

Get a Good Start at the Lathe

By Bob Rosand

People just getting started in turning usually have as many questions as a new runner hoping to finish a 5k race:

- What's the best chuck on the market?
- What kind of tools should I buy?
- What grit is best for sharpening?
- Should I buy a sharpening jig?
- What's the best way to sand?

If you teach or demonstrate frequently, you've heard all these questions many times over.

Sharpening

1 What grit do you recommend for sharpening tools?

Alan Lacer wrote an excellent article on sharpening, which appeared in the Fall 2003 issue of *American Woodturner*.



1 Regular use of a wheel dresser will true your wheel and expose fresh grinding surfaces.

Pitch the gray wheels that accompany most grinders and sharpen with a 60- or 80-grit aluminum oxide wheel. Although Alan and others advocate honing, I find it unnecessary for most woods and projects I turn. I go directly from the sharpening wheel to the lathe.

Over the years, I've discovered that a Oneway diamond-tip wheel dresser tears up the wheel less than a star wheel dresser. If used properly, the diamond-tip dresser prepares a true wheel and your lathe tool will not bounce (a problem with hand-held dressers).

2 What speed grinder do you recommend?

Instead of the better-known 3,500-rpm grinder for general woodworking, I prefer to sharpen lathe tools with a 1,725-rpm grinder, sometimes



3 If you don't turn frequently, a sharpening jig may become your best friend.

referred to as a slow-speed grinder. The slow-speed grinder removes metal at a slower rate and allows me to work with the edge of the tool a bit (it's also more forgiving of errors). When I first started turning, I shortened the life of many tools by attempting to sharpen at 3,500 rpm. Don't make the same mistake.

3 Should I buy a sharpening jig or should I learn freehand sharpening?

I often repeat Bonnie Klein's answer: "If you turn a lot, you probably don't need a grinding jig. But if you only turn a couple of days a week, it's well worth it."

I'll go one step further: Even though I learned freehand sharpening first (jigs weren't commonly available then), I now use a sharpening jig all the time.

If you use a jig for sharpening, keep in mind that it will not sharpen the tool for you and you still need to know what you want the grind to look like.

4 I just want to turn. Why is sharpening so important?

John Jordan has popularized this saying: "If you can't sharpen, you can't turn." I think that John is

absolutely right. You'll never become a proficient turner without first learning to sharpen your tools. And it's not only about speed and proficiency: A dull tool is far more dangerous than a sharp tool.

Before you get too excited about turning, I suggest investing a few hours of time (and money, if necessary) standing shoulder to shoulder with an expert sharpener.

Buying tools

5 What set of tools should I buy?

My answer is don't buy a set. Every set I've seen seems to include one or two tools that you don't need. It's better to buy individual tools and learn how to use them.

When you shop for tools, make sure you buy high-speed steel (HSS) tools. They hold an edge better than the carbon-steel tools that used to be popular. If you stumble across some garage-sale bargains or inherit a set from a relative's estate, chances are those are carbon steel. (Some deceptive marketers actually pass off new carbon steel as HSS. If the price seems too good to be true, be careful.)

There is nothing wrong with carbon steel, but if you are just starting out and have difficulties sharpening, you will probably blue

the steel, removing the temper. The great thing about HSS is that you can blue the edge and the tool will still stay sharp. (The blued edge dulls instantly.)

I've also had people tell me that they purchased yard-sale tools (old, worn-out carbon-steel tools) to practice on until they got better at turning. The problem with this is that as a novice turner, you're compounding your problems: Now you have some inferior tools that you're not sure how to use.

Buy the best tools you can afford, even if you buy only one tool at a time.

Another reason I dislike tool sets is the uniformity of handles. A matched set of tools looks great hanging on your wall, but when you are turning and the chips cover the bed of your lathe, it's difficult to identify each tool. Virtually all of my tools have different handles, and I can identify each one amid the chips when I am hard at work.

