Rough turning large Bowls (Revision 3)

Acquiring dry wood large enough to turn bowls, say over 12” diameter, or deep bowls at 4“ or more is almost impossible and if it is available from a commercial source, it is usually very costly. There is a way to get around this problem: Listen to the sound of a chain saw in your neighborhood or get friendly with your local tree service company. A lot of wood destined for the fireplace or local city dump is available for free (or almost free) from many sources. Now you have large log sections and if you intend to dry them as a whole log they tend to split and make them useless for turning bowls. I do not want to go into all the problems you can have and the reasons the wood splits in a radial direction because there are many other sources to find this information from.

When customers see a finished bowl or vessel many think these come from a round tree trunk where the outside of the bowl is the outside diameter of the tree trunk. At all my shows and demos I have a couple of 4” dia “ trunk” sections which explain how I get one or more large bowls from a tree trunk.

Photo 1) shows the outline of two large flat rimmed bowls which can be had by cutting two flat slabs after removing the inner part, the pith section, of the trunk and part of the outside. The pith section at near the center of a tree trunk usually contains dead or decayed wood and is usually the starting point of radial splits.

Photo 2) shows another method of cutting the trunk resulting in two large inner flat slabs (B) with the bark on the outer edge only and two outer slabs with the bark still intact (A). That would be the raw material for two large flat-rimmed bowls and two natural edge bowls as the outline shows.


Photo 1)

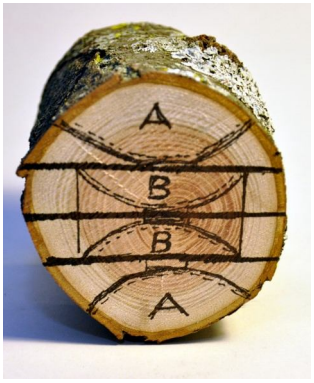

Photo 2)

There are many other ways to dissect a log, but the two methods shown are the most common ones and I use these methods most often. This article describes the steps when cutting the log as shown in photo 2).

A few weeks ago a previous customer of mine offered me large trunk sections and a lot of branch wood of fresh cut Black Walnut as shown in photo 3) and 4). Unfortunately the tree feller cut all the wood from the trunk section, which was about 30” in diameter, into relatively thin slices, none large enough to yield bowls of a large diameter over 20”. The general rule for the length cut should be the minimum of the trunk diameter, plus a couple of inches at each end and in this case about 30 to 34 inches. I managed to get some sections about 18” long. A typical log section is shown in photo 6) after it had been cut into slices.


Photo 3)


Photo 4)

With the help of my friend and fellow wood turner Mike Telega I selected some of the longest log sections, halved them length wise and loaded them onto his pick-up truck together with some larger pieces of branch wood, photo 5) and 6).


Photo 5)


Photo 6)

The rest of the cuts as explained above in photo 2) were made behind my shop. The slabbing to about 6" thick was done with my *Stihl* electric chain saw behind my shop shown in photo 6). A typical inner slab is shown in photo 7). The scrap ends beyond the actual blank indicated on the slab, including the sapwood were cut off and used for turning 5" dia rounds.

The inner and outer slabs were cut into rounds about 16" diameter on my *General* band saw which has a maximum capacity of 7". Cutting the inner slabs (B) was relatively simple by just following a drawn circle, see photo 7) and 8).


Photo 7)

Photo 8)

For rounding the outer slabs a suitable sized piece of cardboard was mounted on the bark side and by following the outer edge of the card board an almost perfect round disc was produced, see photo 9)


Photo 9)

The worst part of these tasks was lifting the heavy rectangular slabs onto the cutting table of the saw. The other alternative way of rounding the slabs would have been by using the chain saw, but the cuts would not have been that smooth and this would have effected the balance when rotating them on the lathe in the beginning stage of turning. Now the round blanks are ready for rough turning. The intent to rough turn these slabs into bowl shapes is to achieve an even wall thickness of about one inch or more. Any distortion during the later slow drying of the wood would result in distortion of the wet turned bowl shape without splitting the wood. This would be corrected later at the final turning when the blank has dried. I prefer to start all bowl or hollow vessel turnings between centers of the lathe, driving the "round" wood using various spur centers, four- or two-prong in assorted sizes. On some irregular shapes it gives me the opportunity to adjust the wood location to achieve the best grain orientation.

For the large inner slabs the weight of the blank and the resulting safety concerns makes the use of faceplates almost mandatory. A standard small 4-spur drive center is not suitable for these large round slabs and a face plate bolted to the wood makes it easier to fasten the heavy disc onto the drive spindle. In this case there was no problem with the grain orientation.

The first step was to produce a spigot at the bottom and turn the outside. Then the bowl was reversed and mounted in a *Oneway Stronghold* chuck using the largest jaws for hollowing the inside, see photos 10) to 14).

Although I used the largest opening on the jaws of the chuck I still found some vibration when I started turning the outer rim using my 5/8" bowl gouge. As it can be seen in photo 14) for additional support I used a Morse taper extension with a revolving tail stock center (in this case the *Oneway* brand) with the large cone, because I pre-bored a 1 ½" center hole to the depth of the intended bottom of the bowl. The pressure of the tailstock dampened the vibration significantly.

No matter how well fitting the spigot is in the jaws, because the flexibility of the wood at such a large overhang from the drive center this still can create problems. The tail stock extension gives more room to finish the inside until only a small cone is left. The tailstock support is removed and the final shaping of the inside of the bowl is completed.

