



1086 Bouquet Road
Jeannette, PA 15644
(800)957-2376

Left or Right Side Windows

Report No. 978/CON

Installation Drawing List

Applicable Aircraft Models

Beechcraft	35-33 thru G33	s/n CD-1 thru CD-1304
	35-C33A thru F33A	s/n CE-1 and up
	E33C thru F33C	s/n CJ-1 and up
	35 thru V35B	s/n D-1 and up
	36 thru A36	s/n E-1 and up
	A36TC thru B36TC	s/n EA-1 and up
	B50 thru C50	s/n CH-12 thru CH-360
	D50 thru D50E	s/n DH-1 thru DH-347
	E50 thru J50	s/n EH-1 thru JH-176
	95-55 thru 95-B55A	s/n TC-1 and up
	95 thru E95	s/n TD-2 thru TD-721
	95-C55 thru E55A	s/n TE-1 and up
	56TC thru A56TC	s/n TG-2 thru TG-94
	58 and 58A	s/n TH-1 and up
	58TC and 58TCA	s/n TK-1 and up

Report No. 978/CON

1/28/97

Page 2

Revision Control Page

Revision	Date	Pages Affected	Remarks
-----------------	-------------	-----------------------	----------------

OPTION 1

**INSTALLATION & REMOVAL INSTRUCTIONS FOR LEFT AND RIGHT FRAMED SIDE WINDOWS
USING THE ORIGINAL BEEHCRAFT WINDOW FRAME**

- 1. These windows are trimmed to fit inside the original window mounting frames which are then fastened to the airframe. Read and thoroughly understand all of the following instructions before proceeding with the installation.**
- 2. Follow the Beechcraft service manual for removal of the window and frame from the airframe. After removing the interior window trim, mark the location and mounting direction of all trim attachment tabs. These tabs must be replaced exactly as removed for proper trim screw mounting tab positioning during installation of the interior trim. Numbering the tabs is recommended. Remove all old sealant from the inside of the skin.**
- 3. Drill through the center of each spot weld using a #40 drill bit. Mark each of these holes so that they can be flush riveted back together on the new window and will not be confused with the frame mounting rivet holes. After drilling, the welds may be broken with a thin, sharpened putty knife struck sharply with a mallet. See figure 1. Exercise care not to distort the frame. Countersink the outside of the holes that were drilled through the spot welds.**
- 4. Once the inner and outer sections are separated, remove all old sealer with MEK or other solvent. Some sealants are polysulfide based (Pro Seal, PRC, Chemseal, etc.) and can best be removed using a polysulfide sealant remover, such as Eldorado SR-125A manufactured by Eldorado Chemical Co., San Antonio, TX (1-800-531-1088).**
- 5. Fit the frame to the new window, trimming the window and inner edge of the frame as necessary. The window is trimmed and the edge of the inside surface is milled to fit the frame at our factory, however a sander or file may be used to remove any excess acrylic. The inner aluminum frame inside edge varies in size and may need to be trimmed, if when fitted to the window the frame hits a portion of the acrylic which has not been milled. Smooth the inside edges of the frame after trimming to prevent the frame from biting into the window radius cuts.**
- 6. Cleco the inner and outer frames together. These holes must be carefully countersunk, 100 degrees, on the outside frame. With the frame in final position, apply masking tape to the window just to the edge of the frame and also apply masking tape to the frame. This will protect both from the excess sealant. If a double layer of masking tape is used, the sealant may be smoothed with your fingers or a spatula while still wet, and the outer layer of tape can be removed leaving a clean layer to protect your surfaces during curing.**
- 7. Place sealant (Chemseal CS3204-B2, GE RTV 108, Dow Corning RTV 732, Bostik 1100 FS or equivalent) in the channel of the frame. The new window should now be fitted into the frame, allowing the excess sealant to be squeezed onto the tape. Rivet the two halves together using MS20426-A4 rivets or equivalent. A layer of masking tape can be placed over the joints while fitting to prevent any oozing sealant from getting on your fingers and contaminating other surfaces. This layer may then be removed to allow you to smooth the sealant around all edges leaving a good fillet. Remove the top layer of masking tape with excess sealant.**

8. Fit the window into the aircraft and cleco it into place, allowing the sealant to cure. Remove the masking tape and excess sealant.

9. After curing, remove the window. Mask the airframe as you did the window. Apply sealant as recommended by the Beechcraft service manual. The window and frame assembly may now be reinstalled on the airframe and the installation completed using the Beechcraft recommended installation instructions in the Beechcraft service manual. Remove all the masking.

