Installation/Operation Manual

ProMod 5 & ProMod 8

Support Page: http://www.youtube.com/user/dweaverframe?feature=mhee

Introduction

Our "Pro Mod" series comes in two sizes 5' & 8'. This mod is a vast improvement to the way canvas was stretched by the base machine. The base machine is well suited for studios, small print shops and custom frame shops because of its size and portability. It consists of a single toggle switch and a regulator on the right side of the machine - this has worked very well for short production runs. However, we have some customers that stretch more than 4500 canvas a month so any effort to reduce the amount of motion or distance traveled to conduct a stretch will help to shave off some time. It is also useful to shop owners that want to implement standard stretching procedures.

Pictured below is a machine with the Production Modification. The obvious difference is the small control box on an articulating arm that houses two adjustable stages. The **first stage**, the upper-most position is preset to 20 psi and is typically used to start a stretch. The **second stage**, the lower position, is preset to 30 psi. The middle position is "off" and will not impact the stretch in this position. Please note that to conduct a stretch the toggle switch must be in one of two positions and the "left" foot pedal must be depressed.

Dual Stage Control

Dual Foot Pedals

Unpacking & Set-up

Inside the box:
(1) Canvas stretching machine suspended in custom-made foam pads

Inside the bottom boxes:
Box #1
(1) Two foot pedals mounted on plate
(1) Control box with dual stage controls w/ hose
(1) Articulating arm to move the control box
Box #2
A universal mount system to suspend the machine on the front of bench
(2) for 60”
(4) for 96”
Box#3
(1) Fasco pneumatic staple gun
(1) Box BeA-80 series staples
(1) Instruction manual
(1) Pair of safety glasses & (2) Hex wrenches.

Your Gallery Stretcher is partially assembled and ready to operate out-of-the-box; the foot pedal assembly will need to be plugged into the stretching machine and the air compressor. Please note that the tubes are all color-coded. The foot pedals operate similar to a light switch…only with air. The 96” model will ship in (2) boxes.

Bench Mounting Your Stretcher

Your machine was designed to be mounted in front of a typical workbench this is the most effective method. You have been provided with a universal mount that attaches to the front of a typical workbench. The lip on the universal mount will attach to the front of most workbenches. This will position the machine approximately at 3.25” from the top of the workbench.

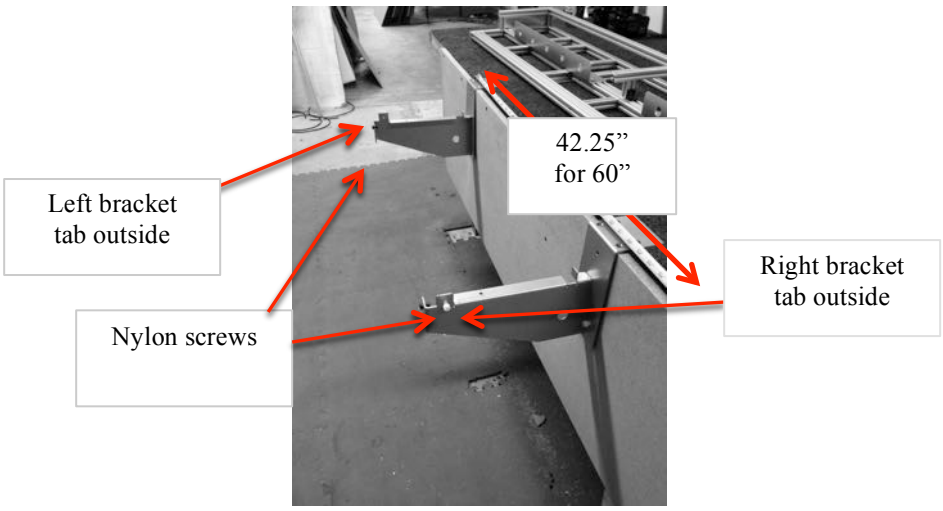
Installation (Detailed Instructions & Video)

Your universal bench mount consists of (1) pair of brackets for a 60” machine and (2) pair of brackets for a 96” machine. The brackets are paired so that there is a left-hand and right-hand bracket, (refer to photo at bottom of page) indicated by the small tab on each bracket that favors one side as viewed from the front.

