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# BOWSMITH pro

vernion coop

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## Bowsmith Pro Assembly

Assemble the legs. The angeled brackets for the feet may be shipped installed to the feet or loose in a parts bag. It may be easier to remove the corner brackets from the feet, and attach to the mitered end of the leg. Flush the bottom surfaces.



Figure 1.

Make sure the rectangular flat nuts are horizontal. Loosen the socket cap screws. Slide the nuts into the slots on the foot. Square up the brackets. Snug the screws finger tight, and do not tighten currently.



Figure 2.



**Figure 3.**

If you bought the paper tuner with your Bowsmith Pro now is the time to install the slide for the brace.

Make sure it's on the front-back side of the machine. Square the bracket to the leg, and then tighten the four socket cap screws hand tight. Install the other leg assembly. Now tighten feet and leg bolts using a standard L wrench - not supplied



There are two methods to adjust the cant of the machine. The easiest is by adjusting the feet. Loosen all the screws and angle feet in the direction needed and re-tighten. See figure 4. Note all bolts on the feet and legs need to be tight. The supplied driver may not give you enough torque. I recommend using an L wrench for this

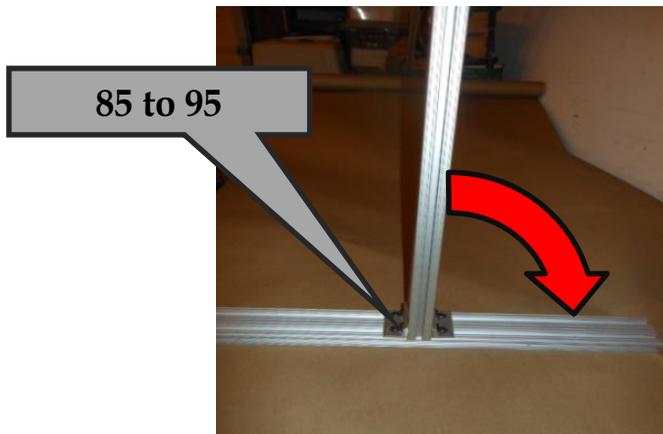


Figure 4.

Attach the legs and feet to the 4 inch aluminum rail. The forward leg angles towards the front of the Bowsmith Pro, and the rear leg angles towards the rear of the Bowsmith Pro.



New upper limb brace  
with exstension block.



figure A-1

This is how it should look after the bow is installed.

*Note: for the best results install this after you have completely set up the machine, right before you shoot it.*

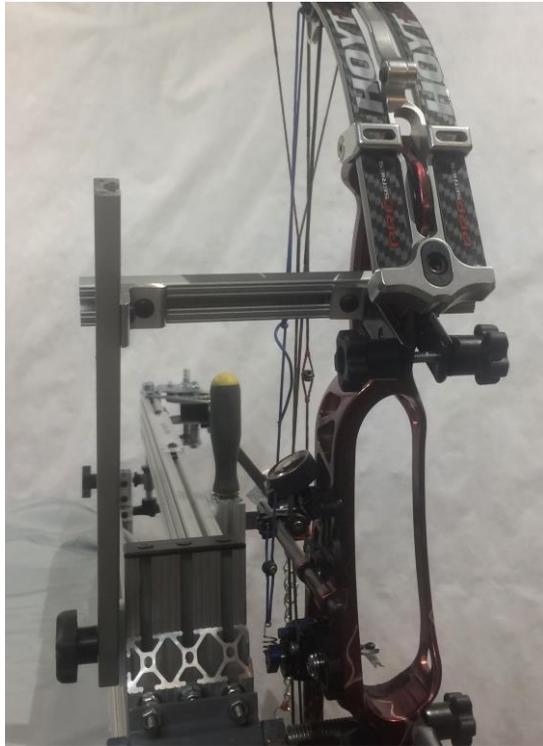


figure A-2

Find a spot on the riser and adjust the plastic bow clamps so they are touching the riser.

Install the clamp and snug tight make sure you are not torquing the bow and tighten the side knob.

Make sure none of the steal or aluminum parts are touching your bow.

This will work on any bow you may have to reconfigure a bit for different bows. see figure A-2



Figure 5

For those of you who ordered the Bowsmith Pro with the attached Paper Holder now is the time to assemble and install. Note: Frame does not need to be attached to machine at this time.

This is a new product and like all our products we are constantly trying to improve. We welcome any suggestions!



Figure P-1



Figure P-2

Slide pieces together and tighten  $\frac{1}{4}$  -20 screws through the holes in the bottom of the  $\frac{1}{2}$  inch rail. Figures P-1 and P-2.

Install the paper as shown. Figure P-2. Do not back the knobs all the way out just loosen the top and bottom and slide up out of the way. Lay paper in through both rails and tighten thumb screws or  $\frac{1}{20}$  bolts.

NOTE: the knobs on the paper tuner have been changed to  $\frac{1}{4}$  - 20 button head cap screws to match the rest of the machine. the supplied wrench works better.