OPTION 2

INSTALLATION & REMOVAL INSTRUCTIONS FOR LEFT AND RIGHT FRONT SIDE WINDOWS ELIMINATING THE ORIGINAL BEECHCRAFT WINDOW FRAME

1. These windows are trimmed larger than the original windows to allow them to be fastened directly to the airframe, thus eliminating the aluminum mounting frame. Read and thoroughly understand all of the following instructions before proceeding with the installation.

2. Follow the Beechcraft service manual for removal of the window and frame from the airframe. After removing the interior window trim, mark the location and mounting direction of all trim attachment tabs. These tabs must be replaced exactly as removed for proper trim screw mounting tab positioning during installation of the interior trim. Numbering the tabs is recommended. Remove all old sealant from the inside of the skin.

3. Place the new window against the upper hat section and push the window bottom past the lower hat section until it pops into position. The window has been trimmed closely to fit the airframe, but it may require a final trim to fit. If required this can best be done by using a belt sander, body grinder, or band saw. Both the belt sander and body grinder will remove the material slowly and help prevent over trimming. Peel the protective covering from the window edge just enough to expose the working area and, with the window in position, check that the window fits flush against the outer skin. If it is resting on the radius of the hat section, fitting needs to be done to allow the window to clear the hat sections. Mark the areas to be trimmed or radiused with a grease pencil. Remove the window by pushing against the bottom of the window and trim with a disc or belt sander, hand sanding block, or file. Again, trim only enough that the window fits flush with the skin. The object is to preserve enough window edge material to provide adequate minimum edge distances for the fastener holes. Be sure to break all edges, remove all saw marks, and sand smooth using 150 grit or finer sand paper.

4. With the window in position and starting at center of the sides and working alternately up and down and around, drill holes in the window through the existing holes in the skin using a 1/8" AACRYLIC@ bit. **REMEMBER THAT YOU ONLY GET ONE CHANCE TO DRILL A HOLE WITHOUT CRACKING THE WINDOW - USE THE CORRECT DRILL BIT!!** These drill bits scrape a hole through the acrylic similar to a wood spade bit, they do not cut. As each hole is drilled, insert an appropriately sized cleco fastener to maintain the window position. Drill carefully using a high speed and extremely light pressure, let the drill bit do the work. The object is to drill smooth, clean holes with no edge chips. Excess drill pressure may crack or chip the window as the bit breaks through the bottom side of the hole. You may want to practice drilling the old window.

5. After all holes are drilled and the window is held securely in position with the cleco fasteners, cover the edge of the window where the window meets the fuselage skin using 3/4" or wider masking tape. Allow a slight gap between the masking tape and the skin to create a fillet with the sealant. Also apply masking tape to the aircraft skin. Apply masking paper to cover all exposed window surfaces and tape those edges. This will protect the entire window surface from excess sealant as the window is installed. If a double layer of masking tape is used, the sealant may be smoothed with your fingers, a spatula, or a pencil eraser while still wet. The outer layer of tape can be removed leaving a clean layer to protect your surfaces during curing.

6. Remove the window and drill out all holes with a 1/4" AACRYLIC® bit. Chamfer both sides of all holes using a countersink or conical mounted stone. Do not allow the countersink to chatter. If any rough edges are produced by a chattering countersink, they must be smoothed, preferably with a fine stone. The object is to remove all sharp or irregular edges.

7. Each hole must have a minimum edge distance of 1/4". If any hole has less than the required 1/4", the hole may be notched and a backing support may be used. This may be in the form of a backup aluminum angle cut to length, or large washers (AN970-6 or equivalent), or a combination of large washers (AN970-6 or equivalent) and 1/4" aluminum tube cut to the same length as the thickness of the acrylic and used as a spacer. Trim any oversized washers to clear any interior trim panels. See Figure 2.

8. All mounting holes in the aircraft skin must be dimpled to accept the flush mounting screws (MS24693C or equivalent). You may use a truss head screw (AN526C-632 or equivalent) to eliminate the need to dimple the skin. Prime each hole with zinc chromate primer if the paint has been removed.

9. Carefully place the window in position, insert screws and just start the tinnerman nuts on the screws. While doing this, replace the trim retaining tabs in their original positions. Do not tighten the screws yet.

