360º ©Rotary Axis Laser Jig User Guide

by Bob Pace

Firstly, I would like to thank you for purchasing this Jig from me. I would like to assure you that I fully stand by it. If for any reason you are not completely happy with the jig or its operation please contact me, so that I can attempt to resolve any issues or problems.

This Jig is for use on all Neje Style and the 1000mW HTPOW Laser Engravers. It is based on my original design of being band driven. I have put a lot of thought into its design and I'm very pleased with its final build.

The following pages contain information on setting the jig up and include photos showing both in it components form as well as fitted to the laser form. It can be configured in 2 ways.

Option 1 mounted on the left for stoppers, rings, pens (including closed end), calls, toothpick and needle holders. This is also You can easily make a mount for any of these. This is also recommended for use with the HTPOW.

Option 2, mounted on both sides being for pens only, similar to the original version. In both cases it has the drive pulley on the left.

In order to keep the cost down but still have a very durable jig. I have used material that are easy to work with and yet reliability. Also it allows you to very easily make your own bushes to overcome some of the image changes due to the various diameters of blanks. The base, bridge, side panels, ring mount and the additional push fit drive bush are mdf. The other parts namely the main drive bush is made using a slimline blank including a brass tube. You will need to supply the laser, a 7mm mandrel rod and a 7mm slimline brass tube.

If you have any question or concerns please message me.

Happy engraving.
Bob (Benson) Pace.

I would appreciate any feedback you may have regarding the Jig or these instructions. If you feel you would like more detail or explanation please contact me.

26th October 2019 - There have been several changes made to the instructions of settingup of your jig. These changes can be found in the Facebook group 'The Original Neje Style 360° Band Driven Rotary Jig Users Group'. It is private and can only be joined by invitation and as a friend of me Benson Pace or Nancy McEntire. In addition to the changes, there are many hints and tips and plenty of its members willing to offer a helping hand.

IMPORTANT NOTE:

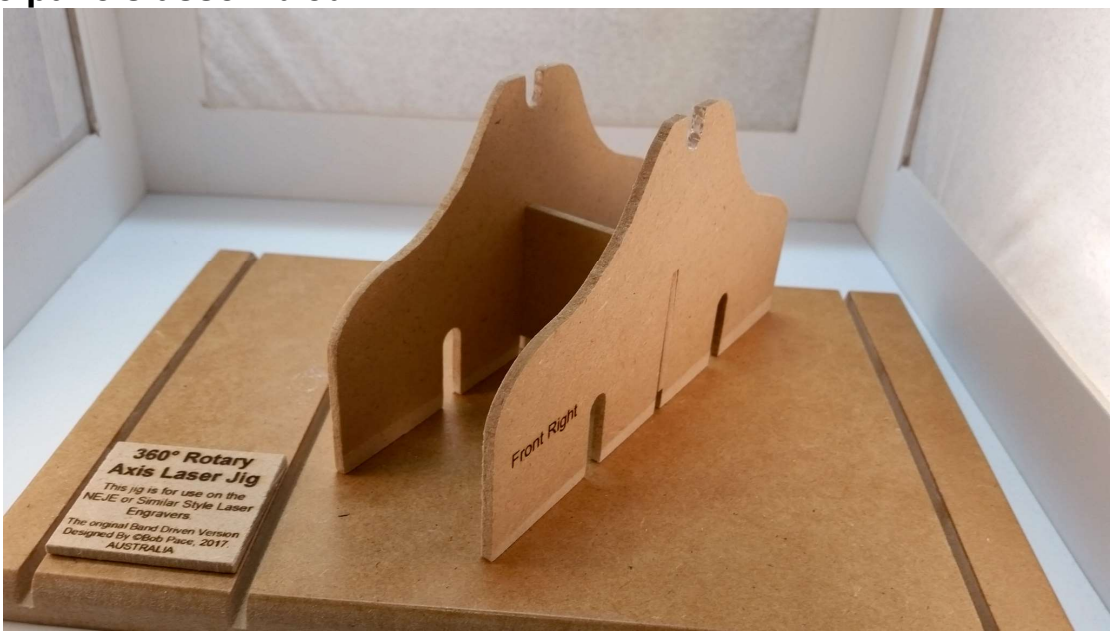
The mandrel is stationary, it's the bushes that rotate on the mandrel, and this is to reduce the effort required to rotate the various blanks. There is less strain on the small laser stepper motors. It is therefore most important that there is no binding of the bushes on the mandrel.

This first photo shows the jig as sent as a flat pack.

What you should find:

1 x Base
2 x Side Panels (marked Front Left and Front Right)
1 x Drive Band Bridge
1 x Threaded Drive Bush
1 x Push on Drive Bush
2 x Ring Holding Cones*
1 x Securing Bolt (used with ring holding cones)
1 x Side Panel Spacers
1 x Jig Lock (3mm and HTPOW users also have double sided 3mm and 6mm).
3 x Rubber Bands
*On the first few jig sent out there is 1 cone and 1 fibre washer.

Side panels assembled.



Option1. The notches on the spacer are to be placed at the top. The easiest way to assemble this, lay one panels on a flat surface insert the spacer the repeat for the second. Make sure the panels are in their correct orientation.

