
SERVICE BULLETIN

N° **139-657**

OPTIONAL

DATE: February 28, 2024

REV. : /

TITLE

ATA 56 – CABIN STORM WINDOW LH-RH INSTALLATION

REVISION LOG

First Issue

1. PLANNING INFORMATION

A. EFFECTIVITY

All AB139/AW139 helicopters equipped with cabin sliding doors.

NOTE

This Service Bulletin is applicable only to Helicopters installing internal and external markings with English wording. In case a customized markings installation is desired (for example Markings with wording in languages different from English) please contact your Customer Support Area Manager requesting a quotation.

B. COMPLIANCE

At Customer's option.

C. CONCURRENT REQUIREMENTS

In order to comply with this Service Bulletin, any affected helicopter must have already embodied Service Bulletin 139-694 or windows gasket installations (with external handle P/N 3G5630A01251).

D. REASON

This Service Bulletin is issued to provide the instructions to perform the installation of kit left cabin storm window P/N 4G5630F00311 (Part I) and kit right cabin storm window P/N 4G5630F00411 (Part II).

LHD issued this SB for the following reason:

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

E. DESCRIPTION

The kits cabin storm window replaces the basic FWD single layer transparent of the passenger sliding doors with a solution that introduces a sliding storm window.

The storm window can be opened in flight.

The kits are composed of a frame around all the perimeter of the storm window, installed on the window transparent.

This frame embeds the rails in which a part of the transparent can slide afterward to open and forward to close. A mechanism allows to lock the storm window in closed position.

When kit cabin storm window is installed, the forward window on the passengers door is still an emergency exits and the storm window does not impact on the emergency procedures.

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: approximately eight (8) MMH;

Part II: approximately eight (8) MMH;

MMH are based on hands-on time and can change with helicopter configuration, 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

PART I

WEIGHT (Kg)	ARM (mm)	MOMENT (Kgmm)
		1.35
LONGITUDINAL BALANCE	4410	5953.5
LATERAL BALANCE	-1089	-1470.15

PART II

WEIGHT (Kg)	ARM (mm)	MOMENT (Kgmm)
		1.35
LONGITUDINAL BALANCE	4410	5953.5
LATERAL BALANCE	1089	1470.15

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.	All
DM02 39-A-11-00-01-00A-720A-A	Decal - Install procedure	All
DM03 39-A-56-32-01-00A-920A-A	Left cabin door window - Replacement	I
DM04 39-A-56-32-02-00A-920A-A	Right cabin door window - Replacement	II
DM05 39-A-56-35-00-00A-92AA-A	Left/right cabin door forward storm window - Replacement of components	All
DM06 39-A-56-35-01-00A-920A-A	Left cabin door forward storm window - Replacement	I
DM07 39-A-56-35-02-00A-920A-A	Right cabin door forward storm window - Replacement	II

I.2 ACRONYMS & ABBREVIATIONS

AMD	Aircraft Material Data Information
AMP	Aircraft Maintenance Publication
AR	As Required
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
FWD	Forward
IPD	Illustrated Part Data
ITEP	Illustrated tool and equipment publication

LH Left Hand
LHD Leonardo Helicopters Division
MMH Maintenance Man Hours
N.A. Not Applicable
P/N Part Number
RH Right Hand
SB Service Bulletin
S/N Serial Number

I.3 ANNEX

N.A.

J. PUBLICATIONS AFFECTED

N.A.

K. SOFTWARE ACCOMPLISHMENT SUMMARY

N.A.

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

A.1 PARTS

PART I

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	4G5630F00311		KIT CABIN STORM WINDOW LH	REF	.		-
2	3G5630A03311		CABIN STORM FWD WINDOW LH INSTALLATION	REF	..		-
3	3G5630A03531		Cabin storm FWD window assy LH	1	...		139-657L1
4	3G5630A04251		Retainer down	1	...		139-657L1
5	3G5630A04351		Retainer upper	1	...		139-657L1
6	3G5630A04451		Retainer angular	2	...		139-657L1
7	3G5630A01251		Handle	1	...		139-657L1
8	3G5630A01351		Clip	1	...		139-657L1
9	3G5630A01951		Gasket	1	...		139-657L1
10	3G5630A02351		Filler	2	...		139-657L1
11	A487A003A		Strap Assembly	1	...	(1)	-
12	3G1130A06712		INTERIOR MARKING INSTALLATION	REF	.		-
13	A180A016E22		Decal	2	..	(2)	139-657L1
14	3G1120A06712		EXTERIOR MARKING INSTALLATION	REF	.		-
15	A180A016E22		Decal	2	..	(2)	139-657L1

PART II

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
16	4G5630F00411		KIT CABIN STORM WINDOW RH	REF	.		-
17	3G5630A03411		CABIN STORM FWD WINDOW RH INSTALLATION	REF	..		-
18	3G5630A04131		Cabin storm FWD window assy RH	1	...		139-657L2
19	3G5630A04251		Retainer down	1	...		139-657L2
20	3G5630A04351		Retainer upper	1	...		139-657L2
21	3G5630A04451		Retainer angular	2	...		139-657L2
22	3G5630A01251		Handle	1	...		139-657L2
23	3G5630A01351		Clip	1	...		139-657L2
24	3G5630A01951		Gasket	1	...		139-657L2
25	3G5630A02351		Filler	2	...		139-657L2
26	A487A003A		Strap Assembly	1	...	(1)	-
27	3G1130A06712		INTERIOR MARKING INSTALLATION	REF	.		-
28	A180A016E22		Decal	2	..	(2)	139-657L2
29	3G1120A06712		EXTERIOR MARKING INSTALLATION	REF	.		-
30	A180A016E22		Decal	2	..	(2)	139-657L2

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
31	199-05-152 Type I, Class 2	Adhesive RTV 732 (C126)	AR	(3)	All
32	A914A08A	Guide	AR	-	All

Refer also to AMDI for the consumable materials required to comply with the AMP DM 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
139-657L1	1		I
139-657L2	1		II

NOTES

- (1) This item is part of the windows gasket installation already installed on the aircraft. If the existing one is damaged, it must be replaced with a new one.
- (2) These items have English wording. In case a customized markings installation is desired (for example Markings with wording in languages different from English) please contact your Customer Support Area Manager requesting a quotation.
- (3) 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.

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) Let adhesive cure at room temperature for at least 24 hours unless otherwise specified.
- c) Exposed thread surface and nut must be protected using a layer of tectyl according to MIL-C-16173 grade I.
- 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. In accordance with the applicable steps of AMP DM 39-A-56-32-01-00A-920A-A and with reference to Figures 1 and 2, remove the following components from the passenger door LH:
 - the forward passenger door transparent P/N 3G5630A00151;
 - the retainer P/N 3G5630A02051;
 - the retainer P/N 3G5630A02151;
 - n°2 retainers P/N 3G5630A02251;
 - the gasket P/N 3G5630A01951;
 - n°2 fillers P/N 3G5630A02351;
 - the handle P/N 3G5630A01251;
 - the clip P/N 3G5630A01351;
 - the strap assy P/N A487A003A.

NOTE

The following step 3 is applicable only to cabin storm FWD window assy LH P/N 3G5630A03531 without frame holes (Ref. Figure 8 View C).

3. With reference to Figures 6 thru 8, rework the cabin storm FWD window assy LH P/N 3G5630A03531 as described in the following procedure:
 - 3.1 In accordance with the applicable steps of AMP DM 39-A-56-35-00-00A-92AA-A and with reference to Figures 6 and 7, remove the sliding window LH frame P/N 3G5630L00251 from the cabin storm FWD window assy LH.

