LEARNING CENTER

LaserStar® Workstation 7802 Series
Quick Setup Guide

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LASERSTAR® WORKSTATION 7802 SERIES
QUICK SETUP GUIDE INSTRUCTIONS

ITEMS NEEDED: Cross Head Screwdriver and 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)

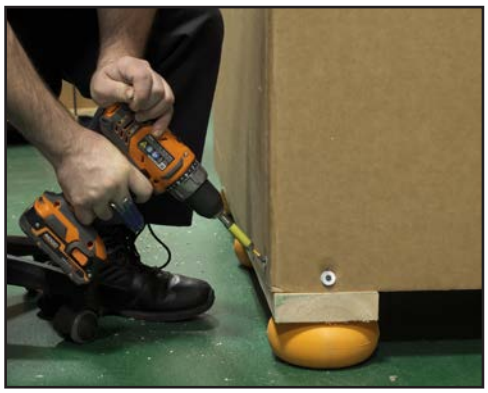
Tube is red:
(shock warning)

UNPACKING THE LASER

4. With scissors, snips, or a knife, cut the tape on the outside of the shipping container.
(Note: Make shallow cuts. Be careful not to cut or damage the laser system.)

5. Open the crate. Remove the smaller loose components from the box.

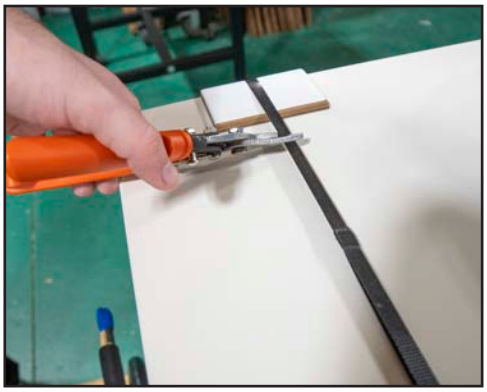
6. Remove the screws from the bottom of the skid.
(Note: A power drill with a Phillips head drill bit is required.)



7. With at least two people, lift the container off of the skid base.

8. With scissors or similar sharp utensils, gently cut any shrink wrap that is affixed to the plastic cover; remove the cover from the laser system. **(Note: Be sure to save the plastic cover to protect the equipment from dust when it is not in use.)** Gently remove any remaining shrink wrap. **(Note: Be careful not to cut or damage the laser system.)**

9. Cut the banding straps wrapping around the laser engine (under the styrofoam and laser head). **(Note: Be careful not to cut or damage the laser system.)**



10. Cut open the box resting on top of the laser engine. This is the laser head. **(Note: Be careful not to cut or damage the laser system.)**

11. Remove the metal clamps holding the large cables in place.

12. Place a ramp besides the skid. With at least 4 people, lift the laser engine off the center platform, onto the ramp, and off the skid. Wheel the laser to the desired location. **(Note: When the table is ready, lift the laser head onto the laser rail.)**

UNPACKING THE TABLE

13. With scissors, snips, or a knife, cut the banding straps on the outside of the shipping container.
(Note: Be careful not to cut or damage the laser system.)

14. Remove the screws from the bottom of the skid.
(Note: A power drill with a Phillips head drill bit is helpful.)

15. Cut and remove the strapping tape securing the top of the tri-wall corrugated cover.
(Note: Be careful not to cut or damage the laser system.)

16. With at least four people, lift the container off of the skid base.

17. With scissors or a knife, gently cut any shrink wrap that is affixed to the plastic cover; remove the cover from the laser system. **(Note: Be sure to save the plastic cover to protect the equipment from dust when it's not in use.)** Gently remove any remaining shrink wrap. **(Note: Be careful not to cut or damage the laser system.)**

18. There are four (4) 2x4 braces that secure the laser to the skid base with hex bolts. Use a 5/16th socket to remove these. **(Note: A power drill is recommended.)**

19. Remove any boxes located beside or under the laser system. Place a ramp besides the skid. Unlock the wheels by turning the red dial at the wheel. With at least two people, you can now move the laser off the skid base, gently rolling the laser off the skid and down the ramp. Wheel the laser to the desired location and reset the breaks. Cut the strap holding the laser arm down on the styrofoam.



