

Reprinted with permission.
American Association of Woodturners

My fascination with fire started in 1993 at the AAW symposium in Purchase, New York. I watched Australian Vic Wood burn the rim of a platter, and I was immediately hooked.

At first, I thought it would be a great way to avoid having to sand. Boy, was I wrong. You really need to carefully sand the surface before you start the burn. Otherwise, it will end up looking like you didn't spend enough time sanding the platter.

Since watching Vic, I have turned and burned literally hundreds of plates and platters. I have used ash, cherry, maple, myrtle, and oak. All hardwoods work well but my favorite is ash. The grain and figure of ash works superbly with the burning process, and it is usually available in larger widths and more affordable prices for platter work.

I think you will like the effects of the black burned rim against the creamy natural color of the interior of the piece. I also like the contrast between the undulations of the rim and the smooth surface of the interior.

Tools and turning stock

I primarily turn this project with a 3/8" deep-fluted bowl gouge with a side grind and a 3/8" bedan tool.

You'll need a screw chuck and a 4-jaw chuck. I prefer the Jerry Glaser screw chucks because the threads are cut deeper and are considerably sharper than any other I have used. For this size platter, I like the security that a 1/2" chuck provides better than a 1/4".

I always start with kiln-dried lumber. Green wood and even air-dried blocks are less stable. They are more likely to check and crack and will certainly distort more than dry wood. Thicker stock is also better; the heat will radically distort thin material.

For this article, select 8/4 ash, 12" wide. With a compass, lay out the 12"-diameter circle. Then cut a round disc on the bandsaw. Determine which side will be the face or top of the finished piece and drill a 3/8" hole in the center for a screw chuck.

Turn the outside

First, attach the blank to the screw chuck and make sure the face of the chuck fits snugly against the blank. If not, the blank will not run true. Mount the screw chuck onto your lathe.

Next, position the tool rest at

Playing with Fire

Techniques for creating a burned-rim bowl

By Nick Cook
Photos: Cathy Wike-Cook



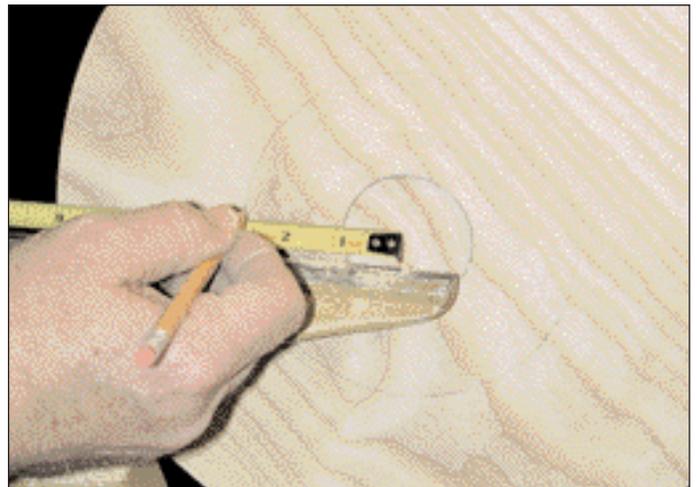
After cutting the round blank, mount a 1/2" screw chuck in the center. Check that the chuck fits snugly against the blank.



After turning the surface flat with a 3/8" deep-fluted bowl gouge, check for flatness with a 12" combination square.



With a 3/8" bedan tool, cut the scroll-chuck recess. Many turners believe a slightly convex bottom has strong eye appeal.



To mark off the foot of the plate, scribe a 5 1/2"- to 6"-diameter circle. The foot should be about one half the platter diameter.

90 degrees to the axis of the lathe, just below the center and about 1/4" from the face of the blank. Rotate the piece by hand to ensure clearance. Start the lathe at 750 to 1000 rpm for roughing the blank with a 3/8" deep-fluted bowl gouge.

Hold the bowl gouge tool handle down with the flute almost upright and place the bevel parallel to the surface you plan to leave. Start your first cut at the rim and finish at the center

of the blank. One to three very light cuts should flatten the surface and produce a flat starting point. This cut is especially important if you're turning rough-sawn material.

Once the surface is flat, locate and mark the center. I use a vernier scale or compass to scribe a 2"-diameter circle for the recess to accommodate my scroll chuck. Then cut the recess with a 3/8" bedan tool. Rather than making

the recess flat, I usually make the bottom slightly convex, leaving it just a little higher in the center than the perimeter. In my eyes, this looks better than a flat surface.

After cutting the recess, scribe a 5 1/2"- to 6"-diameter circle for the foot of the 12" piece. On a plate or platter, I try to make the foot approximately one half the overall diameter of the piece. (Less than half will make the finished piece a little top heavy and less stable.)