NOTE

Exercise extreme care during rework operations to prevent damage to the LH frame P/N 3G5630L00251 or window guide P/N A914A08A960.

- 3.2 With reference to Figure 8 View C, rework the sliding window LH frame P/N 3G5630L00251 as shown in figure.
- 3.3 With reference to Figure 8 "Isometric view", if the window guide P/N A914A08A960 has been damaged during the sliding window LH frame rework, remove the damaged window guide and proceed with the following step 3.4, otherwise skip to step 3.5.

NOTE

Cut the new window guide P/N A914A08A960 according to the frame holes (Ref. Figure 8 View C).

- 3.4 With reference to Figure 7 Section A-A, install the new window guide P/N A914A08A960 by means of adhesive RTV 732 (C126) on the reworked sliding window LH frame.
- 3.5 With reference to Figure 7 Section B-B, seal all around the window guide P/N A914A08A960 by means of adhesive RTV 732 (C126).

NOTE

If necessary, it is possible to add thickness to the window guide P/N A989A08A240 using adhesive RTV 732 (C126) until the guide is against the sliding window P/N 3G5630A03951 (Ref. Figure 7 Section A-A).

- 3.6 With reference to Figure 7 Section A-A, seal all around the window guide P/N A989A08A240 by means of adhesive RTV 732 (C126).

- 3.7 In accordance with the applicable steps of AMP DM 39-A-56-35-00-00A-92AA-A and with reference to Figures 6 and 7, reinstall the sliding window LH frame P/N 3G5630L00251 and the other components previously removed (Ref. step 3.1), on the cabin storm FWD window assy LH.

NOTE

- Sanding of the gasket, filler and retainer (rubber parts) is not permitted.
 - During the installation phase, it is not allowed to stretch the gasket, the filler and the retainer.
 - To ensure a correct bonding / adhesion between the transparent and the gasket and between the retainer and the door panel, make sure that during the adhesive application phase there is a squeeze-out of the adhesive itself. The bonding process must be performed using a tool or gun or syringe.
 - After 30 minutes, remove squeeze out adhesive on internal and external side.
4. In accordance with the applicable steps of AMP DM 39-A-56-35-01-00A-920A-A and with reference to Figures 1 and 2, install the following components on the passenger door LH:
- the cabin storm FWD window assy LH P/N 3G5630A03531;
 - the retainer down P/N 3G5630A04251;
 - the retainer upper P/N 3G5630A04351;
 - n°2 retainers angular P/N 3G5630A04451;
 - the gasket P/N 3G5630A01951;
 - n°2 fillers P/N 3G5630A02351;
 - the handle P/N 3G5630A01251;
 - the clip P/N 3G5630A01351;
 - the strap assy P/N A487A003A.
5. In accordance with the applicable steps of AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 5 Section A-A, install n°2 decals P/N A180A016E22 on the inner side of the cabin storm FWD window assy LH P/N 3G5630A03531.
6. In accordance with the applicable steps of AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 5 View B, install n°2 decals P/N A180A016E22 on the outer side of the cabin storm FWD window assy LH P/N 3G5630A03531.
7. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).

8. Return the helicopter to flight configuration and record for compliance with Part I of this Service Bulletin on the helicopter logbook.
9. Gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

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

engineering.support.lhd@leonardo.com

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

AWPC.Engineering.Support@leonardocompany.us

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. In accordance with the applicable steps of AMP DM 39-A-56-32-02-00A-920A-A and with reference to Figures 3 and 4, remove the following components from the passenger door RH:
 - the forward passenger door transparent P/N 3G5630A00151;
 - the retainer P/N 3G5630A02051;
 - the retainer P/N 3G5630A02151;
 - n°2 retainers P/N 3G5630A02251;
 - the gasket P/N 3G5630A01951;
 - n°2 fillers P/N 3G5630A02351;
 - the handle P/N 3G5630A01251;
 - the clip P/N 3G5630A01351;
 - the strap assy P/N A487A003A.

NOTE

The following step 3 is applicable only to cabin storm FWD window assy RH P/N 3G5630A04131 without frame holes (Ref. Figure 8 View C).

3. With reference to Figures 6 thru 8, rework the cabin storm FWD window assy RH P/N 3G5630A04131 as described in the following procedure:
 - 3.1 In accordance with the applicable steps of AMP DM 39-A-56-35-00-00A-92AA-A and with reference to Figures 6 and 7, remove the sliding window RH frame P/N 3G5630L00551 from the cabin storm FWD window assy RH.

NOTE

Exercise extreme care during rework operations to prevent damage to the LH frame P/N 3G5630L00251 or window guide P/N A914A08A960.

- 3.2 With reference to Figure 8 View C, rework the sliding window RH frame P/N 3G5630L00551 as shown in figure.
- 3.3 With reference to Figure 8 "Isometric view", if the window guide P/N A914A08A960 has been damaged during the sliding window RH frame rework, remove the damaged window guide and proceed with the following step 3.4, otherwise skip to step 3.5.

NOTE

Cut the new window guide P/N A914A08A960 according to the frame holes (Ref. Figure 8 View C).

- 3.4 With reference to Figure 7 Section A-A, install the new window guide P/N A914A08A960 by means of adhesive RTV 732 (C126) on the reworked sliding window RH frame.
- 3.5 With reference to Figure 7 Section B-B, seal all around the window guide P/N A914A08A960 by means of adhesive RTV 732 (C126).

NOTE

If necessary, it is possible to add thickness to the window guide P/N A989A08A240 using adhesive RTV 732 (C126) until the guide is against the sliding window P/N 3G5630A03951 (Ref. Figure 7 Section A-A).

- 3.6 With reference to Figure 7 Section A-A, seal all around the window guide P/N A989A08A240 by means of adhesive RTV 732 (C126).
- 3.7 In accordance with the applicable steps of AMP DM 39-A-56-35-00-00A-92AA-A and with reference to Figures 6 and 7, reinstall the sliding window RH frame P/N 3G5630L00551 and the other components previously removed (Ref. step 3.1), on the cabin storm FWD window assy RH.

NOTE

- Sanding of the gasket, filler and retainer (rubber parts) is not permitted.
 - During the installation phase, it is not allowed to stretch the gasket, the filler and the retainer.
 - To ensure a correct bonding / adhesion between the transparent and the gasket and between the retainer and the door panel, make sure that during the adhesive application phase there is a squeeze-out of the adhesive itself. The bonding process must be performed using a tool or gun or syringe.
 - After 30 minutes, remove squeeze out adhesive on internal and external side.
4. In accordance with the applicable steps of AMP DM 39-A-56-35-02-00A-920A-A and with reference to Figures 3 and 4, install the following components on the passenger door RH:
 - the cabin storm FWD window assy RH P/N 3G5630A04131;

- the retainer down P/N 3G5630A04251;
 - the retainer upper P/N 3G5630A04351;
 - n°2 retainers angular P/N 3G5630A04451;
 - the gasket P/N 3G5630A01951;
 - n°2 fillers P/N 3G5630A02351;
 - the handle P/N 3G5630A01251;
 - the clip P/N 3G5630A01351;
 - the strap assy P/N A487A003A (if necessary).
5. In accordance with the applicable steps of AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 5 Section A-A, install n°2 decals P/N A180A016E22 on the inner side of the cabin storm FWD window assy RH P/N 3G5630A04131.
 6. In accordance with the applicable steps of AMP DM 39-A-11-00-01-00A-720A-A and with reference to Figure 5 View B, install n°2 decals P/N A180A016E22 on the outer side of the cabin storm FWD window assy RH P/N 3G5630A04131.
 7. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
 8. Return the helicopter to flight configuration and record for compliance with Part II of this Service Bulletin on the helicopter logbook.
 9. Gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

