

INSTRUCTION MANUAL

and parts list for the
JOIN RITE Canvas Stretch'r
models CS36 & CS60



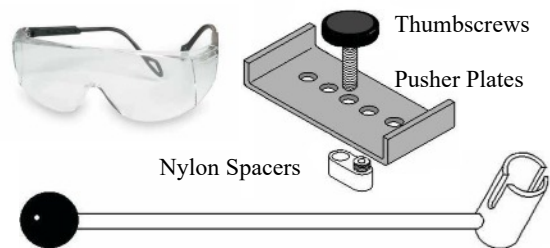
JOIN RITE
MECHANICAL CANVAS STRETCHERS

29 Mount Vernon Street, New Bedford, MA 02740

Tel: 508-454-7477 Fax: 508-991-5880

www.joinrite.com

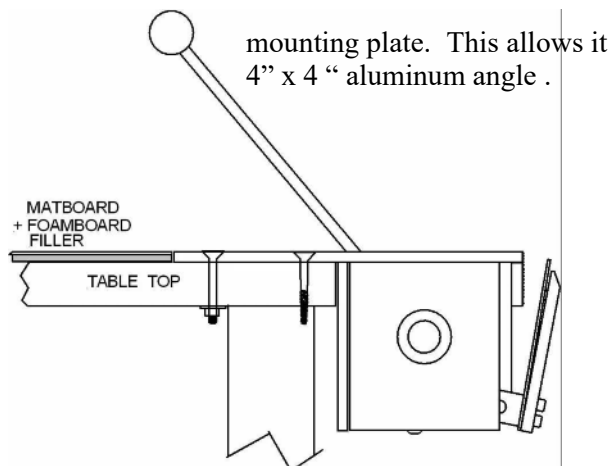
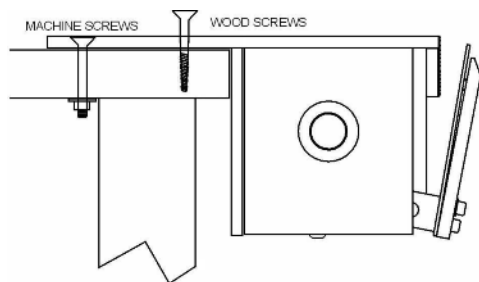
UNPACKING: The stretcher unit should first be inspected when the shipment arrives to assure that no damage was done during shipping. If there was damage it must be reported to the shipping company, not Join Rite. Your machine should include 3 -4 Pusher Assemblies which consist of pusher plates, knobs and small nylon spacers, (usually on the machine). It will also include a handle, 2 allen wrenches and a pair of safety glasses packaged in a spacer in the main box along with this manual which you're reading.



SAFETY: Whether you intend to use a manual stapler or a pneumatic stapler, it is important that the operator wear safety glasses to prevent any injury to their eyes. A pair of glasses has been included with the machine. If an operator chooses not to wear these safety glasses we can not be held responsible for eye injuries due to misfired staples. The operator's head should never be in direct line of the stapler when inserting staples, nor should their other hand be in-line with the stapler for obvious reasons.

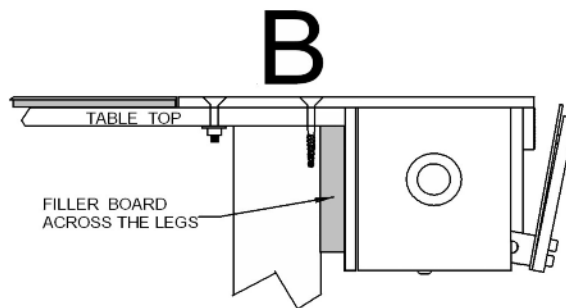
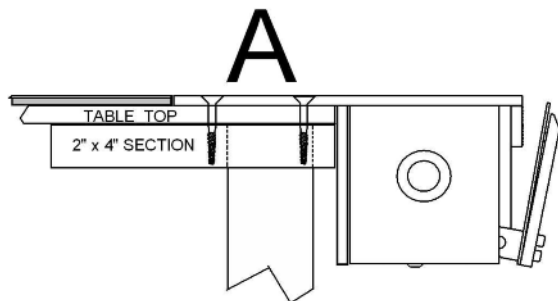
MOUNTING: The unit should be mounted to the end of a worktable, and may require two people while doing this. One to hold the unit in position, and the second person to drill holes and screw the machine to the table. Six holes are provided on the 36" machine and (8) holes on the 60" machine for this purpose. The holes in the bracket are drilled and countersunk for 1/4" wood screws, but #10 screws will also work. 1/4" Flat head machine screws can also be used if using nuts and washers underneath. Since the mounting bracket is 1/4" thick you will probably want to add something to the table top surface to make it flush with the machine, such as 3/16" foamboard plus matboard to get a true 1/4" thickness or simply use a piece of real 1/4" thick plywood.

The new one-piece top plate design eliminates the radius inside the to fit against a square-edged table unlike the earlier design using the See the illustrations below.



The JOIN RITE Canvas Stretch'r machines are completely mechanical and require no electricity or air. Because of this, the machine could torque your table top if it's made of thin materials. First mount the unit and try rotating the handle to full forward position applying some effort at the end of the stroke. If the table top flexes more than you would like, do one or both of the following.

- Add a board or 2"x4" section under your table edge to screw into for greater thickness or
- Place a spacer across the legs and between the machine to disperse the load to the legs.



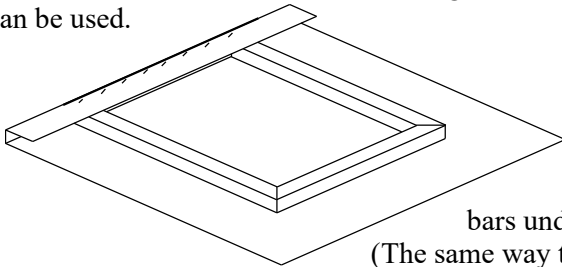
These are just a few things to consider. Normally you will just mount it and go. The machine was closed before shipping with a plastic tie. After cutting the tie, the front jaw should open and be ready to use. Slide the handle onto the shaft and rotate it backwards with the jaw open. Whenever you want to use the table for another job, simply rotate the handle forward until the jaws close, then remove the handle or rotate it 180 degrees out of the way. You can leave the pushers in place or remove them.

