



spindle turning basics

at the lathe by Jon Siegel

A Better Way to Practice

THE BEST WAY TO LEARN WOODTURNING IS TO NOT MAKE ANYTHING AT ALL.

Just make shavings. Turning, like any skill, is mastered by practice and repetition, and at first, the best practice would be that which involves no investment or risk. Make a trip out to the firewood pile for some 2" to 4" rounds (preferably maple) for practice wood. In New Hampshire, it should not be a problem to find a pile of firewood, but if you can't, just cut down a maple sapling.

Working with free material will give you the opportunity to test the limits of the chisels without worrying about ruining an expensive piece of wood. Only by pushing the limits, and making mistakes, will you learn what works and what does not, and thus gaining confidence and skill.

Starting Out

Practice wood comes in three forms...

1 Round logs from the firewood pile. A log is easy to rough out since it is round to begin with. Be sure to remove any loose bark before starting the lathe. You don't want big pieces of bark flying around. If the bark seems tight, leave it on and just start turning.

Most logs are not perfectly round or straight, so they do not have a true center. Use common sense when mounting a log on the lathe. Get it as close to center as possible and remember it is not critical.

2 Pieces split (riven) from the firewood pile can be triangular, square or any polygon. If you have a froe and a maul, you can rive very neat blanks for the lathe. For centuries, bodgers used this method to make parts for Windsor chairs.

Since your practice pieces will only be about 10" long, they should

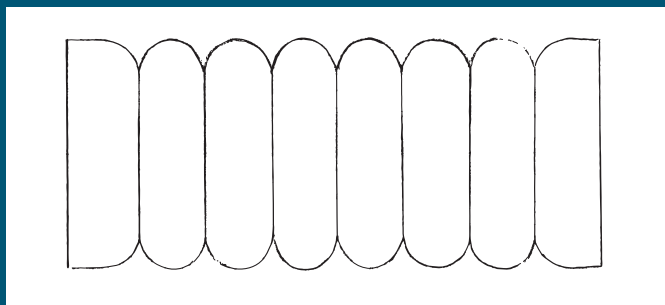
RIVEN WOOD – A froe is struck with a wooden maul to make riven wood blanks for turning.



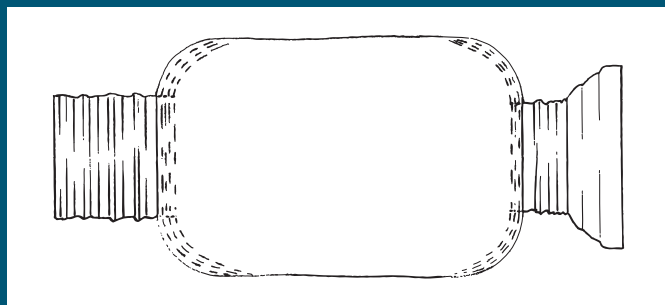
BLANKS – Riven and round log practice blanks from the firewood.

split easily. If you do not have a froe, you can use a hatchet. Do not strike either a froe or a hatchet with any kind of metal hammer. If you don't have a wooden maul (large mallet), it is a fun project to make one.

After turning any kind of wet wood, wipe the shavings off your chisels and lathe bed to prevent rust.



CONVENTIONAL METHOD – Allows you to make 8 or 10 beads after which the practice piece is consumed.



A BETTER WAY – Hundreds of practice strokes on a piece before it is consumed.

3 Squares of drywood, although expensive, will give you the feel of working with the kind of material you will eventually be using for furniture, etc. Squares are necessary for Exercise 5. Try pine, poplar and maple in that order to get the experience of increasing degrees of hardness.

Efficient Practice

Reduce the shapes down to their simplest elements and practice them independently.

Most authors advocate that beginners practice by making complete shapes, like a series of beads. The emphasis is on the finished product. My approach is to put the *emphasis on the process*, and the end products are simply chips and a remaining rough core.

General Guidelines

Cut your practice pieces to length about 2" shorter than your tool rest. Then you will not have to worry about your chisel going off the end of the tool rest. If you have a mini/midi lathe with a 6" tool rest, your pieces would be only 4" long by this rule. This may be impractical, so I would cut them longer and be careful to only work near the middle of the tool rest.

Use a spindle roughing gouge (preferably $\frac{3}{4}$ ") to bring your blank down to a cylinder. Try to get as smooth a surface as possible on the final pass.

Every stroke needs to be practiced on both the right and left side. When working the left side, stay clear of the spur center by an inch or two.

The proper thickness of shaving (depth of cut) will vary with the hardness of the wood. If you take about $\frac{1}{16}$ " for each stroke, then the piece will allow at least 50 strokes on each side before you meet in the middle.

On each stroke strive to reach a depth so that the core diameter

(smallest diameter) is about half the original diameter. Avoid the temptation to go deeper on successive cuts.

Practice Sequence

The ball shape and the reverse curve come first because when making these cuts, the chisel starts out with the bevel in contact with the surface. This is the "sliding entry."

The cove and shoulder cuts begin with the chisel supported only by the tool rest and the hand, thus making a "piercing entry". The latter requires the chisel be held at precisely the correct angle on initial contact to prevent a catch. You will find a discussion of the causes of catches in the November, 2006 issue of *The Old Saw*.

