
SERVICE BULLETIN

N° 139-576

DATE: November 17, 2021

REV. : /

TITLE

ATA 21 - VENTILATION AND WATER DRAIN LINES VARIANT

REVISION LOG

First issue.

1. PLANNING INFORMATION

A. EFFECTIVITY

Part I: AW139 helicopters S/N 31761 and S/N 31849.

Part II: AW139 helicopters S/N 31761, S/N 31849, S/N 31706 and S/N 31707.

Part III: AW139 helicopters S/N 31761, S/N 31849, S/N 31706 and S/N 31707.

Part IV: AW139 helicopters S/N 31706 and S/N 31707.

Part V: AW139 helicopter S/N 31707.

B. COMPLIANCE

At Customer's option.

C. CONCURRENT REQUIREMENTS

N.A.

D. REASON

This Service Bulletin is issued in order to provide the necessary instruction on how to perform the installation of cabin ventilation variant P/N 3G2140P00911 or P/N 3G2140P01011, water drain lines variant P/N 3G3070P00411 and VCS condenser pack seal retromod P/N 3G2150P01411.

E. DESCRIPTION

The cabin ventilation variant P/N 3G2140P00911 (Part I) has been developed for helicopters not equipped with kit hoist. It allows improvement of lateral diffusers' airflow and pressure drop reduction through:

- replacement of manifold ducts;
- introduction of new manifold;

Water drain lines variant P/N 3G3070P00411 (Part II) consists of a new routing of the existing drain line hoses according to new fixing hardware.

VCS condenser pack seal retromod P/N 3G2150P01411 (Part III) consists of the installation of trim seal P/N 6100B3X1/16A to avoid leakages.

The cabin ventilation variant P/N 3G2140P01011 (Part IV) has been developed for helicopters equipped with kit hoist. It allows improvement of lateral diffusers' airflow and pressure drop reduction through:

- replacement of manifold ducts;
- introduction of new manifold.

These ventilation and drain lines variants also require the substitution of parts of internal liners through the cabin ventilation improvement installation P/N 3G0210P00411 (Part V).

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 MMH are deemed necessary:

- Part I thirty (30) MMH.
- Part II sixteen (16) MMH.
- Part III eight (8) MMH.
- Part IV forty (40) MMH.
- Part V eight (8) MMH.

MMH 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)
		1.47
LONGITUDINAL BALANCE	4600	6762
LATERAL BALANCE	0	0

PART II

N.A.

PART III

WEIGHT (Kg)		0.12
	ARM (mm)	MOMENT (Kgmm)
LONGITUDINAL BALANCE	4152	498.24
LATERAL BALANCE	0	0

PART IV

WEIGHT (Kg)		1.47
	ARM (mm)	MOMENT (Kgmm)
LONGITUDINAL BALANCE	4600	6762
LATERAL BALANCE	0	0

PART V

WEIGHT (Kg)		12.6
	ARM (mm)	MOMENT (Kgmm)
LONGITUDINAL BALANCE	4443	55981.8
LATERAL BALANCE	0	0

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 on ground for a safe maintenance.	I, II, III, IV
DM02 39-A-06-41-00-00A-010A-A	Access door panel remove procedure.	I, II; III, IV

2) ACRONYMS & ABBREVIATIONS

DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
LHD	Leonardo Helicopters
IPD	Illustrated Parts Data
MMH	Maintenance Man Hours
VCS	Vapor Cycle System

3) ANNEX

N.A.

J. PUBLICATIONS AFFECTED

AW139 Aircraft Maintenance Publication (AMP)

AW139 Illustrated Parts Data (IPD)

K. SOFTWARE ACCOMPLISHMENT SUMMARY

N.A.

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

1) PARTS

PART I

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	3G0210P00411		CABIN VENTILATION IMPROVEMENT INSTL	REF	.		-
2	3G2140P00911		CABIN VENTILATION VARIANT	REF	..		-
3	AA0732A-000		Upper manifold	1	...		139-576L1
4	AA0733A-000		Half upper cabin diffuser 02	2	...		139-576L1
5	AA0734A-000		Half upper cabin diffuser 04	2	...		139-576L1
6	AA0735A-000		Half upper cabin diffuser 03	2	...		139-576L1
7	AA0736A-000		Half upper cabin diffuser 01	2	...		139-576L1
8	AA0737A-000		Upper cabin insulated flex duct LH	1	...		139-576L1
9	AA0738A-000		Upper cabin insulated flex duct LH	2	...		139-576L1
10	AA0739A-000		Upper cabin insulated flex duct RH	2	...		139-576L1
11	AA0740A-000		Central section duct elbow	2	...		139-576L1
12	AA0741A-000		Upper cabin insulated flex duct RH	1	...		139-576L1
13	AA0742A-000		Fwd upper hybrid elbow LH side	1	...		139-576L1
14	AA0743A-000		Rear upper hybrid elbow LH side	1	...		139-576L1
15	AA0744A-000		Fwd upper hybrid elbow RH side	1	...		139-576L1
16	AA0745A-000		Rear upper hybrid elbow RH side	1	...		139-576L1
17	AN3C6A		Bolt	6	...		139-576L1
18	AW001CK06HS		Strap	15	...		139-576L1
19	NAS1802-3-6		Screw	4	...		139-576L1
20	NAS43DD3-20N		Spacer	4	...		139-576L1
21	NAS43DD3-21N		Spacer	2	...		139-576L1

PART II

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
22	3G0210P00411		CABIN VENTILATION IMPROVEMENT INSTL	REF	.		-
23	3G3070P00411		WATER DRAIN LINES VARIANT	REF	..		-
24	A388A3E16C		Standoff	3	...		139-576L2
25	AN3C5A		Bolt	2	...		139-576L2
26	AN3C6A		Bolt	1	...		139-576L2
27	AS21919WCH10		Clamp	3	...		139-576L2
28	NAS1149C0332R		Washer	3	...		139-576L2
29	NAS43DD3-18N		Spacer	2	...		139-576L2
30	NAS43DD3-26N		Spacer	2	...		139-576L2

PART III

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
31	3G0210P00411		CABIN VENTILATION IMPROVEMENT INSTL	REF	.		-
32	3G2150P01411		VCS CONDENSER PACK SEAL RETRO MOD	REF	..		-
33	6100B3X1/16A		Seal	1	...		-

