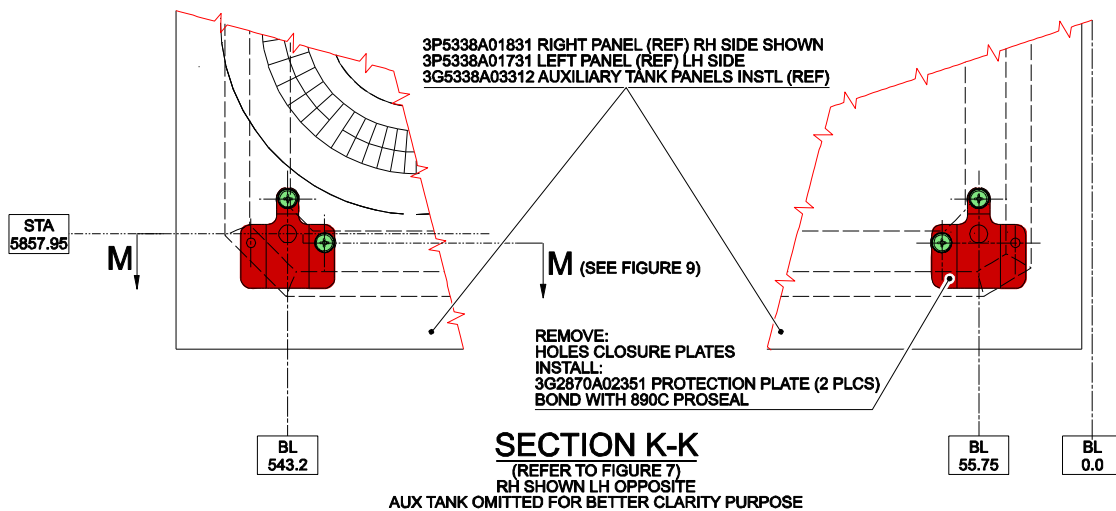


VIEW Z

(REFER TO FIGURE 7)
PARTS OMITTED FOR BETTER CLARITY PURPOSE



SECTION L-L



SECTION K-K

(REFER TO FIGURE 7)
