CHAPTER

56

WINDOWS

CHAPTER 56 - WINDOWS
LIST OF EFFECTIVE PAGES

CHAPTER SECTION SUBJECT	PAGE	DATE
56-LOEP	1	Jan.16/12
	2	Jan.16/12
56-TOC	1	Jan.16/12
	2	Jan.16/12
56-00-00	1	Dec. 15/09
	2	Dec. 15/09
56-00-00	201	Dec. 15/09
	202	Dec. 15/09
	203	Dec. 15/09
	204	Dec. 15/09
56-10-00	201	Dec. 15/09
	202	Dec. 15/09
	203	Dec. 15/09
	204	Dec. 15/09
	205	Dec. 15/09
	206	Dec. 15/09
	207	Dec. 15/09
	208	Dec. 15/09
	209	Dec. 15/09
	210	Dec. 15/09
	211	Dec. 15/09
	212	Dec. 15/09
	213	Dec. 15/09
	214	Dec. 15/09
56-20-00	201	Oct. 30/09
	202	Jan.16/12
	203	Jan.16/12
	204	Jan.16/12
	205	Jan.16/12
	206	Jan.16/12
	207	Jan.16/12
	208	Jan.16/12
	209	Jan.16/12
	210	Jan.16/12
	211	Jan.16/12
	212	Jan.16/12
	213	Jan.16/12
	214	Jan.16/12

215	Jan.16/12
216	Jan.16/12
216	Jan.16/12
217	Jan.16/12
218	Jan.16/12
219	Jan.16/12
220	Jan.16/12
221	Jan.16/12
222	Jan.16/12
223	Jan.16/12
224	Jan.16/12
225	Jan.16/12
226	Jan.16/12

CHAPTER 56 - WINDOWS
TABLE OF CONTENTS

SUBJECT	CHAPTER SECTION SUBJECT	PAGE	EFFECTIVITY
WINDOWS - Description and Operation	56-00-00	1	
1. Description		1	
WINDOWS - Maintenance Practices	56-00-00	201	
1. Damage Limitations		201	
WINDSHIELD - Maintenance Practices	56-10-00	201	
1. General		201	
2. Windshield - Cleaning		201	
3. Windshield (three-two Plies) - Removal		202	
4. Windshield (three-two Plies) - Installation		204	
5. Windshield (three-two Plies) with "GORE" Seal- Removal		205	
6. Windshield (Three-Two Plies) with "GORE" Seal- Installation		211	
7. Windshield - Inspection		212	
8. Windshield - Check Optical Distortion		213	
CABIN WINDOWS - Maintenance Practices	56-20-00		
1.General		201	
2. Cabin Windows - Cleaning		201	
3. Cabin Window - Removal		202	
4. Cabin Window - Installation		205	
5. Emergency Exit Door Window - Removal		215	
6. Emergency Exit Door Window - Installation		215	
7. Cabin Window - Inspection		217	
8. Cabin Window - Repair Scratch Damage		217	
9. Cabin Windows Water Tightness - Check (Interior Removed)		218	

10. Cabin Windows Water Tightness - Check (Interior Installed) 219
11. Cabin Window External Sealant - Check 220
12. Cabin Window External Sealant - Restore 221

WINDOWS - DESCRIPTION AND OPERATION

1. Description (Ref. Fig. 1)

The windows comprise two flight compartment windshields and thirteen (with the two in the Vanity zone, toilet and Cabinet side) passenger cabin windows. The first cabin window on the right side is installed in the escape door.

The windshields are three-ply panels manufactured from high-strength chemically-tempered glass. Electrically heated elements in the interlayer provide anti-icing and de-misting facilities.

The cabin windows are two-ply panels manufactured from stretched acrylic with a polyurethane interlayer.

Operation

For the operation of the windshield anti-icing system refer to Maintenance Manual Chapter 30-40-00.

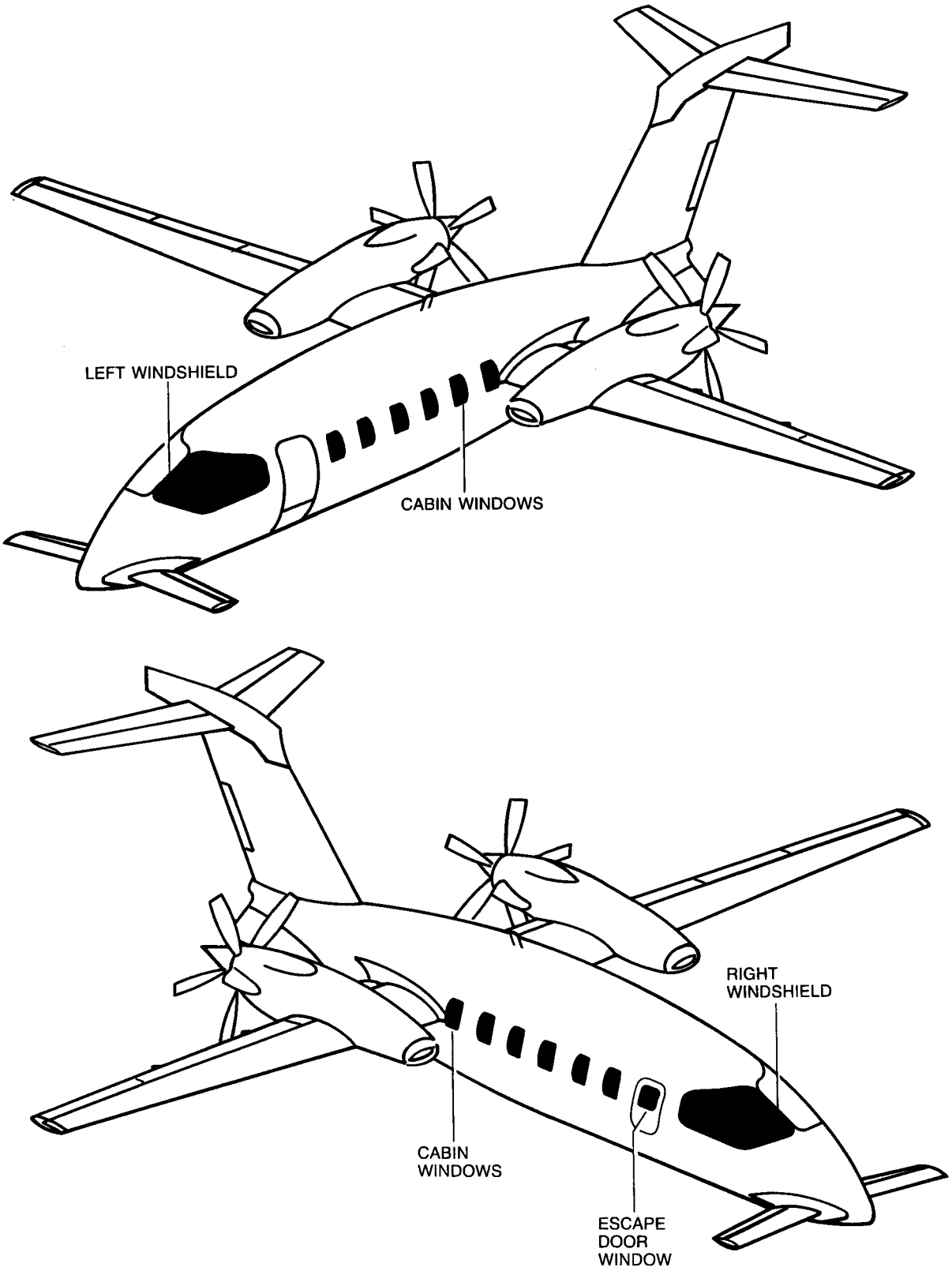


Fig. 1 - Windows - Location

WINDOWS - MAINTENANCE PRACTICES

1. Damage Limitations

NOTE: For the definition and recognition of types of damage, refer to Structural Repair Manual Chapter 51-10-10.

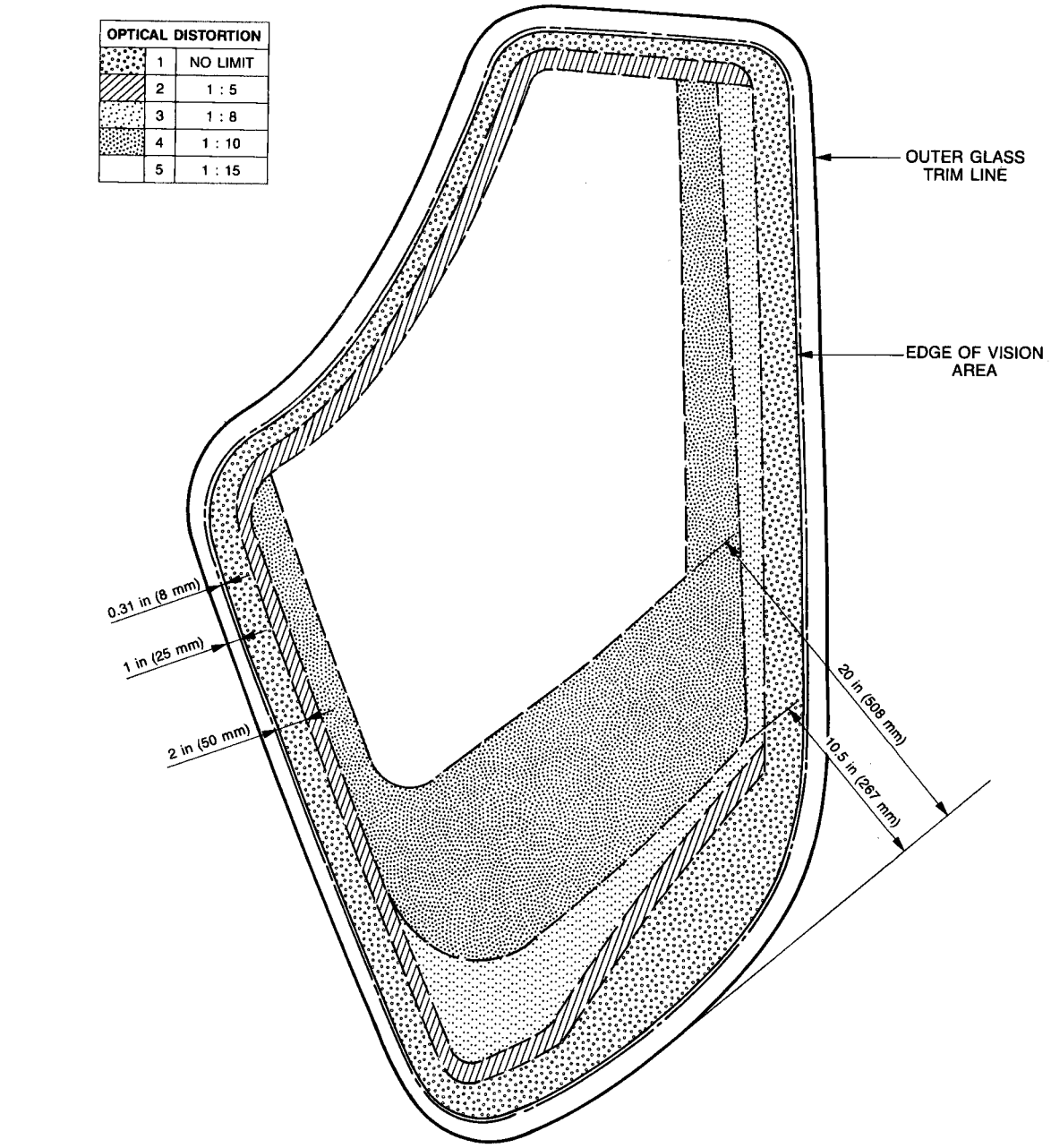
A. Windshield

CAUTION: DO NOT ATTEMPT TO POLISH OUT DAMAGE. REMOVAL OF THE ANTI-STATIC COATING WILL RESULT.

