iWeld® Benchtop 993 Series
Quick Setup Guide

LaserStar Technologies Corporation

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IWELD® BENCHTOP 993 SERIES QUICK SETUP GUIDE INSTRUCTIONS

ITEMS NEEDED: Cross Head Screwdriver or Power Drill with Cross Head Drill Bit, 6mm Allen Bit & 7/16" Socket Bit, 5mm & 6mm Allen Wrench, Scissors or Snips, Box Cutter or Knife, Step Ladder, Ramp

INSPECTION

1. Before opening the shipping container, be sure to inspect the outside of the crate for apparent damage that may have occurred in transit. If you discover damage, immediately contact LaserStar's Service Department.

2. Identify the TIP-N-TELL indicator (located on the outside of the shipping crate). Check to see whether blue beads are present in the top portion of the arrow on the TIP-N-TELL. If you notice blue beads in this area, immediately contact LaserStar's Service Department.

No blue beads present:
(no tipping of crate)

Blue beads present:
(crate has been tipped)

3. Identify the SHOCKWATCH warning sticker (located on the outside of the shipping crate). Check to see whether the tube in the center of the SHOCKWATCH warning is red. If you find the center of this tube is red, immediately contact LaserStar's Service Department.

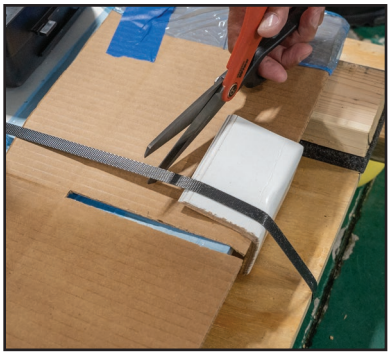
Tube is not red:
(no shock warning)

Tube is red:
(shock warning)

UNPACKING THE LASER

4. Remove the screws from the bottom of the skid. **(Note: A power drill with a cross head drill bit is required.)** With scissors, snips, or a knife, cut the tape on the outside of the shipping container. Remove the padding on top, and then remove the box from the palette.


5. Remove the accessories from the platform before attempting to move the laser..

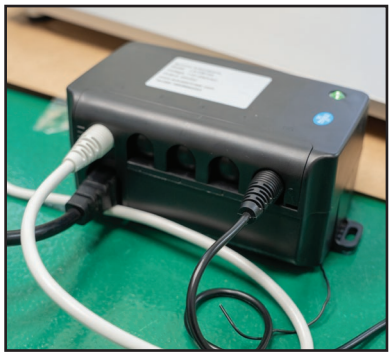



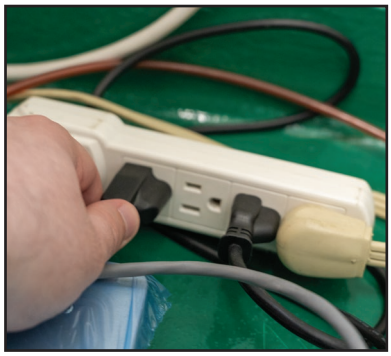

6. With at least three people, lift the laser off of the skid base and onto the desired surface. If with the laser stand, lift the entire ensemble and place at the desired location.


INSTALLING THE STAND (IF PURCHASED WITH STAND)

If you purchased the laser with the adjustable floor stand, all that needs to be done is to place the assembled product in the desired location and plug it in.

8. After placing the stand in the desired location, take the black wire from the power bank and plug it to the desired wall outlet. The light should turn green.





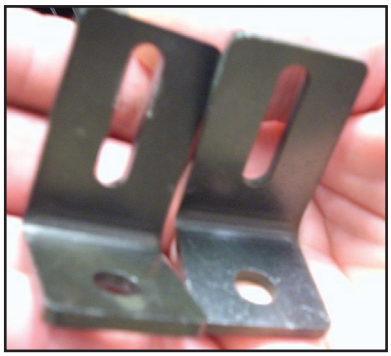
(Note: If the wires need to be replaced or rearranged, pull the plastic cover off first.