10. DO NOT USE ANY SEALANT OTHER THAN THOSE RECOMMENDED OR THEIR EQUIVALENTS! THE SEALANTS MUST MEET MILITARY SPECIFICATION MIL-S-8802E TYPE II, CLASS B. The following is a partial list of approved sealants:

<u>Manufacturer</u>	<u>Sealant</u>
Chemseal Corp. (Sealpak Company, Inc.)	CS 3204 B-1/2 or -2
Goal Chemical and Sealants Corp.	GC-408B-1/2 or -2 or -4
Products Research & Chemical Corp. (PRC)	P/S 890 B-1/2 or -2 or -4
(Courtlands Aerospace)	PR-1440 B-1/2 or -1 or -2 or -4
Thiokol	MC-236 B-1/2 or -2

The dash number on these sealants is the working time. We recommend that the 2 hour work time be used. This will give you sufficient time to make any adjustments and smooth out the fillets at the joints. The sealant is a two part system which requires a thorough mix prior to use. It is available in both small cans, which need applied by using a 1" putty knife or in cartridges which require a special hand application gun, similar to a caulking gun. The cartridges contain both components along with a plunger for ease of mixing and application. This is a much cleaner and faster application method. Remember to protect all surfaces from these sealants by covering and masking. The solvents needed for clean up will probably attack the surfaces you need to clean. Complete all masking.

11. Using a putty knife or small spatula, apply mixed sealant between the window and the outer skin and hat section of the aircraft. Be sure that all screw holes are completely filled with sealant, as cured sealer acts as a cushion as the window expands and contracts. Make sure there are no voids in the sealer that could cause water leaks.

12. Tighten the screws just enough to pull the window into final position and the sealer is uniformly spread between the window and the outer skin flange. Do not over-tighten. When cured, the sealant will act as an adhesive to hold the window in position.

13. Before the sealer begins to cure, attach the interior trim to the mounting tabs so the tabs and screws can still be moved as necessary. Start at the bottom of the window and work toward the top, leaving all screws loose until all have been started, then gently snug into place, being careful not to over-tighten.

14. Smooth the sealant in each joint and peel the top layer of masking tape. A pencil eraser will work well to smooth a fillet along each joint. Once dried, the last layer of masking tape may be removed. Cut each mounting screw close to the tinnerman nut to avoid any interference with the interior trim panels. Reinstall the interior trim panels, glare shield and any other items which may have been removed during the installation.

15. After the sealer has firmed but before it is fully cured, remove the masking tape from the window and fuselage, and wipe off any sealant that may be left on the window or fuselage with isopropyl alcohol and a soft cotton cloth. Do not use any other solvent, as it will damage the window. Allow the sealant to fully cure prior to your initial flight. *STEP BACK AND ADMIRE YOUR WORK.*

INSTALLATION OF REAR WINDOWS

1. Follow the Beechcraft service manual for removal of the window from the airframe.

2. The windows are trimmed to fit the original opening. Verify the fit in your fuselage for each window. Trim and fit as necessary.

3. Apply sealant as recommended by the Beechcraft service manual or you may use adhesive backed, 1 1/4" x 1/16" closed cell, foam sealing tape or Bostik 1100FS Urethane sealant or their equivalents. Insert the window into the frame and install the retainer moldings. These retainers may or may not need repositioned slightly to accommodate the thicker window. If drilling new holes, position them no closer than 4 diameters from the existing holes.

4. Reinstall all interior trim pieces.

5. Follow the guidelines on acceptable maintenance procedures in the FAA Advisory Circular AC 43.13-1A, or latest revision, in completing all phases of the installation. Complete 337 form. The weight of the original windows in .125" thickness are one half of the weight shown for the .250" thick windows. Account for the additional weight for operational performance in the weight and balance calculations.

WINDOW APPLICATION CHART

Part No.	WT	Window Location		
All windows on left are applicable to Beechcraft models listed on right.				
252.250	86 oz	Left front pilot window	35-33 thru E33	s/n CD-1 thru CD-1234
258.250	14 oz	Vent window - use with p/n 252.250	35-C33A thru E33A	s/n CE-1 thru CE-289
978WV	134 oz	Left front frameless pilot window	E33C	s/n CJ-1 thru CJ-25
978.375WV	197 oz	assembly with vent installed	35 thru V35A	s/n D-1 thru D-9068
187	16 oz	Vent window - use with p/n 978, 978WV	36	s/n E-1 thru E-184
187.500	24 oz	Vent window - use with p/n 978.375	95-55 thru 95-B55A	s/n TC-1 thru TC-1298
978	119 oz	Left front frameless pilot window	95-C55 thru D55A	s/n TE-1 thru TE-767
978.375	177 oz		56TC	s/n TG-2 thru TG-83
			95 thru E95	s/n TD-1 thru TD-721
			B50 thru C50	s/n CH-12 thru CH-360
			D50 thru D50E	s/n DH-1 thru DH-347
			E50 thru J50	s/n EH-1 thru JH-176