Type of damage	Limitations	Rectification
Light or moderate scratches/abrasions	Acceptable if they do not decrease optical quality	None
Deep scratches/chips/ crazing	Acceptable at maintenance personnel discretion	Replace windshield when convenient
Delamination around edge of windshield	Acceptable	None
Delamination with smooth edges in vision area	Acceptable at maintenance personnel discretion	Replace windshield when convenient
Delamination with jagged edges in vision area	Acceptable if no evidence of growth or chipping of inner surface	Replace windshield at earliest opportunity
Crack through glass ply	Not acceptable	Replace windshield
Failure of electrical heating	Not acceptable	Replace windshield at earliest opportunity
Discoloration	Acceptable at maintenance personnel discretion	None
Optical Distortion	Dependent upon vision zone affected (Ref. Fig. 201)	If limits are exceeded replace windshield at earliest opportunity

B. CABIN WINDOW

Type of Damage	Limitations	Rectification
Scratches, abrasions and hazing	Acceptable	If required, repair in accordance with Chapter
Crazing, delamination and optical distortion	Acceptable if vision is not seriously affected	Replace window when convenient
Cracks through acrylic ply	Not acceptable	Replace window



MM_560000-201

Fig. 201 - Windshield Optical Distortion

INTENTIONALLY LEFT BLANK

WINDSHIELD - MAINTENANCE PRACTICES

1. General

A. Two windshields are installed in the flight compartment.

B. Each windshield is made from three plies of high-strength chemically-tempered glass interspaced with polyvinyl butryal interlayers. The outer surface of the windshield has an anti-static coating and care must be taken when cleaning to avoid accidental removal of the coating.

2. Windshield - Cleaning

A. Fixtures, Test and Support Equipment

Clean container	Not specified

B. Materials

Lint-free cloth	04-013
Mild soap	02-010
Isopropyl Alcohol	02-008
Rain repellent	04-010

C. Referenced Information

Maintenance Manual Chapter 20-00-00

D. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE ISOPROPYL ALCOHOL. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

CAUTION: DO NOT WIPE A DRY WINDSHIELD. DAMAGE CAN RESULT.

(1) Flush the windshield with clean water.
(2) Remove all particles by hand.
(3) Wash the windshield with a mild soap and water solution or use a solution of equal parts isopropyl alcohol and water.
(4) Clean the windshield with a lint-free cloth using a straight rubbing motion.
(5) Rinse the windshield with clean water.
(6) Dry the windshield with a lint-free cloth.
(7) If required, apply rain repellent to the windshield in accordance with the manufacturer instructions.

3. Windshield (three-two Plies) - Removal (Ref. Fig. 201)

A. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009

B. Tools

Sharp knife	Not specified
Non-metallic scraper	Not specified
Polythene sheet	Not specified

C. Referenced Information

Maintenance Manual Chapter 25-10-00
Maintenance Manual Chapter 20-00-00

D. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

NOTE: This procedure is applicable to the LH and RH installations.

(1) Set the Battery Switch to OFF position.
(2) Remove the pilot and co-pilot seats (Refer to 25-10-00).
(3) Remove the glareshields and windshield trim (Refer to 25-10-00).
(4) Cover the instrument panels with a polythene sheet.
(5) Open, tag and safety these circuit breakers:

Pilot CB panel:	Co-pilot CB panel:
PLT L WSHLD Z HTR	PLT R WSHLD Z HTR
PLT S WSHLD Z HTR	CPLT WSHLD HTR
PRI WSHLD CONT	SEC WSHLD CONT

(6) Attach temporary identification tags to the windshield electrical wires.
(7) Disconnect the windshield electrical connections.
(8) Remove the bolts (3) attaching the windshield retainer (1) to the structure.

NOTE: The bolts are different sizes and types. To simplify the installation procedure it is recommended that, on removal, the bolts are pushed into a large sheet of cardboard in the correct pattern.

(9) Remove the windshield retainer (1).
(10) Carefully cut through the sealant around the windshield (2) using a sharp knife.

WARNING: BE CAREFUL WHEN YOU MOVE THE WINDSHIELD. THIS COMPONENT IS HEAVY. INCORRECT MOVEMENT CAN CAUSE INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(11) Remove the windshield (2). Take care not to damage the sealant bed.

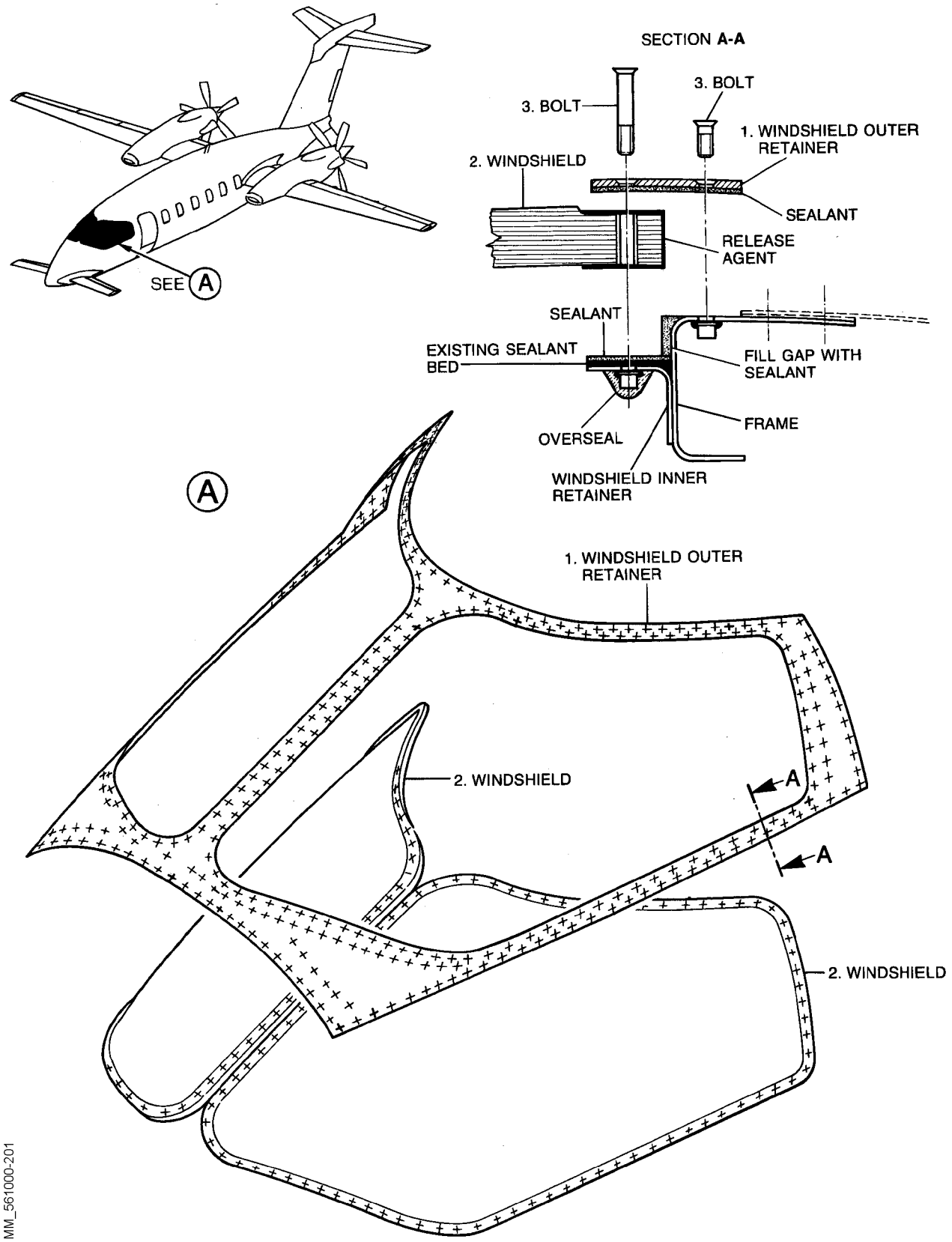


Fig. 201 - Windshield - Removal/Installation

(12) Remove all old sealant from the windshield retainer using MEK solvent and a non-metallic scraper.

4. Windshield (three-two Plies) - Installation (Ref. Fig. 201)

A. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009
Lint-free cloth	04-013
Sealant (Fillet)	06-005
Sealant (Oversealing)	06-004
Sealant (Interface)	06-003
Release agent	04-011

B. Referenced Information

Maintenance Manual Chapter 25-10-00
Maintenance Manual Chapter 30-40-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 21-00-00
Maintenance Manual Chapter 51-23-00
Maintenance Manual Chapter 51-35-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK AND SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(1) Make a continuity/resistance check of the windshield heating (Refer to 30-40-00).
(2) Clean the surface of the windshield edge (area covered by retainers) using MEK solvent and a lint-free-cloth.
(3) Apply a coat of release agent to the windshield edge (area covered by retainers).
(4) Apply a thin coat of sealant (06-003) to the existing sealant bed.

WARNING: BE CAREFUL WHEN YOU MOVE THE WINDSHIELD. THIS COMPONENT IS HEAVY. INCORRECT MOVEMENT CAN CAUSE INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(5) Position the windshield in the frame.
(6) Apply sealant (06-005) to fill the gap between the windshield and frame.
(7) Apply sealant (06-003) to the inner surface of the outer retainer (1).
(8) Install the retainer (1) using the bolts (3). Make sure the bolts (3) are installed in the correct position.
(9) Torque tighten the bolts (3) to 3.33 ft-lbs (4.52 N-m).
(10) Apply a fillet of sealant (06-005) around the windshield retainer (1).
(11) Overseal the anchor nuts on the inner retainer using sealant (06-004).

(12) Connect the windshield electrical connections (if necessary, refer to 30-40-00).
(13) Remove the temporary identification tags from the electrical wires.
(14) Allow the sealant to cure (Refer to 51-35-00).
(15) Do a cabin pressurization test (Refer to 21-00-00).
(16) Remove the safety tags and close these circuit breakers:

Pilot CB panel:	Co-pilot CB panel:
PLT L WSHLD Z HTR	PLT R WSHLD Z HTR
PLT S WSHLD Z HTR	CPLT WSHLD HTR
PRI WSHLD CONT	SEC WSHLD CONT

(17) Do a test of the windshield anti-icing system (Refer to 30-40-00).
(18) Install the glareshields and windshield trim (Refer to 25-10-00).
(19) Install the pilot and co-pilot seats (Refer to 25-10-00).
(20) Remove the polythene sheet from the instrument panels.
(21) Restore the surface finish (Refer to 51-23-00).

5. Windshield (three-two Plies) with "GORE" Seal- Removal (Ref. Fig. 202)

A. Tools

Sharp knife	Not specified
Non-metallic scraper	Not specified
Polythene sheet	Not specified

B. Referenced Information

Maintenance Manual Chapter 25-10-00
Maintenance Manual Chapter 20-00-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

NOTE: This procedure is applicable to the LH and RH installations.

(1) Remove the pilot and co-pilot seats (Refer to 25-10-00).
(2) Remove the glareshields and windshield trim (Refer to 25-10-00).
(3) Cover the instrument panels with a polythene sheet.
(4) Open, tag and safety these circuit breakers:

Pilot CB panel:	Co-pilot CB panel:
PLT L WSHLD Z HTR	PLT R WSHLD Z HTR
PLT S WSHLD Z HTR	CPLT WSHLD HTR
PRI WSHLD CONT	SEC WSHLD CONT

(5) Attach temporary identification tags to the windshield electrical wires.
(6) Disconnect the windshield electrical connections.

