Stop! Don't do that!

Twenty Ways

not to turn a bowl

By Nick Cook

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American Association of Woodturners

When it was suggested that I write this article, I wondered if it was because someone thought I didn't know how to turn a bowl. I was assured that I drew this assignment not because I'm inexperienced at bowl turning but rather because I have had so many woodturning students.

I have been teaching woodturning for more than 20 years, and many of the classes have been basic, for beginners, or an introduction to woodturning. You can ask anyone who has been involved in one of these classes and they will tell you that my most frequently used direction is: "Stop, don't do that!"

Anyone who teaches basics at John C. Campbell, Appalachian Craft Center, Arrowmont, or Anderson Ranch Craft Center expects to have raw beginners in a class. We also expect novices with just a little experience and even expect a few who have been turning for a number of years.

The teacher's challenge is getting all of the students on the same page in the same book at the same time. Adult learners seem to have their own ideas about how to turn, and some are not the least interested in how I want them to turn. Some are self-taught; some have attended other classes. Others have read woodturning books and watched videos.

And others … must have been time-traveling to their eighth-grade shop classes when someone was attempting to instruct them.

Photos: Marisa Pruss

No matter how eager you are to turn your first "keeper," don't begin turning with large or expensive stock. The 8"-diameter stock on the headstock is more appropriate.

THE RIGHT STOCK

One of the biggest problems teachers face is that many students are itching to turn a really large bowl the first time they step up to the lathe. Or, they lug in something that cost them big bucks.

Stop! Don't do that!

1 Too big. You will learn a lot more about turning techniques by turning lots of small, shallow bowls than you ever will by turning one or two really large pieces.

2 Too valuable. Whatever you do, do not pay for practice wood. There is plenty of free wood out there—the stuff really does grow on trees. Ask around at your AAW chapter; you'll find a resourceful group with plenty of practice pieces.

3 Too hard. Green wood is a great way to start. Wood lots and local tree cutters are great sources for practice materials.

4 Too deep. Start out with a small (8"-diameter) platter before attempting any type of bowl. When you are comfortable with that, transition to a shallow bowl—just slightly deeper, but still about 8" in diameter.

Keep the form open rather than making the openings smaller. The smaller the opening, the harder it is to cut the interior.

5 Not ready for prime time, (or finish). Don't worry about applying finish to anything—that will come later. Think practice pieces. I suggest that you use a screw chuck or faceplate and turn shapes that resemble bowl forms until you get to the point of becoming comfortable with the bowl gouge. When you get to where you do not have to think about what the tool is doing, you are ready to turn a bowl. Once you get a few decent-looking forms, turn the bowl around and begin hollowing the interior. Then, get out the finish.

Here's a good habit to develop: Before you turn on your lathe, always stand to the left or right of the chuck.

THE RIGHT SPEED

Too often, novice woodturners go from turning spindles to turning bowls without adjusting the lathe speed. Too big and too fast is a deadly combination.

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6 Too much speed. Before mounting stock between centers or on a faceplate or chuck, switch on the lathe without anything mounted. This will give you the opportunity to see where the speed was set when the lathe was last used. Developing this habit will prevent an accident.