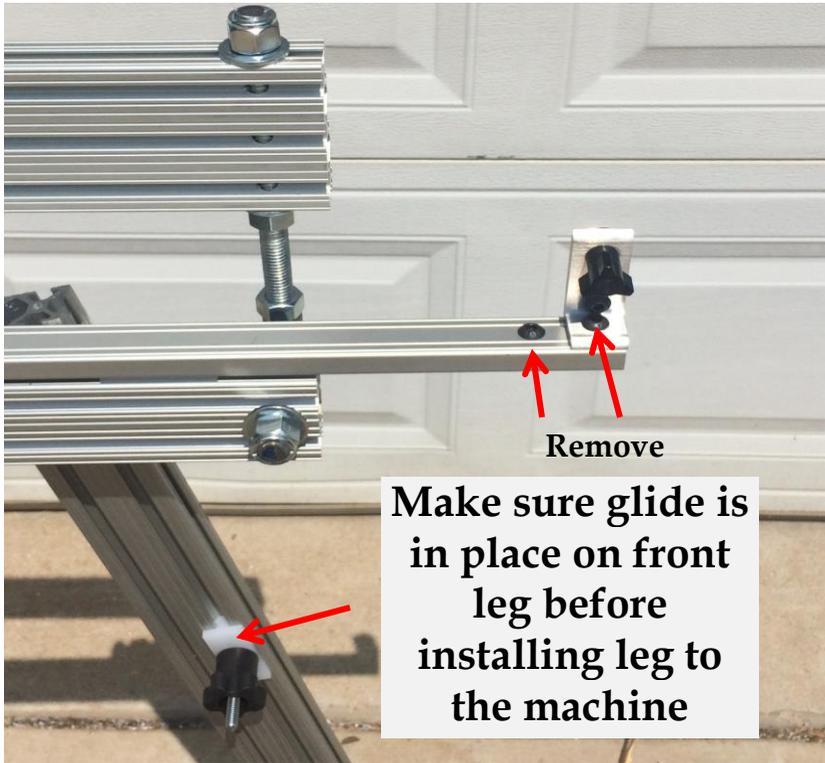


Figure P-3

Slide the rail out a few inches and remove both  $\frac{1}{4}$ -20 cap screws

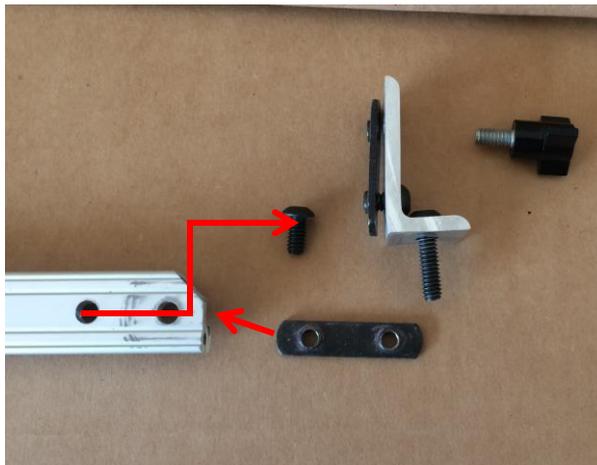


Figure P-4



Figure P-5

Slide the strut into place on the top rail and slide the bottom over the 2-inch bolt on bottom locking glide and replace knob on locking slide. Figure P-5

The slide on the leg should have been installed before attaching the leg to the frame see Figure 3, page 3.



Figure P-6



Permanent on older models

Figure P-7



Figure P-8

Reinstall L bracket that holds paper frame.  
Figures P-6, P-7 and P-8



Figure P-9

The paper frame needs to be in this configuration to slide it in and out otherwise it will cause binding. Figure P-9



Figure P-10

To operate

1. make sure all 3 knobs are loose and slide into place and lock knobs A and B in place on.
2. Slide knob C up towards the machine while picking up on the sliding rail to eliminate sag and tighten in place.
3. Now rotate paper frame into place.

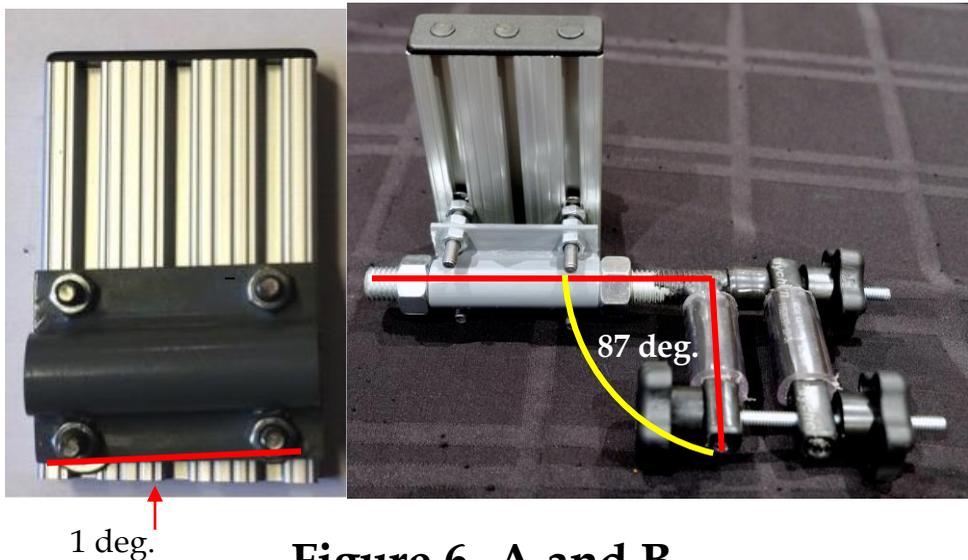
Even with the safety catch on. A snapped D loop or accidental discharge may not totally stop the bow from discharging or damaging equipment. **USE EXTREME CAUTION.**



## Torque Box Assembly

This is the Torque Box Assembly, and is preset at the factory with 1 degree of angle. (See figure 6-A.) Also the bow hand is set at 87 degrees. (See figure 6-B).

Your Bowsmith Pro comes pre-assembled and pre-tuned for a Hoyt Pro Comp Elite. (These settings should work for most compound bows)



**Figure 6 -A and B.**



Figure 8

Adjust the height of each leg assembly to get the top of the main rail “close” to level. Install the Bow Hand assembly onto the front end of the main rail. Figure 8.

### “Close counts”

Adjust the height of the release bracket (figure 10) so the winch strap runs parallel to the top edge of the main rail as in Figure 9

This should be preset from the factory

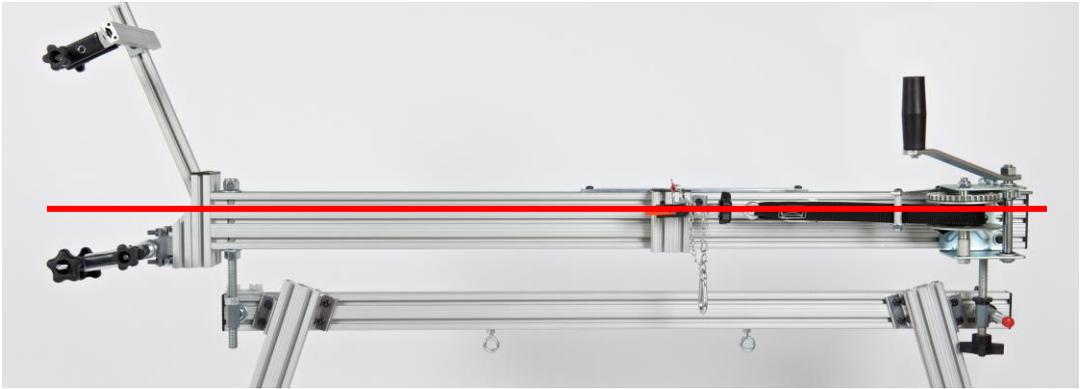


Figure 9.