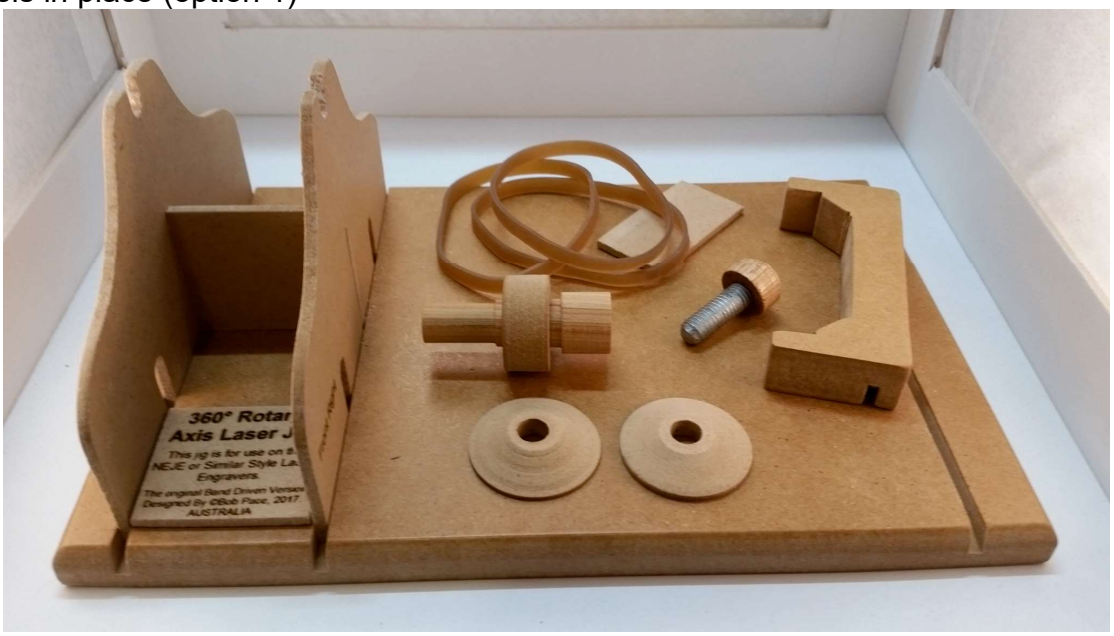
Side panel assembly in place on the base plate.

To help make sure the side panels are parallel, the front edge of the side panels should in line with the edge of the nameplate as shown.

The 7mm brass tube in position.

The tube slots have a coat of CA (Cyanoacrylate) glue the help hold the tube and stop wear. The tube could be glued in place, but I would recommend you just keep it as a snug push fit. If it starts to loosen, just re-apply ca around the slots. Another option and I think a better one is explained and illustrated on the next couple of pages.
(On the prototype I used a rubber band to hold it in place which worked very well).

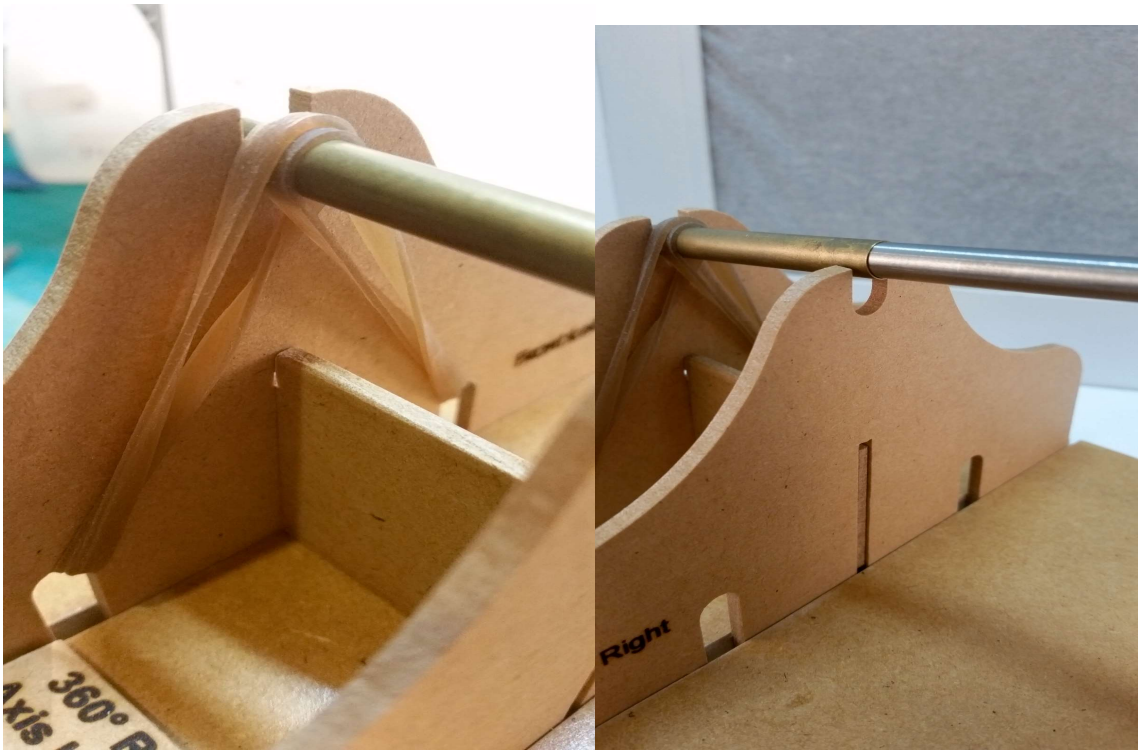
Panels in place (option 1)



This will allow the maximum benefits of the Rotary Jig by enabling the option of engraving pens (both open and closed ends), rings, stoppers and much more.