RH SHOWN LH OPPOSITE
AUX TANK OMITTED FOR BETTER CLARITY PURPOSE

Figure 8

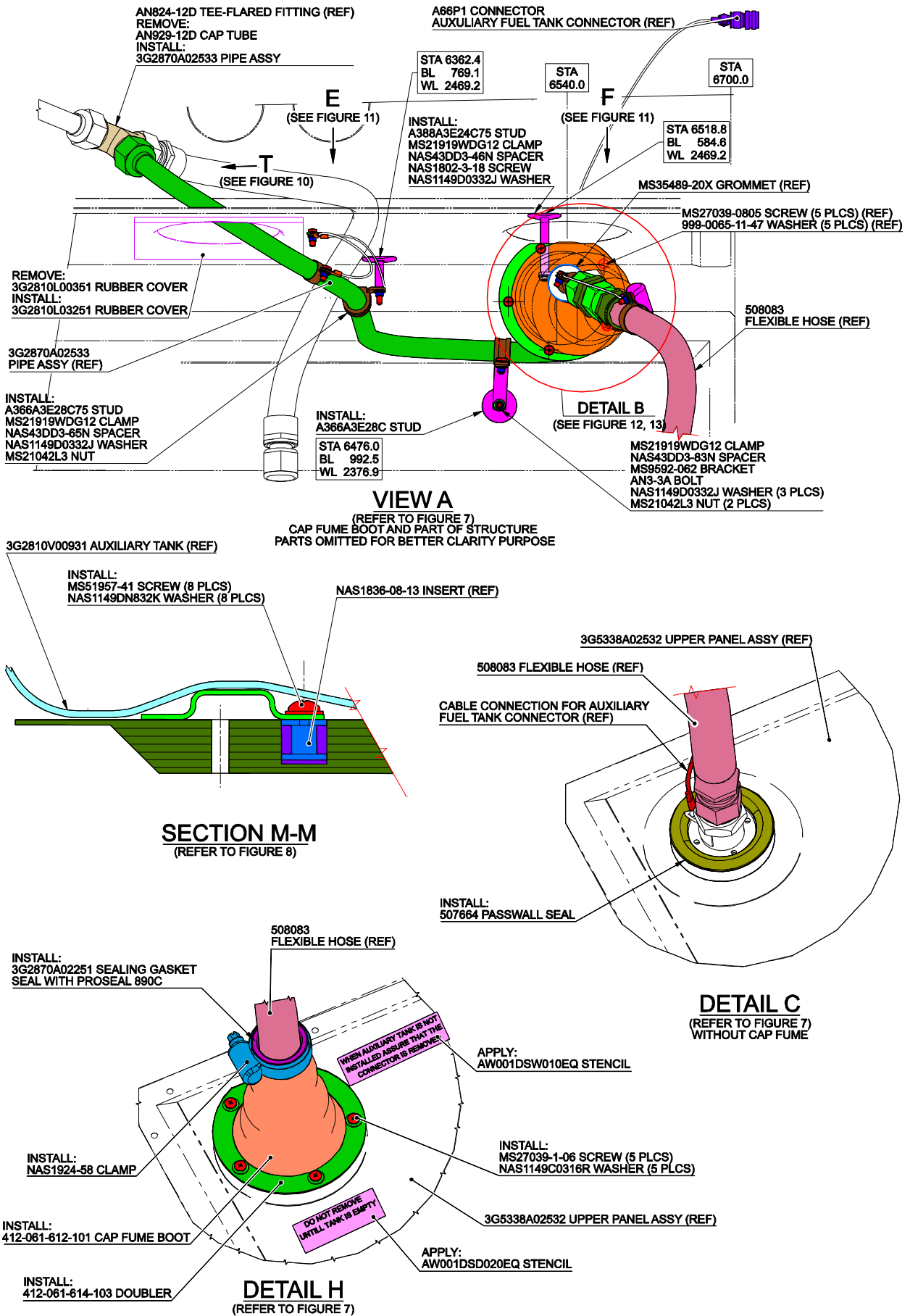
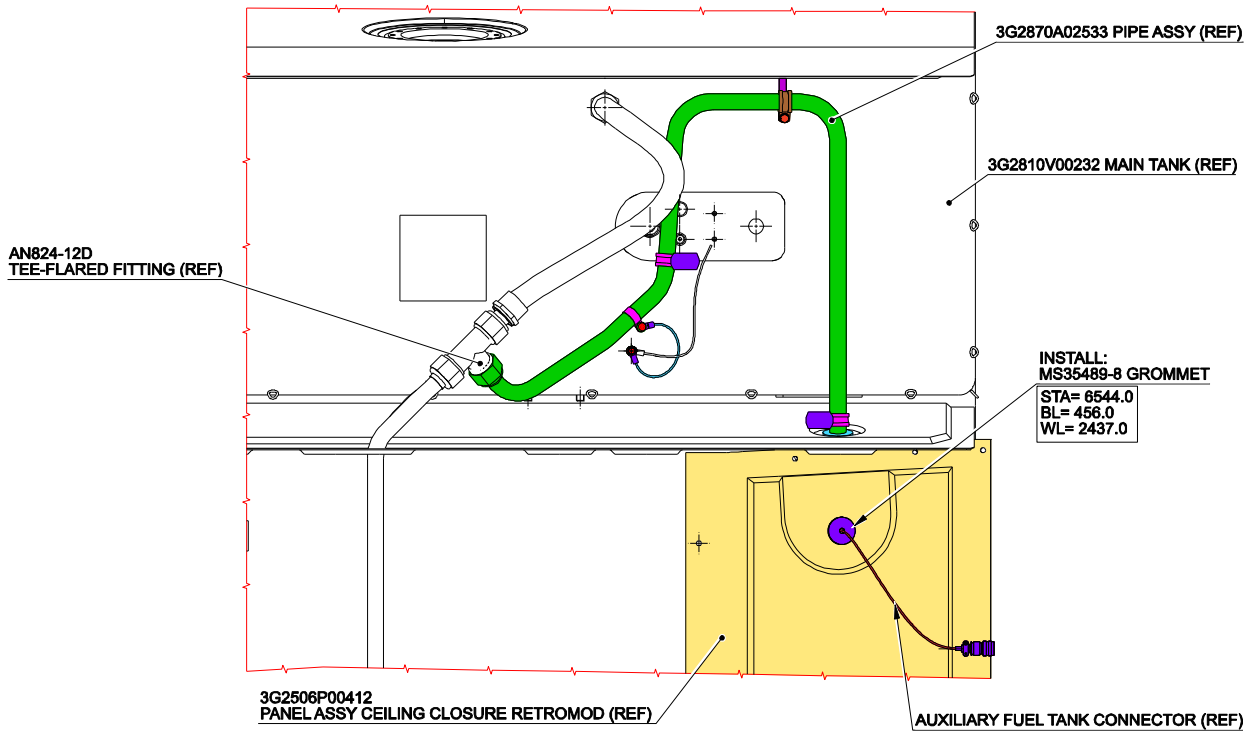