Part No.	WT	Window Location		
All windows on left are applicable to Beechcraft models listed on right.				
211	90 oz	Left front pilot window	F33 thru G33	s/n CD-1235 thru CD-1304
211.375	135 oz		F33A	s/n CE-290 and up
188	16 oz	Vent window - use with p/n 211	F33C	s/n CJ-26 and up
188.500	24 oz	Vent window - use with p/n 211.375	V35B thru V35B-TC	s/n D-9069 and up
211WV	104 oz	Left front pilot window assembly	A36	s/n E-185 and up
211.375WV	156 oz	with vent installed	A36TC thru B36TC	s/n EA-1 and up
978WV	131 oz	Left front frameless pilot window	95-B55 and 95-B55A	s/n TC-1299 and up
978.375WV	197 oz	assembly with vent installed	E55 and E55A	s/n TE-768 and up
187	16 oz	Vent window - use with p/n 978, 978WV	A56TC	s/n TG-84 thru TG-94
187.500	24 oz	Vent window - use with p/n 978.375	58 and 58A	s/n TH-1 and up
978	146 oz	Left front frameless pilot window	58TC and 58TCA	s/n TK-1 and up
978.375	168 oz			

Part No.	WT	Window Location		
All windows on left are applicable to Beechcraft models listed on right.				
253.250	90 oz	Right front door window	35-33 thru G33	s/n CD-1 thru CD-1304
253.375	134 oz		35-C33A thru F33A	s/n CE-1 thru CE-632
230.250WV	104 oz	Right front door window assembly	E33C	s/n CJ-1 thru CJ-25
230.375WV	156 oz	with vent installed	35 thru V35B-TC	s/n D-1 thru D-9855, except D-9819
230.250	86 oz	Right front door window with vent	36 and A36	s/n E-1 thru E-830 except E-754
230.375	128 oz	opening	95-55 thru 95-B55A	s/n TC-1 thru TC-1935
980	111 oz	Right front frameless door window	95-C55 thru E55A	s/n TE-1 thru TE-1069
980.375	167 oz		56TC thru A56TC	s/n TG-2 thru TG-94
979WV	113 oz	Right front frameless door window	58 and 58A	s/n TH-1 thru TH-732
979.375WV	170 oz	assembly with vent installed	58TC and 58TCA	s/n TK-1 thru TK-4
189	16 oz	Vent window - use with p/n 979,	95 thru E95	s/n TD-1 thru TD-721
		230.250, 230.250WV, 979WV	B50 thru C50	s/n CH-12 thru CH-360
189.500	24 oz	Vent window - use with p/n 979.375	D50 thru D50E	s/n DH-1 thru DH-347
		230.375, 230.375WV, 979.375WV	E50 thru J50	s/n EH-1 thru JH-176
979	145 oz	Right front frameless door window		
979.375	160 oz			

Note: All window weights are average.