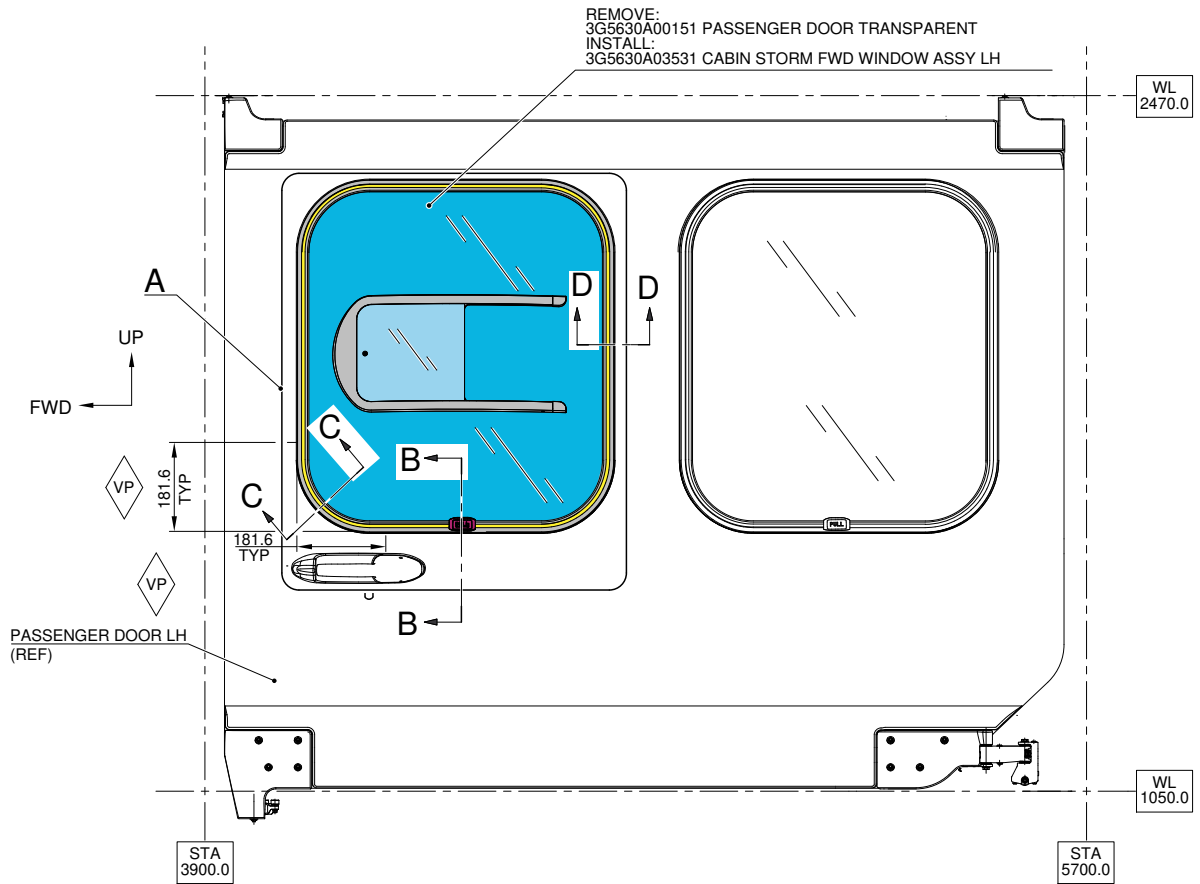
As an alternative, send the attached compliance form to the following mail box:

engineering.support.lhd@leonardo.com

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

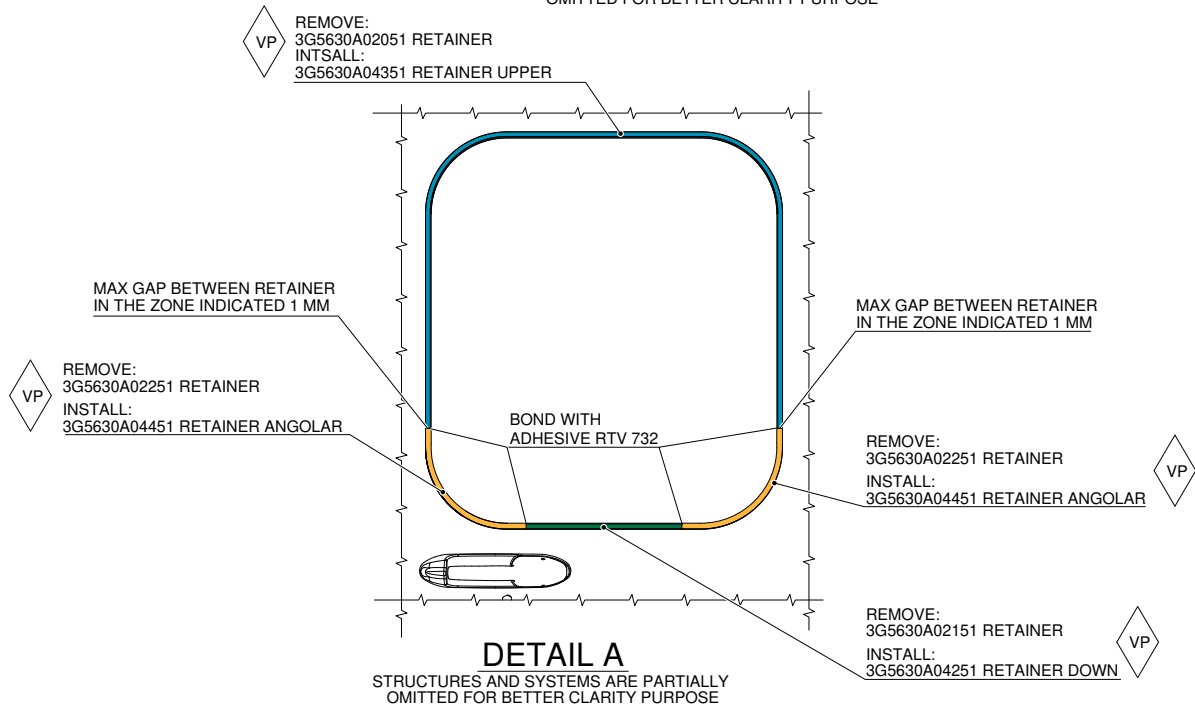
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3G5630A03311
CABIN STORM FWD WINDOW LH
INSTALLATION



