

Turning a Larger Piece on a Nova DVR

by Anthony Napoli, CMW

I have wanted to turn larger pieces for some time now but was held to the maximum of 16 inches as dictated by my lathe, the Teknatool Nova DVR lathe. This past summer I decided it was time to add capacity to my lathe. I purchased the outrigger attachment for my lathe. The outrigger attachment from Teknatool will allow me to turn pieces up to 8-1/2 inches thick with a 29 inch diameter. The unit was mounted directly to the frame below the headstock hand wheel. It is easily stored behind the headstock and is completely out of the way. When needed, it easily and quickly swings into position and is adjusted to the piece of wood to be turned.

Once I added the capacity to turn larger pieces, I began the process of finding wood to turn. Sometimes your timing is not what it needs to be and that proved itself recently when I came home to find a neighbor just around the corner cut down a large American Sycamore tree with a diameter that varied between 24 inches to 34 inches.



This photo shows the outside fibers of the piece of Sycamore.

As I was talking to him about the tree he stated that the first tree

service he had contacted would not cut the sycamore because they described it as tough, coarse-grained wood. My neighbor described it as fibrous or vine-like making it hard to cut. He gave me permission to cut a piece from the stump if I could use it to turn a piece.



Side view shows the variation in shape of the piece.

I was fortunate that the remaining stump allowed me to cut a six inch slab for a piece that was 18 inches by 24 inches with the center of the tree on one side. I decided to set it aside to dry for several months before I attempted to turn a piece from it. Since the pith was on an outside edge of the piece I expected no problems. However, approximately three weeks later I noticed that cracks were developing on the surface and radiating out from the center across the growth rings.

Not wanting to lose the piece to the cracks, I decided to turn as large a bowl/platter as I could. I wanted to have the best grain pattern for this piece and I used my sizing circles to determine the best part of

the half circle piece of wood to cut my blank from.

Once I decided where the best grain and color was located I used my large scribe to scratch the circle on the wood. I then used a black sharpie to highlight the line before I cut the blank out of it on the band saw.

Once I had the blank cut, I mounted it on a faceplate using the scribe center mark for positioning.

As I stated before, it is an easy process for using the outrigger assembly:

- I repositioned the headstock 90 degrees by loosening the locking pin and head stock release handle.
- I mounted the blank to the head stock and ensured that it was secure.
- I loosened the outrigger assembly and rotated it into position.
- I loosened and moved the tool rest support tower into position and inserted the tool rest, adjusting it for height and orientation to the blank.

The blank had a tapering thickness from four inches up to six inches resulting in an off-balance situation. As a result of this I reduced the factory pre-set speed of 500 rpm down to 150 rpm.

Since my neighbor stated that sycamore is tough to cut and dulls chain saws, I chose to use my one-half inch bowl gouge and sharpened it before starting my first cut. My goal was to complete this piece in one day for two reasons:

1) to reduce the shrinkage and warping that I expected this piece to do.

2) since there were radial surface cracks I did not want to take the chance of those becoming part of the finished piece.

The reason I was concerned about the shrinkage and warping of the piece was due to my experience a couple of weeks before. I had turned a bell from a smaller piece of sycamore and overnight it went from round to oval.

I started cutting the blank to reduce the six inch thickness down to the four inch thickness for uniformity and to allow me to increase the speed of the lathe.

Once the blank was a uniform thickness I stopped to consider what the base should look like and the ultimate shape of the piece. Since I knew that this piece was bound to warp I wanted to maintain a level contact with the surface it would sit on. As a result I decided that creating a base with three feet would compensate for any warping. I also wanted to remove the radial cracks from the bottom of the piece. At this point I was able to increase the lathe speed up to 700 rpm which gave me a smooth cutting finish. This process removed approximately one-half inch from the overall thickness. I then started to round over the edges toward what would be the top. I also wanted to incorporate into the feet a decorative element from the resting base for the chuck which required almost another quarter inch of material removed to form this step detail. The goal was to have a footed bowl standing at around 4-1/2 inches.

