

Trent Bosch

Notes on Turning and Sculpting Wood

Objective

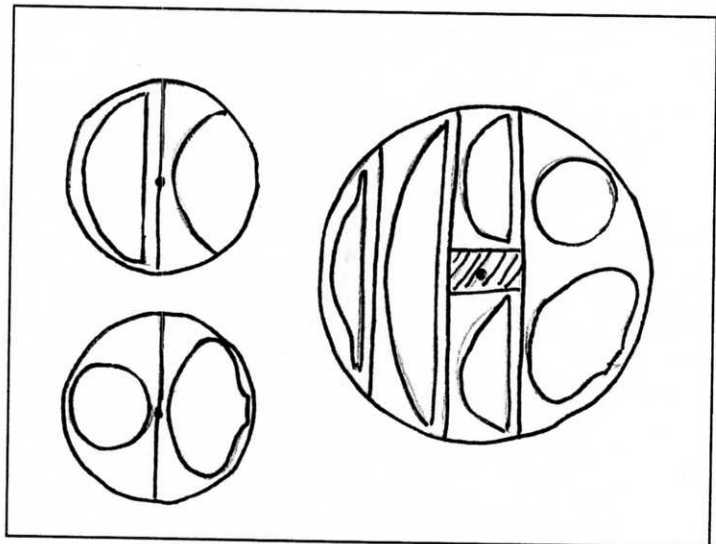
Over the past 15 years I have been exploring the creative possibilities and the unlimited potential that turning and sculpting wood has. This information sheet is to be used as a supplement to my hands on classes and demonstrations. My objective is to broaden your knowledge base and to expand your potential creative possibilities. There are many ways to approach woodturning below are some that work for me, you need to find what works best for you and as always enjoy the creative process.

Materials

I use mainly green (the wetter the better) domestic hardwoods, Acquired from arborists or individuals removing trees due to development, old age or storm damage. My favorites in my area include silver maple, ash, honey locust, elm etc.. I rarely turn down a piece of wood even if it is not one of my favorites (you never know).

Cutting The Material

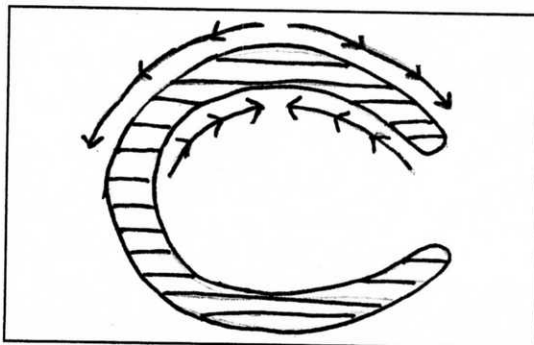
Starting with the log allows you to have complete control over the process giving you the ability to lay out the grain in any manner you see fit. I usually begin by removing the pith (center of the tree). This will remove an area that is prone to cracking, although this is a general rule there are certain situations where the pith being included will create interesting grain patterns.



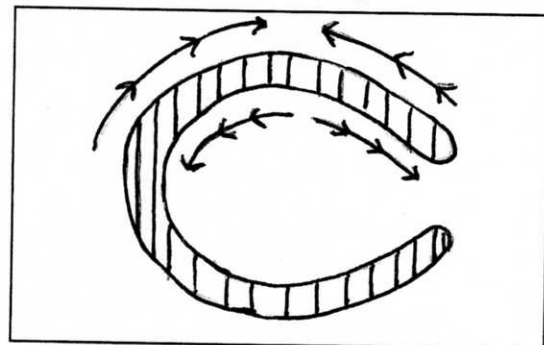
Layout of various forms in small and large logs

Grain Structure

Paying attention to the grain structure of the wood is important for two reasons. 1) The aesthetic success of the piece relies on thoughtful layout. 2) Cutting the wood the proper direction will allow for much cleaner cuts which in turn cut down on sanding time.