VIEW LOOKING INBOARD

(LH SIDE)
STRUCTURES AND SYSTEMS ARE PARTIALLY
OMITTED FOR BETTER CLARITY PURPOSE



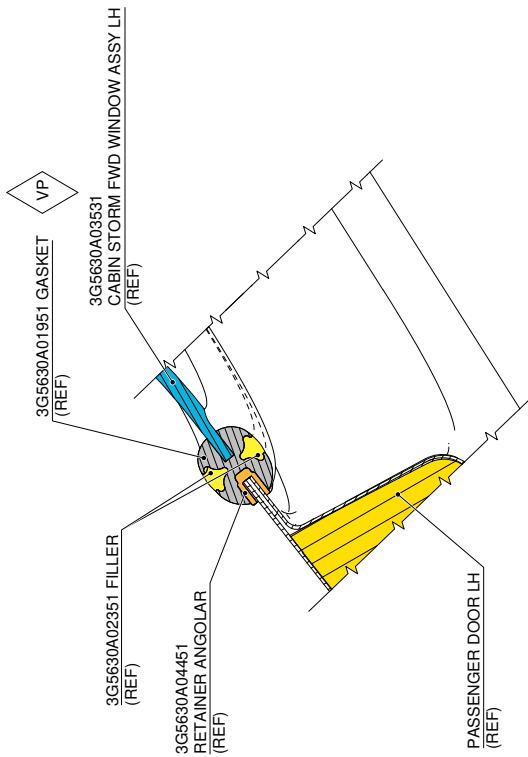
DETAIL A

STRUCTURES AND SYSTEMS ARE PARTIALLY
OMITTED FOR BETTER CLARITY PURPOSE

Figure 1

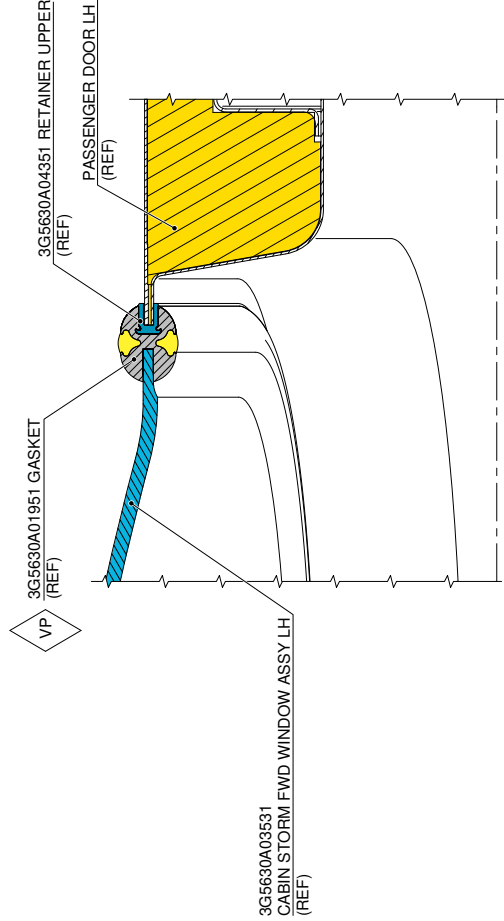
NOTES:

- ① APPLY THE FILLET SEALANT ONLY AFTER INSTALLING THE CLIP P/N 3G5630A01351 AND FILLER P/N 3G5630A02351 IN THE GASKET SEAT. THE FILLET SEALANT MUST BE AS LONG AS THE CLIP TO PREVENT THE SQUEEZE OUT GOING ON FILLER INSIDE THE GASKET SEAT.
- ② ON INTERNAL FUSELAGE SIDE INSTALL FILLER STARTING FROM TOP SIDE OF FRAME WINDOW.
- ③ ON EXTERNAL FUSELAGE SIDE:
 - INSTALL FILLER STARTING FROM TOP SIDE OF FRAME WINDOW;
 - CHECK IF THERE IS SQUEEZE OUT OF ADHESIVE ALL AROUND THE GASKET, IF NOT, LIFT THE SEAL EDGE AND FILL AGAIN.