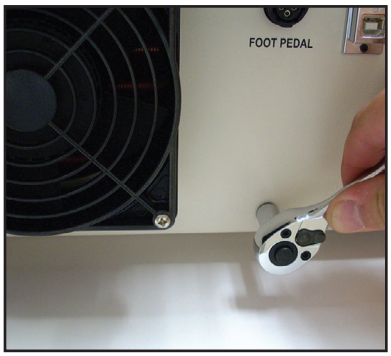
7. Once plugged in, press up or down on the pendant to move the stand up or down.

INSTALLING ANCHOR BRACKETS (LASER ONLY)

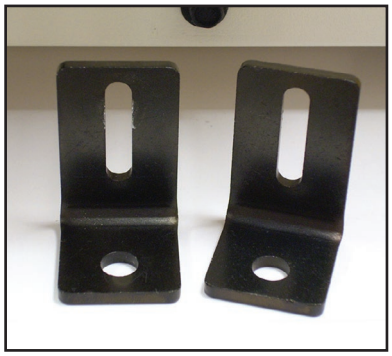
If you purchased the standalone laser, brackets are supplied for applications that require the welder to be secured to a tabletop for increased stability. The instructions that follow show the method for securely mounting the iWeld to a table surface.

9. Locate the two (2) anchor brackets within the accessory kit (provided). Using a socket wrench with an 8mm socket, remove the two (2) bolts from the bottom rear of the laser. **(Note: A 5/16" socket will work, as well.)**

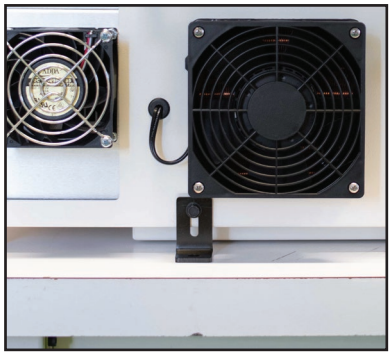




10. With the slotted side of the bracket facing toward the laser welder, thread the bolt into the hole, and use the socket wrench to secure the brackets to the rear of the laser.



11. Securely fasten the brackets to the tabletop using the appropriate anchor bolts or screws.



POWER REQUIREMENTS 120V

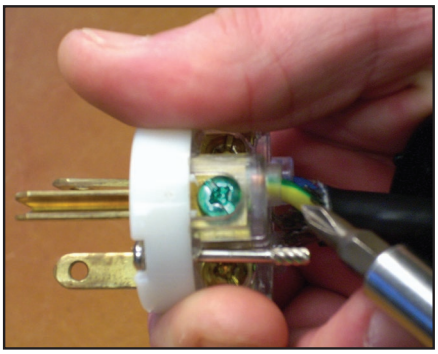
12. Set a traditional voltage meter to 200VAC and check the wall outlet. An acceptable voltage range is from 108VAC to 132VAC, ~50/60Hz, single-phase unless an alternate agreement was made when the machine was ordered. **(Note: Make sure you are running a dedicated line.)**

POWER REQUIREMENTS 220V

13. Set a traditional voltage meter to 500VAC or 1000VAC and check the wall outlet. An acceptable voltage range is from 208VAC to 240VAC, ~50/60Hz, single-phase unless an alternate agreement was made when the machine was ordered. **(Note: Make sure you are running a dedicated line.)**

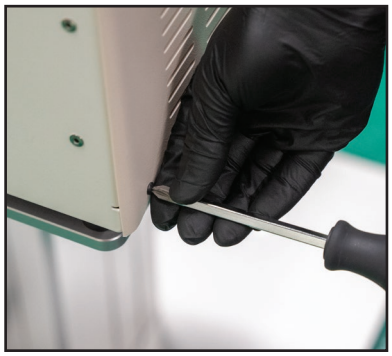
CHECK THE PLUG AND OUTLET

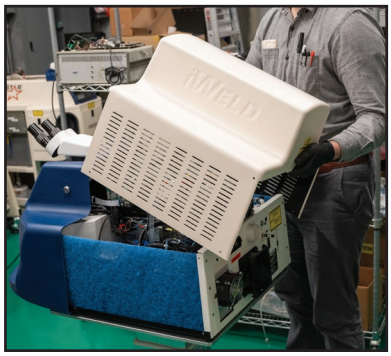
14. The 220V units will come with a pigtail power cord. For all other models, when selecting and purchasing your plug, be sure to choose a male plug that is the same configuration as your female wall outlet. Attach the male plug to the power cord using the appropriate screwdriver. **(Note: Make sure to connect the green grounding wire to the green terminal of the plug.)**



