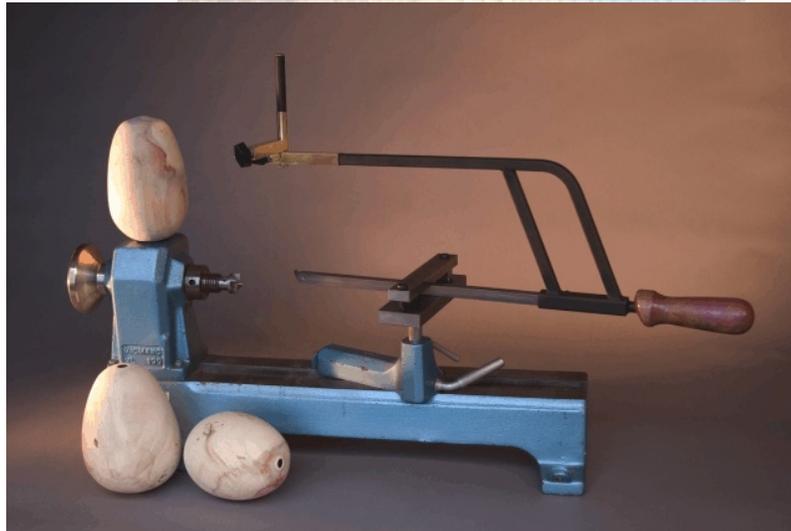


DONALD DERRY LIGHTNING HOLLOWER

I have been developing these hollowing tools for the last several years with one goal in mind. To make a hollowing system so easy to use that anyone can experience the satisfaction of making turned wood hollow forms. The system works well and I actually taught a woman in Oregon, to make a small hollow form in one day, who had virtually never used a wood lathe before. The original concept, using a square bar and a torque gate at the tool post is the brain child of my friend Ron Gerton. I ask him if I could develop it into a system that would work on a mini lathe and he graciously agreed.

The brass laser head is my own invention and solves many issues dealing with convenience and stability of adjusting the laser. I didn't like the bulk, trial and error methods and the bouncing laser dot that most systems settle for. I solved these problems by making an adjuster with an X, Y axis. It has micrometer like adjustments that needs no set screws to hold it in place. When it is pialed into place it stays put and does not dance all over the place. Even the momentary switch of the laser is held on by simply turning the laser a quarter turn in the holder.

If you have any questions give me a call at 509-925-3538.



*Donald Derry
7020 Mamastash Rd
Ellensburg Wa 98926
509-925-3538
donald@donaldderry.com*



Hollow Tools Setup

Tool rest placement:

I found out the hard way that the position of the tool rest holder can be very important. Normally when we work the banjo is positioned at 90 degrees to the bed ways and the tool rest is generally parallel to them. With a torque system like this is important that the banjo be set just the opposite. The banjo needs to be as close to parallel with the bed ways as possible and of course the torque gate will be perpendicular (see photo below). This is because there is so much more force that can be exerted on the banjo that it needs to have as wide a footprint on the ways as possible. Also the sliding cam clamp, when set, should be as close to the tool post as possible. Once again it just brings the maximum amount of mechanical advantage to counteract the extra force that can be applied to it.

Brass Adjuster Setup:

The laser holder can be set up so the laser is on the right or left side of the tool. This is to allow proper adjustability for typical counter clockwise rotation of the lathe or the more ergonomic reverse rotation. Simply take the adjuster off the tool by turning the X axis lead screw counter clockwise about 20 turns. When the lead screw disengages just pull it the rest of the way off. Unscrew the small allen screw that holds the x and y axis together. Slide the Y axis off of the X axis. Turn it around so the tube is on the other side slide it back on and reinstall the allen screw. Slide the x axis back on the steel slide way of the tool frame. Re-engage the lead screw and turn it Clockwise until it is in position over the tool tip.

Laser Installation

You'll slide the laser down into the laser holder, lining up the switch button with the proud spot on the tube. Slide it all the way until it stops. It is a good practice old the button in while you slide it into the tube. Pull the laser out of the tube to turn it off. Remember to put the batteries for the laser in backwards to the way that you would load batteries in a flashlight.

