



Allen Quandee Inside – Outside Turned Vase

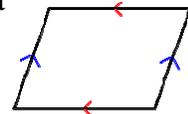
This set of instructions will allow you create a vase similar to the one pictured here, or any inside – outside turned object with only the need for a table saw or band saw, 4 to 8 clamps and a lathe.

For this vase I used rough sawn stock (finished two sides) milled to $1-15/16$ from a local hardwood supplier. I prefer $8/4$ rough sawn unmilled. You could also glue up stock to about $8/4$.

You will need 4 pieces of stock approx. $1-7/8$ square by about 13 inches long for this vase.



Square your stock using your table saw. (A band saw with a good quality $1/2$ blade can be used, cutting is just a bit slower.) Make sure your blade is 90 degrees to the table of your saw. This is critical. Otherwise you will have a block that is a parallelogram instead of a square block.



Start by setting your fence slightly wider than your finished size (for this project it was set to $1-15/16$ inches). Keep the surface flat on the table and the edge against the fence. The edge does not have to be square to the fence, notice the slight gap along the top edge. (I cross cut my boards to approx. 13 inches before ripping, easier to handle.)



After ripping the first piece mark the edge that was just cut. This is a reference side for squaring. Repeat this procedure for the other three pieces.



Without adjusting the fence and with the side that was marked against the table rip the piece again. Again keep the stock flat against the table and against the fence. The piece does not have to be square against the fence.



Mark the edge that was just ripped. You will now have two sides marked for reference. Repeat for the other three pieces of stock.



If your blade was set accurately to 90 degrees, the two sides that are marked should be square to each other.



Set your fence to the final size of your stock. In this case 1-7/8 inches. With one of marked sides against the table and the other marked side against the fence, rip one side of the stock to the final size. The side against the fence should now be square with the fence. Flip the block 180 degrees

(end for end) and 90 degrees on the side. Your reference sides should once again be against the table and fence. (The side you just cut should now be the top.) Rip the final side to size. You should now have a piece of square stock 1-7/8 x 1-7/8 x 13. Repeat for the other three blocks.



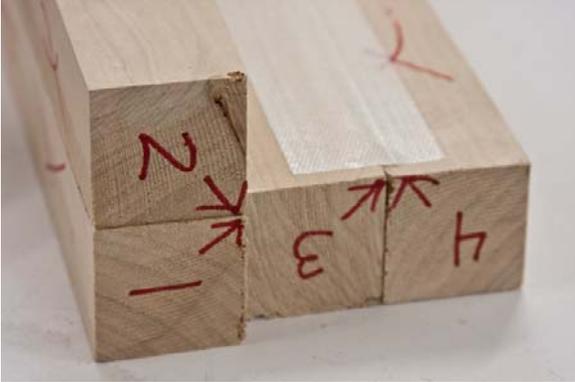
Arrange the blocks for the grain pattern you want for the outside of the piece. Number the blocks and mark the outside corners.



Rotate the pieces 180 degrees. Then using double sided indoor / outdoor carpet tape (the type with fiber glass threads) attach blocks 1 and two together



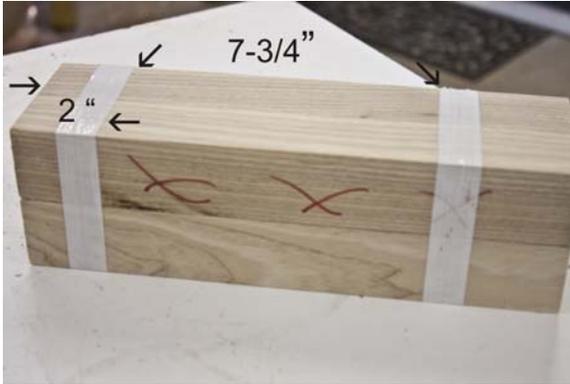
so that your outside corners are now together. Repeat for blocks three and four.



Now run a strip of double sided tape down the middle of either set of blocks.

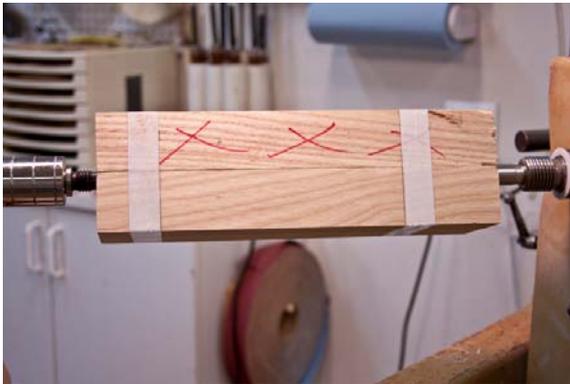


Attach the blocks together so all arrows point to each other.



Determine which end will be the top of the vase. Measure approx. 2 inches and wrap $\frac{3}{4}$ or 1 inch “strapping tape” around the block. Then measure approx, 7-3/4 inches from the trapping tape and wrap the block again. The strapping tape adds a level of safety to keep the blocks from flying apart while

turning the inside of the vase. It also gives a good visual reference for the inside corners. **NOTE: Masking tape is not strong enough to withstand the force of the spinning block and could allow it to separate.**



Mount the block between centers and turn the inside to the desired shape. How you turn the inside will determine the shape of openings, when you turn the outside. As a rule of thumb the smallest diameter should be at least 60 percent of the diameter of the block. The diameter of this block is 3-3/4 ($1\text{-}7/8 \times 2 =$

3-3/4). Therefore the lowest point of the inside should have a diameter of 2-1/4 inches ($3.75 \times .6 = 2.25$).

