Instruction Manual

(36” & 60”models)

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

Introduction

The Canvas Stretching Machine is a fully pneumatic canvas stretcher capable of stretching original art on canvas, giclee prints and any fabric suitable for stretching. The following is a list of operating parameters that should be observed to ensure a safe and efficient stretch:

1. Minimum amount of excess canvas 1.5”
2. Minimum stretcher width .75”
3. Maximum stretcher width 2.5”
4. Supply air 90 psi

Safety Precautions

Air Pressure: before applying air to your machine, adjust the regulator at your compressor to produce 90 psi. If you are using a pneumatic staple gun please be sure to provide what the manufacturer recommends, this may require you to provide a 2 way manifold.

All of the air cylinders have been thoroughly operated, tested and held to a very high standard. The Clamping Bar has a dedicated pressure regulator and it is set to a point that will not exceed the Stretcher Bar pressure by more than 10 psi. This is to ensure that the canvas is permitted to slip just enough to minimize overstretching. The operating pressure of the Clamping Bar is preset internally to 50 psi….Do Not Adjust This Setting!

CAUTION: the clamp and stretcher bar move slowly, they are deceptively powerful. The force behind them can damage your fingers, please ensure that your hands and fingers are clear of the clamp at all times. DO NOT place your fingers between the Clamping Bar and Front Plate at anytime.

Unpacking & Set-up

Inside the cardboard box is:
(1) Canvas stretching machine suspended in custom-made foam pads
(2) Sliding stretcher plates on the stretcher bar (remove black rubber packing mounts)
(1) Dual-foot pedal in a bubble wrap bag on one of machine
(1) Instruction manual
(1) Pair of safety glasses & (2) Hex wrenches.

Your Gallery Stretcher is fully assembled and ready to operate out-of-the-box; the foot pedal will need to be plugged into the stretching machine and the air compressor. The foot pedal operates similar to a light switch…only with air. Our foot pedal is configured to apply air to the machine the moment air is applied; this causes the clamping bar to "close"… DO NOT have any part of your body near the clamp when applying air. Depressing the foot pedal cuts off the supply of air, this "opens" the clamp.

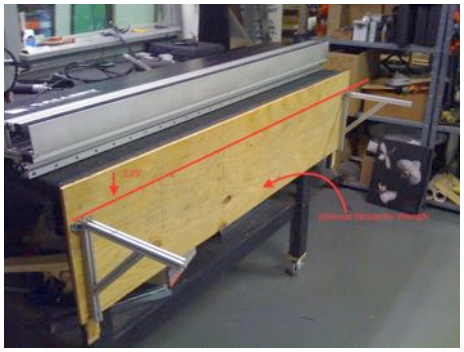
1. Remove the stretcher and check for damaged, loose or broken fittings or tubing.
2. Place the foot pedal on the floor, position pedal where it can be easily reached.
3. Plug hose with ¼" NPT fitting into your supply manifold or air compressor.
(See Safety Precautions)
4. Plug the hose, with no fitting, into the canvas stretching machine.

Bench Mounting Your Stretcher

Your machine was designed to be mounted on the side of a typical workbench this is the most effective method.

Mark a "level" line 3.25" down from the top of the workbench (refer to photo below). Please note that it may be necessary to add a wood plank or sheet of plywood to provide a flat work surface wide enough to support the angle brackets.

This line represents the top of the shelf, please allow for the thickness of the shelf and carpet. You can use 12" x 12" metal brackets that can be purchased at any home improvement store. The end result is to have the top of the stretcher at the same level as the work surface; this will provide the operator with a relatively seamless work surface.

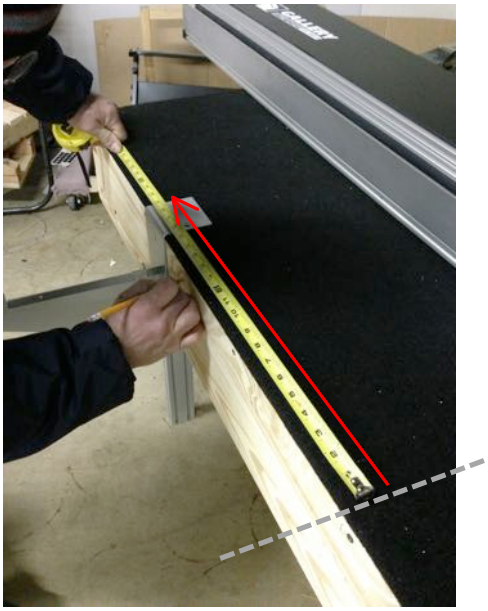


Pictured below is an example of how a typical installation might look in a high-production workshop.