(7) Loosen the screws (10) in cross mode.
(8) Remove the screws (10).

CAUTION: THE SCREWS ARE DIFFERENT SIZES AND TYPES. TO SIMPLIFY THE INSTALLATION PROCEDURE IT IS RECOMMENDED THAT, ON REMOVAL, THE SCREWS ARE PUSHED INTO A LARGE SHEET OF CARDBOARD IN THE CORRECT PATTERN.

(9) Remove the windshield retainer (8) using a non metallic scraper.

CAUTION: TAKE CARE NOT TO BEND THE RETAINER DURING REMOVAL

(10) Carefully cut through the sealant around the windshield (5) using a sharp knife.

WARNING: BE CAREFUL WHEN YOU MOVE THE WINDSHIELD. THIS COMPONENT IS HEAVY. INCORRECT MOVEMENT CAN CAUSE INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(11) Remove the windshield (5).
(12) Remove the GO-AS-0068 seal (4) on the zones indicated.
(13) Remove the GO-AS-0068 seal (7) from the windshield (5).
(14) Remove the 950 type biadhesive tape on the zones indicated (3).
(15) Remove the 950 type biadhesive tape from the windshield (5)

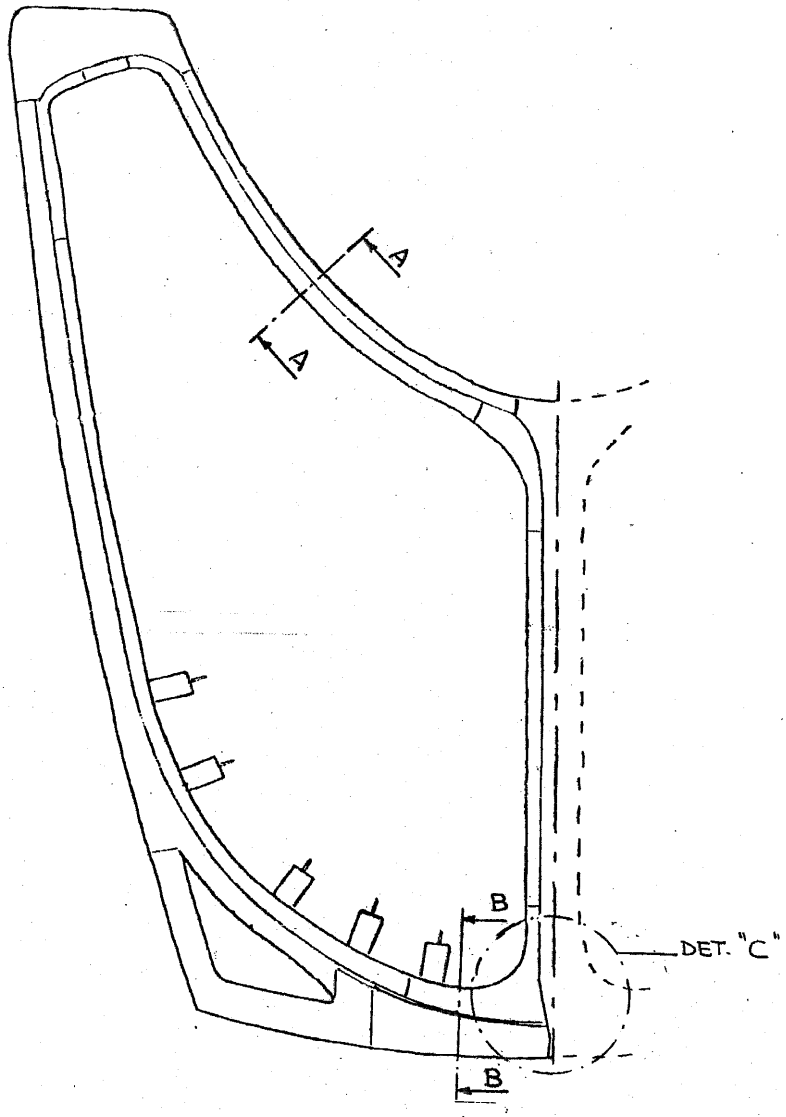
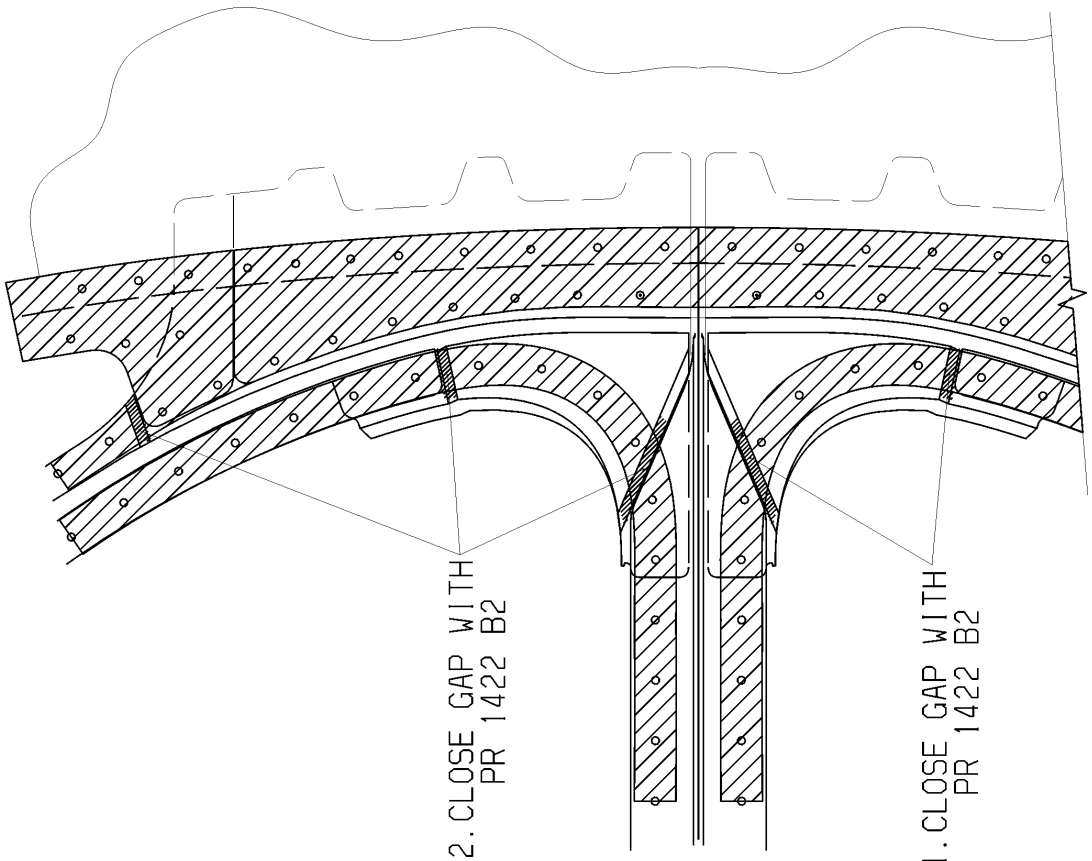
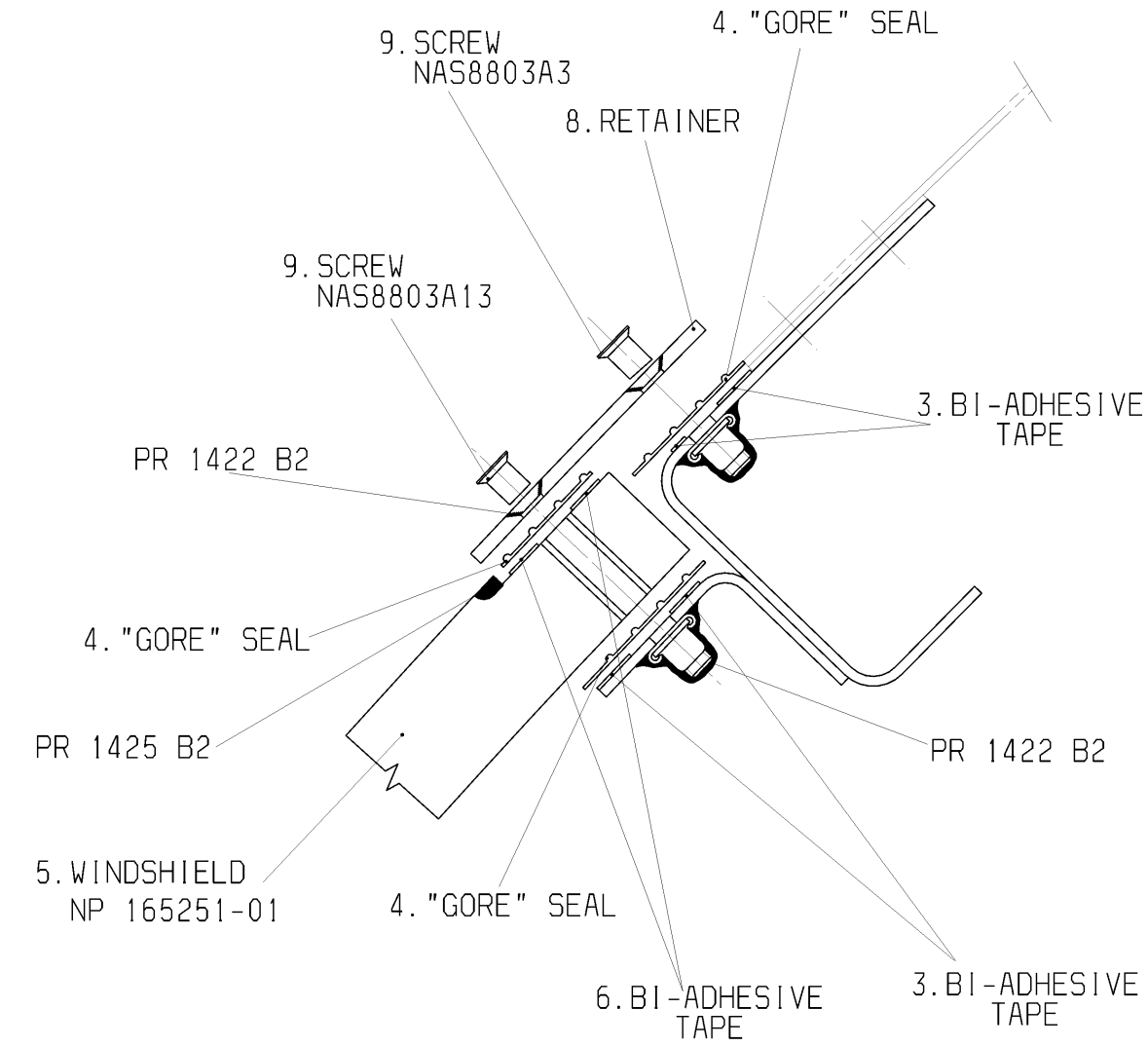


Fig. 202 - Windshield with "GORE" Seal - Removal/Installation (Sheet 1 of 4)



