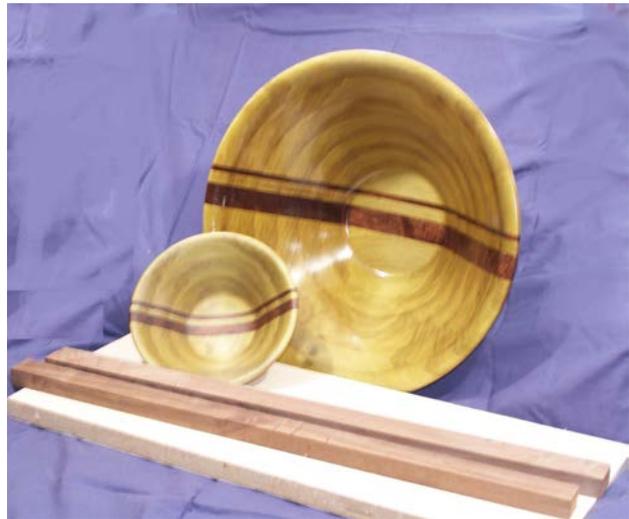


FLAT TO FABULOUS Make a Bowl from a Single Flat Board

- Or *How to Eat Salad off of Scrap Wood*

Let's face it: Woodworkers are frugal people. In fact, if you are anything like me, you have a hard time throwing away almost any of your scraps or cutoffs from recent woodworking projects, *just in case you may need them* in the future. Of course, we woodturners have the added disadvantage of feeling guilty about the stuff that normally goes into the "firewood" pile as well.

On a recent "nothing to do" weekend (*and no, I don't get many of those*) I came up with an idea on how I could use some of those flat cutoffs and scraps and turn them into something useful. It's a pretty easy project that requires no more than basic woodworking and turning skills.



If you do not have all of the equipment, there are alternatives and substitutes for some of the tools used, and they will be noted.

Here's what you will require:

- Scrap Wood – plan on something about $\frac{3}{4}$ " thick and at least four inches wide.
- Wood glue – Use a brand that is water resistant/waterproof if you are planning to actually use and wash your bowls regularly. (*see notes later in this article*)
- Clamps – the more the merrier
- Bandsaw (or jig/saber saw)
- Table saw (or circular saw)
- Thickness planer (or hand planes and belt sander)
- Wood Lathe with face plate and waste block
- Bowl Gouge
- Narrow ($\frac{1}{16}$ " or $\frac{3}{32}$ ") parting tool . (*see notes later in this article*)
- Sandpaper

The diameter of your bowl will be as wide as your board. If the boards are narrow, I often glue-up more than one piece to get the dimensions I want. In this example, I am using a couple of pieces of 4/4 poplar, 5" wide and about 36" long. *4/4 is a sawmill measurement for 1" rough sawn.* If you are buying your lumber from a home center or it is already surface planed, 4/4 lumber will be about $\frac{3}{4}$ " thick. I also have some thin walnut scraps about the same thickness that I ripped on the table saw into strips (*figure 1*). I want my final bowl to be about 7" diameter, so I should be able to get four functional salad bowls out of these pieces of scrap wood.

Not bad.



Figure 1: Strips of poplar and walnut ready for glue-up

Cut and lay out the boards together into a design you like. Start with something simple. You can always get more elaborate with your designs and experiment after you have done this a few times. For this project, I rip a small section of poplar from one of the boards, then alternate my glue-up between the poplar and walnut strips

Glue and clamp the boards together and let them sit several hours for the glue to set-up. Use plenty of clamps to get good, even pressure. I add cawls to the top to keep the boards as flat as possible (*figure 2*). A *Cawl* is a piece of wood used to spread and equalize the pressure of a clamp over the length of the work piece.

After a few hours, scrape away any excess glue with a hand scraper from both sides of the assembled board.

My "blank" is now about 11" wide and 36" long, and I run it under the thickness planer to get it flat and even. This is very important. Your board must be flat and even. If you do not have a thickness planer, plan on spending some time with hand planes and scrapers (or a handheld belt sander) to get it flat.

I made a hardboard template just over 7" round using a compass, and cut it out on the bandsaw. Next I lightly traced the pattern four times onto my board, being certain to transfer the center of the circle by pressing the point from my compass through the template into my board. (*figures 3 and 4*). This "Center point" will be very important later, so don't forget about it now.