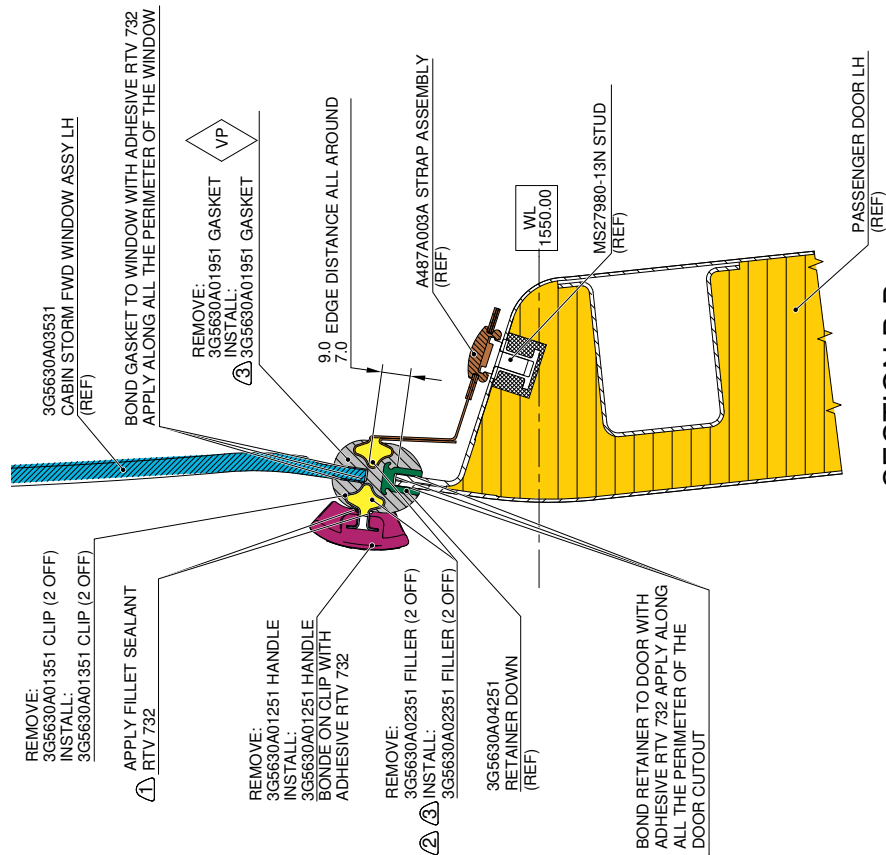
SECTION C-C

STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE



SECTION D-D

STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE



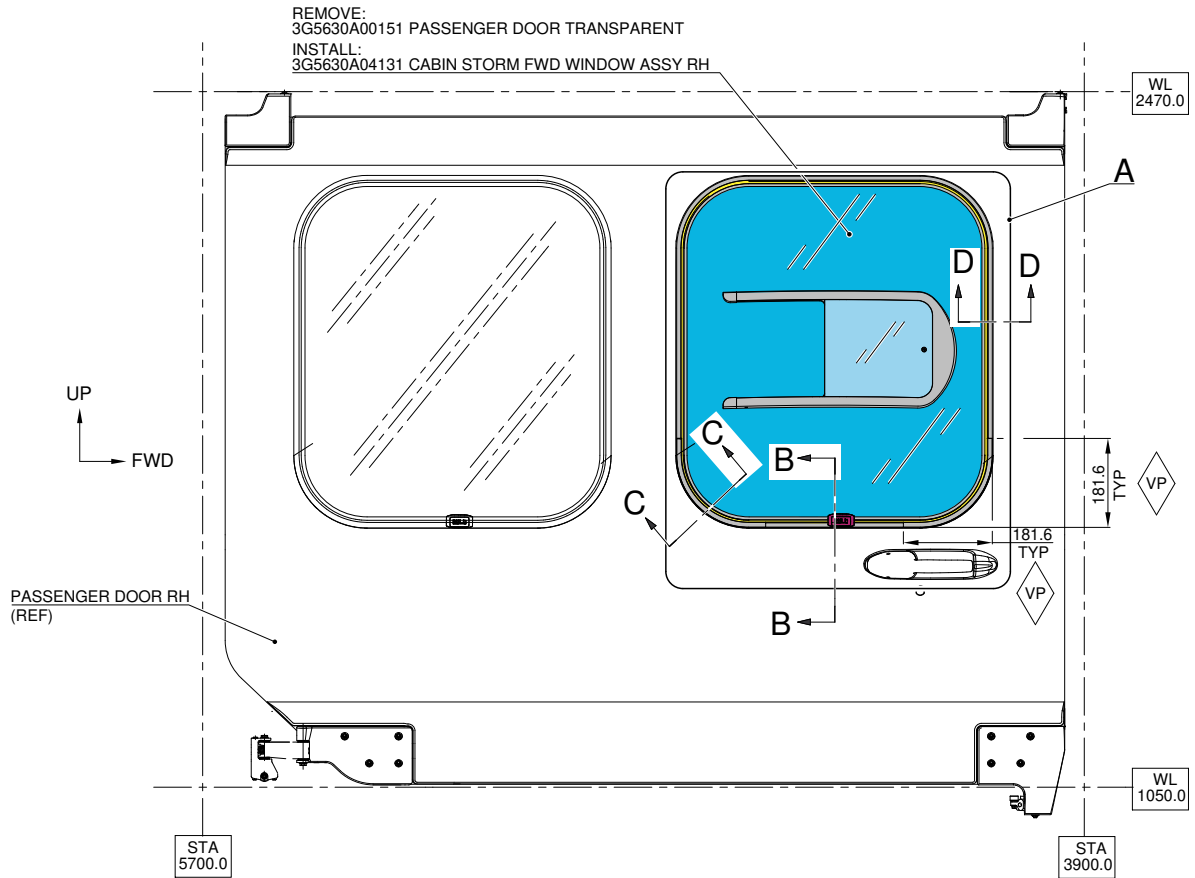
SECTION B-B

STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

Figure 2

S.B. N°139-657 OPTIONAL
DATE: February 28, 2024
REVISION: /

3G5630A03411
CABIN STORM FWD WINDOW RH
INSTALLATION



VIEW LOOKING INBOARD

(RH SIDE)
STRUCTURES AND SYSTEMS ARE PARTIALLY
OMITTED FOR BETTER CLARITY PURPOSE

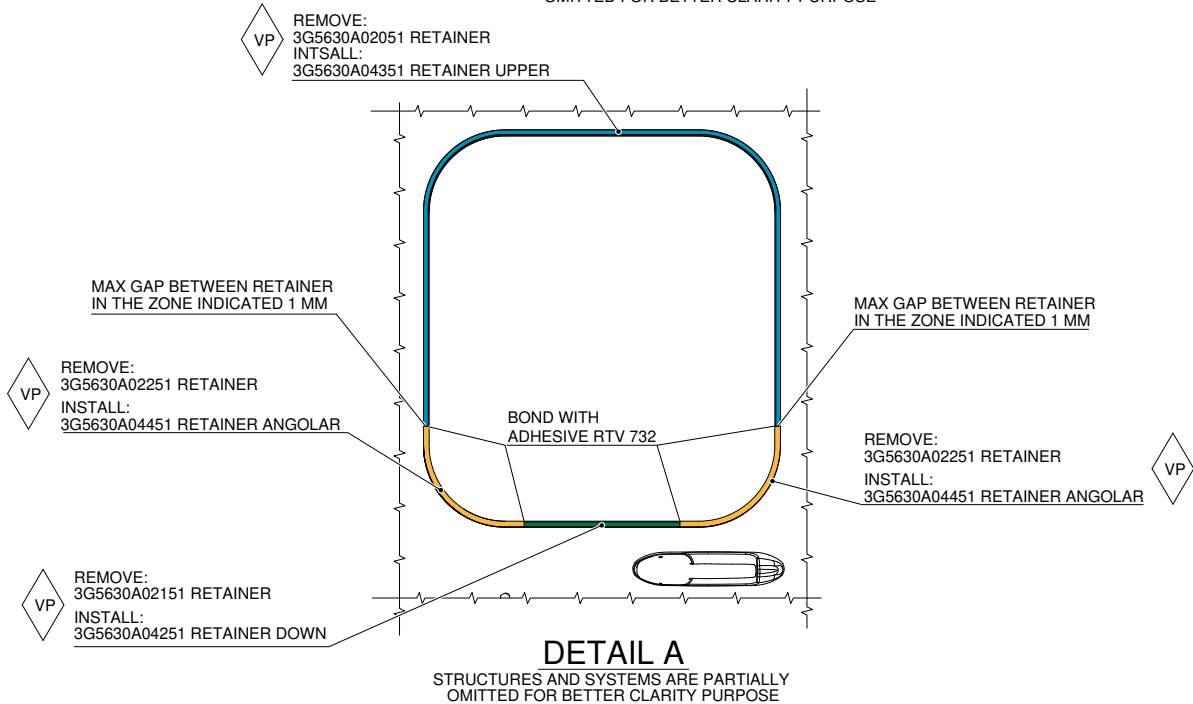
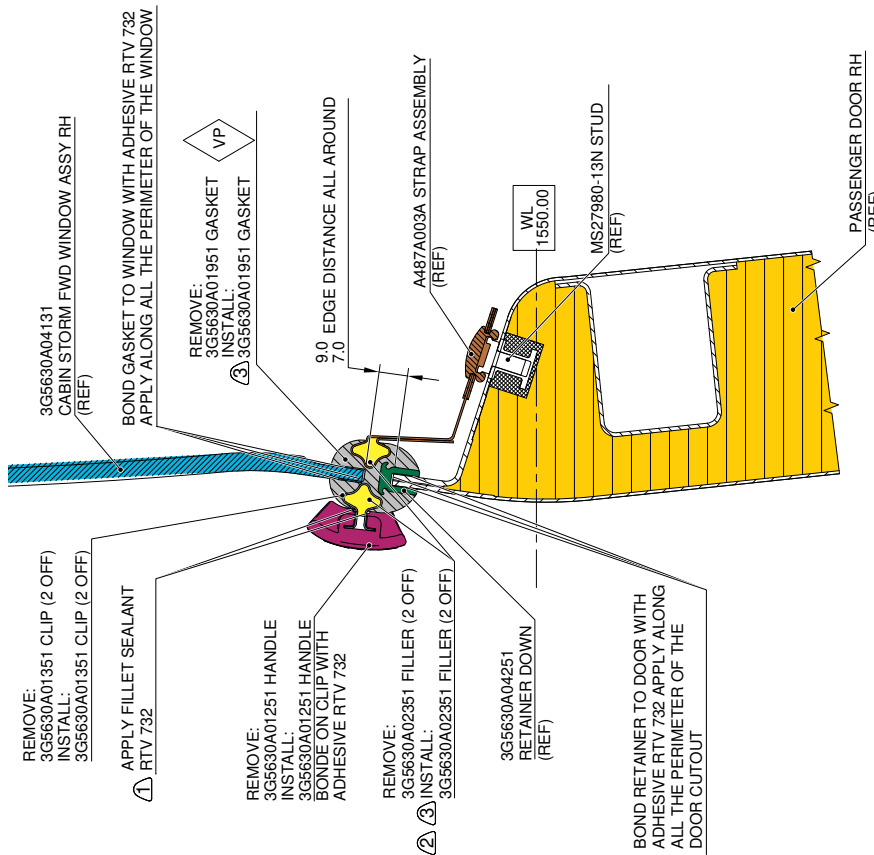


Figure 3

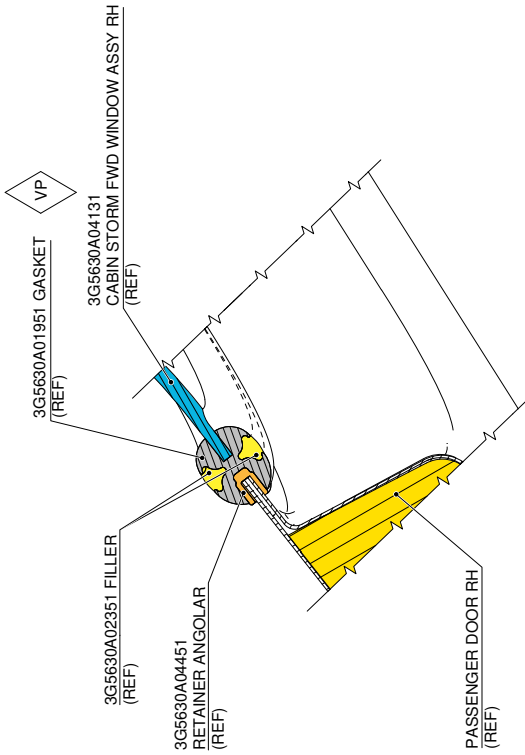
NOTES:

- ① APPLY THE FILLET SEALANT ONLY AFTER INSTALLING THE CLIP P/N 3G5630A01351 AND FILLER P/N 3G5630A02351 IN THE GASKET SEAT. THE FILLET SEALANT MUST BE AS LONG AS THE CLIP TO PREVENT THE SQUEEZE OUT GOING ON FILLER INSIDE THE GASKET SEAT.
- ② ON INTERNAL FUSELAGE SIDE INSTALL FILLER STARTING FROM TOP SIDE OF FRAME WINDOW.
- ③ ON EXTERNAL FUSELAGE SIDE:
-INSTALL FILLER STARTING FROM TOP SIDE OF FRAME WINDOW;
-CHECK IF THERE IS SQUEEZE OUT OF ADHESIVE ALL AROUND THE GASKET, IF NOT, LIFT THE SEAL EDGE AND FILL AGAIN.



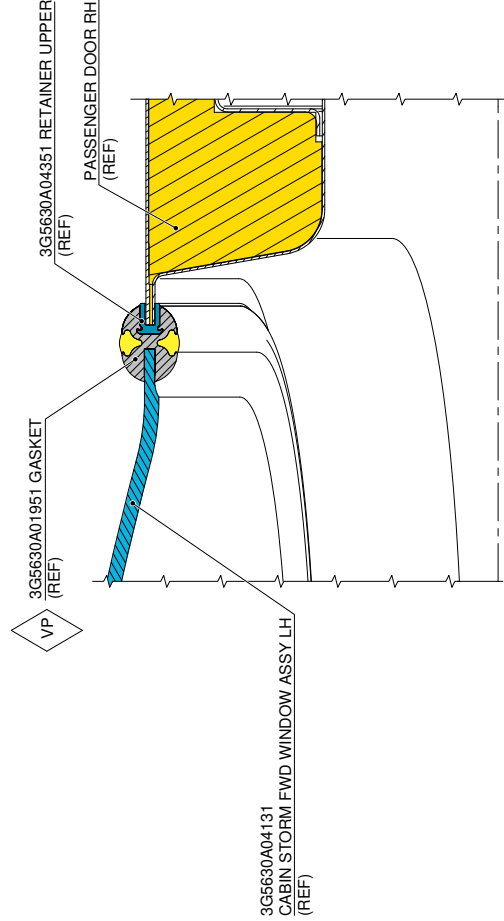
SECTION B-B

STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE



SECTION C-C

STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE



SECTION D-D

STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

Figure 4

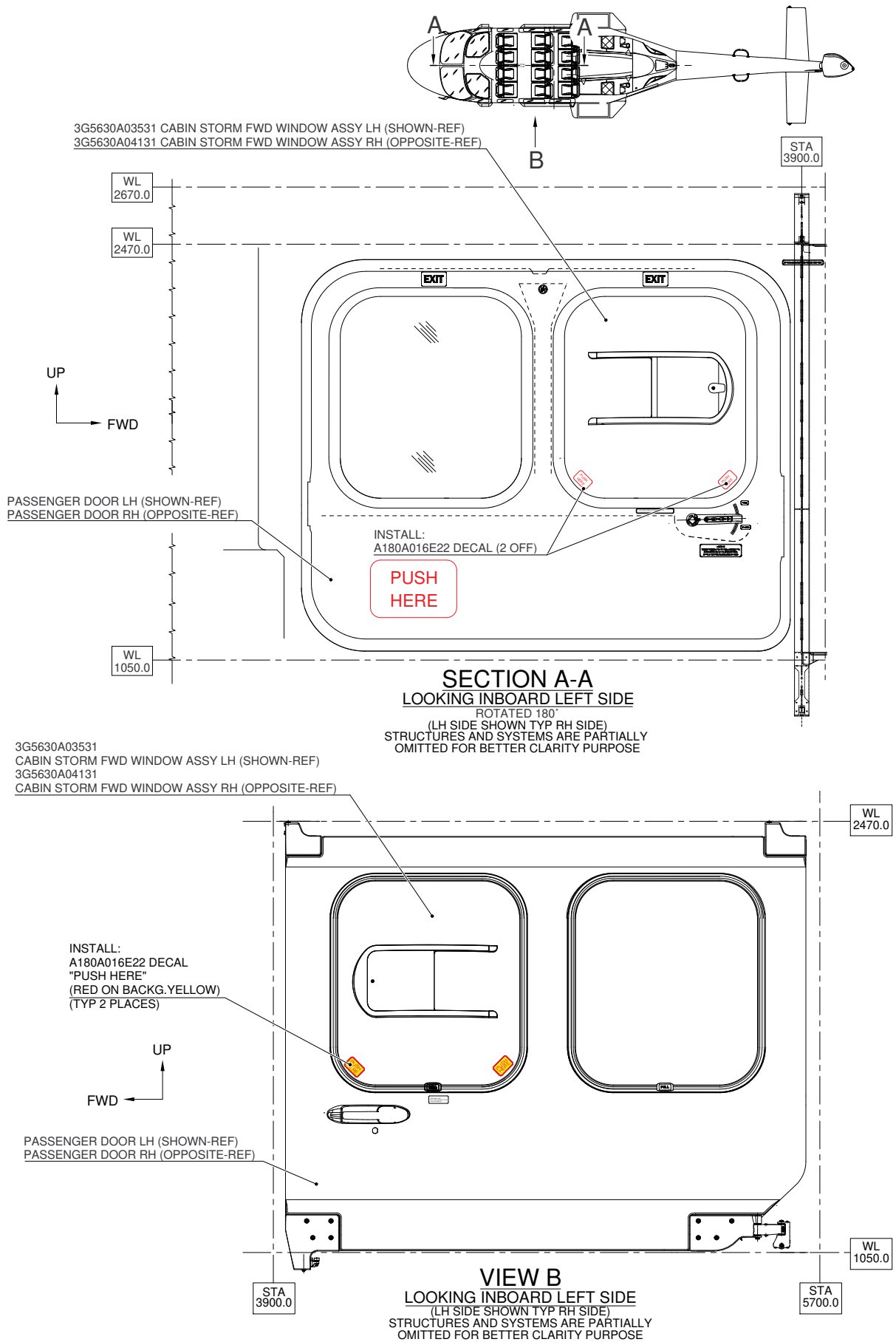
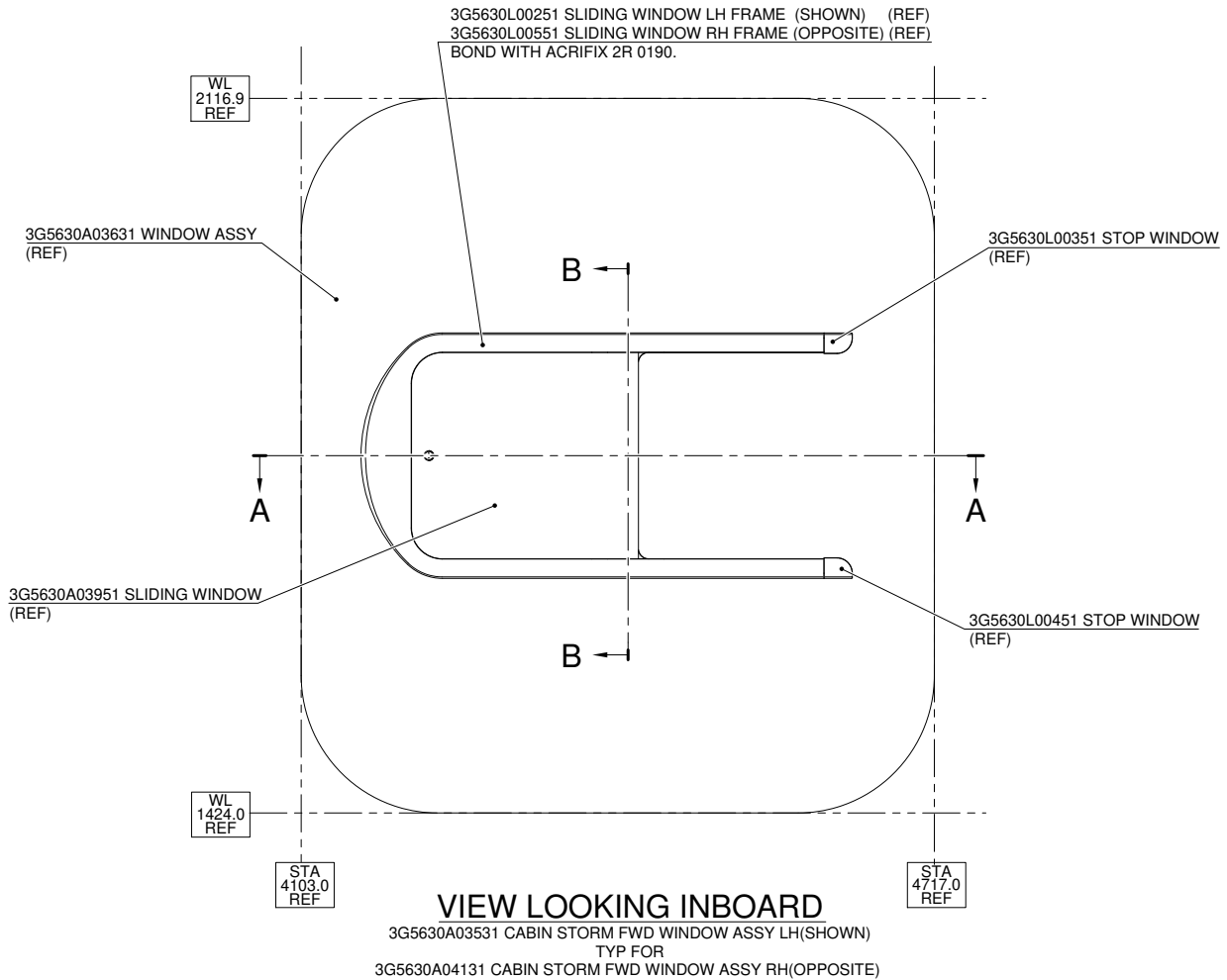