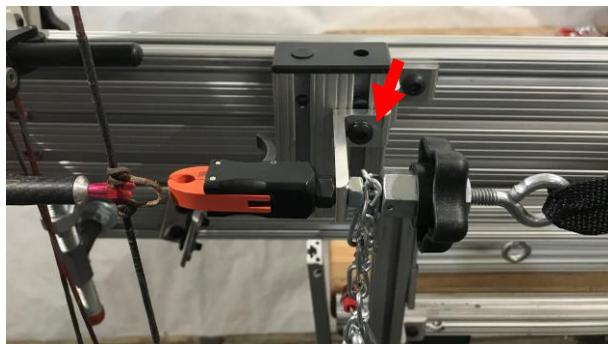


Figure 10.



Adjust the height of the Torque Box and Bow Hand Assembly (figure 11-B) to bring the D-loop in line with the release at the same time keeping the bow square to the machine. Use the Safety Pin in the Release (figure 12) and attach the safety catch (carabiner) to the bowstring, at all times when checking Bowsmith Pro settings.

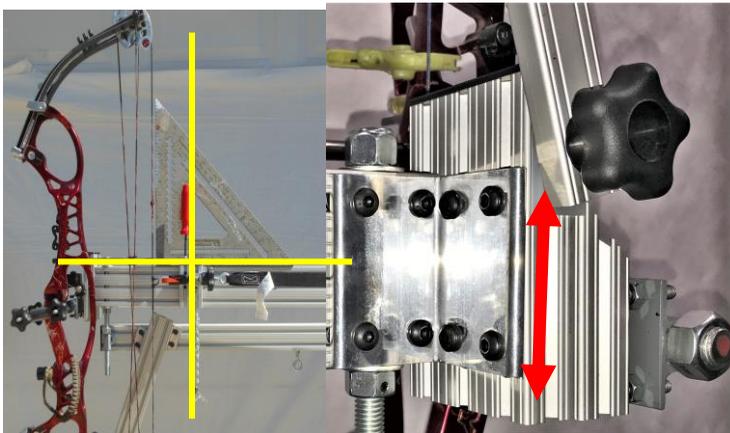


Figure 11-A and B

USE THE RELEASE PIN IN THE RELEASE. FULLY INSERT THE PIN INTO THE SMALL HOLE IN THE BODY OF THE RELEASE.

Release Pin in Body of Release see figure 12.

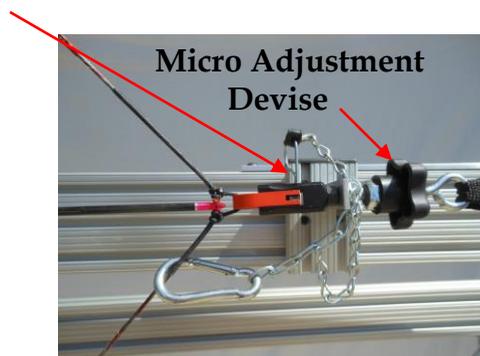


Figure 12



**KEEP THE SAFETY CATCH ATTACHED TO THE BOWSTRING  
AT ALL TIMES.**

**THE ONLY TIME YOU DON'T USE THE SAFETY CATCH IS WHEN  
FIRING THE BOWSMITH PRO .**

**Check that all fasteners are secure, but do not over tighten.**

Set your bow in the bow hand. Nock the bowstring by sliding the carrier and hooking the release onto your d-loop (**use the safety catch AND RELEASE PIN**) and maintain some tension on the bowstring/d-loop with the winch strap, while you put the Bow Hand fingers in place. Adjust your bow so your bow is plumb while in the bow hand. Hold your bow plumb while you tighten the knobs on the Bow Hand. It helps to have a little tension applied to the d-loop with the winch for the initial set up.

Disconnect the release from the d-loop and adjust the windage (lateral adjustment) for the Bow Hand, by turning the 5/8<sup>th</sup> nuts so that the bow hand is parallel to the main rail. (Figure 13) Adjust the 5/8<sup>th</sup> nuts until the center of your bow; the center of the release; and the winch strap are all running parallel to the main rail.

**(See Figures 13-B and 14)**

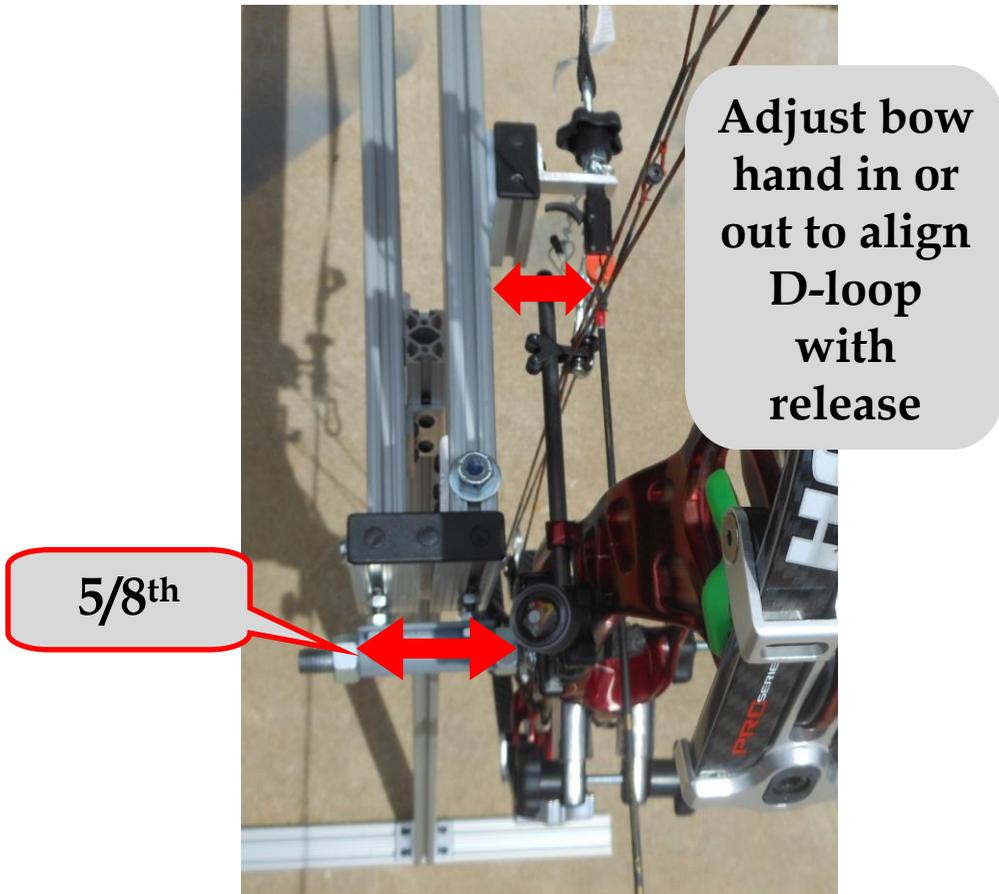


Figure 13.