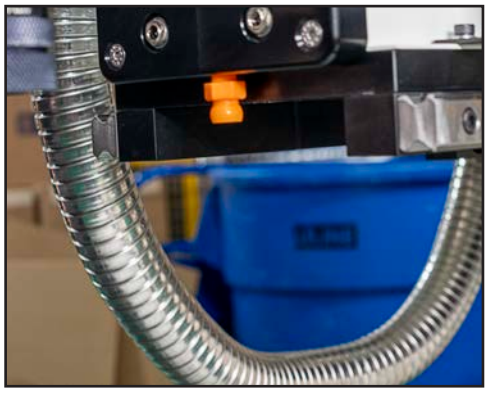
MOUNTING THE LASER HEAD

20. With at least two people, lift the laser head off of the engine and place it on the laser rail. **(Note: Make sure the Laser Rail is level, make sure to not kink the large cable, and make sure to orient the laser head correctly. The black metal base should be pointing down.)**


21. Screw in the socket head screws with an Allen wrench from the holes below.


INSTALLING THE FLEXIBLE GAS LINE

22. Take the flexible blue gas line and firmly press it against the orange bit behind the laser's lens.



POWER REQUIREMENTS 120V

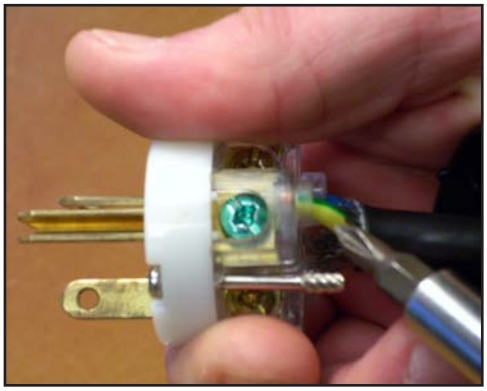
23. Set a traditional voltage meter to 200VAC and check the wall outlet. An acceptable voltage range is from 108VAC to 132VAC, ~50/60Hz, single-phase unless an alternate agreement was made when the machine was ordered. **(Note: Make sure you are running a dedicated line.)**

POWER REQUIREMENTS 220V

24. 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

25. The 220V units will come with a pigtail power cord. 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.)**



FILLING WITH WATER

26. Prepare to fill the water tank* by selecting the one-gallon water jug and clear siphon hose (provided). Locate the water tank inside the laser housing and remove the red plug; this will expose a fill hole.

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

27. Remove the cap from the water jug and place one end of the siphon hose inside. **(Note: Make sure the hose reaches the bottom of the jug.)** Place the other end of the siphon hose into the fill hole on the water tank. Rest the water jug on your knee, ensuring that it sits above the water tank to allow gravity to assist in the water flow. **Different model displayed, but the process is the same.**



28. While blowing into the jug, place one hand around the top to create an airtight seal. The water will begin to travel through the siphon hose and into the water tank. Make sure the water jug remains above the water tank to allow gravity to assist in the water flow.



29. When the water tank fills to the upper black site line (approximately 1 gallon), stop the water flow, and remove the siphon hose. Reinstall the red plug to seal the fill hole on the water tank. **Different model displayed, but the process is the same.**

30. Select the power cable from the accessory kit (provided) and plug it into the outlet on the rear of the laser system and engine, it will be marked with the appropriate input voltage. Plug the other end of the power cables into a wall outlet and turn on the Mains Power (red and yellow switch; right-hand side of the laser). The pump in the engine will imminently begin to circulate the water throughout the system.

31. Once coolant begins to flow, the water level will lower. Add more water (approximately 1 more gallon) into the jug up to the fill line.

Make sure the water stays above the fill trigger, otherwise the laser will **not properly run.**

NOTE: Do not let the water level fall under the outlet. The laser system will get damaged.

