

Notes on Turning Platters



Introduction & Thoughts on Design:

Platters can be very satisfying whether they are functional or strictly artistic and meant for display. Some turners use platters as a medium to express their artistic visions by a variety of surface treatments be it through color, texturing, carving, filling voids or carved areas with inlaid or epoxy fillers. Some of the most striking platters are turned from large burls with the natural voids left in as an added feature.

The most stable or wobble free platters are turned from quarter-sawn boards which may be hard to find in kiln dried boards in widths wide enough for large platters. It may be a good idea to glue up several boards being careful to have a good eye for matching the grain and using quarter-sawn boards. Although perhaps the best method would be to cut them straight from log when you are cutting your bowl blanks, although this method would require rather large logs and years of drying time.



Tools & Materials:

Faceshields are mandatory for this project

3/8" Side Ground Bowl Gouge

3/8" Traditional Ground Bowl Gouge

1/4" Parting Tool

1/4" Point Tool/Skew

3/4" Round Nose Scraper

Optional Tools

Sorby Detail Tool

Sorby Mini Detail Tool

Sorby decorating Elf

Wagner Detail Tool

Traditional carving tools (veiner, straight & bent gouges, V-tools, etc.)

Power carvers

Various sanders & sanding drums

Rasps of different sizes and curves

Files & riflers

Procedure:

**Note: It is best to use kiln dried wood or air dried wood that has a maximum moisture content of 8% to 10%. It would be best to cut your own platter blanks straight from the log so that you can insure that the blanks are quarter sawn to minimize potential warping, as most wide kiln dried blanks are flat sawn therefore making them more prone to warping after having been turned. Refer to figure P1*



Quarter Sawn Board



Flat Sawn Board

1. Begin by flattening an area on the face side with a planer, belt sander or a hand plane so that it can be mounted in a screw chuck. If using a planer I plane the whole board just enough

to have a flat area for mounting on the screw chuck. I then cut it into as many square blanks as I think that I will be turning in the next few days to minimize any loss of blanks due to end checking, as the boards acclimate to the change in humidity and any relieved stress.

2. The next step is to choose the best side for the top and then mark the center. *(remember that you will be removing wood from the top so the best figure should be on the bottom or back side of the platter blank)* Once the top center has been marked I use either a bar compass or a large compass to draw the circumference of the platter

3. Before cutting the blank into a circle I go ahead and drill the pilot hole for the screw chuck, as the corners give me something to hold to the blank with if the drill bit bogs down. I like to add a 1/4" Masonite spacer on top of the chuck's jaws to help minimize the depth of the pilot hole for the screw and to act as a stabilizer to help minimize the movement of the outer rim of the platter. I also use the largest set of jaws that I own on my chuck to minimize the vibration caused by the blank flexing out on the rim. Drill the appropriate sized hole for the screw that you will be using. I use the 1 1/2" long screw made by Oneway that comes with my Stronghold chuck. *(the Oneway Screw is my favorite screw as it seems to hold the best)*. I recommend using a 13/32" drill bit to drill the pilot hole in kiln dried wood and then put a dab of paste wax on the screw to make it easier to screw on the platter blank. *(for greenwood I use a 3/8" drill bit for the pilot hole)*. The pilot hole needs to be deep enough for at least four threads on the screw to bite into the blank to hold it safely in place. After drilling the hole I like to use a chamfering drill bit to slightly chamfer the top of the hole to minimize the possibility of some of the wood fibers pushing the blank away from the spacer block as the blank is screwed onto the chuck. I also chamfer the hole in the spacer block on the side that meets the platter blank.

Note: To set the proper depth to drill the pilot hole, the easiest way is to insert the screw in the chuck then using Vermeer Calipers measure how far the screw sticks out from the chucks jaws. Then transfer this measurement to the drill bit by using masking tape to mark this depth on the drill bit, by wrapping the tape around the drill bit. If using a spacer block be sure to put it on the chuck before making your measurements.

4. Once the blank has been drilled it is time to go to the bandsaw and cut the platter blank into a circle. I try to stay slightly outside the line drawn by the compass to maximize the diameter of my platter.

