

INSTRUCTIONS FOR ASSEMBLING AD THE VAKUUM FRAME PRESS

04042008 - Frame Press Instructions.cdr REV 9

Your "Q.V.P." frame press is unique in that it has a 6" or 24" high top. This special Gusset box top gives over twice the height of conventional frame presses. This means pressing more flat panels at one time or large curved pieces can be pressed in place. In addition, unlike others, it is made with one piece of material with only 8" or 24" of seam at each corner. This means less chance of failure due to seam delamination.

Your Frame Press Includes:

- Polyurethane 6" or 24" top
- Aluminum side frames, with adhesive tape applied.
- Corner Brackets
- Foam Gasket Material
- Instructions
- Bleeder Valve
- Hinges
- Rubber Snap Clamps and screws
- Lifters
- VCA6F (VAKuum Connector Assembly)

The frame should take about 1 to 2 hours to assemble depending on its size. Building the table can take a day or two.. The following chart is used to size your table top.

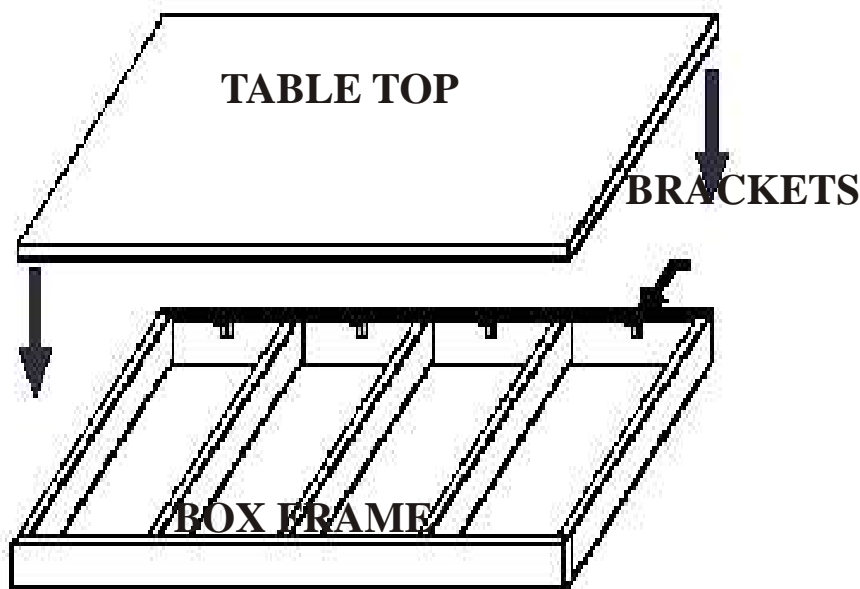
Frame Size I.D.	Table Top Size O.D.
25" x 25"	27.5" x 27.5"
54" x 54"	56.5" x 56.5"
54" x 102"	56.5" x 104.5"
54" x 126"	56.5" x 128.5"
66" x 102"	68.5" x 104.5"
66" x 126"	68.5" x 128.5"

If you have a special size frame press, add 2.5" to the inside length and width to determine the table top size.

IMPORTANT: Your table top must be flat and non-porous or the frame will leak. Unlike a vacuum bag that only has one or two short sides to seal, the frame press has a long linear perimeter that must be sealed. Do not be concerned if your vacuum pump cycles on and off more often than when using a vacuum bag.

Building the Table Top

A Smooth, *FLAT NONPOROUS TABLE TOP IS ESSENTIAL IN GETTING A GOOD VACUUM SEAL.* You must spend the time to get it flat for trouble free frame pressing. The table top should be made from 3/4" or thicker MDF, plywood or particle board. A single sheet is best, however, you can splice 2 sheets together for the larger press. Once the table top is cut to size apply a single sheet of SMOOTH plastic laminate to the top (NON MATTE FINISH). This will make the top nonporous which is very important. If you need to have a joint, apply a bead of Silicone II to the joint and push the second piece into the joint and wipe leaving a slight crown. I slight hump where the gasket material touches the seam is a better seal than a slight valley in the seam.



