Sebastian’s Hall Table

This is to document Sebastian’s (Grandson) Hall Table build. I built the base as part of a presentation to my Wood Working Club of East Texas about using the Golden Ratio for design. The base was built about 2 months ago.

The table is built from mesquite that I got from Jesse Copeland. The mesquite tree was over 100 years old and blew over in a storm. I went to Mexia Texas where Jesse lives and we cut the tree down and I hauled home the trunk and some big limbs. Jesse kept the rest of the limbs for firewood. Another friend John Leggett has a WoodMizer Saw Mill. I cut the slabs to about 2” and let it air dry for 3 years.

Here is the table base. It is 30” wide and 30” tall. The top will be 12” by 44” long.

Here are some of the pictures of flattening the mesquite slabs and then using the band saw to cut them straight and resawing them to make the table. This was my second slab flattening jig.

This is resawing the slabs after cutting them straight on one edge.

Here is the pile of slabs that were flattened on the slabbing jig, straightened and then resawed into lumber.

The lumber was then planned and cut to size to make the table base.

Here are some pictures of making the top. It started as a 2” slab that was flattened on both sides on my new Veritas Slabbing Kit, straightened and then resawed. The material was then edge jointed and face jointed on one side. I cut it to size. Then the two boards were glued up and ran through the planner again. Then I chamhered with a 45 degree router bit on the router table. Next I will cut out the dragon and decide if I will fill it with epoxy or make an inlay and glue that in place.

The slab was cut to rough size and marked with white pencil to trim on the bandsaw.

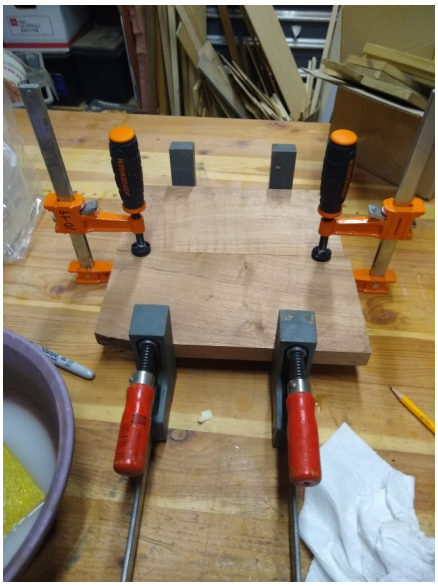
Then the slab was resawed, edge jointed, cut to size and face jointed then planned. Then glued up and trimmed to 44” and chamhered on the bottom edge at 45 degrees.

Mesquite sometimes has cracks and you can see a few defects on the top. I will fill them with black epoxy whether I fill the dragon with epoxy or not.

Here is a test cut of the dragon in a piece of maple plywood. I have some mesquite glued up and will cut the male plug for the inlay and glue it up to test the inlay. Again I may epoxy fill the dragon on the table top with epoxy tinted black with Transtint black dye. This was a found image on google. I then took it into Inkscape and converted to an SVG. I then created an advanced vcarve with a 1/8” end mill and a 60 degree Groovee Jenny Vee bit. I have already created the mirrored image for the male plug that will fit into this female pocket on the plywood. The actual carve will be on the mesquite table top.

This vcarve took about an hour and 15 minutes to make. The actual image is about 10.5” around for scale.

Here is the mesquite work piece for the inlay. I made it 11” by 11” and I will cut it into an 11” circle to save time during the carving of the male plug. After cutting into a circle I will cut the male plug for the dragon and glue it into place, then flatten it on the Shapeoko XXL.



Here is the mesquite inlay I prepared for the maple plywood test. I cut the corners off on the 10” Jet bandsaw. Originally I was going to cut the blank into a circle. However it is harder clamp circle over a rectangle. So after the carve was done I cut the corners off so the male plug would fit into the female socket on the test piece. Sometimes plans have to change when you have time to think about the outcome.

Here is the glue on the maple plywood and the glue up and clamping of the inlay. I used water and a sponge to remove the glue that was on the surface. This will minimize cleanup of the surface of the plywood. My glue up caul was a piece of scarp maple plywood that was cut out of a wood lathe steady rest a few weeks ago. I hate to throw away something that I might use later. However this a point where saving too much can be a bad thing so I only save things I realistically think I can use later.

Here are some pictures from the side. You can see there is a small gap between the Maple plywood and the mesquite inlay. Will leave clamped overnight and then I will cut off the excess plug. Since this was a test I did not spend a lot of time planning down the mesquite male plug. Making the plug as thin as possible would save a lot of time. Additionally since this is plywood I will have to be very careful to only plane down to the top veneer of the plywood. On the actual table top I will also have to be careful because my Shapeoko only has a 32” x 32” cutting area and the actual top is 44” x 12”. I had used the center as the origin so where ever I set the X and Y zero I can be sure to plane down the male plug to almost the plywood and/or table top and will have to finish sanding by hand to not dish out the female part of the project. I will hang the test piece on the wall if it comes out ok.

Here is the mesquite inlay on the maple plywood. I took it out of the clamps and ran it through my Dewalt planner until the inlay was just above the surface. I then sanded it with 120 grit sandpaper. The picture was rubbed with mineral spirits. Everything looked good except on little place where the male inlay was missing at the very tip. Likely the piece got knocked off during the cutting.