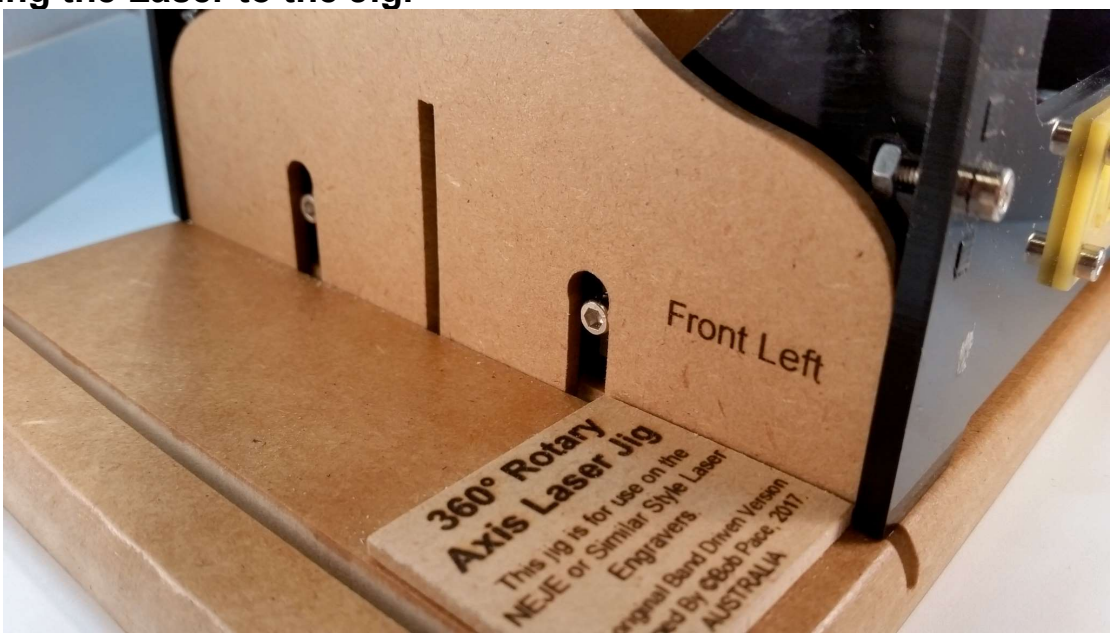
Preferred method of holding the brass tube in the left & right panels.

Left hand photo the two ends of the rubber band are pushed through the large lower slots of the left side panel. Right photo shows the view from the outside of the jig.

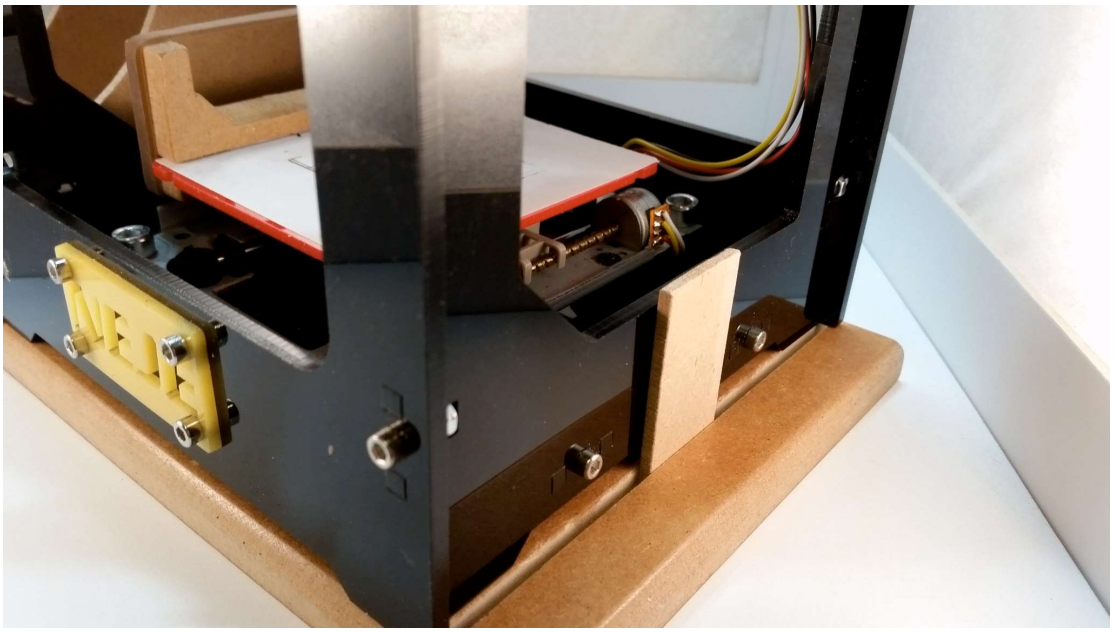


The left shows how the rubber band is slipped over the end of the tube. In the right you can see how the mandrel rod in the brass tube and how the band acts as a spring, this makes it easier to put the mandrel in once the blank is mounted on it.

Fitting the Laser to the Jig.



