

Clamping/Stretching Bar Binds

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. Alignment issues can also occur if the machine operator favors one side during a stretch or uses excessive force during a stretch. The stretching force, as indicated on your deck mounted gauge, should never exceed 40 psi. If you are using more pressure than this than you need to adjust your Stretcher Plates to the specific width of the wood molding or review the manual.

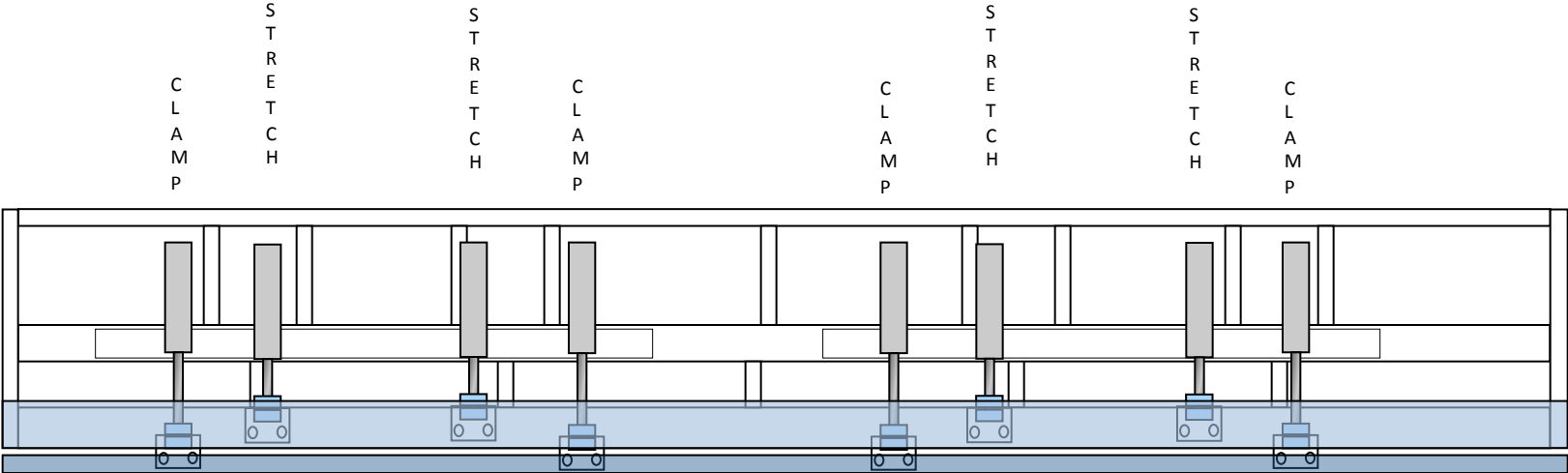
Problem: Clamping Bar or Stretching Bar Closing Slowly or Erratically

The Foot Pedal operates like a light switch; in this case it is air and not electricity. If your Clamping bar (the smaller one) hangs up on one side or it operates erratically your machine may be out of alignment. The following procedure is how to align the Clamping bar but the same applies to the Stretching Bar.

In the drawing below you will notice a generic representation of the cylinders and their orientation. This machine has (4) clamping cylinders and (4) stretching cylinders. The idea is to get all (4) of the same circuit traveling at the same rate and same distance.

Every connection, joint screw and nut can potentially change the dynamics of the machine. When we do an initial alignment we run it through an exhaustive series of tests to try and get it to bind.

