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Turning Square Pieces – Woodturning Demo

Turning the Piece

Turning the bottom

- Find and mark the center
- Either flatten one surface or shim with tape or by other means
- I like to use a screw chuck for mounting so I drill a hole in the center for this – large jaws are better. A faceplate could also be used. You could also drill a large hole and use a chuck in the expansion mode.
- I always use the tailstock for extra support, but in the demo I did not use it so that you can get a better view with the camera
- Next, I will typically use pull cuts to flatten what will be the top surface of the piece. This step is not necessary if you closely watch how thick each corner is.
- Now you can start shaping the bottom of the piece with whatever cuts you are comfortable with. If you use bevel supported pull cuts remember to have the end of the handle way down and only use the first ¼" or so of the gouge tip. I use pull cuts for basic shaping and then move to push cuts as the final cuts. This is side grain so all cuts should go from base to the outside edge to minimize tearout.
- Create your tenon to match the chuck you have. I have found the most accurate is a dovetail tenon and a Vicmarc chuck. You can scrape the tenon, but I like to get the best cut/fit by finishing the final shaping and corner with a 3/8" spindle gouge
- If you have ridges or tool marks you can use a negative rake scraper to lightly remove these. This will make sanding easier later.

Cutting Beads

- 3 methods of cutting beads are demonstrated for cases where you wish to add beads to your project.
- 1st method is to use a skew on its side to scrape the bead, I like to establish the ends with a point tool
- 2nd method is to use a beading tool – bevel side down when using this tool, this also is scraping
- 3rd method is to use a 3/8" spindle gouge – this method is cutting the wood with pull and push cuts

Turning the top/inside surface

- After you have the shape you want on the bottom, remove the piece from the screw chuck and mount it with the tenon you have created. Be mindful of the grain orientation as I explain in the demo.
- You can mark the thickness you want to achieve or just do it by eye.
- Start at the outer edge and using push cuts with the bowl gouge cut in only 2 to 3" to get your final thickness. At this point if there are lots of ridges you can use a negative rake scraper to remove them now. You don't want to come back to this final surface again as it will move and flex later

- Next, continue with push cuts to get to the next 3 inches or so of finished surface. Blend in and scrape any ridges. Continue on this way in stages until the inside surface is finished at the desired wall thickness.
- Once you are past the square edges you can use calipers to measure the thickness, I really like the Andre Martel calipers, they are the best design I have seen so far, allowing one end to get between chuck jaws.
- To do the inside flatter bottom area you can use your standard gouge, but I like to use a 5/8" bottom bowl gouge (sharped as per Glenn Lucas Hamlet tools)
- I also show a bottom laser depth gauge/jig that I like to use from time to time
- Lock your spindle by some means and power sand all the corners. Then unlock the spindle and power sand the inner portion of the piece. Typical grits I work through are 120, 180, 220, 320 and sometimes I add 400 on more artistic pieces, but see the note below if I am colouring the piece.

Colouring the Piece

- If you wish to colour the piece I recommend sanding only to 220 or 320 max. Figured or burl wood works the best to get interesting colours and variations through the piece.
- I like to use alcohol based dyes and I dilute them with methyl hydrate (or some kind of denatured alcohol) so that the coats do not go on too dark. If I am going to use multiple colours I always apply a dark colour first over the entire surface, like blue, dark red/burgundy, purple or even black
- Then I sand back this first coat with 320 grit. If I don't like the look, I might even go back and sand back to 220 instead. Clean off the surface and apply another coat of dye, either the same colour, a different shade or even a different colour. This next application can be over the entire surface or you can make it spotty with a few different colours. There is no consistent formula, I do every piece a bit differently.
- Then sand again and apply another coat. I often do 3 coats. There will still be small fibers raised, so I sand the final finish with 400 or just hand sand with scotch brite sanding pads which I think are around 600 grit.
- I finish my coloured pieces with lacquer, General salad bowl finish or Minwax wipe on poly and then buff

Tool and Supplier List

- Oneway chuck with worm screw – Woodchuckers, Lee Valley, BusyBee, Oneway Corp., etc.
- 1/2" swept back wing bowl gouge (55 deg bevel)
- 1" negative rake scraper – you can use a flat skew for this also (approx.. 66 deg combined angle on bevels)
- Vicmarc chucks and jaws – www.branchestobowls.com in Calgary
- ½" skew for cutting beads
- Beading tool – D-way tools www.d-waytools.com..., I don't think there is a Canadian supplier
- 3/8" spindle gouge for the tenon and cutting beads
- Figure 8 type Calipers – Andre Martel in Quebec www.martelhooktool.com
- 5/8" bottom bowl gouge (60 to 65 deg bevel with wings only slightly swept back) – Woodchuckers Glenn Lucas Hamlet gouge
- Dyes – Chestnut brand at Woodchuckers, Transtint Metal-Acid dyes retain colours the best, but these are from the US or ColorFX Metal Complex dye at woodessence.com in Canada – these are expensive
- Scotch Brite or Mirka sanding pads – Woodchuckers or Lee Valley
- Bottom laser depth gauge, Ron Brown's Best Turners Laser Guide www.ronbrownsbest.com or you can make a home made version of this

Disclaimer: What you see in my demo and my notes is my particular way of do things and I am still learning. There are many different ways to achieve the same results and as long as you are having fun, being safe and achieve the results you are looking for all is well. Hopefully you have enjoyed the demo and learned something useful