

Lidded Box Workshop Demonstrator Steve D'Arc

by John Tarpley

In November we were fortunate to have a lidded box demo by someone we still consider a member of our Guild, Steve D'Arc. I've been interested in lidded boxes, also known as boxes since I started woodturning. I've taken box workshops with Ray Key, Richard Raffin, Bonnie Kline, and Chris Stott. None of those workshops were as good as the one Steve gave our Guild.

Steve began by discussing his design considerations that form the basis for his boxes. He feels you should limit the box to about 3 1/2 inches in diameter since this is the size that fits comfortably in a female hand. Since ladies buy many of his boxes he looks at cosmetic bottles and boxes to see what designs can be adapted to wood. He only uses wood that is stable, dry, and has an attractive figure. Burls are always good and he also uses English walnut, claro walnut, black walnut, maple, birch, myrtle, and many of the tropical woods. Steve also has three Fs for boxes, which are Form, Fit, and Finish.

The first area of Form is that boxes may be end grain or side grain. With end grain boxes the grain will match around the box and the box will be as tall or taller than it is wide. However, if the box is to be wider than it is tall, then it needs to be side grain to show the best grain. Many turners advocate that the box should be 1/3 lid and 2/3 box. Steve disagrees with this idea. Since boxes are intended, at least in theory, to store items he feels you need to leave as much space as possible for that function. Therefore, he makes his lids thinner. While the thickness varies with the type of box, I think his general rule is about 1/5 lid and 4/5 box. Form must also be considered with function. As an example consider a jewelry box. This box needs ample storage space so a side grain box is more appropriate.

A jewelry box is also a good example of Fit. When this box is used you want the box to remain on the table when the lid is lifted so a tight, suction fit lid would not be appropriate. Instead the box should have a loose, but well

fitted lid that allows it to be opened easily with one hand. There is a big difference between a loose lid and a sloppy fit lid.

The final F is Finish, which has a lot to do with how the box feels in the hand and how it looks. Steve prefers a finish that goes into the wood rather than builds up on the surface. This means a finish of oil, wax, or French Polish. While Steve has tried a variety of finishes he currently prefers one he makes himself. It consists of the cheapest baby oil available mixed 50:50 with odorless paint thinner. The finish is placed in a spray bottle and is applied to the turning while it is still on the lathe. It is applied in two coats and sanded in with 240 and 400 grit wet/dry sandpaper. When dry this gives a nice matte finish. If a glossier finish is desired Steve allows the finish to dry for at least two days, lightly sands with 600 grit, and then applies a coat of wax. His favorite is TreeWax carnuba floor wax.

Steve then turned his attention to the tools he uses. He uses mainly scrapers for his boxes. He uses several scrapers that are 1/2 x 1/4 inches. They include a roundnosed scraper sharpened down the left side, a square scraper sharpened down the left side, and a square scraper sharpened at less than 90° with the corner eased. This tool allows him to work into the corner of the box without contacting both the sidewall and bottom of the box at the same time which is always trouble. He also has a few special purpose scrapers to do specific jobs. Steve prefers a good burr on his scrapers so he sharpens them upside down on a grinding wheel with a platform set at the sharpening angle. He reminded us that tool mass adds stability to our cuts. Since these tools are very light we must provide additional stability by solidly pinning them to the tool rest during use to prevent bouncing and vibration during cuts. Additionally he uses a depth gage while hollowing and sandpaper in grits of 120, 180, 240, and 400. As previously mentioned he uses wet/dry for the 240 and 400. For 120 and 180 he uses cloth backed shop rolls. They can easily be torn into strips to get into small details.

With this very valuable introductory information Steve began the turning portion of the workshop by making an end grain black walnut box. Since Steve makes boxes for sale he makes them in small production runs. He turns a spindle long enough for several boxes and does the initial rough shaping for each box at this point. He cuts the tenons at each end to fit his chuck by using a go-no go gauge made for the chuck jaws he plans to use. Only a small tenon is required if it is cut accurately. He also marks the lid-body separation with a v-groove. He then parts off the pieces on his bandsaw using a large wooden woodworking clamp to hold them safely. He first hollows, sands, and finishes the box lid. The bottom is then mounted, shaped, and the lid fit. To achieve a good lid fit the mating parts must be either parallel or the bottom can have a slight radius. Wedged shaped parts will never fit properly. It also helps to slightly chamfer the leading edges of both parts. There are several methods to achieve an accurate fit of the lid. Steve's method is to accurately size the lid first, making sure the mating area is perfectly straight, and then to cut a taper on the box bottom. While the bottom is spinning in the lathe the lid can be offered up to the bottom creating a burnish mark on the taper where the two will ultimately fit. Steve then uses his skew on its side like a scraper to first cut into the shoulder and then by rotating the skew he can take light cuts of the mating surface until the burnish just disappears. This should insure a snug fit.

When designing beads or other decorations for your box, Steve advises to decide on the size you want and then reduce it by half. He feels they will always look better when smaller and more delicate. He aims for a final wall thickness of about 3/16 of an inch. To reverse chuck and turn off the bottom of the box he makes use of the chuck jaws in expansion mode. This eliminates the need to make a jam chuck.

Steve also made a side grain box with a wooden disk inlay. Steve already had this myrtle box partially prepared and mounted on a chuck ready to fit the inlay and hollow. The form he used was a modified ogee curve giving a graceful form requiring undercutting using some of the

techniques of producing a hollow form. Steve prepares his inlays from small pieces of wood left from other projects. He mounts the pieces on a waste block with double stick tape and shapes them into disks with slightly tapering slides and slightly dished bottoms. After measuring the diameter of the inlay he marked the dimension on the top of the lid and proceeded to cut a recess that would just accept the inlay. He took care to make sure the bottom of the recess was flat. Steve believes that the joint between the insert and the lid should be celebrated in some way. This can be in the form of a decorative bead or by using a colored glue joint as he illustrated. After making sure the inlay bottomed into the recess he made witness marks on both pieces. He then cut a narrow groove or step around the inlay recess about 2/3 of the depth of the recess that will be filled with colored glue. He uses 5-minute epoxy tinted with powdered artist pigments. He advises that to produce vibrant colors first mix in a little white before adding the color of choice. Since he wanted to produce a dark brown he did not add any white. Mix the color into the resin portion of the epoxy until the desired color is achieved and then add the hardener. Glue is then applied to the bottom center of the inlay which is aligned with the witness marks and seated into place. Epoxy can now be placed in the groove previously cut around the joint. Neatness does not count at this stage since the excess will be turned away when final shaping of the lid is done after the glue has hardened.

Next he demonstrated the hollowing process beginning with using a central drill hole to determine the depth of hollowing. To keep from possibly damaging the edge during the hollowing process he cuts a v-groove at the desired wall thickness as a stop cut. The bulk of the material can now be removed using a small bowl gauge. To reach the material in the bend of the ogee underlying the rim he employed the D'Arc/Devoe Rotary Excavator tool, which is available for purchase from Bob Devoe. This tool, designed specifically for this purpose, is a small scraper using a tool steel bit with a movable metal block on the shaft to absorb the rotational torque and allow you to comfortably handle the tool. Steve emphasizes that you work carefully and smoothly

from the top to the bottom removing material and blending cuts as you work. When the inside is hollowed the box can be reverse chucked as described for the end grained box and finished.

Steve also had his photo album catalogs and several of his boxes on display including his newest design, the fly reel box. He estimates he has sold approximately one thousand boxes so his lessons certainly come from a wealth of experience. I'm sure all of us who attended left the workshop knowing much more about box turning than when we arrived.