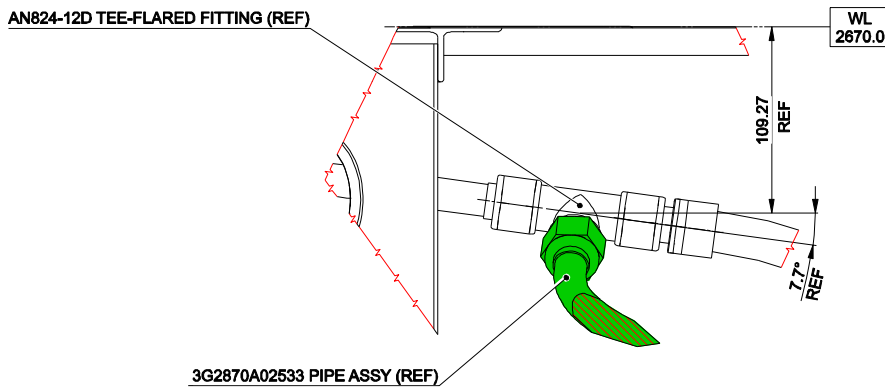
Figure 9

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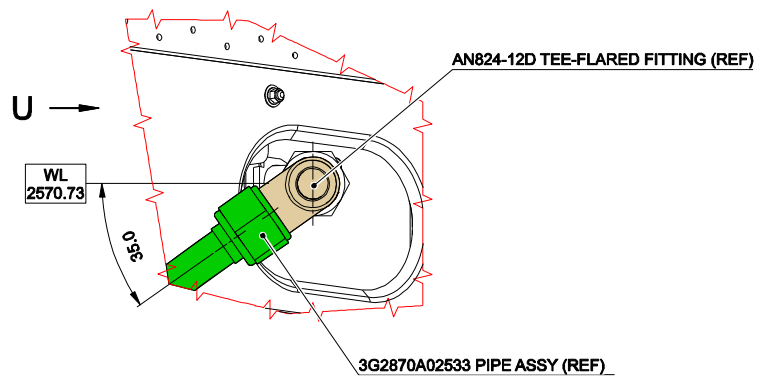


