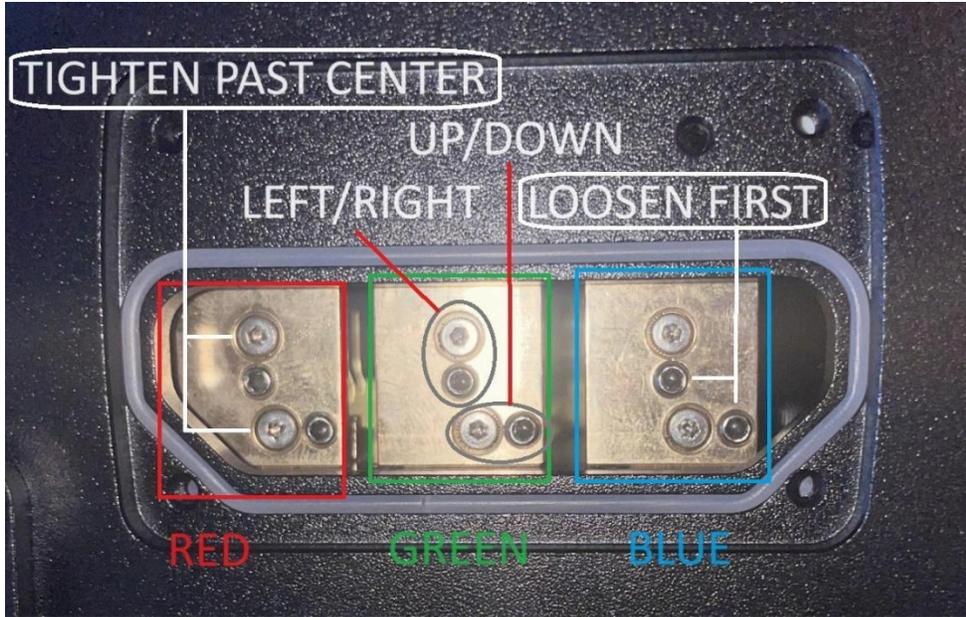


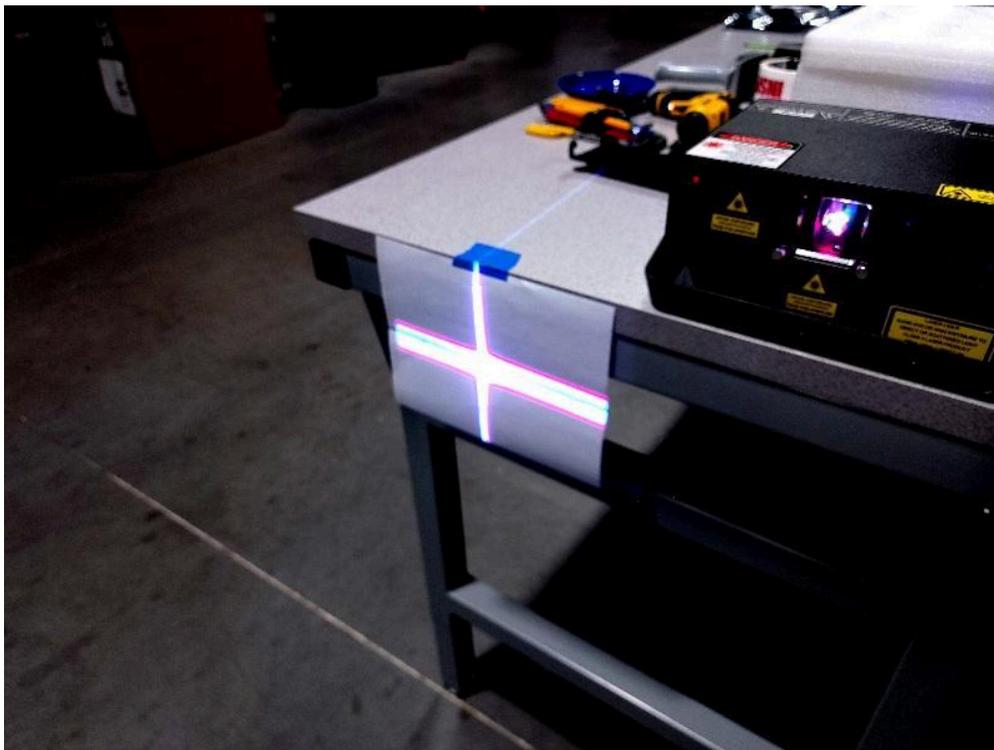
Remove access panel to see dichro mount adjustment points.





