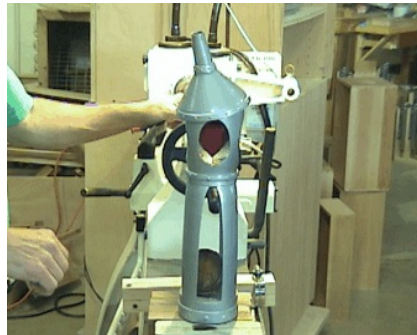


Inside Out Turning featuring John Lucas

Our April demonstrator was John Lucas, illustrating inside out turning. John has taught classes at Arrowmont School and the Appalachian Center for Crafts and has demonstrated at the Tennessee Association of Woodturners annual symposium, the Southern States Symposium and the American Association of Woodturner's annual symposium. This year he will be presenting at the National Symposium in Richmond.



John began by showing some of his very unusual works. He also showed some of the work he did in trying to develop the process, including what he considered as mistakes.



Lining up the blocks perfectly is important to avoid having a line through the whole piece. He emphasized that before he does a finished piece, he experiments with a 2 by 4 scrap to determine what it will look like. He suggested that when you first start that you try something simple. An oval is fairly simple but a heart is complicated.

First you must be able to make a square piece of wood.



Second, attach the four pieces together. You can use glue, tape (wrapped in the opposite direction from the way the lathe is turning), screw clamps, or screws. John uses a paper glue joint. He uses yellow Tite Bond, and puts the glue on the wood and then puts a piece of paper between the wood. He uses newspaper and is careful not to use too much glue.

After the piece is dry John trims the ends to make them even and drills a small hole in the center. He attaches the block to the lathe with the 4 prong headstock, turned so the prongs are not on the joints and in the tail stock uses a cup center so as not to split the piece.



Centering the block is very important, so he uses the tool rest to line up the edges. He taps the block with a little mallet to line it up perfectly, and each time tightens the foot stock a little bit until it is right.

John sketches out the design on a piece of paper, folds the paper in half lengthwise and then cuts $\frac{1}{2}$ of the pattern with an Exacto knife. The pattern is then placed on the flat side of the block and lines drawn across the block.

The corners of the block must remain, or there will be a line the length of the piece. He uses a skew to mark the line and gradually cuts into the piece. Then with the spindle gouge he cuts down to the level of the flat surface. John suggested that if you are making a heart, you put the top of the heart on the left side so your right hand hollowing tools will go inside.

John said that he likes the Doug Thompson tools very much because they hold an edge and there is a lot of strength to them. They are made of powdered metal, which enables them to add a higher amount of caladium to the steel.

He uses a gauge to first cut to the depth of the pattern. Then he knows how deep he needs to cut. He smooths out the bottom of the heart first and then works on the top of the heart which must be carefully undercut.

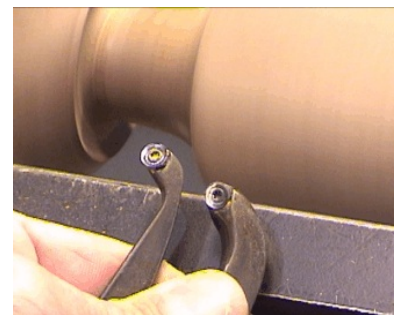
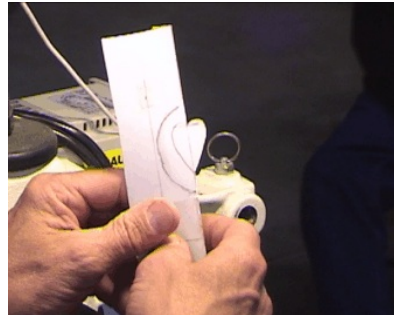
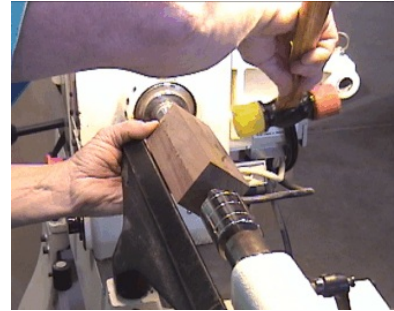
At this point he also works on the “floor” and “ceiling” of the inside by knocking off the corners.