SAFETY AGAIN: Whether you intend to use a hand stapler or a pneumatic stapler, it is important that the operator wear safety glasses to prevent any injury to their eyes. A pair of glasses has been included with the machine. If an operator chooses not to wear these safety glasses we can not be held responsible for eye injuries due to misfired staples. The operator's head should never be in direct line of the stapler when inserting staples.

NORMAL STRETCHING & POSITIONING: There are three distinct ways of positioning and stretching canvas.

- 1) To wrap the canvas onto a stretcher bar with most or all of the image showing and stapling along the side of the canvas, because it will eventually be framed. The image must at least extend under the frame rabbet.
- 2) To wrap the image completely around all sides of the stretcher bars and stapling on the backside to create a gallery-wrap. The image is wrapped around the sides of the stretcher bars and positioning is relatively easy.
- 3) To create a printed image on a canvas with sides that are white, black, or some other color, and to wrap this image so that the canvas is registered precisely onto the stretcher bars, so the image must align to the edge of the stretchers within 1/16" plus or minus. This 3rd type of stretching has not been conducive to machine stretching. We believe it's possible with our machine to do "Exact Positioning" better than any other machine on the market today. See the last page supplement for getting exact positioning.

ALIGNMENT: The stretcher bar and canvas can be set on the table and aligned together in several ways. When hand stretching, most people lay the canvas face down with the stretcher on top of the canvas. The edges of the canvas are rolled over the stretcher in such a way as to check the edge of the image and where it is positioned on the back of the stretcher bar. When the canvas is centered on the stretcher bar, they select one side and staple it along the one edge. If this will be a gallery-wrapped canvas the staples will be on the back of the stretcher bars. The same starting method can be used with the machine, or an alternate method can be used.

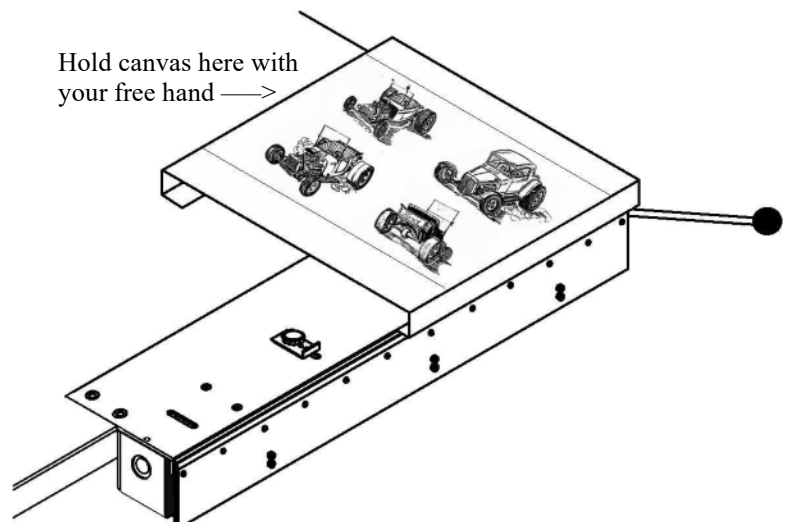
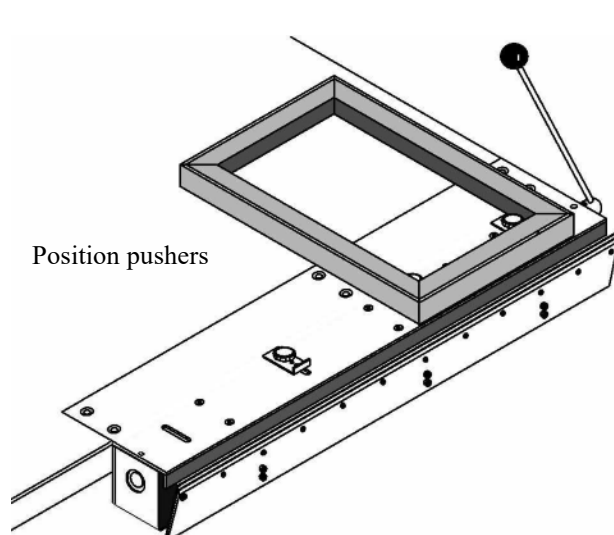


An alternate method, would be to start with the stretcher bars under the canvas which is face up on the table.

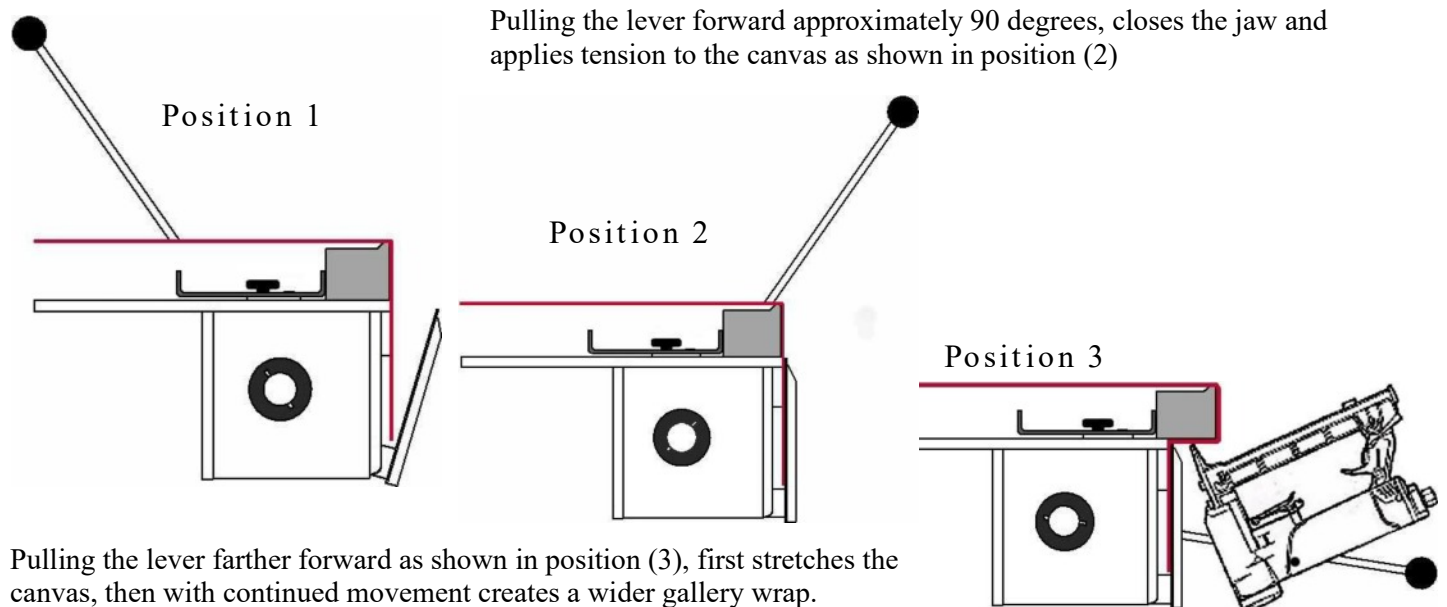
(The same way the rest of the stretching will be done)