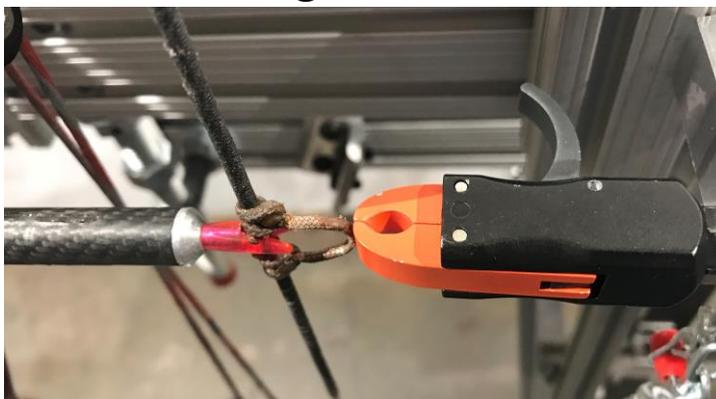


Figure 13-B.

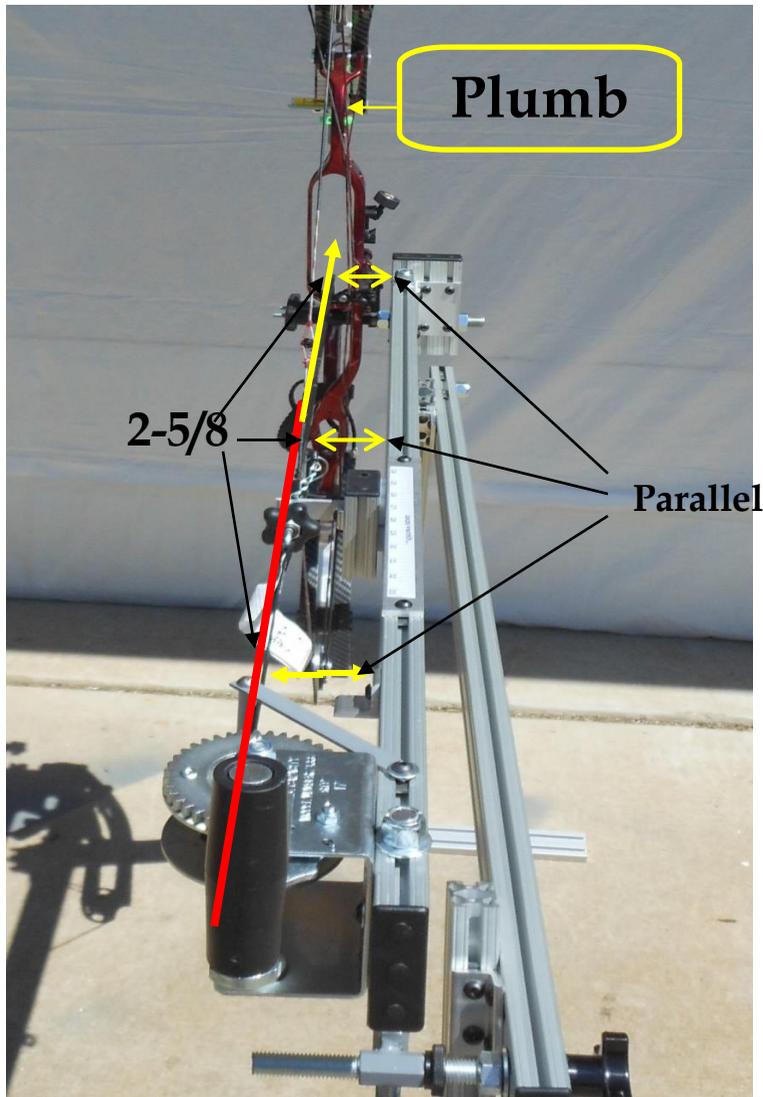


Figure 14.

Adjust the windage (lateral adjustment) for the Bow Hand; make sure there is minimum clearance between your arrow rest and the main rail.



Figure 15.

Snug the 5/8<sup>th</sup> nuts for the threaded rod on the Torque Box Assembly – do not over-tighten the 5/8<sup>th</sup> nuts. To plumb the bow, adjust the cant angle of the riser by loosening the four socket cap screws behind the Torque Box, (figure 20) and rotate the Torque Box clockwise or counter-clockwise, as needed. Retighten the socket cap screws, when the cant angle for the riser is vertical (plumb).

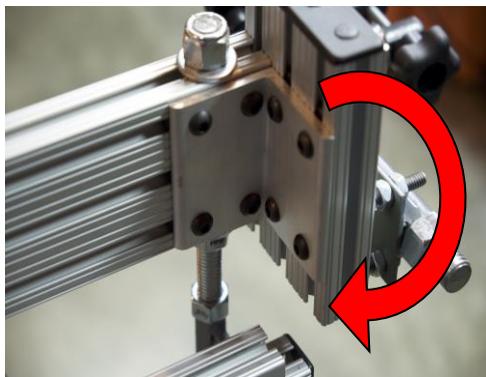
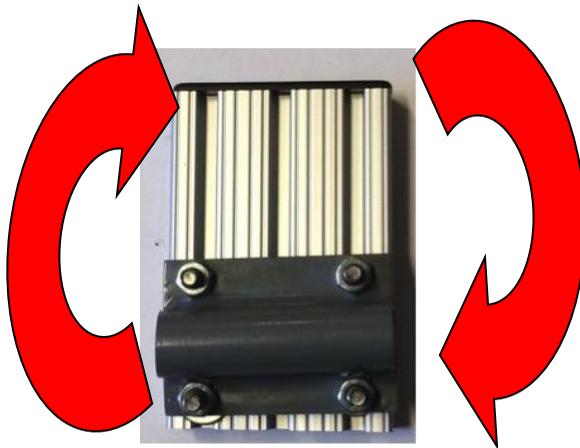


Figure 16.



