LONG NECK HOLLOWFORM

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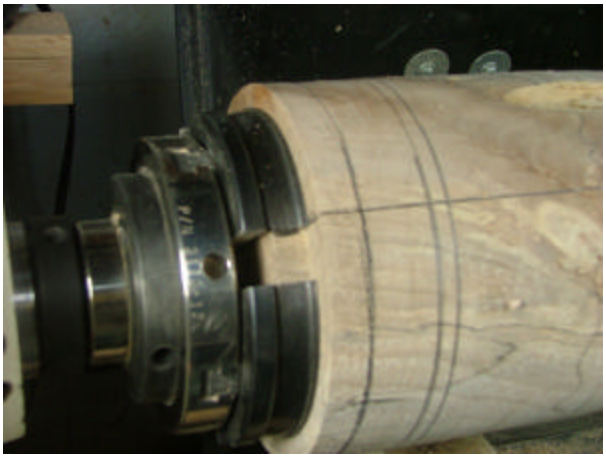
Turning this hollow form presents some interesting challenges in mounting and holding a turning. Both top and bottom are completely finished and the vessel is also hollowed giving the appearance of being hollowed through the neck.

1. Mount between centers – round – cut tenons on both ends (same diameter).

2. With base of vessel at headstock and top at tailstock, mark vessel end points and point of maximum diameter.



3. Mount spur end (vessel base) in chuck. Bring up tailstock to maintain center and apply pressure when tightening chuck. At chuck end mark the tenon between #1 & #4 jaw. Align this mark with the toolrest and transfer a mark to the tenon on tailstock end. (This becomes important in matching grain in bottom plug.)

4. Replace live center with Jacobs chuck with ½" drill.

5. Drill through neck into area to be hollowed if length of bit permits.

6. Remove Jacobs chuck and slide tailstock back.

7. With gouge, cut slight taper on end of ½" hole to insure that cone live center will center in hole. (drill may have wandered slightly on entry) Plug the hole with scrap of paper towel.

8. Reverse blank so end with ½" hole is now mounted in chuck. Position the mark on the tenon between #1 & #4 jaw.

9. At tailstock end (base of vessel) with parting tool reduce diameter to 2" from previously mark of base of vessel for about 1" toward tailstock.

10. Using thin 1/16" parting tool, part this 2" section about 1/8" from the vessel base. I prefer to stop short of cutting through, loosen tailstock and finish cut with flush cutting saw. This prevents any chance of binding when the parting tool cuts through and loosing your alignment in the chuck.

11. Bring the tailstock up with a live center and begin forming the shape of the vessel. The final shape from the max diameter to the base at this time. Leave the neck portion thick at this time 3" for support when hollowing. Maybe 2" if a steady rest is to be used.

12. With a Jacobs chuck and 1 3/8" Forstner bit drill into base of vessel. The 1 3/8" bit should allow the front part of the Jacobs chuck to enter the hole to achieve requird depth.

13. If the ½" bit did not go far enough to mate with the hole made by the Forstner bit, the ½" bit can now be used through the 1 ½" hole to complete. The paper plug will prevent blowing sawdust through the ½" hole into the headstock spindle

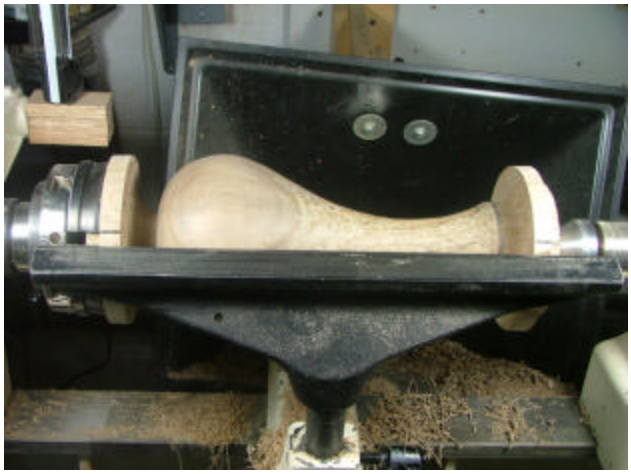
14. Remove the tailstock and proceed to hollow the vessel. If you go to a wall thickness of 1/8", leave the base around the 1 ¼" entry hole at least ¼" thick. Use care not to damage the edges of the entry hole. Remember to leave enough thickness where the hollowing meets the neck to allow for forming the neck.

