LAMINATED (INLAID) BOWL WITH UNDERCUT RIM

By Earl R. Martin, 336-923-9810

The Steps:

- Selecting the wood
- Laying out the design
- Selecting and preparing the wood for the lamination insert
- Gluing the lamination insert
- Cutting the bowl blank
- Merging the bowl blank and the inlay
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- Forming the bottom of the bowl
- Sanding and texturing the bottom
- Reversing the bowl and forming the undercut rim
- Sanding the bowl and the undercut rim
- Texturing the rim
- Finishing

Selecting the wood for the bowl blank:

I start with a dry hard wood blank 2.0 inches thick. I prefer hard maple, if you can find curly or tiger striped maple this adds an interesting design feature. For the smaller bowls I find that eight to ten inches works best when combined with the 1.5 -1.75 laminated insert (described below) with an undercut rim.

Always plane the wood blank first, making both surfaces flat. (important when merging the bowl blank with the laminated insert). This allows you to see the surface and decide the grain orientation and spot any defects. I prefer to have the bark side on the bottom of the bowl.

Laying out the design for the bowl:

1- When the blank is square:

Lay out the design on the bottom of the blank (bark side). Find the center point of the blank and mark the center. Using a compass, scribe the following three diameters: diameter of the bowl, the diameter for the chuck recess and the diameter of the foot. I like to use a diameter for the chuck recess of 2 ½ to 2 5/8 inches as this allows for the caliper to be inserted between the chuck jaws to measure the thickness of the bowl bottom. The foot should be about 5/8 inch wider then the diameter for the recess. Additionally, I draw a line with the grain of the wood where the blank will be cut on the table saw, and the laminated inlay will be inserted.

2- When the blank is rectangular:

This gives you an opportunity to have a larger bowl than the width of your lumber. For Example: You board is 8 inches wide and you are planning on 1.75 laminated insert make the blank 8 inches

wide by 9.75 inches long. When the insert is added to the blank you now have a blank that is square.

Remember when laying out the design and finding the center of the bowl mark the center based on a 9.75 inch blank. The recess and the foot diameters will be the same as above.

Selecting the wood for the laminated insert:

Use only dry hardwoods that will contrast with the chosen wood blank. In light colored woods use darker woods for the inlay and the reverse for a dark blank. This creates the best visual effect.

The finished laminated insert should be 1.5 to 1.75 inches times the length of the chosen blank and run parallel with the grain of the blank. You will want to make the glued-up insert a little wider and taller then the blank as the glue squeeze out will need to be removed on all four sides in prep for the final assembly. Figure on losing about ¼ inch on both the height and width after planning off the glue.

Use a combination of exotic and native hardwoods and colored dyed veneer for the inlay: (Try Purple Heart, Red Heart, Yellow Heart, Cardinal wood, Spalted Tamarand, Walnut, Spalted Maple to name a few. It is your design use you imagination in developing the patterns! Use complementary and contrasting colors and patterns in the wood selection.

I have found that there are several things that make the inlay more appealing. I always cut the inlay strips with the grain facing up. Do NOT make all the strips the same width or color. Use dyed color veneer to separate the inlay strips, (this adds visual appeal and defines the colors). I make one of the laminated strips about. .75 inches wide, the other inlay strip combinations can vary from .16 to .25. Don't put two strips of the same width side by side unless you place contrasting veneer between. Additionally, I divide the .75 inch wide inlay piece horizontally stacking two or more strips of different colored wood. If using a light color bowl blank I arrange for the top strip to be a dark color this gives a good visual interest to the bowl and rim. When the bowl is shaped the individual stacked strips create a semi circle pattern on both the inside and outside of the bowl.

Dry assemble the laminated insert with the colored veneer. View it along the side of the bowl blank, make adjustments in the placement of the inlay as need for the best visual effect. When you are satisfied, glue up the insert separately from the bowl blank (we will merge them later.)

Gluing the laminated insert:

When gluing the laminated insert it should be glued in two separate steps.