Now he needs to finish the top of the heart. He had a tool made by Mike Hunter that was designed to cut aluminum but works very well on wood. It's a cutting and scraping tool that works very well on end grain. Since the inside is hard to sand, he tries to cut as cleanly as possible.

Once the heart is cut, it needs to be sanded, as this will become the inside and can't be sanded later.

The block is now separated at the glue joint with a chisel. While it is apart, you can paint the inside, wood burn, or put an object such as a ball inside. The 4 pieces are now reglued with the turned part inside. He glues two pieces and then the other two pieces using clamps to hold them flat. When those are dried he puts the two pieces together.

Now the block has the turning on the inside and is ready to have the outside turned. He lines up the block as he did before, lining up each edge with the tool rest. Then he



uses the roughing gouge to knock off the edges. He uses a parting tool to make a tenon so he can attach it to his chuck. He uses a cup center on the footstock so it doesn't split the block at the center.

Using the roughing gouge, John cuts away the spare wood to roughly define the finished shape. He is careful on the section with the cutouts as there is little wood there. He shapes the bottom of the ornament. He cuts until he has removed all of the paper and the flat sides are gone. John uses the skew and spindle gouge for the final shaping. In using the skew he cuts with the bottom 1/3 of the tool. He leaves the top and center fairly solid as he works on the unsupported bottom.

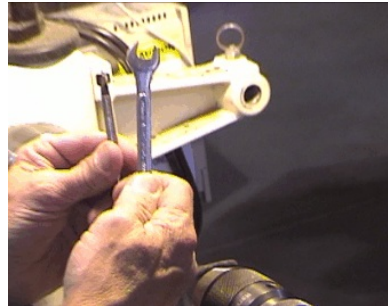
After the bottom is shaped, he drills a hole for the finial. John has a drill bit and an open ended wrench that exactly match. He keeps these 2 tools together so his drilled hole will match the thickness of the finial.

After the bottom is right, he can take more off the heart and top, using the skew and spindle gouge.

When sanding, it's best to use a stick with the sandpaper instead of your fingers as the openings could hurt your finger. When it is finished, he coats it with a 50% thinned lacquer to give a harder finish that will require less coats on the final finish.

John then turned a finial to fit into the bottom of the ornament. He mounted a 1 inch square by 6" long block between the centers. He then rounds the block with a roughing gouge, especially where he is planning to touch it with his fingers for support. John found that it is better to turn these ornaments left handed as he can use his right hand for support and still see his work. For the bottom finial John makes two tapers with the bottom one slightly smaller than the one on top. He turns a reverse V to separate the two sections. At the top he makes a tenon exactly 3/8 inches using his open ended wrench as a guide for the thickness so it will fit perfectly in the ornament.

For the top hanger on the ornament, one of the items he uses is an earring fob (from Hobby Lobby, etc.) and straightens it out. He drills a tiny hole in the top and fits the wire in with some CA glue. Another hanger he uses is



“bait saver” fishhooks. He cuts off the hook and fits the wire into the ornament. This makes a very strong hanger that will not come out.

John then showed some other interesting items that could be made using the inside out method, including a flower and a platter. He also showed some free form looking pieces that he did by turning all four sides of the blocks. He showed how he made a wooden handle for a briefcase using this method.



Some important tips for inside out turning:

1. Let paper joints dry longer than normal.
2. Cut small notches in the corner to help center the piece.
3. Use center with small points to keep from splitting the piece.
4. Be sparing with the glue. It's difficult or impossible to clean up the inside.
5. Be sure to sand and finish the inside before re-gluing.
6. Glue two sides, then flatten these, then glue the pairs together.
7. Leave 4 flats on silhouette portion of turning
8. Evaluate shape of the non-silhouette portion and make a decision on its design.
9. Centering is essential for final turning, be prepared to move the centers.

Transcribed by Ken Calkin