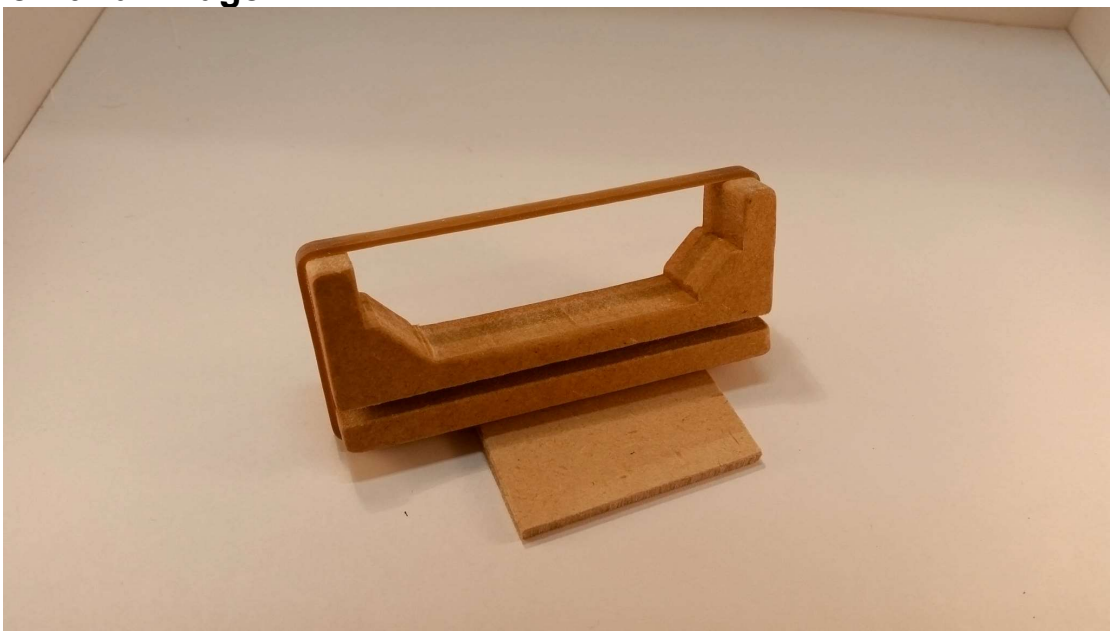
Left side panel sits in between the front and back panels of the laser.
NOTE: This is actually showing the set-up for the pen only option 2, but it's the same for both.



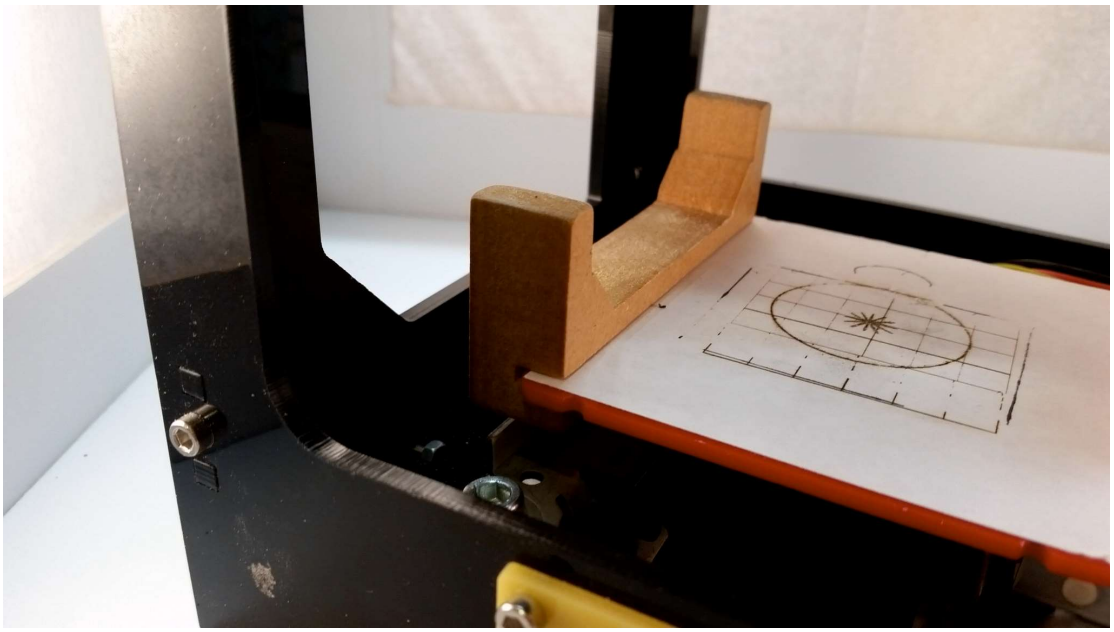
Right hand side of jig shows the jig lock in place. This is just to stop the laser from moving on the jig base.

The HTPOW has an addition jig lock that is double sided with a 3mm and 6mm spacer to be used in place of the standard one. This is a short-term fix until I get feedback from HTPOW users.

