Whenever I make a presentation to a group of woodturners, the pen blank segmented bowl always receives an enthusiastic response. The ability to create a complex-looking, segmented turning with no math and without even a single miter joint is simply irresistible to most turners. This project relies on the concept of stacking bandsaw cut rings. The technique is not new nor did I invent it. Turners Mike Shuler and Michael Mode have used the technique for awhile with great success. Years ago, Dale Nish profiled the technique in his book Creative Woodturning, having adapted the technique from the salad bowl industry where its use continues as a means of conserving wood.

WOOD SELECTION

For this particular little bowl, I used small (about 11/16" square), resin-impregnated pen blanks (see Fig. 1). This material is ideally suited because it is quite strong, which permits a very thin vessel wall, and is available in many colors. However, as you will see, any wood type in almost any size may be used.
**SUPPLIES**

Wood: the exact species or colors are your decision, but choose a light-colored and a dark-colored wood to ensure dramatic contrast; if you use small pen blanks, then I recommend the resin-impregnated, stabilized style*

Tools: lathe, bandsaw (or scroll saw), fine-toothed blade, drum sander (or planer), clamps, small faceplate, power-sanding drill with pad and assorted sanding discs, small bowl gouge, shear scraper, wall thickness gauge, compass, steel straight edge

Veneer (optional)

Medium density fiberboard (MDF)

Waste block and mounting screws

Both 90-minute and 5-minute epoxy

Assorted grits of abrasive paper

Buffed lacquer or oil or finish of choice

Small flashlight

Double-sided tape

Wax paper

Disposable gloves

Pencil

*The 11/16” pen blanks used for this particular project were purchased from Arizona Silhouette, PO Box 11170, Yuma, AZ 85366-9170; phone: 928-329-8039; website: www.arizonasilhouette.com.

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**DIMENSION THE WOOD**

As with most woodworking projects, the first step is to accurately dimension the wood. For small pieces such as these, a little sanding with a disc sander works nicely. Next, split the blanks using a bandsaw in order to create additional lamination components (see Fig. 2). The easiest method of smoothing the bandsaw cuts is to attach the pieces to medium density fiberboard (MDF) with double-sided tape and then make light passes through a drum sander. Another method is to carefully sand the surfaces using a disc sander. Regardless of method, the surfaces should be smooth and parallel. To create a little more visual interest, I also cut a few pieces of veneer. When you design such a lamination, always try to position light colors next to dark colors; avoid putting two similar colors next to each other. Strive for contrast because similar colors will blend over time and viewers will hardly notice your efforts.

**LAMINATION**

The next step is to glue together all the components into one lamination (see Fig. 3). Because of the resin-impregnated nature of the pen blank wood, 90-minute epoxy seems to be the best glue choice. Be especially careful to keep all the layers “in line” (see Fig. 4). Do not allow them to slip during clamping, or you will lose precious thickness. Before proceeding, allow the epoxy to cure for at least a few hours; however, overnight is better.

**SPLIT AND SAND THE BLANK**

The goal at the start was to create the largest and thickest square lamination. To transform this rectangular lamination into a square lamination, it must be cleaned up and then split using the bandsaw. Take your time during the resawing in order to produce two equally thick halves (see Fig. 5).

At this point,
the two halves should have a smooth side and a bandsaw-created, slightly uneven side. Both halves must now be dimensioned smooth and to an even thickness. Using double-sided tape and a drum sander is my method; however, a thickness planer will also work. Just make sure you secure the lamination halves to a backing board (MDF works well) using high-quality double-sided tape and then surround the pieces with scrap material. Firmly attach the scrap wood to the backing board, and extend the scrap in front and behind the laminations. This will prevent any unwanted snipe from occurring. Make extremely light passes through the sander or planer.

**LAY OUT AND CUT THE RING SECTIONS**

Place the two smoothed halves next to each other, and temporarily secure them with a little tape. Determine the center and draw circles using a compass (see Fig. 6). The circles should be about 1/4" apart. If using this technique with thicker material, you will need to space the circles further apart. The goal is to cut angled rings, which can be stacked. If the rings are cut properly, the bottom diameter of one ring will be similar to the top diameter of the ring below. The beauty of this technique is that very little waste occurs. The bandsaw cuts do, however, mandate the basic shape of the bowl. Depending upon the thickness of your material, there is only a little opportunity to modify the shape. The thicker the wood and the wider the circles are spaced, the more flexibility there will be, but you will also sacrifice wood and the bowl will be smaller.

Prepare to concentrate! The bandsaw cuts must be very accurate; the entire project will be ruined if you deviate very far from the lines. Use your smallest, fine-toothed blade, with the table set at 45°, and cut slowly (see Fig. 7). Another method of cutting is to use a scroll saw with a tilting table.