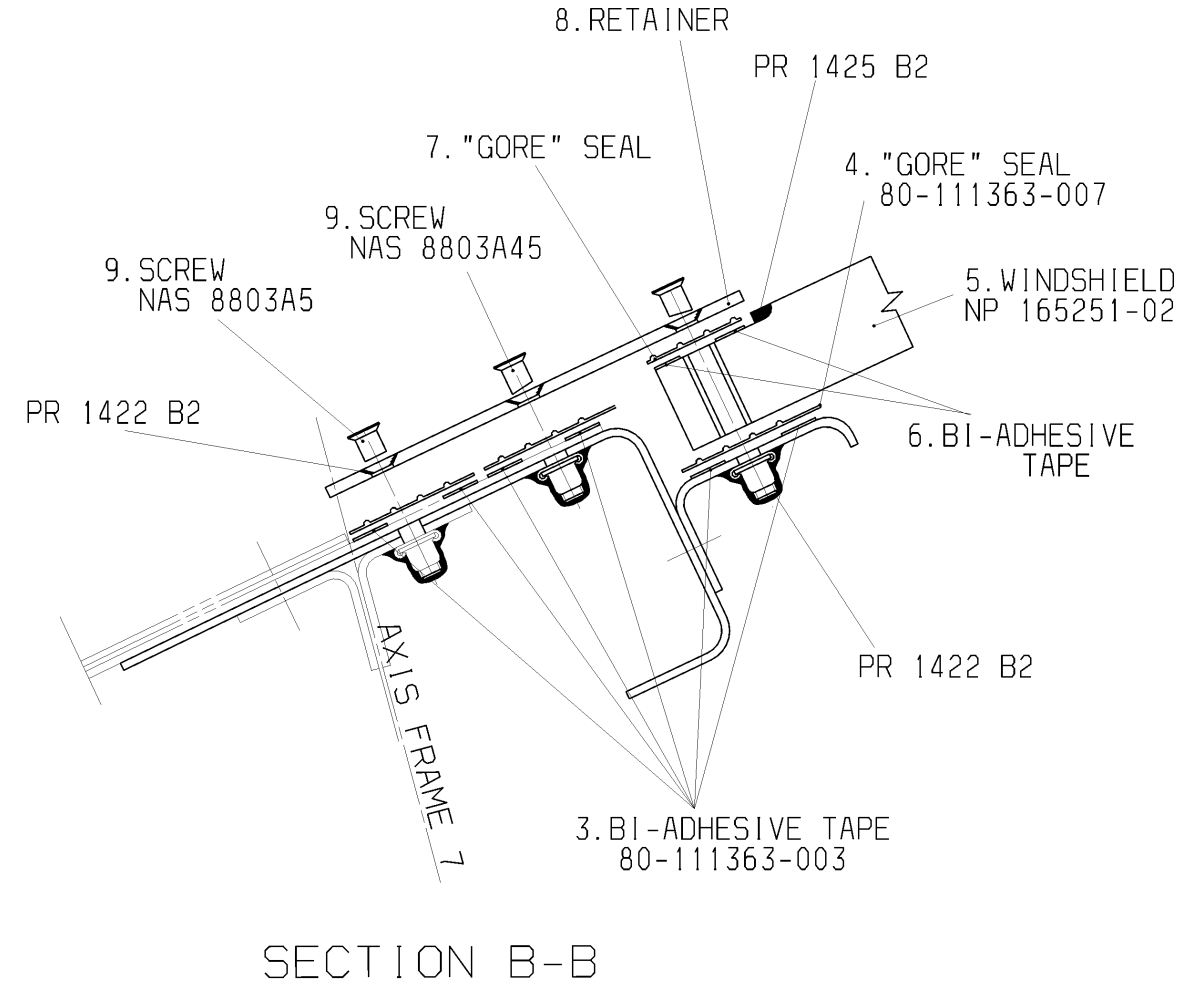
MM_561000_202-2/4

Fig. 202 - Windshield with "GORE" Seal - Removal/Installation (Sheet 2 of 4)



MM_561000_202-3/4

Fig. 202 - Windshield with "GORE" Seal - Removal/Installation (Sheet 3 of 4)



MM_561000_202-4/4

Fig. 202 - Windshield with "GORE" Seal - Removal/Installation (Sheet 4 of 4)

6. Windshield (Three-Two Plies) with "GORE" Seal- Installation (Ref. Fig. 202)

A. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009
Lint-free cloth	04-013
Sealant)	06-005
Sealant	06-008

B. Expendable Parts

3M 950 biadhesive tape
Seal GO-AS-0068

C. Referenced Information

Maintenance Manual Chapter 25-10-00
Maintenance Manual Chapter 30-40-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 21-00-00
Maintenance Manual Chapter 51-23-00
Maintenance Manual Chapter 51-35-00

D. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK AND SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(1) Mark the positions of the windshield mounting screws to guarantee the use of the correct screw length on the new installation (Take a notes marked during windshield removal procedures).
(2) Make a continuity/resistance check of the windshield heating system (Refer to 30-40-00).
(3) Clean the surface of the windshield edge (area covered by retainers) using MEK solvent and a lint-free-cloth.
(4) Clean the frame surfaces where the seal is to be applied, using MEK solvent and lint-free cloth.
(5) Verify that the surface treatment on the frame has not been removed during old windshield removal; if necessary, repair (Refer to 51-23-00).
(6) Verify that the gaps (1, 2) between the adjacent components of the frame are filed with (06-005) sealant, as to create a continuous surface. This check must be applied to the whole contour of the frame.
(7) Install 950 type biadhesive tape on the zones indicated (3).
(8) Install the GO-AS-0068 seal (4) on the zones indicated trimming the edges as required using a suitable cutter.
(9) Drill the seal in correspondence of the screw holes, using a pencil.

WARNING: BE CAREFUL WHEN YOU MOVE THE WINDSHIELD. THIS COMPONENT IS HEAVY. INCORRECT MOVEMENT CAN

CAUSE INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(10) Gently lay down the windshield (5) on the frame, centering the windshield holes with the frame holes.
(11) Install 950 type biadhesive tape on the zones indicated (6).
(12) Install the GO-AS-0068 seal (7) on the zones indicated.
(13) Apply sealant (06-005) on the screw head seats and on self-locking nut caps.
(14) Install the retainer (8) using screws (P/N NAS8803A( )) (9). Make sure that the screws are installed in the same position as before the removal.
(15) Torque tighten the screws (9) to 2 ft-lbs (2.7 N-m) in three steps: at first, up to 50% of the final torque values, on all screws; then up to 80% of the final values, and finally up to 100%.
(16) Apply a fillet of sealant (06-005) around the windshield retainer (8).
(17) Overseal the anchor nuts on the inner retainer using sealant (06-005).
(18) Connect the windshield electrical connections (if necessary, refer to 30-40-00).
(19) Remove the temporary identification tags from the electrical wires.
(20) Allow the sealant to cure (Refer to 51-35-00).
(21) Do a cabin pressurization test (Refer to 21-00-00).
(22) Remove the safety tags and close these circuit breakers:

Pilot CB panel:	Co-pilot CB panel:
PLT L WSHLD Z HTR	PLT R WSHLD Z HTR
PLT S WSHLD Z HTR	CPLT WSHLD HTR
PRI WSHLD CONT	SEC WSHLD CONT

(23) Do a test of the windshield anti-icing system (Refer to 30-40-00).
(24) Install the glareshields and windshield trim (Refer to 25-10-00).
(25) Install the pilot and co-pilot seats (Refer to 25-10-00).
(26) Remove the polythene sheet from the instrument panels.
(27) Restore the surface finish (Refer to 51-23-00).

7. Windshield - Inspection

A. Referenced Information

Maintenance Manual Chapter 56-00-00

B. Procedure

(1) Clean the windshield (Refer to Para. 2).
(2) Visually examine the windshield for the following types of damage:
- cracks
- scratches
- chips
- crazing
- abrasions

– delamination
– discoloration.

(3) Evaluate any damage found in accordance with Maintenance Manual Chapter 56-00-00, Damage Limitations.

8. Windshield - Check Optical Distortion

A. Fixtures, Test and Support Equipment

Grid-board (1 in/25 mm grid pattern)	Not specified

B. Referenced Information

Maintenance Manual Chapter 56-00-00
Maintenance Manual Chapter 24-00-00

C. Procedure

(1) Make sure the electrical power is available (Refer to 24-00-00).
(2) Set up the grid-board 10ft (3 metres) in front of the airplane.
(3) Sit in the pilot seat and view the grid-board through the left windshield.
(4) Evaluate any optical distortion in accordance with Maintenance Manual Chapter 56-00-00 Damage Limitations.
(5) On the pilot instrument panel, set WSHLD HTR PRI to HI.
(6) Allow the left windshield to heat and view the grid-board.
(7) Evaluate any optical distortion in accordance with Maintenance Manual Chapter 56-00-00 Damage Limitations.
(8) On the pilot instrument panel, set WSHLD HTR PRI to OFF.
(9) Sit in the co-pilot seat and view the grid-board through the right windshield.
(10) Evaluate any optical distortion in accordance with Maintenance Manual Chapter 56-00-00 Damage Limitations.
(11) On the pilot instrument panel, set WSHLD HTR SEC to HI.
(12) Allow the right windshield to heat and view the grid-board.
(13) Evaluate any optical distortion in accordance with Maintenance Manual Chapter 56-00-00 Damage Limitations.
(14) On the pilot instrument panel, set WSHLD HTR SEC to OFF.
(15) Remove the electrical power (Refer to 24-00-00).
(16) Remove the grid-board.

INTENTIONALLY LEFT BLANK

CABIN WINDOWS - MAINTENANCE PRACTICES

1. General

A. The airplane can have eleven or thirteen (with the two in the Vanity zone, Toilet and Cabinet side) cabin windows. These are made from two plies of stretched acrylic interspaced with a polyurethane interlayer.

B. The airplane with thirteen windows has the toilet seat shoulder belt support fixed to the airplane structure through the window master plate, using a bracket. The airplane with eleven windows has the toilet seat shoulder belt support fixed directly to the airplane structure, using a "L" and "S" brakets.

2. Cabin Windows - Cleaning

A. Fixtures, Test and Support Equipment

Clean container	Not specified

B. Materials

Lint-free cloth	04-013
Mild soap	02-010
Isopropyl Alcohol	02-008
Aliphatic naptha (alternative)	02-001
Hard polishing wax (if required)	04-014

C. Referenced Information

D. Maintenance Manual Chapter 20-00-00

E. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE ISOPROPYL ALCOHOL OR ALIPHATIC NAPTHA. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

CAUTION: DO NOT WIPE A DRY WINDOW. DAMAGE CAN RESULT.

(1) Flush the window with clean water.
(2) Remove any particles by hand.
(3) Wash the window with a mild soap and water solution or a solution of equal parts isopropyl alcohol or aliphatic naptha and water.
(4) Clean the window with a lint free cloth using a straight rubbing motion.
(5) Rinse the window with clean water.
(6) Dry the window with a lint-free cloth.
(7) If required, polish using a hard polishing wax and a lint-free cloth using a circular rubbing motion.

3. Cabin Window - Removal (Ref. Fig. 201)

NOTE: This procedure is applicable for all the cabin windows including the cabin escape door window.

A. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009

B. Tools

Sharp knife	Not specified
Non-metallic scraper	Not specified

C. Referenced Information

Maintenance Manual Chapter 20-00-00

Maintenance Manual Chapter 25-20-00

D. Procedure

(1) Remove the window trim panel (Refer to 25-20-00).
(2) Remove the insulation blanket.
(3) Remove the four bolts (4) and washers (3) attaching the clips (2) to the brackets (5).
(4) Carefully cut through the sealant around the window using a sharp knife.

CAUTION: IF THE SPATULA IS ERRONEOUSLY INSERTED BETWEEN SKIN AND FRAME INSTEAD OF BETWEEN FRAME AND WINDOW, THIS WOULD CAUSE THE SEPARATION OF THE TWO PARTS AND THE ATTACHING RIVET EXTRACTION.