The first side to be stapled will be at the front of the machine and the tail can be placed into the jaw of the unit. Position the canvas on the stretchers by either sighting along the edges, or creasing one side for the correct position. Then while holding the opposite side of the canvas against the stretcher bars, pull the machine lever forward until the canvas and stretchers start to move.

Check the front edge of the canvas and along its surface to be sure it is fairly flat and not creating creases. Continue pulling the lever until enough material is beyond the front of the machine to create a gallery wrap. Then staple along the underside edge to start the first row. This may sound complicated but with a little practice it becomes easy to do.



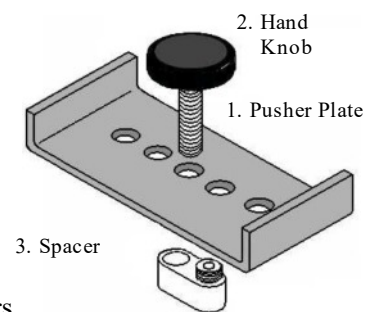
BASIC OPERATION: The JOIN RITE machines are fairly easy to understand. With the handle rotated to the back starting position (1) the jaw should be open and the pusher plates are at the rear-most position. The canvas starts on top of the stretcher and the tail is inserted into the machine jaw. The stretcher bar frame should be placed in front of the pusher plates.



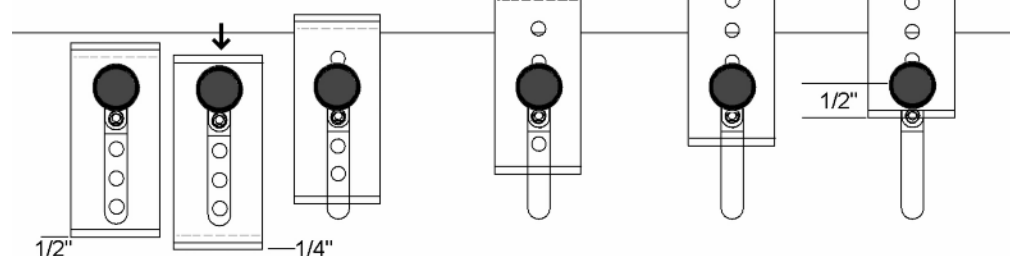
Please note that the actual stretching tightness does not increase just because the canvas moves forward. It is maximum when all slackness is removed and forward progress begins. Continued movement forward from there only increases the gallery-wrap margin.

ADJUSTING THE PUSHERS: The 3 or 4 pushers included with the machine can be adjusted to 5 different positions forward and backward because of the 5 holes in the pusher plate. In addition they can be positioned left or right to 5 positions on the 36" unit and 6 positions on the 60" unit, because of the slots in the top plate..

The 3 components of the pushers are 1) Pusher plate 2) Handknob 3) Spacer
The latest pusher plate starting in Fall of 2012 will have reversible positions. One end is 1/4" different from the other. In one direction the first hole is 1/2" from the lip. On the other end the first hole is 3/4" from the other lip. This allows for 3/4", 1-1/4", or 1-3/4" dimensions. The push bar inside the machine has 2 visible holes per slot. Only the rear hole is threaded. The spacer is inserted into the slot first with the set screw toward the front of the machine. The pusher plate is set onto the spacer in the position desired (based on the width of the stretcher bar) and the amount of gallery-wrap wanted. Shown below are the 5 positions available from 1/2" wide to 2-1/2" wide stretcher Bars. Note that in the last & final position to the right, the set screw is screwed into the spacer, almost flush. This is only required when adjusting for 2-1/4" or 2-1/2" stretcher bars.



The latest pusher plates can be turned around for 1/4" or 1/2" increments. The first 2 plates below illustrate the difference. With the pusher plate in one direction it can be set for 1/4" bar and in the other direction for 1/2" bar. Then in 1/2" increments from there from 1/4" to 2-1/2" total.



New 3/4" Knob will fit in the last hole of the pusher plate.

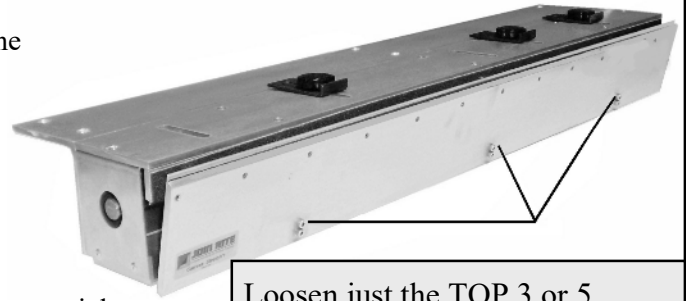


The normal position of the spacer with the set screw up into the pusher plate, keeps the pusher from rotating.

OVERALL TENSION ADJUSTMENT:

The front plate on this machine acts like a large spring, creating the necessary tension against the sandpaper lip to create drag for the canvas. The front plate and stainless lip are held to the clamp levers by 3-5 pairs of #10 screws.

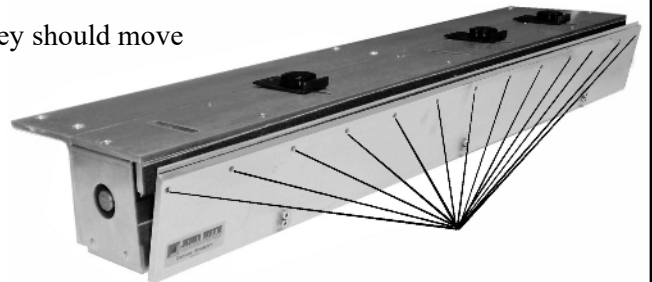
If the machine feels too tight when pulling a canvas, the top screws of these pairs can be loosened slightly by turning them to the left 1/16 - 1/8th turn. This allows some flex in the front plate and lessens the overall grip of the machine. This will also allow less grip for some thicker canvases or weaker materials. To return the grip to its original settings, just tighten the same 3-5 screws the 1/16 - 1/8th turn to the right. It is possible to adjust the machine so that it's too tight and actually overstretch the canvas. Normally the bottom screws of the pairs should be tight, and only the top screws are adjusted.