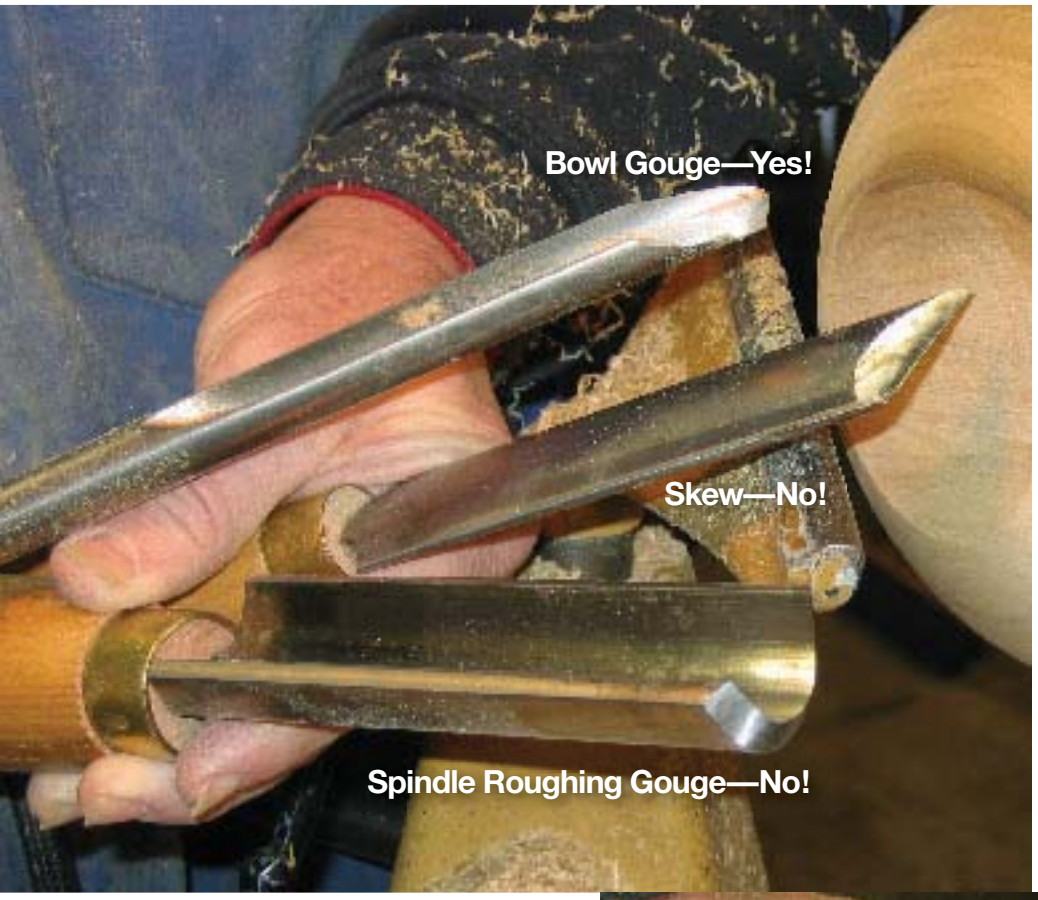
I encourage students to reduce the speed of their machines at the end of every turning session. This is easy on variable-speed lathes, but I meet resistance to this when students are learning on machines with step pulleys. Do it anyway; it's never too early to develop good safety habits.

7 Too much of a hurry. Another problem that can ruin your day occurs when you have a large piece on the lathe and stop the machine too quickly. This happened to my friend Andy Marinos, who suggested adding this tip to the Don't Do! list.

To turn the bottom of a bowl, Andy mounted his large flat jaws on his scroll chuck and mounted the rim of the bowl in the jaws. Without checking the speed, he turned on the lathe. It was going much too fast for the task at hand. Andy quickly hit the stop button on the machine, and the motor stopped. But, the chuck and the bowl had enough momentum to keep spinning—even with the lathe stopped. When it came off the spindle, the assembly caught his hand between it and the tool rest. Andy's wound required numerous stitches.

Here's a safer plan: Start the lathe at a low speed or use the setscrew in the chuck to lock it onto the spindle.

8 Standing in the wrong place. You should always stand to one side of the workpiece (out of the path of the spinning blank) when you turn on your lathe as shown in the photo *above*.



The bowl gouge, top, is the only one of the three lathe tools you should use for your bowl projects.

THE RIGHT TOOL

Before anyone stands in front of a lathe, I review all of the tools, their uses, and how to sharpen each. I identify each tool, explain how it is used, show how to sharpen it, and also show the various cuts that can be made. I also explain what each tool is not designed to do. But sometimes, that's not enough.

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9 No roughing-out gouge for bowl work. For bowl turning, never turn with a roughing gouge. This should be a no-brainer, but I have seen it done. In my mind, this tool should be referred to as a spindle roughing gouge.

Here's a classic example. One student mounted a large, square blank on a lightweight lathe and turned it on at too high of speed. Needless to say, I screamed from across the room, "Stop, don't do that!" When I got to where he was working, I also discovered that he was about to attack the piece with a 1¼" spindle roughing gouge. Oh, and it wasn't sharpened yet; it had just come out of the box.

You should not use the skew on a bowl either!

10 Big gap at tool rest. One of the most common problems is extending the tool too far out over the tool rest. Many times, students will continue cutting without moving the rest any closer to the blank. Once the tool extends more than 1" or so beyond the rest, stop the machine and move the

As your bowl takes shape, stop the lathe frequently and move the tool rest to about 1" from the stock.

When turning the outside of a face-grain bowl, turn from the bottom to the top (sometimes described as uphill).

tool rest closer. Lathe tools have been known to break over the tool rest—a very bad thing.

The height of the tool rest is determined by the tool you are using and your height and stance. Always place the tool on the rest first, touch the back of the tool to the blank, then gently lift the tool handle until the bevel makes contact with the wood. This will ensure the bevel supports the cutting edge. You will be less likely to get catches this way.