(5) Remove the window (1), using spatula.

WARNING: BE CAREFUL WHEN YOU USE THE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(6) Remove all old sealant from the window surround using MEK solvent and a non metallic scraper.

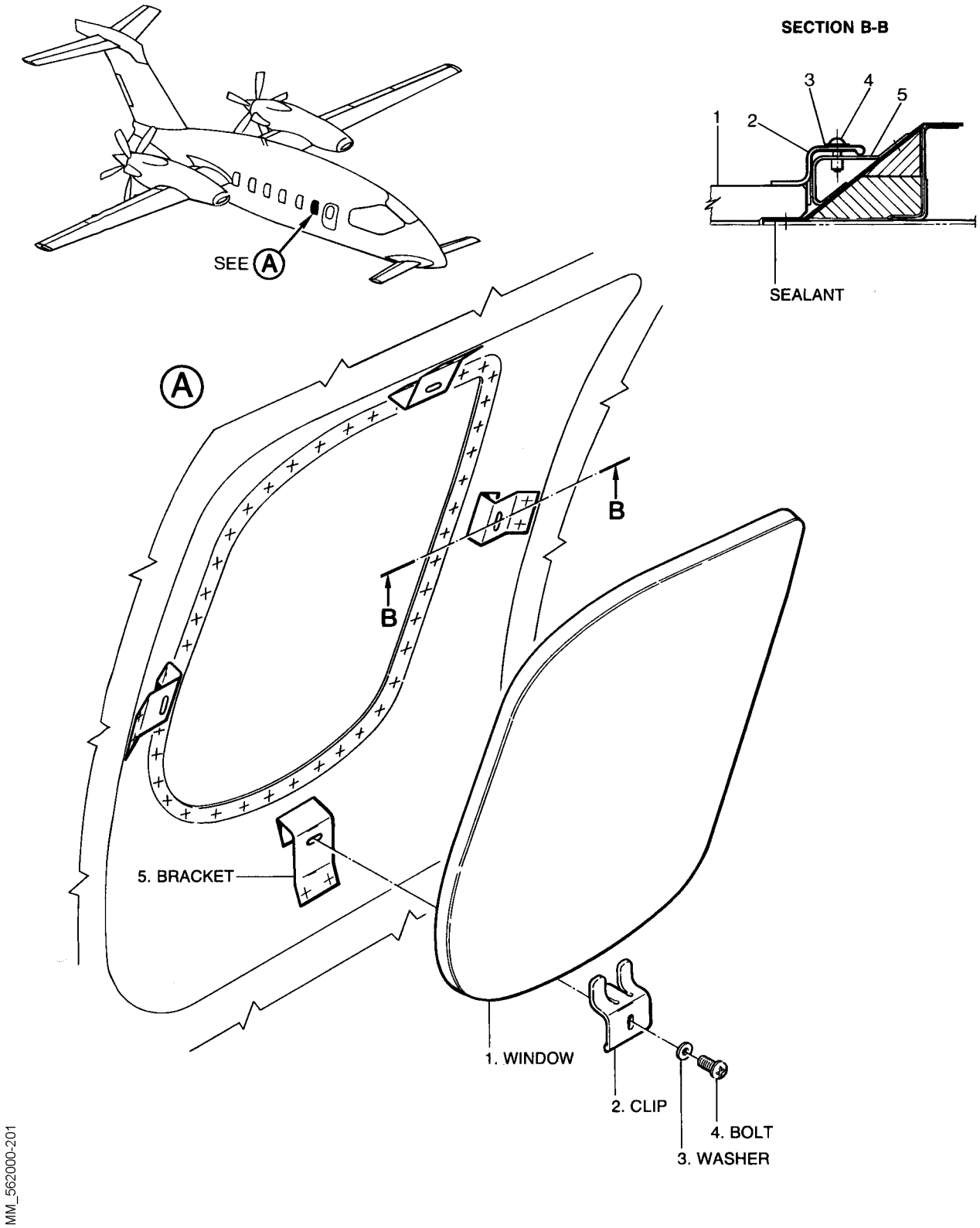


Fig. 201 - Cabin Window - Removal (Sheet 1 of 10)

Fig. 201 - Cabin Window - Removal (Sheet 2 of 10)

4. Cabin Window - Installation (Ref. Fig. 201)

NOTE: This procedure is applicable to all the cabin windows including the emergency exit door window.

NOTE: Emergency exit door window has dedicated clips (Ref. to Fig. 203); do not use them on cabin windows. Refer to Fig. 202 for cabin windows clips identification and location.

A. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009
Lint-free cloth	04-013
Sealant	06-009
Window clip	80-191226-007
Window clip	80-191226-009
Window clip	80-191226-011
Window clip (emergency exit door window)	80-161102-003
Window clip (emergency exit door window)	80-161102-001
Adjustable Clamp (long)	019664300
Adjustable Clamp (short)	019564300
Adhesive tape	3M-218
Suction Cup	Not Specified

B. Referenced Information

Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 21-00-00
Maintenance Manual Chapter 25-20-00
Maintenance Manual Chapter 51-25-00
Maintenance Manual Chapter 51-35-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK AND SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(1) Using a spatule, scrape the internal and external fuselage around the window frame.
(2) Sand the fuselage internal side around the window frame.
(3) Clean the window surround with MEK solvent and a lint-free cloth.

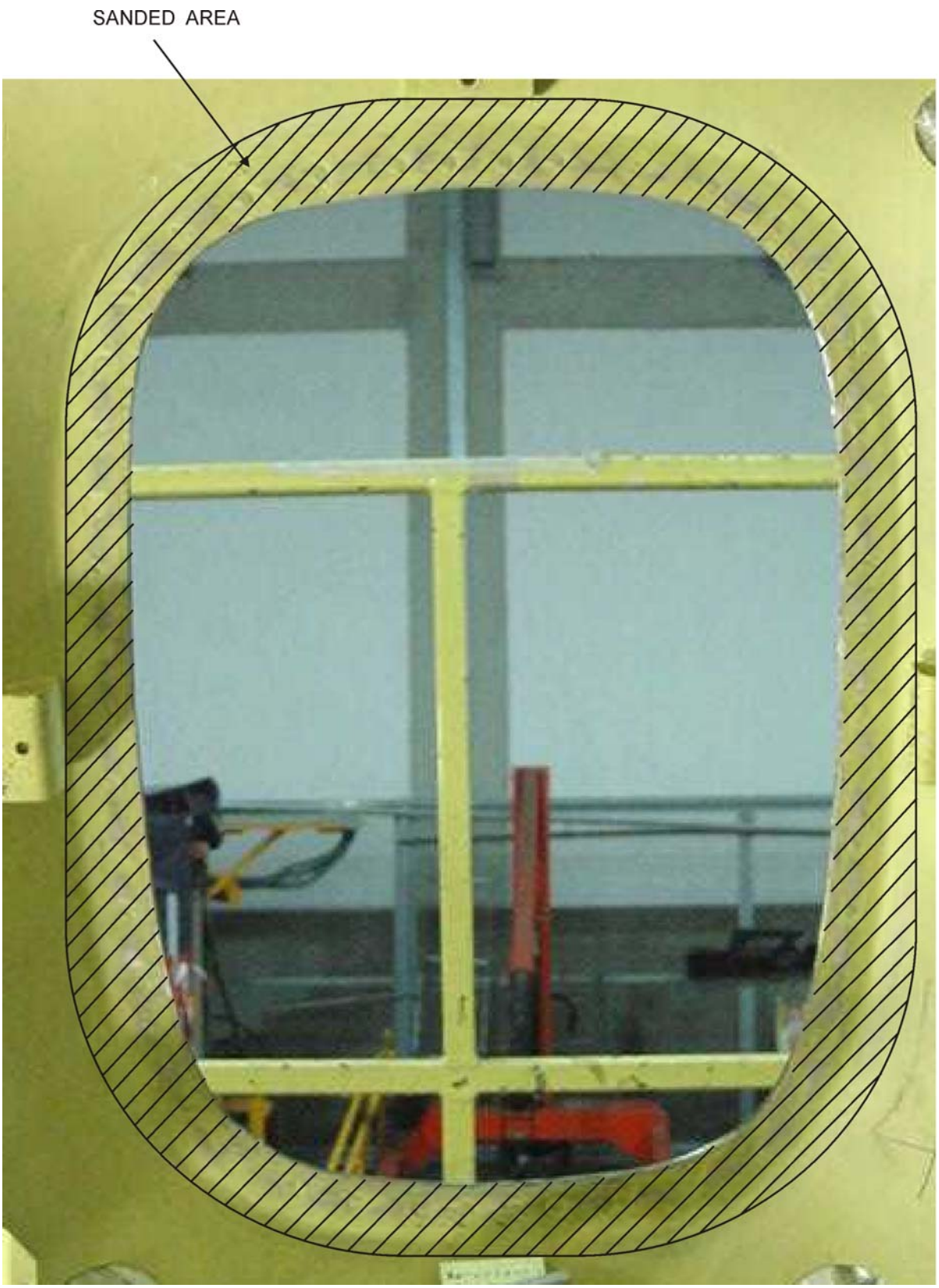


Fig. 201 - Cabin Window - Installation (Sheet 3 of 10)

(4) Mask the Cabin Window external side with adhesive tape as showed in figure 201-4.
(5) Place and center the cabin window in its proper position on the fuselage.
(6) Move the Cabin Window in such a way the space between the Cabin Window Step and the Fusalage Skin is constant, then hold it in position with the Adjustable Clamps.
(7) Mask the Fuselage skin with adhesive tape leaving 2mm uncovered between Cabin Window frame edge and the first adhesive tape applied.
(8) Mark the Cabin Window position with the Reference Lines.

Fig. 201 - Cabin Window - Installation (Sheet 4 of 10)