Figure 5

⚠️ REWORK OF
3G5630A03531 CABIN STORM FWD WINDOW ASSY LH(SHOWN)
3G5630A04131 CABIN STORM FWD WINDOW ASSY RH(OPPOSITE)



NOTE:

- ⚠️ APPLICABLE ONLY TO CABIN STORM FWD WINDOW ASSY WITHOUT FRAME HOLES (SEE FIGURE 8 VIEW C).

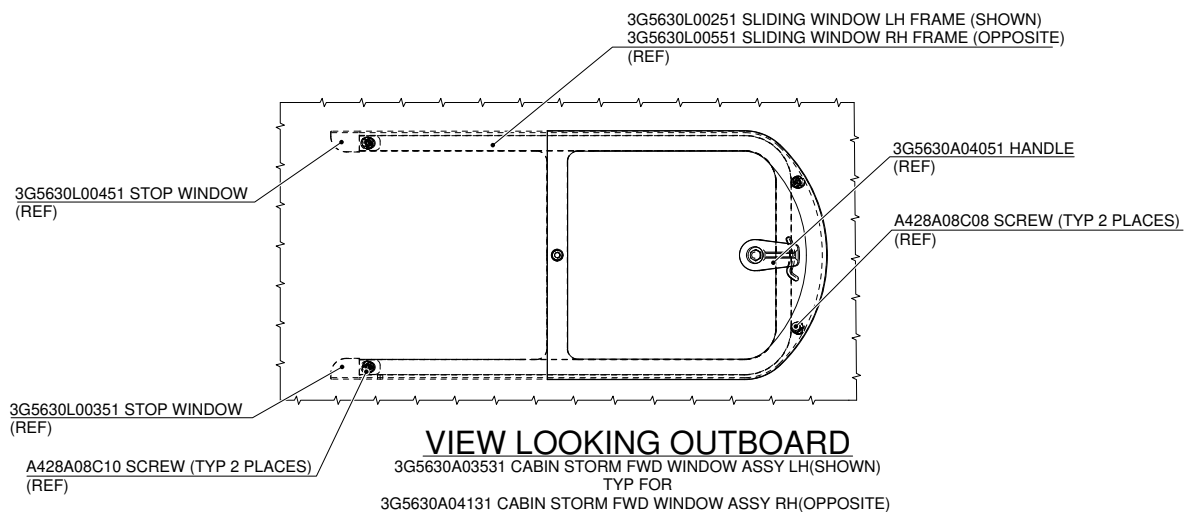
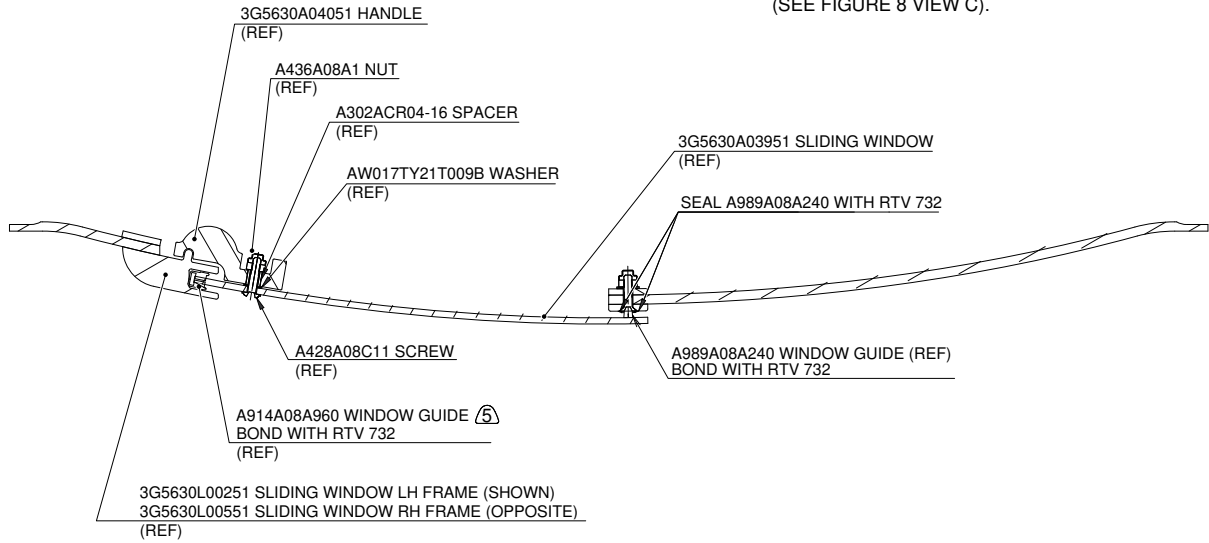