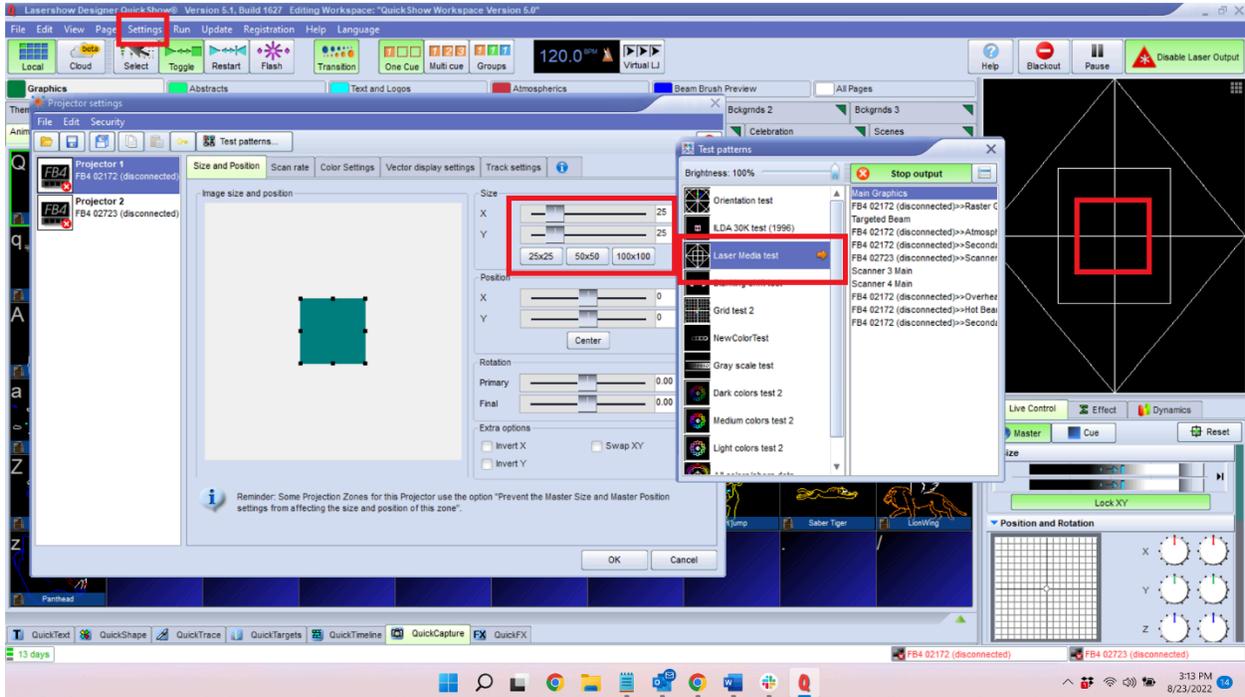
What we do in the shop is we set up a small piece of truss with a bounce attached to it so the test pattern can be reflected back towards a piece of paper mounted to a table near the laser projector, but off to the side, making sure to never bounce the image directly back into the output window of the laser projector; this can cause a back reflection failure to laser diodes, especially red diodes.



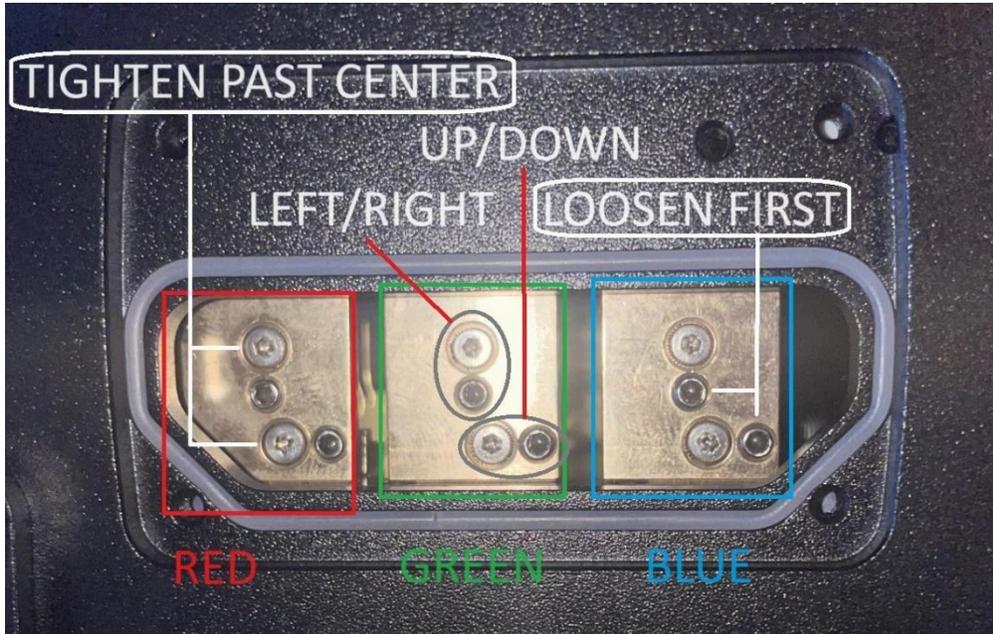


This makes seeing the pattern much easier and more comfortable than trying to see the pattern off in the distance. The larger throw distance the better and adding the bounce mirror doubles the distance the projected image is going which increased the beam size to make it easier to see for aligning.

Connect the laser to a hardware controller so a test pattern can be displayed when needed. I prefer to use the LaserMedia test pattern with the scan size set to 25% so the middle of the test pattern is used, the cross section, for aligning.



Each dichro mount has four adjustment bolts; two for the X axis and two for the Y axis that work in a push/pull system where both bolts are used to position the one axis; you can see how the bolts adjust the beam position in this picture.



One bolt (set screw) is loosened to allow the other to be tightened; these adjustments can be on the order of 1/10th of a turn of the bolt or less.

The blue diode is the first in the line (left most dichro mount) and usually will not need adjusting.

Step one of the actual alignment will be adjusting the green pattern onto the blue one. I suggest turning the red diode output all the way down while making this adjustment.

Step two will be adjusting the red onto the blue. I suggest turning the green diode output all the way down while making this adjustment.

With the green and red diodes adjusted to fit over the blue, all three should end up aligned.

Due to the physical characteristics of laser diodes, the red diode's width or height may be a little bigger than the blue and greens.