6 What tools should I start with?

I'd suggest a $\frac{3}{4}$ " spindle roughing gouge, a $\frac{3}{8}$ " spindle gouge, a $\frac{1}{2}$ " skew, and a diamond parting tool. If you want to turn bowls, select a $\frac{3}{8}$ " or $\frac{1}{2}$ " bowl gouge, although my personal favorite is a $\frac{3}{8}$ " bowl gouge. The next tools I would add are a $\frac{1}{2}$ " roundnose scraper and $\frac{1}{2}$ " squarenose scraper.

Setting up a turning area

7 What's the best lathe height?

Your lathe may be set to the proper height, but I doubt it. Measure the distance from the floor to your elbow. That should be the same as the distance from the floor to the centerline of the headstock. If you have to raise your lathe, I recommend reading the Del Stubbs article, "Tuning Up Your Lathe" (Spring 1995 issue of *American Woodturner*). Del discusses how to fabricate a solid base for your lathe so that it doesn't walk around the shop when you are turning. If your lathe is too high, build a stable platform that you can stand on and not trip over.

8 How much light do I need?

I've done countless demonstrations in shops with pitiful lighting. I don't recommend traditional fluorescent lighting because of the strobe effect it causes. (This is less noticeable with newer ballasts.) I prefer incandescent light. At my small lathe, I have three 100-watt bulbs overhead and one swing-arm lamp that I can focus on my work.



5 With distinctive handles, you'll quickly locate the next tool for your turning task.

6

From left: $\frac{1}{2}$ " bowl gouge, $\frac{3}{8}$ " bowl gouge, diamond parting tool, $\frac{3}{8}$ " spindle gouge, $\frac{1}{2}$ " skew, $\frac{3}{4}$ " spindle roughing gouge, $\frac{1}{2}$ " squarenose scraper, $\frac{1}{2}$ " roundnose scraper.



9 What's the big deal about a face shield?

Always wear a face shield! When I first started turning, I did not wear a face shield or safety glasses of any kind. What a fool. After scratching my cornea numerous times and stopping to flush chips out of my eyes on many occasions, I won't even turn on the lathe today without a face shield.

10 How much upkeep does a lathe require?

Every day, spend a few minutes doing some lathe maintenance. Feel around the bed of the lathe for rough spots and file them off. If the tool



Tune up your tool rest by regularly filing (top) and then sanding (bottom) the surface.

rest is new, file it and round over the edges. If the rest is old, file out the nicks and dings, and then smooth with 220-grit sandpaper. Rub a little paraffin (canning wax) on the surface of the tool rest. You'll be amazed at how it helps the tools slide.

Turning

11 How high should the tool rest be?

I cut right at the centerline. So when I'm using a cutting tool, the handle needs to be down in relation to the tool rest. That means that the tool rest needs to be a little below the centerline of the lathe. If it is set just at the centerline, you will have to lift up on the handle to complete the cut because you always complete the cut at the centerline. If you switch to a smaller tool, you will need to raise the tool rest a little.

With a little experience, tool-rest height becomes intuitive and you find yourself making only slight adjustments as you are turning. If you have to raise the tool handle every time you finish a cut, you probably need to lower the tool rest.

If you are using a scraper, the handle needs to be up in relation to the tool rest. Scrapers are almost always used this way. Using a scraper with the tool handle down is asking for a big catch.



Set your tool-rest height slightly below center with the tool on center.

12 How close should I put the tool rest to the wood?

Keep the tool rest as close to the work as you can. Turning is a bit of a leverage game, and if you extend the tool too far over the tool rest, you are asking for trouble. If you are roughing a square block into a cylinder, bring the tool rest as close to the work as you can and rotate the piece to see that it does not bind. Start the lathe, rough the block partially, then shut off the lathe and move the tool rest closer to the work and repeat.

Moving the tool rest while the lathe is running can result in broken tool rests and possible injury.

13 At what speed should I turn?

I doubt you'll find any turning instructors who will offer up a firm answer to this question.

Variables include your skill level, what wood you are turning, even the kind of lathe you own. But if you have to ask that question, you should slow down a bit. On the other hand, it's possible to turn too slow, but that's far less dangerous than turning too fast. A good rule of practice is to reduce the speed, turn on the lathe, increase the speed gradually just to the point of vibration, and then back off a bit. (This is easy with a variable-speed lathe.) As the piece comes into round, slowly increase the speed. Your comfort level will change with time and experience. Finally, it's safest to stand to the side of the lathe when you turn it on.