VIEW G

(REFER TO FIGURE 7)
PARTS OMITTED FOR BETTER CLARITY PURPOSE



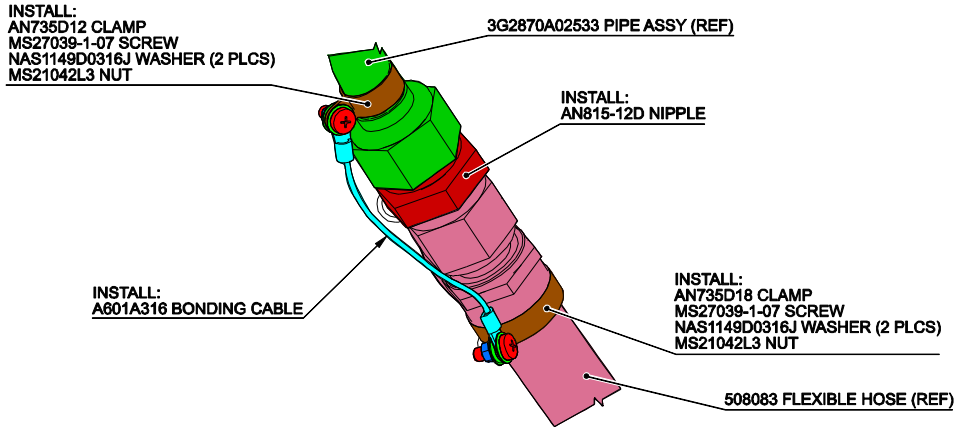
VIEW U



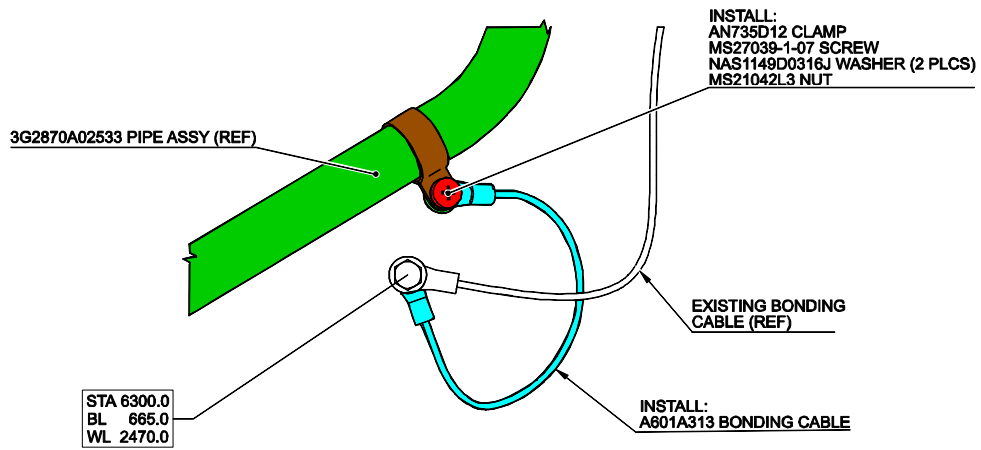
VIEW T

(REFER TO FIGURE 9)

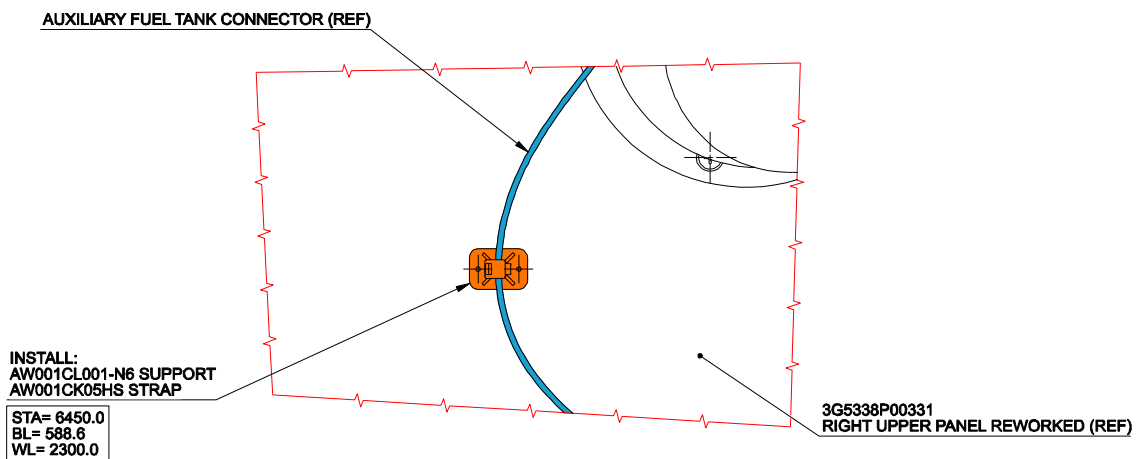
Figure 10



VIEW F
(REFER TO FIGURE 9)
PARTS OMITTED FOR BETTER CLARITY PURPOSE



VIEW E
(REFER TO FIGURE 9)
PARTS OMITTED FOR BETTER CLARITY PURPOSE



VIEW V
(REFER TO FIGURE 7)