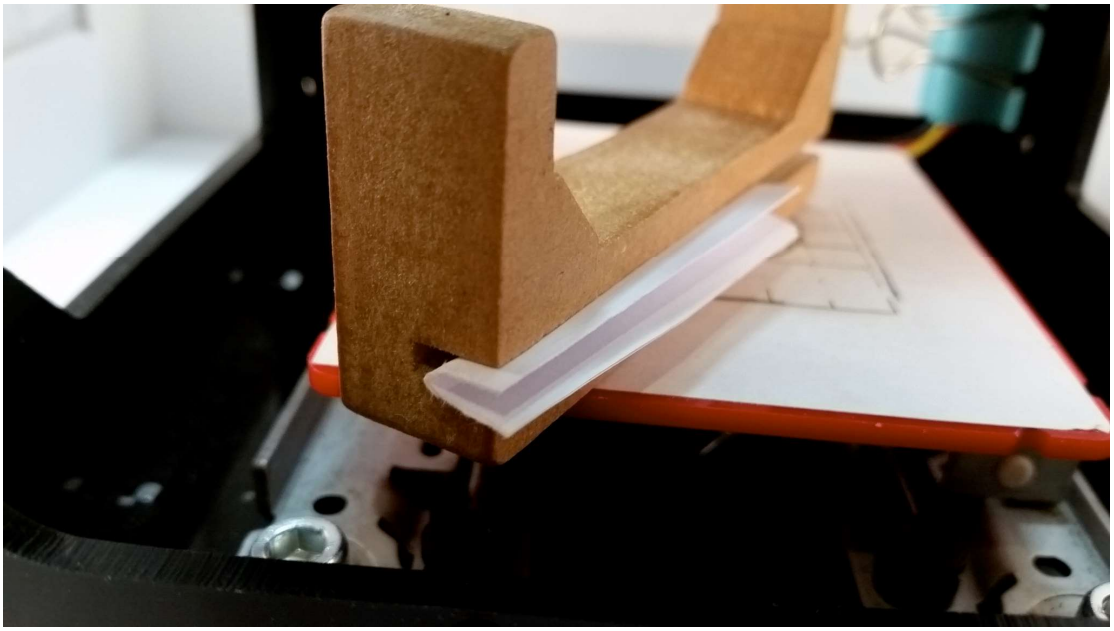
Drive Band Bridge



Mounted on the laser table



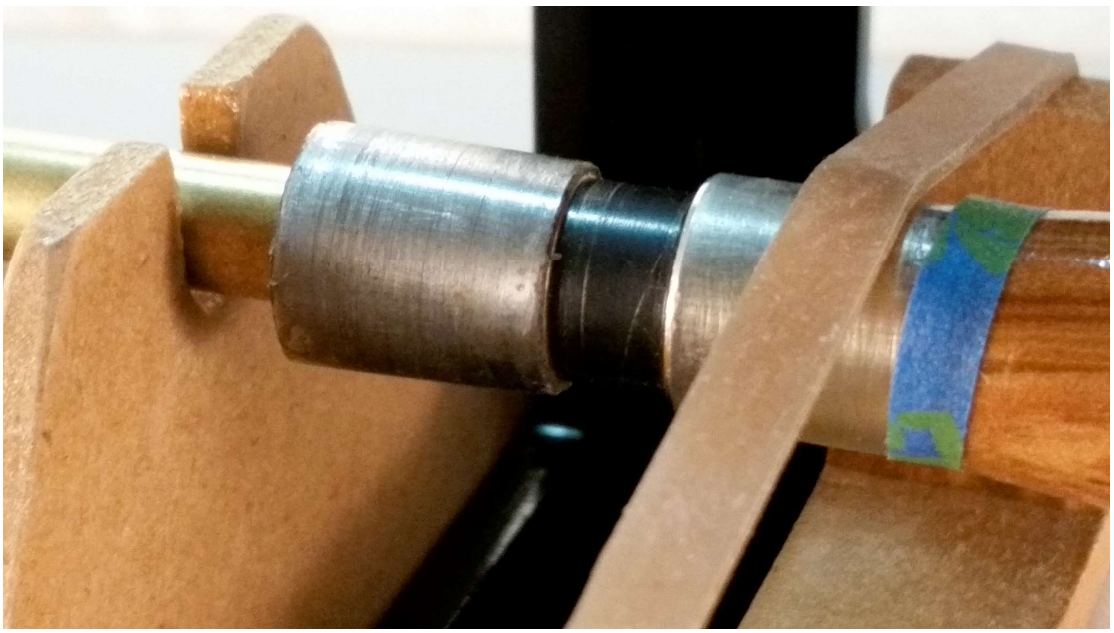
You will find it easier to place it in position on the laser table before attaching the laser to the base. You can also fit the rubber drive band while the bridge is out as shown above.



You may find that the bridge is too loose and will need a small piece of packing. You are looking for a snug push fit.

Pen Mounting Shown without Laser

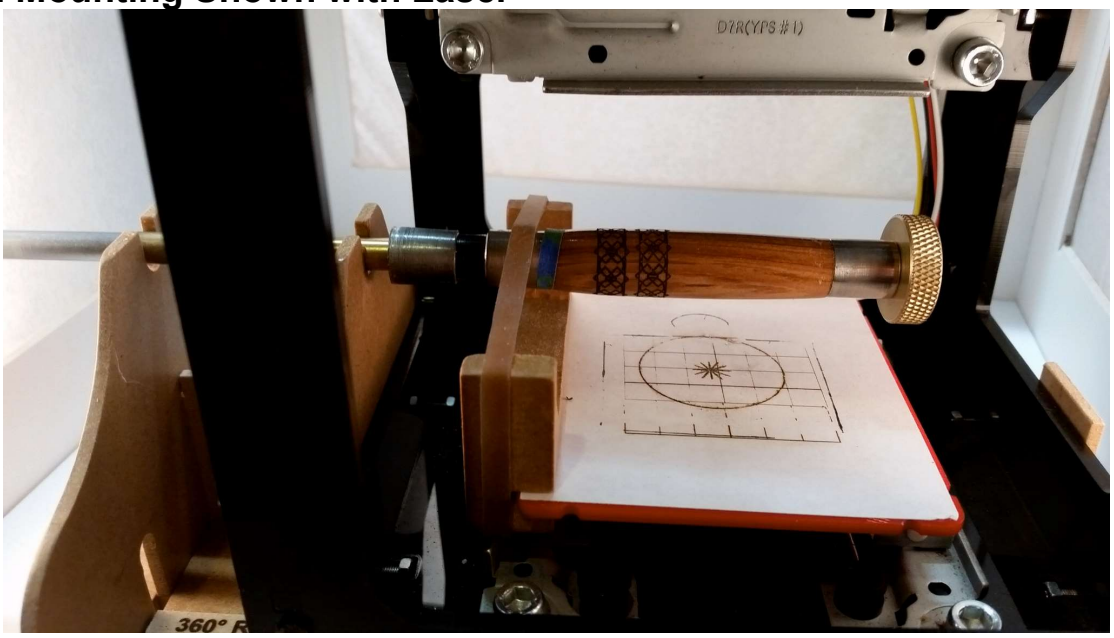
*Here you can see the bushes used are those that you use to turn the blank. There's a piece of blue tape hold the blank to the bush as this bush will be used as the drive. The brass knurled nut is only used to stop the bush and blank from potentially moving to the right, I do not normally use it and have never had a problem.



