



Dale's Woodturnings

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My Home Made Bowl Turning Lathe

I have enjoyed wood working including wood turning for many years. When I turned my first bowl in the early 1980's using my old 9 inch South Bend metal turning lathe I was smitten. With limited funds to spend on a wood lathe I decided I would build a bowl turning lathe.

The following photos and text describes the process of building this lathe.

[New and Improved Banjo - \(4.15.2011\)](#)



This photo shows the finished lathe with the exception of adding the switch. It has a 1 horsepower motor with a speed range of approximately 575 - 2300 RPM.

As setup in the photo, an 18" diameter bowl can be turned, the bed can be lowered 5" increasing the turning diameter to 28". The bed can also be removed and an outboard turning stand be used to turn much larger diameters, limited by the motor location.



Because of the limited funds I mention earlier I started scrounging for parts at scrap metal dealers. I found the pillar block shown in the photo and some bar stock to use for the spindle.

I turned the spindle on my Southbend metal lathe, the spindle is threaded 1 1/2" by 8 tpi, this is the same size as my metal lathe so my chucks and face plates will fit.

I built the spindle assembly in the early 1980's, it laid around the shop for years and followed me through several work related moves.



The completed spindle assembly.

I did have to buy the four step pulley new. The appearance of the pulley is due to the many years of storing and moving.



Jump forward to 2009. I was planing to retire at the end of 2009 so I decided to finish the bowl lathe that I started in the 1980's.

As you can see in the photo I now have a 12 inch Rockwell/Delta wood lathe.

The main post for the lathe was made of 4" "H" beam with approximately 5/16" thick sides and web. A 1/2" plate was welded to the top to mount the spindle assembly and feet were welded to the bottom.



The lathe bed is made of 3" X 3" X 3/8" steel angle. The angle is welded to a 1/2" plate that will be bolted to the main post. There are several sets of holes drilled in the post so the bed can be moved up or down based on the diameter of the bowl to be turned.

The bed is 12" long. Generally this is OK, however, I did not realize that a bowl mounted in a chuck would extend so far beyond the post. The bed should be at least 18" long.



The banjo is made of 2" X 2" X 3/8" steel angle and a piece of 3" bar stock with the upper portion turned down to 2" diameter with a 1" hole for the tool rests.



The motor mount is made of 1/4" flat steel plate welded to 1/4" flat bar stock. The motor mount will be bolted to the main post.



The semi completed bowl lathe out for a test drive.

Turning a 10" or 12" bowl from a reasonable well balanced bowl blank goes well, however, when turning a large out-of-balance bowl blank the lathe vibrates, actually, more of a twisting action of the main post.

To fix the vibration problem I welded a 4" X 1/4" flat steel plate to each side of the "H" beam, basically creating a double box beam.



Turning a 17" X 6" cherry bowl on the completed bowl lathe.

The lathe works even better than my expectations, it's bolted to the floor and is very solid.

The only two things I would do differently are:

- 1) Make the bed 18" long.
- 2) Build the main post out of 4" or maybe 6" square tube or box beam.

I have some improvements planned:

- 1) In the photo, I have to use a wrench to adjust the tool rest. I have already replaced this bolt with a new bolt with a handle in the bolt head, this makes it much faster to adjust the tool rest.
- 2) I plan to make a quick release for the banjo, this is currently in the planning stage.
- 3) I plan to move the switch to the back side of the spindle. Now it gets in the way when working close to the back side of the chuck.



New and Improved Banjo (4.15.2011)

After several months using the lathe and always looking for the wrench when I need to adjust the banjo ("now where is that wrench, must be somewhere under this two or three inches of wood shavings") I decided to upgrade the banjo.

The new banjo is based on and uses the same cam action system that is used on my Delta/Rockwell Lathe.

It may look strange for the handle to be on the backside but it works well this way, I grasp the handle with my right hand and the tool rest post with my left hand and move the banjo where needed.

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