Continued

Shape the bottom

It is important at this point to create a curve from the beginning. If you start making straight cuts, you will leave little room to form a continuous curve from the foot to the rim. I use the same $\frac{3}{8}$ " bowl gouge to shape the bottom.

Set the tool rest at 45 degrees and at the edge of the work piece. Hold the handle downward, with the flute at about 45 degrees and start the cut about $\frac{1}{2}$ " in from the edge of the platter.

Each cut is made with your body—not with your hands. I keep the handle perpendicular to the surface being cut and against my body. Start each cut a little closer to the foot and make each cut toward the rim. Continue making successive cuts until you have one curve from the foot to within $\frac{1}{8}$ " of the rim. Use the tip of the tool to define the foot.

For variety, try straight, chamfered, and curved feet. I lean toward the chamfered foot for most of my platters.

After shaping the bottom of the piece, make finishing cuts to get rid of tear-out, ridges, and uneven surfaces. I use the longest part of the bevel on the same $\frac{3}{8}$ " bowl gouge to make this type of finishing cut. Here's how.

Hold the tool in an almost vertical position with the handle against your thigh for support. Then lay the heel of the bevel against the wood. With absolutely no pressure at all, pull the tool from the foot to the rim. This cut will produce what I refer to as angel-hair shavings that will flow down the flute of the tool. This



With a $\frac{3}{8}$ " bowl gouge, keep the handle perpendicular to the surface. The tool rest is positioned at 45 degrees.



Use the tip of your bowl gouge to define the perimeter of the platter's foot. This photo shows detailing a chamfered foot.



With your thigh as support, hold the bowl gouge nearly vertical to make finishing cuts. When you rest the heel of the bevel against the wood, you should see fine angel-hair shavings peeling off the platter.

shearing action will leave about as fine a surface as you can produce with a tool. It also reduces the amount of sanding required. To make ridges more visible, place a light directly over the blank.

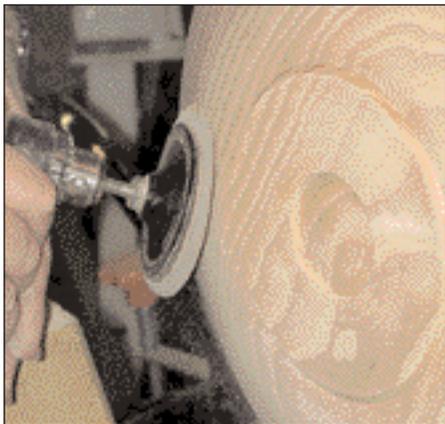
Sand the bottom

Once you're satisfied with the surface, start sanding. I prefer a power-sanding technique with a fairly stiff pad. (I have learned that using softer pads on ash and other open-grain woods produces an undulated surface.) I turn the

lathe speed down to about 500 rpm for sanding.

If you executed a good finishing cut, you should be able to start with 150-grit sandpaper; coarser grits will cause deep sanding marks that are hard to remove. Work your way through 180 grit and finish up with 220 grit on the power sanding.

I also sand the surface by hand with the grain, without the lathe running to get rid of any cross-grain sanding marks. Remove the blank from the screw chuck.



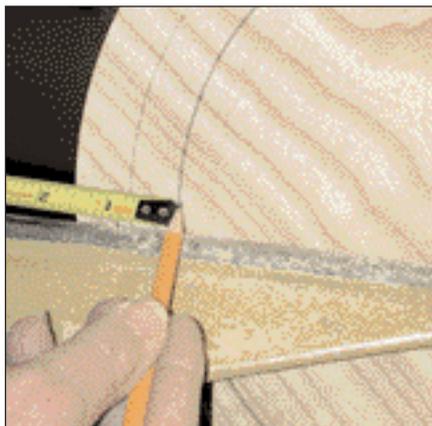
With the lathe running at about 500 rpm, begin power-sanding the platter bottom with a stiff 3"-diameter pad.



To produce a clean rim, hold the bowl gouge nearly vertical. The gouge flute should face right.



Lightly tighten the scroll-chuck jaws in the recess. To check for proper seating, rotate the chuck before fully tightening.



On the lathe, lay out a 1 1/2"-wide rim. This platter will have a crown centered about 3/4" from the platter's edge.

Turn the rim

Place the blank facedown on the bed of your lathe. Fully close the jaws of the chuck and insert it into the recess. Lightly tighten the chuck, then rotate it within the recess to make sure it is properly seated. Once seated, fully tighten the chuck. Screw the chuck onto your lathe.

Place the tool rest parallel to the axis of the lathe, just below center and 1/4" from the edge of the blank. Rotate the blank by hand to ensure clearance. Make

several light cuts from the back to the face of the piece with the bowl gouge handle almost vertical and the flute facing to the right. This should produce a clean surface.