Adjusting the socket cap bolts behind the Torque Box provides for a small amount of 2<sup>nd</sup> axis adjustment.

If more rotation is needed to reduce the sideways tilt of the riser to zero degrees, then, adjust the Torque Plate. (Fig- 17) Loosen the ¼-20 nuts closest to the aluminum rail and rotate the Torque Plate (gray pipe) until the riser has zero sideways tilt. Snug the nuts touching the aluminum rail and do not over-tighten. The Torque Plate will usually be somewhere between zero and 1 degree above horizontal.



**Figure 17. Torque Plate**

If you have previously confirmed that 2<sup>nd</sup> axis for your sight is correct, then, you can install your sight on your bow, and adjust the 2<sup>nd</sup> axis rotation of the Torque Plate. Minor adjustment of the socket cap



screws on the backside of the Torque Box Assembly should get your sight level bubble centered.

**Also, if the floor is out of level you can adjust the feet. See Figure 4.**

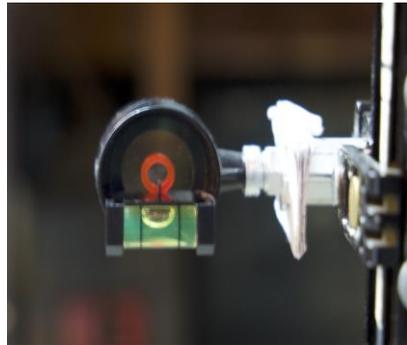
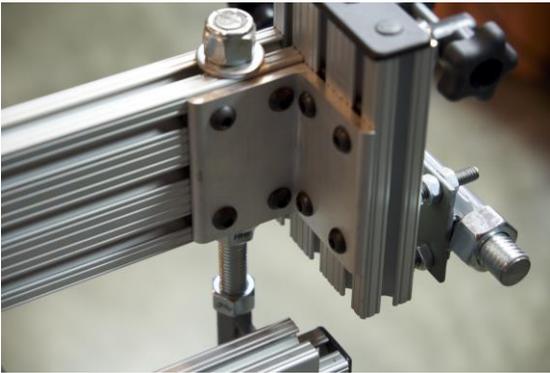


Figure 18 A and B

**With the safties on!** Place an arrow on the rest and draw it back a couple clicks. Sight down the bow to insure the arrow is square to the rail . If not adjust two of the four  $\frac{1}{4}$ -20 nuts on the torque box untill the shaft is straight and the string lines up with the release. You only need to adjust the top and bottom outside nuts . ***A little goes a long way.*** You may have to re-adjust the bow hand in or out until you have it right combination. See figures 13, 14 14-C and 19.

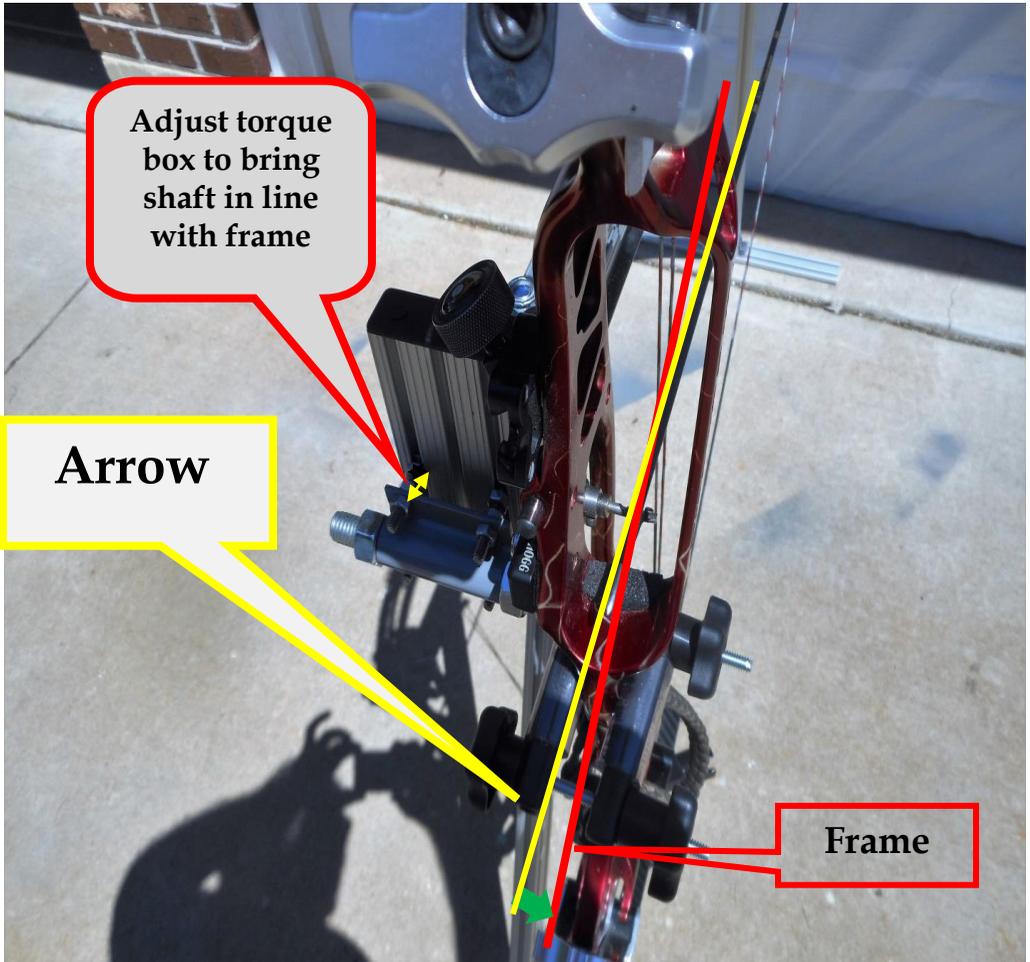


Figure 19.



*Figure 14-A*

*Figure 14-B*

The shaft points to the side. Figure 14-A. To adjust angle the torque box as seen in figure 14-C, until you have the results as seen in 14-B.