PART IV

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
34	3G0210P00411		CABIN VENTILATION IMPROVEMENT INSTL	REF	.		-
35	3G2140P01011		CABIN VENT VARIANT HOIST GOODRICH	REF	..		-
36	AA0732A-000		Upper manifold	1	...		139-576L3
37	AA0733A-000		Half upper cabin diffuser 02	2	...		139-576L3
38	AA0734A-000		Half upper cabin diffuser 04	2	...		139-576L3
39	AA0735A-000		Half upper cabin diffuser 03	2	...		139-576L3
40	AA0736A-000		Half upper cabin diffuser 01	1	...		139-576L3
41	AA0737A-000		Upper cabin insulated flex duct LH	1	...		139-576L3
42	AA0738A-000		Upper cabin insulated flex duct LH	2	...		139-576L3
43	AA0739A-000		Upper cabin insulated flex duct RH	2	...		139-576L3
44	AA0740A-000		Central section duct elbow	2	...		139-576L3
45	AA0741A-000		Upper cabin insulated flex duct RH	1	...		139-576L3
46	AA0742A-000		Fwd upper hybrid elbow LH side	1	...		139-576L3
47	AA0743A-000		Rear upper hybrid elbow LH side	1	...		139-576L3
48	AA0744A-000		Fwd upper hybrid elbow RH side	1	...		139-576L3
49	AA0745A-000		Rear upper hybrid elbow RH side	1	...		139-576L3
50	AA0750A-000		Half upper cabin diffuser 01	1	...		139-576L3
51	AN3C6A		Bolt,	6	...		139-576L3
52	AW001CK06HS		Strap	15	...		139-576L3
53	NAS1802-3-6		Screw,	4	...		139-576L3
54	NAS43DD3-20N		Spacer	4	...		139-576L3
55	NAS43DD3-21N		Spacer	2	...		139-576L3

PART V

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
56	3G0210P00411		CABIN VENTILATION IMPROVEMENT INSTL	REF	.		-
57	3G2580P19811		PASS CABIN LINERS VARIANT	REF	..		-
58	3G2580A78031	3G2580A78031CS01	Liner assy hinged rh	1	...		-
59	3G2580A78131	3G2580A78131CS01	Liner assy hinged lh	1	...		-
60	NAS1149DN816J		Washer	6	...		-

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
61	Code No. 501666569	PTFE Glass Cloth Tape 5453	AR	(1)	I
62	Code No. 999999999000001113	TAPE 3M 363	AR	(1)	I
63	AWMS05-001 TYPE I, GRADE 2, CLASS A	Sealant Proseal MC-780 A:	AR	(1)	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
139-576L1	1		I
139-576L2	1		II
6100B3X1/16A	2 m		III
139-576L3	1		IV

NOTE

(1) Item to be procured as local supply.

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.
- c) Let adhesive cure at room temperature for at least 24 hours unless otherwise specified.
- d) All lengths are in mm.

PART I

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. With reference to Figure 1 thru Figure 5, gain access to the area affected by the installation and perform complete provision cabin ventilation variant P/N 3G2140P00911 as described in the following procedure:
 - 2.1 In accordance to AMP DM 39-A-06-41-00-00A-010A-A remove the access panels 473AL, 150AT, 150CT, 152CR and 151BL.
 - 2.2 With reference to Figure 2, remove and discard n°1 upper cabin flex duct 03 P/N AA0710A-001 and n°2 straps.
 - 2.3 With reference to Figure 2, remove and discard n°1 upper hybrid elbow 02 P/N AA0719A-001 and n°1 strap. Retain the existing hardware for later reuse.
 - 2.4 With reference to Figure 2, remove and discard n°1 upper cabin flex duct 02 P/N AA0709A-001 and n°2 straps.
 - 2.5 With reference to Figure 2, remove and discard n°1 central Section duct elbow P/N AA0720A-000 and n°1 strap.
 - 2.6 With reference to Figure 2 remove and discard n°1 upper cabin flex duct 03 P/N AA0710A-001 and n°2 straps.
 - 2.7 With reference to Figure 2 remove and discard n°1 upper hybrid elbow 01 P/N AA0718A-001 and n°1 strap. Retain the existing hardware for later reuse.

- 2.8 With reference to Figure 2 remove and discard n°1 upper cabin flex duct 04 P/N AA0711A-001 and n°2 straps.
- 2.9 With reference to Figure 2 remove and discard n°1 upper hybrid elbow 01 P/N AA0718A-001 and n°1 strap. Retain the existing hardware for later reuse.
- 2.10 With reference to Figure 2 remove and discard n°1 upper cabin installed flex duct 01 P/N AA0708A-001 and n°2 straps.
- 2.11 With reference to Figure 2 remove and discard n°1 central Section duct elbow P/N AA0720A-000 and n°1 strap
- 2.12 With reference to Figure 2 remove and discard n°1 upper cabin installed flex duct 04 P/N AA0711A-001 and n°2 straps.
- 2.13 With reference to Figure 2 remove and discard n°1 upper hybrid elbow 02 P/N AA0719A-001 and n°1 strap. Retain the existing hardware for later reuse.
- 2.14 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 03 P/N AA070A-001 and n°1 bolt P/N AN3C7A. Retain the existing hardware for later reuse.
- 2.15 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 01 P/N AA0706A-001, n°1 bolt P/N AN3C3A, n°1 spacer P/N NAS43DD3-26N and n°1 spacer P/N NAS43DD3-7N. Retain the existing hardware for later reuse.
- 2.16 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 04 P/N AA0704A-001, n°1 bolt P/N AN3C5A, n°1 bolt P/N AN3C3A, n°1 spacer P/N NAS43DD3-26N and n°1 spacer P/N NAS43DD3-7N. Retain the existing hardware for later reuse.
- 2.17 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 02 P/N AA0705A-001, n°1 bolt P/N AN3C7A and n°1 spacer P/N NAS43DD3-26N. Retain the existing hardware for later reuse.
- 2.18 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 03 P/N AA0705A-001 and n°1 bolt P/N AN3C7A. Retain the existing hardware for later reuse.
- 2.19 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 01 P/N AA0704A-001, n°1 bolt P/N AN3C3A, n°1 spacer P/N NAS43DD3-26N and n°1 spacer P/N NAS43DD3-7N. Retain the existing hardware for later reuse.
- 2.20 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 03 P/N AA0706A-001, n°1 bolt P/N AN3C5A, n°1 bolt P/N AN3C3A, n°1 spacer P/N NAS43DD3-26N and n°1 spacer P/N NAS43DD3-7N. Retain the existing hardware for later reuse.
- 2.21 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 01 P/N AA0707A-001, n°1 bolt P/N AN3C7A and n°1 spacer P/N NAS43DD3-26N.