Figure 2: Glue the strips in your preferred layout. Use plenty of clamps and cawls to ensure a good bond



Figure 3: Plane the boards flat on both faces, and use a template to lay out your bowl blank in the correct diameter.



Figure 4: Using the template, we get four blanks out of this one board

Cut out the circles using a bandsaw or jigsaw, staying as close to the lines as possible. I use a circle-cutting jig to do this, but you can freehand it if you prefer.

I now have enough blanks for four bowls. Naturally, if the scrap you started with is longer or shorter, you will have more or fewer bowl blanks, accordingly. (figures 5 and 6)



Figure 5: A circle-cutting jig makes it easy to cut the blanks round. But you can free-hand it if you are comfortable with that.



Figure 6: Four "bowl blanks" cut from the scrap. Using the circle cutting jig makes truing the blanks much easier once they are mounted on the lathe.

Mount a small waste block to your faceplate, and true it up. The diameter of the block should only be as wide as your faceplate. I prefer a small (3") faceplate for these projects to allow me more height to the bowl – as you will understand in a few minutes. I make my own "face plate/glue block" with scrap wood. These are one-piece units with threads tapped on one side to match the threading on my lathe's spindle, and a flat wood face that is trued on the lathe on the other side.

With the glue block mounted on the spindle, drill a very small (1/32") hole through the very center. You will use this to align the block to your bowl blank.

Attach the bowl blank to your face plate/waste block, carefully centering it by taking a long thin tool (old Phillips screwdriver, scratch awl, compass point, etc.) – and poke it through the block so it sticks out just a bit from the glue-side.

Then into the center dimple you made on the bowl blank in the very beginning. Sometimes it helps to draw a circle on the blank just larger than the glue block and center the block using your drawn circle as a guide. Use whatever adhesive makes you comfortable. I typically use some medium CA glue and some clamping pressure.

It holds very well, and is fairly easy to part off and clean up when you get to that point. Normally I let this sit for at least 30 minutes or more before moving on. I do not use two-sided tape or hot glue for this, but others claim those will work fine. My personal experience with hot melt glue or carpet tape has not been as positive.



Figure 7: Mark the center of the blank with a compass just slightly larger than your waste block. This will help align the block when you glue it to your bowl blank

Since this is a glue-up of an odd shape, I find it very easy to use my drill press or the tailstock of my lathe to apply clamping pressure at this step. Center the waste block on your drill press table, and raise the table until it presses up against the drill chuck. Apply a little pressure by tightening the table by hand, and let the whole thing sit until the glue cures (*figure 8*).

Now mount your blank to the lathe. Bring up your tailstock with a wooden insert in your live center and hold it securely to the piece. This may seem like overkill, but you will be applying a lot of torque to your blank in a minute and this will help to support it. Test your blank for trueness both round and flat, and if needed, true up the edges.

Line up your tool rest flat against the blank, exactly at center height, and draw a reference line from the center of the piece out to the edge. Lay a ruler down on the toolrest and mark the edge of the faceplate. Since my faceplate is 3" diameter, my mark is 1-1/2" from the center. Now make a tick mark every 3/4" along your reference line. You can make this spacing a little smaller, depending on your comfort level, **but if you are cutting at 45°, it is best to make your spacing exactly the same as the thickness of your boards**. For larger bowls, go with 3/4", as this will dictate your wall thickness later. (*Figure 9*)

Hold the pencil on the tool rest at the first tick mark, and rotate the piece by hand until you have a complete circle drawn. Repeat for each mark.

You do not want your parting tool going straight in (at 90°) to the blank. Rather, you want to cut on a bias, with the tip pointing towards the center (to the right). Your parting tool should point at an angle of between 35° and 45° to your work piece (where 90° is straight in). This will allow an "overlap" of your rings when you reverse and stack them of between 1/4" and 3/8". This overlap dictates your final wall thickness. For thicker walls, flatten the angle even further. I do not recommend

You do not want your parting tool going straight in (at 90°) to the blank. Rather, you want to cut on a bias, with the tip pointing towards the center (to the right). Your parting tool should point at an angle of between 35° and 45° to your work piece (where 90° is straight in). This will allow an "overlap" of your rings when you reverse and stack them of between 1/4" and 3/8". This overlap dictates your final wall thickness. For thicker walls, flatten the angle even further. I do not recommend



Figure 8: I use my drill press to apply clamping pressure at this step. Center the waste block and bowl blank on your drill press table, and raise the table until it presses up against the drill chuck.