DRAWING A OVER

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The key to the top laying flat is the box frame that supports the top. Straight, dry 2"X6"'s are recommended. Joint the edges if necessary to make them straight. Make the box as shown in **DRAWING A**. Use brackets or cleats to hold the table top to the frame box. Use short screws to attach the brackets to the underside of the tabletop. Do not puncture the top surface with a screw as it will cause a leak. This method is used as it allows for shimming the tabletop to assure flatness. Level the top with shims if necessary. ***This is the most important step in building the table.*** If it's not flat, you could have leakage. Also, if it's cupped, you could press a curve into your piece. Once the tabletop is completed, it can be used to assemble the frame press.

Applying the SMOOTH Laminate

If you can, purchase a sheet of laminate that will cover the table in one piece. If you have a seam, apply a bead of silicone II along the joint and push the second piece into it, thus filling the seam. Remove the excess. It's best to leave a slight crown at the joint rather than a slight depression. Where the gasket material comes down on the seal, it will seal better on a slight crown rather than into a depression.

Assembling the Frame Press

Lay the aluminum frame pieces on the table and assemble the joints. Place the steel corner brackets inside the aluminum frame. Slide each joint together. Screw the frame to the connectors with the 1/4-20 phillips head screws using the pre-drilled holes.

Assembling the Top to the Frame:

To assemble the Gusset Top to the frame, elevate the frame 6" or more off the table with blocks with the bottom side (tape) up. This allows you to drop the Top inside the frame. Hold the top in place with several spring clamps. The Top will fit inside the frame. The 2 1/2" flange from the Top should sit on the frame without any bunching or ripples along the frame.

The top is slightly smaller than the frame to eliminate the possibilities of wrinkles or bunching of the material. Hold each corner with a spring clamp and make sure the top is centered.

Note: If you didn't install the frame press when received, you should re-etch the bag top if it's more than one week after shipping date as per the packing slip..

Etch the bag flange (the side that will stick to the tape on the aluminum frame) with PVC pipe cleaner. Etching will give better adhesion.

Remove about 12" of the backing material from the tape from the center of one end only. Press the flange in place as you continue removing the backing from the tape. **DO NOT PRESS THE FLANGE WITH MUCH FORCE AT THIS TIME.** You may have to pull up the flange if you did not center the top correctly. Do the same for the other end. The long lengths should be ripple free, remove the backing material and press the long length in place. Again starting in the center and working toward the end. At this point you have the bottom stuck in place.

Once the top is stuck in place, take a dowel or hard roller and roll around the frame to press the top in place. If you make a mistake in a short length, you can pull the top and reset it. Now remove the paper from the side of the frame and roll the remainder of the flange to the side. Trim excess.

Applying the Foam Gasket Tape:

Apply the foam gasket tape around the **outside edge** of the bottom of the frame. **Drawing B**. Remove about 12 - 18" of backing and start in the center of the front side and work your way around the frame. Make a smooth curve at the corners as in **Drawing B**. When you come around to the beginning, run the tape to the inside of the Foam Gasket tape just applied, thus making the two rows parallel and tight to each other. This will give you a long joint that will be vacuum tight.

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Making the Baseboard

You must make a baseboard or platen for inside the frame. It is similar to the baseboard used in a vacuum bag with saw kerfs 1/8 - 3/16" deep, every 6 to 10" in both directions. This helps improve the seal and cuts down on leakage problems. The baseboard dimensions should be 6" less than the inside of the frame, thus giving a minimum 3" space around the frame. Since it lays flat on the tabletop, it can be anywhere from 3/8" to 3/4" thick. You must round all the edges to eliminate all sharp corners. ***Do not screw the Baseboard to your table top***, it will cause leaks, use contact cement or just let it lay in place.

NOTE: The 3" gap between the baseboard and the inside of the frame, helps improve the vacuum seal. Also make sure you push the bag flat on the table around the perimeter of the baseboard when you are pulling vacuum. This will improve the seal and prevent the bag from pulling off the frame.

Installing the VCA6F:

You will need to install a VAKuum Connector Assembly (VCA6F) into your table top as per **Drawing D**. Drill a 3/4" hole (check the diameter of your VCA6F) in your table where you wish to place the VCA6F. The center of the VCA6F must be below an intersection of the grid lines (saw curves) on your baseboard.