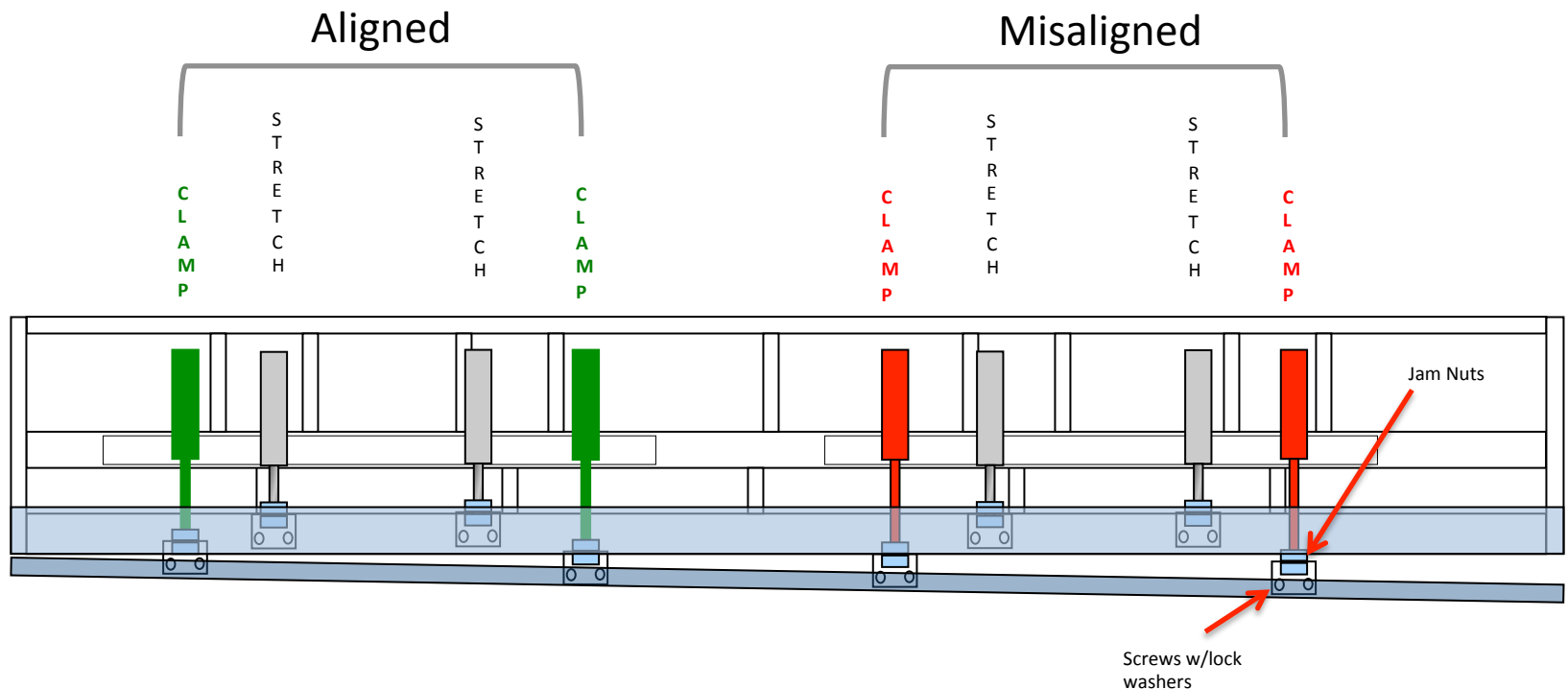
Having either bar bind is very rare given all the improvements we have made over the last 9 years but it can occur, but this can very quickly be resolved.



The drawing below shows an exaggerated example of what might happen when the clamping bar is out of alignment.

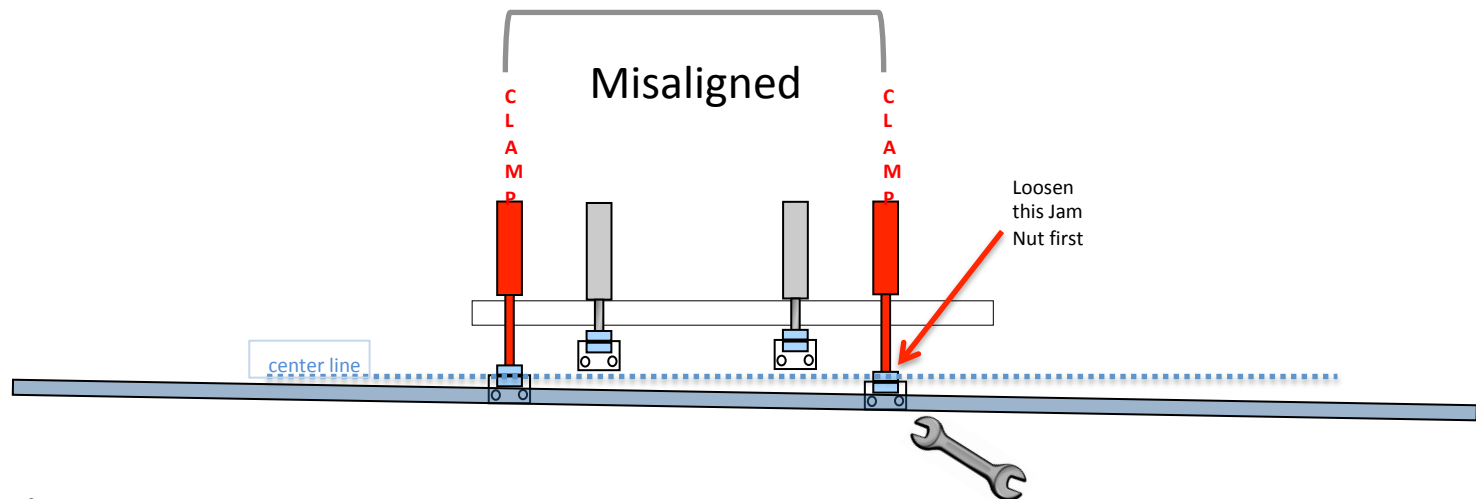
The two clamping cylinders on the right are extending slightly further forward than the two on the left. This occurs when the “jam” nuts loosen or cinch-up during transit or operation. This can also occur when one or more screws becomes loose or has cinched up too tight.