Figure 11

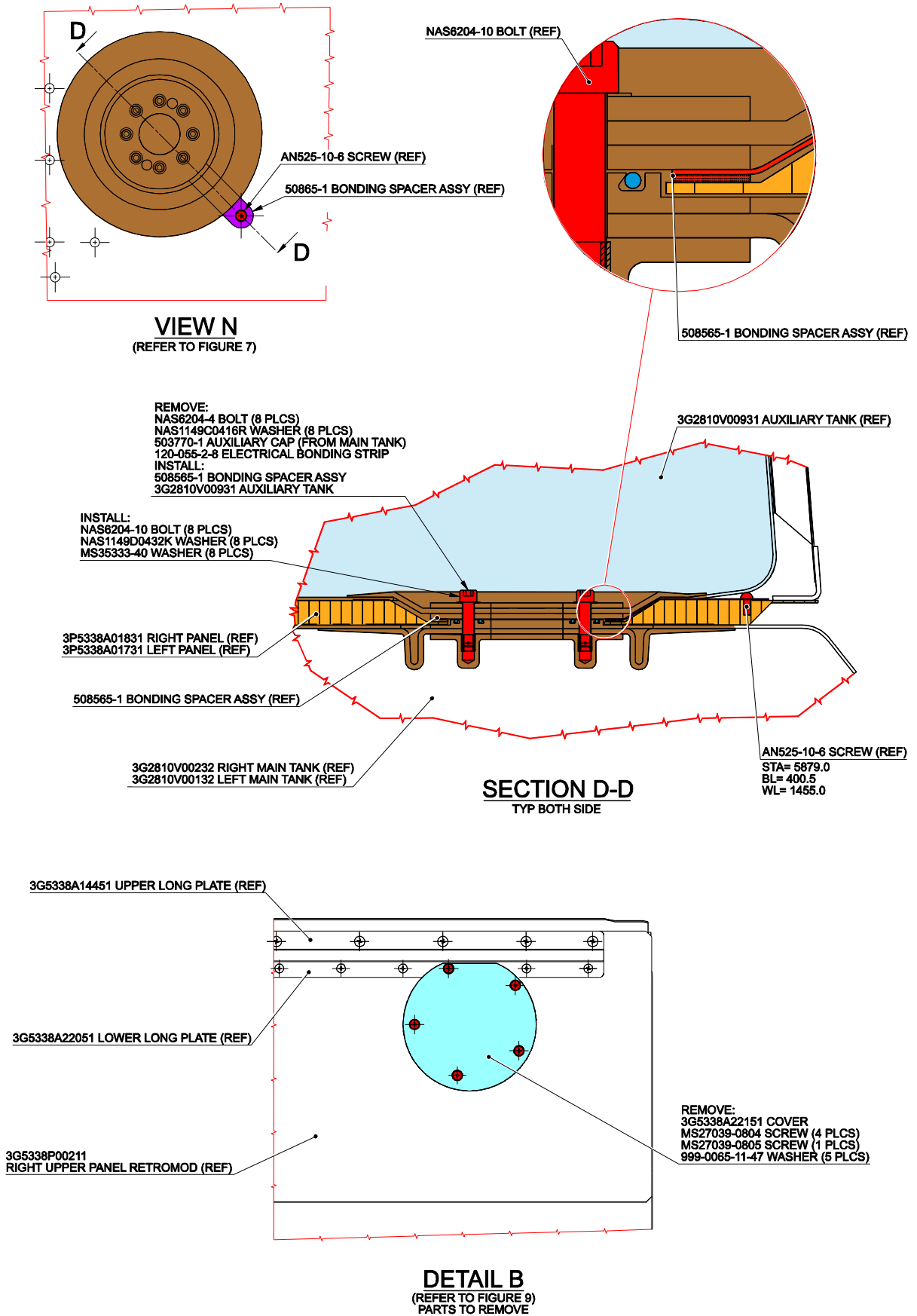


Figure 12

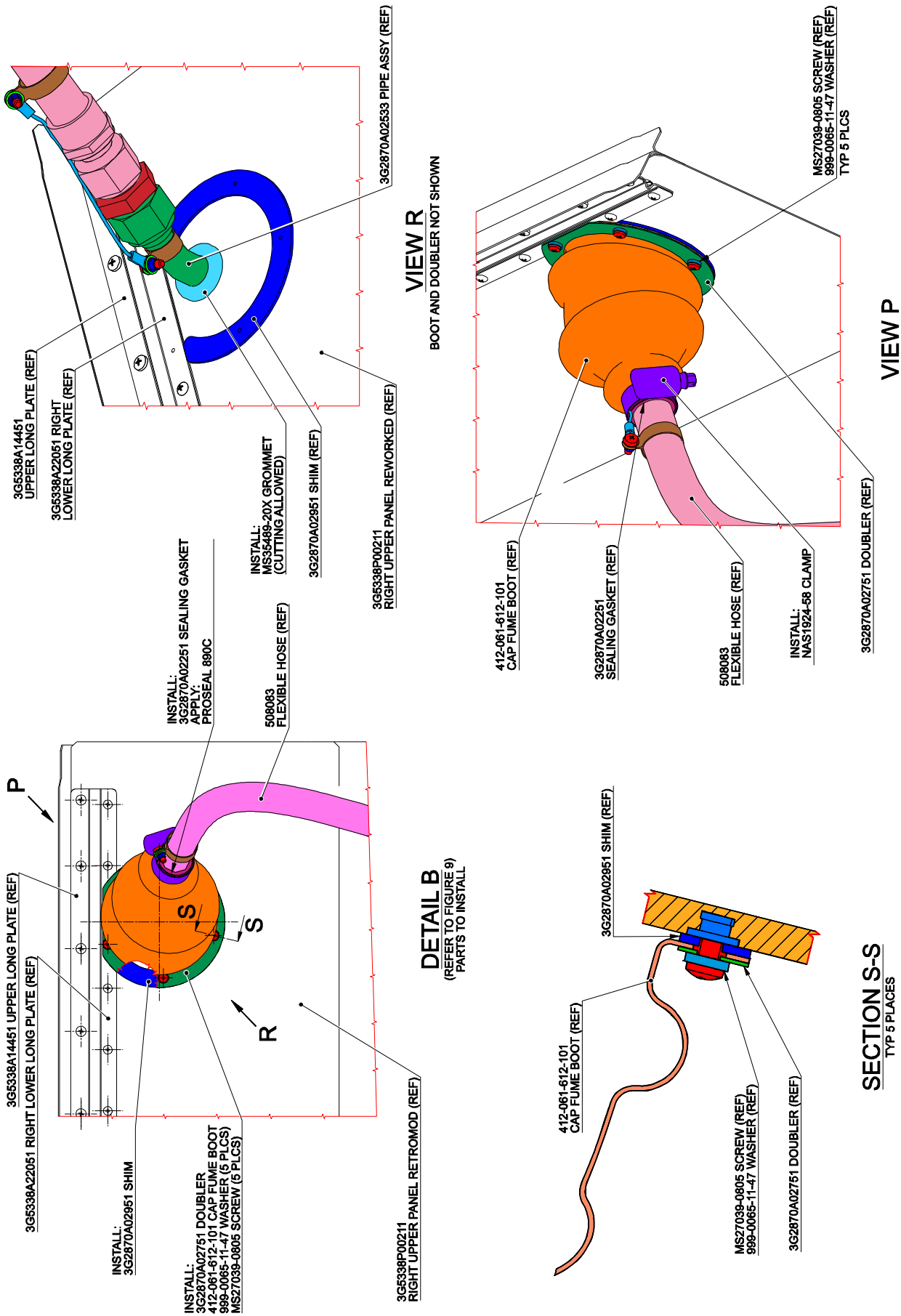


Figure 13

S.B. N°139-589 OPTIONAL
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		B.T. Compliance Date:		
Helicopter Model	S/N	Total Number	Total Hours	T.S.O.
Remarks:				
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