

## Turning A 6-Sided Vase

Gerald Jensen / BayLake Woodturners

This project was based on an article titled 'The Lost Wood Process' by Lowell Converse that appeared in the Spring, 2000 edition of American Woodturner, the journal of the American Association of Woodturners (AAW).

The 'Lost Wood' that Converse refers to in his article is filler material that is used between a series of wedges. Together, the wedges and filler pieces form a circular blank that you turn to achieve the final shape.

Here's the materials list that I used:

6 - 2-1/4" x 2-1/4" x 12" maple billets

6 - 2-1/4" x 2-1/4" x 12" SPF billets (construction lumber)

1 - 12" x 12" x 1/2" plywood (scrap)

1 - 6" x 6" x 1/2" plywood (scrap)

Double-face tape

Compass

Steel wood screws (1-1/2" & 3/4")

Faceplate, metal hose clamps, duct tape, shrink wrap, glue

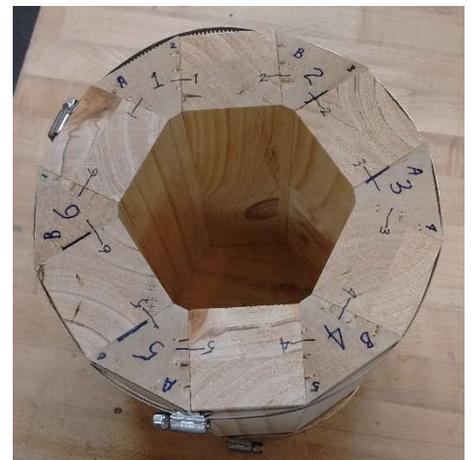
Patience

Make sure the ends of the 12 billets are cut square.

Set the tilt on your table saw to 30-degrees and cut 30-degree bevels on two opposing sides of the maple billets.

This would be the time to make sure the 30-degree miters are tight. Stand the maple billets on end, wrap a band clamp or rubber bands around them and check for gaps or misfit miters. Correct any problems by sanding or re-cutting miters.

I would suggest that you number the wedge-shaped maple pieces and make witness marks to make sure you can re-assemble them in the same sequence.



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Here is another view of the assembled billets and filler pieces. The 12 billets are standing on end, forming a ring by alternating beveled maple and square SPF billets. The assembled ring is bound together with band-clamps on each end.

Again, check the fit and fix any problems with the miters. Any gaps that are left in the miters are likely to create problems later ... better to fix them now.



When you are satisfied with the miters, release the clamps and proceed to use double-face tape to assemble the billets, alternating mitered maple and square SPF. I used carpet tape, but any double-face tape should suffice.

The assembled ring of billets should be a little under 9" in outside diameter. Measure it, use a compass to draw circle on the 12" x 12" x 1/2" plywood, and cut a disk to the diameter of your assembled billets. **IMPORTANT: Make sure your compass leaves a center mark!**

Mount a faceplate on your lathe, and bring up your tailstock with a live center. Insert the point of the live center in the center mark of the plywood disk. Mark the diameter of the faceplate on the back of the plywood disk, remove the disk and faceplate from your lathe, and screw the faceplate to the disk.

Measure the inside diameter of the assembled ring of billets (should be about 4-3/4"), and cut a plywood disk. This disk needs to fit snugly inside the assembled billets as it is used to register the assembled billets. **IMPORTANT: Make sure your compass leaves a center mark!**

Mount the assembled disk and faceplate on your lathe and bring up your tailstock with a live center. Insert the point of the live center in the center mark on the registration disk, drill 3 pilot holes in the registration disk and screw it to the larger plywood disk.

Remove the faceplate assembly from the lathe, and fit it to the assembled billets. Drill six pilot holes, making sure you are drilling into the square SPF billets. Screw the assembled billets to the faceplate assembly, wrap the ends of the assembled billets with band-clamps, and mount the assembly on your lathe.



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I used a cone on my live center to support the end of the assembled billets. Starting with the neck (tailstock end) begin forming the outside of the vase.

It will be necessary to move the band clamps several times while forming the outside profile. Make sure you wrap them with duct tape or similar protective material ... those band clamps hurt!

Note that I included burn lines on both sides of the bead at the neck. Any outside embellishment

that you want should be incorporated now while the vessel is still round.



When you have the outside profile formed, wrap it tightly with either duct tape, filament tape, or shrink wrap. Make sure you wrap it tight ... you need all of the support you can get while hollowing the inside of the vessel.

Proceed to hollow the inside of the vase ... watch your wall thickness as you would with any hollow form.

In the picture at right, note the movement that occurred between some of

the wedge staves and filler pieces. I had it wrapped tight with duct tape, but they moved anyway! This picture also shows the 'registration' disk in the bottom of the form that is attached to the plywood faceplate described above.



Part the form off ... it looks odd as you have what amounts to a big hollow cylinder.

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Carefully separate the double-face tape joints. The SPF fillers can be discarded. Note the filler piece in the picture at right.

You are actually building a staved vessel. Start by gluing the staves together, taping the joints as you go.

It is critical that you get tight glue joints, so I would suggest gluing up 2 sets of 3 staves.

In segmented turning jargon, this is referred to as the 'half ring' method. It can result in a slight distortion (oval-shape) of your vessel, but if you were careful in cutting miters and your glue joints are tight, this is usually a minor problem.



When the glue dries, you can use a disk or belt sander to flatten the mating surfaces, then glue the two halves together.

I used masking tape and rubber bands to 'clamp' the glued-up assembly together to minimize the potential surface damage and the resulting sanding that would be required with any of the clamping options I have in my arsenal.

Flatten the bottom with a disk or belt sander, then turn a plug or disk to fill the bottom hole and function as a base.

Sand and finish the vase to your liking.