

# BOWL TURNING

DRW '06

The techniques for turning a large bowl or a small one are the same.

When turning have confidence, a relaxed attitude and practice. The more you turn the better you get. Have a feel for what is happening. Get comfortable with the cut.

## Items to be covered:

Safety	Face Plates
Tool Sharpening	Mounting Screws
Lathe Speed	Chucks
Lathes	Glue

## Remember:

Always have sharp tools.  
Have fun – its only firewood.  
Practice turning.  
Keep an open mind.  
Be relaxed.

## Safety:

Safety glasses – when turning or sharpening.  
Face shield – always use when turning wood with bark on and material prone to cracking.  
Dust mask – use a good quality product.  
Dust collection – use fans – vacuums and or vacuum systems.  
These two should always be used when sanding or turning spalted wood and soft stone material.  
Don't wear loose clothing or jewelry – roll up sleeves.  
Make sure the work clears the tool rest before starting the lathe.  
Dull tools are dangerous – they require more or excess pressure to make them cut.  
Use Common sense at all times.

## Lathes:

Lathes come many sizes, prices, colors and quality. Belt driven and variable speed. Your choice of lathe will depend on what you want to turn and price. Check with other knowledgeable turners and if possible practice on different makes.

Spindle height should be at elbow height. You may need to add risers to the bottom of the lathe stand or in some cases a platform to stand on. But in any case be comfortable.

## Tools:

I recommend high speed steel tools that have a heavy cross section. HHS tools are more expensive than carbon steel, but are well worth it. Be careful when purchasing HHS as some are of a lower quality and do not have a good shape or thickness.

Check with other knowledgeable turners if you intend to make your own tools. I do use a few for small work. DO NOT use the roughing gauge for bowl turning.

## Safety Formula for Bowl Turning:

Diameter X RPM = 6000 – 9000

Example: Bowl blank is 8" in diameter

8" x 750 RPM = 6000

8" x 1125 RPM = 9000

The 6000 and 9000 are not RPM's it is a range of numbers for safe operating speeds. Also, if the bowl blank is out of round use slower speeds and check for lathe vibration.

Recommend maximum reach over tool rest.

**Do not exceed.**

Bowl gouges

Gouge	Shaft Diameter	Max Reach
1/4"	3/8"	1 1/2"
3/8"	1/2"	2 1/2"
1/2"	5/8"	3 1/2"
5/8"	3/4"	4"

The length of tool handle should be five times the maximum distance you intend to reach beyond the tool rest.

Keep tool rest close to work at all times.

## Tool Sharpening:

You must have sharp tools – this is the one item that makes bowl turning a joy. All of my bowl gouges have swept back or fingernail shape. If sharpened straight across I tend to get more catches.

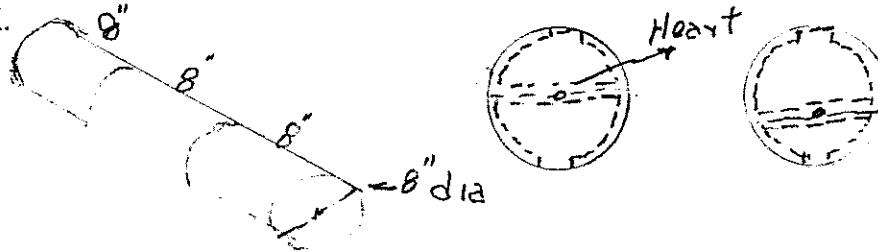


The bevel can and needs to be of different lengths (angle). When hollowing out a bowl you must always keep the bevel rubbing – therefore on a deep bowl the bevel needs to be shorter. The bowl wall restricts the gouge movement. In most cases the bevel should be between 40 and 55 degrees. The fingernail grind makes the entrance into the bowl much easier for the hollowing out process.

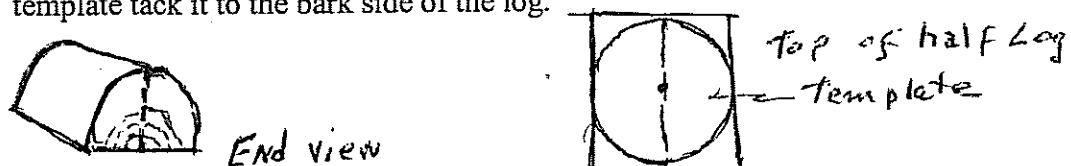
## PREPARATION OF MATERIAL FOR BOWL TURNING

### Log:

An eight inch diameter log will yield about a seven and one-half inch to eight inch bowl.



This log could yield six bowl blanks. The green log should be cut about four inches longer than needed due to checking on end grain. As soon as possible after cutting seal end grain with wood sealer and or latex paint. Cut log to lengths about ten inches long in this case. Then cut log in half through the heart – keep growth rings as equal as possible on both sides of the heart as shown above. Draw a line vertical from the heart of the half log to the top. Scribe a line on the bark side from end to end. Locate the mid-point and using an eight inch diameter template tack it to the bark side of the log.



Now you can band saw around the template – mark the center on both top and bottom of bowl blank. If not turning all blanks (green wood) at this time be sure to seal the end grain and about an inch on the flat side.

### Turning the Bowl Blank:

I usually turn these green bowl blanks between centers with the flat side (top of bowl) at the head stock and the bark side at the tail stock. This allows me to make any adjustments that may be necessary. Be sure to keep the tail stock – live center – turned up tight.

Bring up the tool rest close to the blank at the tail stock and a little below center. Use a three eighths or half inch bowl gouge to begin turning the blank to a bowl shape with a pulling cut. It is not necessary to turn the blank to round as this will be accomplished as you shape the outside of the bowl. When you are satisfied with the shape establish a foot on the bottom to accept the scroll chuck. An eighth inch or quarter inch spigot is long enough. Be sure there is a flat area for the face of the jaws to sit on – this is very important. Do not have the spigot so long that it bottoms out in the scroll chuck.

If you do not have a scroll chuck you can mount the base of the bowl on a wooden face plate with CA glue. This is the only glue that will hold green wood to a face plate. Do not use two sided tape. If you have left enough wood on the bottom of the bowl you can use a metal faceplate with about six screws or more. They should penetrate into the wood about one-half inch. Use No.12 sheet metal screws – DO NOT use sheetrock screws - they are too brittle.

Now remount the bowl blank on the head stock and proceed to remove the center. Use the 3/8 or 1/2 inch bowl gouge to remove the center. Cut from the center of the gauge to the bottom of the gouge – always keep the bevel rubbing. Keep the thickness of the wall about three fourths to seven eighths thick to allow for warping on an 8” bowl. When completed remove from lathe and coat the end grain both inside and out with wood sealer to prevent splitting. Place in cool area on the floor for a month or two – then move to a higher area. This bowl should be ready to finish turning in about six months. Some turners use the microwave to dry the wood. Be careful with this method – check with other turners.

Finishing the rough turned bowl begins with tuning up the foot tendon. This is accomplished by using a 3 or 4 inch wooden plug in chuck or screw center and placing the inside of the bowl over the plug and bringing the tail stock up to the center of the foot or tendon. Proceed to trim up the foot and the outside of the bowl. Then reverse the bowl by putting the foot into the chuck and trimming up the outside with a sheer-scrape using a half inch bowl gauge. This will give you a good finish. Proceed to finish the inside of the bowl always keeping the bevel rubbing and let the wood come to the tool. When completed about 3/16 to 1/4 inch thick sand thru the grits to 320. Again reverse the turning as above and finish the foot.

Good luck – I know you can do it.  
Be sure to have sharp tools and practice.