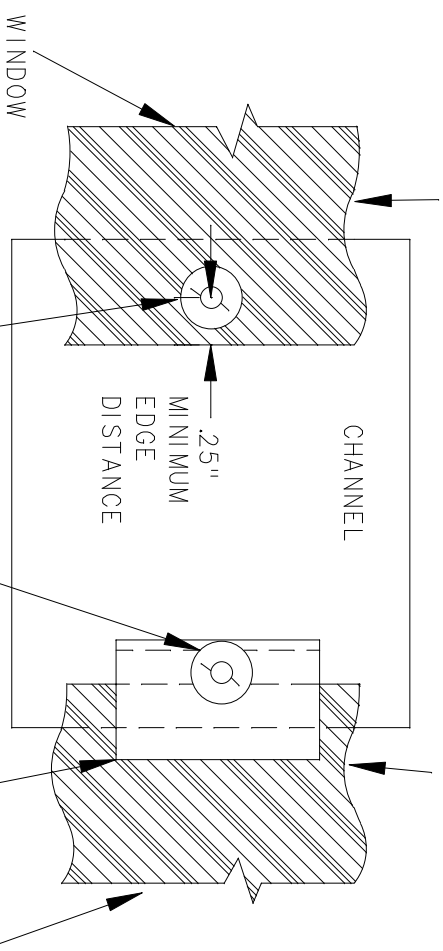
WINDOW APPLICATION CHART

Part No.	WT	Window Location		
All windows on left are applicable to Beechcraft models listed on right.				
294.250	92 oz	Right front door window	F33A	s/n CE-633 and up
294.375	137 oz		V35B-TC	s/n D-9819, D-9856 and up
			A36	s/n E-754, E-831 and up
287.250WV	104 oz	Right front door window assembly	A36TC thru B36TC	s/n EA-1 and up
287.375WV	150 oz	with vent installed	95-B55 and 95-B55A	s/n TC-1936 and up
			55 and E55A	s/n TE-1070 and up
287.250	90 oz	Right front door window with vent	58 and 58A	s/n TH-733 and up
287.375	133 oz	window opening	58TC and 58TCA	s/n TK-5 and up
991	110 oz	Right front frameless door window		
991.375	165 oz			
997WV	143 oz	Right front frameless door window		
997.375WV	158 oz	assembly with vent installed		
189	16 oz	Vent window - use with p/n 979, 287.250, 287.250WV, 997, 997Wv		
189.500	24 oz	Vent window - use with p/n 979.375, 287.375, 287.375WV, 997.375, 997.375WV		
997	92 oz	Right front frameless door window		
997.375	135 oz	with vent opening		
All windows on left are applicable to Beechcraft models listed on right.				
254.250	77 oz	Left #2 emergency exit window	E33 thru G33	s/n CD-1119 thru CD-1304
255.250	77 oz	Right #2 emergency exit window	E33A thru F33A	s/n CE-180 and up
			F33C	s/n CJ-26 and up
			35 thru V35B-TC	s/n D-1 and up
			36 thru A36	s/n E-1 and up
			A36TC thru B36TC	s/n EA-1 and up
			95-55 thru 95-B55A	s/n TC-1 and up
			95-C55 thru E55A	s/n TE-1 and up
			56TC and A56TC	s/n TG-2 thru TG-94
			95 thru E95	s/n TD-1 thru TD-721
			B50 thru C50	s/n CH-12 thru CH-360
			D50 thru D50E	s/n DH-1 thru DH-347
			E50 thru J50	s/n EH-1 thru JH-176
All windows on left are applicable to Beechcraft models listed on right.				
140.250	82 oz	Right #4 window	35-33 thru G33	s/n CD-1 thru CD-1304
141.250	82 oz	Right #4 window	35-C33A thru F33A	s/n CE-1 thru CE-315
			E33C thru F33C	s/n CJ-1 thru CJ-51
			95 thru E95	s/n TD-1 thru TD-721
All windows on left are applicable to Beechcraft models listed on right.				
284.250	83 oz	Left rear window	35-C33 thru G33	s/n CD-814 thru CD-1304
285.250	83 oz	Right rear window	35-C33A thru F33A	s/n CE-1 and up
			N35 thru V35B-TC	s/n D-6562 and up
			95-55 thru 95-B55A	s/n TC-1 and up
			95-C55 thru E55A	s/n TE-1 and up
			56TC and A56TC	s/n TG-2 thru TG-94
			B95A thru E95	s/n TD-453 thru TD-721
All windows on left are applicable to Beechcraft models listed on right.				
024.250	28 oz	Utility door window – forward	36 thru A36	s/n E-1 and up
025.250	42 oz	Cargo door window – aft	A36TC thru B36TC	s/n EA-1 and up
028.250	24 oz	Left #3 window	58 and 58A	s/n TH-1 and up
029.250	43 oz	Right #4 window	58TC and 58TCA	s/n TK-1 and up

Note: All window weights are average.