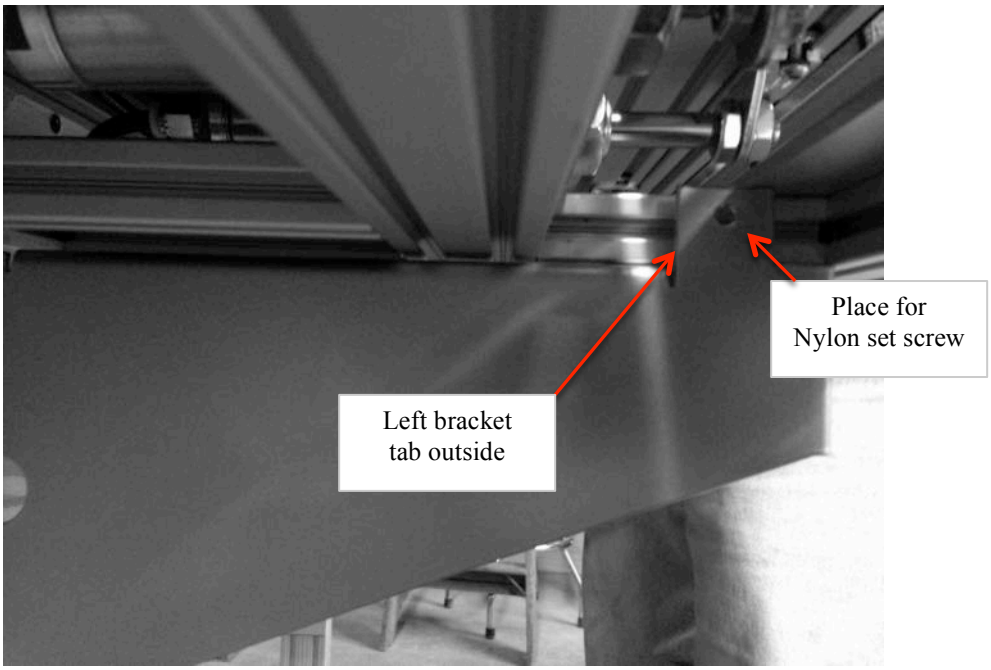
Installation for 60”:
Locate the centerline of the bench and make a mark. Place the left-hand bracket (identified by the forward most tab on the left outside edge) where the outside edge of the top mounting plate is 21.125″ to the left of the centerline and secure it to the bench using the 2 holes at top of the mount. There are (3) additional holes on the face of the mount if you do not want to drill on top of your bench. Place the right hand bracket 42.25” to the right of that bracket as measured from outside edge to outside edge on the top “L” portion of bracket. Please confirm that the distance between the 2 small tabs in the front are 39” apart inside to inside. These tabs will “trap” the machine to reduce movement. Your mounts come with 2 nylon ¼-20 screws that allow you to apply a little pressure, pictured below.

Installation for 96”:
The 96” model requires 4 brackets, (2) left-hand and (2) right-hand. Locate the centerline of the bench and make a mark. Place the left-hand bracket (identified by the forward most tab on the left outside edge) 15.125″ to the left of the centerline and secure it to the bench using the 2 holes at top of the mount. Place the right hand bracket approximately 30.25” to the right of that bracket as measured from outside edge to outside edge. The distance between the 2 small tabs in the front should be 30.25”. Now locate the second left-hand bracket and mount it 24” to the left of the first left-hand bracket, as measured from the 2 small tabs. Repeat this step for the right-hand bracket for the right side. You should now have (2) left-hand to the left of centerline and (2) right-hand to the right of centerline.

For more details on installation and for installing the (2) additional brackets for the 96” machine follow this link: http://gallerystretcher.com/installing-the-universal-mount/
Or refer to “Quick-Start Guide.



Set machine on universal mount by placing the back rail of the machine into the 2 rear slots. Tilt the machine as shown and lower the front onto the mount, the 2 front tabs of the mount should rest on each side of the machines support rails as shown in the picture below. This keeps the machine from moving left or right. There is a tapped hole for a nylon set screw on each tab that is included in the box.