Figure 9: Draw a line and make "tick" marks along the bowl. Then rotate the disk to create a full circle at each mark

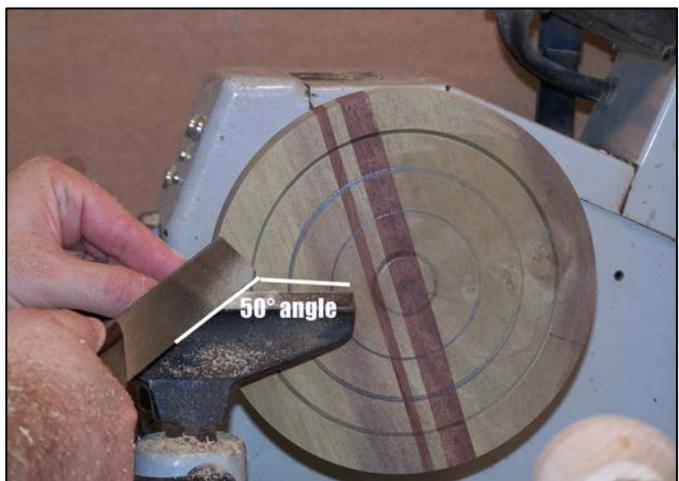


Figure 10: Using a very narrow parting tool, start cutting your rings from the outside. Keep the tool at a 35° to 50° angle to the piece, pointing towards the center (tailstock removed for photo only)

an angle steeper than 35° as this will leave you very little glue surface with which to work. You can always turn the walls thinner later. (*figure 10*)

Part off the outermost ring first, working towards the center. Keep the parting tool angled all the way through the wood. The lathe should be spinning at a moderately slow speed. Don't use a lot of pressure, just let the tool do the work. When done correctly, the ring should fall off away from you, back towards the headstock, behind the faceplate (*figure 11*).

Repeat for each ring, being careful to maintain the same angle of entry with your parting tool. If the rings start to pile up or get in the way, remove the faceplate and then pull the rings off. Your final cut should leave a small (3-5/8") disk of your blank mounted to your waste block. This will be the foot of your bowl.

Using a piece of 150 or 220 grit sandpaper, very gently remove any tear-out from both faces of the rings. I typically lay a full sheet of 150 grit on my workbench and work the ring back and forth on the flat surface until any tear-out is gone. You are now ready to reverse-stack your rings.

Starting with the largest ring face down, lay the next ring on top of it, making sure they are evenly spaced and that your pattern is aligned all the way around. Trace the position of the smaller ring onto the larger one, (*figure 12*) and then add glue to the smaller ring and inside the pencil lines on the larger ring. Use a waterproof or water resistant wood glue. If you are using a polyurethane glue for this step, be aware that it tends to expand as it cures and can create a real problem with shifting and slippage.



Figure 12: Reverse stack the pieces, and carefully align them. Then trace the pattern from one to the other.

Repeat for each ring all the way through your foot/waste block/faceplate. I use my drill press as a clamp to apply even pressure on the bowl rings. Just align the chuck with your faceplate and raise the table until it is tight. Keep an eye out for any shifting or slipping of the parts until the glue has started to bond – about 30 minutes. Allow the glue a full 12 hours to cure before you mount it to the lathe. (*figure 13*)

The rest of this project is a pretty straightforward turned bowl. Actually, it's easier than most bowls since there is very little hollowing or hogging-out of material needed. Start by smoothing and refining the INSIDE shape first. Be sure to start at the rim (the widest part of the bowl) and work in small sections all the way to the bottom. This way you always have the maximum amount of wood possible supporting your cuts. (*figure 14*)



Once you are happy with the inside, sand in progressive grits from 100 to 320 to complete the inside before starting to shape the outside. If you will not be using this bowl for food, apply your favorite finish to the inside now. When I make a bowl that will be in contact with food, I prefer to finish off-lathe once everything is done.

