



40W Hobby Advanced Y axis Adjustment



Please refer to this document if you are experiencing trouble with the Y axis motion of your 5th generation Full Spectrum Hobby Laser. Symptoms may include: Unable to jog up and down for the full 12" range, hesitation or stuttering, losing steps or otherwise cutting incorrectly.

Step 1: Ensure the Y rails are square

Locate the Y axis rails and screws. There are 2 screws on the end of each rail (4 total)



Figure 1 - Y rails (photo taken from back)

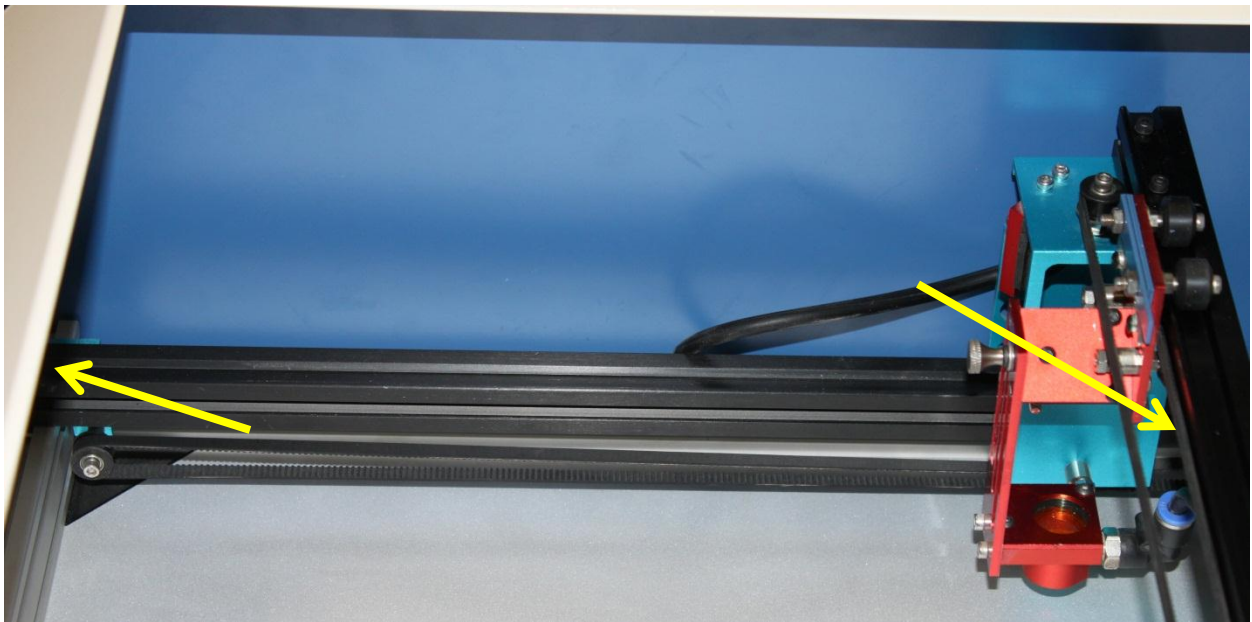


Figure 2 - Left Y rail (arrows point to the screws)

