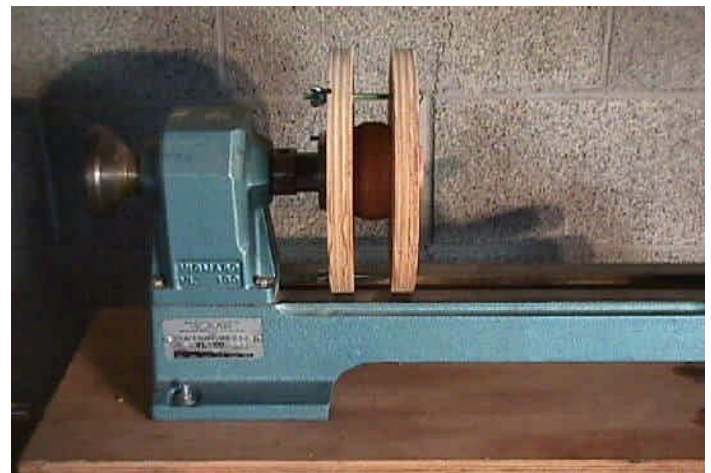


This is a jig I have made in the past for other lathes I have owned, and have been meaning to make for my current machines. I finally got a round tuit, and here are the pictures along with an article I published on [Badger Pond Woodworking Forum](#). The article here is essentially the same with a few changes made so that it makes more sense to those not familiar with Badger Pond. I hope this is helpful for all you bowl turners out there. The nice thing about this jig is that it can be made for pennies, assuming you have a faceplate, and most lathes come with at least one faceplate. And, since that faceplate is usually WAY too big for the lathe it came with, it makes good use of a piece of equipment that usually gets stuffed in a drawer and forgotten.

The proper name for this thing is a compression chuck. It compresses a bowl, plate, or other turning between two plywood disks, the outer disk having an access hole cut in the center. This is version 1.0. There are any number of improvements or modifications one can make to suit his or her own purposes. The one pictured here is on my Vicmarc mini. There is no good way to reverse chuck a bowl on a mini lathe that is commercially available, so homemade chucks fill the void. The Poolewood will also be getting one of these thingys, as there is no good way commercially available for bowls above 12" in diameter either. An added benefit to this chuck is that it is safe, in that if it is used properly, there is virtually no chance of the bowl coming loose and flying against the wall into a million pieces (or more than one piece anyway). This is a long shot of the business end of the chuck. You can see the bottom of the bowl sticking out through the hole in the chuck. I used a piece of 3/4" plywood, but on smaller bowls, a piece of 1/2" would work fine. I don't know that I'd want to try with 1/4".



Here is a side view. **PLEASE NOTE THE ORIENTATION OF THE CARRIAGE BOLTS.** I do not want a letter from you, or more importantly, I do not want a letter from your lawyer, bemoaning the loss of your hand if you made this thing backwards. The carriage bolts have the part sticking out towards the headstock, minimizing the protrusion on the side your hand goes on. You will have enough to do making sure your fingers do not get splinters from the ply without having to worry about spinning wing nuts.



A closeup of the bowl to be turned. This particular bowl was chucked internally, making it very difficult to finish off between centers with a jam chuck. This chuck makes it relatively easy.



Below is the finished product. Depending on the resolution of your screen, you can see that something did happen, and the bottom is now smooth and round instead of rough. The drill hole in the center is now gone as well.



Building the chuck is fairly straightforward. First, find a faceplate. If you can dedicate one to this, it is good because then you won't have centering issues later on. Even if you can't, there is enough slop in the system that if the chuck is a little out of round it won't hurt the finished product.

Next, determine the maximum diameter your lathe will handle, and cut a series of plywood disks to roughly round on a bandsaw, jigsaw, or whatever. NOTE: some idiots will make the plywood disk as big as the swing, and when they go to put it on the lathe, it won't turn because it is too big. Leave yourself some room. DAMHIKT



Center the faceplate on one disk, and fasten it with screws. Sheet metal or good quality woodworking screws are the best. Avoid drywall screws. They are brittle and will snap if there is a catch of sufficient force. Mount the assembly on the lathe and true up the edge. If your faceplate is not true, you may want to make this base plate from solid wood so that you can true the face as well. A little out of round is not going to hurt, as most bowls are out of round by the time they get this far anyway.

After the first disk is running true, drill and bolt a second disk onto it. Again, **PAY ATTENTION** to where the bolts are sticking out. I usually buy the shortest bolts I can find for this part. I got 2 1/2" by 1/4" carriage bolts from Home Depot for \$0.07 each. True up the edge of the second disk to match the first. Now you are ready to cut your doughnut hole.

Different sizes and shapes of bowls will require different sized holes, which is why you should make up three or four outer disks. Then you will have them for that application that doesn't fit the current tool. Cut the hole using a parting tool. If you start out small, you can always make the hole a little bigger. Smaller is a lot harder to do. I undercut the hole somewhat, forming a round dovetail. This holds better with less trauma to your newly sanded bowl side. Make sure the dovetail is sloping IN and not out. In other words, you want the larger diameter inside the chuck and not outside. Don't worry if your parting tool scores the face of the inner disk.

Now you are ready to mount the bowl. With this style chuck, a little trial and error is in order. Center the bowl as best you can by eye and run the lathe. Unless you are very, very good, or very lucky, it probably is not running true. Stop

the machine and adjust the bowl. Once you have it running to your satisfaction, you are ready to start cutting. Tighten the carriage bolts down to make the bowl snug. You do not want to squash the thing to the point of breaking, but you do want the force to be as even as possible across the disk. This will help prevent the thing from slipping while cutting. Cut away with the tool of your choice. Just remember, you need to get your big fat fingers in there to sand, and a skinny little gouge goes a lot further in that your fingers will. Gouges also do not feel pain when they come in contact with spinning plywood. (My apologies to anyone offended by "big fat fingers". I have big fat fingers, and personally I don't know anyone who has a finger the size of a 1/4" gouge that is big enough to turn on a lathe.) Sand to the finish you desire, and "Walla" as my daughter says - you are done.

There are a few additional comments to be made. The jig can be padded on either or both disks with rubber. The thin router pads work well for this. If you use a thick piece of solid wood for your base disk, you can taper it to aid in centering the bowl. If you keep several lengths of bolts on hand, you can do different thicknesses of bowls without having to wait for the hardware store to open the next morning. Three bolts is sufficient for this application. Make an index mark on the disks so that you get them in the same place every time.