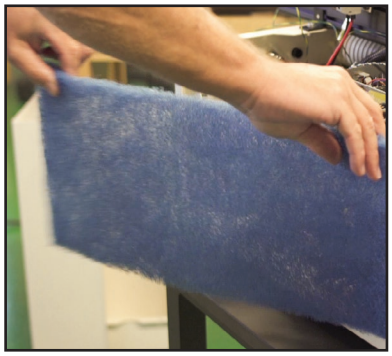
ADDING DISTILLED WATER

15. Verify that both the Mains Power Switch and Key Switch are "OFF." Remove the cover from the machine by unscrewing the cross-head screws positioned along the sides and back of the panel. **(Note: A manual screwdriver works best.)** Move the cover away from the system and set the cover aside.

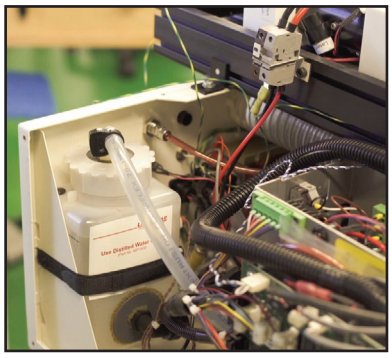
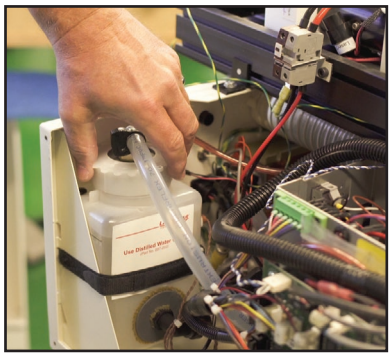
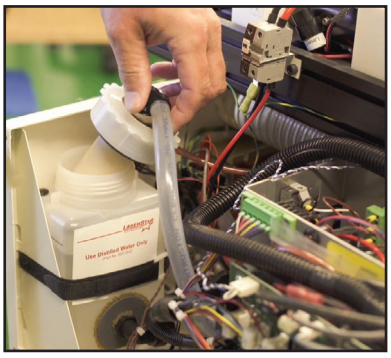
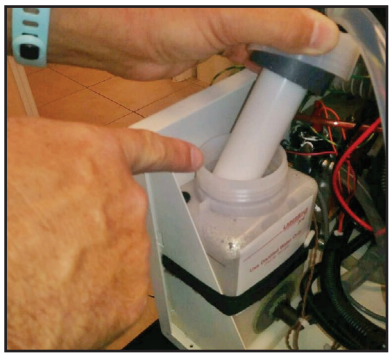




16. Remove the blue filters from the sides and set aside. They will be placed back later.

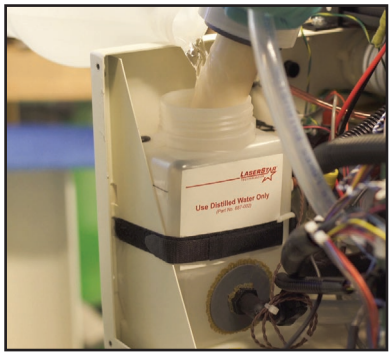
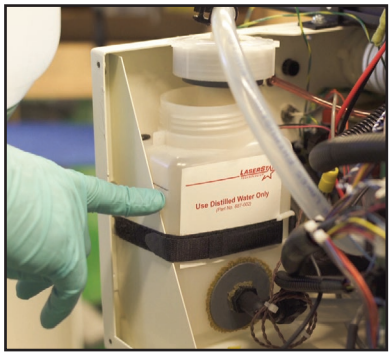