Loosen just the TOP 3 or 5 screws 1/16 to 1/8 turn to the left for less overall grip. Conversely, tightening the top screws will increase the overall grip for a tighter canvas.

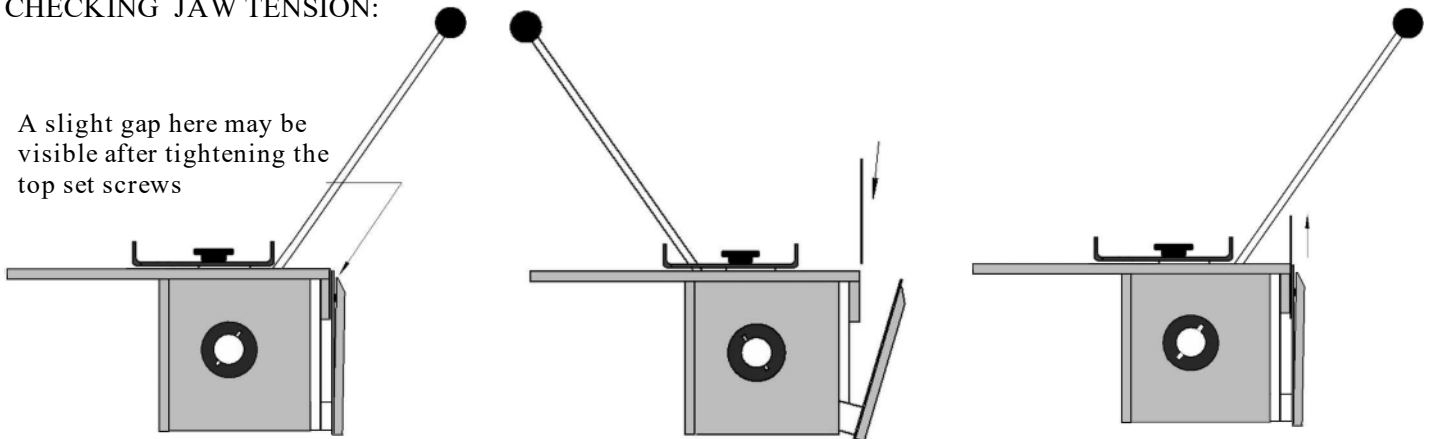
EVEN-OUT JAW TENSION: Although these machines were adjusted at the factory, vibrations from shipping can cause minor adjustment changes. You will notice that there are set screws every 3" along the top face of the front plate. Using an 1/8" allen wrench provided, tightening the screws (right turn) will increase the stretching tension and loosening the screws (left turn) will decrease the tension. The purpose of these screws is to even-out the grip across the entire lip. Each screw should be turned in small increments such as 1/8 or 1/4 turn each time. The adjustment should only need to be made one time. The set screws do not have lock-tight on the threads any more, so they should move relatively easy when turned.

If undue force is required to move the handle forward while stretching the canvas, it might be necessary to back off a little on the mounting screws as mentioned above under Overall Tension Adjustment.



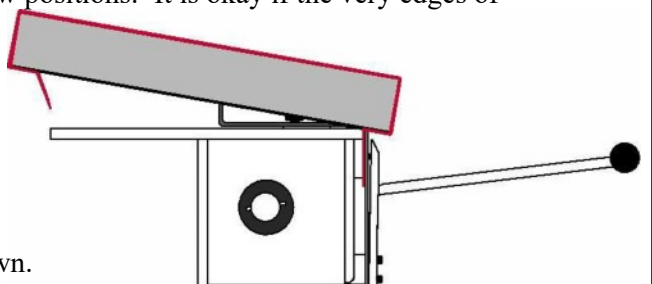
CHECKING JAW TENSION:

A slight gap here may be visible after tightening the top set screws



A simple check along the face with a business card or small piece of canvas should help even out the tension. Open the jaw, insert the card, close the jaw and pull up on the card. It should not move easily or not slide at all. Repeat this procedure along the face, usually between the screw positions. It is okay if the very edges of the machine give just a little. This is a tapering point when stretching beyond the machine face.

While stretching a smaller canvas on the second and fourth sides, the back of the canvas should try to rise up a little. If it does not, the tension may not be tight enough. If it tries to rise up too much, the machine tension can be set too tight. Simple finger pressure will hold it down.



STRETCHING OPERATION: It should go without saying that your first time using this machine will feel awkward. Only through repetition will the comfort level come. This is best achieved by using some scrap canvas and stretchers to practice on. Practice is important! If an employee is expected to use this machine to stretch canvases for the “boss”, they should be given opportunities to P R A C T I C E.

This may seem unnecessary to say, but it’s not. If you are trying to get precision registration, read the supplement at the end of this manual. Theoretically there is no machine on the market today that advertises it can handle precise registration., but we know now from experience, this machine can do it better than any other present day machine. A quick review says that precise registration requires that an image sit exactly on the edges of stretchers within 1/16” or less completely around the edges. The sides are either white, black or some other color that must also be positioned exactly on the stretchers.

For normal positioning; With safety glasses on, start by aligning the canvas to the stretcher bar and fastening along the first side, by either method that is comfortable for you. You can change styles later, but for now be mostly comfortable.

Lay the stretcher with the canvas on top, onto the mounted machine on your table. Thread the opposite extra canvas tail into the open jaw of the machine. Smooth along the edge and pull the lever forward until it encompasses the tail and creates some tension. You will feel a marked difference in the resistance of the handle when the pushers engage the stretcher bar and start to move the package forward. Continue to pull the lever forward until you are satisfied with the face of the canvas and have enough canvas underneath to staple into for your gallery wrap. If the canvas starts to rise up in the back, this is okay, just put your other hand gently on the edge.