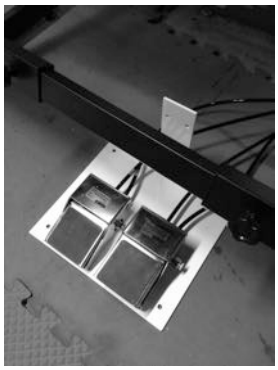


Foot Pedals & Mount

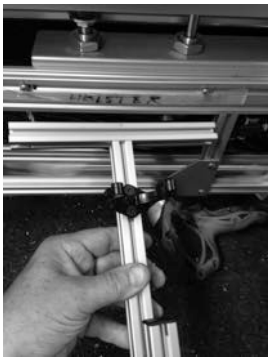
There are (2) foot pedals located on a steel plate. The pedal on the right controls the "Clamping Bar", the pedal on the left controls the "Stretching Bar". The clamping foot pedal is configured to **close** the clamping bar when air is applied to the machine. "DO NOT" have any part of your body near the clamp when first applying air to the machine. Depressing the foot pedal cuts off the supply of air, this **opens** the clamp.

The stretching foot pedal is a "detent" switch and engages when the pedal is depressed and at least one of the stages is selected on the control box. Step on it again and it will release. The position of the 3-way switch on the control box will determine what stage will be used. If the 3-way switch is in the "off" position nothing will happen to the stretching bar when the stretching pedal is depressed.

A color-coded tubing harness is attached to the foot pedal assembly. The loose ends must be connected to the under-side of the machine (pictured below) to their corresponding color-coded quick-connect fittings. The "Black" & " White" are for the clamping pedal, the "Orange" and "Yellow" are for the stretching pedal and the remaining "grey" connector is for your staple gun. You should have a "white plug" inserted into that connector to block off air until you are ready to connect the staple gun. Simply depress the grey ring and pull out the plug. Your staple gun includes a short section of tube that connects your gun to the machine.



The ProMod series also includes a holster that mounts beneath the machine, it is shipped in 2 pieces, taped together and it includes two 1" screws for mounting to the inside rail just to the right of center. There are (2) preinstalled T-nuts in the track.

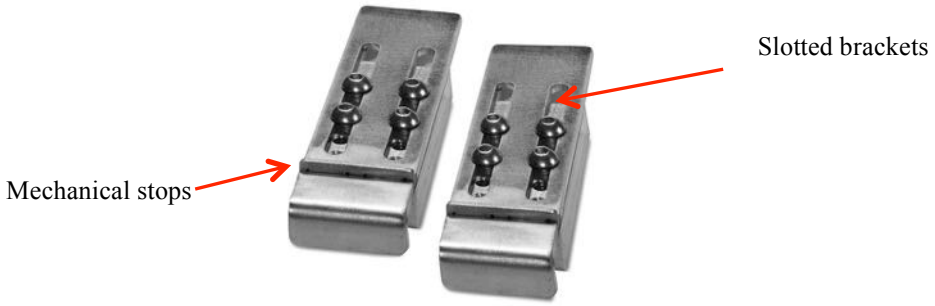


Installation of Controls

Locate the control box and the large T-wrench. Loosen the turn-knob beneath the machine and swing the arm out as shown below. Loosen the screw that is attached to the T-nut and slide that portion of the assembly onto the arm and re-tighten. Now connect the color-coded hoses to their corresponding connections.

How to use Custom Stretcher Plates

The Custom Stretcher Plates, shown below, are included with your machine. The black Delrin slide on the bottom of the stretcher bar slides into the slots of the "stretcher bar", the wider of the two bars.



Setting-up Stretcher Plates

Video: **http://www.youtube.com/watch?v=94rntl0C0rY**

Position both stretcher plates in the middle of the stretcher bar. Favoring one side may cause the stretcher bar to bind so always stretch canvas from the center of the machine. Place an assembled wood stretcher frame on top of the stretcher plates as shown below; this is referred to as the **"Loaded"** position.

Loosen the (4) screws on each of the stretcher plates and place the assembled wood stretcher frame "ON TOP" of the slotted brackets as shown below. Position the plates so that the "mechanical stops", the short tab of metal about 1/8" high, are resting against the inside wood stretcher bar rail.