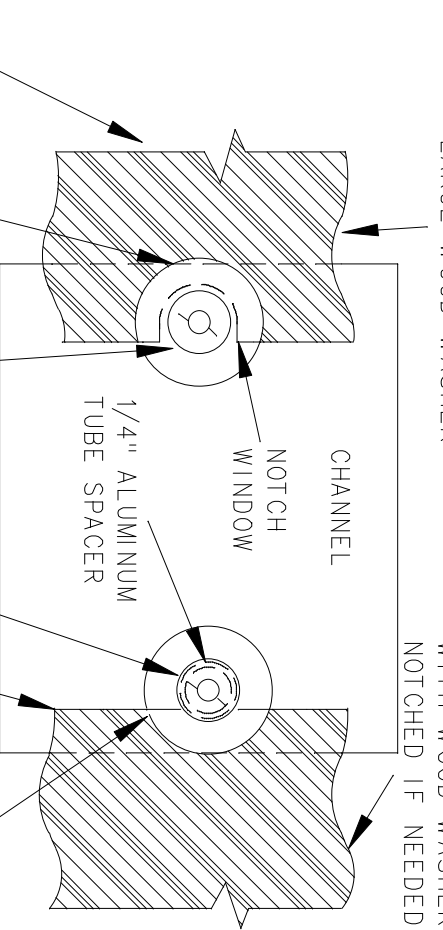
WINDSHIELD/WINDOW FASTENER PLACEMENT ALTERNATIVES

NORMAL INSTALLATION

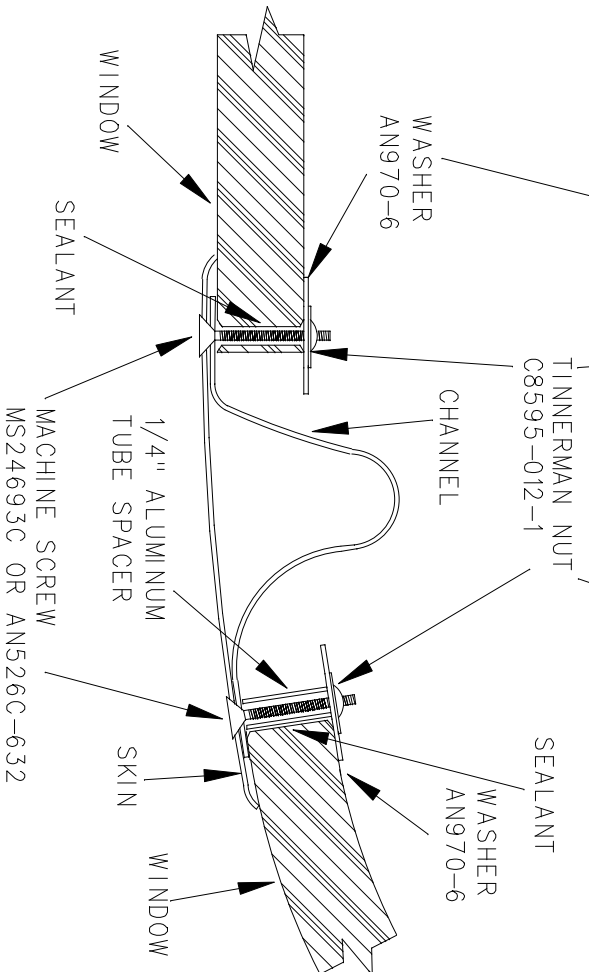
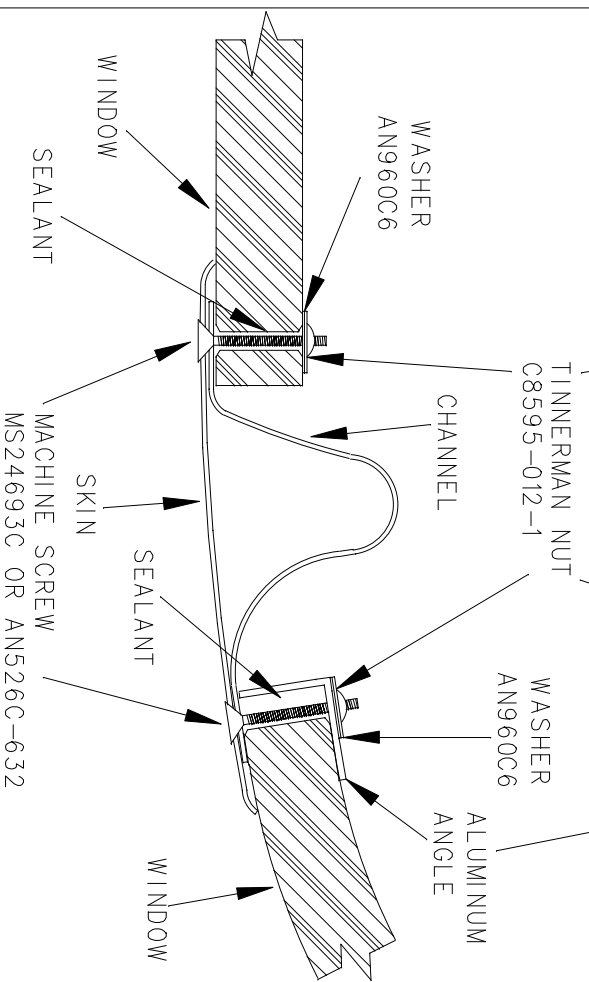