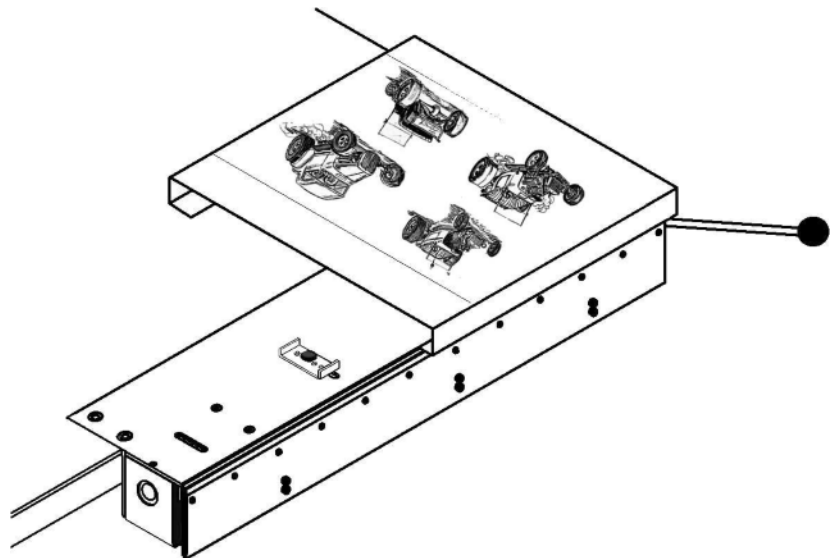
(Never in the middle of the canvas)

You can remove all hands from the canvas at this point and the handle will stay where it is, and the canvas should remain taut.

Position your stapler (manual or pneumatic) under the front lip of the canvas and insert staples every 2-3 inches along the edge.

Do not place your face or your other hand directly above where you are stapling.

You may rest your free hand along the front edge of the canvas but not in alignment with the stapler.

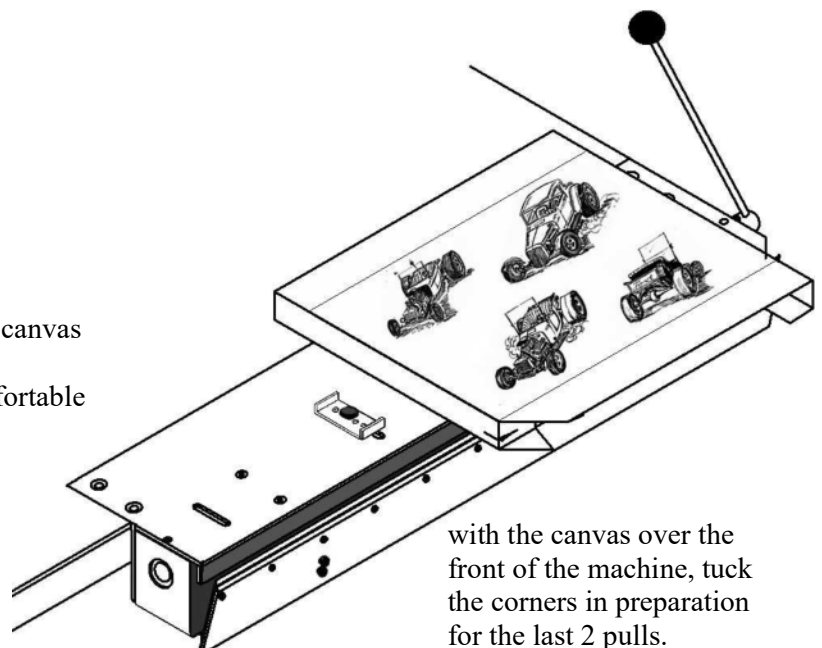


Rotate the handle back to the starting position, and remove the canvas from the machine.

Rotate the canvas 90 degrees and hang the edge of the new unstapled side over the front of the machine. In this position you can reach under the corner and pull the edge tightly inward while shaping the back corner. If you feel more comfortable flipping the canvas over to work from the backside, do so at this point, but do not set the canvas on top of the pushers when upside down.

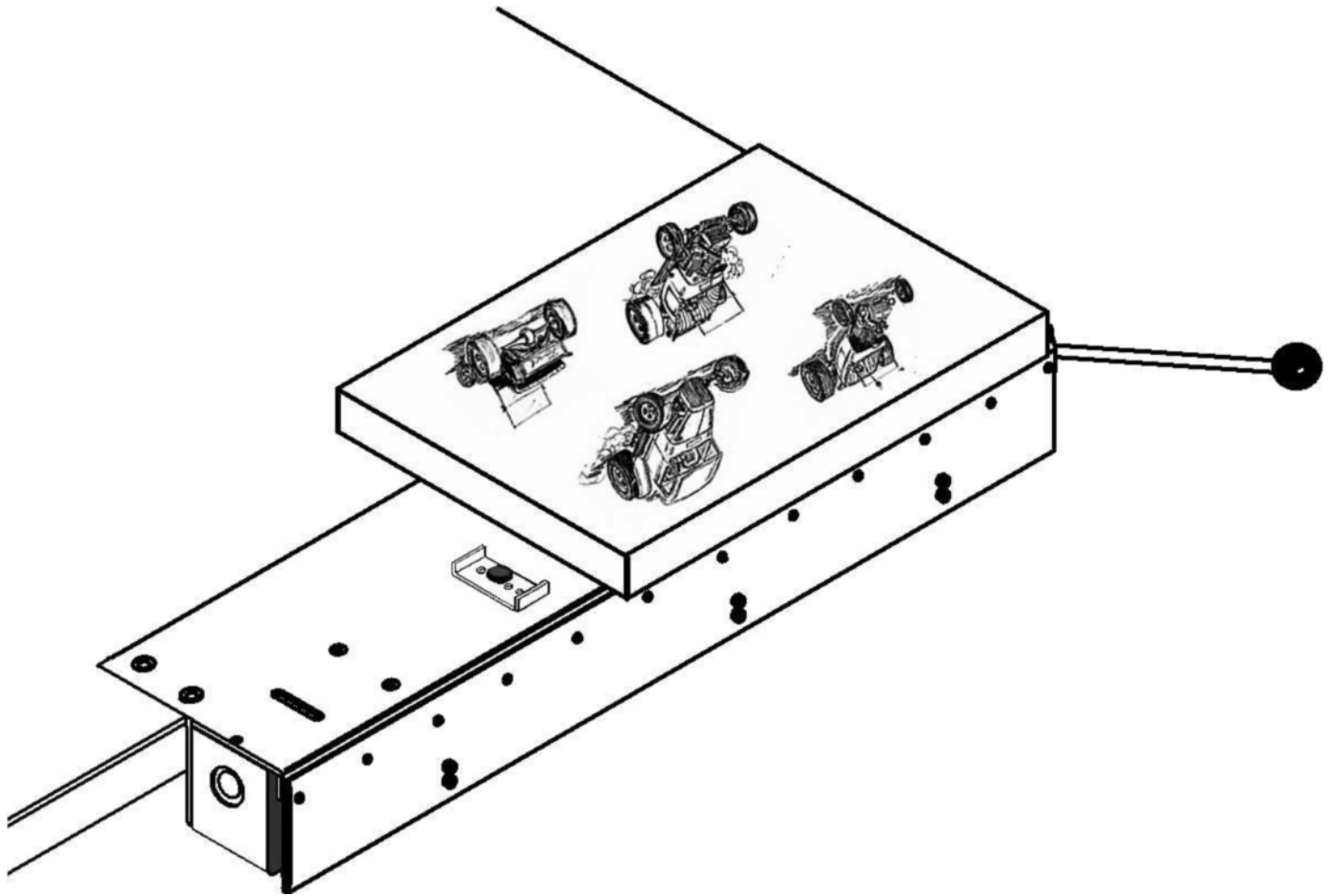
You may do all 4 corners at this time if you’re comfortable with it, or just do the 2 corners of the 3rd side.