17. Locate the distilled water tank (rear of the iWeld) and open the container by unscrewing the cover. Pull the cover and attached filter upward carefully; remove and set aside. **(Warning: Make sure that your bare skin or fingers do not touch the water filter.)**

***Only use DISTILLED water for the water cooling. Please check the water jug and the water tank to make sure that they match.**

18. Using a clean funnel, siphon hose or by carefully pouring directly, fill the distilled water tank with the distilled water (provided) to the minimum fill line (max – filter out) marked on the side of the tank. **(Warning: Make sure the water does not come into contact with the electrical components.)**

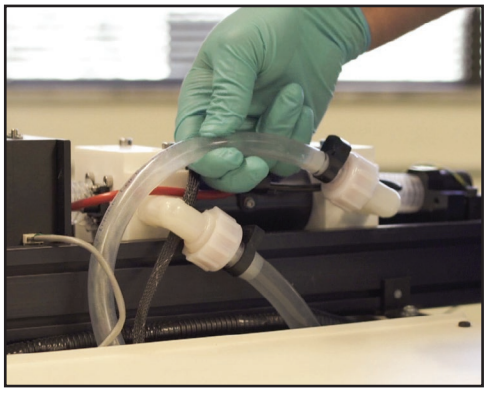



19. Replace the cover and filter for the distilled water tank.

PRIMING THE PUMP

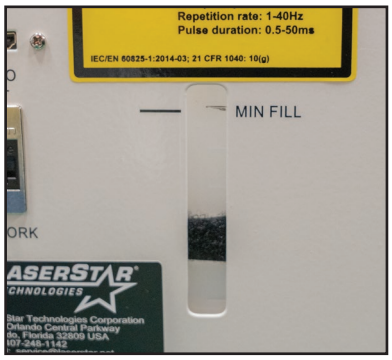
20. Select the power cable from the accessory kit and plug it into the outlet marked "AC LINE IN" (verify the AC voltage; outlet is located on the rear of the machine). Plug the other end of the power cable into a wall outlet. Next, recheck that the water level in the distilled water tank reaches the appropriate site line (max–filter out). Turn "ON" the Mains Power (the ON/OFF Switch immediately to the right of the power port).

21. Locate the pump chamber (black and white) on the top of the iWeld; there are two (2) water lines on the side of this chamber. With your finger and thumb, momentarily pinch the water line sitting closest to the rear of the machine (you will most likely notice a bubble pass through). Continue with this process until there are no bubbles remaining.



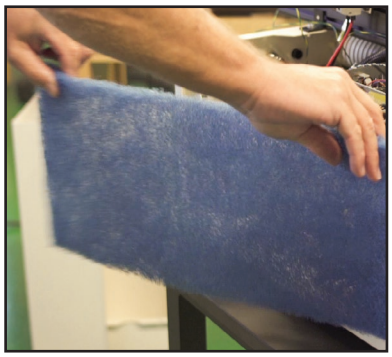
TOPPING OFF THE TANK

22. Turn the Mains Power Switch "OFF." The water level will have most likely dropped below the minimum fill line. Fill the distilled water tank once more above the "MIN FILL" line (located on the rear of the machine; behind the water tank). **(Warning: Do not use the machine if the distilled water is below the minimum (filter in) site line.)**



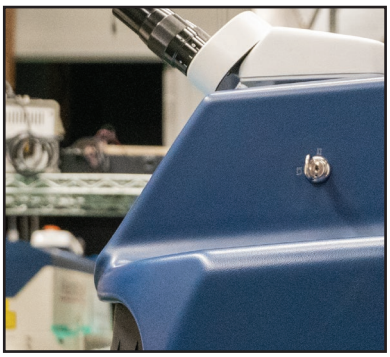
23. Turn the **Mains Power** Switch "ON" and allow the laser to run for about 5 minutes (or until there are no more bubbles cycling through the water lines). Check the water level in the distilled water tank and fill with additional water, as needed.