Avoid lifting the handle, as it can catch the end grain and cause the edge to split off. Always cut from left to right to avoid tear-out on the underside of the piece, which you've already finish-sanded. Also avoid checking the piece with your finger when the lathe is running—you're liable to get cut. Stop the machine and

inspect the surface visually. Make sure you remove all saw marks.

Rotate the tool rest across the face of the piece, just below center and 1/4" from the surface. Make the same cut from rim to center that you used for the platter bottom. Several light cuts should flatten the surface.

Now, determine the width and shape of your rim. On this 12" piece, a 1 1/2"-wide rim looks nice. My favorite shape is a slight crown. To plan this, measure in 1 1/2" from the edge, then make a pencil line and another just 3/4" from the edge, which will be the crown of the rim.

Creating the crown is just like rolling a bead. You can do this with any one of several tools. I continue turning with the same 3/8" bowl gouge.

Roll your gouge to the right from the centerline and then roll the tool to the left from the centerline—just remember to leave the centerline. Place the bevel against the surface at the centerline and gently lift the handle. Roll the tool first to the right and then to the left. Use extreme care to avoid making the edge of the rim too thin. If it starts getting thin, flatten it again.

Here is where your technique will vary from turning a traditional platter. Rather than going ahead and opening the interior of the piece, continue to work with the rim. Power-sand the crowned rim with 150-, 180-, and finally 220-grit sandpaper. Then handsand the surface with the grain to eliminate cross-sanding marks.

Continued

Burn the rim

With that done, you must thoroughly clear all the shavings and dust from the lathe and blow the dust from the blank.

I use a propane torch for my burning. I've tried mapp gas but found it burns too hot for this detailing work.

You'll also need a container of clean water and a medium-grit 3M Scotchbrite pad. To keep water off your lathe, cover the ways with plastic bags. Be sure to have a fire extinguisher close at hand.

Do not attempt to burn the piece with the lathe running! Ignite the torch and start by lightly waving the flame over the surface. Always direct the flame toward the perimeter of the piece to avoid having it burn the outer surface of the rim.

The first thing you will see is the summer growth or softer grain

turning dark. This is a nice effect if you can do it evenly. The surface will start to look similar to zebra wood. I prefer to continue to burn the surface deeper.

As the surface gets hotter and darkens, it may catch fire. Do not panic! Grab the Scotchbrite pad, dip it in the water, and wet the surface. This will extinguish the flame. The more you burn, the more you will learn how close to the surface and how long to leave the flame in one spot.

Use the handwheel to rotate the piece as you continue to burn. Once you have uniformly blackened the rim, cut back the surface with the Scotchbrite pad. This will abrade into the softer grain and leave the harder areas standing higher.

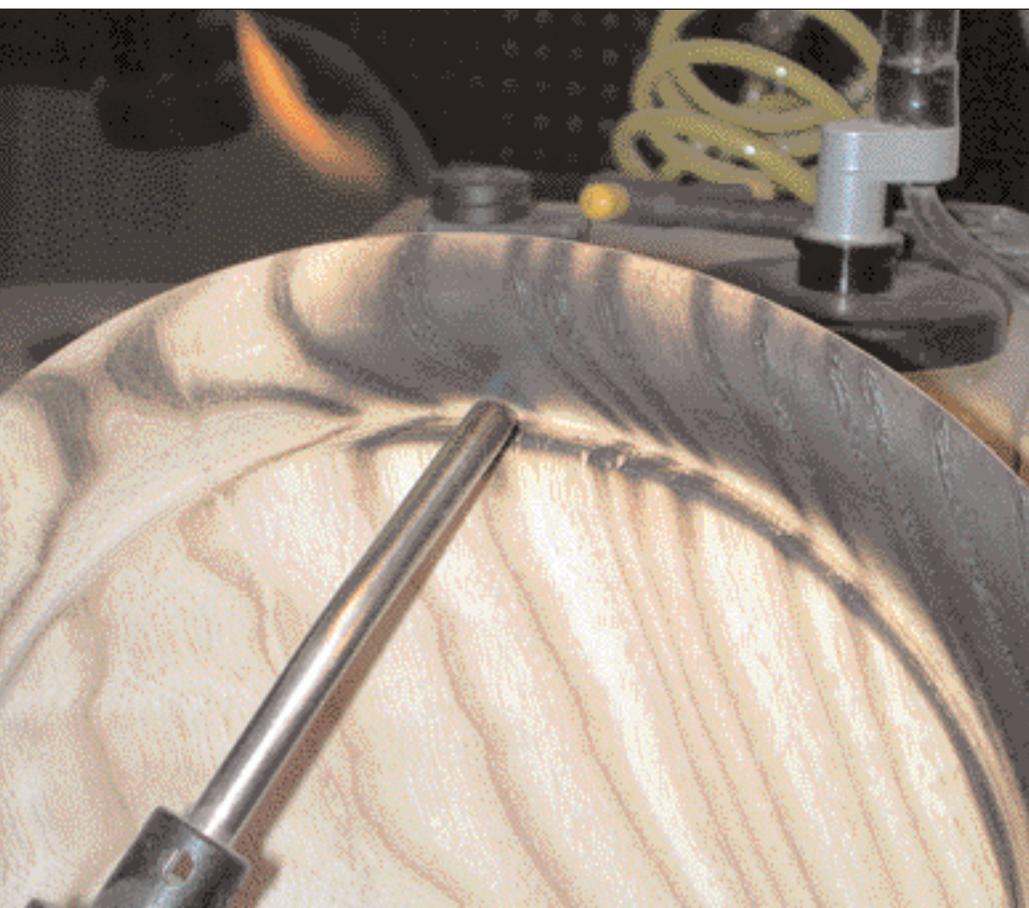
I repeat the process until the surface pleases my eyes. The final rim should appear to have