The first thing to determine which side is the problem. In the example below the right side has not retracted when the air has been removed. In this case one, or both, of the clamping cylinders on the right are extending slightly forward. The jam nut is the most likely culprit but it can also be caused by the mounting screws on the small angle bracket as well.



In the drawing below you will notice that the two clamping cylinders (only shown for one side) have traveled slightly further forward of the centerline than the (2) left cylinders. The ideal scenario is for all (4) clamping cylinders to travel the same distance and at the same rate. Because they are traveling further forward they cause the bar to bind as shown.

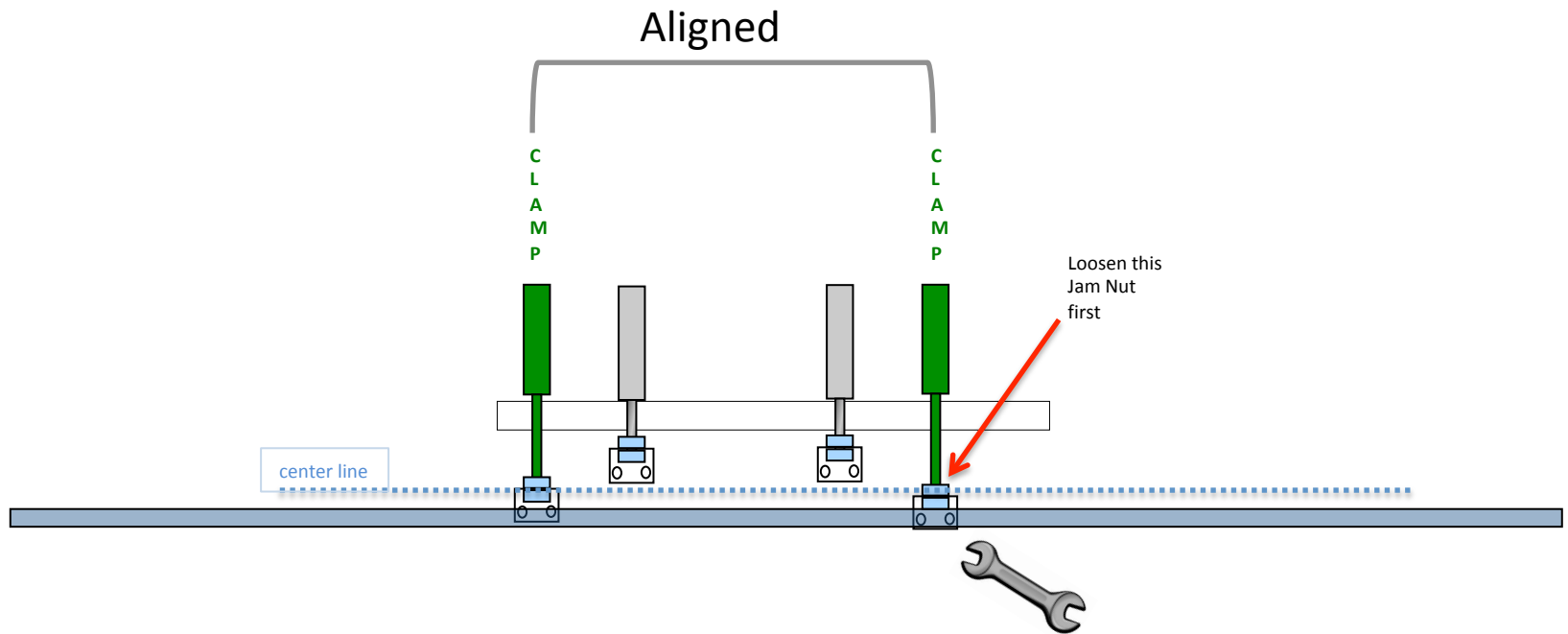
Before even attempting an alignment it is possible to view the bars from one side of the machine to see if they extend any further than the other. We are not looking for a perfect straight line because that is not even remotely possible. The aluminum bars themselves are not perfectly straight.