Torque Gate:

The torque arresting tool gate is adjusted by using the 1/2" spacer as a fulcrum. It does not matter which side the spacer is on. Slightly tighten down the bolt on the side you have the spacer on. If the opposite side is left loose the top bar will slant up away from the fulcrum, about an eighth of an inch, like a lopsided teeter totter. By tightening down the opposite side you will have very precise control of the clearance. A narrow clearance is very helpful but is not particularly critical until the tool is used near its maximum depth. You may need to adjust the clearance as you move the bar from one side of the trap to the other as you work different areas of a hollow form. You can even move the spacer to the other side of the trap if need be.

In my experience, you will only use about 1/3 of the width of the gate at any one time. This is because I work down the wall of the form in two inch increments. When the shape of the form demands that I move to a different part of the gate where the tool begins to bind, I simply readjust the clearance for that section of the torque gate. I may make many minor adjustments to the gate during the course of a hollowing project. The clearance can be as small as 1/1000th" when you are getting a lot of vibration and are very deep in the vessel. My rule of thumb is to leave the clearance as wide as I can get away with especially when the bar is only a short distance off the trap. I then reduce

Donald Derry

7020 Mamastash Rd
Ellensburg Wa 98926
509-925-3538

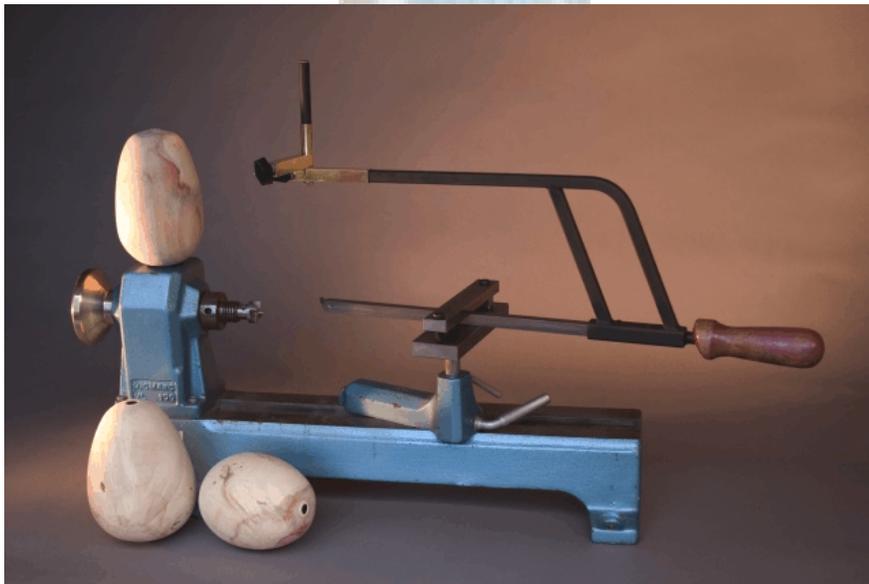


Tool Bit:

The tool bit is glued in using super glue. Simply place the bit in the square hole. Apply enough glue so that it wicks in like a plumbers solder joint. Set it aside and let the glue cure. It is best not to use accelerator so that the bond will be as strong as possible. Thin glue may need two applications.

To remove the bit, heat up the end of the tool with a propane torch until the glue is soft and pull out the bit with a pair of plyers, let it cool and glue in another one.