Place the prepared side into the machine and stretch side 3. (Usually the top or bottom of the image.) After stapling underneath, remove the canvas and rotate 180 degrees to insert the last tail into the machine.



with the canvas over the front of the machine, tuck the corners in preparation for the last 2 pulls.

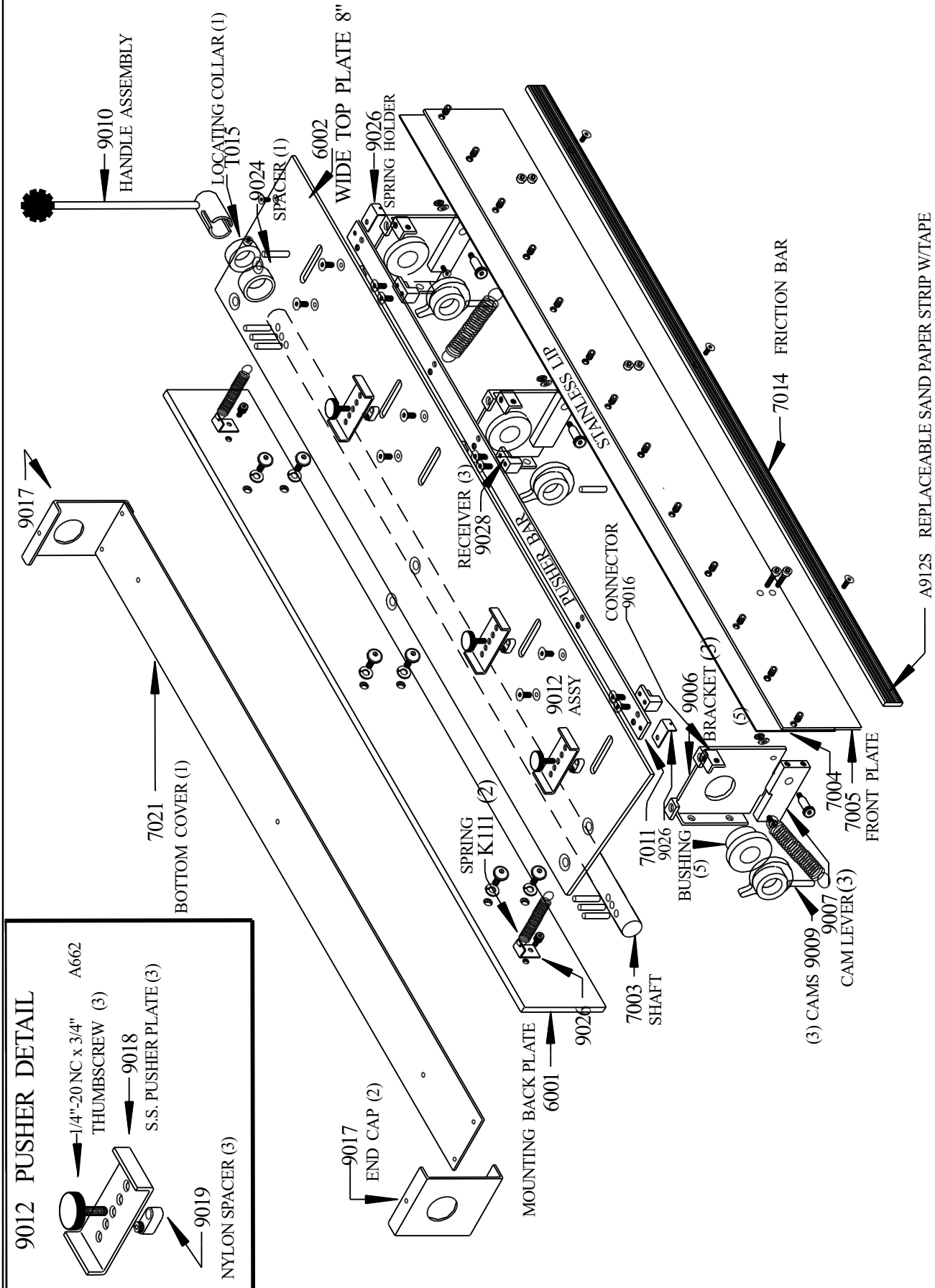
After preparing the corners to your satisfaction, place the last tail into the machine jaw. Smooth the edge as usual and pull the lever forward. As soon as the pushers start to move the canvas forward, all slack should be removed from the surface, sides and edges. Continue to pull until the edge is far enough forward to staple easily. Pulling the canvas farther forward of the tight point does not necessarily increase the overall tension in the canvas surface. It will only create a larger surface to staple.



A word about tightness: Hand stretching can produce a very tight drum-like surface on a canvas. For Digital Images on canvas, this is not always desirable. Overstretching will eventually cause sagging sometimes a week later if the fabric was overworked. A correctly stretched surface should be smooth with no visible streaks or ripples. Looking across the surface into a light source should show no signs of sagging or low spots. Pressing lightly in the center gently should produce about 1/4" of deflection. There are books on this subject available through PFM Magazine or PPFA chapters, as well as your local Library.

