The Canvas Stretching Machine
Instruction Manual

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.	Maximum sized artwork stretched w/ "Gallery Wrap":	60" X 60"
2.	Maximum sized artwork stretched w/ "Regular Stretch":	No Limitation
3.	Minimum sized artwork stretched:	8" X 10"
4.	Minimum amount of excess canvas past image:	1.5"
5.	Minimum width wood stretcher bar:	1.5"
6.	Maximum width wood stretcher bar:	3.5"
7.	Maximum supply air pressure:	120 psi

Unpacking & Set-up

Please find inside the cardboard box (1) canvas stretching machine, (4) sliding stretcher plates, (1) foot pedal and (1) instruction manual. Your 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 air compressor. (please refer to images)

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 canvas stretching machine. (Only available port)

Safety Precautions

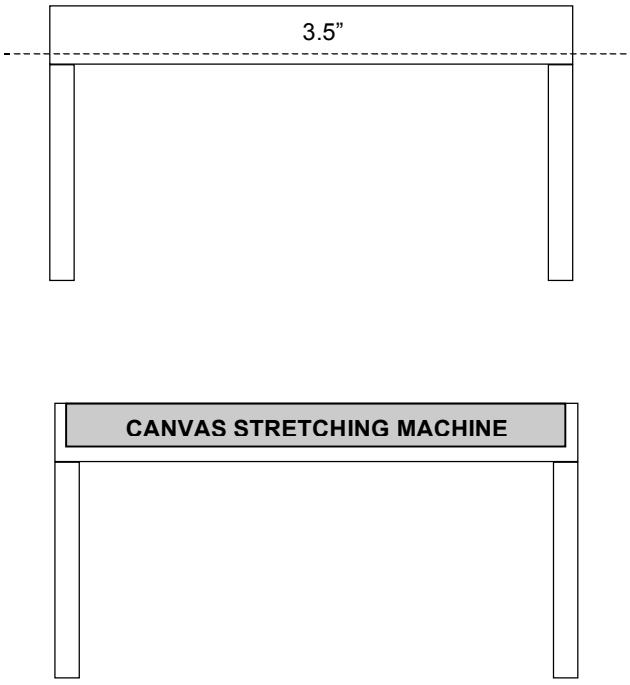
CAUTION: the clamp and stretcher bar move slowly, they are deceptively powerful. The force behind them can damage your fingers, please ensure that your hands and fingers are clear of the clamp at all times. DO NOT place your fingers between the **Clamping Bar** and Front Plate at anytime.

Every precaution has been made to ensure the operators safety. All of the air cylinders are manufactured by Clippard and 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 50 psi, at this pressure it is unlikely that any serious personal injury can occur, however, if the operator were to increase the Clamping Bar operating pressure or to defeat the pressure regulator, it is possible that a more severe injury can occur.

Bench Mounting Your Stretcher

Your machine was designed to be mounted on the side of a typical workbench this is the most efficient method of mounting. Mark a "level" line 3.5" down from the top of the workbench (refer to Figure below)

You can use a simple wooden shelf with wood or metal brackets; the operating weight is about 50 pounds. 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.

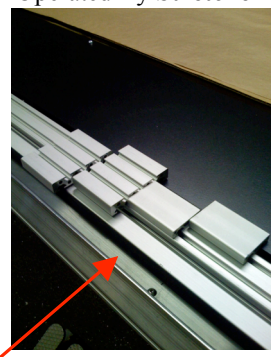


Component Identification

The primary components of your stretching machine are as follows:

- **Clamping Bar** – Operated By Foot Pedal

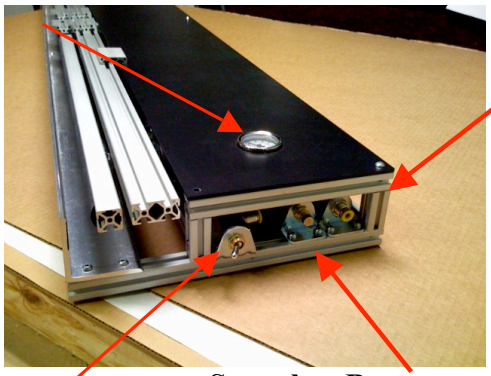
- **Stretcher Bar** – Operated By **Stretcher Toggle**



- **Stretcher Plates** – Adjusts To Fit 1", 1.5", 2.5" & 3.5" wood stretcher bar.
- **Support Deck** – Black Panel (Supports Artwork)

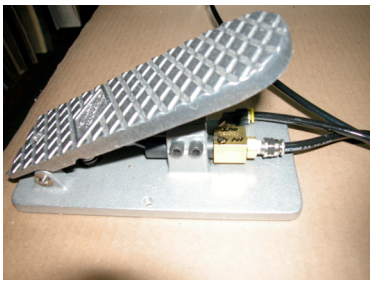
Pressure Gauge
– Indicates Stretcher Pressure

Air Supply Inlet



Stretcher Bar
Pressure Regulator – Initiates Stretch

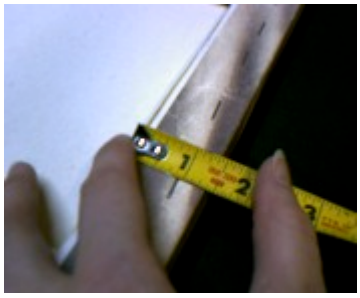
Stretcher Toggle
– Adjusts Stretcher Pressure



Foot Pedal – Operates "Clamping Bar" (Normally Open)
Air Is Applied To The "Clamping Bar" Immediately
Depressing the Pedal "Opens" the Clamp

Setting-Up

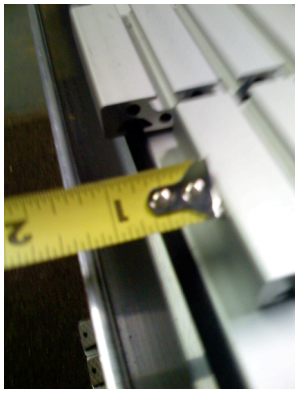
The key to a "tight stretch" is determined by the correct positioning of the **Stretcher Plates, which** is determined by the **"WIDTH"** of the wood stretcher bar. See Figures below. Measure the wood stretcher bar, in this case 1.5" (1" is the minimum wood stretcher you can effectively handle), then slide **Stretcher Plates** into the corresponding slot on the **Stretcher Bar** that will yield 1.5" from the face of the **Clamp** to the leading edge of the **Stretcher Plate**.