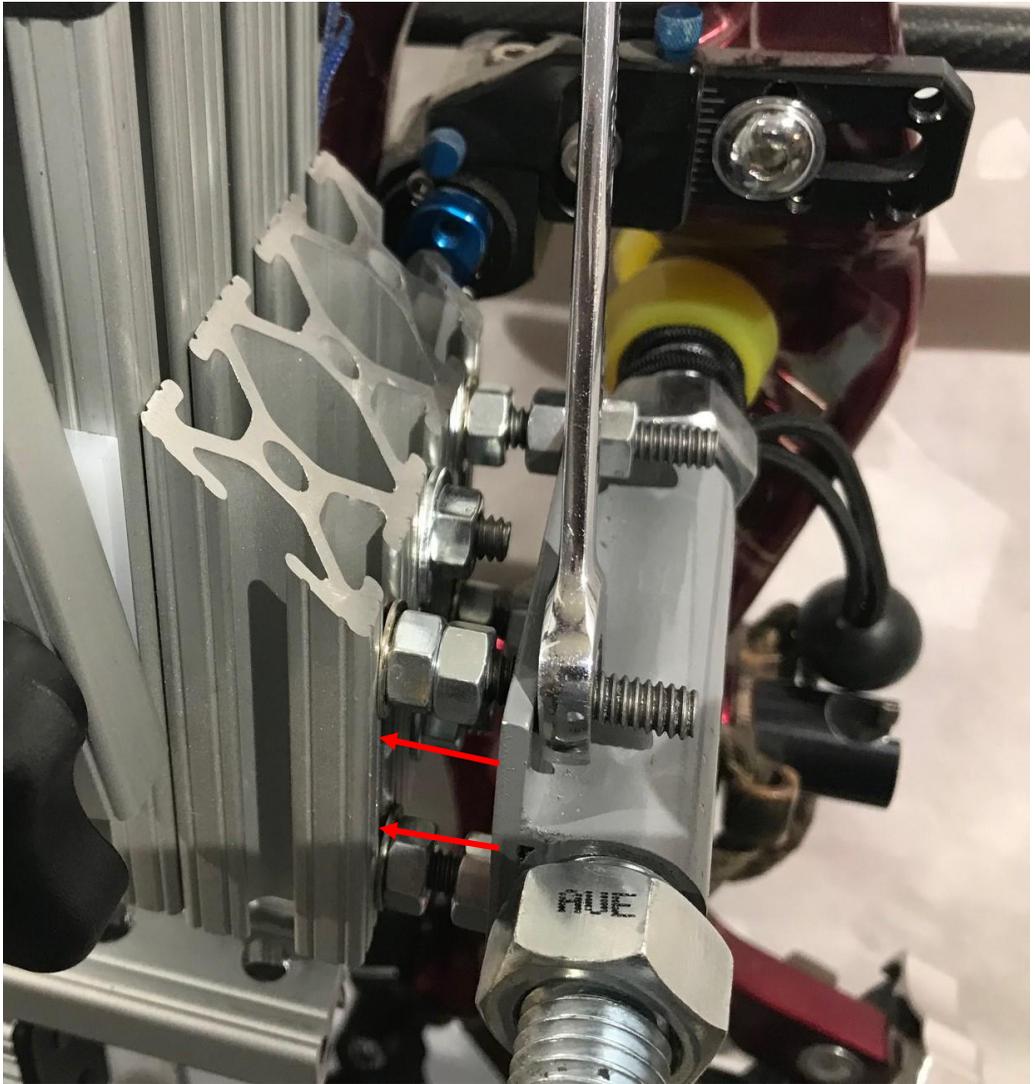


Figure 14-C

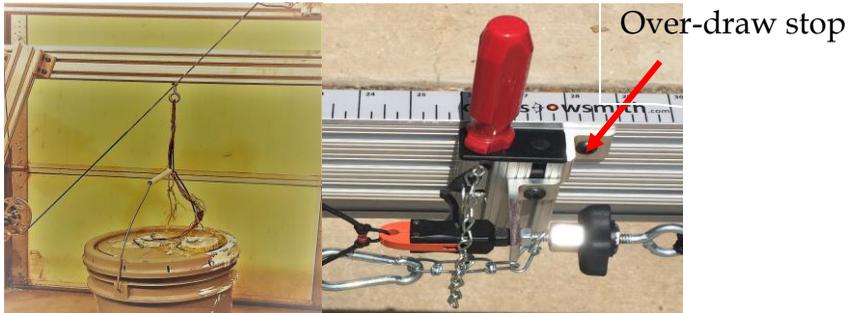
You only need to adjust the two outer  $\frac{1}{4}$  - 20 bolts.

With all this done now is the time to install the upper riser brace as in pictures A-1, A-2 on pages 2 and 3.



## Firing an Arrow from the Bowsmith Pro

Hang one or two five-gallon buckets of water from the weight hooks or bolt to floor. Figure 20. (Buckets work great)



**Figure 20.**

**Figure 21.**

Hook the release, attach safety devices (safety catch and release safety pin) and crank the bow back smoothly (don't over draw). Set full draw using the fine adjustment. Now set the over draw stop and adjust the over draw stop so it barely touches. (Figure 21) You don't want pressure against the over draw stop. Excess pressure on the over draw stop will distort the shot. You can insert a slip of paper between the release bracket rail and the over draw stop. Make contact with the over draw stop, using the fine adjustment, where you can still slide out the slip of paper.

Confirm the release trigger is in the fully forward position. Aim at backstop, make sure to remove string catch, then pull out the release safety pin, and pull trigger to fire.

**Caution should be used when pulling the safety pin at full draw!  
There is always the possibility that it will fire as you pull the pin!**



To repeat, move the carrier smoothly forward and hook the release onto the d loop. When done correctly, you never touch the bow and the release should line up with the d- loop to be consistent.

It will take several shots for the machine to settle in, giving you consistently good shots.

***Make sure your legs and feet are tight using a standard L-wrench.***

***The supplied wrench will not get these tight enough.***



## Tuning Arrows with the Bowsmith Pro

Tuning arrows is a learning process. Fire a few arrows to settle the machine in. Don't move the bow after you shoot. You should be able to slide the release into place without touching the bow. The release should line up with the D loop every time. Your bow sight should stay level or close and your string should stay plumb or close. I tune fully fletched arrows only. Shoot 12 arrows and find the ones that hit the same hole, set these aside and tune the rest of the fletched arrows. Turn the nocks from the cock vane to the next vane and find the one that shoots closest to center. Most guys who tune this way keep all their vanes the same color and mark the cock vane with a marker. Pay attention that nothing moves. I use one good arrow to double check things as I go.

A very accurate way to shoot after you have set the machine up and test fired a shot or two is to leave the winch clicker off. Crank the bow back to full draw with your right hand to just short of the over draw stop and hold the winch handle and pull the release with your left hand.