**PREPARE FOR TURNING**

Fig. 8 shows the half-rings. Use a piece of wax paper placed on a flat surface as a gluing platform. A small dab of 5-minute epoxy on the seams and a little momentary finger pressure easily create full rings (see Fig. 9). Before gluing the halves together, inspect them by holding them up to a bright light and checking the fit. If needed, touch up the ring ends using a disc sander (or you can try doing it by hand using a sanding block).

Now it is a simple matter of stacking the rings into a bowl form. Start by attaching the bottom piece onto a waste block (see Fig. 10). Make sure that your waste block is at least 1" thicker than the penetration of the mounting screws. This will allow you to “turn” the waste block to create easy access to the lower portion of the bowl. Obviously, the base must be as centered as possible; an easy method is to use the lathe’s tailstock as a clamp and centering device.
GLUE-UP
Before gluing on the next ring, decide upon your layout. For this bowl, I created a spiral effect, but other arrangements are possible. Dry stack them and explore design possibilities. To achieve nice tight horizontal glue lines, the surfaces must be perfectly flat and smooth. It is best to glue the rings one at a time. Create a slightly recessed center on the vessel base, leaving about a 1/4" flat rim around the outside. Hold a straight edge across the bottom rim surface, and shine a small flashlight under the edge to check for flatness. Strive for a very flat surface with your lathe tools, and then hold a small flat sanding block against the glue joint for just a few seconds as the lathe spins. Be careful not to round the edges with the sanding block. It is always a good idea to check the surface one more time with the straight edge and flashlight before proceeding.

The next ring in the assembly should already be smooth and flat with the possible exception of the two half-ring joints. A tiny touch-up with a disc sander or a few manual swirling strokes on a piece of 80-grit sandpaper should eliminate any irregularities on the surface. Fig. 11 shows the second ring as it is glued and clamped to the base. For clamping pressure, just a few heavy faceplates and a chuck are used. Again, because of the resin in the wood, epoxy is used for all the gluing steps. Exercise great care to ensure a centered position. I suggest wearing disposable gloves and using your fingertips around the glue joint to determine the correct positioning. To achieve the correct rotational position, make a few pencil marks during a dry fit that you can see during the gluing. The rest of the project simply requires repeating these steps until all the rings are joined (see Fig. 12).

TURNING
As layers are added, avoid the temptation of turning away wall thickness until the assembly is completed. Then

"Bowl for Sandy"

"Bowls for Cristie and Andy"

"Latin Curves"
the shift in woodturning from utilitarian to artistic. His turned vessels are classical forms with modern design. He found beauty in imperfection, experimenting with cast off pieces of wood that others would consider scrap. In addition to exotic woods like South American tulipwood, Cape ebony, and snakewood, flawed and green woods, such as spurs from the base of trees, were ripe material for Osolnik’s creations.

Osolnik taught workshops and seminars around the world and received many awards including the Southern Highlands Handicraft Guild Lifetime Achievement Award and the Kentucky Governor’s Award for Lifetime Achievement in the Arts. One of his designs, his signature hourglass-shaped candlesticks (shown at left), earned him the Award of Good Design from the Furniture Association of America in 1955 and thousands were purchased by major department stores in the 1950s and 60s.

Fuller Craft Museum is located at 455 Oak Street in Brockton, Massachusetts. The museum is open daily from 10:00 AM to 5:00 PM. Admission is $8.00 for adults, $5.00 for seniors and students, and is free for members and children under 12. For more information, please visit www.fullercraft.org.

Malcolm Tibbetts

Malcolm lives in South Lake Tahoe, California, with his schoolteacher wife, Tere. After a long career in the ski industry and raising two children, he now works as a full-time wood artist. Around 1993, after many years as an amateur woodworker, Malcolm became “hooked” by the lathe. His turnings have won many awards, and he has pieces in prestigious collections around the world. He is the author of The Art of Segmented Woodturning, published by Lindy Publishing.

Malcolm welcomes your questions and comments and can be reached by e-mail at malcolm@tahoeturner.com. View more of Malcolm’s work on his website at www.tahoeturner.com.

Regarded as the father of contemporary American woodturning, Rude Osolnik gained fame for literally turning scrap wood into bowls, vessels, and candlesticks. Over 30 of his best known pieces will be featured in Rude Osolnik: A Lifetime of Turning, on exhibit at Fuller Craft Museum from October 22, 2005 to February 19, 2006.

Osolnik (1915-2001) spent 60 years turning, teaching, and inspiring a generation of woodturners. He lived most of his life in Kentucky and spent 40 years teaching in the Industrial Arts Department at Berea College. Along with Mel Lindquest, Bob Stocksdale, and Edward Moulthrop, Osolnik pioneered the initial lamination differently. Instead of the components being parallel like in a cutting board, they were all oriented at a 45º angle.

Use your imagination and have fun as you create segmented bowls with no math, no miter joints, very little waste, and the potential to discover unique designs.

Rude Osolnik: A Lifetime of Turning

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