Apply air to your machine and depress the foot pedal to open the clamping bar. Push the assembled frame and the plates together in and out until the face of the wooden frame is approximately ½" behind the front face of the angle bar. In other words, create a gap so that the canvas can "waterfall" down into the opening when the foot pedal is depressed. This step is simulated without the canvas present. This step is critical for proper travel and alignment. If your stretcher plates are to far forward you will not get enough travel.

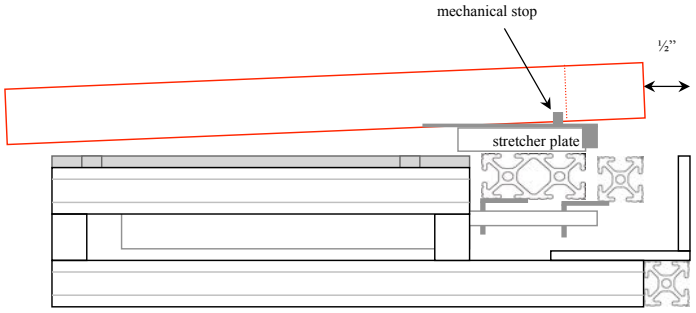
Tighten all of the screws. This setting would then be good for any stretcher bar of this width. This procedure would only need to be done again when a different width of stretcher bar is to be used.

Note:

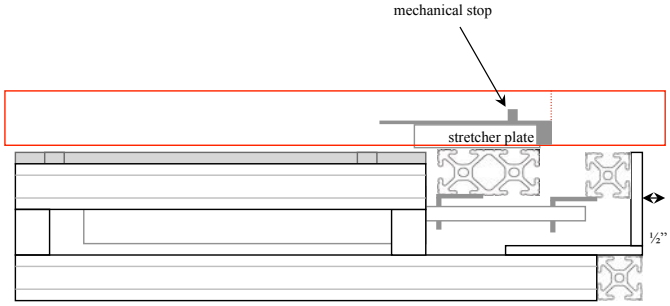
When the operator removes their foot from the pedal the clamping bar will "clamp" the canvas. The operator would then move the wood stretcher frame forward and off of the stretcher plates, it should now be resting on the angle bar in **front** of the plates. This position is referred to as the "**un-loaded**" position. In this position the stretcher bar should extend approximately ½" over the front of the angle bar.

In summary the plates should be **behind the angle bar** in the **"loaded"** position and **in front of the angle bar** in the **"Un-loaded"** position by about ½".

The drawings below illustrate the correct orientation in both positions. These two positions that are used to properly set-up your stretcher plates are also used during the stretching process. All stretches start in the “loaded” position, the clamp is closed and the frame is moved forward and down into the “unloaded” position for the stretch. After the staples have been applied the stretcher bar is always the first circuit to be released to prevent the frame from kicking off the plates.



This is referred to as the “Loaded Position”



This is referred to as the “Un-loaded Position”

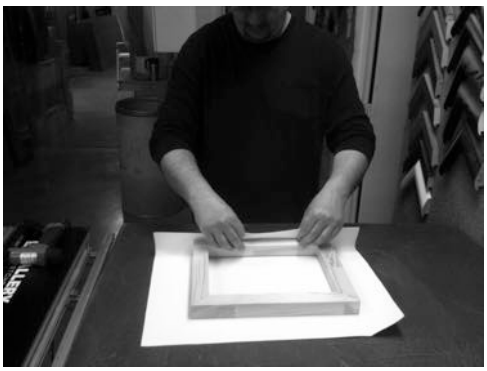
Basic Operation

Video: http://www.youtube.com/watch?v=w5000LVd9tc

1. Lay the artwork “facedown” on a clean work surface behind the machine. Fold the canvas along the image so that approximately 1/16” of the image is extending over the radius. If you print your own art it is very helpful to print registration marks to define the edges of the image. This also expedites the alignment, which is critical.