14 When am I ready to turn big bowls and platters?

I often get this question at hands-on workshops. I have no problem with bigger bowls, but the techniques to

turn a 6" bowl are the same as the techniques to turn a 24" bowl. If you are just learning and blow up a small bowl with an oops, you have far less time, energy, and money invested in the small bowl than you would in the large bowl. Plus, it's a lot safer turning smaller pieces

Start small and work your way up. Some people have made a career of turning small items.

15 What is the best chuck?

Pull back on those reins; there will be plenty of chances to plunk down money on a 4-jaw scroll chuck after you get your chops. After you've turned for a bit, you'll know exactly what kind of chuck you need.

Don't buy any chuck until you know what kind of turning you like to do. If you want to turn small items (up to 10"), a chuck such as the Oneway Talon or Penn State Barracuda 2N is ideal. But until you settle on what you like to turn, use a faceplate. It's a lot less expensive and you can do almost everything with a faceplate that you can do with a chuck.

For example, if you want to turn a weed pot, you can use a small chuck with #2 jaws, turn a shoulder on your turning stock, and grasp the weed-pot stock with the jaws.

You can turn the same project with a faceplate. After attaching a wasteblock to the faceplate with screws, use cyanoacrylate (CA) glue to adhere the turning stock to the wasteblock.

Sanding and finishing

16 What grit sandpaper is that?

I wish I had a dollar for each time I've been asked this question during a demonstration. How I sand depends upon what I am turning.

If I'm turning a weed pot or a ring holder, I might start with 120- or 150-grit sandpaper and work up to 600 grit. On a good day, I might start with 180 or 220 grit. However, when I first started turning I generally started with 80 grit or even 60 grit. But now that my skills are better, I can cut better and I have less tear-out, so I can start turning with a higher grit. I do like to use a good quality sandpaper. I'm particularly fond of the gold sandpaper from Klingspor (800-645-5555; klingspor.com), but I also use a blue zirconia paper from Red Hill Corp. (800-822-4003; Supergrit.com). Norton and 3M also make outstanding sandpapers for efficient removal.

If I am sanding something like a bowl or a platter, I sand a little differently. I generally start by hand-sanding with 120 or 150 grit with the lathe running (slowly) to about 220 or 320 grit. I then shut off the lathe, drop down to 180 or 220 grit, and use 3" sanding discs in a drill to finish the piece at least to 600 grit.

As a general rule, I like to slow the lathe down a bit when I am sanding, because it generates less heat. For protection, I often use a foam pad between the sandpaper and my fingers. I sand at the highest grit possible, but won't hesitate to drop down to a lower grit if necessary. The problem with sanding with lower grits is that you can easily sand away those fine details in your turning.

Finally, don't be stingy by trying to reuse sandpaper. If it's still cutting okay, fine, but if it's loaded up or clogged, throw it away and use fresh sandpaper.

17 What's the best finish to apply?

New woodturners shouldn't worry about a finished project! I know that sounds odd, but when you're just

Start Easy

When I lead hands-on workshops, I limit students to small projects and usually bring sufficient material to complete three of the same projects (three birdhouses, three ornaments). I always tell the students not to worry about finishing the first project, but to go through the process, learn from their mistakes, and improve the next project. Most people are determined to complete their first project, but those who learn from their mistakes and get on to the next project are usually happiest with their results.

Finally, don't use valuable wood for practice sessions. Go out to the firewood pile and turn that wood until you are competent with the tools. Years ago, at one of the early symposiums, another turner and I purchased some beautiful redwood burl slabs. When we saw David Ellsworth, we asked him what we should do with it. His response was, "Put it away until you know the answer to that question."

starting, your job is to have fun at woodturning. You need to get used to the tools, how they work, and what they will do. When you have mastered the tools, then you can start looking at finished projects.

I like the feel and look of an oil finish such as Waterlox. If I am in a rush, I may resort to a spray lacquer, let the piece dry, and then buff it. For things like my Christmas ornaments, I hang them in a row and spray them with a Deft satin lacquer.

Bob Rosand
Bloomsburg, PA