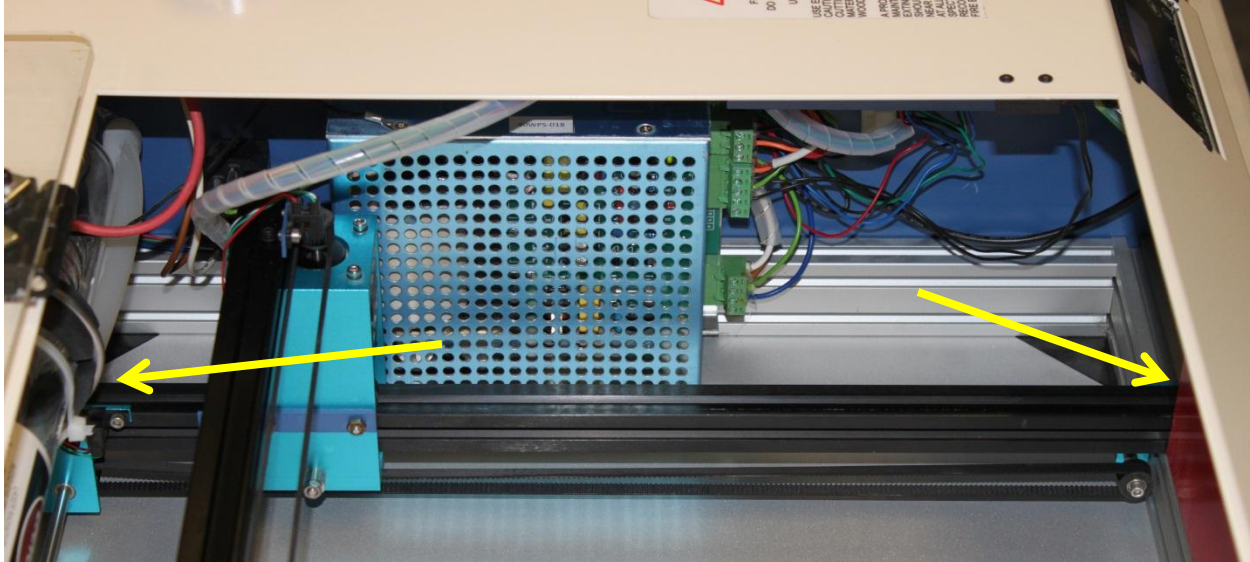


Figure 3 - Right side Y rail (arrows point to screws)

Loosen the four screws (2 per rail) using a 2.5mm hex key. During shipping the rails can shift, when loosening the four screws, one or both of the rails may move to a neutral position.