Stretcher Plates.
There are (4) four possible combinations for the **Stretcher Plates**, each position represents a standard "WIDTH" for wood stretcher bars – 1", 1.5", 2.5" & 3.5". By arranging any (2) matching Stretcher Plates it is possible to handle any combination of wood stretcher bars between 1" & 3.5".

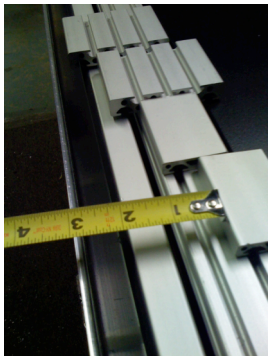
1" – Closest Slot of **Stretcher Bar** Toward the Operator

1.5” – Rotate **Stretcher Plates** 180 deg. & Place In Same Slot of **Stretcher Bar**



2.5” – Place In Back Slot of **Stretcher Bar**

3.5” – Place In Back Slot of **Stretcher Bar**



The primary goal is to ensure that the stretch is uniform and tight against the edge of the wood stretcher. At no time should you see slack, wrinkles or “puffing” on the sides of the wood stretcher bar, the canvas should lay firmly against the sides of the wood stretcher bar. (Tap the sides of the stretched art with the pad of your finger; it should not have any play). The purpose of the Stretcher Plates is to “Push” the wood stretcher bar against the “Clamped” canvas. Using the correct pair of Stretcher Plates, evenly spaced, will yield the best possible results. In some cases it may be necessary to “re-clamp” and “re-stretch” the canvas, this occurs when the artwork is allowed to “sag” between the wood stretcher bars. This can often be avoided by pulling out the slack before “clamping” the canvas.

Step by Step Procedure

Step - 1

- Start with clean work surface

Step - 2

- Turn artwork face down
- Fold the canvas along image
- Include about 1/16” of image above fold

Step - 3

- Rotate art 90 deg.
- Make a second fold along image.
- Include about 1/16” of image above fold

Step - 4

- Place wood stretcher on canvas.
- Press side of wood stretcher against the two folds.
- Verify alignment of image.

Step - 5

- Shoot row of staples in one rail only.

Foot ON Pedal
"Opens Clamp"

Step - 6

- Flip art over so that end opposite stapled end is facing operator.
- Place wood stretcher on Stretcher Plates.
- Feed canvas between Clamping Bar and faceplate.
- "Do not place fingers between "clamping bar"

Step - 7

- Move art & wood stretcher toward operator so it aligns with front face of clamp
- Verify alignment of image.
- Wood stretcher bar should be resting on top of "Stretcher Plates".

Foot OFF Pedal
"Closes Clamp"

Step - 8

NOTE: 1.5" of canvas past the image is the minimum, however, 2" is ideal. The more canvas you have the easier it is to position art while it sets on the **Stretcher Plates** & provides more room for stapler.

Step - 9

- Allow art & wood stretcher to fall forward off of **Stretcher Plates**

Ideally ½ " or more of over hang, more is better

Step - 10

- Flip **Stretcher Toggle Switch** to start stretch
- Always start your stretch with only 15 psi (refer to pressure gauge)
- Increase pressure as needed
- After stretching a few canvases you will know what pressure works best for a given medium.
- Some canvas is very flexible and can easily be over-stretched – Use Caution

Step - 11

- Shoot row of staples

Foot ON Pedal
"Opens Clamp"

Step - 12

- Remove artwork
- Make folds

Foot ON Pedal
"Opens Clamp"

Step - 13

- Rotate artwork 90 deg.
- Place in open clamp
- Maintain ½" overhang

Foot OFF Pedal
"Opens Clamp"

Step - 14

- Initiate Stretch
- If artwork starts to lift more than 4"- 5" the stretcher Pressure is to high and should be decreased.
- This is common with 1.5" wood stretchers; wider wood stretchers tend to stay down.

Step - 15

- Shoot Staples
- Repeat Steps 12 - 15

FINISHED

The most important elements to creating a tight stretch are:

1. Make sure you have enough canvas to work with – 2" is ideal; 1.5" is min.
2. Try to maintain at least ½" of "overhang" with the wood stretcher bar out over face of clamp.
3. Giclees stretch very easily and should always be stretched with approximately 15 psi (gauge reading) to start.
4. Light canvas can very easily be over-stretched; Giclees stretch best with no more than 30 psi.
5. Heavy canvas may require as much as 50 – 70 psi (gauge reading)
6. There is a learning curve with this machine, in time and with a little practice you will be able to stretch like a pro.
7. Never Leave supply air on when not in use, this may deform the Clamping Bar over time.
8. There will be a time when you are stretching original art that has very little excess canvas, weak or rotten fabric and uneven, you must be willing to use canvas pliers and even hand stretch in some cases; this is a machine with operating parameters please operate this machine within the design parameters we have established.

Canvas expands and contracts and is greatly influenced by temperature and humidity!