End grain Direction of cut



Face grain direction of cut

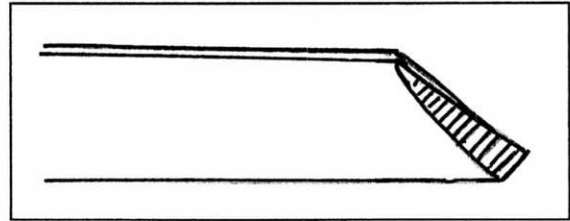
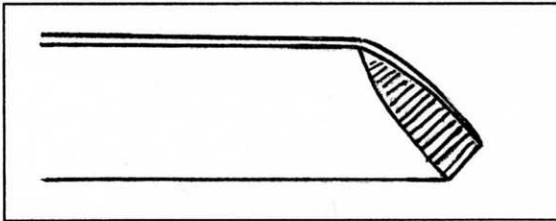
Tools

My basic tools include: 5/8" bowl gouge, swept back grind, 3/8" bowl gouge finish cut grind, 3/8" spindle gouge, fingernail grind, double ended scraper, and hollowing tools.

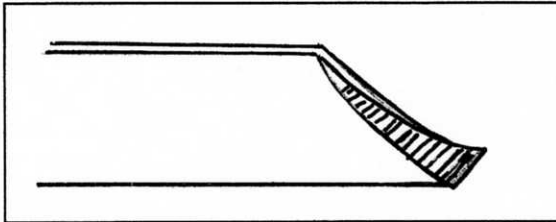
I use the sweptback grind bowl gouge about 85%-90% of the time I am on the lathe.

Sharpening

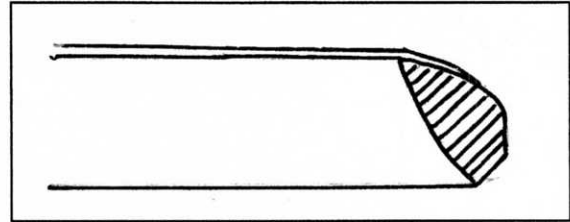
- Wheels: 60 grit works best (bread knife theory)
- Grind very carefully like you are grinding your fingernail. It does not take much pressure at all.
- Jigs are great if they get you the grind you want. To get the best results with jigs do not change the set up. Consistency is a very important Part of using jigs



Best grinds for the swept back grind gouge, with a 60 degree bevel angle



Grinding too much on the sides.



Grinding too much on the front.

Slow speed versus Fast speed

Slow speed (1725) is better to learn on or for doing grinding by hand.

Fast speed (3250) is for use with jigs and more experienced grinding.

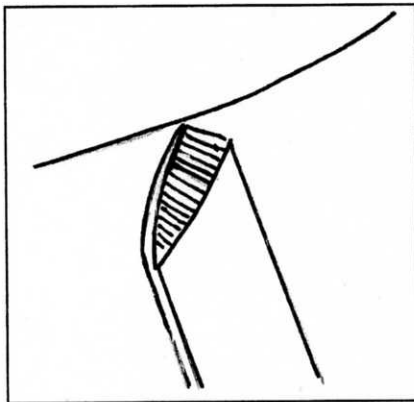
The height of the grinder is important. Get it up higher so you can see what you are doing. I set the height of my lathes to about 2" above my elbow. This is also where I put my grinder

Tool Usage

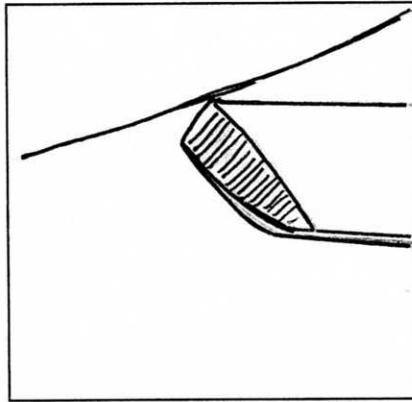
Ride the bevel, ride the bevel, and ride the bevel!

Doing so gives increased control and will slice the wood off rather than rip it off.