2. Turn the artwork 90 degrees and make a second fold along the image.

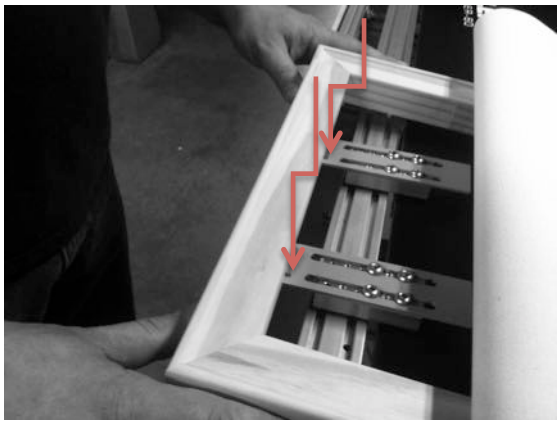
3. Place the assembled stretcher frame on the artwork and slide it against the first crease. Then slide the outside rail against the second crease. This is the fastest way to align your artwork. If registration marks are present use them as a reference.



4. Once the artwork is aligned lay the “starter course” using a pneumatic staple gun. Be sure that the artwork stays parallel to your edge. Adjust air pressure of staple gun so that the staples due not penetrate the canvas.

5. Place the stretcher frame on top of the stretcher plates with the starter course away from the operator. This is called the “loaded position”.

Note the position of the stretcher bar against the “mechanical stops”.

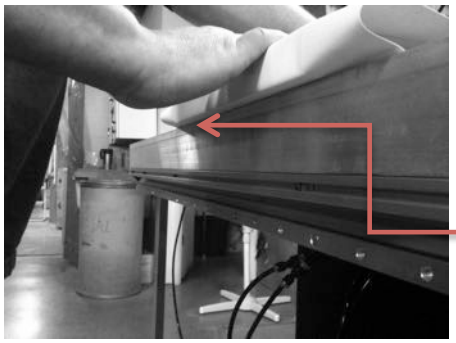


6. From the front of the machine there should be enough of a gap between the angle bar and the clamping bar so that the canvas will “waterfall down” into the opening. The operator should not have to feed the canvas in by hand.

7. Be sure to position stretcher plates closer to the center of the artwork. Moving them toward the outside rails will result in an uneven stretch; a few inches left and right of center. Art larger than 30” may require moving the plates farther apart, but try to avoid moving the plates toward the outside rails. The outside of the stretcher frame already has strength from the (2) outside rails; fortify the center where it is needed.

8. Step on the foot pedal to open the clamping bar and feed the loose end of the canvas into the gap. There should be at least 1.5” of excess canvas beyond the bottom of the stretcher bar to ensure that the clamping bar will hold it. Some laminations may cause slipping due to a slight build up on the rubber grip and angle bar surface. Periodically degrease the two surfaces with alcohol. Even though our machine requires only 1.5” past the bottom it may be necessary to reduce your stretching force to reduce slipping depending on the thickness of your canvas and type of lamination. A good stretch can be obtained with only 30 psi provide your stretcher bar has a sufficient radius on the top and even a slight one on the bottom.

9. Remove your foot from the pedal and move the entire assembly forward and off of the plates. This is referred to as the "un-loaded position". The stretcher frame should be in front of the plates and the canvas should be held fast in the clamp. It is now ready to be stretched.



Note: Overhang

10. Position the 3-way toggle switch on the control box to Stage 1 and depress the left foot pedal. Be sure to maintain control of the stretcher frame with your free hand. It should rest on the outside rail applying only light pressure. The stretching pressure should be no more than 15-20 psi to start a stretch. Increase the pressure slowly and let the frame rise no more than 3-4". Do not push the frame flat against the deck. Pushing down on the frame during a stretch will promote slipping.

"Small art tends to flip off the stretcher plates. Always keep a free hand on the rail."

11. The pressure gauge on the control box indicates regulated air pressure to the "stretching plates". It is a safe practice to always start a stretch on Stage 1.

12. If you need more pressure you can flip the 3-way toggle switch to Stage 2. When switching between stages do it quickly to avoid a release in tension. Do not "overstretch", a tight stretch can be obtained with only 20-30 psi.

13. When you are satisfied with the tension you can staple the canvas to the frame with the staple gun, shown in the photo below. The staple gun is operated upside down and the trigger is depressed with the thumb. Slide the nose of the staple gun along the angle bar beneath the stretcher frame. Place a staple at least 1 every inch.