In the photo below one company assigns their personnel into “Pods” which consists of (4) personnel and (2) machines at right angles. One person does the starter course, (2) perform the stretching and (1) person does the folding, trimming & staging.

Installation (Optional Item)

The universal bench mount (sold separately) consists of (2) brackets labeled “L” for left and “R” for right.
Find the centerline of your workbench and make a mark, now measure to your left 14.625” and place bracket “L” (measure to the outside edge). Now measure 14.625” to the right of the centerline and install bracket “R”. The span between the left and right tabs should be 29.25”.



Component Identification

The primary components of your stretching machine are as follows:

Stretcher Plates (Slotted)

Stretching Bar
Operated by toggle
Switch on far right

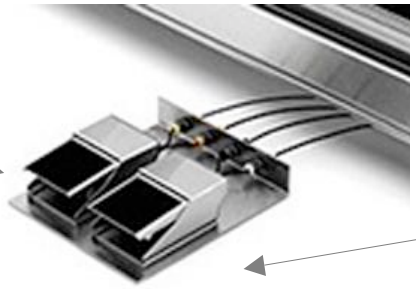
Clamping Bar
Operated By Foot Pedal

Pressure Gauge –
Indicates Stretcher Pressure

Air In

Pressure Regulator

Stretching Pedal



Clamping Pedal

Foot Pedal – Operates Clamp

How to use Custom Stretcher Plates

The Custom Stretcher Plates, shown below, are included with your machine. The (4) screws on the bottom of the stretcher bar slide into the slots of the "stretcher bar" as shown below.

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.

Position the frame so that it is against the “mechanical stops”, a short tab of metal about 1/8” high (these stops also facilitate alignment during the stretch). Loosen the (4) screws on each of the slotted stretcher plates.

Apply air to your machine and depress the foot pedal to **open** the clamping bar. Move the assembled frame and the plates **together** in and out until the face of the wooden frame is approximately ½-5/8” behind the angle bar. In other words, create a gap so the canvas would “waterfall” down into the opening when the foot pedal is depressed. This step is simulated without the canvas present.

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

This is referred to as the “Loaded Position”

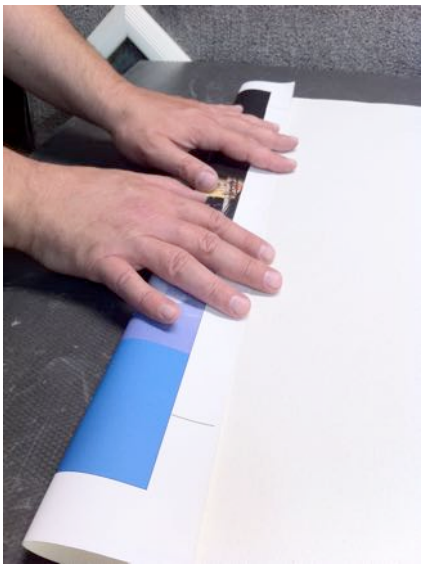
Note:
When the operator removes their foot from the pedal the clamping bar will “clamp” the canvas. The operator would then move the wood stretcher frame forward and off of the stretcher plates, it should now be resting on the angle bar in front of the plates. This position is referred to as the “un-loaded” 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 and in front of the bar by approximately ½” in either the “unloaded” or the “loaded” positions.

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

Basic Operation

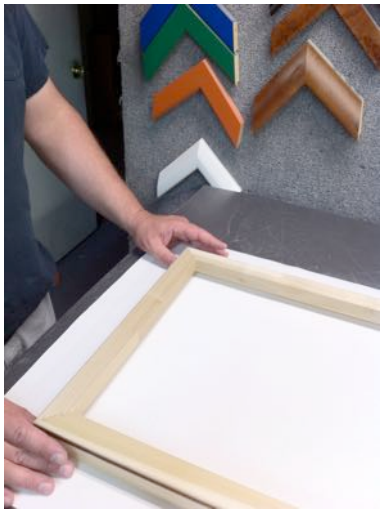
Video: http://www.youtube.com/watch?v=w5000LVd9tc

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.