Here you see a second bush to the left, this is just being used as a spacer. You will also see that the brass tube when not glued in can also be used by sliding it in or out. The blue painters tape is used to stop the pen blank spin on the bush.

As a general rule if you use the pens own bushes that are used to turn the blank you will get a fairly well scaled engraving.

Pen Mounting Shown with Laser

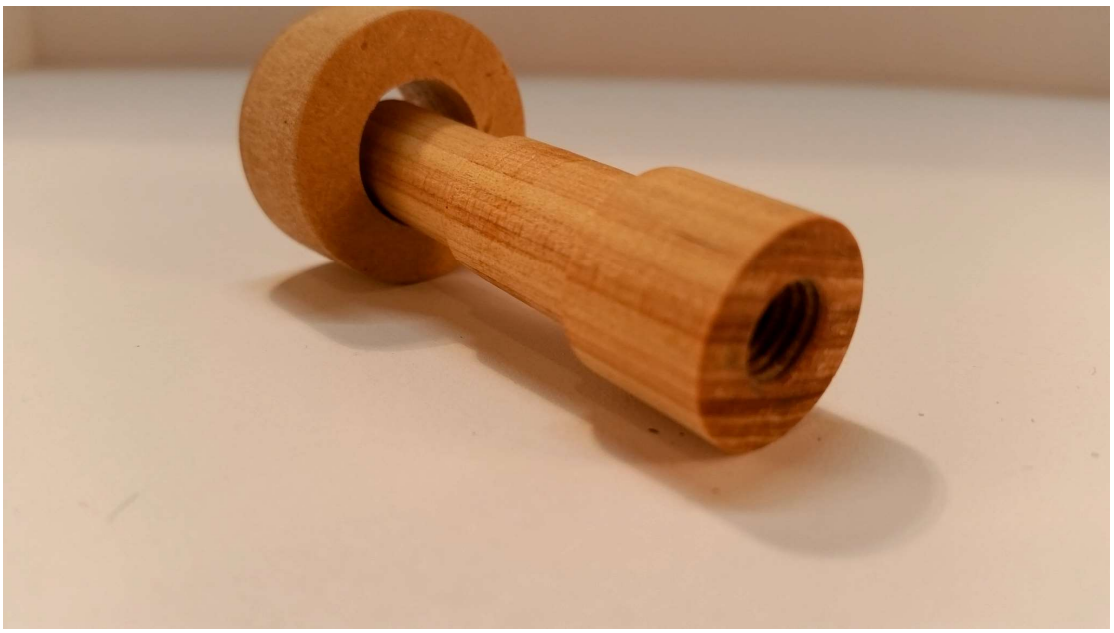


*You can put the mandrel together with the various parts and then slide it into position by simply lifting the drive band and sliding it in.

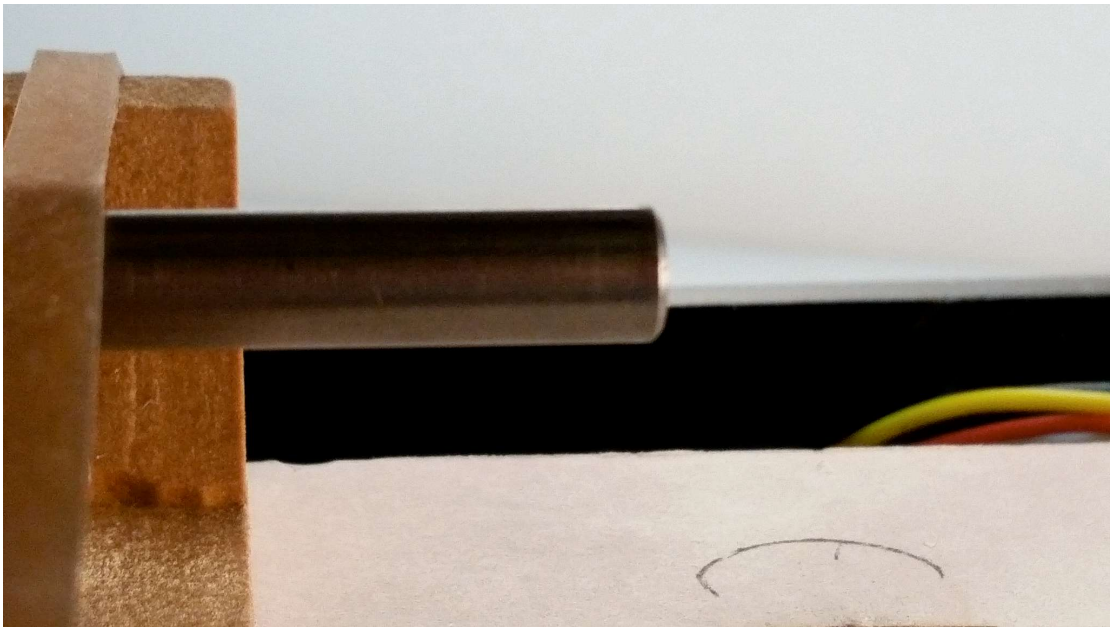
* These photos do not include the rubber band to hold the brass tube as described earlier.