Countersink a relief hole in the bottom of your baseboard for the VCA6F bolt head and washers to fit into. Depending on the thickness of your baseboard, the top nut on the VCA6F may come completely through the baseboard. **The VCA6F must be slightly below the baseboard.** Also, never let the gusset top cover the VCA6F as it can seal the vacuum hole. Always have something on top of the VCA6F (workpiece, piece of board with all edges rounded, etc.).

If you use a thick baseboard, you will need to drill a 1/2" hole through the baseboard that lines up with the VCA6F. Your hole through the baseboard must be at the intersection of a saw kerf (**DRAWING D**). If you made a mistake and the VCA6F doesn't line up with a grid line on the top of your baseboard, just cut another grid line that connects to the existing grid and goes across the hole.

At this point the Frame Press is ready to use. Use the rubber snap clamps to hold the frame in place. If you use mechanical clamps to hold the frame down, you can have uneven pressure, thus cock the frame and have leakage. For those who are going to dedicate the Frame Press to the table, attach the hinges.

Attaching the Hinges:

The bottom of the hinges have oval slots. The frame must be able to be squashed down when under vacuum, thus the bottom screws should be loose. Set the frame in place on top of the table with hinges hanging down over the back of the table. When the frame is locked in place, the gap between the table top and the aluminum frame should be about 3/16". Put the screws in at the bottom of the slots, this allows the back of the press to move down when vacuum is applied.

Warning: **Do not attach the hinge at a right angle to the table top. The frame must be able to compress the foam, therefore, it must free to float. If the hinge is on top of the table, the hinge knuckle will keep the foam from compressing and provide a seal**

Snap Clamps:

The snap clamps are to help create a seal until vacuum pressure generates enough force to maintain its own seal. See diagram on page 7 for placement. See diagram E for installation.

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To attach the snap clamps, drill a 3/32" hole at the top edge on the side of the aluminum frame through the plastic flange and screw in the top clip with the #6 sheet metal screws. (Holes in the aluminum frame will not be a source of leakage.) Place the bottom latch so the top of the metal is level with the top of your table..

Drawing E.

Bleeder Valve

Connect the VAKuum hose to the VCA6F, then connect the bleeder valve (**Drawing C**). The other side of the bleeder valve is connected to the VAKuum hose that goes to your vacuum pump. Just open the bleeder valve to allow air into the frame when you want to open the frame.

Note: If your pump does not evacuate the Frame Press fast enough, you can attach a VAK Pump to the bleeder valve. The VAK-Pump would only be used during the initial pump down then could be disconnected for other uses in the shop

Checking For Leaks:

THERE ARE FOUR SOURCES OF LEAKAGE: THE GASKET JOINT, THE GUSSET SEAMS, THE JOINT ON EACH SIDE OF THE FOAM GASKET TAPE (TO THE TABLE TOP AND THE TOP) and THE TABLE TOP/VCA6F.

Checking the Gusset Seam

With the frame down and under vacuum, put some water inside the frame at each corner. Start at one corner, if it leaks at the corner seam you will see the water, in the form of droplets, move along the creases in the bag and along the frame.

Checking the Foam Tape

Most causes of leakage will be at the interface of the Foam Gasket tape and tabletop. If you can't locate the leak by listening, spray water at the Foam Gasket seam. Go around the table and look inside the frame for water bubbling in. If the leak is not at the butt joint, put a C clamp where the leak is occurring.

Don't over tighten the clamp as it could cock the frame and cause a leak elsewhere. The table may need shimming as a permanent fix.

Another test is to walk around the frame and press on the frame every foot or two. Many times you will find the spot that is not sealing and you can add a snap clamp or C clamp at this spot.

A frame press (FP) has a very large area to seal (up to 35') and it tends to cause the pump to cycle on and off more often than a bag. Under normal conditions a FP will cycle every 3 to 5 minutes. Some have achieved up to a 60 minute cycle by paying close attention to details and adding a vacuum tank.

You can improve the seal by applying a small bead of Silicone II around the inside edge of the gasket material. The key is not to have it wider than 1/8" where it touches your table top. If it's too wide, it can prevent the gasket from compressing because the silicone is much denser than the gasket material. If this happens, the frame doesn't compress evenly and you could be worse off. Better to apply a smaller amount and add more later than to apply too much.

Drawing G (Page 7)

Also when applying the tape make sure to butt the 2nd row against the 1st row. (The gap in this drawing is only to show 2 rows.)