14. Release the stretch by depressing the left foot pedal first and then depress the right pedal to open the clamp to remove the canvas. Rotate the artwork 90 degrees; use the deck of your machine and the work surface to support the artwork. This procedure is used for each stretch.

NOTE: Your second stretch does not typically require much pressure because the opposite end is not stapled. If too much stretching force is used the artwork will shift. Overstretching can easily be detected because the image will shift over the radius and the canvas on outside rails will start to crease. If this happens reduce your stretching force, the image should return to normal if the canvas is forgiving.

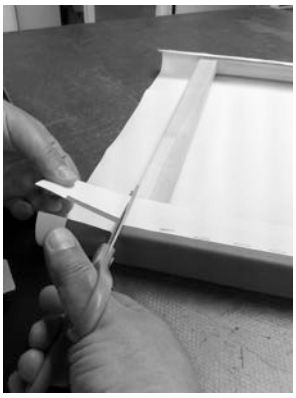
NOTE: During the stretch it is a good practice to tap the sides of the stretcher bar with the pad of your middle finger. If the canvas is taut against the side-wall then the sound will have a higher pitch as opposed to a dull sound. A dull sound would indicate that the canvas is gathering and cupping.

15. You are now faced with the decision to fold the corners and continue stretching or cutout the excess canvas and then finish the stretch. Removing the excess canvas is the recommended method and it provides the best results.

Cutting Excess Canvas

1. After the first stretch, remove the artwork and lay it facedown on your work surface as shown, we always recommend a soft clean surface such as a low pile carpet or soft rubber mat. Create a slight crease on the corner to define the edge.

2. Cut just inside the creased line and stop at the stretcher bar.



3. Make your second cut along the stretcher bar as shown in the photo below.

4. Rotate the artwork 180 degrees and repeat the process. Place the artwork back on the stretcher plates in the “loaded position” and continue with the remaining stretches.

Using the ProMod Feature

Control Box

The Control Box consists of a 3-position toggle switch, 2 regulators and an air gauge. Each stage is independently adjusted with its own pressure regulator. A single air gauge monitors the selected stage.

The 3-position switch is “OFF” in the middle position. Selecting either phase will have no effect unless the “Stretch” foot pedal is depressed. Depressing this pedal will latch the foot pedal and will result in a continuous stretch. Stepping on the pedal a second time will release the latch.

The following sequence will explain the operation of your ProMod machine for the "stretching" phase of the process.

These steps assume that you have read your primary manual and are ready to perform a stretch.

Step#1
Align the artwork and create a starter course. Place the framed artwork in the "Loaded" position, step on the "Clamp" foot pedal to open the clamping bar and feed the loose end into the gap. Release the clamp and move the framed artwork forward and off of the stretcher plates into the "Unloaded" position. Flip the toggle switch on your control box to the upward position, or Stage#1. This stage is preset to 20 psi at the factory but this can be set to any operating pressure you desire.

Please note that a tight stretch can be obtained between 20-30 psi. If you are not able to obtain a tight stretch than you must verify your stretcher plate adjustment and confirm that you have followed the procedure outline in your base manual. Call us when you have any questions at 614-499-4989.

Step#2
Depress the left foot pedal (the stretch pedal) so that it "latches" into place, this should move the stretching bar forward. This starts the stretching process. If more pressure is desired then simply flip the toggle switch quickly to the lower position, this is Stage#2. Stage#2 is preset to 30 psi.

Step#3
If you are happy with the tension staple it to the stretcher bar and step on the "Stretch" foot pedal a second time to release the latch. The stretcher bar should return to its original position.

Step#4
The second stretch typically is done with Stage#1 only. The reason for this is that the opposite end of the canvas is not stapled to anything so there is nothing to offer any resistance during the stretch. If the stretching force is too great than the artwork will shift forward.

Step#5
The last stretch may not require Stage#2. In fact, there are some operators that never change stages because they are familiar with their canvas and know that they can stretch all 3 sides on Stage#1.

Troubleshooting

Every machine leaves our facility fully assembled and tested, however, during transit it is possible that the contents may have experienced some "sudden changes in motion", this can lead to misalignment issues and even breakage. This section will attempt to resolve some of the possible issues you may encounter with your machine.