Ring & Bottle Stopper Engraving

Threaded Drive Bush and Push on Drive bush



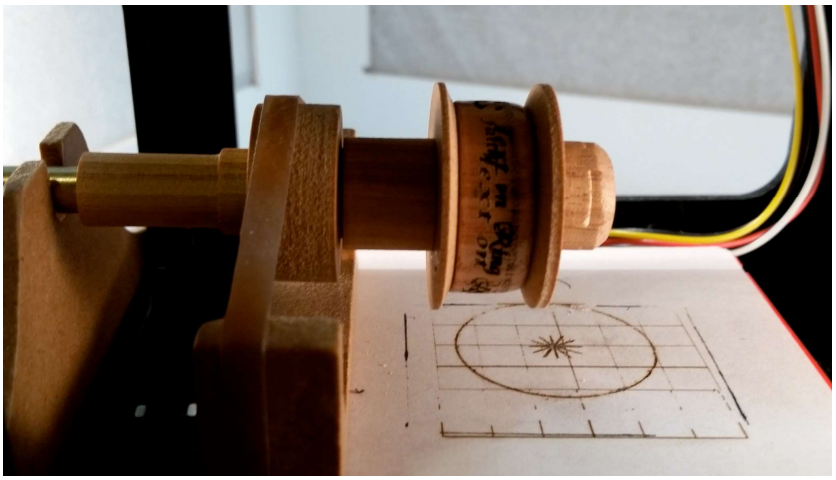
This has been designed so that you can turn you own push on drive bush to suit whatever you are engraving. The threaded end is allows you to screw in a bottle stopper or attach the ring holding cone using the securing bolt. The

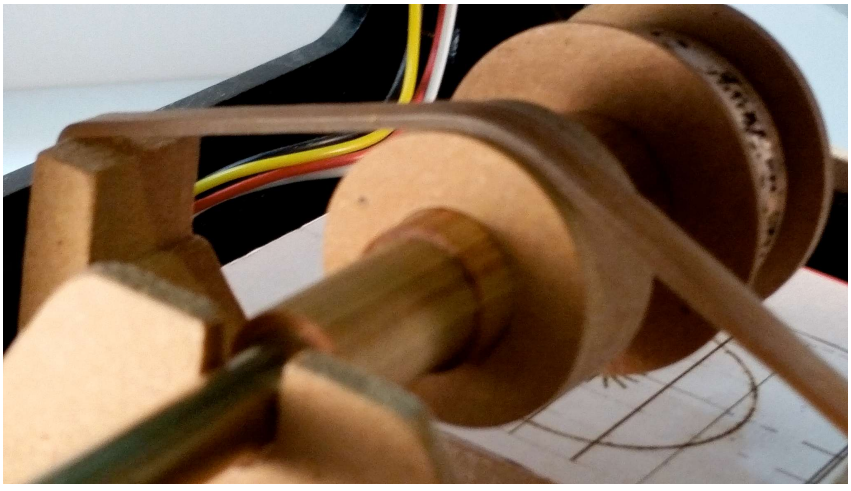


When using it you should use the plain end of the mandrel and not the threaded.

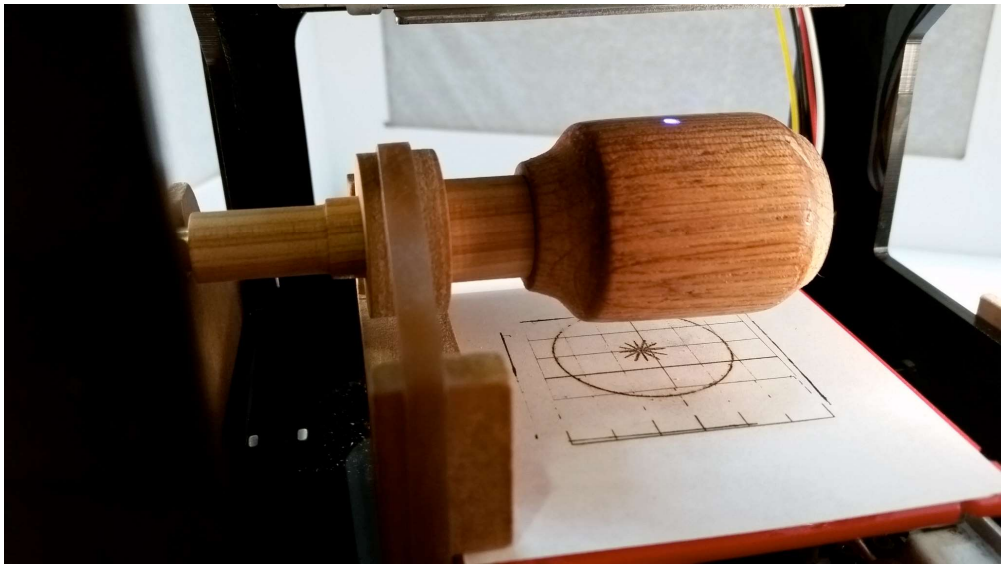
For ring engraving this is the way to assemble it with the ring in between the cones or fibre washer. The screw only needs to be pinched up to hold the ring.