- Retain the existing hardware for later reuse.
- 2.22 With reference to Figure 3 Detail K remove n°2 water drain lines. Retain the existing hardware for later reuse.
 - 2.23 With reference to Figure 2 remove and discard n°1 upper manifold P/N AA070 and n°1 existing strap. Retain the existing hardware for later reuse.
 - 2.24 With reference to Figure 3 Section L-L, install n°1 upper manifold P/N AA0732A-000 using n° 1 strap P/N AW001CK06HS and existing hardware.
 - 2.25 With reference to Figure 3 Detail K, install on upper manifold P/N AA0732A-000 n°2 water drain lines using existing hardware.
 - 2.26 With reference to Figure 3 Section M-M, install n°1 half upper cabin diffuser 01 P/N AA0736A-000, using n°1 bolt P/N AN3C6A and existing hardware.
 - 2.27 With reference to Figure 3, install n°1 half upper cabin diffuser 03 P/N AA0735A-000 using n°1 screw NAS1802-3-6, n°1 spacer P/N NAS43DD3-20N and existing hardware.
 - 2.28 With reference to Figure 3, wrap tape 3M 363 between half upper cabin diffuser 03 P/N AA0735A-000 and half upper cabin diffuser 01 P/N AA0736A-000.
 - 2.29 With reference to Figure 3 Section C-C, install n°1 half upper cabin diffuser 04 P/N AA0734A-000, using n°1 bolt P/N AN3C6A, n°1 screw NAS1802-3-6, n°1 spacer P/N NAS43DD3-20N and existing hardware.
 - 2.30 With reference to Figure 3 Section E-E, install n°1 half upper cabin diffuser 02 P/N AA0733A-000 using n°1 bolt P/N AN3C6A, n°1 spacer P/N NAS43DD3-21N and existing hardware.
 - 2.31 With reference to Figure 3, wrap tape 3M 363 between half upper cabin diffuser 02 P/N AA0733A-000 and half upper cabin diffuser 04 P/N AA0734A-000.
 - 2.32 With reference to Figure 3, install n°1 half upper cabin diffuser 01 P/N AA0736A-000, using n°1 bolt P/N AN3C6A, n°1 screw NAS1802-3-6, n°1 spacer P/N NAS43DD3-20N and existing hardware.
 - 2.33 With reference to Figure 3 Section F-F, install n°1 half upper cabin diffuser 03 P/N AA0735A-000 using n°1 bolt P/N AN3C6A, n°1 spacer P/N NAS43DD3-21N and existing hardware.
 - 2.34 With reference to Figure 3, wrap tape 3M 363 between half upper cabin diffuser 01 P/N AA0736A-000 and half upper cabin diffuser 03 P/N AA0735A-000.
 - 2.35 With reference to Figure 3 Section B-B, install n°1 half upper cabin diffuser 04 P/N AA0734A-000, using n°1 screw NAS1802-3-6, n°1 spacer P/N NAS43DD3-20N and existing hardware.
 - 2.36 With reference to Figure 3 Section D-D, install n°1 half upper cabin diffuser 02 P/N AA0733A-000 using n°1 bolt P/N AN3C6A and existing hardware.

- 2.37 With reference to Figure 3, wrap tape 3M 363 between half upper cabin diffuser 04 P/N AA0734A-000 and half upper cabin diffuser 03 P/N AA0735A-000.
 - 2.38 With reference to Figure 3, install n°1 upper cabin insulated flex duct central RH P/N AA0741A-000, n°1 Section duct elbow P/N AA0740A-000 using n°3 straps P/N AW001CK06HS.
 - 2.39 With reference to Figure 3 Detail G Detail N, install n°1 FWD upper hybrid elbow RH side P/N AA0744A-000 using existing hardware.
 - 2.40 With reference to Figure 3, install n°1 upper cabin insulated flex duct RH P/N AA0739A-000 using n°2 straps P/N AW001CK06HS.
 - 2.41 With reference to Figure 3 Detail G Detail N, install n°1 rear upper hybrid elbow RH side P/N AA0745A-000 using existing hardware.
 - 2.42 With reference to Figure 3, install n°1 upper cabin insulated flex duct RH P/N AA0739A-000 using n°2 straps P/N AW001CK06HS.
 - 2.43 With reference to Figure 3, install n°1 upper cabin insulated flex duct central LH P/N AA0737A-000, n°1 Section duct elbow P/N AA0740A-000 using n°3 straps P/N AW001CK06HS.
 - 2.44 With reference to Figure 3, install n°1 upper cabin insulated flex duct central LH P/N AA0737A-000, n°1 Section duct elbow P/N AA0740A-000 using n°3 straps P/N AW001CK06HS.
 - 2.45 With reference to Figure 3 Detail G Detail N, install n°1 FWD upper hybrid elbow LH side P/N AA0742A-000 using existing hardware.
 - 2.46 With reference to Figure 3, install n°1 upper cabin insulated flex duct LH P/N AA0738A-000 using n°2 straps P/N AW001CK06HS.
 - 2.47 With reference to Figure 3 Detail G Detail N, install n°1 rear upper hybrid elbow LH side P/N AA0743A-000 using existing hardware.
 - 2.48 With reference to Figure 3, install n°1 upper cabin insulated flex duct LH P/N AA0738A-000 using n°2 straps P/N AW001CK06HS.
3. In accordance to AMP DM 39-A-06-41-00-00A-010A-A install the previously removed access panels 473AL, 150AT, 150CT, 152CR, 151BL using existing hardware.
 4. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, Section 6).
 5. Return the helicopter to flight configuration and record for compliance with Part I of this Service Bulletin on the helicopter logbook.
 6. Send the attached compliance form to the following mail box:

engineering.support.lhd@leonardocompany.com

As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

PART II

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. With reference to Figure 6, gain access to the area affected by the installation and perform complete provision water drain lines variant P/N 3G3070P00411 as described in the following procedure.

NOTE

- Route the hoses avoiding the formation of siphoning along the route.
 - In case of contact of the hose with the near components, protect it with anti-fretting tape Typ 5453.
 - If necessary, seal all connections between hoses and rigid pipes using sealant MC-780 A.
- 2.1 With reference to Figure 6 View S WAS, remove n°1 clamp P/N AS21919WDG10.
 - 2.2 With reference to Figure 6 View R, install n°2 Standoff P/N A388A3E16C.
 - 2.3 With reference to Figure 6 View S BECOMES, routing the existing drain line hose P/N A413A16-1250 using on FWD standoff installed on Step 2.1 n°1 spacer P/N NAS43DD3-26N, n°1 clamp P/N AS21919WCH10, n°1 washer P/N NAS1149C0332R and n°1 bolt AN3C6A.
 - 2.4 With reference to Figure 6 View S BECOMES, routing the existing drain line hose P/N A413A16 using on AFT standoff installed on Step 2.1 n°1 spacer P/N NAS43DD3-18N, n°1 clamp P/N AS21919WCH10, n°1 washer P/N NAS1149C0332R and n°1 bolt AN3C5A.
 - 2.5 With reference to Figure 6 View P WAS, remove n°1 clamp P/N AS21919WDG10 and existing hardware.
 - 2.6 With reference to Figure 6 View Q, install n°1 Standoff P/N A388A3E16C.
 - 2.7 With reference to Figure 6 View P BECOMES, routing the existing drain line hose P/N A413A16-1250 using on standoff installed on Step 2.6 n°1 spacer P/N NAS43DD3-18N, n°1 clamp P/N AS21919WCH10, n°1 washer P/N NAS1149C0332R and n°1 bolt AN3C5A.
 - 2.8 In accordance to AMP DM 39-A-06-41-00-00A-010A-A install the previously removed access panels 473AL, 150AT, 150CT, 152CR, 151BL using existing hardware.

3. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, Section 6).
4. Return the helicopter to flight configuration and record for compliance with Part II of this Service Bulletin on the helicopter logbook.
5. Send the attached compliance form to the following mail box:

engineering.support.lhd@leonardocompany.com

As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

PART III

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. With reference to Figure 7, gain access to the area affected by the installation and perform complete VCS condenser pack seal modification P/N 3G2150P01411 as described in the following procedure:
 - 2.1 In accordance with AMP DM 39-A-06-41-00-00A-010A-A open the access panel 473AL.
 - 2.2 With reference to Figure 7, cut an adequate length of seal P/N 6100B3X1/16A, trim and install it as indicated in View T and View U.
 - 2.3 In accordance with AMP DM 39-A-06-41-00-00A-010A-A close the access panel 473AL.
3. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, Section 6).
4. Return the helicopter to flight configuration and record for compliance with Part III of this Service Bulletin on the helicopter logbook.
5. Send the attached compliance form to the following mail box:

engineering.support.lhd@leonardocompany.com

As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

PART IV

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. With reference to Figure 1 thru Figure 5, gain access to the area affected by the installation and perform complete provision cabin ventilation variant P/N 3G2140P01011 as described in the following procedure:
 - 2.1 In accordance to AMP DM 39-A-06-41-00-00A-010A-A remove the access panels 473AL, 150AT, 150CT, 152CR and 151BL.
 - 2.2 With reference to Figure 2, remove and discard n°1 upper cabin flex duct 03 P/N AA0710A-001 and n°2 straps.
 - 2.3 With reference to Figure 2, remove and discard n°1 upper hybrid elbow 02 P/N AA0719A-001 and n°1 strap. Retain the existing hardware for later reuse.
 - 2.4 With reference to Figure 2, remove and discard n°1 upper cabin flex duct 02 P/N AA0709A-001 and n°2 straps.
 - 2.5 With reference to Figure 2, remove and discard n°1 central Section duct elbow P/N AA0720A-000 and n°1 strap.
 - 2.6 With reference to Figure 2 remove and discard n°1 upper cabin flex duct 03 P/N AA0710A-001 and n°2 straps.
 - 2.7 With reference to Figure 2 remove and discard n°1 upper hybrid elbow 01 P/N AA0718A-001 and n°1 strap. Retain the existing hardware for later reuse.
 - 2.8 With reference to Figure 2 remove and discard n°1 upper cabin flex duct 04 P/N AA0711A-001 and n°2 straps.
 - 2.9 With reference to Figure 2 remove and discard n°1 upper hybrid elbow 01 P/N AA0718A-001 and n°1 strap. Retain the existing hardware for later reuse.
 - 2.10 With reference to Figure 2 remove and discard n°1 upper cabin installed flex duct 01 P/N AA0708A-001 and n°2 straps.
 - 2.11 With reference to Figure 2 remove and discard n°1 central Section duct elbow P/N AA0720A-000 and n°1 strap
 - 2.12 With reference to Figure 2 remove and discard n°1 upper cabin installed flex duct 04 P/N AA0711A-001 and n°2 straps.
 - 2.13 With reference to Figure 2 remove and discard n°1 upper hybrid elbow 02 P/N AA0719A-001 and n°1 strap. Retain the existing hardware for later reuse.
 - 2.14 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 03 P/N AA070A-001 and n°1 bolt P/N AN3C7A. Retain the existing hardware for later reuse.
 - 2.15 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 01

- P/N AA0706A-001, n°1 bolt P/N AN3C3A, n°1 spacer P/N NAS43DD3-26N and n°1 spacer P/N NAS43DD3-7N. Retain the existing hardware for later reuse.
- 2.16 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 04 P/N AA0704A-001, n°1 bolt P/N AN3C5A, n°1 bolt P/N AN3C3A, n°1 spacer P/N NAS43DD3-26N and n°1 spacer P/N NAS43DD3-7N. Retain the existing hardware for later reuse.
- 2.17 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 02 P/N AA0705A-001, n°1 bolt P/N AN3C7A and n°1 spacer P/N NAS43DD3-26N. Retain the existing hardware for later reuse.
- 2.18 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 03 P/N AA0705A-001 and n°1 bolt P/N AN3C7A. Retain the existing hardware for later reuse.
- 2.19 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 01 P/N AA0704A-001, n°1 bolt P/N AN3C3A, n°1 spacer P/N NAS43DD3-26N and n°1 spacer P/N NAS43DD3-7N. Retain the existing hardware for later reuse.
- 2.20 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 03 P/N AA0706A-001, n°1 bolt P/N AN3C5A, n°1 bolt P/N AN3C3A, n°1 spacer P/N NAS43DD3-26N and n°1 spacer P/N NAS43DD3-7N. Retain the existing hardware for later reuse.
- 2.21 With reference to Figure 2, remove and discard n°1 half upper cabin diffuser 01 P/N AA0707A-001, n°1 bolt P/N AN3C7A and n°1 spacer P/N NAS43DD3-26N. Retain the existing hardware for later reuse.
- 2.22 With reference to Figure 3 Detail K remove n°2 water drain lines. Retain the existing hardware for later reuse.
- 2.23 With reference to Figure 2 remove and discard n°1 upper manifold P/N AA070 and n°1 existing strap. Retain the existing hardware for later reuse.
- 2.24 With reference to Figure 3 Section L-L, install n°1 upper manifold P/N AA0732A-000 using n° 1 strap P/N AW001CK06HS and existing hardware.
- 2.25 With reference to Figure 3 Detail K, install on upper manifold P/N AA0732A-000 n°2 water drain lines using existing hardware.
- 2.26 With reference to Figure 3 Section M1-M1, install n°1 half upper cabin diffuser 01 P/N AA0750A-000, using n°1 bolt P/N AN3C6A and existing hardware.
- 2.27 With reference to Figure 3, install n°1 half upper cabin diffuser 03 P/N AA0735A-000 using n°1 screw NAS1802-3-6, n°1 spacer P/N NAS43DD3-20N and existing hardware.
- 2.28 With reference to Figure 3, wrap tape 3M 363 between half upper cabin diffuser 03 P/N AA0735A-000 and half upper cabin diffuser 01 P/N AA0736A-000.