24. Retrieve and reinsert the blue filters into the machine. Next, retrieve and reinsert the cover for the iWeld.



FINAL CONNECTIONS & POWER UP

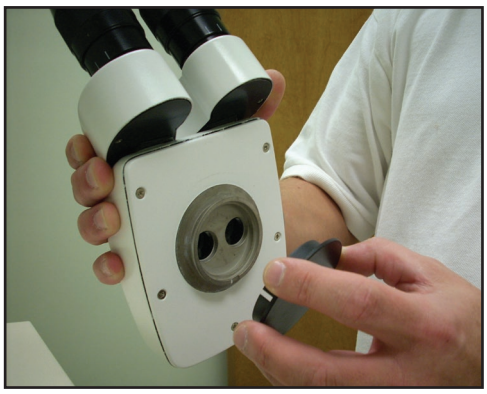
25. Remove the keys and remote interlock from the bag in the accessory kit. Place a key in the key switch.



26. Retrieve the foot switch from the accessory kit. Plug the cable into the outlet marked "Foot Pedal" (located on the rear of the laser) and turn the threaded fastener to tighten. Place the pedal on the floor.

MOUNTING THE MICROSCOPE

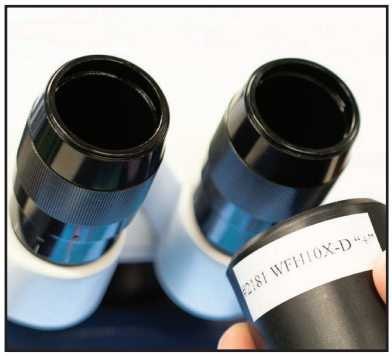
27. Remove the scope from its box and take off the plastic cap that protects the flange.

28. Place the flange into the mounting ring at the top front of the laser. Select the 2mm Allen wrench (provided). Holding the scope facing forward, tighten the two (2) mounting screws (located on the mounting ring at 5 and 7 o'clock). When the scope is securely mounted, remove the rubber tube protectors.



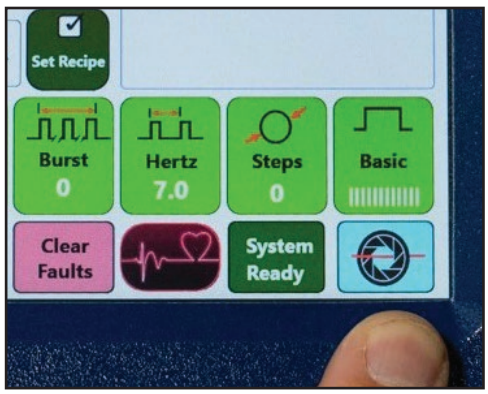
29. Remove the oculars from the box and place one in each eye tube. **(Note: One ocular is marked with a "+"; place this ocular into the tube of the operator's dominant eye, usually the right eye.)**



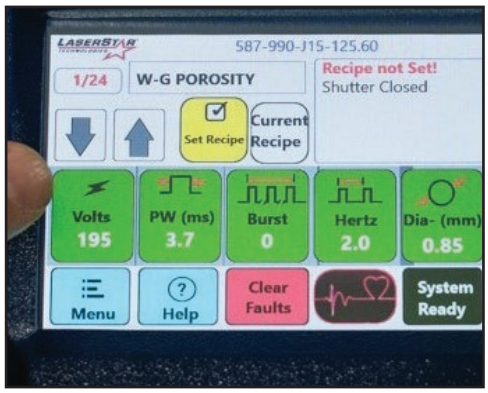

30. If the operator does not wear eyeglasses, you may insert the rubber eye cups on the ends of each ocular.

CROSS-HAIR ALIGNMENT

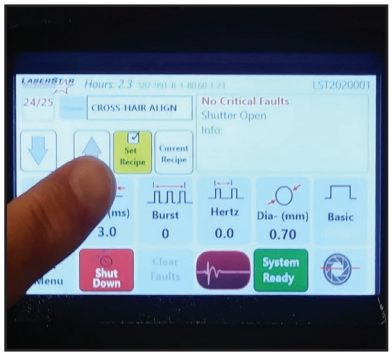
31. Depress the **Safety Shutter Open button** (located in the bottom right-hand corner of the touch screen).