Drawing B

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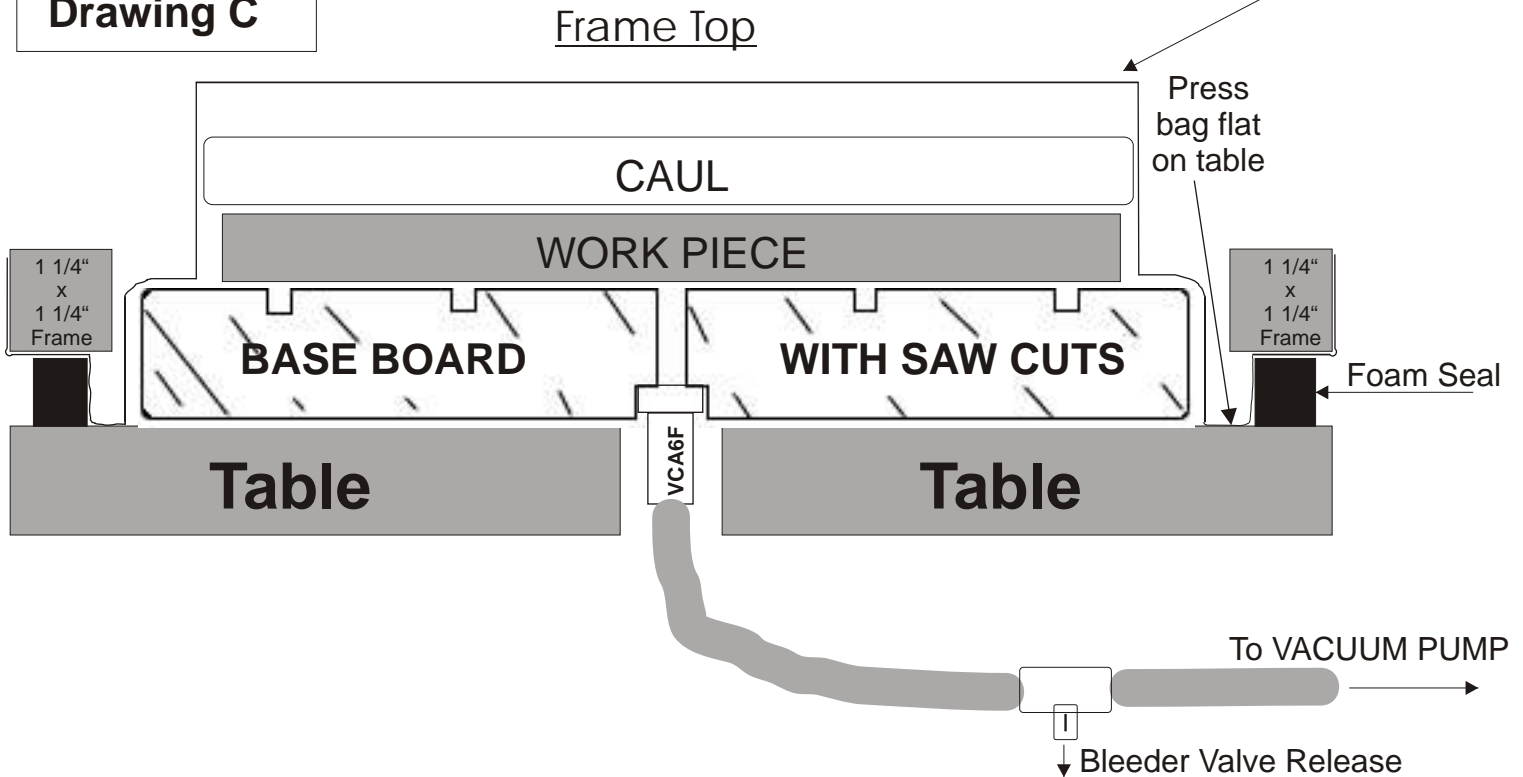
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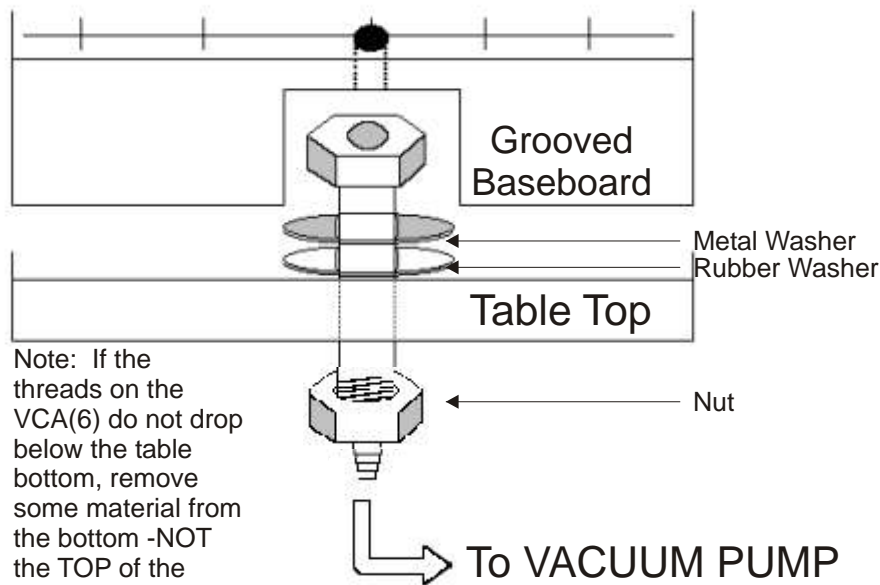
6" or 24" High Gusset
Bag Top