All directions below are given for the right side. Reverse these directions when doing the left side.

The Five Basic Exercises

I teach five basic learning exercises...

1 **The Ball Shape** is the basic form of all beads and convex shapes, and can be made with the gouge or the skew. Pages could be written about which is better. It is easier to round the top of the bead with a gouge, but only a skew can make a clean inside corner. In theory, making the bead with the skew and completing the corners, all with a single tool is expeditious, however I prefer to shape the bead with a gouge, and then finish the inside corners in a second operation with a skew.

Begin with the medium gouge angled about 10° to the right, and with the flute straight up (12 o'clock). As the cut progresses, the handle is swung to the right, the chisel is rolled clockwise until the flute is on the right (3 o'clock), and the handle is raised slightly.



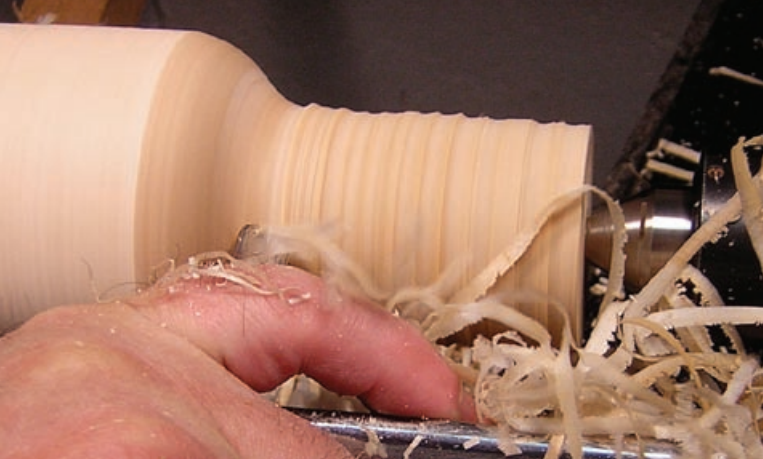
ROUGHING – Use a $\frac{3}{4}$ " spindle roughing gouge. Notice my hand on top of the chisel and my fingers deflecting the chips away from my face.



STARTING THE LEFT SIDE – Stay clear of the spur center when working the left side.



THE BALL SHAPE – Swing the handle smoothly to the right, and rotate the chisel clockwise.



THE REVERSE CURVE – At the inflection point, halfway down, the curve reverses from a convex to a concave form.



THE COVE CUT – Start the gouge with the flute facing about 3 o'clock with the edge tangent to the cutting circle. Slice in, and then move the handle to the left while rotating to 12 o'clock as you reach the bottom.

2 The Reverse Curve is a complex form with a high point, a low point and an inflection point. For a complete discussion of this curve, see my article in the February, 2006 issue of *The Old Saw*.

With a small gouge, begin the cut exactly as in the ball shape, but when you reach a point about half way down, reverse the curvature by swinging the handle to the left and up and rolling the flute back to the straight up position (12 o'clock) to finish.

3 The Cove Cut requires a piercing entry. This means that the edge of the gouge is tangent to the cutting circle at the point of contact, and slices into the workpiece like a knife. Because the cutting edge is a curve, it is not always easy to see the correct angle to hold the gouge and a catch can result. When you get the edge tangent, simultaneously orient the handle of the chisel so the bevel will cause the chisel to enter at a 10° to 20° end point angle.

4 The Shoulder Cut is made with the toe of the skew chisel. A very slow feed rate will create a surface which is perfectly smooth and cannot be improved by sanding.

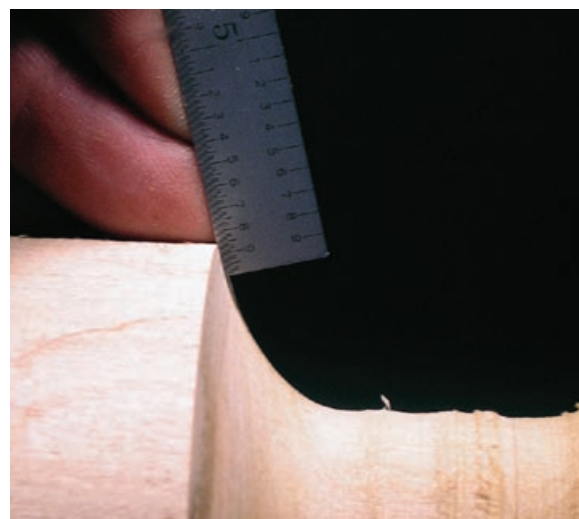
Rotate the chisel so the edge is almost in contact with the wall of the cone shape being cut. On the right side, rotate the skew clockwise,

on the left, counterclockwise. Do not rotate so much that the edge comes in contact with the side, as this will result in a catch. Take the correct thickness of cut. In most cases, this will be about 1/32" to 1/16" depending on the hardness of the wood.