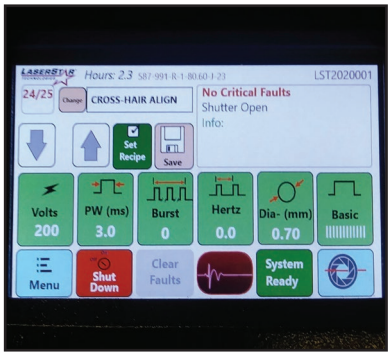


32. Depress the **Arrow buttons** on the touch screen and select memory cell #24/24 CROSS-HAIR ALIGN by using the **Up** or **Down Arrow buttons**.

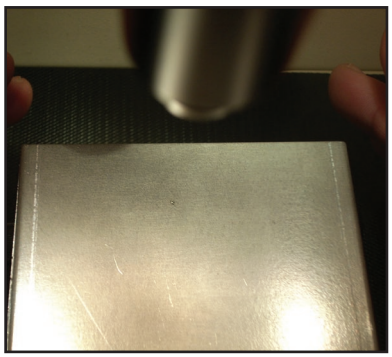


33. Depress the **Set Recipe** button (yellow button; located in the center of the touch screen). The parameter buttons will all turn green.





34. Place a piece of scrap metal under the laser and then depress the foot pedal to the floor; this will release one laser pulse that will appear on the scrap metal.



35. Look through the microscope to reference the pulse spot position and compare with the location of the cross-hair center target. **(Figure A)** When properly aligned, these will overlap. **(Figure B)** For alignment and movement instructions, be sure to reference the **Optical Alignment Diagram** (next page).

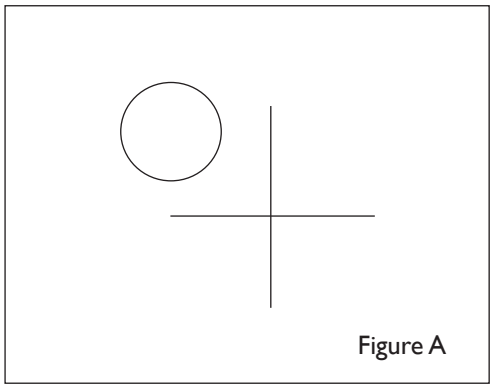


Figure A

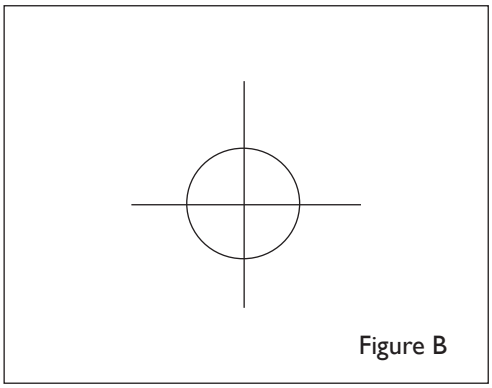


Figure B

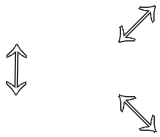
36. Referencing the optical alignment bracket diagram for the microscope, use a 2mm Allen wrench (provided) to move the cross-hair center target directly above the laser pulse position. The three (3) alignment screws on the mounting ring are located at 3, 6, and 9 o'clock.

Movement directions are as follows:

3 o'clock screw: moves cross hair (North-East to South-West)

6 o'clock screw: moves cross hair (North to South)

9 o'clock screw: moves cross hair (North-West to South-East)