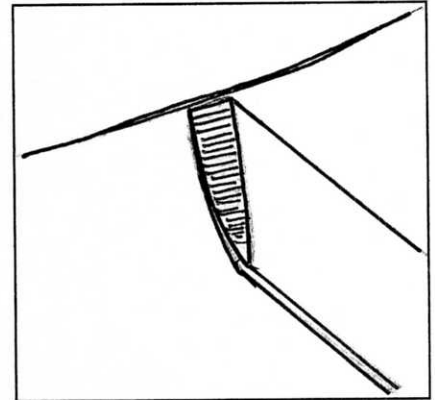
Riding the back of the bevel will make the tool cut out – riding the front of the tool will make it cut in. This is controlled by the movement of the tool handle. This is what allows you to shape the wood into the desired shape



Riding the front



Riding the back



Just right

Use the tool you are most comfortable with and can get the form you like from.

Sheer scraping cuts vs. Shearing cut

Sheer scraping is still scraping. It is just at an extreme angle that allows the tool to get more of a shearing cut reducing tear out.

Shearing cut will always produce a very clean cut if used properly. But it is hard to get into some locations and getting a good fair curve takes some effort.

Lathe

- A good stout lathe is important and will not hamper the creative process.
- Set up the lathe so the center of the spindle is about 2" above your elbow. This will allow you to turn for extended periods of time without fatigue.
- Variable speed is great and should be considered a necessity
- Cast iron is an ideal machine tool material.
- I would make the same object on any lathe of good quality (a \$6000.00 lathe will not make your work better than a \$2000.00 lathe)

Safety

When using machinery of any kind you need to always be focused on the task at hand do not let your mind wander. Accidents happen when you are not paying attention to what you are doing. If you find yourself getting fatigued or tired mentally or physically it may be time for a break.

Eye protection, face shield, ear protection, no loose clothing or hair, etc.

You should go through a safety checklist before you turn on the lathe.

- Proper personal safety equipment
- Tailstock in place and tight
- Lathe on the lowest speed
- Tool rest won't hit the piece when the power is applied
- Material is suitable for turning
- Area is clear of others

Lathe speed

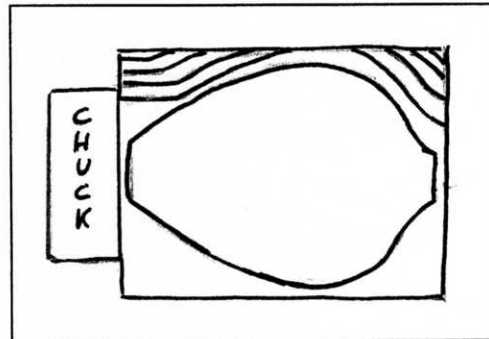
There is no super easy formula for figuring out the best speed. The speed on a large piece will be much slower than the speed on small piece. The best way to approach it is to not turn the speed up any higher than you feel comfortable with.

Hollow Forms

Mount the piece between centers to allow you to change the axis of the piece if needed for design considerations or removal of a defect. I do both face grain and end grain hollow forms. Tooling – you will need tools to allow you to remove the inside. Long and strong are important. The tool will have to hang far off the tool rest. Find a set of tools that you feel comfortable with and use them a lot. There is no substitute for practice.

Shape the exterior to its final shape first. Leave the bottom with extra material for support of the hollowing process.

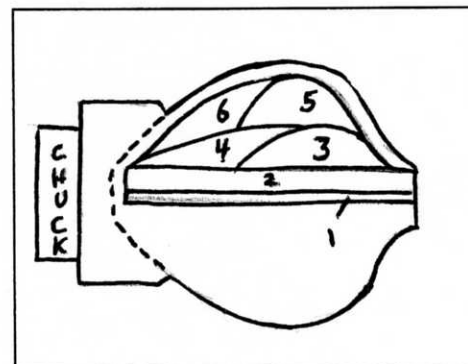
Do not begin hollowing until you are totally satisfied with the exterior shape. Once hollowing begins you will not want to go back to the outside.



Shaping the outside

Steps in hollowing:

- 1) Drill a hole down the center to 1/2" above the expected outside depth.
- 2) Open up the vessel all the way down to the bottom of the hole. Note: steps 1 and 2 could be accomplished with a forsnor bit in the tailstock. (I prefer to do it as described in step one and two.
- 3-4) Open up the hole, further allowing more room in the vessel.
- 5) Get around the top corner starting to refine the final wall thickness.
- 6) Saved for last to allow support for the other steps.



Steps in hollowing

Steps 2-4 Straight tools

Steps 5-6 Bent tools

