

Ask the Pro

Turning a Bowl Without a Chuck

Between September 2009 and March 2010, the C.O.W. newsletter featured a forum in which members could ask the club's more experienced woodturners questions. What follows is one of the questions asked and a pro's answer.

I am just starting to learn about wood turning and not be able to buy a chuck. Is there a way to make a bowl without a chuck?

Floyd Anstaett:

While the use of a scroll chuck is not absolutely essential when making a bowl they most certainly do make life a lot easier. Before the advent of woodturning chucks, most bowls were made using faceplates only and there is no reason why this can't be done now. If it's possible, you should have more than one faceplate to use.

Bowls can be turned from both green wood and dry wood. We will deal with green wood turning first and then go to dry wood turning.

In green wood turning you will start with a log or a limb. Cut the log or limb to a length equal to its diameter plus maybe an inch or so. Then rip the log in half along its length eliminating the pith. Trim off the corners of the half log blank and then mount your faceplate to the center of the surface that will become the top of the bowl. Mount the bowl to the lathe and turn the outside profile. Leave a spigot on the bottom of the blank that will be large enough to accept your faceplate and make a mark in the exact center of it. This spigot will have to be long (tall) enough to accept the penetration of the screws plus enough material to make the finished foot. This is one of the problems of using a faceplate on the bottom of the rough turned bowl. You are going to almost certainly lose a lot of potential height. One other issue here has to do with the fact that you will have to make this spigot large enough in diameter to accommodate your faceplate and accept having the mounting screws driven into it without splitting out. You should probably drill pilot holes for the mounting screws.

Once the faceplate is centered and securely mounted to the bottom of the spigot, the blank can be mounted back on the lathe and hollowed out. Leave the wall thickness about 10% of the diameter. You should have tried to get the faceplate as nearly centered as possible but if you are off a small amount don't worry about it. The blank is going to warp during the drying process and will have to be turned true when dry so a small amount of wobble caused by a slightly off centered faceplate isn't going to be a problem. Be sure to wax the bowl inside and out in order to slow down and control the drying process.

The next step has to do with finish turning the bowl after it has dried. By the way, the drying process will probably take anywhere from 6 months to a year. Since most every turner has their own favorite way of doing things, I'm going to describe how I would go about finishing out this bowl. This may or may not be the best way of doing things but it is the way that works for me.

First off, mount a piece of wood to your faceplate that is long enough to reach the bottom of the inside of the bowl. This will become a friction drive block. This will be one of the few times that you can safely mount a piece to a faceplate and drive the screws into the end grain.

Mount the faceplate and drive block assembly onto the lathe and slide the bowl over it. Bring up the tail stock making contact with the bottom of the spigot at the center mark that you put onto the bottom of the

spigot earlier and tighten it. Carefully true up the bottom of the spigot leaving a 6" diameter spigot in the center. This spigot should be somewhere around 3/8" to 6" long and will be used for centering purposes.

Rough cut a waste block disc from a 2 X 4 or 2 X 6 that is an inch or so larger than the diameter of your faceplate. Screw it onto your faceplate and then mount the faceplate onto the lathe. True up the rim of the disc and then true up the face of the disc. Using a drill chuck in the tail stock, drill a half inch hole in the center of the waste block disc. Make it deep enough to accept the centering spigot that you turned on the bottom of the spigot on the bowl blank. Spread glue onto the bowl spigot surface and on the face of the waste block. Slide the waste block down over the centering spigot onto the surface of the bowl spigot. Rotate it back and forth a little bit until it begins to take a tack and then clamp it up using the lathe or a drill press as a clamp. Let it dry for a full 24 hours.

After it's dry, you can mount it onto the lathe and finish turn it, sand it and apply a finish to the entire bowl, inside and out with the exception of the bottom of the foot. At this point, part the bowl off of the waste block, make a jamb chuck which can be fastened to your faceplate and finish off the bottom to your satisfaction.

What's that? You say you don't know how to make a jamb chuck? Ok, let's deal with that now. In order to make a jamb chuck you will need to cut a disc that is larger than the outside diameter of your bowl. If you've made an eight inch bowl then cut a disc from a 2 X 10 or 2 X 12. Make a center mark and use your dividers to draw the largest circle your material will allow. One thing to remember at this point is that the diameter of this disc can be no larger than the swing of your lathe will allow. Mount your faceplate as near to the center of this disc as possible and then mount the whole thing onto your lathe. True up the rim and the face of the disc. Measure the diameter of your bowl and the wall thickness at the rim and mark this on the face of your jamb chuck. Using a parting tool carefully cut a groove in the face of your jamb chuck that will allow you to jamb your bowl rim into it. You can bring up your tailstock in order to hold the bowl in place if your groove cutting skills aren't quite up to snuff. At this point I will generally run four pieces of tape across the back of the bowl in order to keep things in place. I then run a piece of tape around the rim of the jamb chuck in order to secure the four pieces of tape that are holding the bowl in place. That's all there is to it. If you are going to start out with a dry piece of wood I would first cut it into a disc using a center mark and a set of dividers. I would then mount a waste block onto a faceplate as explained earlier but this time I would drill a small pilot hole into the center of the waste block. Drive a small nail into this hole and cut the head off of it. Let it protrude about a quarter inch or so. Bore a hole at the center mark of the disc that will accept the nail snugly. Apply glue to the waste block and the bowl blank and clamp it using the lathe or drill press or whatever you have. Allow it to dry for 24 hours.

At this point, the bowl can be turned and finished completely in one setting. Turn it, sand it and apply the finish and then part it off and follow the procedures described earlier to finish off the foot.