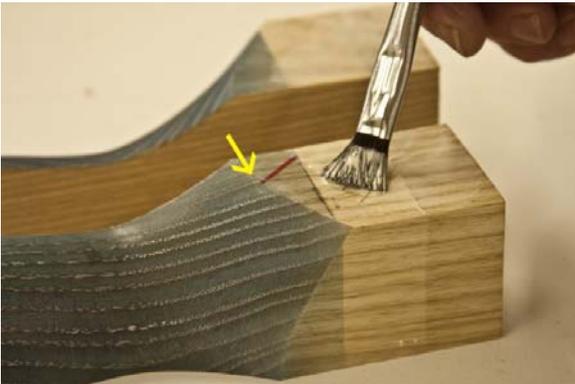


On this piece the smallest diameter is actually a little larger than 2-1/4 inches. If you want to see how the opening is going to look, lay a straight edge across the piece on flat edge (not on the corners). By checking as you are turning you can refine the opening to get the look you want. Once you are satisfied,

with the shape for the opening, sand and completely finish the inside.



Do not finish the surfaces that are taped, this is where you will apply glue. Split the piece a part and rotate each square 180 degrees.



Spread glue(I use Titebond original) on the squares numbered 1 and 2. Do not glue up to the edges indicated by the yellow arrow. This will help keep squeeze out off the finished surface. Clamp the pieces together. Repeat for the squares numbered 3 and four.



Make sure the corners indicated by the arrows are aligned correctly. If you only have four clamps wait a couple of hours after gluing squares 1 & 2 and 3 & 3, then glue the two halves together, making sure the corners are aligned. If you have 8 clamps you can glue the piece at one time.



When the block is glued your numbers and aligning marks should look like this your original starting point. I let the glue dry over night to completely cure.



Once the glue has cured, mount the blank between centers and rough turn it round. On the bottom turn a tenon for your chuck. Mount in your chuck and bring the tail stock up for support.



Measure approx, 10-1/2 inches as shown and turn to shape. Be careful not to get the area below the “o” in approx. to thin. That is the area that is the thinnest.



Using a 1 inch forstner bit in a Jacobs chuck drill a hole through the top. This will allow a 1 x 6 test tube to be inserted for flowers. The tube must have a “flared” top. They are available from Craft Supply part number 031-0300.



Put a cone on your live center to continue supporting the piece and turn the rim of the vase. Sand the piece. If you get any chip out on the edges of the openings hand sand them, feathering them. There should not be much if any chip out. Since this is basically a spindle, sanding on the lathe will most likely

leave scratch marks since you are sanding cross grain. After sanding through 220 grit and with the lathe off, I use a palm finishing sander with 220 grit to remove any scratch marks. Depending on the wood I may put 320 on the sander and sand the piece.

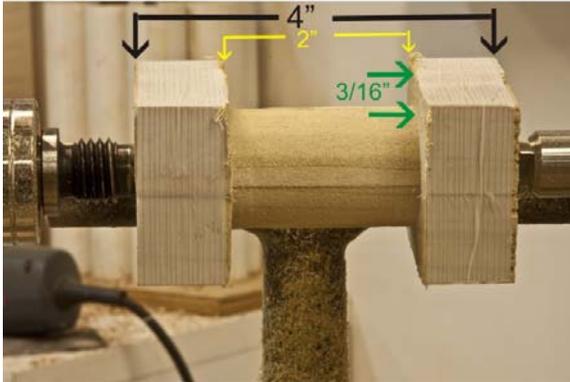


Once you finish sanding, using a parting tool part the vase ALMOST off. Be sure to make the bottom concave. Remove from the lathe cut off the nub, sand the bottom and finish the outside.

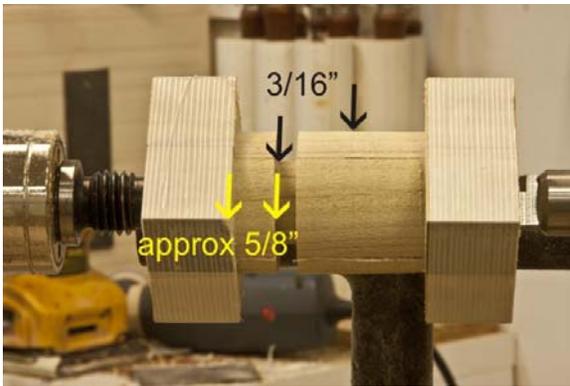


Inside – Outside “Cross” Ornament

To create the ornament follow the steps above. See photos below for dimensions.



Start with 4 blocks 1 x 4 inches. Wrap with strapping tape 1 inch from each end. Round inside the strapping tape, to a depth of $\frac{3}{16}$ ". This needs to be uniform across the two inches. This will be the "upright" of the cross.



Measure in approx. $\frac{5}{8}$ inch from the strapping tape ($\frac{1}{3}$ the length of the upright). Use a parting tool to create the cross. Make this groove approx $\frac{3}{16}$ inch wide and $\frac{3}{16}$ inch deep, measuring from the upright or $\frac{3}{8}$ from the flat end.

Finish the inside and then turn the outside. If you want a finial on the bottom then start with blanks long enough for the length of the finial you desire.