11 Moving tool rest with lathe running. Don't even think about it! Never move the tool rest with the lathe running.

12 Not following the curve. It is not uncommon for a beginner to make straight cuts along the length of the tool rest, correctly move the rest closer but continue to cut in a straight line. To produce better profiles, move the tool rest around the shape of the bowl. The result is a cone-shaped bowl. This is where a curved tool rest can be helpful, although not a necessity.

Work on a continuous curve—not thinness.

13 Wrong direction. For face-grain bowls, cut uphill or from bottom to top on the exterior of the bowl. On the interior of your bowl, cut downhill or from the rim to the center.

14 No body movement. You are not bolted to the floor. To produce better curves, use your

When you remove stock from the interior of a face-grain bowl, always begin at the rim and work toward the center (also described as downhill).

body and move it through an arch. Learn that "woodturner's sway."

Place the tool handle against your hip and hold the handle with your right hand near the shaft and your left hand on the tool rest. Keep your left hand on the tool rest throughout the cut to provide additional support. Remember, if you move your feet, you move the pivot and lose the curve. Learn to swing your body, but don't move your feet.

15 Dull tools. Beginners also have a problem determining whether a tool is sharp or not. It takes experience to be able to tell. Different woods react differently to being cut. Most beginners merely increase pressure as the cutting edge gets dull. This can be dangerous.

When in doubt, sharpen the tool. And, the best way to sharpen a tool for beginners is with jigs and fixtures; they all work, and they all provide excellent results. Hand-sharpening also works after you learn what you are doing, but the jigs and fixtures will provide consistent results each and every time.

Be sure to touch up your edge on the grinder before making your final cut. A dull tool will pull or tear at the fibers, leaving a surface that you can't sand smooth. This is especially true on end grain.

Each instructor will show you his or her favorite grind for the bowl gouge. They all work if you take the time to learn how to use them. It is more important that you learn to consistently reproduce the grind you are using than which profile you choose.

Grinding by hand is important to learn, but for the beginner, jigs and fixtures are a great help.

A grinding jig helps many new turners repeat the same bevel on a lathe tool.

16 Too much pressure. Another common problem is applying too much pressure when cutting the surface. This will force the heel of the tool into the surface and bruise the fibers, leaving lines that remain invisible until you apply finish. Yikes!

These lines are almost impossible to sand away. You must recut the surface. Relax and let the cutting edge do the work rather than forcing it.

THE RIGHT MOUNT

A lot of bowl-turning problems begin with how the material is attached to the lathe. Because every new lathe is shipped with a faceplate, this is the obvious choice for the beginning woodturner.

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17 Wrong screws. Trouble can begin at the first step when you screw the blank to the faceplate. Here, several problems can occur. It usually starts with drywall screws; they are too thin and too brittle. You exacerbate the problem when you draw up drywall screws with a power screwdriver, which pulls them up tight and snaps them.

Sheet metal screws are a better choice to attach turning stock to a faceplate. These screws are case-hardened and have deeper and sharper threads. Make sure you choose a length that is appropriate. Square-drive screws are also popular and are much easier to remove from hardwood.

For securing turning stock, one size does not fit all. For an 8"-diameter blank that is up to about 2" thick, I recommend #8×¾" screws. For a 14×8" blank, secure with #14×1½" hardened screws.

18 Difficult grain. You must also consider the material you will be putting the screws into. End grain requires larger and longer screws. Beware of punky or spalted woods; once the wood has started to decay, it is extremely difficult to get a screw to hold.

Sapwood does not hold screws as well as heartwood. To be on the

safe side, bring up the tailstock with a live center for insurance. This will give additional support if the screws do not hold.

Choose turning stock that offers a better chance for success. Dale Nish says it best: "Life is too short to turn crappy wood!"

19 **Poor grip.** Once you get excited about turning, it probably won't be long before you purchase a 4-jaw scroll chuck, which I think holds material better on the lathe. However, this chuck has its own set of challenges.

I have had many instances where students have made tenons too small or the recesses too shallow. Either case can cause the blank to separate from the chuck.

Punky wood and sapwood present the same challenges and grain problems as noted *above*.

If you want your bowl to stay in the chuck, you'll learn the value of properly sizing the tenon. If the chuck loosens, the bowl will fly out off the lathe.

Sheet-metal screws should be your only choice for mounting turning stock to faceplates. At *right*, you can see how a drywall screw can break off , which leads to huge safety issues.

20 **Loose fit.** Green wood requires you to tighten the jaws of the chuck repeatedly as moisture is forced from the blank. Just as with the faceplate, remember to use the tailstock and center whenever possible.

Turn safely and have fun. But by all means, think about what you are doing and consider the risks involved. If you are unsure, ask someone with more experience. If it looks dangerous, it probably is.

"Stop, don't do that!"

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