Drawing C



Drawing D

VCA6F or VCAF



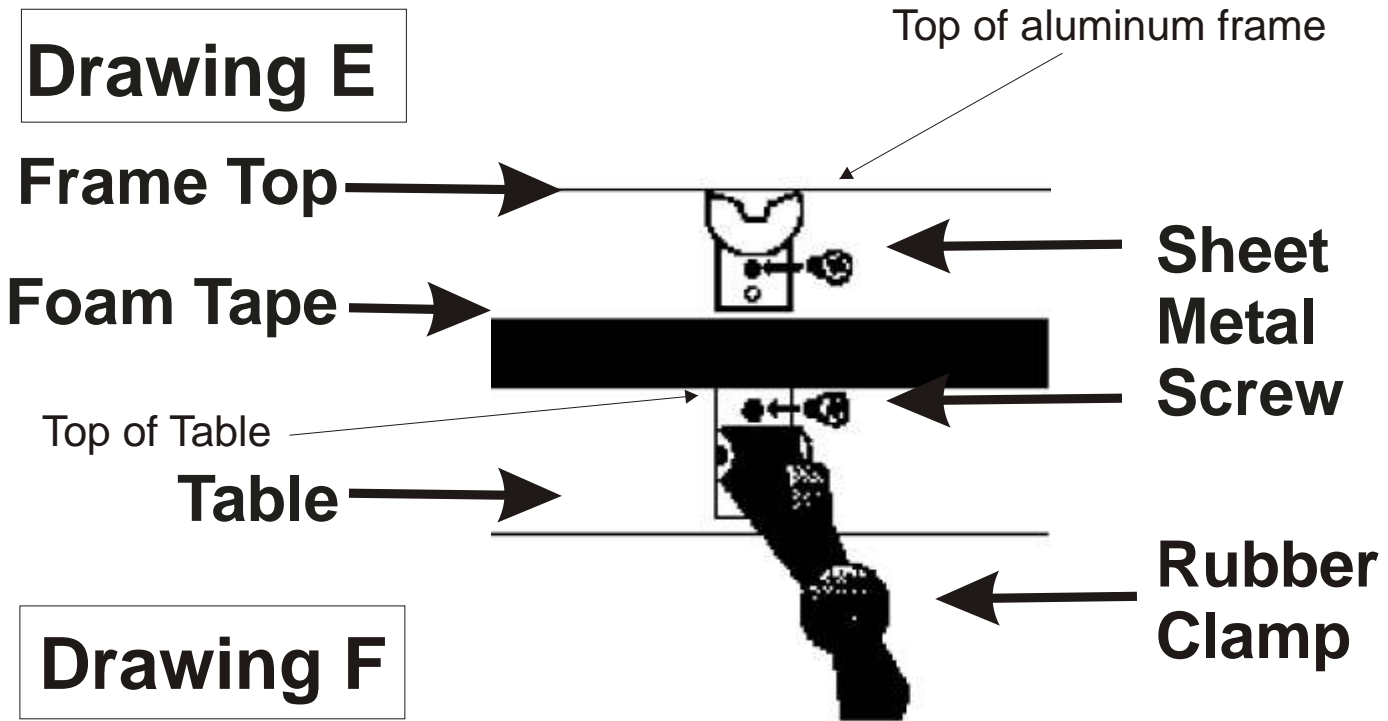
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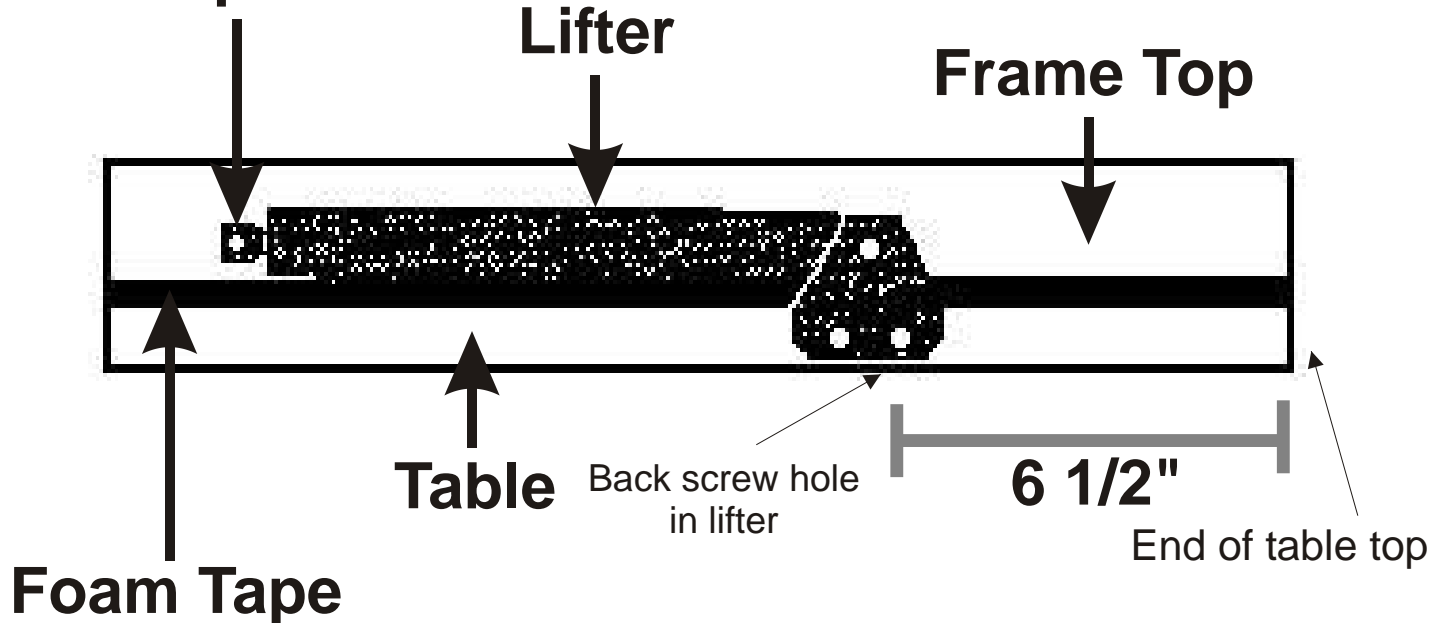
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Drawing E



Drawing F

**Allen Head Screw
& Spacer**



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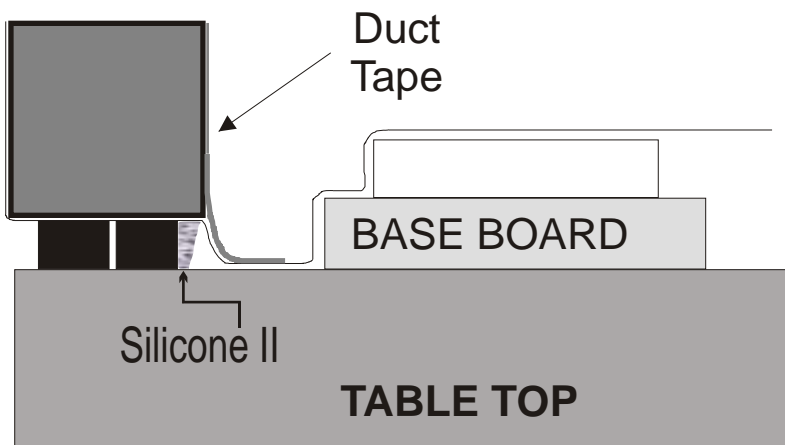
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WARNING: Do not overload the Frame Press or the force of vacuum will pull the top off the frame or bend the frame (this is better than ripping the poly top). This is especially true with large curved work. Close the frame over the workpiece and pat the plastic around the workpiece. The plastic top should go against the workpiece and the table top with no or very little stretching.