- Step one: Glue up the 0.75 inch wide wood with the different contrasting colored pieces horizontally to the appropriate height needed. When dry, clean up the glue squeeze making sure that all side are perpendicular. When removing the glue using a planer, you will likely have to true up all edges on the table saw or joiner.
- Step two: Now combine the 0.75 inch glue-up with the other pieces to form the full width of the insert. Glue, clean as noted above. I use Titr Bond III due to the longer open time and a simple jig to hold the wood for the gluing.

Cutting the bowl blank.

Using the table saw, cut the blank on the line marked where the inlay is to be inserted. Mark the pieces to keep the orientation for the final assembly.

Merging the bowl blank and the inlay:

Dry-fit the laminated insert and the blank (now a total of three pieces) and clamp. When dry fitting be sure you have added colored veneer on both sides of the inlay. When the pieces are clamped tight, check for any gaps. If any are detected, use the table saw to insure 90 degree angles and no gaps. If gaps are left, this will show in the finished bowl. Glue and clamp the three pieces together and when dry, clean the glue off using a planer. You now may have a blank that is slightly larger on one side, so trim off the excess. Redraw the outline of the bowl to be cut on the band saw.

Mounting the completed assembly.

You have already marked and laid out the center. DON'T CHANGE IT. Place the compass in the hole and re-draw the previously established diameters. On the opposite side also find the already established center and drill a 2 1/8 inch hole with a Forstner bit. Drill down only about a ¼ inch so that when mounted on the check it does not bottom out. Now rough cut the circle on the band saw. Mount it in your chuck. You are now ready to turn the bottom of the bowl.

Forming the bottom of the bowl.

Cut a recess in the bottom of the blank 2 ¾ inches wide to accept the chuck. This will allow room when you reverse chuck for the calipers to measure the depth of the cut on the inside of the bowl in relation to the recess in the bottom. I use a ¼ inch parting tool leaving a button in the center to texture later. Also make another recess cut at least 5/8 inch outside the previous cut for the foot. This recess should be about 1/8 inch deep. Before shaping the bottom of the bowl, move the tool rest to the head-stock side of the lathe to true up the top rim, then change sides again and shape the bottom. I prefer to have an Ogee curve about the width of one finger on the underside of the rim. Sand the bottom to at least 320 grit, blowing off the sawdust between grits.

Reversing the bowl and forming the undercut rim.

Reverse the bowl on the chuck. Trim up the surface slanting the rim slightly towards the center of the bowl so when you lay a straight edge over the rim it is not flat and with a slight slope to the inside. The inside of the rim should start at the point approximately 1/8 to 3/16 inch inside the outer most point where the laminated meets the narrow edge of the bowl blank. Using a narrow sharp parting tool make a straight on recess ¼ – ½ inch deep. This is the area where you start forming the concave area of the bowl. Using a spindle gouge, begin to hollow out the bowl area about ¾ inch deep. Using a Hunter tool or other curved cutter, start undercutting the rim. You will notice that the laminated insert will begin forming ovals. This is the effect that you looking for. DO NOT CUT AWAY TOO MUCH MATERIAL OR THE OVALS WILL BEGIN TO DISAPPEAR. Only take away/cut through until you see the wood of the original bowl blank begining to show. Finish hollowing out the rest of the bowl blending the curved undercut with the sides and bottom of the bowl.

Sanding the bowl and the undercut rim.

I use an electric angled drill with a special custom-made sanding pad. To the sanding pad I attach scalloped sand paper. The pad allows the sand paper to go under the rim and not come into contact with the outer edge of the rim. Almost always there is tear out in the end grain and with the sanding disc/pad this takes care of the problem. Continued undercutting only make the tear out worse. Remember use sand paper like someone else is paying for it. In other word change the sand paper often.

Texturing the rim.

I find that texturing that rim gives a more pleasing appearance. Texture about one inch on the surface of the rim, then bookmark the texture on both sides using a three point tool or your narrow parting tool.

Finishing.

Use the finish of your choice. I apply several coats of a three part finish. One third 100% pure Tung oil, mineral spirits and high gloss polyurethane. After the finish is dry I then buff with Varnex and Canuba wax.