With the screws loose, slide the X bar (gantry) up and down for the entire range of motion. This will ensure the rails are square to the gantry.

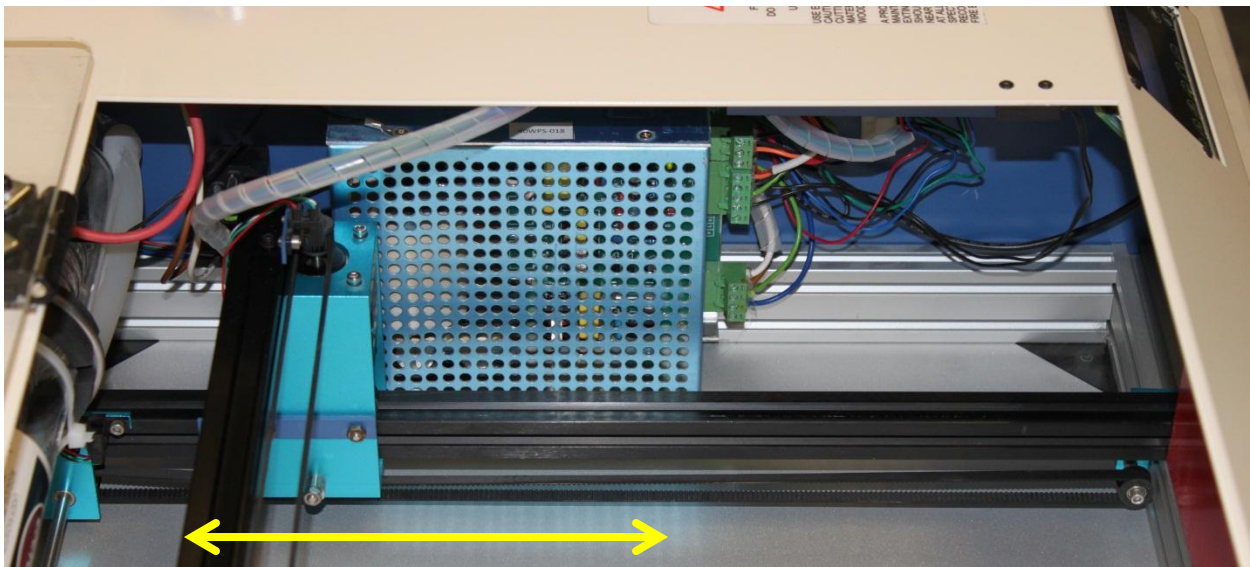
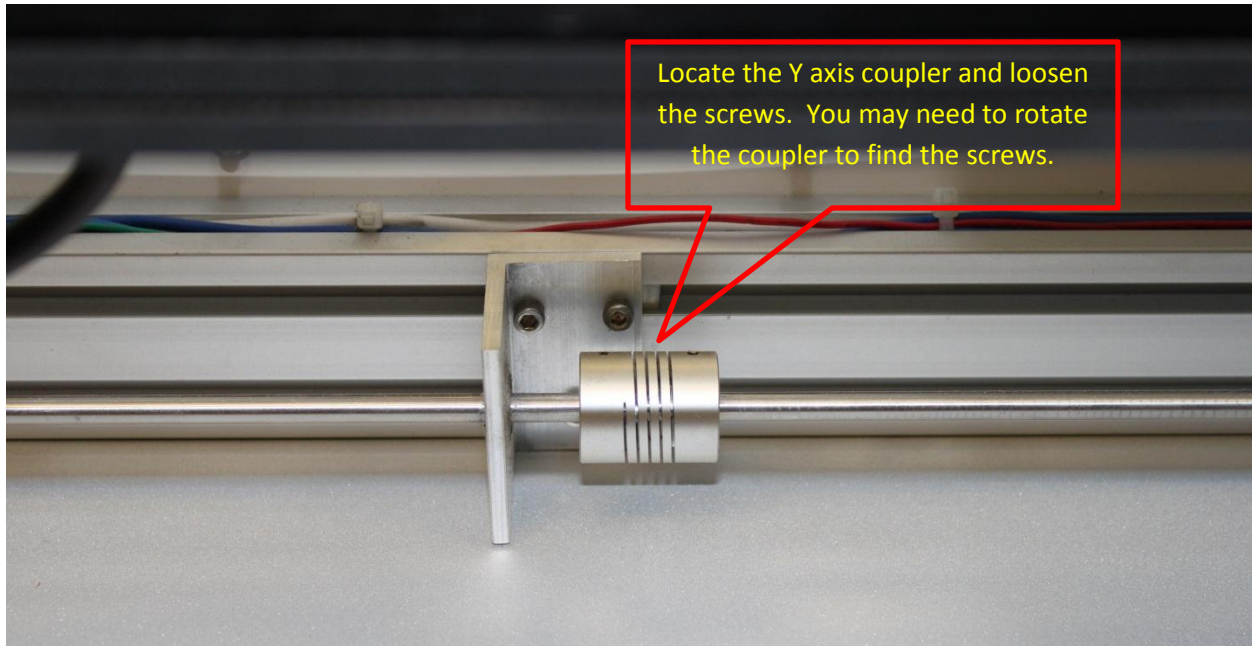