A word of caution: If you are using a method of slicing slabs as shown in Photo 1) where the foot of the bowl is near the sap wood, be aware that the holding power of the chuck jaws on sap wood is much less than holding on heart wood as shown in photo 2) slab (B). While the heart wood is stronger than sap wood, it is still very possible to break a tenon off with overaggressive turning. Light cuts are best.

Photo 10)


Photo 11)


Photo 12)


Photo 13)


Photo 14)

During this entire process a 5/8" dia. bowl gouge with a long grind and for the lower inside a 3/4" dia bowl gouge with a steep grind were used exclusively. In the beginning the process is a bit of a bumpy ride, but by using only the small tip of the business end of the 5/8" dia. gouge and making small cuts, a smooth surface is achieved fast. The bevel should be riding that surface and depending on the HP available from the lathe a large amount of beautiful wet, large shavings will be obtained, photo 15). The rough turned flat edge bowl is shown in photo 16).


Photo 15)


Photo 16)

The following procedures are for turning a large natural edge bowl from blanks type (A) as shown in photo 2). Compared to turning a flat edge bowl type (B) there are a couple of different procedures to follow. One of them is at the start for producing the spigot. The second is the use of thin C.A. glue. More about that later.


Photo 17)

The bark on the sawn slab shown in Photo 17) is between 1" and 2" thick and to rotate this heavy chunk of wood a drive spur center must be seated in solid wood, at least on the sapwood.

A small regular four-spur drive center in a predrilled hole of about 1 ¼" diameter to the depth of the sapwood has not enough gripping surface in the soft sap wood and only will drill itself further into the wood when attempting to rotate the disc. On occasions like this I use a large 2" diameter 2-prong drive center made by *Best Wood Tools* shown in photo 18). It is also available in a 4-Prong version. Similar heavy duty drive convertible centers with removable spurs are also available from *Stubby Lathe USA*. These attach directly to the drive shaft of the lathe.


Photo 18)

The grooving on the *Best Wood* Drive fits the medium jaws on either the *Oneway Stronghold* or *Talon* chucks. In this case I used the *Oneway Talon* chuck which has an outside diameter of 3 ½ ". The bark has to be removed to reach the sapwood and I enlarged the hole in the bark to about 4". I used a 2" dia Forstner bit and nibbled at the surface to get the recess large enough, photo 19) and 20).


Photo 19)


Photo 20)

The rest of the procedure, turning the outside, producing a spigot and hollowing the inside is similar to the steps for roughing the blank for a flat-rimmed bowl as described before, photos 21) to 23).


Photo 21)


Photo 22)


Photo 23)


Photo 24).

The two rough turned natural edge bowls are shown in photo 24) and all four rough turned bowls from the log section shown in photo 6) are shown in photo 25) and 26).


Photo 25)


Photo 26)

The bark thickness on items shown in photo 24) ranges from 1” to 2”. The thin section (cambium layer) between the outer bark and the sapwood has been soaked with thin C.A glue to avoid any loosening of the bark from the sapwood during the drying process. The chances of staying attached are always better when the tree is cut in the Fall or Winter.
For additional info about tree trunk structure go to https://youtu.be/fMXmro6op30.

The only step left is to dry the bowls slowly and to avoid fast drying I coat all my green turnings inside and outside with *Anchorseal* , a water and wax emulsion. It is a water-soluble substance which has creamy appearance upon application , but it dries to a clear finish, see photo 27).
Do not seal the bark itself or the edges.

Shown in the background in photo 27) is a batch of smaller natural edge bowls (6" to 10" dia) turned from some branch wood of the same tree. Also shown are some pre-turned rounds (2" to 4" dia.) where only the ends are sealed.

Photo 27)


Photo 28)

These rough turned Bowls are now stored in a well ventilated shed until the wood reaches a moisture content of about 12 to 15%, which in the case of these Black Walnut bowls I guess it takes about one year, depending on the temperate conditions throughout the seasons. Photo 28) shows a typical shelving section in my wood drying shed.

Notes about safety:

The above described procedures for turning large regular (flat top) or natural edge bowls apply to turning all bowls of similar shapes. The only difference is the sheer size of the pieces of wood in the pre-turned stage and if you are a beginner turner it is advised to seek the assistance of an experienced turner.

Observe all safety rules published by the American Association of Woodturners (AAW) such as wearing a full face shield and safety boots. A fingerless glove on your left hand to protect the upper surface of your hand from flying chips is recommended. If you are allergic to Black Walnut wood wearing a respirator type face mask to avoid breathing the smaller particles is a must. Actually wearing a half facemask such as the 3M 6000 series is recommended during all woodturning procedures. Ensure the lathe you are using is of adequate capacity, has an adequate motor HP rating and starts out at a very low speed for larger turnings.

Some older model lathes are described as having "variable speeds" where the rpm's are controlled by changing belts to different pulleys or via "Reeves" drives. A lathe which is not heavy enough and which has a minimum starting speed of say around 400 to 500 RPM is NOT suitable for turning large unbalanced pieces of wood weighing 40 to 60 pounds or even more. This speed is not low enough to perform the first steps of turning large rough sawn bowls safely.

Most of my larger and heavier turning is produced on my 1986 vintage *General 260* which has been fitted with riser blocks to give a capacity of 20". I also fitted the drive section with a DC motor and control the speed with a *Leeson Speedmaster* adjustable drive with speeds starting at zero RPM.

The methods explained here are those I use in my Studio most of the time. There might be many variations to what I have described and if you would like to suggest any other methods which make turning easier and safer, or need additional information or clarifications, please do not hesitate to contact me.

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