- 2.29 With reference to Figure 3 Section C-C, install n°1 half upper cabin diffuser 04 P/N AA0734A-000, using n°1 bolt P/N AN3C6A, n°1 screw NAS1802-3-6, n°1 spacer P/N NAS43DD3-20N and existing hardware.
- 2.30 With reference to Figure 3 Section E-E, install n°1 half upper cabin diffuser 02 P/N AA0733A-000 using n°1 bolt P/N AN3C6A, n°1 spacer P/N NAS43DD3-21N and existing hardware.
- 2.31 With reference to Figure 3, wrap tape 3M 363 between half upper cabin diffuser 02 P/N AA0733A-000 and half upper cabin diffuser 04 P/N AA0734A-000.
- 2.32 With reference to Figure 3, install n°1 half upper cabin diffuser 01 P/N AA0736A-000, using n°1 bolt P/N AN3C6A, n°1 screw NAS1802-3-6, n°1 spacer P/N NAS43DD3-20N and existing hardware.
- 2.33 With reference to Figure 3 Section F-F, install n°1 half upper cabin diffuser 03 P/N AA0735A-000 using n°1 bolt P/N AN3C6A, n°1 spacer P/N NAS43DD3-21N and existing hardware.
- 2.34 With reference to Figure 3, wrap tape 3M 363 between half upper cabin diffuser 01 P/N AA0736A-000 and half upper cabin diffuser 03 P/N AA0735A-000.
- 2.35 With reference to Figure 3 Section B-B, install n°1 half upper cabin diffuser 04 P/N AA0734A-000, using n°1 screw NAS1802-3-6, n°1 spacer P/N NAS43DD3-20N and existing hardware.
- 2.36 With reference to Figure 3 Section D-D, install n°1 half upper cabin diffuser 02 P/N AA0733A-000 using n°1 bolt P/N AN3C6A and existing hardware.
- 2.37 With reference to Figure 3, wrap tape 3M 363 between half upper cabin diffuser 04 P/N AA0734A-000 and half upper cabin diffuser 03 P/N AA0735A-000.
- 2.38 With reference to Figure 3, install n°1 upper cabin insulated flex duct central RH P/N AA0741A-000, n°1 Section duct elbow P/N AA0740A-000 using n°3 straps P/N AW001CK06HS.
- 2.39 With reference to Figure 3 Detail G Detail N, install n°1 FWD upper hybrid elbow RH side P/N AA0744A-000 using existing hardware.
- 2.40 With reference to Figure 3, install n°1 upper cabin insulated flex duct RH P/N AA0739A-000 using n°2 straps P/N AW001CK06HS.
- 2.41 With reference to Figure 3 Detail G Detail N, install n°1 rear upper hybrid elbow RH side P/N AA0745A-000 using existing hardware.
- 2.42 With reference to Figure 3, install n°1 upper cabin insulated flex duct RH P/N AA0739A-000 using n°2 straps P/N AW001CK06HS.
- 2.43 With reference to Figure 3, install n°1 upper cabin insulated flex duct central LH P/N AA0737A-000, n°1 Section duct elbow P/N AA0740A-000 using n°3 straps

P/N AW001CK06HS.

- 2.44 With reference to Figure 3, install n°1 upper cabin insulated flex duct central LH P/N AA0737A-000, n°1 Section duct elbow P/N AA0740A-000 using n°3 straps P/N AW001CK06HS.
 - 2.45 With reference to Figure 3 Detail G Detail N, install n°1 FWD upper hybrid elbow LH side P/N AA0742A-000 using existing hardware.
 - 2.46 With reference to Figure 3, install n°1 upper cabin insulated flex duct LH P/N AA0738A-000 using n°2 straps P/N AW001CK06HS.
 - 2.47 With reference to Figure 3 Detail G Detail N, install n°1 rear upper hybrid elbow LH side P/N AA0743A-000 using existing hardware.
 - 2.48 With reference to Figure 3, install n°1 upper cabin insulated flex duct LH P/N AA0738A-000 using n°2 straps P/N AW001CK06HS.
3. In accordance to AMP DM 39-A-06-41-00-00A-010A-A install the previously removed access panels 473AL, 150AT, 150CT, 152CR, 151BL using existing hardware
 4. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, Section 6).
 5. Return the helicopter to flight configuration and record for compliance with Part IV of this Service Bulletin on the helicopter logbook.
 6. Send the attached compliance form to the following mail box:
engineering.support.lhd@leonardocompany.com
As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

PART V

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. With reference to Figure 9, carefully release the four camlocks that attach the liner assy hinged RH to the structure.
3. Carefully lower the liner assy hinged RH as the cables and the structure will let.
4. With reference to Figure 9, disconnect the three gasper hoses from the passenger service units, the three bonding jumpers from the structure and the P2262 connector.
5. With reference to Figure 9, safety hold the lining panel and remove the fifteen bolts from the five half hinges and remove the linear assy hinged RH from the structure. Retain remove hardware for later re-use.
6. With reference to Figure 8, repeat steps 2 thru 5 and remove the liner assy hinged LH.
7. With reference to Figure 9, install the liner assy hinged RH P/N 3G2580A78031CS01 on the structure as described in the following procedure:
 - 7.1 Hold the liner assy hinged RH P/N 3G2580A78031CS01 in its position.
 - 7.2 Align the half hinges to their seats on the structure and make sure that the holes of the half hinges are aligned with the holes on the structure.
 - 7.3 Attach the five half hinges to the structure by means of previously removed, fifteen bolts. Tighten the bolts.
8. With reference to Figure 9, connect the three gasper hoses to the passenger service units and the P2262 connector.
9. With reference to Figure 9, install the three bonding jumpers using existing fixing points on the structure by means of n°3 washers P/N NAS1149DN816J and previous removed screws.
10. With reference to Figure 8, repeat steps 7 thru 9 and install the liner assy hinged LH P/N 3G2580A78131CS01.
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 Part V of this Service Bulletin on the helicopter logbook.
13. Send the attached compliance form to the following mail box:

engineering.support.lhd@leonardocompany.com

As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

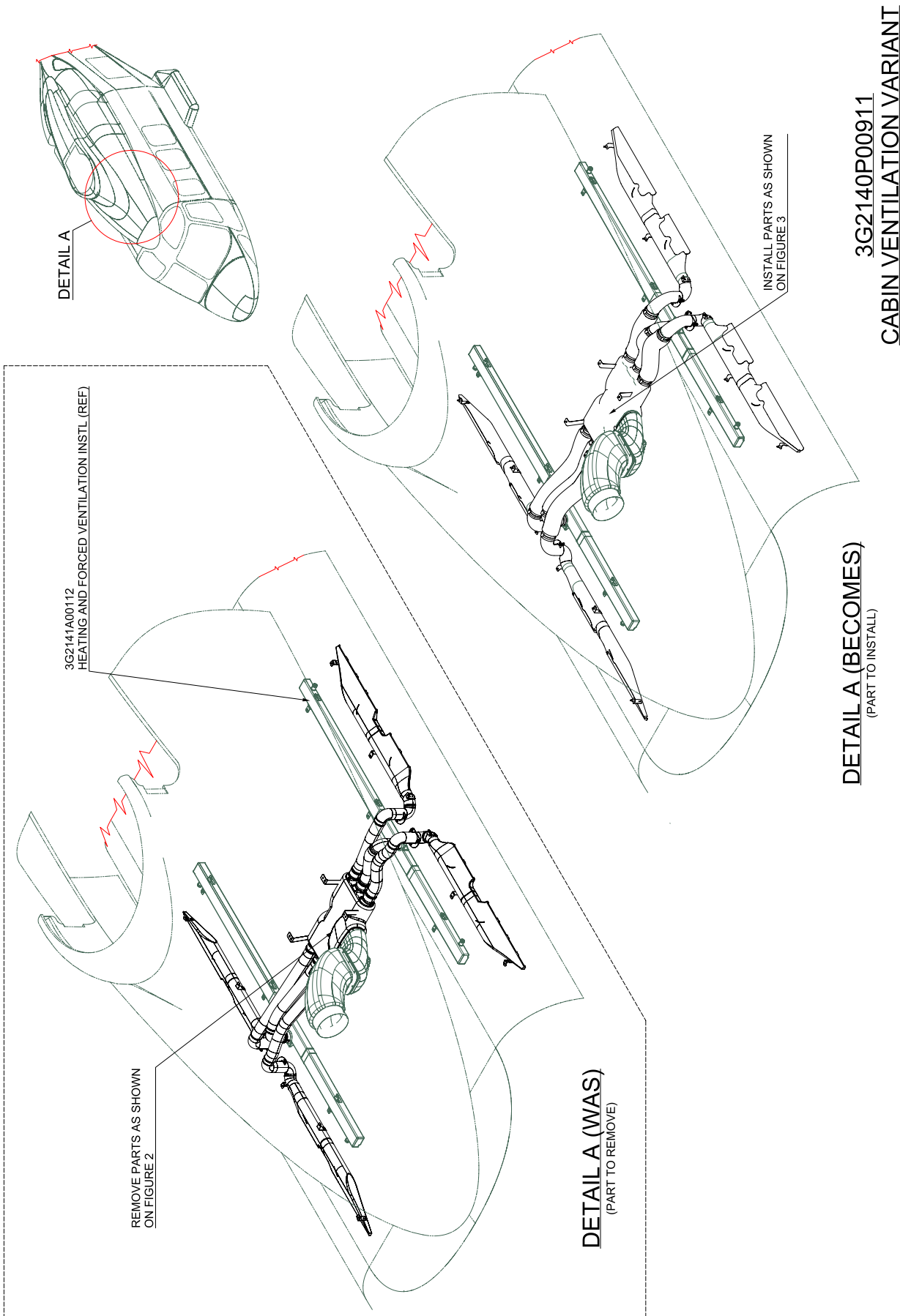