Figure 4- After loosening the screws, slide the x bar up and down all the way in the Y direction

After sliding the bar up and down, re-tighten the two screws on each Y rail. Take care here not to move the rails when tightening the screws.

Step 2- Loosen the Y axis coupler and ensure the gantry is square.



Locate the Y axis coupler and loosen the screws. You may need to rotate the coupler to find the screws.

Figure 5 - Y axis coupler (in the back area of the machine, under the laser tube)

Locate the y axis coupler and loosen the screws using a 2mm hex key. The coupler unites the left and right side of the Y axis. With the coupler loose, you are able to twist the X bar (gantry). With this in mind, position (twist) the X bar so that it is square with respect to the rails.

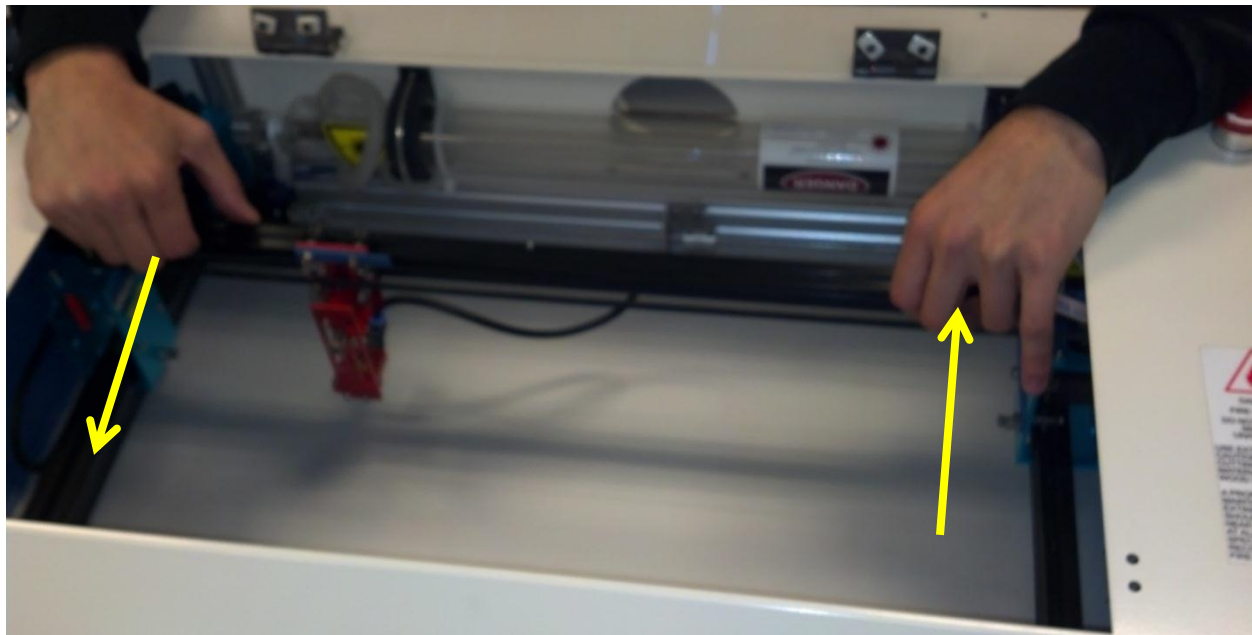


Figure 6- With the coupler loose, twist the ends of the gantry to ensure it is square to the rails

After squaring the gantry, re-tighten the coupler to lock the adjustment in place.

Step 3- Adjust the Y axis wheel tension and belts

If Steps 1 and 2 don't resolve the issue then you will need to verify that the Y axis wheels are properly adjusted. First ensure that both Y rails are clean and free of debris. A small amount of dirt in the track can cause the gantry to bind at that spot.

Slowly move the Y axis from the rear of the laser to the front. If you feel bumps or sticking points, the eccentric cams are over-tightened. Loosen the cams until the Y motion is smooth.

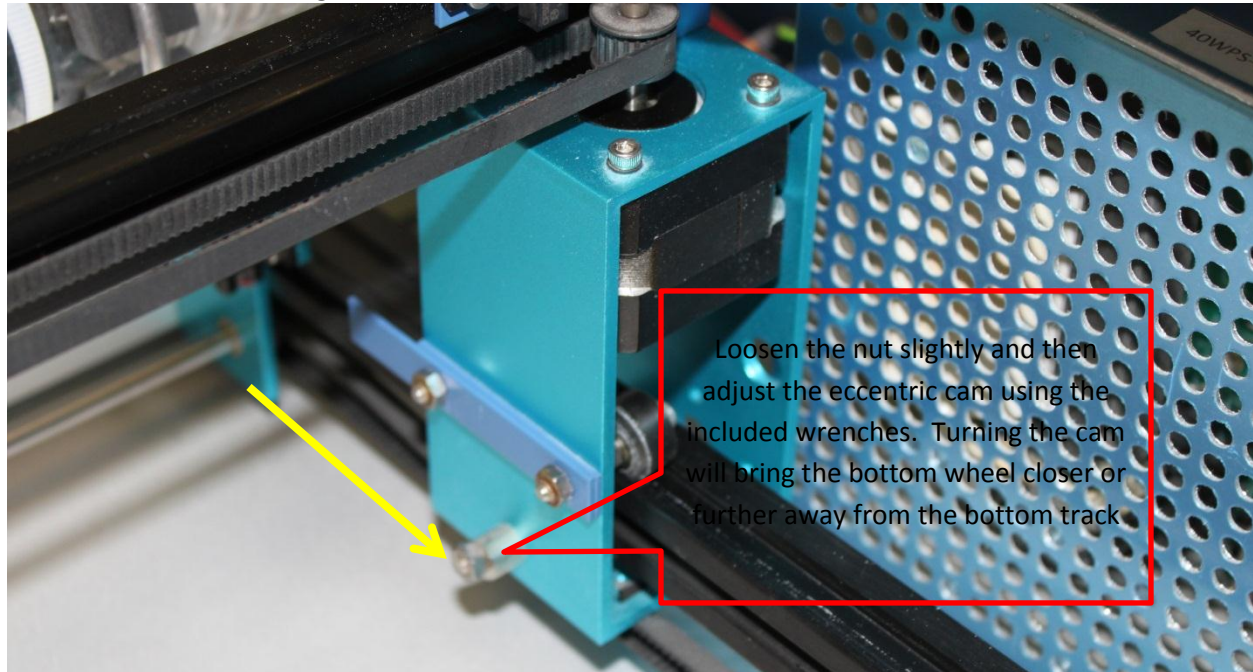


Figure 7- Right side riser and eccentric adjustment

The wheels of risers 2 (left slider) and 3 (right slider) should be contacting the Y rails in the following manner:

- Eccentric wheels should have good contact with bottom channel
- One of the upper, fixed wheels on each side should have good contact with the upper channel
- One of the upper, fixed wheels on each side will be free-wheeling or have low-contact with the upper channel