ALUMINUM ANGLE EDGE REINFORCEMENT

NOTCHED EDGE WITH LARGE WOOD WASHER



ALUMINUM SPACER WITH WOOD WASHER NOTCHED IF NEEDED

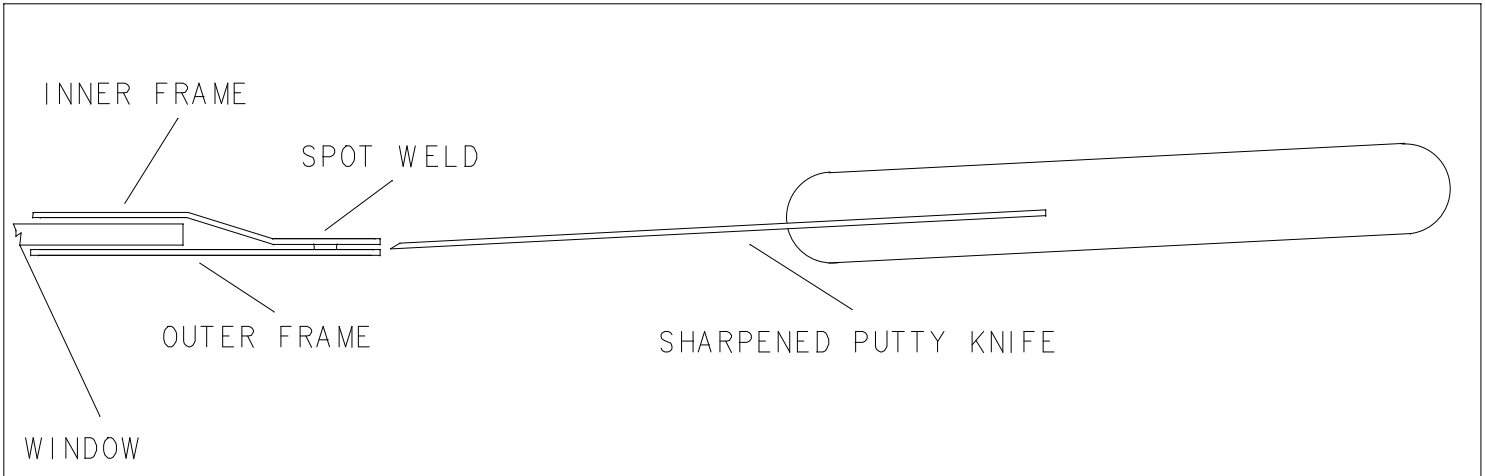


1. SEALANTS MUST FILL THE FASTENER HOLES COMPLETELY FOR A LEAK FREE INSTALLATION.
2. LARGE WASHERS MAY NEED TRIMMED TO GIVE CLEARANCE FOR BOTH CHANNEL AND INTERIOR TRIM.
3. TRIM SCREWS AFTER SEALANTS HAVE CURED.
4. AVOID OVERRIMMING SO THAT NORMAL METHOD MAY BE USED.

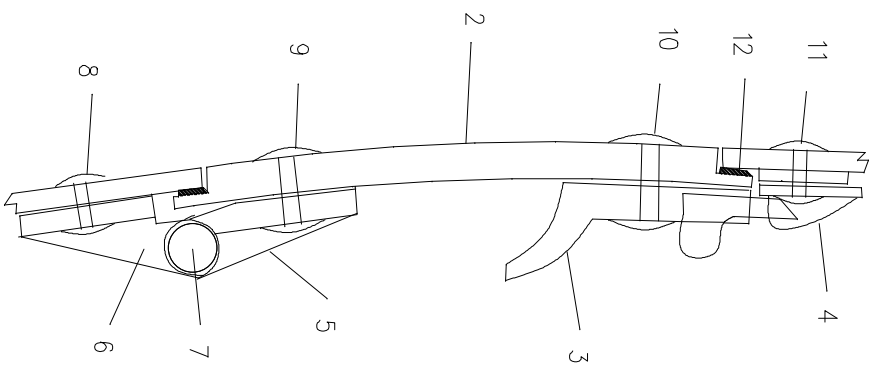
LP AERO PLASTICS, INC.	
JEANNETTE, PA	
FASTENER ALTERNATIVES	
DRAWN BY	GAM
CK BY	JP
DATE	1/28/97
PAGE	10
SCALE	- NONE
REPORT NO.	978/CON

