

## Making and Index wheel

This is one method for making an Index wheel. There are many other ways. This one is for a Jet mini lathe. It goes between the Handwheel and the headstock. I use plastic sheeting that I get from the scrap bin of my local sign shop.

The first thing I do is to glue the square sheet to a scrap block of wood that will fit in the jaws of my chuck. I use CA glue with Accelerator so I can break the bond easily when I need to remove the plastic wheel from the glue block.



Drill a hole in the center and turn the outside diameter to the size you want.



Turn the hole to the diameter of the mini lathe spindle. I sneak up on it with spindle gouge using the bottom lip as a scraper.

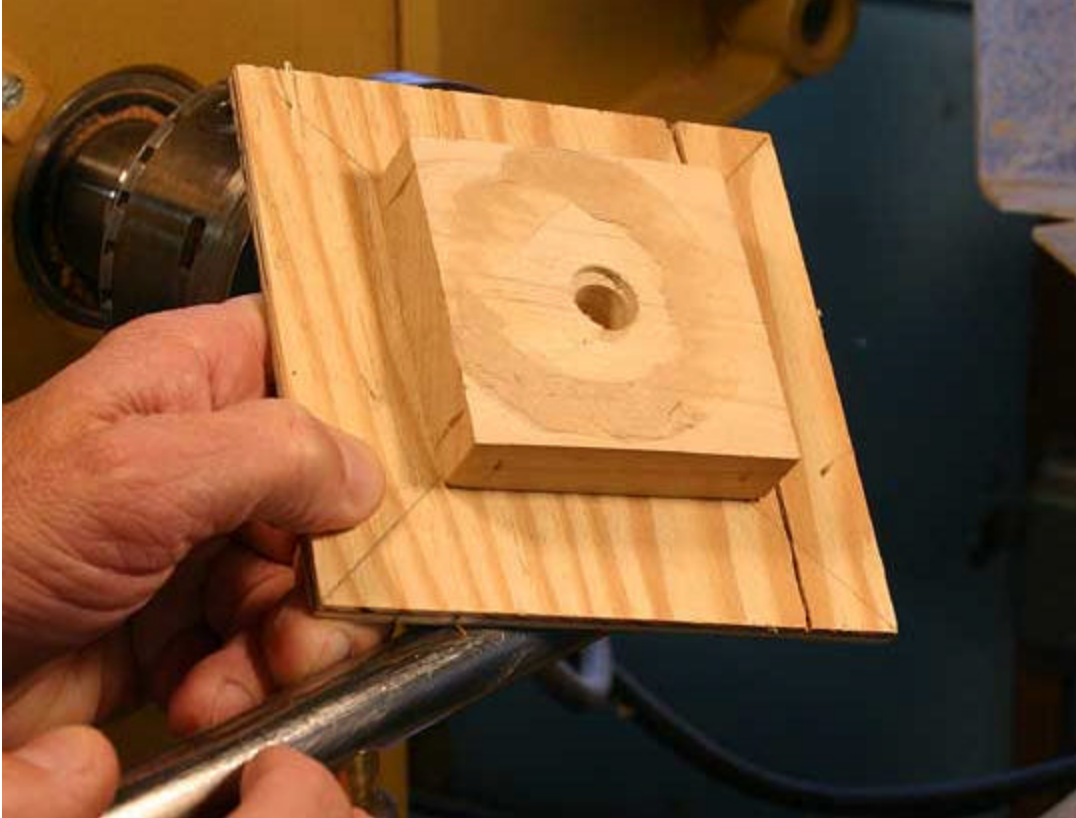


This step needs to be as accurate as possible so I measure it often with dial calipers.



Separate the plastic from the wood by putting a chisel at the joint and hitting it sharply. It is the impact that breaks the joint, not the wedging action of the chisel. That's the advantage of using the CA with Accelerator. It should come off cleanly.