If the finished stretching job does not seem tight enough, review the adjustment section on OVERALL TENSION ADJUSTMENT on page 4.

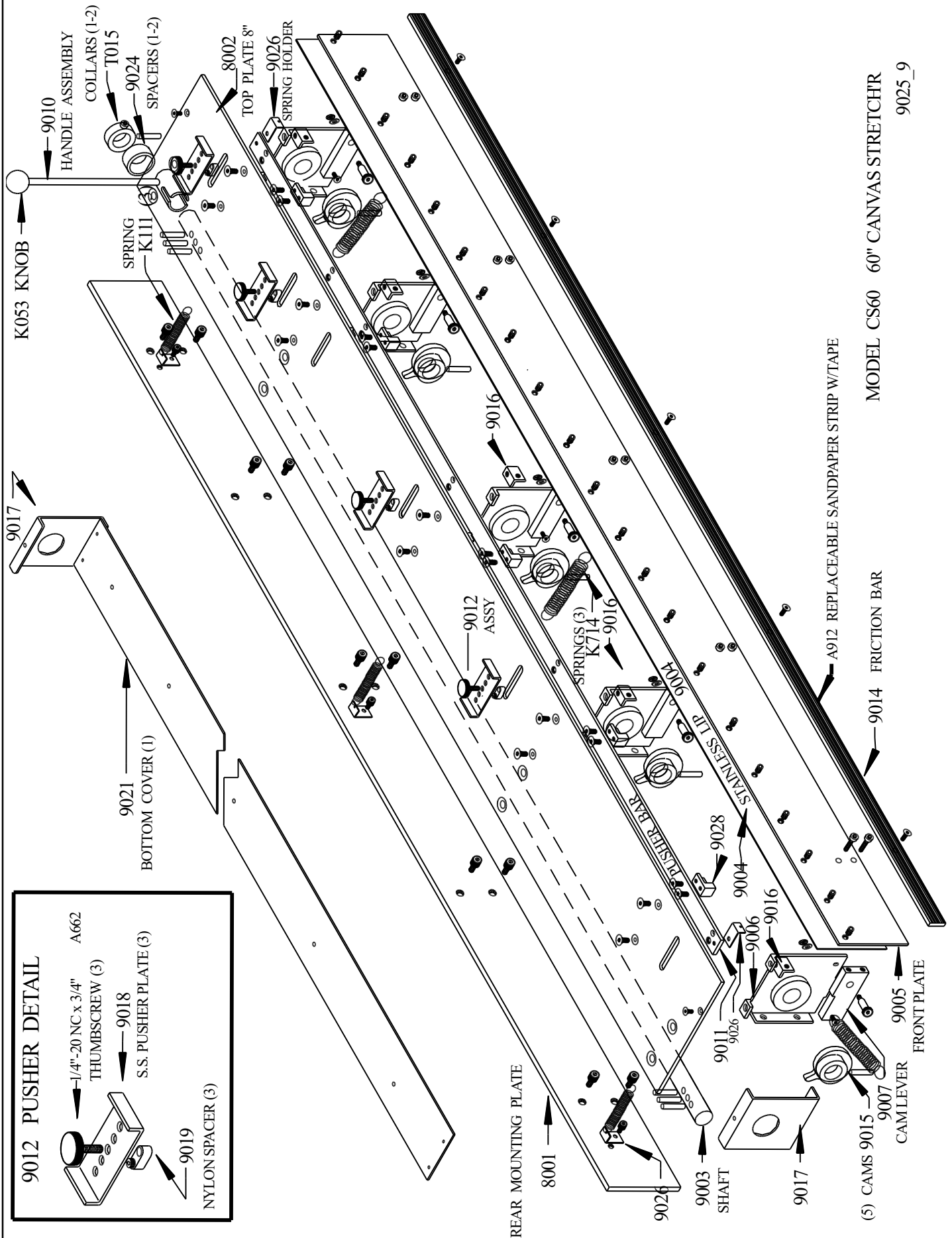
A word about staplers: Although manual staplers will work when hand stretching, because you are pressing into the back of the stretcher, you may find them a bit awkward trying to operate them upside with this machine. Air operated upholstery staplers work best with canvas, typically with a 3/8" wide crown and either 1/4" or 3/8" length. Air pressure for these lighter duty staplers should be kept to 45-65 PSI. Use of construction staplers is not recommended. They can provide too much force and cut the canvas with the staples. Although stainless steel staples are recommended for expensive pieces, the use of them will be totally up to you or the operator. Electric staplers may work okay if you have a thing against compressed air or against owning a compressor.



7025_9

PARTS LIST FOR CS36 STRETCHER			PARTS LIST FOR CS60 STRETCHER		
Part No.	Description	Qty	Part No.	Description	Qty
6001	36" Mounting Plate	1	8001	60" Mounting Plate	1
6002	36" Wide Top Cover 8"	1	8002	60" Wide Top Cover 8"	1
7003 T015	36" Actuator Shaft Locating Collar	1 1	9003 T015	60" Actuator Shaft Locating Collar	1 2
7004	36" Stainless Steel Plate	1	9004	60" Stainless Steel Plate	1
7005	36" Front Plate	1	9005	60" Front Plate	1
7011	Pusher Bar	1	9011	Pusher Bar	1
7014	Friction Bar	1	9014	Friction Bar	1
7021	Bottom Cover	1	9021	Bottom Cover	1
9006	Bracket	3	9006	Bracket	5
9007 K714 A578	Cam Lever Spring 5/16" x 3" Lg Shoulder Bolt 5/16"	3 2 3	9007 K714 A578	Cam Lever Spring 5/16" x 3" Lg Shoulder Bolt 5/16"	5 3 5
9018	Receiver Block	3	9018	Receiver Block	5
9010 K23	Handle Assembly Ball Knob	1 1	9010 K23	Handle Assembly Ball Knob	1 1
9012 9018 9019 A662	Pusher Block Assembly Pusher Plate Pusher Spacer 3/4" Knob w/1/4"-20NC	3 3 3 3	9012 9018 9019 A662	Pusher Block Assembly Pusher Plate Pusher Spacer 3/4" Knob w/1/4"-20NC	4 4 4 4
9015	Cam/Collar Assembly	3	9015	Cam/Collar Assembly	5
9016	Friction Bar Connector	3	9016	Friction Bar Connector	5
9017	End Cap	2	9017	End Cap	2
9026 K111	Spring Holder Spring 1/4" x 1-1/2" Lg McMaster # 9654K111	4 2	9026 K111	Spring Holder Spring 1/4" x 1-1/2" Lg McMaster # 9654K111	6 3
A912-S	36" Sandpaper w/Tape	1	A912	60" Sandpaper w/Tape	1
Refer to drawing # 7025_7 on previous page			Refer to drawing # 9025_9 on next page.		
When ordering parts refer to model number & serial number if possible. Most hardware not listed here are standard SAE screws or nuts and can be readily supplied from a local hardware store or our stockroom					
JOIN RITE 29 Mt Vernon Street New Bedford, MA 02740 Tel: 508-454-7477 Fax: 508-991-5880					

