Bowl Turning

by

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The following article describes the production of simple open type bowls, which are easy to produce. Not much thinking, as far as design and other related items are concerned, is required. The sizes range from about 8” dia to about 14” dia and all bowls have a fairly heavy wall thickness from about 3/8” to ½” with wide rims, undercut to an appropriate wall thickness.

All turning is done on my older type, 1980 *“General 260”* lathe, to which I have added the 4” riser blocks and a *“Leeson Speedmaster”* DC variable speed control.

This article will not describe each individual technique, subjects such as: basic turning, tool performance and other turning related details. These items have been covered and described adequately in some of my previous postings. I only want to show and describe the basic steps involved for turning these types of bowls and turning them in a production type environment.

Having produced many items similar to these for over 25 years now, experience really cuts down the time it takes to produce these and subsequently being able to sell them at a reasonable price. They are not for the so-called “Art Market “ and most of my customers buy them for their usefulness in their daily chores.

All the blanks come from my ever so slowly decreasing supply of rough turnings I have produced over the last few years, Fig. 1 and 2. Most blanks for the items shown here are anywhere from one to five years old. They had been rough turned and coated with *“Anchorseal”* inside and outside and have been slowly drying in a well ventilated storage shed.

Fig.1

Most of the wood for these bowls are native hard woods, such as Silver Maple, Red Maple, Sugar Maple, Fruit Cherry, Black Cherry, Red and White Oak and others.

Fig. 2

All rough turning of the “green”, wet wood, was started between centers, a spigot was produced at the foot end of the bowl and the hollowing out was finalized with the chain or band sawed “round” held in a “*OneWay Stronghold”* chuck.

Fig. 3

For the rough turned bowls, shown in Fig. 3, a minimum drying period of at least 12 month is required, depending on the size , wall thickness and type of wood and they are now ready for finish turning.

The first step is re-truing the mounting spigot, where the inside of the bowl is friction driven by the sharp outer extended jaw edges of the chuck and pressure is provided at the foot end by the live center in the tailstock as shown in Fig. 4

.  Fig. 4  Fig. 5

I find it very efficient to complete this procedure for ALL bowls in a production run, in this case at least a couple of dozen, Fig. 5. One develops a rhythm doing this repeated operation. All of this is accomplished with a *"Sorby"* 1/2 " HSS bowl gouge and I attempt to finish cut the outside as much as possible towards the rim area.

At this stage a reasonable clean surface without any ripples can be obtained, although at a later stage much of this cut surface has to be re-cut slightly by shear scraping using a heavy square nose scraper.

Now the bowls are ready for mounting into the jaws of an *"Oneway"* chuck, Fig. 6.

To accommodate the various sizes of spigot diameters on these rough outs and other tasks in my studio, I have purchased two *"Oneway Stronghold"* and three *"Oneway Talon"* chucks over the years and the labor intensive changing of jaws is thus avoided.

 Fig. 6

All bowls are now turned and completed on the inside and on the outside as close to the chuck as possible. After finish sanding these surfaces a design, with or without color on the rim or the upper area on the side of the bowl is added.

I often make use of the unlimited capabilities of the *"Sorby"* texturing tool and it's various wheels. Fig. 7 shows a sampling of some of the designs on the Bowls I have turned for this article using this very versatile tool.

Straight or curved, single or double lines, diamond type hatching and orange peel like surfaces are just three of the designs of many which can be achieved within seconds after some practice.

Fig. 7

The bowls shown in Fig. 8 are now ready for finishing the foot area using the vacuum chucking method.

Fig. 8

Another step at this stage is to confirm the exact depth of the bowl and determine the material left for shaping the underside of the bowl.
I have an antique depth measuring device with a crossbar length of about 18”, which is well suited for this task. Fig. 9 shows the actual device and Fig. 10 and 11 show the actual procedure of measuring.
Better safe than sorry at this last step of turning. After the item is vacuum chucked, the thickness at the foot area of the bowl cannot be measured during this final operation.


Fig. 9


Fig. 10


Fig. 11

Fig. 12 shows my set up for the process of vacuum chucking, using a *“Gast”* pump with filters, vacuum gage and aluminum chucks from *“Oneway”*, Fig. 14.

Note the large ply wood hand wheel, Fig 13, which is attached to the *“Oneway”* rotary union of the system.

Fig. 12

Fig. 13

Fig. 14

The bowl is centered on the chuck aided by the tailstock center mark left from the previous turning processes. The revolving center is left in place as an additional safety procedure, Fig. 15, whilst removing the spigot.

Only at the last minute, while turning off the spigot material, the tailstock is removed and the bottom surface is sanded and completed and some decorative grooves and/or some additional texturing is applied.

Fig. 15

Note: If the bowl is not running true at the time the vacuum is applied, which happens frequently, the bottom part of the bowl has to be “feathered “ (turned) into the already finished top area of the bowl. Additional sanding towards the rim area will blend these surfaces together without any visible blemishes.

All bowls are power sanded using soft, 2” dia. foam type *“Velcro”* pads and *“Norton”* brand automotive type “*NoFill Adalox”,* B weight, sanding discs in grits of 120, 150, 180, 220, 240, 280, 320 and 400. I produce my own 2” dia *“Velcro”* type discs from the store bought 6” dia larger discs, using a bridge punch.

Fig. 16 shows a selection of finished turned bowls which will have my name, type of wood and a serial number added to the bottom.

Fig. 16

Each bowl is now given a couple of soakings of *"Watco"* clear Danish oil, with a wiping dry in between coats and overnight drying. Some of the larger bowls which are treated with *"Clapham's"* salad bowl finish, are food safe and can be used immediately.

After the oil treated bowls have dried for about one week, each one is polished with the *"Beal"* System, adding carnauba wax and as a final treatment all surfaces are lightly coated with a *"Renaissance"* brand microcrystalline wax, which protects these bowls from finger marks at future sales. Fig. 17 is a selection of finished bowls after the first coat of *"Watco"* clear Danish oil has been applied. Additional coats will darken the surface slightly.

Fig. 17

I find the above described procedure a very efficient way of producing large runs of plain bowls, because only about 4 cutting tools are used during the entire process. Standard type cutting tools such as a *"Sorby "* HSS ½" bowl gouge, an old *"Sorby"* carbon steel heavy duty domed scraper (1/2" x 2" wide) for the inside bottom area, a *"Sorby "* high carbon steel square end scraper (3/8" x 1 ½" wide) for the outside in the shear cutting mode and a ¼" x ¼" HSS *"Sorby* "skew for the beads, are used at the final finishing procedure.

The sanding procedure is a necessary evil, but soft foam pads and the above described sandpaper, together with my at source shop dust and chip extraction system, a ceiling mounted air cleaner and appropriate half face mask (*"3M Series 6000"*), makes this a safe and fast step in producing these open shaped bowls.

Fig. 18 shows a typical open type bowl made from quilted red maple wood, about 12" diameter. The dark area at the rim is the pith of the tree fortified and filled with C.A. glue and black embossing powder. The bowl has a slightly raised foot of about 5" diameter and the wall thickness below the ¾" wide rim is about 3/8" to ½" thick. There is also a very shallow line type texturing on the rim between two small beads.

Fig. 18

I have used all procedures, described in this article, successfully for many years, but I am sure there are many other ways to get the same end results.

With that in mind, I like to hear from anybody who can make further suggestions on how to improve my system (without spending a large amount of additional funds) and any input will be much appreciated.

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