Figure 6

S.B. N°139-657 OPTIONAL
 DATE: February 28, 2024
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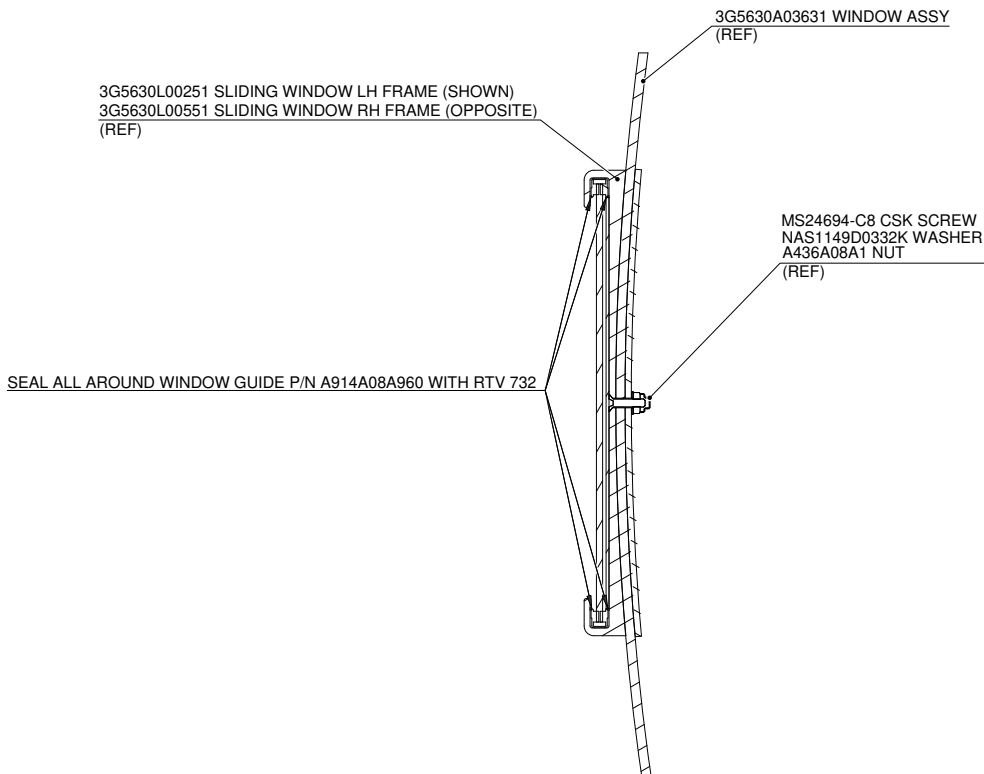
NOTE:

⑤ CUT THE WINDOW GUIDE P/N A914A08A960 ACCORDING TO THE FRAME HOLES (SEE FIGURE 8 VIEW C).



SECTION A-A

3G5630A03531 CABIN STORM FWD WINDOW ASSY LH (SHOWN)
TYP FOR
3G5630A04131 CABIN STORM FWD WINDOW ASSY RH (OPPOSITE)



SECTION B-B

3G5630A03531 CABIN STORM FWD WINDOW ASSY LH (SHOWN)
TYP FOR
3G5630A04131 CABIN STORM FWD WINDOW ASSY RH (OPPOSITE)

Figure 7

REWORK OF
3G5630L00251 SLIDING WINDOW LH FRAME (SHOWN)
3G5630L00551 SLIDING WINDOW RH FRAME (OPPOSITE)

NOTE:
 APPLICABLE ONLY TO CABIN STORM FWD WINDOW ASSY WITHOUT FRAME HOLES (SEE FIGURE 8 VIEW C).

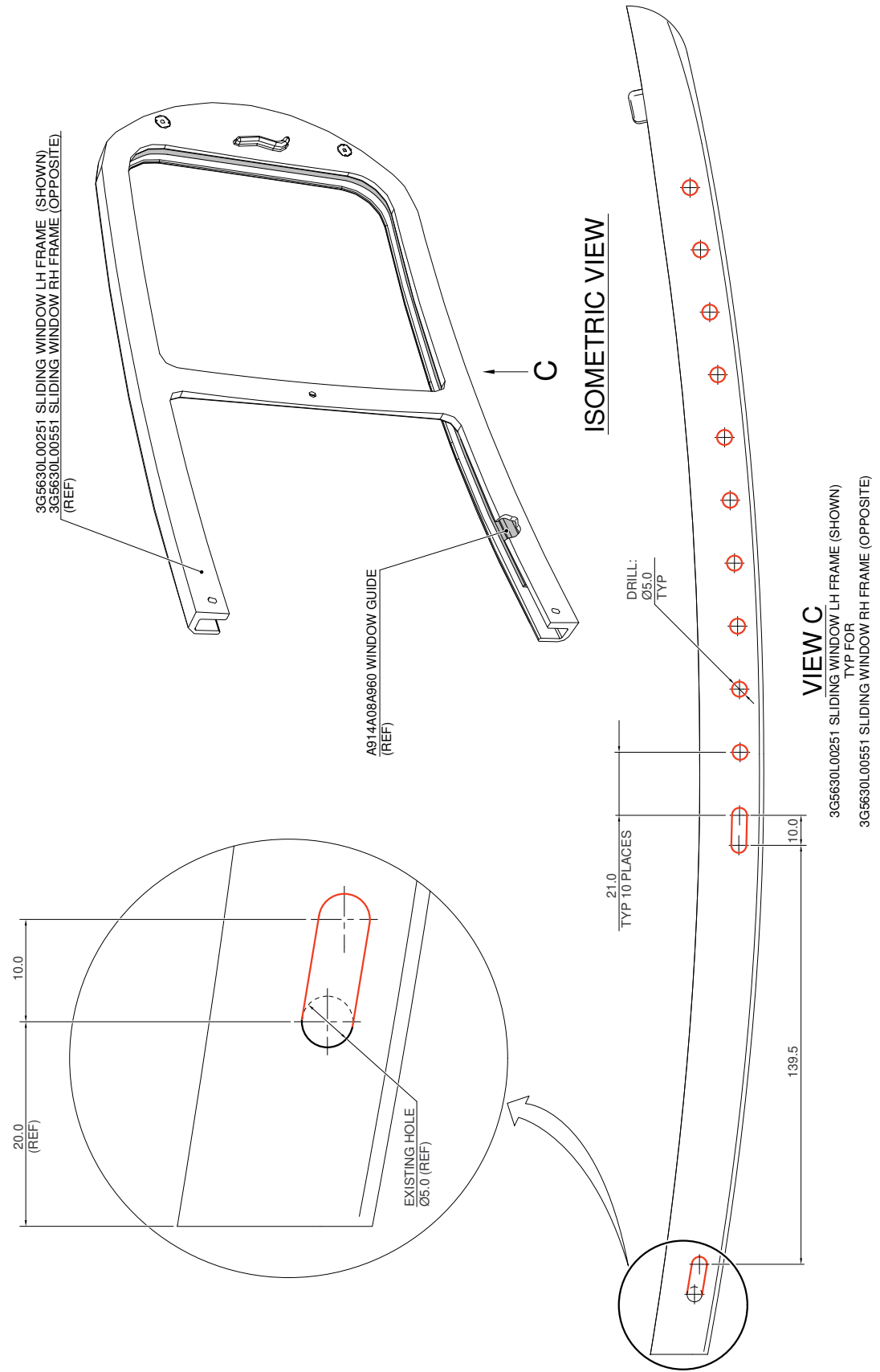


Figure 8

S.B. N°139-657 OPTIONAL
 DATE: February 28, 2024
 REVISION: /