**Remember to keep away from the front of the machine, never stand in front of the machine. Keep your hands and fingers out of the way. Keep your kids away. Check for loose bolts and always pay attention to what you are doing.**



## Optional Equipment

### Using Bow Master L Brackets with the Bowsmith Pro

We offer a modified version of the Bowmaster. (figure 22) It doesn't include the compressing device and is designed to work with a draw-board. But the original Bowmaster works just fine with all of our machines,



Figure 22.

**Not included please order from our website**

The bow L clamps are by Bow Master and can be used on past parallel bows, but only up to 6 degrees past parallel. If the past parallel limbs are more than 6 degrees past parallel to the limb tips, then, the Bow Master L clamps cannot be used. The Bow Master L clamps **do not work for all bows! Caution must be used!** Here is an easy way to tell if your bow is past parallel at rest. Below are photos of two different bows. Put a piece of paper up to the limb with one edge of the paper parallel with the string. (figure 23) The edges of the paper make it easy to see the angle of the limb. The picture on the left is of a bow that is not quite parallel as you can see by the yellow line (yellow line is the angle of the limb tip). The picture on the right is a bow that is past parallel. Only use the Bow Master L clamps on bows that do not have past parallel limbs no greater than 6 degrees.



## **NEW G2 VERSION FOR 2016**

### **NOW WORKS WITH LARGE CAMS AND ON BOWS UP TO 6° PAST PARALLEL**

Logo stamped on the bracket indicates it is suitable for past parallel\*

### **Split Limb L Brackets G2**

This compact, lightweight bracket provides a quick and easy attachment point for the Bowmaster Bow Press. The L design presses from the limb tips and compress the limbs in much the same way as when the bow is drawn. This new design works on a wide variety of bows, including those up to 6° past parallel. They work equally well on both solid and split limb bows and also work on bows with flared limb tips.

The NEW Bowmaster G2 Split Limb L Brackets are longer than previous versions and are designed to fit large cams like those on the newer universal fit compound bows. Like the 2015 version of the Split Limb L Brackets the new G2 L Brackets will also work on bows up to 6 degrees past parallel.

[http://www.prototechind.com/split\\_limb\\_L\\_brackets\\_info.htm](http://www.prototechind.com/split_limb_L_brackets_info.htm)





## Almost Past Parallel Versus Parallel



**Almost parallel – 1 degree**

**Past-parallel +6 degrees**

**Figure 23. Almost Parallel versus Past Parallel**

The Bow Master L clamps can slip off past parallel limb tips greater than 6 degrees. Use caution whenever using the Bow Master L clamps on any bow.



Draw your bow just enough to fit the Bow Master L Brackets onto your bow. Set the L brackets in place. Adjust the length of the Bow Master L brackets making sure your cable ends are in the proper place, and the latch on the L bracket is fully engaged. See figures 44 and 45. **Find the longest setting possible ,with the least amount of draw!**

Now, back off the Bowsmith Pro winch and watch to make sure the hooks are centered and the cable is latched. You can now replace your string and cables, adjust twists in end loops and even remove cams if you are careful.

**Remember to always keep you face and fingers out of the way!**



Figure 24.



Figure 25.

If your limbstops are in the way you may want to remove them. Set the Bowsmith's Pro over-draw stop while your bow is at full draw and before going any further.



**You must know your bow and not let the cams roll over too far! Your stops may need to be replaced before you draw the bow to full draw. Or you risk lock out!!!!**



Figure 26.

If your bow has limb stops, then, loosen the limb stops so you can move the limbs stops out of the way of the Bow Master L brackets. After you finish working with the Bow Master L brackets, then, we can now re-position the limb stops. With the Bowsmith Pro, this is very easy to do. Get the bow back to full draw. You have previously set the over-draw stop. (figure 26 ) Now, just hold the top cam limb stop with your finger, touching the top limb, and tighten the limb stop in position.





Figure 27.

Repeat the procedure for the lower limb stop. Bottom limb stop is easy, gravity takes care of everything. (figure 28 and 29) Tighten the limb stop in position.



Figure 28

Figure 29.

To remove the Bow Master L brackets, draw bow back slowly towards full draw. Check that all the strings and cables are where they are supposed to be on the cam, that the string is fully inside the groove for the bowstring and that the cables are inside the grooves for the cables. Slide off the L brackets when you have the bow drawn enough towards full draw so that the L brackets are loose. After removing the L brackets, let the bow down.

If you need to take down the entire bow, use an appropriate bow press, like a Bow Master cable press, if appropriate for your bow  
(not included) .

I have included a form I use to record pertinent information, feel free to copy and use for your own bows. If you look at my bow specs and



current set up, they are a little different. I want my bow back to factory specs so that's my goal. And regarding "factory specs. "Very seldom do you get a bow that is at exact specs so a little + or -. Close counts. If you're off a 1/8 at brace or 3/16 with the ATA that's close enough for me, but some people want it perfect. If this is, you spend the extra hour or so.

***On a new bow you want to also take these measurements as I have found them to be different from factory specs. This was the case with my Hoyt Pro Comp. I changed out the string set with a quality set, and without any tweaking it was a lot closer to spec, amazing!***

When satisfied how the bow is set up enter the actual settings and keep on file.

*One tip - try installing a peep at full draw. It's the easiest way yet I have found to insert and tie in place.*



## Paper Tuning



Figure 78

Paper tuning is rather straight forward. I will be using the Bowsmith pro with its attached paper holder. Slide the paper holder from its stowed position and lock into place. Then rotate the paper frame into its shooting position. Note: attempting to slide this in or out without the paper frame in its stowed position will cause binding. See figure 78.



Figure 79



Make sure your arrow is aimed at the back stop and shoot an arrow through the paper. As you can see in figure 81 we have a perfect bullet hole. If the bow is set up correctly you should get this on almost any new set up. If you have a rip or offset hole, follow the diagram on figure 82 to correct



Figure 80

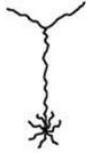


Figure 81

**Don't waste your time shooting bar-shafts threw paper!  
Without fletching the back of the shaft tends to follow  
the hole the point made.**



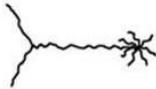
rip = nock high, point low  
 \*move nocking point down



rip = nock low, point high  
 \*move nocking point up



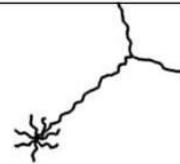
rip = nock left, point right  
 \*move rest to the right  
 \*yoke tune or timing problem  
 \*spine too weak



rip = nock right, point left  
 \*move rest to the left  
 \*yoke tune or timing problem  
 \*spine too stiff



IF YOU HAVE A COMBINATION OF THE ABOVE RIPS, CORRECT VERTICAL TEAR FIRST THEN MOVE TO THE HORIZONTAL CORRETION....