If you have any questions don't hesitate to call me at 509-925-3538. Thanks for your interest in Derry Tools



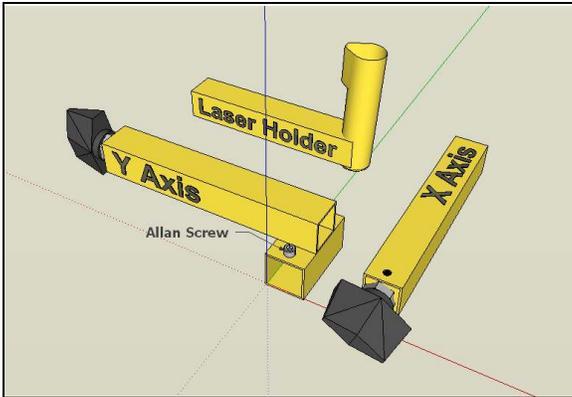
Donald Derry

*7020 Mamastash Rd
Ellensburg Wa 98926*

509-925-3538



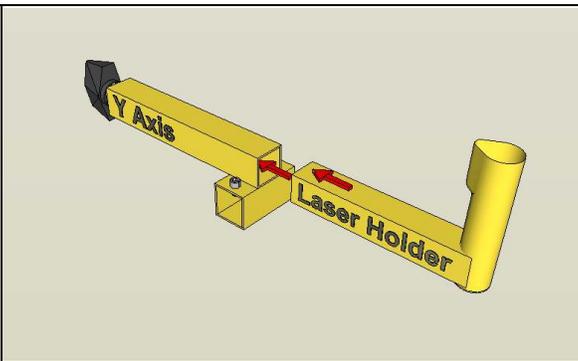
Assembly of the Lighting Hollower Laser Adjuster



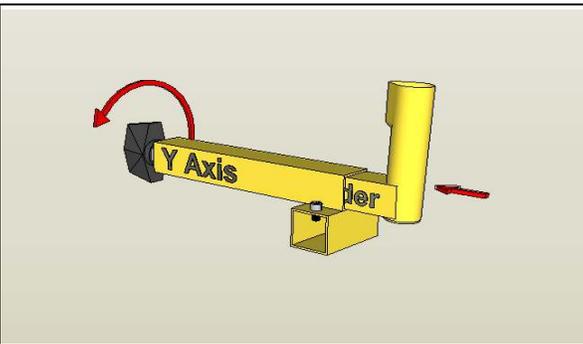
Please Note: The system may be assembled so the **Laser** is oriented either on the right side of the tooling or on the left side. This will be dependent on whether you choose to cut with typical counter clock wise (forward) spindle rotation or clockwise (reverse) rotation

There are 4 components that make up the Laser Adjusting Mechanism.

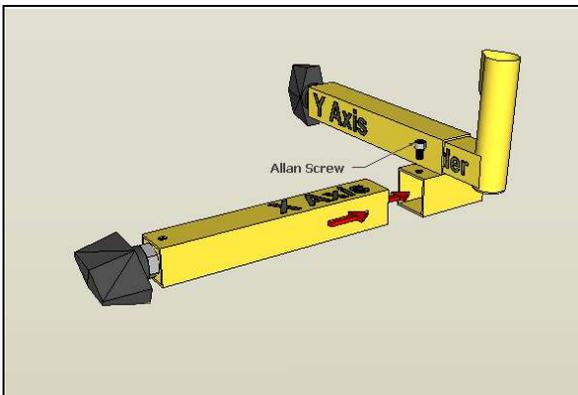
- # The **X-Axis**, which slips on to the steel frame of the Lighting Hollower.
- # The **Y-Axis**, which slips over the X-Axis.
- # The **Laser Holder** which slips into the Y-Axis.
- # And, **The Laser** That Slips into the tube on the laser



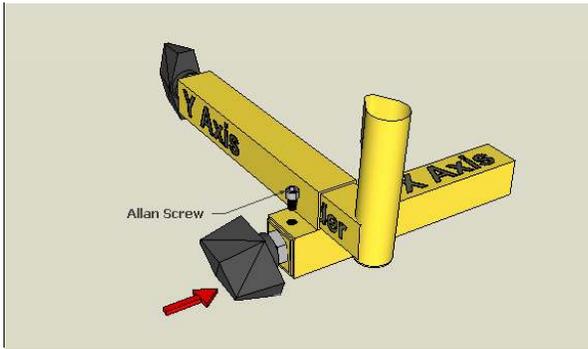
Slide the **Laser Holder** into the **Y-Axis** until it hits the end of the lead screw