Formica Top: It is very important that the Formica finish be a smooth and not a matte finish.

Applying paste wax to the perimeter of the table and gasket will do two things, give a smoother finish plus a better vacuum seal and the wax makes it easier to remove glue squeeze out from the table top.

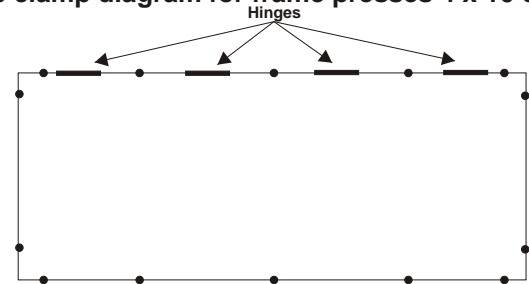
Tips from an experienced user: To increase the holding force of the high tack adhesive tape that holds the top to the bottom of the frame, apply duct tape around the inside of the frame and down on to the top. This not only provides additional holding force but most importantly also keeps sawdust from getting on to the high tack tape. If the duct tape is not added, the high tack adhesive tape will lose its adhesive quality and will need to be replaced periodically depending on the frequency of use and dust level in the shop.



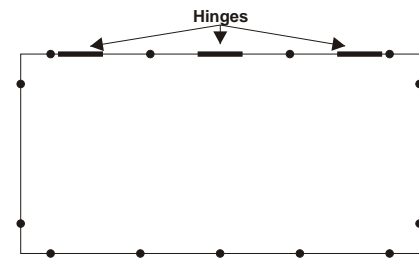
DRAWING G

VACUUM TANK: A vacuum tank can significantly increase the time between cycles. The larger the tank the longer time between cycles. See **PAGE 8** or feel free to call Q.V.P. for details.

Snap clamp diagram for frame presses 4 x 10 & 5 x 10

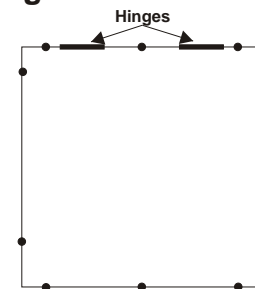


Snap clamp diagram for frame presses 4 x 8 & 5 x 8

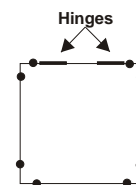


Snap clamps should be placed approximately 6" from each corner. Then you should place one snap clamp between each hinge. Then place the remaining 3 snap clamps evenly on the front of the frame press. See diagram above for approximate placement.

Snap clamp diagram for 54" x 54" Frame Press



Snap clamp diagram for 25" x 25" Frame Press



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Adding a vacuum tank.

Adding a vacuum tank will significantly increase the time between cycles and you should consider this option if you are experiencing cycle times of one to two minutes. It is very simple to add. Since a vacuumed down top has very little air space, just a small amount of leakage will quickly fill this space and cause the unit to cycle. It's a function of the size of the tank. A 10 gallon tank or larger is suggested. The tank can expand this space by anywhere from 5 to 10 times in size, thus, 5 to 10 times longer between cycles.

The drawing shows how to include the tank into your frame press set-up. It's a very simple set up, if you make it yourself, just make sure all your connections are vacuum tight.

Once the tank is installed and the frame press is pumped down to vacuum level, the time between cycles will become longer. When ready to open the press, shut off the valve to the tank then open the bleeder valve. This will save the vacuum in the tank and you will not have to pump it down every time you press a new piece.

When ready to press again, close the lid, turn on the pump and then open the valve to the tank.

More than one tank can be added by connecting them with a TEE.