Now start shaping the outside, again starting at the rim and working down towards the foot. Once all the major lumps are out, you can work foot-to-rim if you prefer to get the

Figure 13: *Once glued-up, I use my drill press to clamp the rings together under pressure.*



Figure 14: *Turn the inside of the bowl first, being careful to only remove enough wood to even out the rings.*

smoothest cuts. Sand the outside to the same grit as the inside, and apply your finish if you want.

Now, part-off the foot from the waste block. If you used the paper bag gluing method, a few gentle blows with a mallet and chisel right on the parting line should release the bowl. You should get a nice clean break with no wood tear out. (*figure 15*). If you used a different glue method, use parting tool remove as much wood as you dare, and then use a flush-cut saw to finish the job.

Reverse the bowl and mount it onto the waste block and align the foot with the tailstock in place. Check to make sure your bowl is turning as true as possible, and make any necessary adjustments. Now, carefully turn the foot to your desired shape – remember that there is only friction holding the bowl in place at this point, so go slow and take light cuts with your gouge. Finally, sand the foot to match the rest of the bowl (*figure 16*).



Figure 15: *Break apart your paper bag glue-up with a mallet and sharp chisel. You get a nice clean break with only some paper residue (no split wood or screw holes) that's very easy to sand or turn away.*



Figure 16: *The finished bottom*

Finishing: For food-contact like these salad bowls, I prefer a simple, food-safe finish. There are many lines of thought on this, and I have seen several rather heated discussions regarding this subject on various internet forums. My personal preference is either an FDA approved Salad Bowl finish, or just plain mineral oil. In this case, I am using several coats of mineral oil. Apply a heavy coat, allow it to soak in for a few minutes, and wipe off the excess. Repeat this at least once a day for a full week. By

the end of a week, the wood will have soaked in as much oil as it can. I typically wait about two weeks after that before putting the bowl to actual use.

Once you start using them, keep your bowls clean with warm water and mild dish soap. Don't let the bowls sit submerged in the sink and never put them in the dishwasher. Re-apply oil as needed. The rule of thumb for applying mineral oil is "Once a day for a week, once a week for a month, once a month for a year."

Your bowls will last you for years and years. And to think, you made them from scrap.

Enjoy.