Solution:

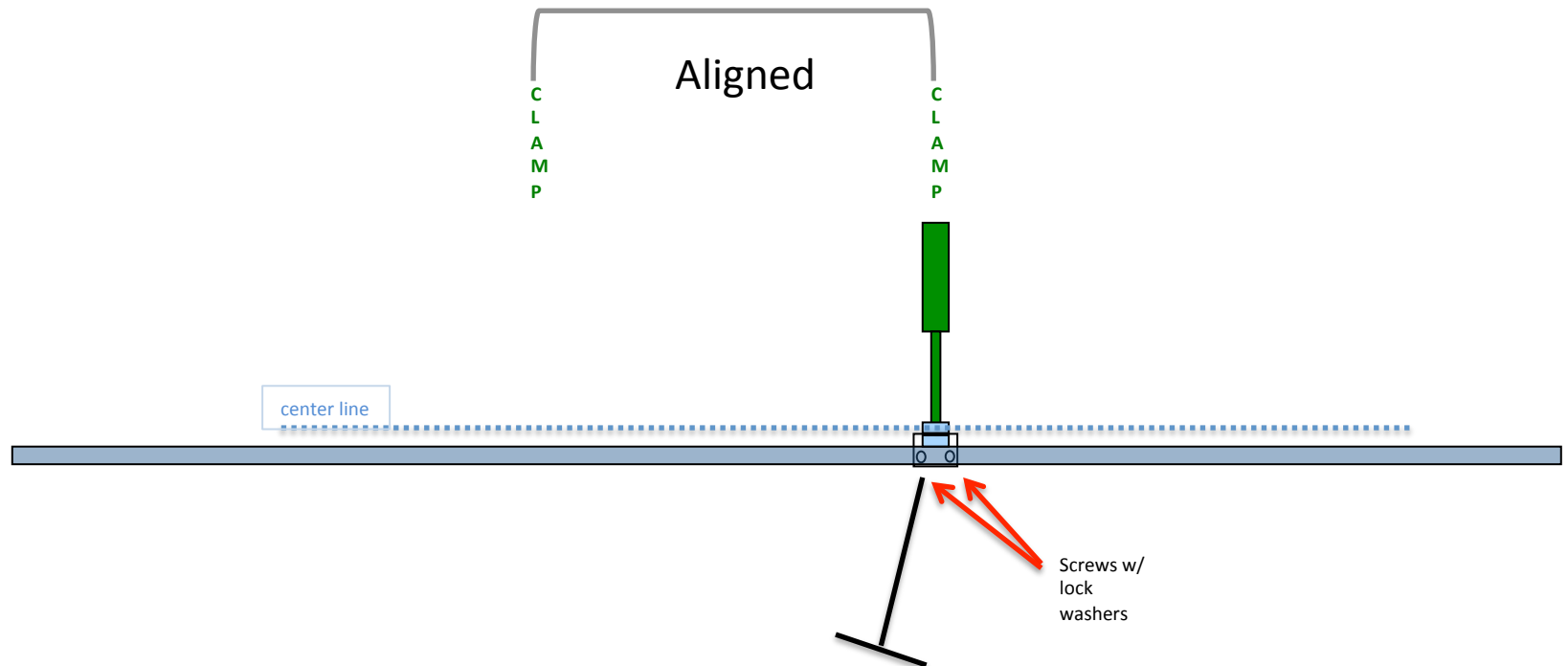
Take an 11/16 open end wrench and loosen the jam nut furthest from the front. If the bar does not retract immediately loosen the other jam nut on the second clamping bar. In most cases this will solve the problem. Then tighten the front jam nut to secure it. In some cases you may have to move the rear jam nut back a little more until the bar retracts or until it operates smoothly. Always move the front jam nut firmly against the bracket. The same procedure is done for clamping or stretching bar.

One indicator that your bar is in alignment is that it pops back into alignment with the rest of the cylinders. Look down the length of the machine from the side again and see if you notice any cylinder out of alignment.



After you identify the effected cylinders and get the bar to retract you may still notice that the bar travels a little erratically. The jam nuts allow the cylinders to be moved forward and backward so that all of the cylinders are in alignment, but the small angle brackets, as viewed from beneath the machine, are what holds the cylinder in a straight line. If one or more of the mounting screws is loose or should experience a bit too much torque from side to side then this too will cause an alignment issue.

After repositioning the jam nuts go down the length of the bar with your "T" wrench, provided, and loosen the two screws on each bracket that mounts the cylinder to the bar and then immediately tighten them. Listen for a "popping" sound or visually check to see if the bar shifted. Do this the entre length and then test the travel. This should correct your alignment issues.



If you go through this alignment procedure as described above and still experience problems then please contact us via email to arrange for your machine to be sent to us for an alignment.

You may be experiencing another issue that cannot be easily resolved with an alignment. If your operators have used excessive force it is possible that the frame has pulled apart slightly.

We recommend that you observe your operators during a stretch. If they use more than 40 psi of stretching force or force the artwork down during a stretch than they are not operating the machine properly. We have received machines for rebuilds with 90 psi dialed in on the stretching bar. This amount of force will eventually loosen the joints which will only amplify the problem causing even more alignment issues. This play will also cause the canvas to slip.