UNTIL YOU ACHEIVE.. PERFECT!!



Figure 82



## Chronograph

To use your chronograph, remove the paper holder and install the holder as shown in picture. The flat bar should be installed from the bottom

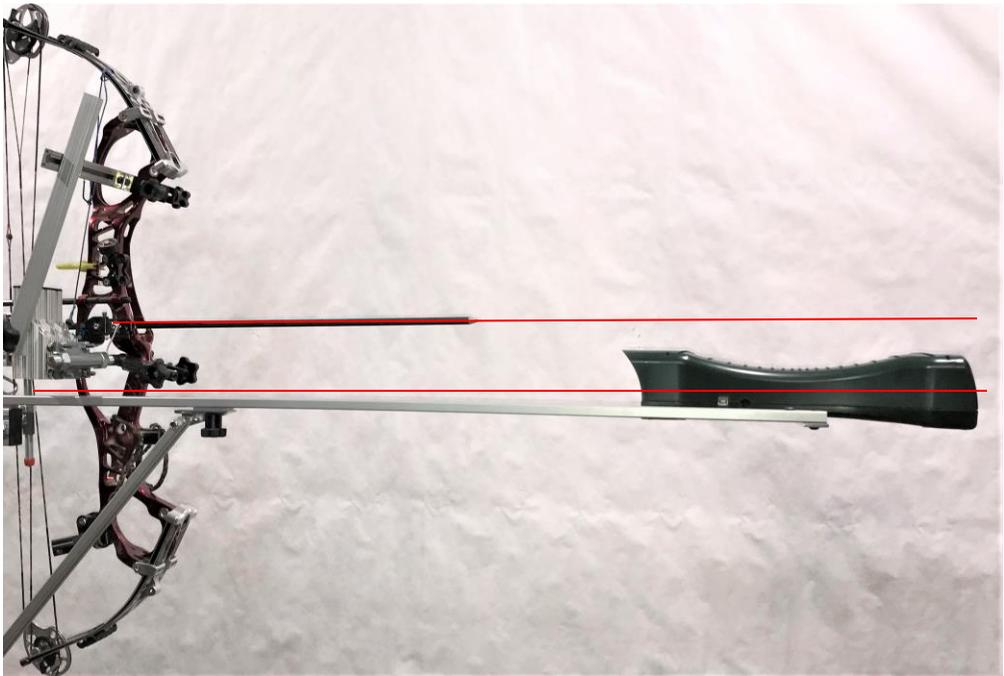


Make sure your arrow is above the chronograph.





Slide the holder all the way out and lock in place.  
DO NOT lift the chronograph as you tighten the knobs  
as this could raise it to a dangerous level. it should look  
like the picture.



Your machine should look like the bottom pic.





## Do not do this



**Do not adjust the back of your bow up as seen in picture above.**

**You will shoot your chronograph!**

Follow your chronographs directions and you should get excellent results.

I'm always interested in hearing from users who have found new ways to use our machine. Please drop me a line at

[coopsbowsmith@gmail.com](mailto:coopsbowsmith@gmail.com)

Good shooting, Coop

(815)-325 -9128



OWNER \_\_\_\_\_

MAKE AND MODEL \_\_\_\_\_

FACTORY SETTINGS

ACTUAL BEFORE TUNE

AXEL TO AXEL \_\_\_\_\_

BRACE HEIGHT \_\_\_\_\_

DRAW LENGTH \_\_\_\_\_

DRAW WEIGHT \_\_\_\_\_

LIMB BOLT SETTING \_\_\_\_\_

PEEP HEIGHT \_\_\_\_\_

SIGHT RADIUS \_\_\_\_\_

---

TUNED SETTINGS

AXEL TO AXEL \_\_\_\_\_

BRACE HEIGHT \_\_\_\_\_

DRAW LENGTH \_\_\_\_\_

D- LOOP \_\_\_\_\_

DRAW WEIGHT \_\_\_\_\_

LIMB BOLT -TOP \_\_\_\_\_

BOTTOM \_\_\_\_\_

PEEP HEIGHT \_\_\_\_\_

SIGHT RADIUS \_\_\_\_\_

TILLER + - BOLT TURN TOP \_\_\_\_\_

BOTTOM \_\_\_\_\_

ARROW Shaft \_\_\_\_\_

WEIGHT \_\_\_\_\_

SPEED/ CHRONOGRAPH \_\_\_\_\_



OWNER Vern Coop

MAKE AND MODEL 2014 Hoyt pro comp, gtx-2, 75%

FACTORY SETTINGS                      ACTUAL BEFORE TUNE

AXEL TO AXEL 36-15/16                      37-1/8

BRACE HEIGHT 7-15/16                      8

DRAW LENGTH -26.25                      25.75 D-loop- 26.25

DRAW WEIGHT 40-50                      47

LIMB BOLT /TILLER                      top 2.25    bottom 1.75

PEEP HEIGHT                      static 5-7/16 full-draw 4

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TUNED SETTINGS

AXEL TO AXEL 37

BRACE HEIGHT 8

DRAW LENGTH 25.75                      D- LOOP 26-1/8th

DRAW WEIGHT 47

LIMB BOLT -TOP 2                      BOTTOM 2

PEEP HEIGHT 5-7/16

SIGHT RADIUS 32.125

TILLER + - BOLT TURN    TOP 0                      BOTTOM 0

ARROW Shaft \_\_\_\_\_                      WEIGHT \_\_\_\_\_

SPEED/ CHRONOGRAPH \_\_\_\_\_

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Now with your bow shooting good from the machine it's time to shoot the bow. Concentrate on trying to use your best form. If you have good form your shots should duplicate that of the machine. And you should be shooting bullet holes. If you are getting major tears, contact a coach and have him check and help you to adjust your form.

For small imperfections, about the diameter of your shaft, no adjustment is needed as it is common for your form to move around a touch until you become as good as your favorite pro. I am a good shot and it is typical for me to have a slight left tear one day and a slight right a few days later. It's important that you know your bow is correct!

Remember we all have good and bad days. Don't start tweaking your bow because you're having a bad day.