PARTS DRAWING FOR CS60



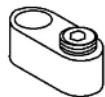
MODEL CS60 60" CANVAS STRETCH'R 9025_9

9014 FRICTION BAR

9005 -
CAMLEVER
FRONT PLATE

(5) CAMS 9015 — 9007
CAMLEVER

TROUBLE SHOOTING & ADJUSTMENTS: (On machines built after June 2010 the cams are pinned and should not ever slip) If you are hearing squeaking when actuating the machine a little grease might help. The quickest way to regrease the cams is to remove the front plate by removing the 3-5 pairs of screws at the bottom of the front plate.



1. Pusher Spacers

From time to time the small spacers used to keep the pusher plates aligned might fall into the gap in the machine top when changing pusher positions. If this should happen don't disassemble the machine to get at the dropped piece. With the jaw open, look down into the machine and at the same time tap upward on the bottom cover plate with your finger tip. This slight vibration will usually "walk" the errant spacer towards the front opening of the bottom cover, allowing it to drop out into your hand. If this doesn't seem to coax the little devil, use a light magnet to drag it across the aluminum bottom cover so it can drop out the front. The set screw is magnetic enough to move with a magnet even if the nylon is not.

2. Springs

If the pushers don't move back into position when the handle is rotated back, the spring could have come loose from the spring clips or an end could have broken. These springs are available from JOIN RITE for a small fee or can be purchased from a supply house like McMaster Carr in the USA. The 1-1/2" long springs. To check this out, pull the handle forward half way, then pull one of the pushers forward with your hand, and feel the spring tension pulling the pusher bar (inside the machine) back each time. If no tension is felt, the spring could be broken or disconnected. These can be replaced from the bottom of the machine with needle nosed pliers, or from the top after removing the top and friction bar. To replace a spring from the bottom, remove just the (2) phillips-head screws on each end of the top, and the (3-5) phillips-head screws on the bottom cover. Do not remove any rivets. You can then reach the springs with needle-nose pliers to replace if needed. If the machine is off the table and upside down, you can also access the cams for greasing if needed.

3. Removing the bottom cover and end caps

If it becomes necessary to grease the cams or replace a spring, you should remove the bottom cover with end caps attached, using the only Phillips head screws on the machine. The end caps have one on each end of the machine (on top) and the bottom cover has 3-5 screws on the bottom. Once these are removed you can remove the cover and caps together. This gives complete access to the inside of the machine.

It may be necessary to unmount the machine and flip it over on the table, but not if a young person is available to reach under the machine to do the maintenance.

Grease for the cams can be any useable grease such as used for wheel bearings, or lithium based grease that comes in tubes for grease guns.

To replace any spring, it will be easier if you use a pair of needle-nose pliers, since they give the best access.

STRETCHING SUPPLEMENT: PRECISE REGISTRATION POSSIBILITIES

1) Let's start with getting an accurate position of canvas to stretcher frame with the image face down and the stretcher frame laying on the back of the canvas. Isn't this how they all start? Once you have the corners marked on the back of the canvas (using either a light source through the canvas) or folding the sides up the frame until you are satisfied the image is exactly where you want it in relation to the frame. Mark all 4 corners with pencil or a marker that won't bleed through. Decide which side you want to start with first (side being the operative word). Fold it up onto the frame and place one staple in the center of the side about 1/4" to 1/2" in from the edge. The placement of the staple or staples is very important.

Do not put the staple(s) too far inward from the edge.

2) In preparation for this technique, the pushers on the machine should be set for the stretcher bar you are using, BUT they should be adjusted so the outside edge of the frame sticks out 1/2" - 3/4" beyond the machine front to start before the pushers ever move. The stretcher bar sticking out from the machine is the key to making this work.

3) Once the staple(s) are in the side, pinch the opposite side and flip the canvas over to position it on the machine. If you have too much trouble trying to keep the canvas aligned with the frame, try putting one staple in the bottom of the image as well, but keeping the staple within the 1/4"-1/2" of the back edge. The concept here is to have the staple that is in place project beyond the front face of the machine, so there is no reason to ever remove it. (Unless of course you have to reposition the canvas)

4) With the canvas on the machine, pull the handle to close the jaw. Because of the stretcher position being ahead of the machine, it will be a little more difficult to place the tail into the jaw, but once the jaw starts to close, you will notice the canvas starts to tighten sooner as well. Since this is just the first side and there is only one or two staples on the opposite side, don't pull too tightly. Just get the slack out, and staple along this first edge.

5) Rotate the handle, remove the canvas and rotate it to the other side with one staple. Now you will be able to place that side with a staple in the machine because the staple sticks out beyond the face.

6) Rotate the handle to close the jaw and gently pull the canvas tight until the image edge is where you want it.. Staple along that side now as well. Do not try to get the canvas real tight. There are still two more sides to pull, so we don't want to overstretch the canvas, and we don't want to pull the image beyond the desired position on the stretcher bars

7) After cutting the corners, or arranging the corners to be folded, finish stretching the top and bottom of the canvas, so the final folds are on the top and bottom. (Unless of course you would prefer the folds show on the sides.)

The one difference you will notice with this set up is the handle doesn't rotate completely to the front. Most of the tightening is done when the front jaw pushes the canvas tail into the machine. Very little additional movement is needed to create a tight stretch. This positioning technique (with the stretcher beyond the machine front) is the same way to stretch wide canvases that extend wider than the machine. Allowing the stapled portion to extend out, makes it easier to stretch the next section, because the staples are beyond the jaw when tightening. The more you do it, the easier it will get. This technique is demonstrated on the 3rd web site video that is labeled exact positioning.