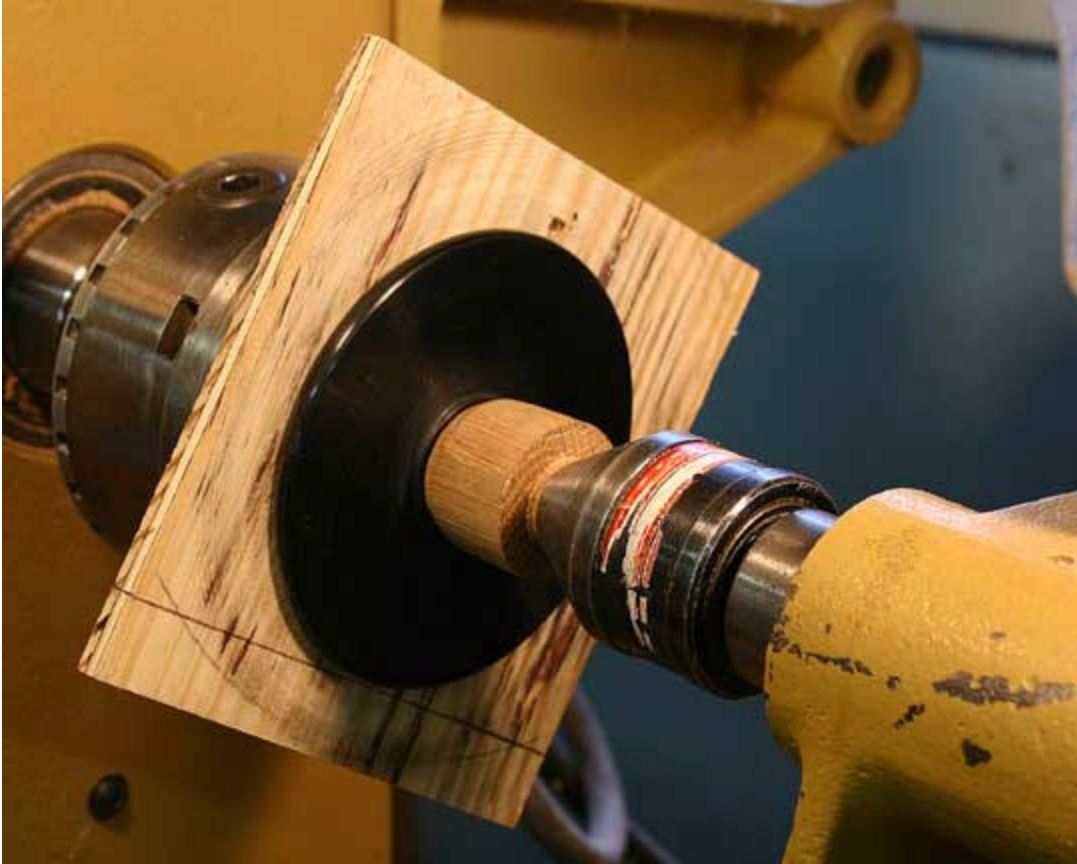
Glue a scrap piece of wood to the waste block. This should be a square piece to make the table saw steps easier.



True up the surface and leave a tenon the same size as the hole in the plastic wheel. This should be a snug fit.