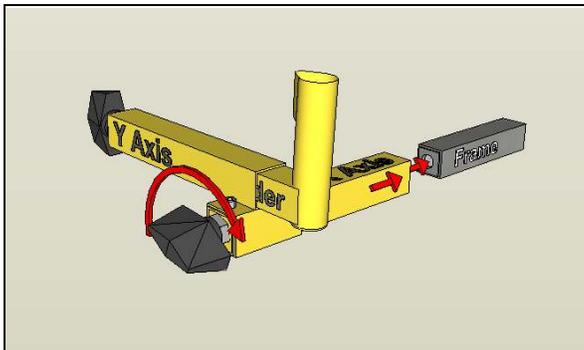
Turn the lead screw counter clockwise while pushing in on the **Laser Holder** until the lead screw engages the captured nut of the **Holder**. Continue turning the knob until the **Holder** is retracted most of the way into the **Y-Axis**



Line up and then slide the **X-Axis** into the sleeve of the **Y-Axis**.

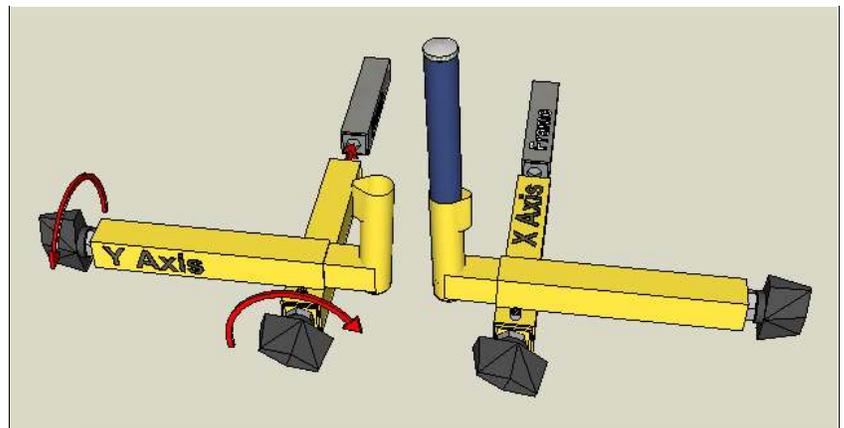
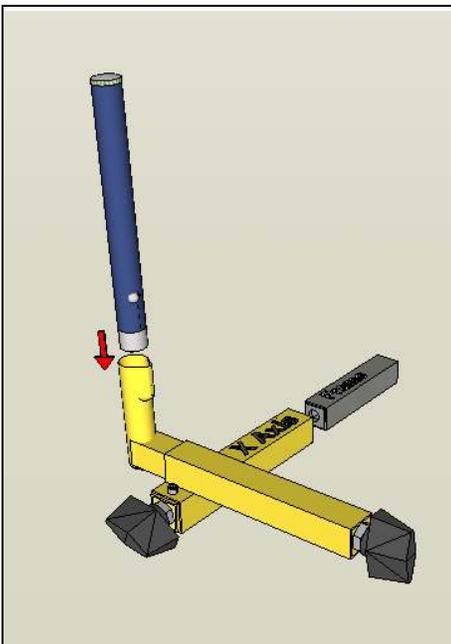


Continue slipping the two parts together until the set screw holes line up. Install and snug up the **Allan Screw**.



Install the adjuster by sliding the **X-Axis** onto the nose of the **Steel Frame** until it hits the captured nut. Turn the **X-Axis** knob clockwise until the adjuster advances as far as it will go onto the frame.

Please Note: it may be necessary to turn the knob while gently pushing the adjuster onto the frame until the lead screw is engaged



Here are the two different ways the adjuster can be set up. The adjuster on the left is set up for typical counter clockwise lathe rotation. The rig on the right is set up for reverse lathe rotation

The laser is installed by slipping it down into the brass tube. Line the momentary button up with the proud lobe of the tear drop and slide down until the laser goes on. To turn the laser off simply pull the laser up until it turns off.



Donald Derry
7020 Manastash Rd
Ellensburg Wa 98926
509-925-3538
derrytools.com