The assembled drive bush then can be slid into position by lifting the drive band and sliding it onto the mandrel.

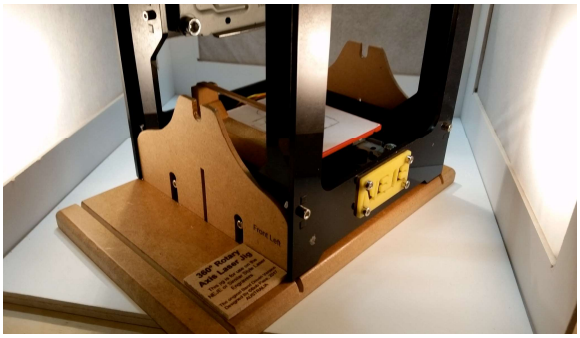


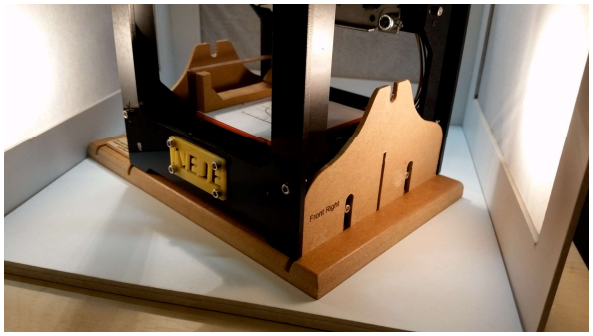


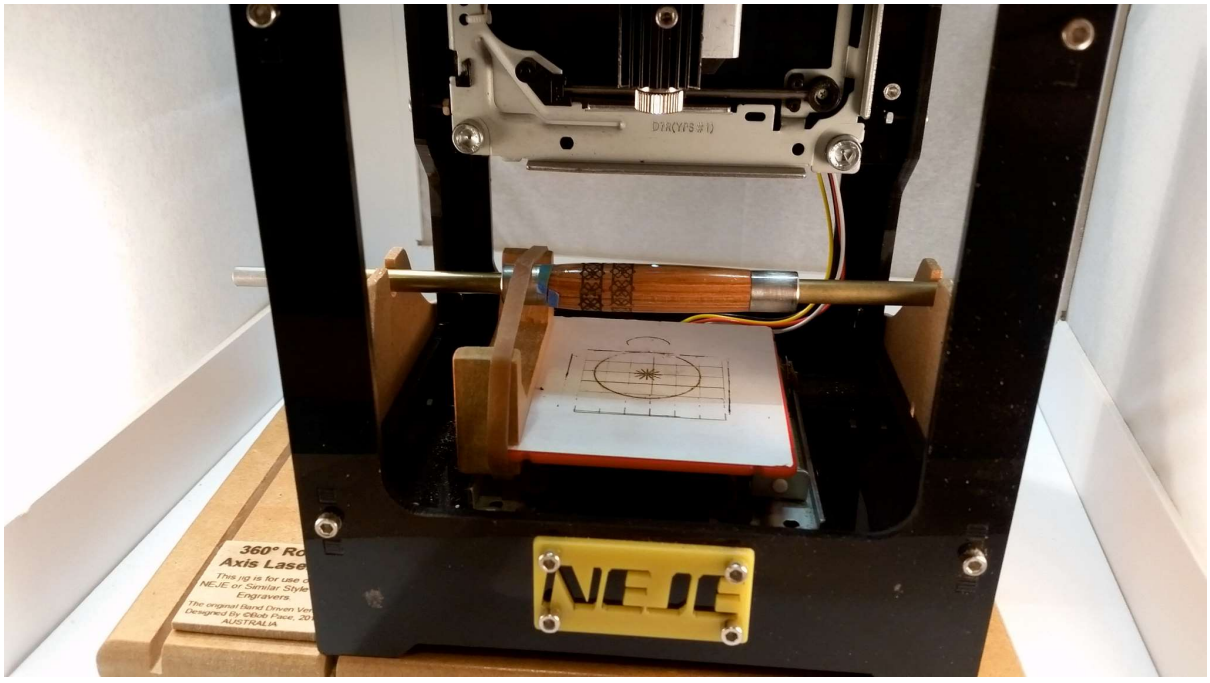
Bottle stopper is the same as rings, attach the stopper and slide it into position.



Pen Only Configuration.







For this configuration you will require a second brass tube, as one is required for each side. You should also be aware that it could be quite difficult to remove the laser when both side panels are fitted, as they can be very tight in the slots on the base. If you intend to use the jig in this way, I would suggest you carefully sand the right slot to allow easier remove of the panel.

Removing Side Panels from Base.

If for any reason you want to remove the side panels from the base, simply use a screwdriver and a scrap piece of wood. Place the screwdriver in each of the side panels slots with the scrap piece of wood under the end of the screwdriver, gently easing the panel out.