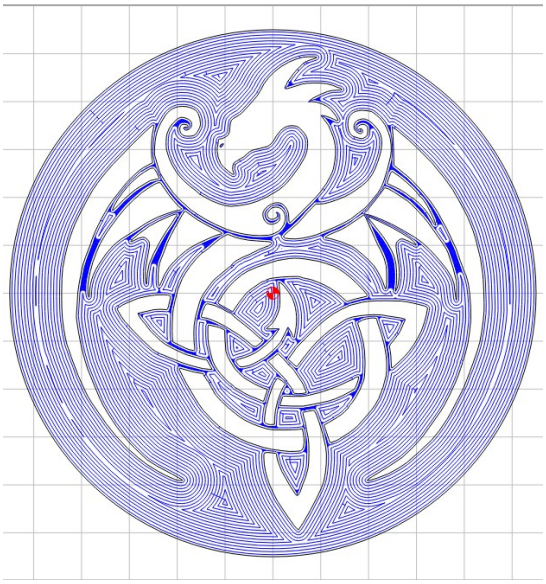
Got the table top female socket carved today. Talked to Grandson and I will make a maple inlay to go into the table top. I will still fill cracks and defects with black epoxy. On the bottom of the top there is some stress cracks that will also need to be filled.

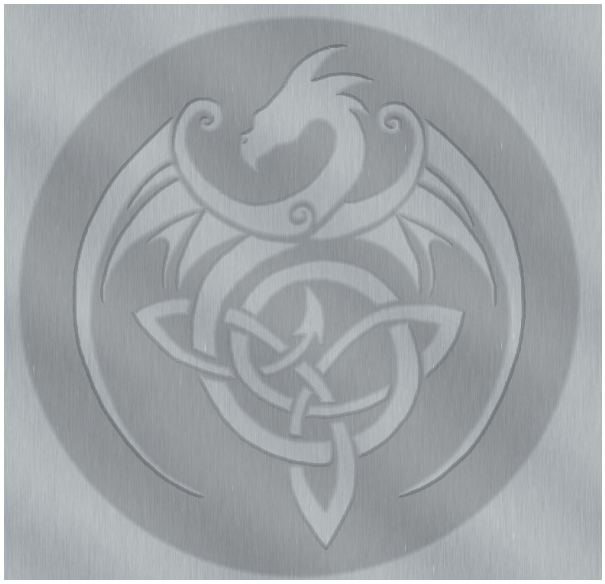
Here is the maple glue up for the male inlay. This was part of a large piece of maple. I cut a 12” piece off and resawed the two outside pieces to about ¾”. Then ran the pieces through the planner. Glued the two pieces together and will let dry overnight.

The design is created in Carbide Create. Just need to cut it out. The procedure is called an Advanced Vcarve. First a 1/8” flat end mill cuts off the flat areas. I limited the depth to 0.15”. After the flat areas are removed then a 60 Degree Vee bit is used to go around all the edges and carve them to 60 degrees. Both the female and male parts are cut with the same bits. One thing that is different is the male plug has a starting depth of 0.075” and a maximum depth of 0.15”. With the starting depth of the male plug starting at 0.075” the male plug is slightly smaller than the female socket. This seats the male plug deeply into the female socket. If both pieces were to start on top of the work the male plug would only fit in a few thousands and would be hollow underneath the male plug. The key to the male plug fitting is starting the cutting depth below the top.

Here is the male plug cut out of the maple. I need to clean it up a little and will get it glued in tonight. After gluing and waiting over night I will remove the excess maple. I still need to put some black epoxy in a few spots on the defects on the mesquite top and bottom. I will do that before I remove the maple in the Dewalt planner.

From the Carbide Create application here are pictures of the tool path and the tool path simulation of the male plug. The original image was flipped to a mirror image. Then a circle was drawn around the dragon image. As on the test piece after the piece is cut out I will cut the square corners off the maple material to allow the male plug to drop into the female pocket on the top. On the mesquite top the grain will run horizontal and the maple inlay will have its grain run vertical. The circle that was drawn could be slightly smaller to save cutting time but when cutting the corners off I would have to get very close to the design and my Jet 10” bandsaw does not cut precisely and I could ruin the inlay so I error on the side of caution.





Tools used so far in this project.

Veritas Slabbing jig with Porter Cable 7519 and 2” Infinity Tools Mega Planner bit (table top)

Homemade Slabbing Jig using the Porter Cable 7519 and Infinity Mega Planner bit. (table base)

SCM 16” Bandsaw with 1” Lenox Carbide 2-3 TPI Blade

Jet 10” Bandsaw with ¼” 12 TPI blade

Powermatic 66 Table Saw with 10” Forrest 1/8” 40 Tooth ATB Combination Blade

Delta X 6” Jointer

Dewalt 735 13” Planner

Kreg Pocket Screw Jig for table base

Incra Positioner for dovetail drawer for base, Porter Cable 890 router and Whiteside dovetail bits

Titebond III glue, the III glue has a longer open time over I and II. Plus it is waterproof

Dewalt 5” Random Orbit Sander 80, 120 and 220 grit sandpaper, may use 320 for final sanding.

Hand Plane for various smoothing operations

Two Cherries hand scraper

Marples Irwin Chisels

Starret Square for marking

4 Foot ruler for marking slabs and general measuring

Shapeoko 3 XXL with HDZ Z Axis with Dewalt 611 router

Various Bessey clamps

When finished I will use my Earlex 5000 HVLP spray gun inside a large spray shelter outside. I will use Minwax Oil Base Polyurethane for the finish and dewaxed shellac as a seal coat.

Will update as progress is made.