Figure 1

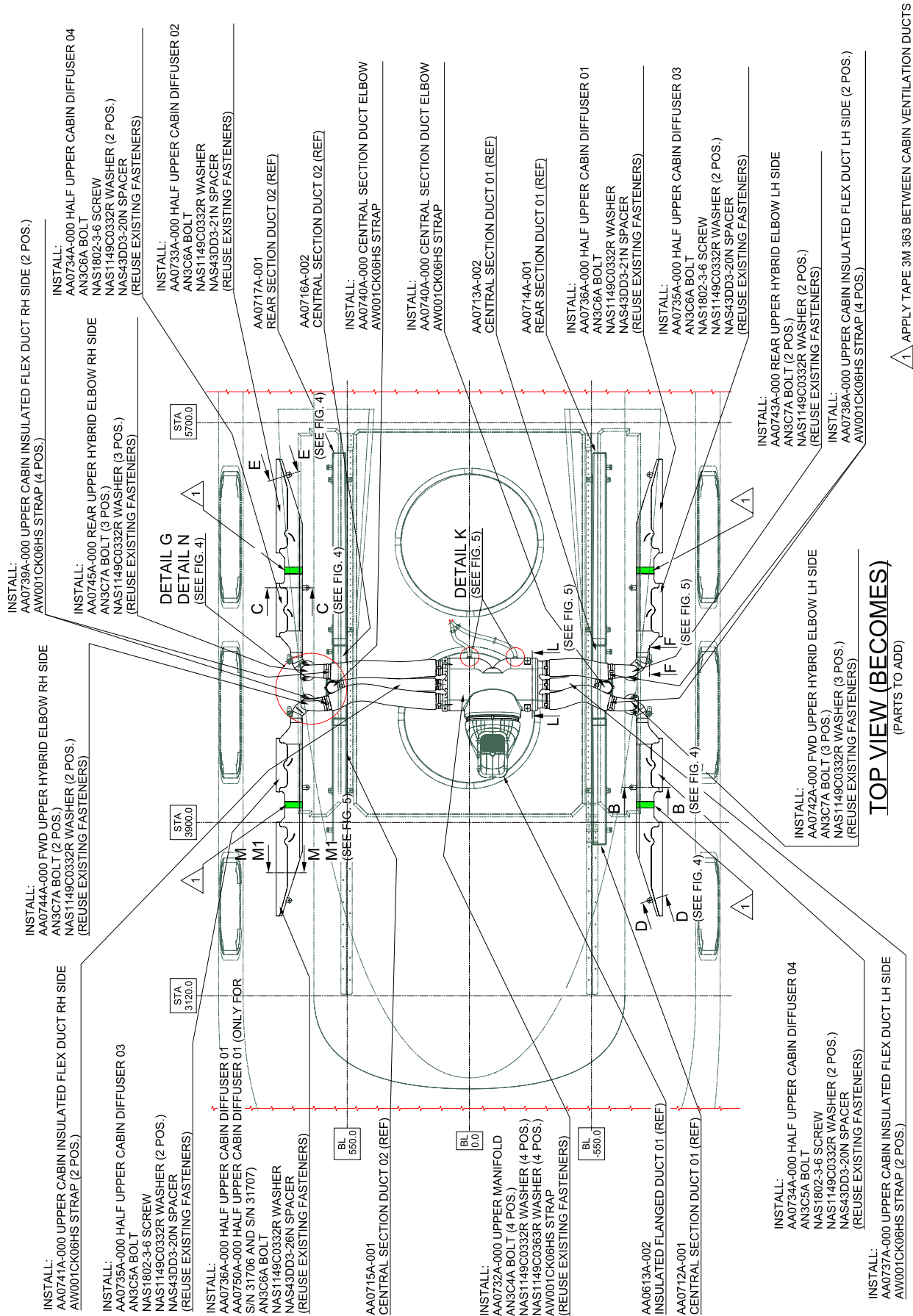


Figure 3

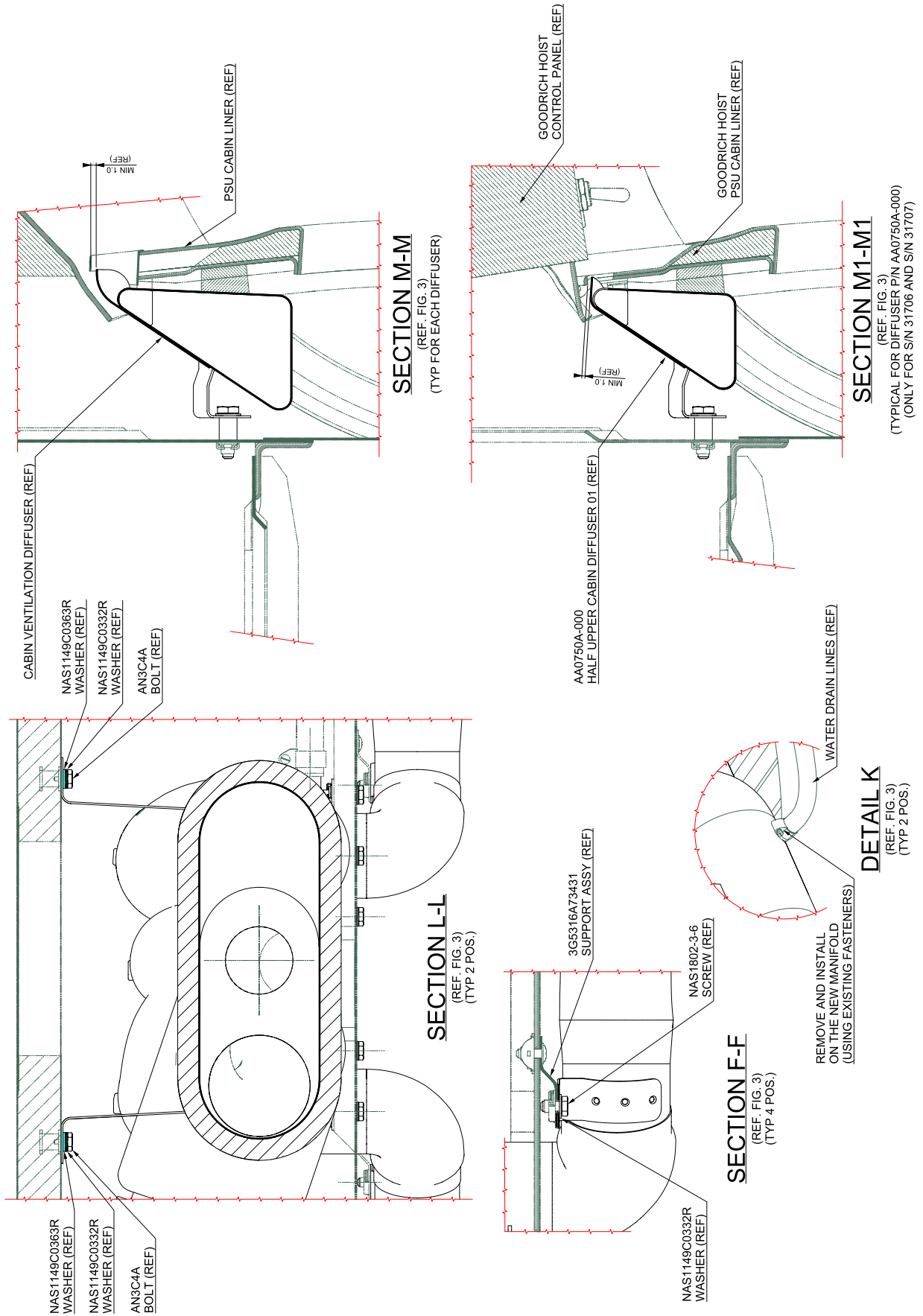


Figure 5

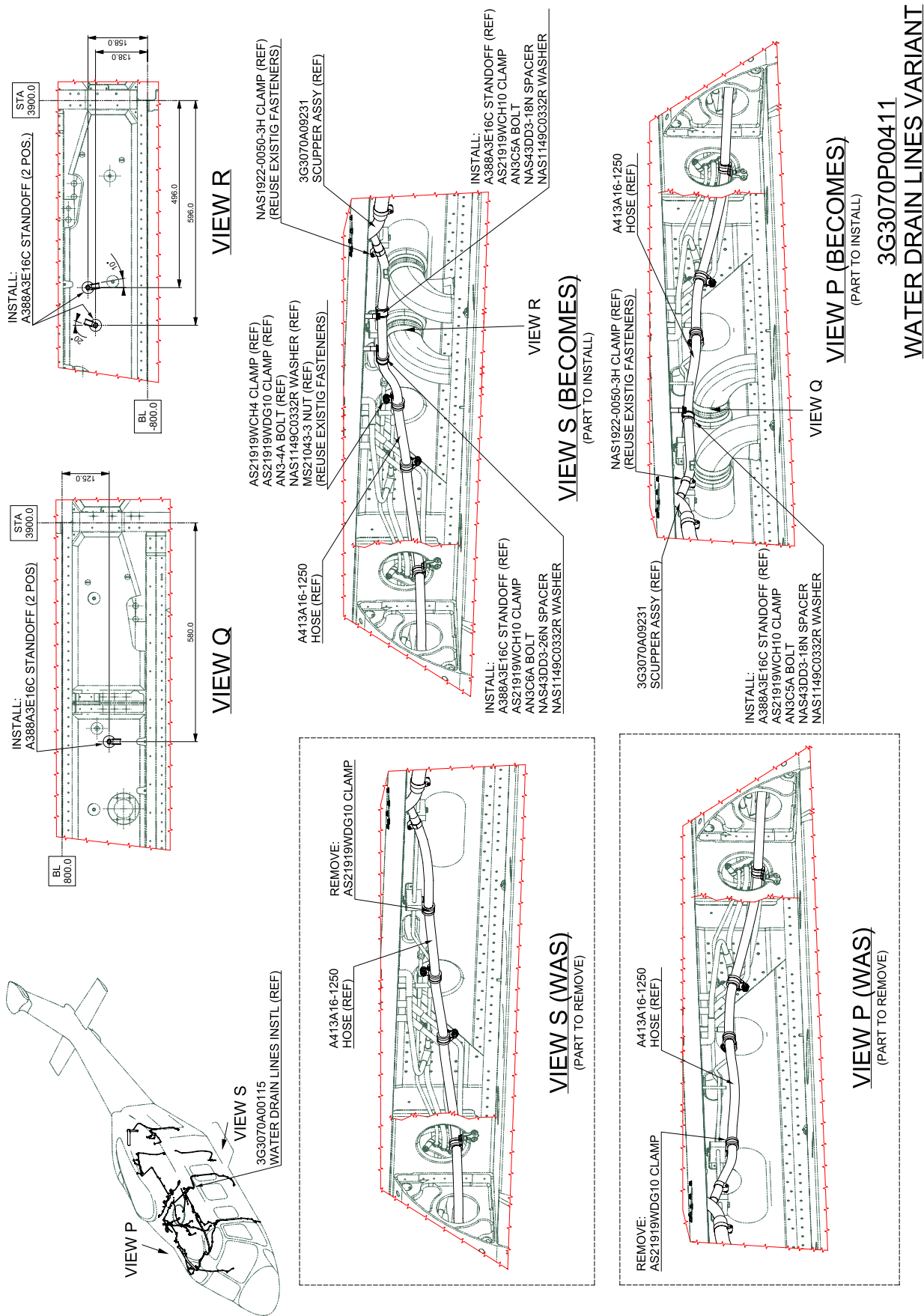