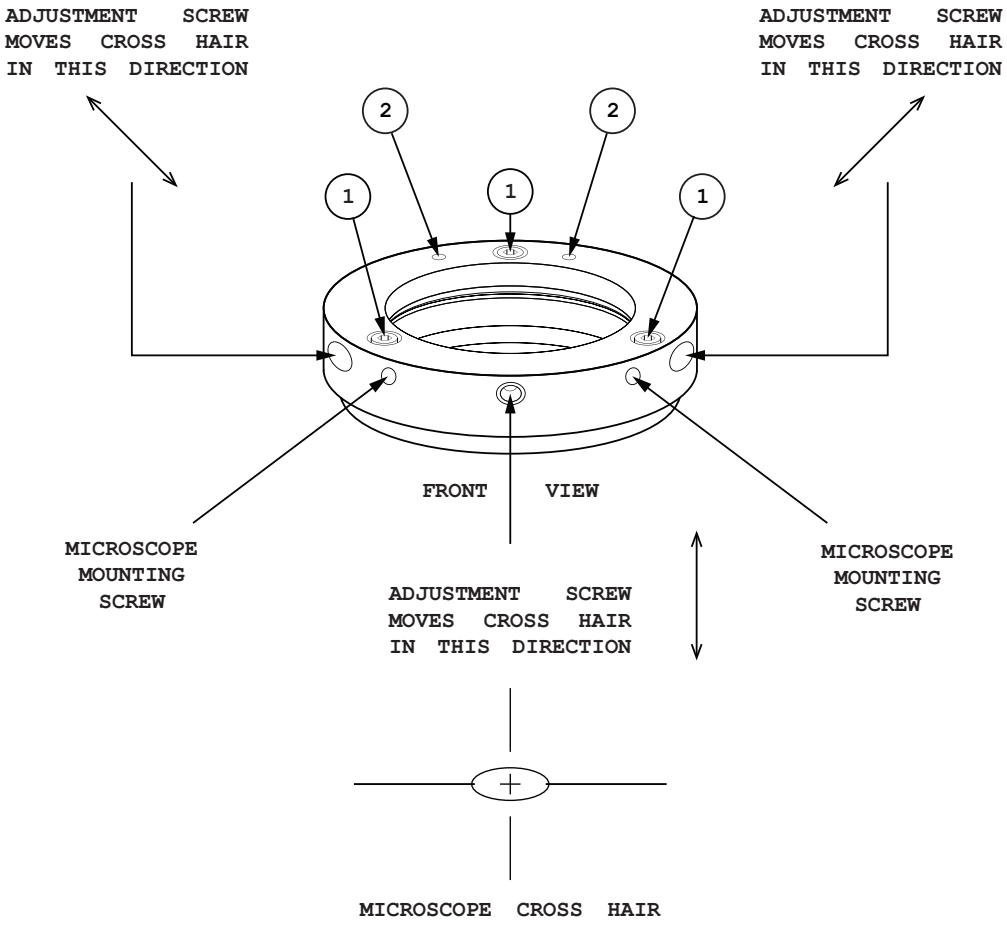
Optical Alignment Diagram

NOTES:

DO NOT REMOVE OR LOOSEN SCREWS LABELED. (1)

TO REMOVE MOUNTING BRACKET, LOOSEN CAPTURED SCREWS IN HOLES LABELED. (2)

(SCREWS WILL LOOSEN, BUT WILL NOT COME OUT).



37. Once the cross-hair center target is correctly positioned in the center of the laser pulse, refire the laser to ensure the accuracy of all adjustments. (Figure B)

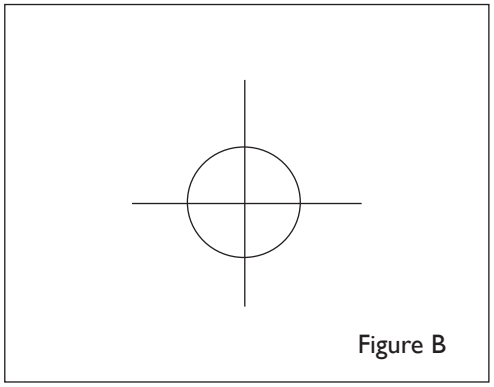


Figure B

Congratulations, you are now ready to begin using your laser welding system! Please proceed to LaserStar Academy to begin your online training.

Notes

Notes

Notes

LaserStar Academy

Teaching You To Harness The Power Of Hot Light

LaserStar Academy is designed to be our clients' "First Reference" for software and systems training; user guides and operation manuals; maintenance videos & service guides; and FAQ resources. Our goal is to provide clients with a solid foundation of fundamental laser welding and engraving skill sets while providing a real time online resource for LaserStar's worldwide customer base.

www.laserstaracademy.com

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