MACHINE SCREW
MS24693C OR AN526C-632

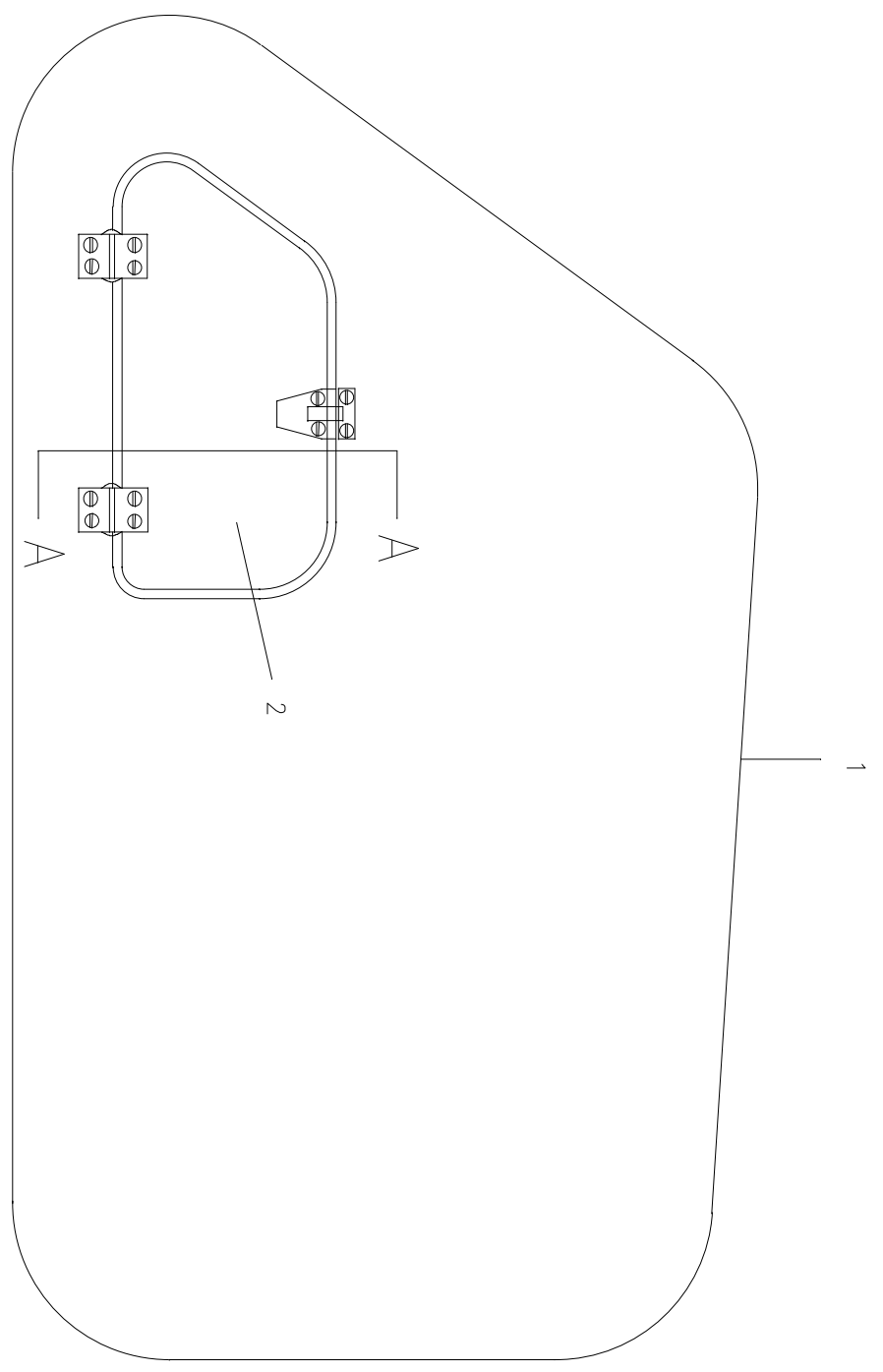
MACHINE SCREW
MS24693C OR AN526C-632



LP AERO PLASTICS, INC.	
JEANNETTE, PA	
WINDOW FRAME SEPERATION	
DRAWN BY GAM	
CK BY JP	FIGURE 1
DATE 1/28/97	PAGE 9
SCALE - NONE	REPORT NO. 978/CON



A - A



LEFT FRONT PILOT WINDOW ASSEMBLY
 8/25/99 GAM
 DRAWING 978WV
 SHEET 2 SCALE - NONE