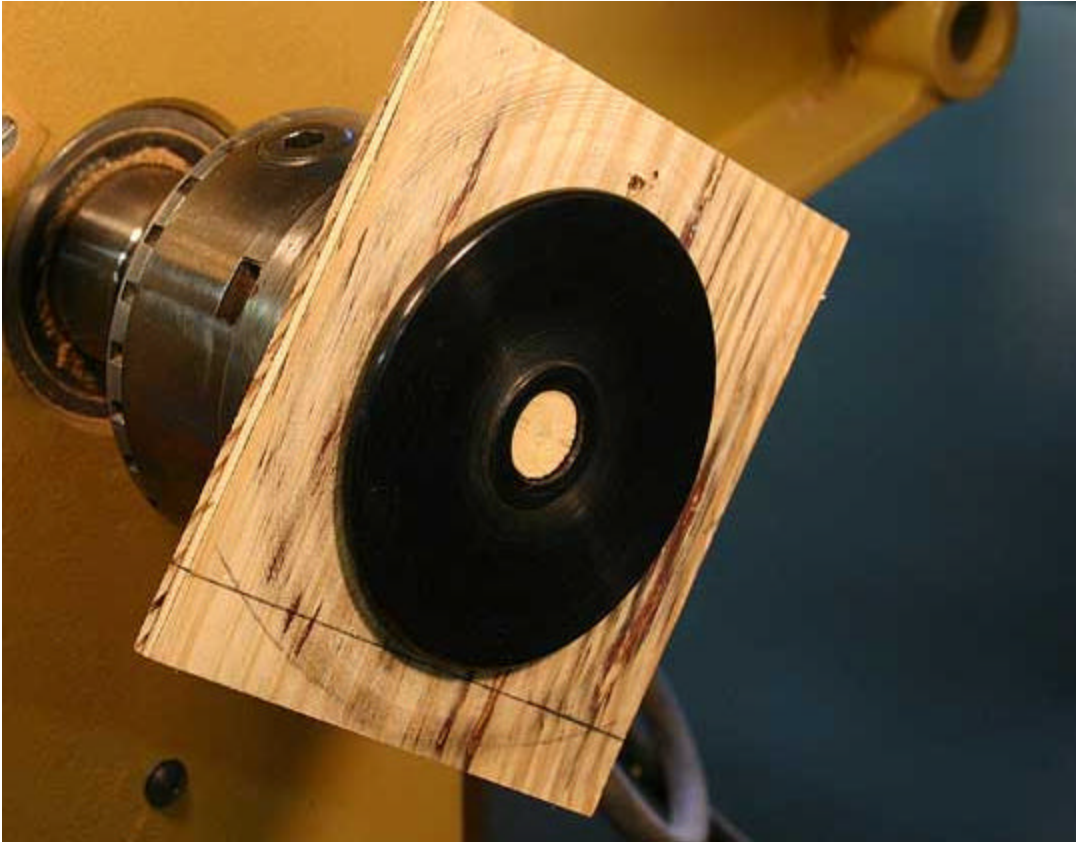
Insert the plastic wheel on this tenon. Don't glue it. . True up a narrow section around the hole. Take light cuts, all you want to do is true up this small area. Make a mandrel to fit your tail center. This will hold the wheel while truing up the rest of the surface.





True up outer surface of the wheel but leave a raised portion in the center around the hole. This are should be smaller than the outer bearing race. This will keep the wheel from rubbing the bearing race and the lathe housing.

Here is a shot of the finished wheel.



I scratch a very slight line in the wheel where I want the index holes or how deep I want to cut with the table saw. Then I use a set of dividers to step off the number of holes I want. This can really be a pain. I would strongly recommend going to <http://www.smithart.us/> and print a copy of the index wheel template. Then just cut it out and paste it to the wheel. It's much faster than my method.

Now on to the table saw. You need to cut one side of the square wooden mandrel close to the size of the wheel. To do this safely, drill a hole in a scrap piece of wood and put the mandrel tenon in this hole.



Cut off the portion with the line.



Remove the wasteblock from the back and mount this to your miter gauge with the plastic wheel installed. I clamp the wood so the center of the wheel is aligned with the



blade. Then I hold the wheel in place with hand clamps. I added a small block of wood with a bent nail that I use as a pointer to align the marks on the wheel for cutting.



Then I cut a notch in the bottom, move the wheel to the next indicator and clamp it and cut another notch.



The finished wheel is installed and I built a simple locking device out of 1/8" angle aluminum and 1/8" aluminum flat stock. I drilled and tapped the top of the lathe to hold the locking device.





I've also built and installed a locking index wheel that uses round drilled holes. The inner pin is spring loaded. The wheel was easier to build but the internal mechanism was complicated to make it work smoothly. An easier method would be to glue a flat block between the index wheel and the headstock and drill one hole to match the index wheel. Then just use a pin that is inserted from the backside. If you put a rare earth magnet on the lathe you will have a good place to store the pin.