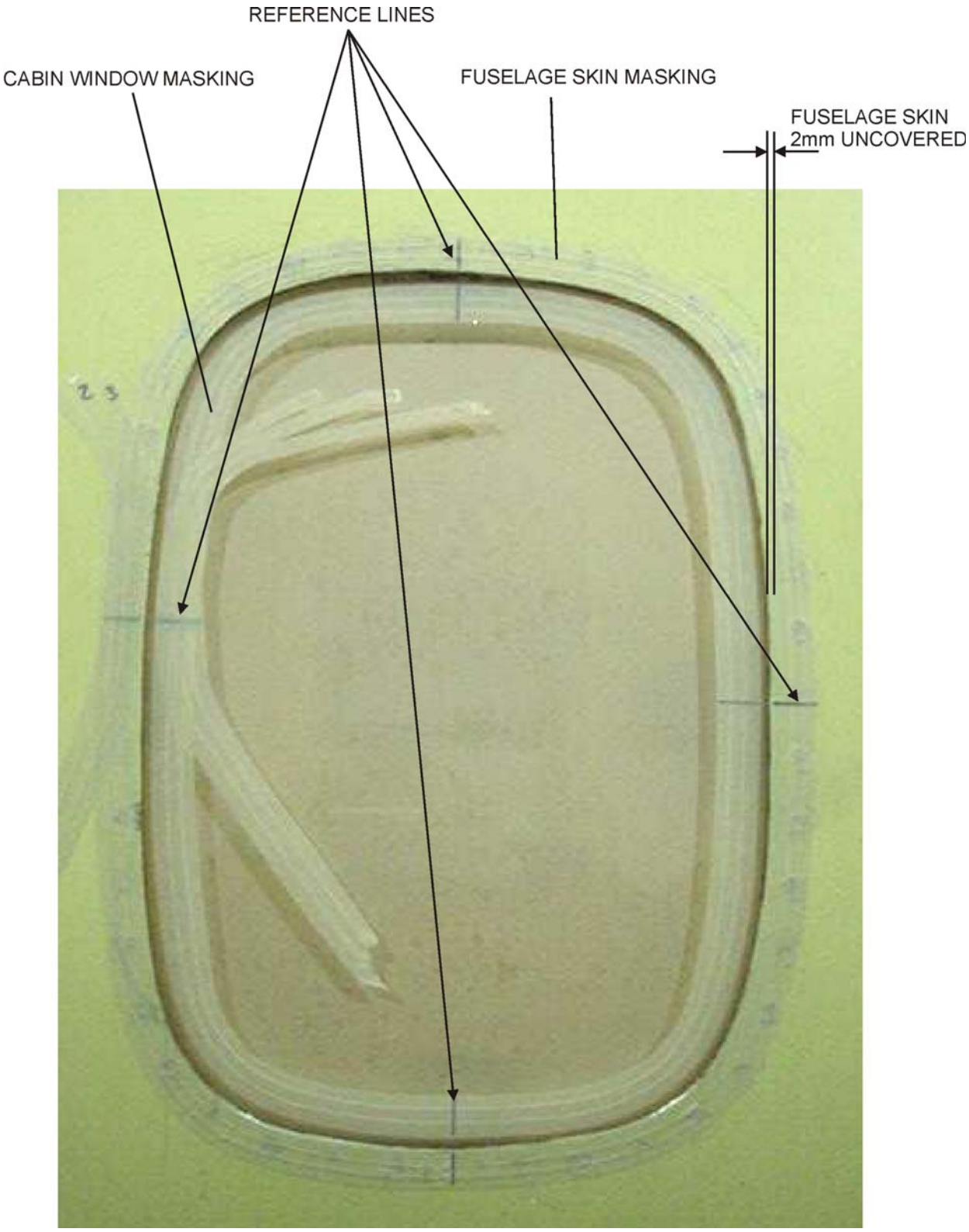


Fig. 201 - Cabin Window - Installation (Sheet 5 of 10)

(9) Remove the Cabin Window.
(10) Apply the sealant to the Internal Cabin Window Frame.

Fig. 201 - Cabin Window - Installation (Sheet 6 of 10)

(11) Using a suction cup place in position and align the cabin window with the Reference Lines previously marked on the adhesive tape.

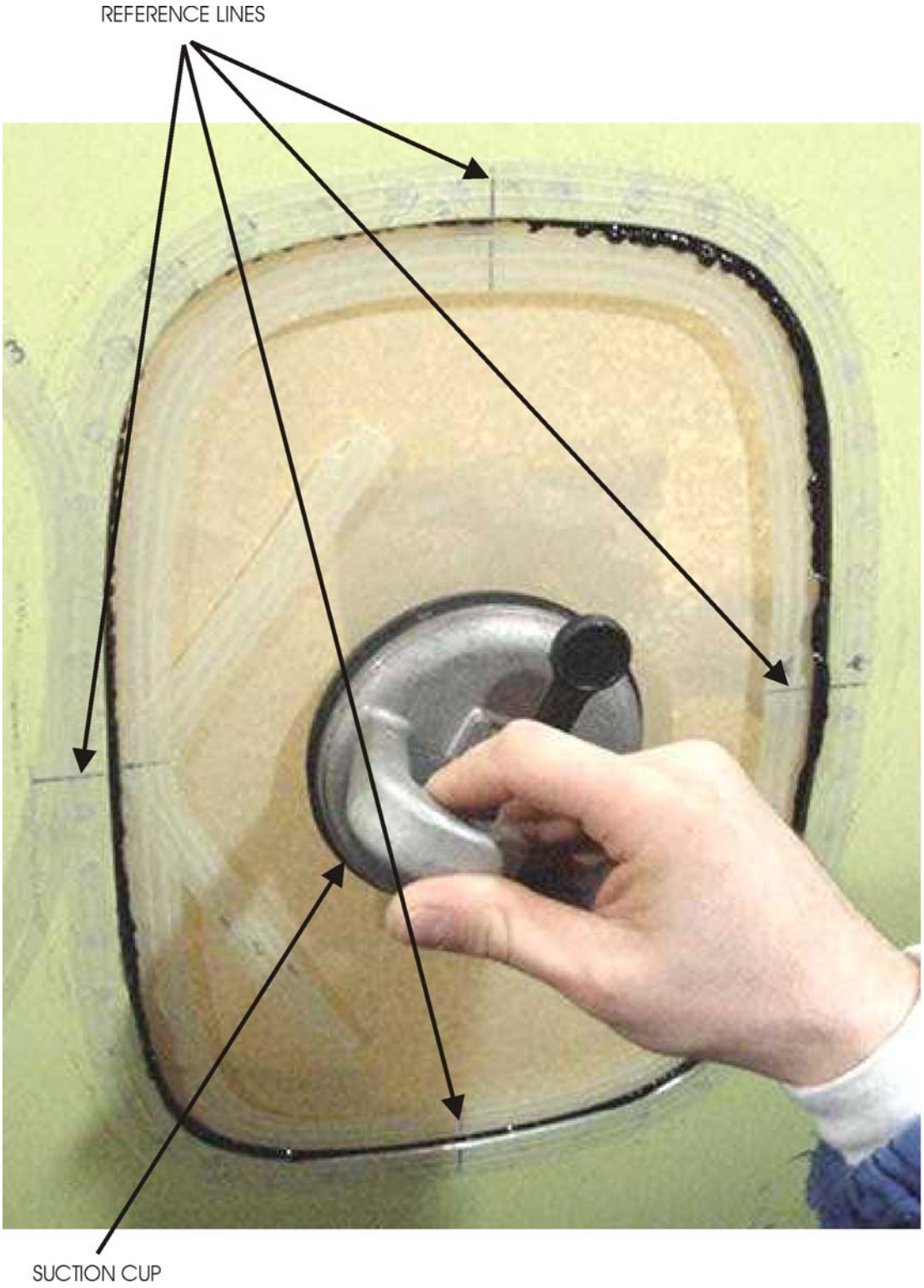


Fig. 201 - Cabin Window - Installation (Sheet 7 of 10)

(12) Install and lightly screw in cross way the Adjustable Clamps, as indicated in figure 201-8.

CAUTION: INSERT A PIECE OF CARDBOARD AT THE CONTACT POINT BETWEEN THE CABIN WINDOW AND THE ADJUSTABLE CLAMP HEAD

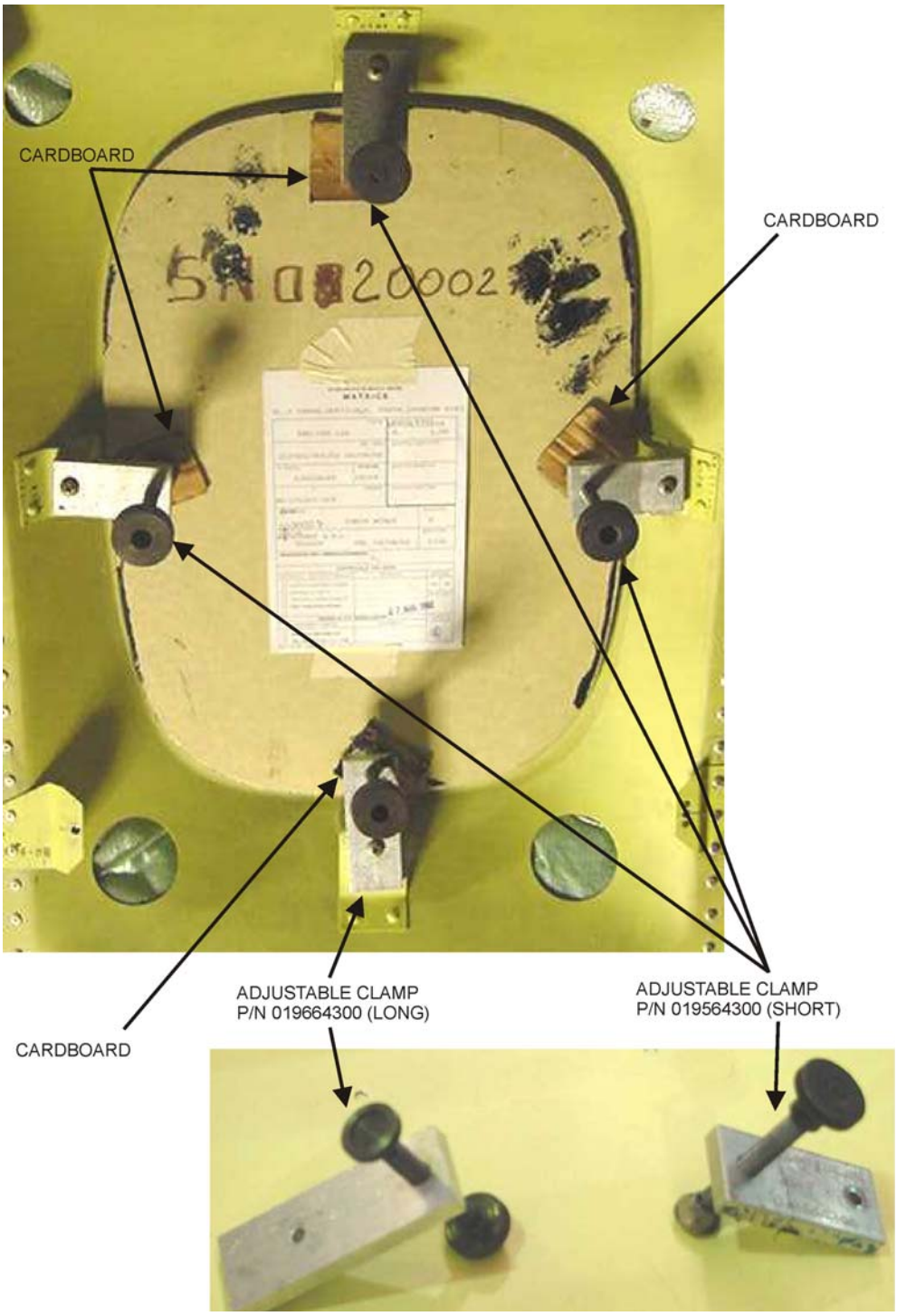


Fig. 201 - Cabin Window - Installation (Sheet 8 of 10)

(13) Check that the Reference Marks are aligned then tighten the Adjustable Clamps to a torque of 1,5 lb-ft with 100mm arm.

(14) Smear the sealant on the airplane external side, between Cabin Window and the fuselage skin, paying attention to not exeed the adhesive tape surface previously attached.

(15) Smear the sealant on the airplane internal side, between Cabin Window and the fuselage skin.

(16) Check the presence of air bubbles in the sealant just applied. Remove the air bubbles if necessary.

(17) Remove the adhesive tape from the Cabin Window and fuselage skin.