uniform undulations over the surface. At this point, you may wish to make V cuts through the burned rim to reveal the wood's original, unburned color.

Turn the interior

Position the tool rest across the face of the piece, just below the center and about 1/4" from the face. From here on, the technique is just like it is for any other plate or platter.

Place the tip of your bowl gouge on the surface just to the left of the center hole. The flute should be facing in, with the handle level and at approximately 45 degrees across the face of the piece. As you break through the surface with the tool tip, roll the flute upright and pull the handle around toward you in an arch while maintaining its level position. This will keep the bevel



After burning the entire rim, cut back the scorched ash with a medium-grit 3M Scotchbrite pad dipped in water. Soft grain will abrade first.

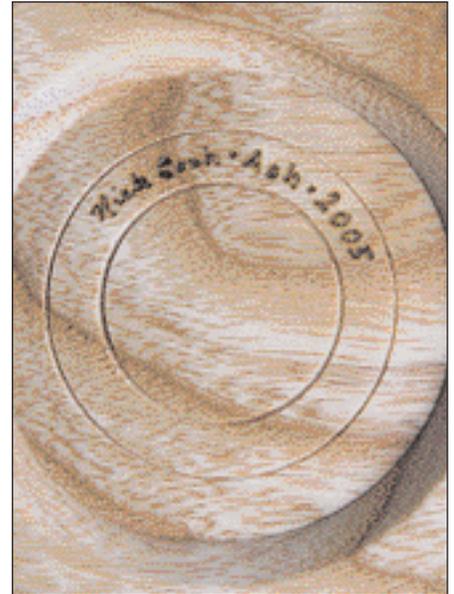
With a propane torch, begin scorching the platter rim. The tip of the flame gently kisses the freshly turned rim.



As you approach the rim, take lighter cuts with the bowl gouge. This will ensure a crisp line at the rim.



Power-sand the interior with a 3"-diameter pad. It's a good idea to sand domestic hardwoods to 220 grit.



Two lines about 1/4" apart in the recess will provide you with an excellent place to sign your platter.

supporting the cut as you make one continuous curve through the platter interior.

Continue with consecutive light cuts as you work out toward the rim. Avoid taking heavy cuts that may cause tear-out in the end-grain areas. As you near the rim, take lighter cuts to ensure a clean line between the rim and the interior. You can also under-cut the rim slightly to give the appearance of more depth.

Power-sand as described *above* to 220 grit. I've found that sanding beyond 220 grit on most domestic woods is usually a waste of time prior to the application of the first coat of finish or sealer. (You may continue through 400 grit or even higher after the wood is sealed.)

Remove the chuck marks

After thoroughly sanding the piece, remove it from the chuck. You can use a variety of methods to remove all indications of the expanding chuck on the bottom.

One of the easiest techniques is

to use the oversize or jumbo jaws that are available for most scroll chucks. You can also use a jam chuck or a vacuum chuck.

There are also several details that will enhance the bottom of the piece. I like to keep it simple and just remove the straight recess by chamfering it slightly inward toward the center.

Scribe two lines within the recess about 1/4" apart. This gives you a place to sign and date your work. I prefer a signature tip on a burning tool to sign my pieces as shown *above right*.

Apply finish

My favorite finish on burned pieces is a clear flat or matte lacquer. This will intensify the depth of the charred wood by eliminating any sheen.

Your most important task is to get rid of all the sanding dust. Thoroughly blow out any dust on or in the surface of the rim; a small speck of dust on the burned rim will show up like a sore thumb.



Nick Cook (nickcook@earthlink.net) is an *American Woodturner* contributing editor. He will demonstrate this project at the AAW symposium in Overland Park.