5 The Shoulder Cut Into a Square (transition cut) is the most difficult of the beginner's exercises. It is included here because it is required in nearly all forms of furniture and architectural work except the Windsor style. Almost every table leg begins with the transition cut. In principle, it is exactly the same as Exercise 4 but because the cut is intermittent, it is harder to maintain the stability of the chisel, and it is much more difficult to see where to begin the cut. Good light and a dark background (black paper) will help you see the profile of the wood more clearly.

A common error is trying to force the bevel against the side of the cut in an effort to stabilize it. But because the surface is intermittent, this only causes more vibration.

Instead, concentrate on pushing the chisel straight ahead, and if you have rotated to the correct angle, it will simply follow its nose. If you have trouble, go back to Exercise 4.



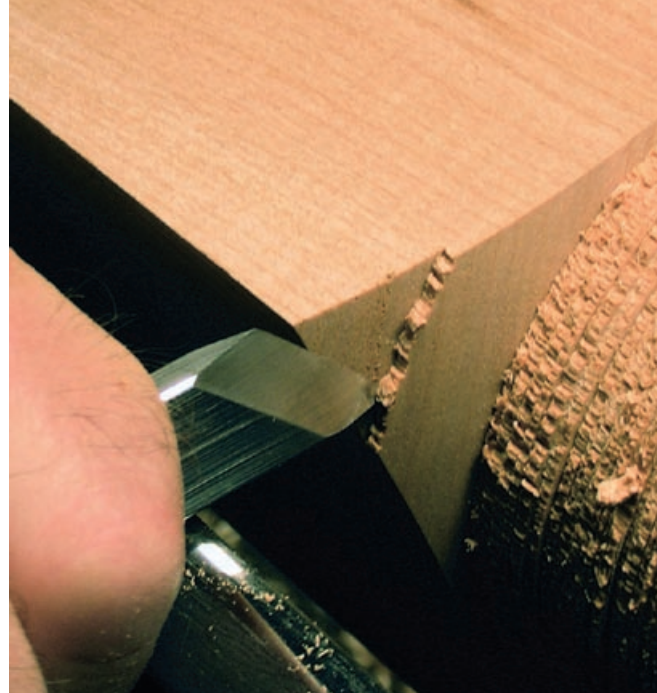
THE END POINT ANGLE – Keep the end point angles between 10° and 20°.



THE SHOULDER CUT – The toe of the skew does the cutting.



THE TRANSITION CUT – Sometimes called the “pommel” cut, this skill is necessary for most furniture.



TRANSITION CUT STOPPED – In this photo, the lathe is stopped and the chisel replaced to show the cutting position.

After you have achieved mastery of these basic elements, you will have acquired a “vocabulary of shapes” which you can now

combine into a limitless variety of designs for your spindle turning projects. ■

Ask This Old Saw! – continued

When dry, you can now mill these sections flat and carefully join several sections together to get your final width, with minimal clean up. You can also take the finished piece to a shop and have it sanded clean and flat. Don't forget to put the same finish on the top and bottom.

Q PLANES – What planes would you suggest as a minimum for basic woodworking? – Allen Everett

Al Breed replies: Even if you will do virtually no handwork, I think a low angle block plane is a must for cleaning up joints and other small smoothing tasks. If you want to plane off machine marks before sanding with fine (400 grit) paper, a #5 or higher (I use a #7) steel bench plane is useful. Close up the throat by moving the frog towards the front of the plane and these planes will plane anything without tearing.

Specialty planes are too numerous to list them all, but I use a skew low angle block plane to fit tenons, a router plane to back out around carving and a shooting plane to do mitres and square off small pieces, such as clock parts.

Doing reproduction work as I do, moulding planes, rabbet and plow planes and wooden coffin smoothers also come in handy.

The hand plane is the most difficult hand tool to get to work perfectly. Find a good article on tuning planes and follow it. A lot of emphasis has been put on flattening the sole, but I have to admit to never having done it to any of my steel planes.

Marty Milkovits replies: At the very minimum, #5 Jack plane, block plane, low angle block plane, shoulder plane, card scraper, and #80 Stanley scraper.

Q SANDING – In the process of finishing cherry, what grit sandpaper should you sand to – 150, 180, 220? How about walnut? – Steve Colello

Ted Blachly replies: For cherry I usually sand to 400 grit (wet or dry paper). I'll do the same for walnut. In both cases I'll raise the grain by wiping the piece with a wet rag after sanding with 220 garnet paper and then maybe

again after 400 grit. When dry, I'll sand again lightly with 400 grit.

Here's something to think about – If you sand one board to 150 grit and one board to 400 grit then apply an oil varnish mix to both, I think you will find that the board sanded to 150 will take more finish than the one sanded to 400... so which one is better protected?

Q HARD & SOFT MAPLE – In making kitchen cabinets, I use both soft and hard maple as the situation calls for. I'm interested to know how they can be distinguished before being milled, and which types of figure are typically found in hard and which, if any, can only be found in soft. – Caleb Dietrich

Marty Milkovits replies: If the log still has the bark on is the surest way – if not, then weight and hardness. If a lot of figure is showing on live edge, its a good guess that its soft. Typically, soft maples are prone to having more figure than hard maple. Both varieties can have all types of figure known to man, and even some that defy description. ■