FINAL CONNECTIONS & POWER UP

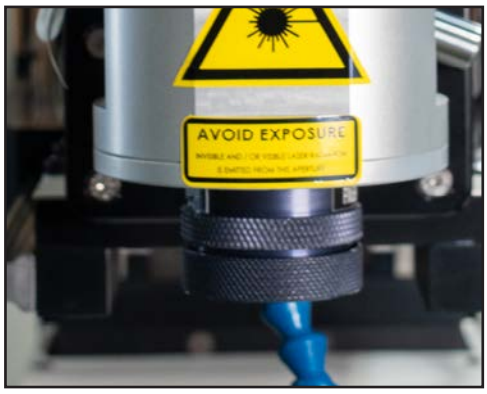
32. Remove the keys and remote interlock from the bag in the accessory kit. Place a key in the key switch.

33. Retrieve the foot switch from the accessory kit. Plug the cable attached to the foot switch into the outlet marked "Foot Pedal" (located on the rear of the table). There is a second cable that connects to the Laser Power on the table. This cable connects to the "Foot Pedal" outlet on the back of the laser box. Place the pedal on the floor.

34. Connect the Operating Interface Terminal (OIT) to the back of the laser engine. The place the OIT onto the metal platform besides the laser head.

INSTALLING THE LIGHTS

If the laser is equipped with a ring lamp, the lamp has been previously installed, and you can proceed with powering up the machine by turning on the key switch; the ring lamp will then power up.



(Note: If the lamp does not power up, turn the black knob at the front of the laser clockwise until it turns on.)

MOUNTING THE MICROSCOPE

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

36. 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.

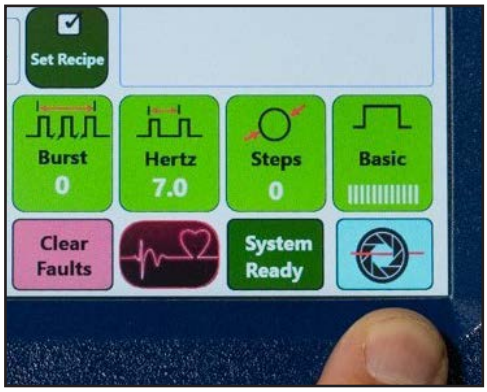


37. Remove the oculars from the box and place one in each eye tube. **(Note: One ocular is marked with a "+"; place this ocular into the tube of the operator's dominant eye, usually the right eye.)**


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


CROSS-HAIR ALIGNMENT

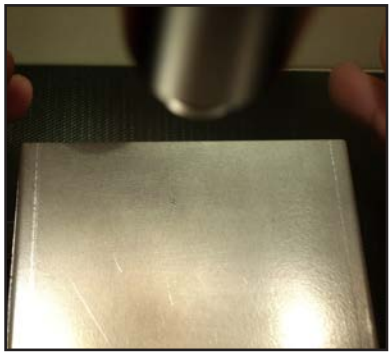
39. Depress the **Safety Shutter Open button** (located in the bottom right-hand corner of the touch screen).



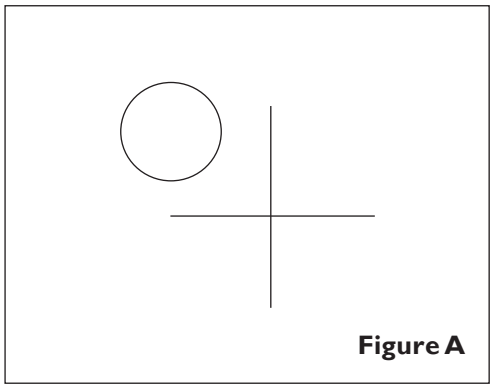
40. Depress the **Arrow buttons** on the touch screen and select memory cell #24/24 CROSS-HAIR ALIGN by using the **Up** or **Down Arrow buttons**.

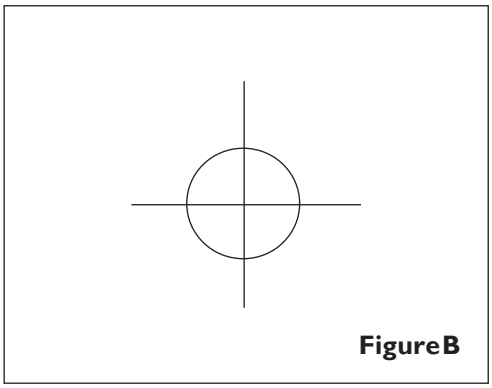
41. Depress the **Set Recipe** button (yellow button; located in the center of the touch screen). The parameter buttons will all turn green.