15. When hollowing is complete, replace the tailstock with a 2" cone live center for support in the base entry hole. Apply just enough pressure with the tailstock to support the vessel taking care not to damage the hollowing. The neck of the vessel can now be completed.

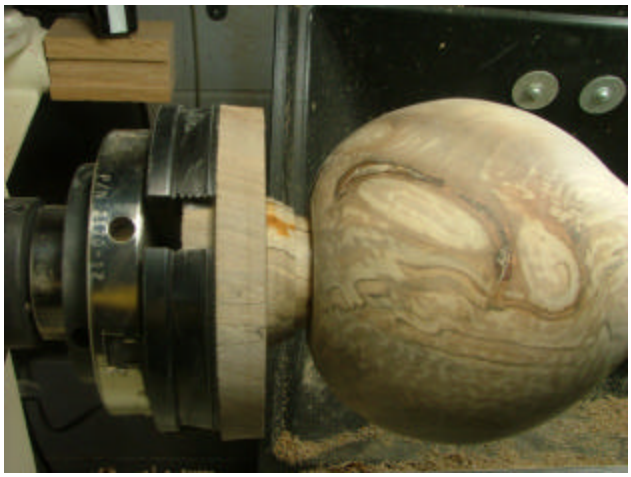
16. Now is the time to completely sand the vessel.

17. Slide the tailstock back and use a small gouge to slightly taper (about 5°) the 1 ¼" entry hole to accept the plug. The 1/8" left on the base when parted should be left at this point.

18. Remove the vessel from the chuck and mount the piece that was parted off. The 2" tenon now needs to be cut down to fit the taper that was left in the base. Cut carefully and test the fit often.



19. Once the fit is good, we are ready to glue it in. Now is where those marks we made on the two tenons help us to line up the grain in the plug with the vessel Apply glue (white glue not CA) to tenon and base and bring up the tailstock with a cone center in the ½" hole to achieve proper alignment and hold the piece until the glue sets (preferably overnight).



20. The next step is to part off at the top of the neck. Since the glue joint on the plug is going to have to withstand the torque so we need to add some reinforcement. To add some support, cut four strips ½" x 3" (¼ thick or less). Using hot glue attach these at intervals to the shoulder of the tenon mounted in the chuck. The other end of these strips should lay against the sides of the vessel. Wrap with plastic stretch wrap and secure with a round of masking tape. This will transfer much of the torque to the entire turning. With light pressure on the tailstock supporting the neck end, we are ready to separate the neck from the block with the tenon. If you have a steady rest, that can supply additional support.

21. You can carefully cut away much of the wood block and tenon to gain access to the neck. We want to part down to about 1" remembering there is a ½" hole inside. By leaving the 1" for support we can start the taper on the inside of the neck to create the internal flare. Take light cuts, tapering the flare and the nub being held by the live center. Use care when cutting into the ½" drilled hole. Once you part through, back off the tailstock, and very carefully clean up the remaining flare around the ½" hole. Light pull cuts may be best.

22. The last step is to remove the plastic wrap and the three strips and part off the vessel. Leave about 1/8” of the base plug to be taken off with a sanding disk.

23. This can be done easily by mounting a 2” sanding disk in Jacobs chuck in the headstock. Go through normal sanding grits.

24. The next step is to disguise the joint made by the plug. Cut a small piece of 1/8” plywood, ½” square or round and with a small spot of hot glue attach to the center of the base plug. With dividers, from several points on the glue line, locate the center in the piece of plywood.

25. With a scrap mounted in the chuck, cut a taper that will fit into the neck of the vessel. Now the vessel can be remounted using the center marked on the piece attached to the plug to align the live center. Now cut a second grove beside the glue line and work both until they match. Remove the vessel, sand the bottom, sign and apply your favorite finish.

Whether you ever try to make a long neck vessel or not, maybe you have gained some pointers on methods of mounting an odd piece.