Now that the bottom of the piece was formed and brought to 600 grit smoothness, I reversed the piece into the chuck. Upon reversal of the piece, the first thing that I noticed was that the pith was positioned on

the lip and there were radial cracks also present on the lip.

At this point I decided to reduce the height of the bowl from a depth of approximately 3-1/2 inches to around a 2-1/2 to three inch depth. This change would create a footed bowl with a 3-1/2 inch height. I was able to increase the lathe speed to 1000 rpm and started both reducing the thickness and hollowing out the piece.

As I took the height down, I created a stepped pyramid in the center. I wanted to maintain stability in the piece as long as possible. As I hollowed out the bowl section I made the wall thickness 1/4 inch thick and maintained that all the way to the bottom. Upon completing the hollowing process I smoothed the inside to the same 600 grit smoothness.

The piece was beautiful. I decided to take lunch. This is where I made one mistake: I did not cover the piece because I was only going to be gone a short time. Surprise!!! When I returned I found that not only did I have a crack forming in the center where the piece was thickest, I also saw the piece warping and shrinking. It was now no longer round but was approaching more of a triangle shape. I was fortunate that I had finished the piece to its final smoothness.

I removed the piece from the chuck and started laying out the lines for the feet at 0, 120, and 240 degrees. To remove the material and form the footed base I used the Proxxon Power Carver that I purchased at the Klingspor Extravaganza. It came with three cutters: flat, oval, and v shaped. I used all three to create the feet. I found that as I reduced the thickness from the center of the bowl that the crack

seen on the inside went all the way through the piece.

I decided to fill the crack with brass shavings. Once I completed the feet and filling the crack I power sanded the remainder of the base. I finished the piece with four coats of mineral oil which stopped the piece from warping further and gave it a nice soft sheen.



The finished piece is rather odd shaped from the beautiful round when finish turning.



This photo shows the amount of shrinkage from when the blank was cut from the block of wood.

A few things I learned during this project:

1. In the past when I have a piece of wood that I have received wet, I normally coat the ends and let it air dry. Normally if it cracked, it did so along the length of the log. What I found with this piece of sycamore is that it did not crack down the sides but it uniformly shrank and cracked across the face.

2. I found that sycamore cuts well with a sharp gouge but you

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need to sharpen it as soon as you notice it starting to drag. I sharpened it a total of four times during this project. Two times to complete the back and foot area and two times to complete the front or inside of the bowl.

3. Finally, in the past when I left a piece in the lathe for a short time that there were no adverse effects to the piece. As I learned with sycamore, I need to start covering the piece no matter how short a period of time I will be leaving it.



This photo shows the Nova Outrigger mounted to the lathe bed and in position for turning.

The Nova outrigger assembly is very easy to attach to the lathe and to use. It attaches to the lathe with two bolts provided. As I stated in the first paragraph the outrigger swings from its stored position alongside the headstock, to the use position by turning a sliding t-handle. The tool rest is positioned on a tower that also slides for perfect positioning to the blank, also by turning a t-handle. This takes all of a minute to set-up for use. The one disadvantage that



Front view of the lathe with outrigger in position to turn wood.

I have in using the outrigger is not with the outrigger itself, but in fact that I do not own a faceplate with 1-1/4" x 8 threads. As a result I had to use my SuperNova2 chuck and faceplate ring.

This reduces the thickness of the block that I can conceivably turn with the outrigger attachment by approximately four and a half inches. Otherwise, I would recommend any Nova lathe owner's that wants to turn larger diameter pieces, to purchase the outrigger assembly.



This view shows the outrigger stored in position at the end of the lathe bed. It is out of the way for normal turning.

This was a very satisfying product to use and produced a very satisfying project. I definitely learned a few things. Find a challenging piece of wood and design your next project.

Editor's Note: This is the first review we have had on the Nova Outrigger. I have often considered purchasing one, but felt I do not turn large enough pieces to warrant the expense. Sounds wonderful.

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