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

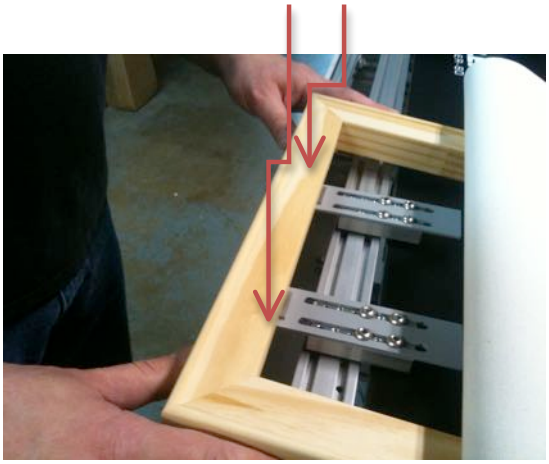
3. Place the assembled stretcher frame on the artwork and slide it against the first crease. Then slide the outside rail against the second crease. This is the fastest way to align your artwork.



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.

6. 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”.

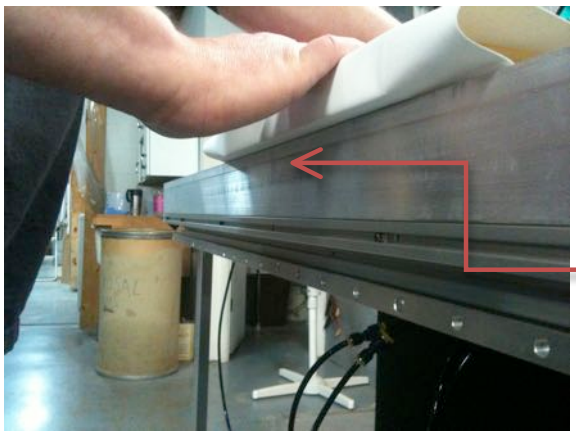


5. From the front of the machine there should be enough of a gap between the angle bar and the clamping bar so that the canvas will “waterfall down” into the opening. The operator should not have to feed the canvas in by hand in most cases.

6. 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.

7. 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 allow the clamp to get a good hold.

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.



10. Flip the toggle switch on the far right side to start the stretching process. 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 and can cause the artwork to distort.

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

11. The pressure gauge on the right side of your stretching machine indicates regulated air pressure to the "stretching plates". It is a safe practice to always start a stretch at around 15 – 20 psi this is accomplished with the **Stretcher Bar Regulator** (located right of the toggle switch).

12. If you need more pressure you can always increase stretching pressure. 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 a long-nosed pneumatic 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.

13. Release the stretch by flipping the toggle switch the opposite direction, depress the foot pedal to open the clamp and remove the artwork. Rotate the artwork 90 degrees; use the deck of your machine and the work surface to support the artwork. This is how you stretch each end.

14. You are now faced with the decision to fold the corners and continue stretching or cutout the excess canvas and then stretch. Removing the excess canvas is the recommended method and 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. 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.

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 120 psi from the compressor and that it is going into the "front" of the foot pedal and that it is exiting the foot pedal on the right side. A simple test is to remove the tube going to the hose, 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

The Clamping Bar is preset 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 50 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 30-40 psi.

Stretching Large Art

Artwork larger than 30" x 30" should probably 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.

Here is a link to our support page where you will find several videos that may help with the set-up, making folds, operations and general answers.

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

Here is a link to our Dropbox for even more supporting data and manuals for all of our machines:
https://www.dropbox.com/sh/eldx51ety4j30wv/w2P2C-mvWS/GalleryStretcherManual-36-60.pdf

https://www.dropbox.com/sh/eldx51ety4j30wv/UrKPtZtrv2/Key%20Points.pdf

https://www.dropbox.com/sh/eldx51ety4j30wv/YhRnlsHmk1/ProMod72%2696-Manual2.pdf

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