5. With the chuck on the lathe and the screw properly mounted in the chuck with the 1/4" spacer attached, screw the blank onto the chuck as evenly as possible. Lock the lathe spindle and tighten the blank fairly tight but not too tight as you might strip the threads and the blank will be loose.

Note: Be sure to check that the belt is on the slow pulley and that the lathe speed is turned way down before turning on the lathe.

6. I like to position the tool rest at roughly a 45 degree angle to the edge of the platter blank. That way I can start off shaping the platter by cutting across the grain and not directly into it. I use my 3/8" side ground bowl gouge to rough turn the platter. As the platter takes shape I work my way up to the rim and down to the bottom. I like to establish my foot as soon as I can so that I know my starting and ending points. That way I can make a nice flowing curve or ogee between the two points. Once the platter is close to its rough shape I move the tool rest between the head stock and the top of the platter in order to smooth the top outer rim of the platter. Next I begin to refine the rim by working both the top and bottom of the rim. Once I am happy with the shape of the back side of the platter I use my 3/8" Traditionally Ground bowl gouge to make the finish cuts on the out side of the platter and then sand it before removing it to begin work on the top side.

7. Once the bottom has been completed I remove it from the screw chuck and mount it in the chuck using either an expansion foot or contraction foot depending upon my design. Normally I use an expansion foot as that way I can completely finish the back of the platter and not have to reverse turn it in order to finish it.

8. To begin work on the top, I first face it off using a 3/8" Side Ground bowl gouge to flatten the surface to make it easier for my entry cuts.

9. I only do a little bit of hollowing in the center of the platter as it is best to establish and finish turning the rim before removing too much wood from the middle. For the rim will begin to flex as material is removed making it difficult to turn an even rim.

Note: Now is the time to do any texturing or detailing work on the rim, as once you begin removing wood from the inside, the rim will begin to go out of round and get a bit of a wobble.

10. Once the rim is complete, begin shaping the inside of the platter. Take care to measure the wall thickness regularly as it is very easy to get carried away and go through the bottom of the platter. I like to use a pair of Veritas Deep Calipers to check my progress, as they can sometimes squeeze in between the chucks jaws for a very accurate measurement of the wall thickness in the bottom of the platter where the foot is the thinnest. They are also spring loaded so that it is simple to get a good reading as long as the tips are perpendicular to each other.

11. Once again I like to use my Traditionally Ground 3/8" bowl gouge for all my final cuts. I try to take a very light cut for my final pass, sometimes getting a shaving the size of a human hair with very little bevel contact. If done right this final cut will need very little sanding.

12. Time to sand. I start out with what ever grit I need to use to remove any tool marks etc. I sand up too 1500 grit wet dry sand paper and then use a Grey Scotch Brite pad followed by the Gold and White Scotch Brite pads, which leaves a very smooth finish. If you plan on dyeing your platter you may want to skip the Scotch Brite pad step, as the platter will be too burnished to accept the die.

13. For a finish it all depends on what the platter will be used for, if a gallery piece I would spray it with Lacquer, if it is going to be used for food then I would use one of the following Mike Mahoney's Walnut Oil Finish, Walnut oil or mineral oil.

14. Enjoy your platter, fill it with something good to eat or put up for display!



The following page shows a variety of methods for mounting Platters & Bowls



*Talon Chuck on Left with a variety of Jaws
Stronghold chuck on right with #4 Jaws*



*Oneway Talon chuck on left with screw
Screw chuck style faceplate on right*



*Oneway Talon chuck with screw
dry blank with 13/32" hole drilled in it
for Oneway screw and chamfering bit*



*Left front blank with hole drilled for screw chucking
Top has a tenon for compression chucking
Bottom right has a mortise drilled in it
for expansion chucking*



Hole drilled in bottom for expansion chucking



Blank held in expansion mode



Blank with tenon and square shoulder for mounting in chuck in compression mod



Inserting the Oneway Screw into a Chuck



*Dimples in side of screw line up with the tips of the jaws
as it is inserted into the opening between the jaws*



The screw properly inserted into the chuck



*View of screw properly inserted in chuck from the back side of the chuck
showing how the tips of the jaws draw in to lock in on the dimples in the screw*