Clamping Bar Not Closing

The Foot Pedal operates like a light switch; in this case it is air and not electricity. When you first apply air to your machine, with the foot pedal connected, the clamp will close. Depressing the foot pedal will open the clamp. If your foot pedal does not close please ensure that you have at least 95 psi from the compressor to the machine. A simple test is to remove the tube going to the machine and apply air from the compressor to the foot pedal and see if air escapes when the foot pedal is at rest. Stepping on the foot pedal should stop the air from flowing.

Air is going to the machine but it is still not closing? Call us at 614-861-4582

Stretcher Bar is Hanging Up

In nearly every case this is caused during transit, the cylinders and their mounts are "forced" out of alignment. This is best resolved over the phone.

If you are experiencing this problem please do not hesitate to contact us at 614-861-4582 and ask for Dave.

The Canvas is slipping during a stretch

We preset the Clamping Bar to 50 psi, located beneath the deck; this regulator **should not be tampered with** unless you have been instructed by us to do so. Changing this setting may cause severe damage to the Clamping Bar and will void your warranty. Do not change this setting. Most stretches are done at no more than 30 psi; this will produce a nice tight stretch with giclee canvas. Heavy canvas and oversized art may require more pressure, but it should not exceed 40 psi. That is why we have preset the clamp to 50 psi this will allow for a certain degree of "slip". If the clamp is preset to 50 psi and the stretching pressure exceeds 50 psi, then there will be slipping.

Stretcher Bar is lifting when stretching

This is by design. Smaller artwork will tend to rise very easily and large artwork may not rise at all, but that is fine. Typically, the artwork will rise about 3-4", as shown in the photo below. The operator should not "push down" on the artwork in an effort to keep the artwork flat. Pushing down will tend to force the canvas out of the grasp of the clamping bar; this would be equivalent to increasing the stretching pressure past 50 psi.

Under normal operating conditions the Stretching Bar will rise a little above the top of the Clamping Bar as the stretching pressure is increased. The closer the stretching pressure is to the set point of the clamping bar the more likely it is to rise.

This is not an issue unless the bar remains in this position or there is excessive play. If this occurs contact us.

Clamping Bar is lifting during stretch

Under normal operating conditions the Clamping Bar will tend to rise a little above the top of the angle bar as the stretching pressure is increased. When the canvas is clamped and being stretched there is a strong upward force that tends to pull the clamping bar upward with the canvas. This is not an issue unless the bar remains in this position or there is excessive play. If this occurs contact us.

Stretching Bar deflecting, or deflecting unevenly

This is also a normal response during a stretch. This Stretching Bar was purposely chosen because of the amount of deflection it has, this conforms well to the rubber extrusion. As for the uneven bar, this is more a matter of placement of the artwork. Try position the artwork at the center of the machine and work from there, favoring one side will result in an uneven travel but should not affect the quality of the stretch.

Canvas is not tight

How tight is tight? There have been many arguments regarding what is considered a tight stretch. Canvas is very dynamic and is susceptible to atmospheric conditions, what once was tight will soon be loose. Over-stretching a canvas will give the canvas memory and is not likely to return to it's original condition. Our belief is that stretching light giclees at 15-20 psi is more than sufficient and that heavy canvas should be no more than 20-30 psi.

Stretching Large Art

Artwork larger than 30" x 30" should be made with a cross-brace; this will reduce the amount of deflection of the stretcher bar during a stretch. There is a "keystone effect" that occurs when stretching large pieces when the plates are placed close to the outside rails. The rails provide strength for the stretcher frame, placing the stretcher plates away from the center causes the stretching force to be applied more to the outside and not in the middle were it is needed. The ideal placement of the stretcher plates is half the distance between the center and the outside rail, do this for both sides.

Tips & Tricks

Large artwork will not typically rise very much during a stretch due to the weight of the stretcher bar. The heavier the stretcher bar the less likely it is to rise. Most operators would tend to increase the stretching pressure above 50 psi; this will cause the canvas to slip out of the grip of the clamp. Instead, the operator should lift the far end of the artwork until it is approximately 3-4" above the work surface, this will permit the canvas to stretch over the edge of the stretcher bar with less resistance. Placing a soft foam roller or pad of cardboard under very large artwork will produce the desired effect.