

3-PART VESSEL DEMONSTRATION

By Ken Keoughan

A. Body

Prepare body of vessel as follows:

1. Cut tenon on each end.
2. Rough shape outside, top to headstock.
3. Finish and shape bottom end.
4. Drill for hollowing... 1 ½ inches or more.
5. Hollow... use steady rest.

(Go to “Part B. Base”)

6. Glue in base plug; mark center with tail stock.
7. Reverse workpiece and shape top, use steady rest if needed.
8. Drill top to receive tenon from stem.

Tips... Body

1. Use fairing board on base end of body. Check with Japanese tri-square with its broad flat surface.
2. Don't worry about the perfect cut... there'll be a lot of sanding and fairing... you are making three pieces into one integrated unit.
3. Hollow to a comfortable wall thickness... ¼” - 1/8”. Settle for “good” rather than cut through on the last cut before “perfect”.
4. Final and exterior shape of top can't be done until the base is glued in and the piece is reversed. Leave enough wood in the body for comfort, strength, shaping.
5. Do NOT sand drilled opening in bottom of body . This needs to be perfectly perpendicular to the fairing board surface.
6. Use fairing board on opening in top of body that will receive the stem.

B. Base

Prepare inserted base as follows:

1. Cut off stock long enough to allow for: 1" insert, 1/2" base, 2-3" chucking room... total of 3-4 1/2" depending base design.
2. Trim stock into a square wide enough to exceed the diameter needed for the exterior of the base... 2 1/4" -2 1/2" if you have a 1 1/2" opening in the base.
3. Mark each end for centering.
4. Chuck up with No. 2 jaws in a Stronghold or Talon chuck.
5. Before drawing jaws tight, center and secure marked end with tailstock.
6. Turn the tenon to fit body opening. Use Vernier calipers.
7. Concave the surface that mates with the body one or two degrees if needed for flush fit. A little loose is okay; a forced to fit is NOT okay; sloppy fit is a bad idea. If you taper the tenon, tail stock toward the joint, you can work to your fit.
8. Dry-fit base plug... when good, go to "Step 6" in BODY instructions.

Tips... Base

1. Cut blank so that you have side grain, NOT end grain exposed. This will give a cleaner easier-to-work base.
2. Use Vernier calipers to estimate diameter of tenon that inserts into body.
3. When tenon is close to correct diameter, dry fit. Snug is fine, a little loose is okay, sloppy won't work.
4. If when working with "dry fit", outside edge of tenon does not mate satisfactorily with base, cut a very slight bevel into tail stock end of tenon so that outside edge fits tighter.
5. If you fail to get the surface match that you want at this joint, color your glue with black dust or color that matches or clearly contrasts with the base.

C. Stem

1. Shape stem... leave side 1/8" proud. Drill and sand out opening of bell.
2. Turn tenon to match opening in top of body
3. Glue stem into body.
4. Re-mount body with square end of plug in base... use steady rest, tail stock.
5. Turn/sand stem to fair into body.
6. Turn/sand base to desired shape.
7. Part off base.
8. Sand out bottom of base using pistol grip sander... go slow... need to protect outside rim so piece sits flat.

Tips... Stem

1. Cut square blank to length, leaving 2-3" extra for working room at the chuck/headstock end.
2. Cut surface of stem that will butt against the body just slightly concave to insure snug, tight glue joint.
3. When sanding stem, pad the flute and use the tail stock with light pressure for lateral support.
4. Leave base of stem same diameter as the outside of the opening it goes into or even a little proud of it.