

## Jamieson Laser System

See the Jamieson DVD for detailed set up and use for both the boring bar system and the laser measuring system.

### General Setup

---

1. Set up tool supports so that the boring bar and cutter tip are parallel to the lathe bed.
2. Grind flat spots on all places where set screws contact the boring bar system. (Not needed for laser set screws.)
3. Set up the laser arms and lock down with 1/8" allen wrench so that laser light is vertical over the cutting tip. All adjustments to achieve perpendicularity will be done by moving the black plastic laser holder on the horizontal aluminum tubing. (Never remove the vertical post from its black plastic holding bracket.)
4. Clean/sand off all paint on the sliding surfaces of the back rest. Use paraffin/candle (not beeswax) on the bar, handle and back rest for effortless movement of the tool system for finger tip control.
5. Set back rest height at the center line of the lathe.
6. Set the front tool rest so the cutting tip is cutting on the center line.
7. Keep safety pin installed at all times while hollowing.
8. Vibration is the enemy!! Don't exceed depth limits, take small cuts. Many small cuts can be done faster and easier than a large vibrating cut.
9. Please do not ever remove the vertical tubing from the plastic holder. This is a vibration point that needs to be stabilized and never removed. Never tighten the bolt and nut on the plastic support that holds the vertical tubing. The tubing is glued in and tightening will bend the tubing and crack the plastic. If you want to remove the laser system from the boring bar, remove the bolts that hold the plastic unit on the handle. To remove the horizontal tubing use the set screw on the "T" and leave the vertical post in the plastic holder.

### Setting up the laser

---

To set up the laser, position the laser above the cutting tip so that the beam will shine down vertically near the boring bar cutting tip. Lock down all supporting hardware so that all you have to move for an adjustment is the bracket holding the laser. Now all future adjustments can be made easily by moving or swiveling the laser holding bracket at the end of the tubing that supports it.

### Preparing for measurements

---

To prepare for measuring with the laser system the first step is to set the boring bar at the angle necessary to get through the small entry hole and put the cutting tip in a position to cut. Note the angle of the boring bar assembly. Pull the boring bar out of the vessel and support the boring bar on the front and back stabilizing tool rests at the same angle that is needed to cut. If you set the laser at one boring bar position and go into the vessel and cut with the boring bar swung around at a different angle you will get a

false measurement. With the boring bar supported on both tool rests you can now position the laser to measure perpendicularly, or at 90 degrees, through the wall. I use the back of one of my business cards as a set up aid. I use the lines on the card as an aid to show me where to adjust the laser light. The line drawn near the edge on the business card is my wall thickness and the narrow line indicates the direction that would measure perpendicular through the wall. The star is the laser position. Now place the card along the outside of the hollow form where you will need to hollow and at the angle needed to measure perpendicularly. Move the card from the work, keeping it at the same angle, and place it next to the cutting tip. Move the laser holding bracket to shine the laser light dot on the star on the card. The cutting tip is inside the vessel, the distance between the two is the desired wall thickness. You are ready to hollow.

### Watch the perpendicular

---

As with any of the other measuring methods the measurement must be close to perpendicular to the side of the vessel. The position of the laser in relation to the cutting edge must be kept perpendicular. The laser needs to be moved periodically depending on the shape of the vessel. The setting of the laser with the business card helper only takes a few seconds with one hand on the laser-holding bracket and one on the business card. Now measuring is easier, a lot faster and accurate, plus a lot more fun. Maybe it's not fair for those using the laser, since they can do hollow forms in half the time. Does that mean they make twice as much money and have twice as much fun?

Let's explore even more exciting uses for the laser. There is the inside bottom of the vessel to deal with, which is hidden, in the waste wood of the faceplate or chuck. You can reset the laser to do bottoms so the gap between the laser and the cutting tip is zero. Now with the cutting tip down in the middle of the bottom of the vessel you see exactly where the side depth is. Draw a line on the waste block at the edge of the laser. That's the bottom! No more attempting to measure the inside depth and extrapolate it somehow to the outside. Is that cool or what! No more cutting a hole in the bottom when you finish the foot of the form. Hang on, it gets even better! With the laser still set with zero gap you can watch the light as you cut the bottom contour inside the waste block area. As you make a cut inside the vessel the light will flow from the previously measured center of the bottom to the previously measured side wall thickness where the waste block ends.

Watching the light move on top of the waste wood allows you to make any bottom shape you want to create. Flat, cone shaped or just a nice rounded bottom are all a piece of cake. Take care not to cut in the previously measured wall because the laser will be at the tip and not set to measure the wall again.

### Additional Information

---

[www.lylejamieson.com](http://www.lylejamieson.com)