Figure 6



Figure 7

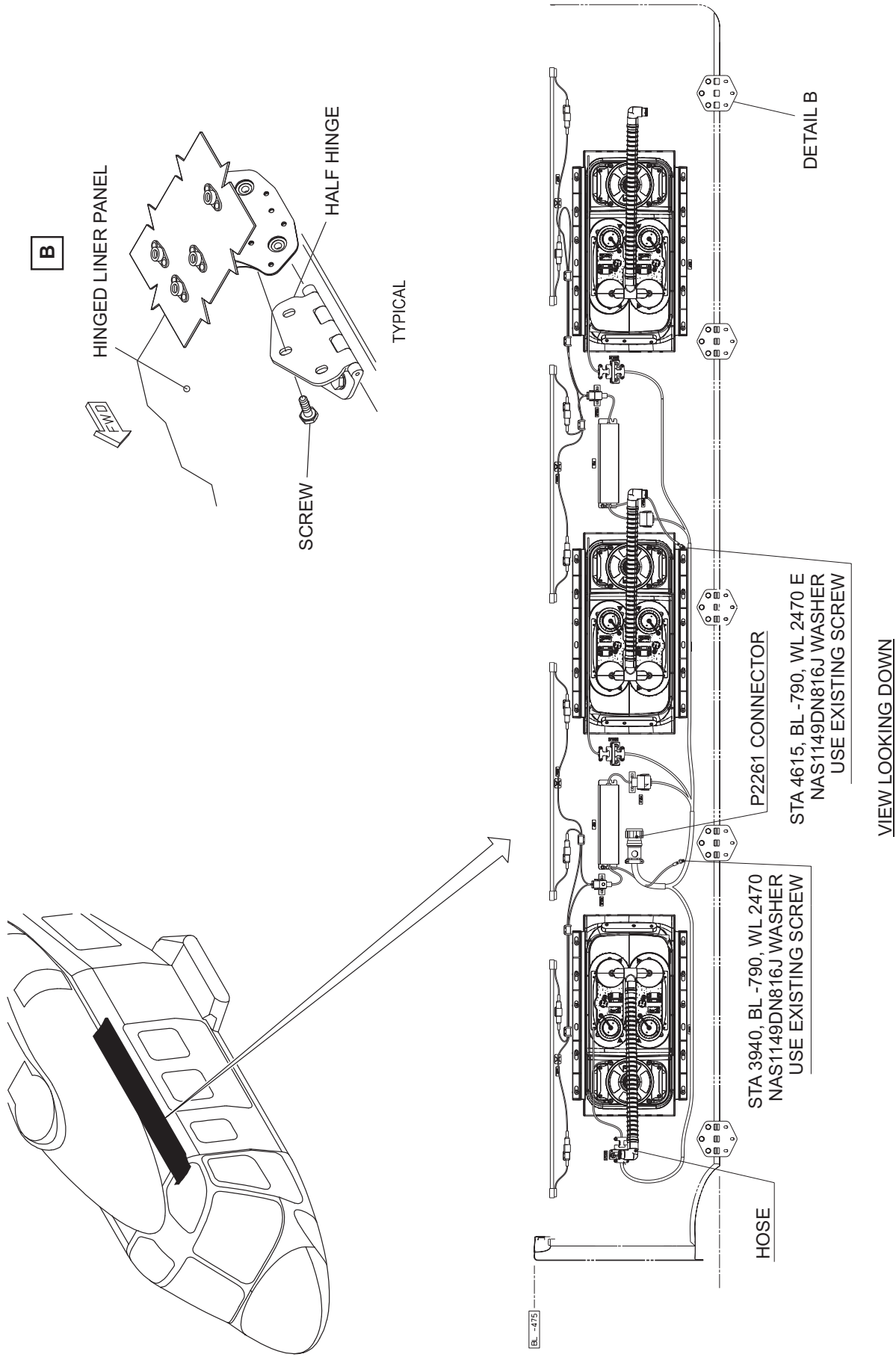


Figure 8

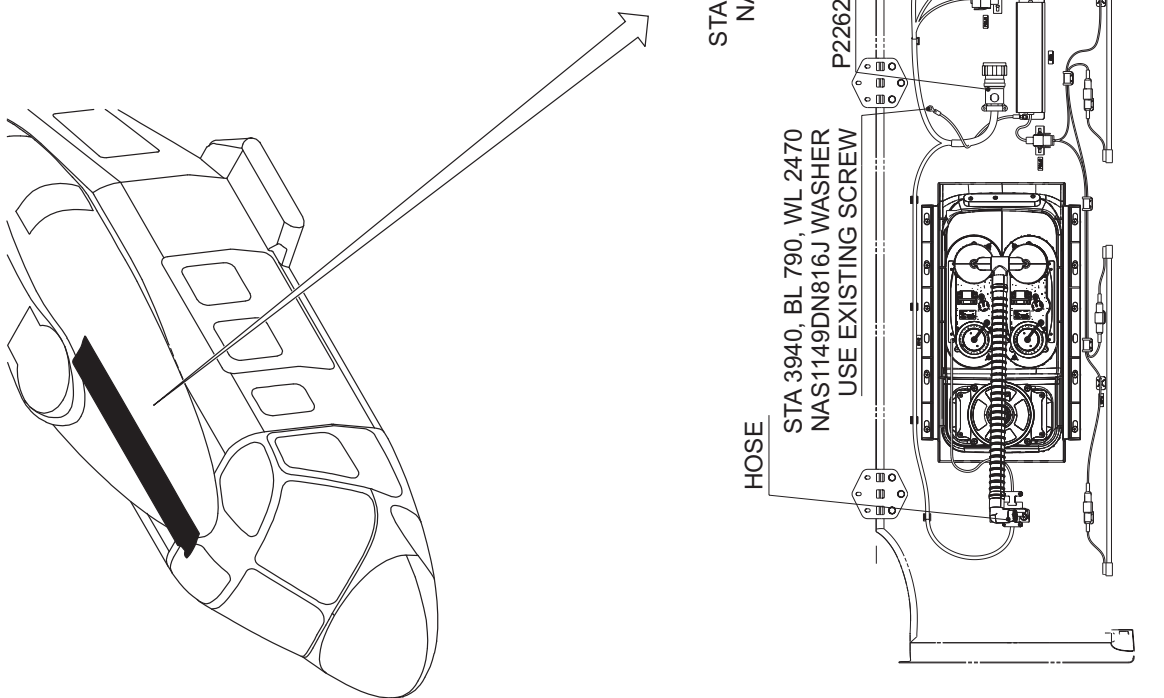


Figure 9