-Steven Marlow

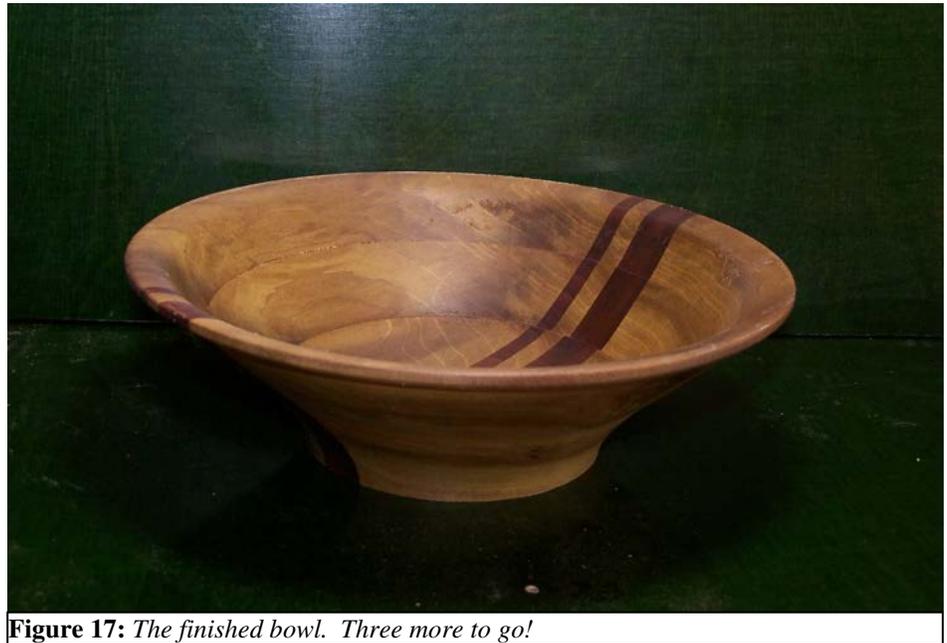
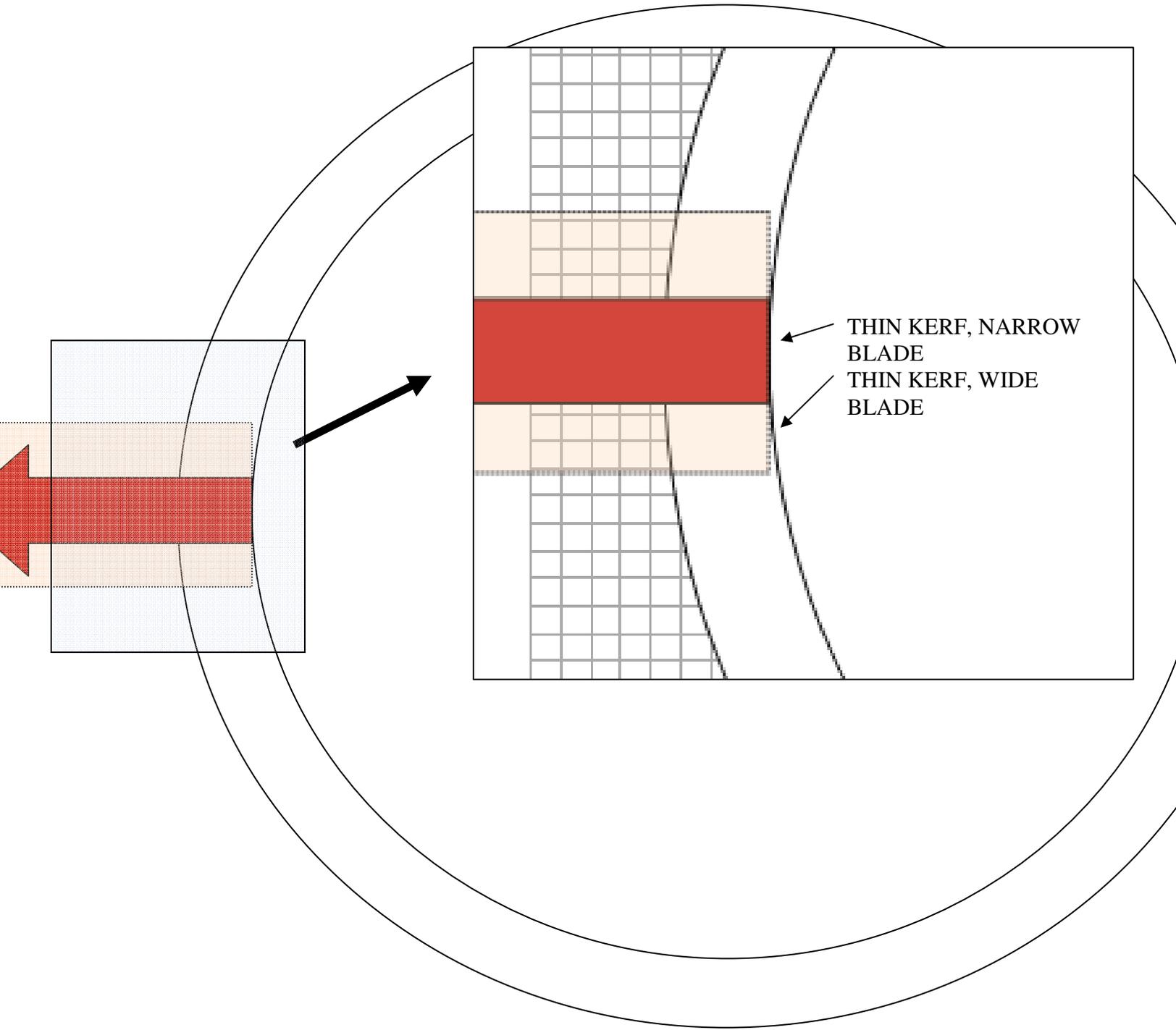


Figure 17: *The finished bowl. Three more to go!*



**AT 45°, THE DISTANCE BETWEEN RINGS SHOULD
BE EQUAL TO THE THICKNESS OF THE BOARD**