42. 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.



43. 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).





44. 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.

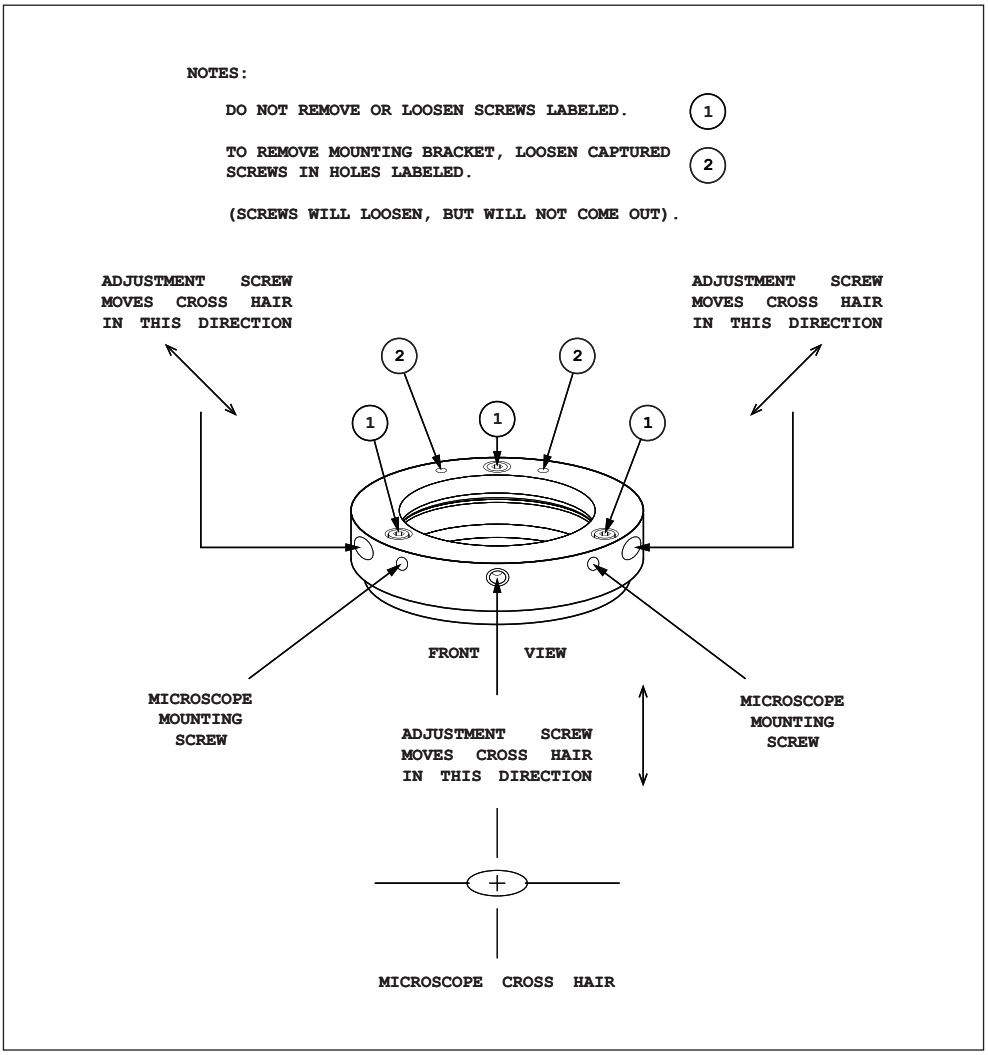
Movement directions are as follows:

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



45. 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)

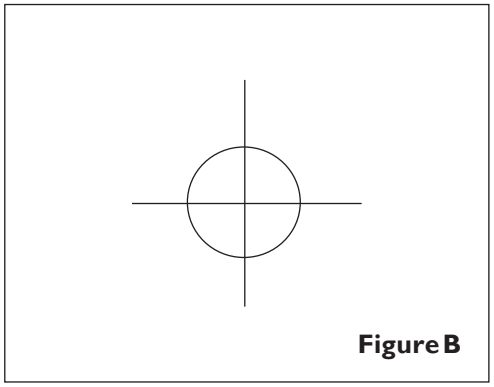


Figure B

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

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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