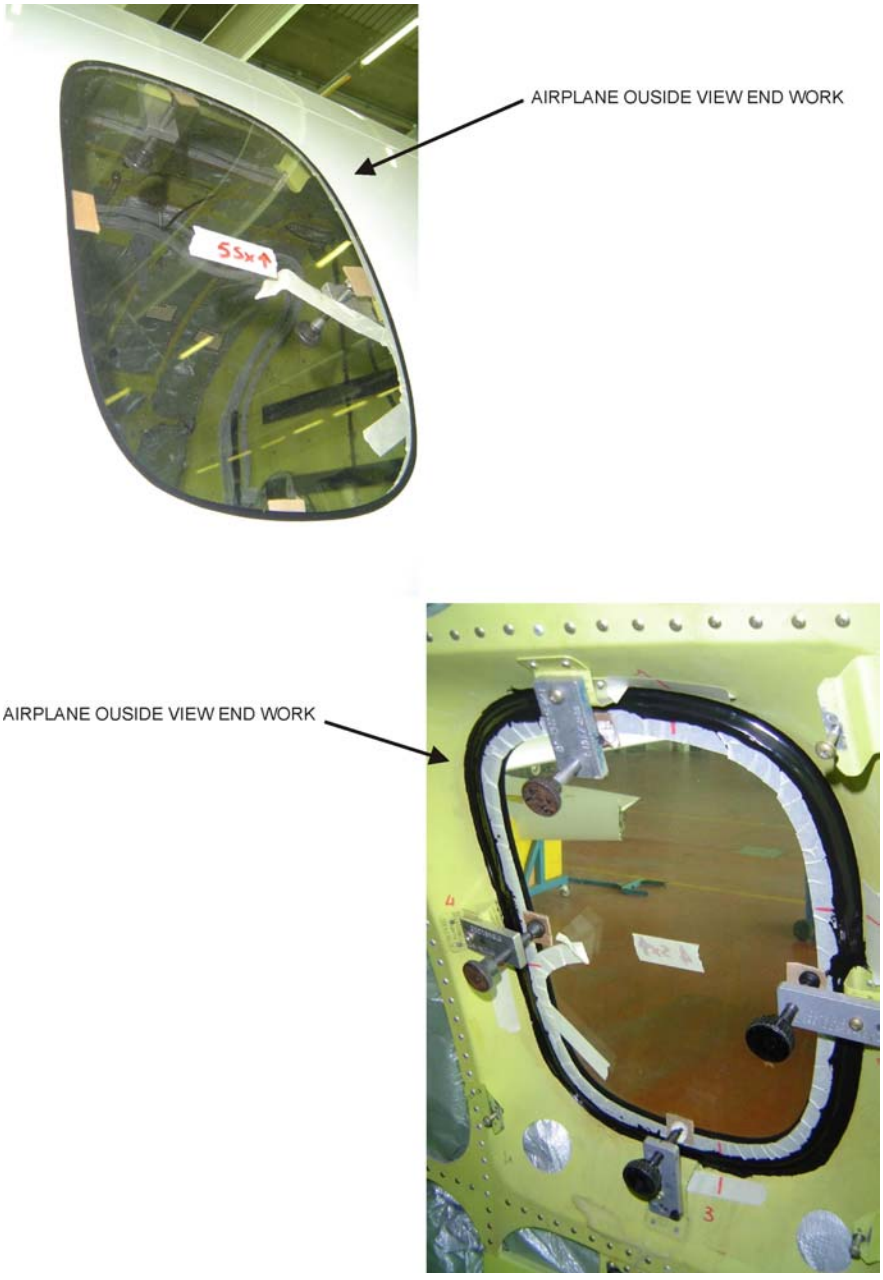


Fig. 201 - Cabin Window - Installation (Sheet 9 of 10)

(18) Make sure that the curing time of sealant have been respected (Ref. to 51-35-00), then remove the Adjustable Clamps and install the Cabin Window Clips following the proper location as shown as follows

Fig. 201 - Cabin Window - Installation (Sheet 10 of 10)

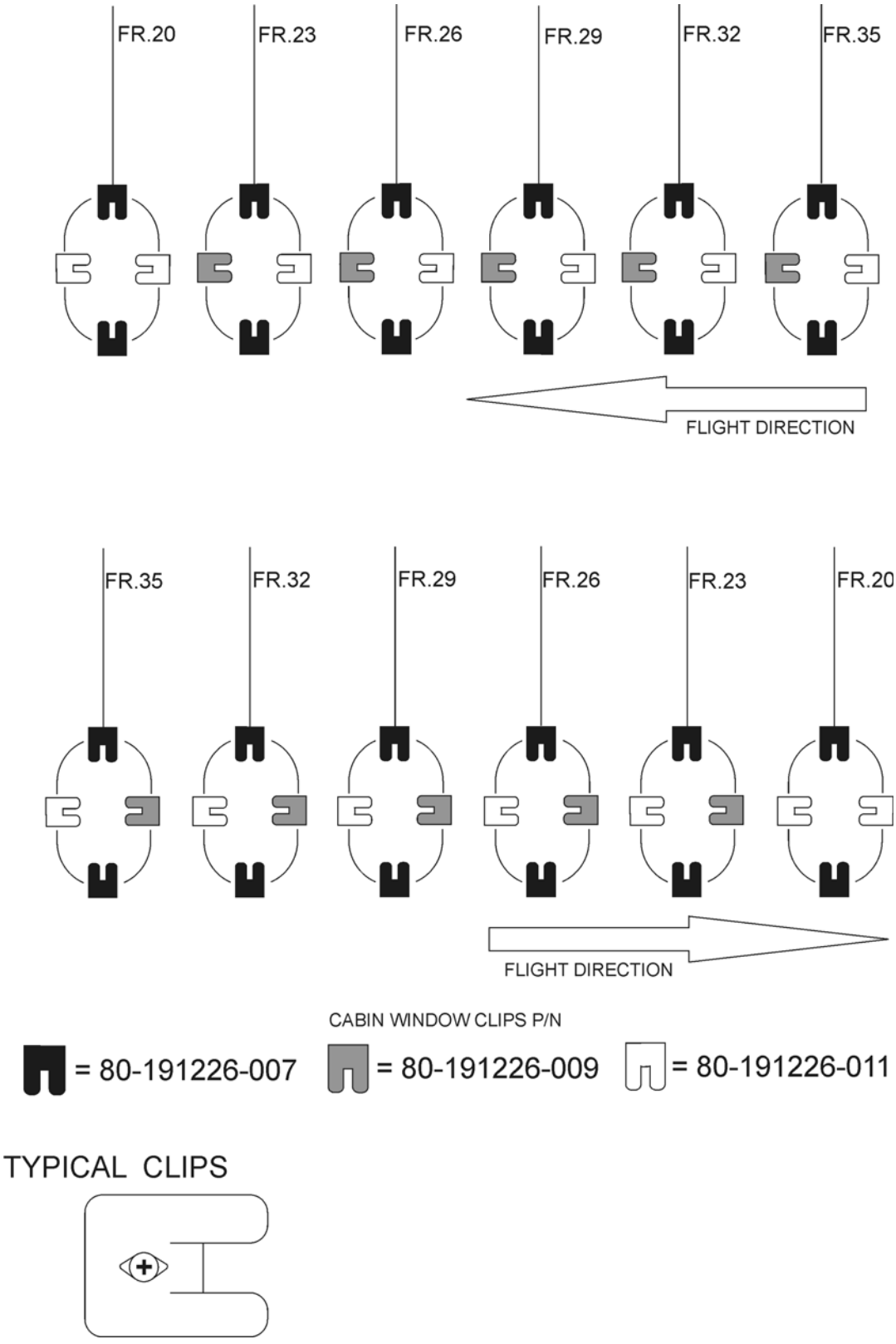


Fig. 202 - Cabin Window Clips - Location

(19) Do a cabin pressurization test (Refer to 21-00-00).

(20) Perform a cabin windows water tightness check (interior removed) described in this section.

(21) Install the insulation blanket.

(22) Install the window trim panel. (Refer to 25-20-00).

(23) Restore the surface finish. (Refer to 51-23-00).

5. Emergency Exit Door Window - Removal(Ref. Fig. 201)

A. Procedure

(1) The Emergency Exit Door Window removal procedure is identical to the Cabin Window Removal procedure.

6. Emergency Exit Door Window - Installation(Ref. Fig. 203)

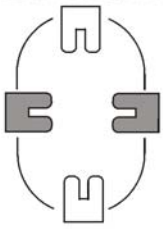
A. Procedure

(1) The Emergency Exit Door Window installation procedures is identical to the Cabin Window installation procedure except for the different Clips P/N as shown in figure.

EMERGENCY EXIT DOOR WINDOW
EXTERNAL VIEW

EMERGENCY EXIT DOOR WINDOW
INTERNAL VIEW

EMERGENCY EXIT DOOR WINDOW CLIPS



EMERGENCY EXIT DOOR WINDOW CLIPS P/N

 = 80-161102-003  = 80-161102-001

Fig. 203 - Emergency Exit Door Window - Removal/Installation

7. Cabin Window - Inspection

A. Referenced Information

Maintenance Manual Chapter 56-00-00

B. Procedure

(1) Clean the window.
(2) Visually examine the window for the following types of damage:
- cracks
- scratches
- chips
- crazing
- abrasions
- delamination
- discoloration

(3) Evaluate any damage found in accordance with Maintenance Manual Chapter 56-00-00 Damage Limitations.

8. Cabin Window - Repair Scratch Damage

A. Fixtures, Test and Support Equipment

Foam blocks	Not specified

B. Materials

Polysand 1500	04-015
Polysand 1800	04-016
Polysand 2400	04-017
Polysand 3200	04-018
Polysand 3600	04-019
Polysand 4000	04-020
Polysand 6000	04-021
Polysand 8000	04-022

C. Procedure

NOTE: The complete procedure is for deep scratches. For medium scratches start at step (6). For light scratches, abrasions and hazing start at step (10).

(1) Clean the window (Refer to Para. 2).
(2) Blend out the damage with Polysand 1500 around a foam block. Work an area larger than the damage in order to blend the repair into the surrounding surface.
(3) Clean the window (Refer to Para. 2).

(4) Abrade the area of damage with Polysand 1800 around a foam block. Work an area slightly larger than in step (2). Work each 1 sq.ft.(0.1 sq.m) for approximately 3 minutes.

(5) Clean the window (Refer to Para. 2).

(6) Abrade the area of damage with Polysand 2400 around a foam block. Work an area slightly larger than in step (4). Work each 1 sq.ft. (0.1 sq.m) for approximately 3 minutes. Alternate horizontal and vertical strokes every 20 seconds. For medium scratches, continue this step to blend out damage.

(7) Clean the window (Refer to Para. 2).

(8) Abrade the area of damage with polysand 3200 around a foam block. Work an area slightly larger than in step (6). Work each 1 sq.ft. (0.1 sq.m) for approximately 2 minutes. Alternate horizontal and vertical strokes every 20 seconds.

(9) Clean the window (Refer to Para. 2).

(10) Abrade the area of damage with Polysand 3600 around a foam block. Work an area slightly larger than in step (8). Work each 1 sq.ft. (0.1 sq.m) for approximately 2 minutes. Alternate horizontal and vertical strokes every 20 seconds. For light scratches continue this step to blend out damage.

(11) Clean the window (Refer to Para. 2).

(12) Abrade the area of damage with Polysand 4000 around a foam block. Work an area slightly larger than in step (10). Work each 1 sq.ft. (0.1 sq.m) for approximately 2 minutes.Alternate horizontal and vertical strokes every 20 seconds.

(13) Clean the window (Refer to Para. 2).

(14) Abrade the area of damage with Polysand 6000 around a foam block. Work an area slightly larger than in step (12). Work each 1 sq.ft. (0.1 sq.m) for approximately 1 1/2 minutes. Alternate horizontal and vertical strokes every 15 seconds.

(15) Clean the window (Refer to Para. 2).

(16) Abrade the area of damage with Polysand 8000 around a foam block. Work an area slightly larger than in step (14). Work each 1 sq.ft. (0.1 sq.m) for approximately 1 1/2 minutes using a very light pressure. Alternate horizontal and vertical strokes every 15 seconds.

(17) Clean the window and polish with wax (Refer to Para. 2).

(18) Visually examine the window for surface imperfections. If damage is apparent repeat the procedure as necessary.

