

Cindy Drozda

"The Fine Art of Woodturning"

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CD's Grinding Setup

This is my recommendation for a grinding system to shape and sharpen woodturning tools. There are other systems out there, such as the Tormek, JoolTool, etc, that offer specific advantages. I consider those other systems to be useful only *in addition* to the basic bench grinder system, which is the workhorse of the turning shop.

Product	Notes	Sources
Grinder Motor	8" diameter wheel capacity will sharpen cooler and faster than 6". Well worth the extra money! I recommend a high speed, variable speed, or 2 speed. Slow speed is easier to learn on, but slower to get the job done. With balanced wheels, it is not necessary to have a slow speed grinder to reduce vibration. It's not necessary to get a super high quality grinder motor. Spend your money on a balancing system and good wheels!	They are available everywhere! Often Woodcraft, Rockler, Delta, etc. offer sales on certain models.
Grinding Platform/Jig system	I like to have more than one platform, each set for a different grinding angle. System can be ordered with extra platforms. I would pass on the Vari-Grind Jig and Vee-Arm attachment which usually comes as part of the system. See about ordering an extra platform instead. The Stuart Batty platform system is more money, but it is more adjustable and easy to use.	Craft Supplies USA (www.woodturnerscatalog.com): 130-4100, 130-4180 Packard: 142611, 142630, 142631L&R SB tools – woodturning.org Woodworkersemporium.com
OneWay Wheel Balancing System	Even a cheapo grinder will run smooth with balanced wheels. Balancing compensates for different densities in the wheel. It is not the same thing as dressing the wheel true. ***You will need to order wheels with a 1" center hole to use this system!***	Craft Supplies USA:1302272
Coarse wheel: Norton 3X, 46 Grit, K Grade	For rough shaping of tools. The Norton "Ceramic" 46 grit 3X wheel is the best out there for cool, fast grinding and long life. The "K" Grade wheel is harder and will last the longest. Dress this wheel with a Star Wheel dresser for most aggressive grinding. The wheels that came with your grinder should (in most cases) go into the trash, in my opinion!	sharpeningsupplies.com highlandwoodworking.com toolsforworkingwood.com
Fine Wheel: Norton 3X, 100 or 120 Grit	For sharpening of tools. A fine wheel gives a finer, longer lasting edge, and your tools last longer. The 3X wheel does a better job of sharpening the "powder metal" tools (Hamlet 2060, Crown ProPM, Glaser, OneWay Mastercut, Thompson, CPM10V, A11, etc) than plain Aluminum Oxide wheels. I do not use plain Aluminum Oxide wheels at all any more.	See above 3X sources
CBN wheel	The new CBN wheels are made up of grit particles bonded to a steel core. They grind cooler, don't wear down, are safer, and never need dressing. The fine grit will leave a mirror polish on your tools. CBN does the best job of sharpening those Powder Metal tools. I turn with my tools right off the grinder, without honing.	Cindydrozda.com OptiGrind.com
Diamond dressing tool	Puts the best smooth sharpening surface on a fine grit stone wheel. Many different types are available. I like a wide diamond-impregnated surface, rather than a single point type. Don Geiger's single point jig, and OneWay's too, are more accurate, but the wide diamond stick is fast and easy.	CSUSA: 156-3000 is a good one. Other similar products are available, carried by most woodturning suppliers.
Star Wheel dressing tool	The old fashioned type of grinding wheel dresser with the rotating steel wheels. It puts a good aggressive surface on your coarse stone wheel for rough shaping of tools.	Grainger .com
Diamond or CBN Hone	For cleaning up the inside of gouge flutes, honing skewes,	www.alanlacer.com - diamond

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	deburring, smoothing the tool rest, and other jobs around the shop.	hone OptiGrind.com - CBN hone
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Additional Grinder advice that I offer (my opinion only, of course!):

1 - Use 8" grinding wheels. 6" grinders are available all over the place, but once you use the 8" you will wonder why you waited so long! I wouldn't pay a lot of money for the grinder, either (unless you have plenty of it). Save your money for good wheels and a balancing system. A 2 speed (or variable speed) grinder is a good upgrade to get. I use high speed almost all the time, but it is a bit easier to learn to grind when things are happening slower.

2 - Throw away the wheels that came with the grinder. (also - don't pay extra for a grinder that claims to come with good wheels. They're not good, I'll almost guarantee it.) Even if the wheels claim to be good "white" wheels or the like.

3 - Buy the best quality grinding wheels that you know of. Cheap wheels are no bargain. They load up faster, don't last as long, and don't grind as quickly.

4 - Buy a wheel balancing system. This is important. Just like balancing the crankshaft on a car or the prop on an airplane. Even a cheap grinder will run smoothly with balanced wheels. Grinding at high speed is smooth with balanced wheels. Even the best of wheels is not perfectly balanced as manufactured. (be aware that the balancing system from OneWay requires a 1" diameter hole in the center of the wheel)

5 - Replace the platform that came with the grinder with something sturdy, adjustable, and big, like a OneWay Wolverine or Stuart Batty Tools platform system. You will not regret this. I don't use the Vari-Grind jig, but find the platforms give me an extra measure of grinding accuracy.

6 - Dress the wheels often (stone wheels). You paid the big bucks for wheel performance, so let the wheels perform their best. Loaded wheels don't perform well, and even the best wheels will load up. Refusing to dress the wheels to make them last longer is a false economy. (not doing any turning will make everything "last longer" too!)

7 - Use High Speed Steel tools. M2 at a minimum. Powder-metal alloys are good for abrasive materials. If you aren't sure of tool quality, choose something made by the major ("Sheffield Steel") tool companies. They have a lot of practice and a reputation at stake as well.