(19) Clean the window with MEK solvent and a lint-free cloth.

(20) Check the sealant fillet around the window for general condition and security of installation. If it is in good conditions no further actions are necessary.

9. Cabin Windows Water Tightness - Check (Interior Removed)

A. Procedure

(1) Remove the interiors to gain access to the window/airplane structure internal side.

(2) Place the blotting paper strips on the internal cabin window sealant.

(3) Spray the water with a low pressure sprayer (garden type) along the external window edge for 3 minutes at least.
(4) Wait for a half of hour, then check if the blotting paper is wet.
(5) Remove the blotting paper strips.

CAUTION: NO MOISTURE / WATER PENETRATION INSIDE THE CABIN IS ACCEPTED.

(6) If presence of water contamination inside the cabin is detected, the Cabin Window External Sealant - Restore or the Cabin Window - Installation procedure must be performed.
(7) Install the interiors previously removed.

10. Cabin Windows Water Tightness - Check (Interior Installed)

A. Procedure

(1) Remove all Cabin Aisle Panel (Refer to 06-00-00).
(2) Clean the fuselage belly removing debris. Use a vacuum cleaner if necessary.
(3) Inspect the fuselage belly for presence of water, inspect also the lateral bays through the lightening holes. If any water is found, dry.
(4) Spray the water with a low pressure sprayer (garden type) along the external window edge for 3 minutes at least.
(5) Wait for a half of hour:
(a) Inspect the fuselage belly for presence of water, inspect also the lateral bays through the lightening holes.
(b) If water is found, identify the entry point and repaire.
(6) Repeat the cabin window water thigtness at the next A, B, C, D inspection (wichever occour first).

11. Cabin Window External Sealant - Check(Ref. Fig. 204)

A. Materials

Magnifying lens	Not specified

B. Procedure

(1) Check the Cabin Window External Sealant, if necessary use the Magnifying Lens.

(2) If crack, cuts, break, tear is/are detected, restore all external sealant around the cabin window as described in this section.

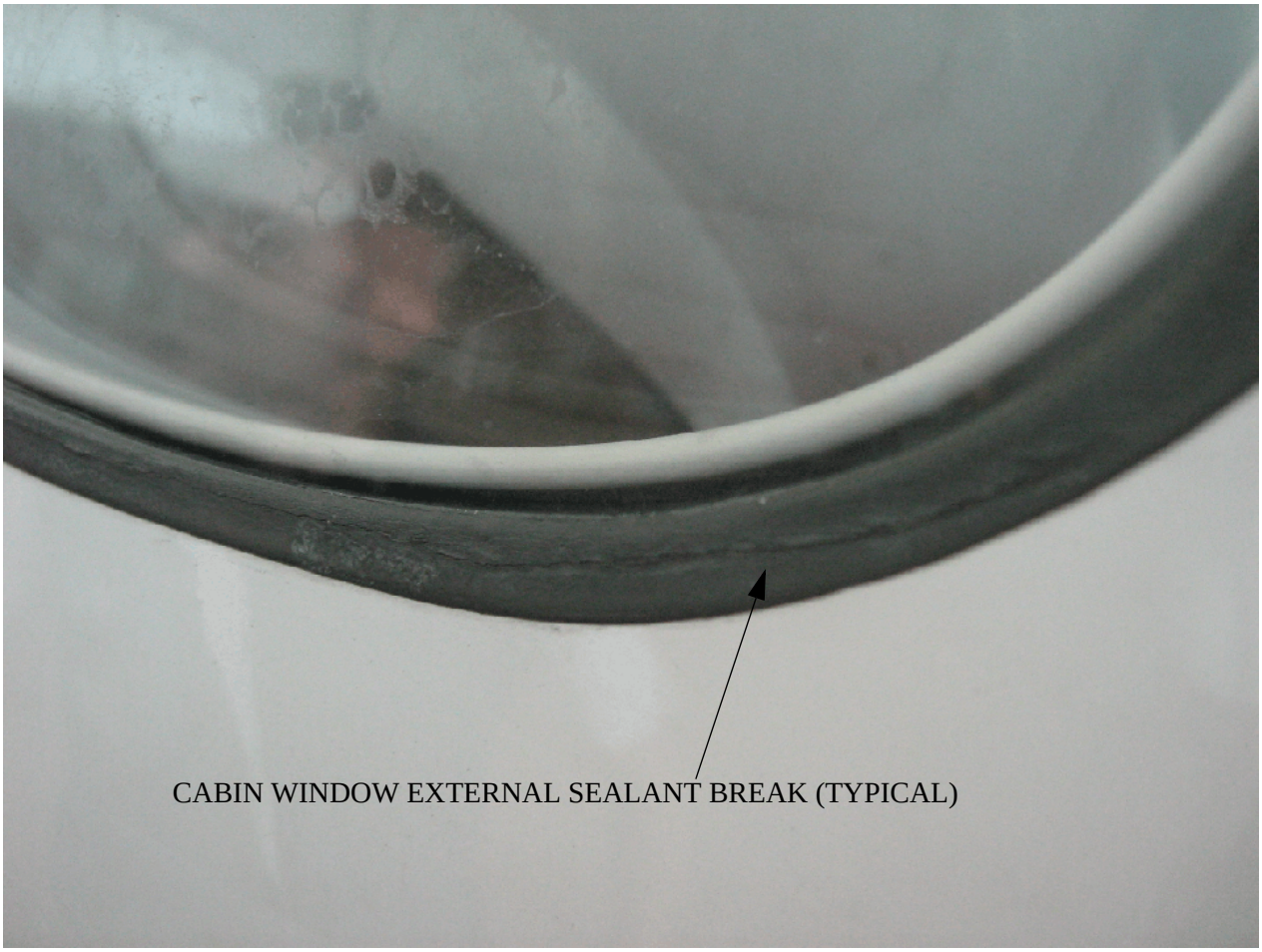


Fig. 204 - Cabin Window External Sealant - Check (Sheet 1 of 2)

Fig. 204 - Cabin Window External Sealant - Check (Sheet 2 of 2)

12. Cabin Window External Sealant - Restore(Ref. Fig. 205)

NOTE: This procedure is applicable to all the cabin windows including the emergency exit door window.

A. Materials

Methyl-Ethyl-Ketone (MEK) solvent	02-009
Lint-free cloth	04-013
Sealant	06-009
Adhesive tape	3M-218

B. Referenced Information

Maintenance Manual Chapter 20-00-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE THE MEK AND SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(1) Using a plastic spatule, scrape the external fuselage around the window frame as shows in figure 205-1.

(2) Clean the window surround with MEK solvent and a lint-free cloth as showed in figure 205-2.

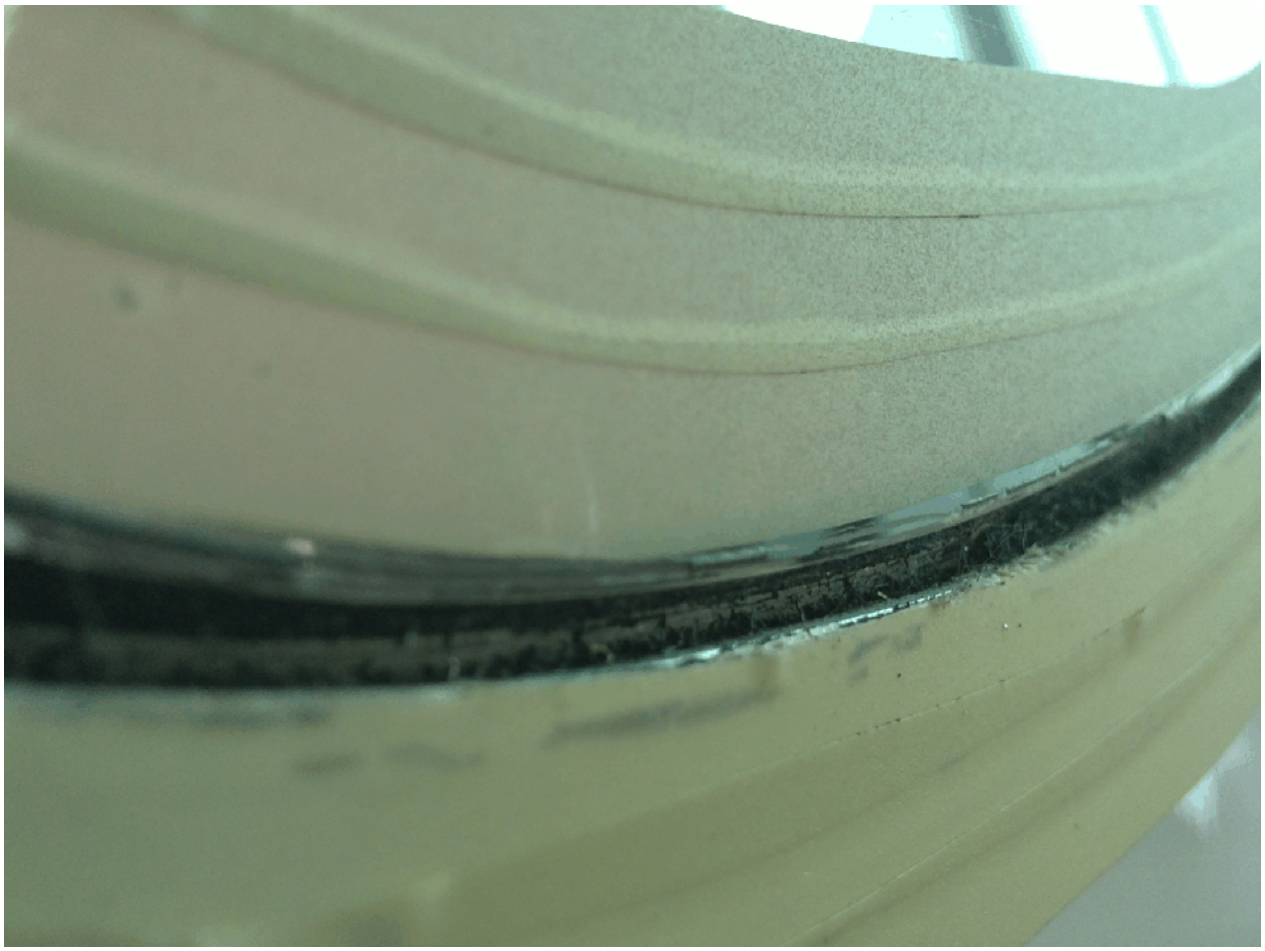


Fig. 205 - Cabin Window External Sealant - Restore (Sheet 1 of 4)

Fig. 205 - Cabin Window External Sealant - Restore (Sheet 2 of 4)

(3) Mask the Cabin Window external side with adhesive tape as showed in figure 205-3.

(4) Apply the sealant in the groove between the Cabin Window and the Cabin Window Frame.

(5) Smear the sealant on the airplane external side, between Cabin Window and the fuselage skin, paying attention to not exeed the adhesive tape surface previously attached.

(6) Check the presence of air bubbles in the sealant just applied. Remove the air bubbles if necessary.

(7) Remove the adhesive tape from the Cabin Window and fuselage skin.

(8) Before pressurizing the airplane make sure that the curing time of sealant have been respected (Ref. to 51-35-00).

(9) The figure 205-4 shows the work at its completion.

(10) Perform the Cabin Window Water thighness - Check (interior installed) as descrobed in this section. .

Fig. 205 - Cabin Window External Sealant - Restore (Sheet 3 of 4)

Fig. 205 - Cabin Window External Sealant - Restore (Sheet 4 of 4)

INTENTIONALLY LEFT BLANK