

## Wedge Christmas Ornament

The following is the process of preparing the making the wedge ornament

Setting up your saw to cut true 11.25 degree angles for a 16 piece to make a circle that will form the globe of the ornament.  $\text{Dia.} \times 3.1416 = \text{circumference}$  divided by the number of the pieces planned to make the circle. The width of each segment determines the size of each ornament, in diameter. I tried to stay at  $7/16^{\text{th}}$  to  $1/2$  inch but the smaller is better for a smaller ornament, or you can increase the number of segments of smaller segment widths.

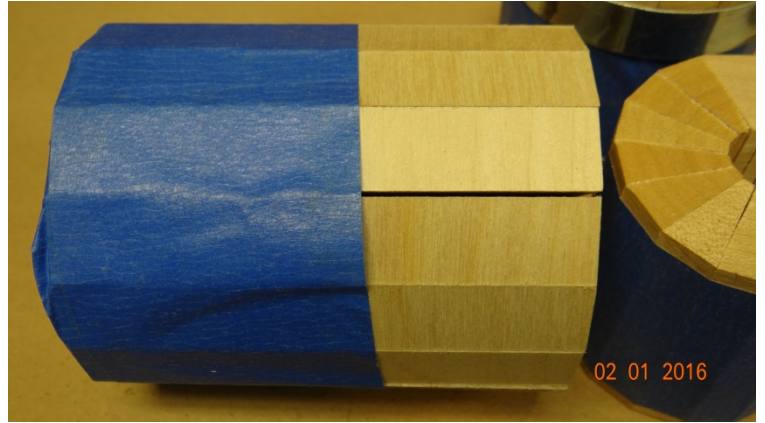
Setting the angle of the saw I use electronic angle reading devices as pictured

Then I test cut until there are no inside or out-side gaps. As pictured. Once there are no gaps then a full circle of pieces are cut and tested.

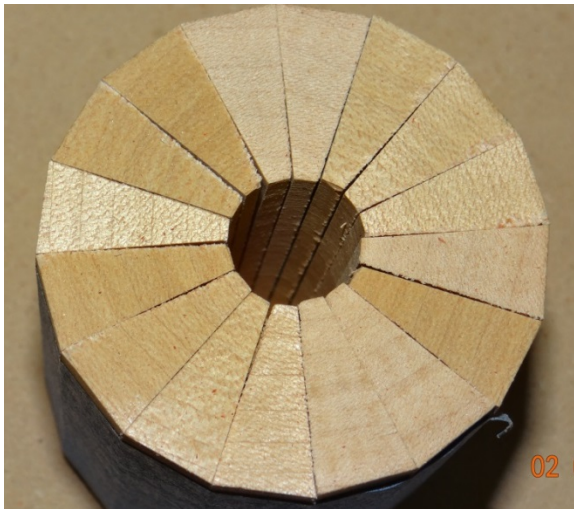


Magnetic angle reader attached to saw blade. Electronic protractor checking angle

Both are reading the receptacle angle of 11.25 degrees or close enough to work correctly.



Checking a quarter of the circle to show 90 degrees, then cut a full circle to test, this test has an outside gap. Need to increase the width a thousandth of inch.



This test shows that there is inside gap, (need to decrease the width a thousandth of an inch), picture to the right is what you want a tight fit no gaps.

Once the angle is set prepare the stop block to have an under cut to catch shavings and keep them out of the way when cutting wedges.

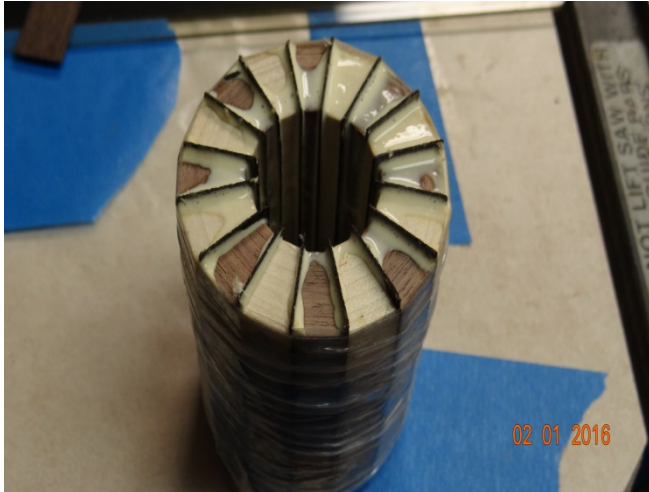




The stop block is cut with the correct 11.25 degree's, next picture shows position of the wedge. The bottom of the wedge is the width of the segment, determining the diameter of the globes body. Narrower the wedge's width, the smaller the globes body.



Cut your wedges then place a plastic rule or Tee square or square to help keep the wedge's inline and square. I use Blue painters tape to stick the wedges too along with the wenge veneer strips. When the wedges are attached down on the tape then they can be rolled into a circle. But before you do this put glue in between all the pieces including the



The blue painters tape holds the wedges together, then wrap 3m stretchable tape around the wedges to apply pressure to the globes wedges. I use also rubber bands for aiding the pressure to hold the wedges tight. (3m tape 8884) Stretchable tape.

Then while the glue is drying cut end pieces for the globe of contrasting woods.



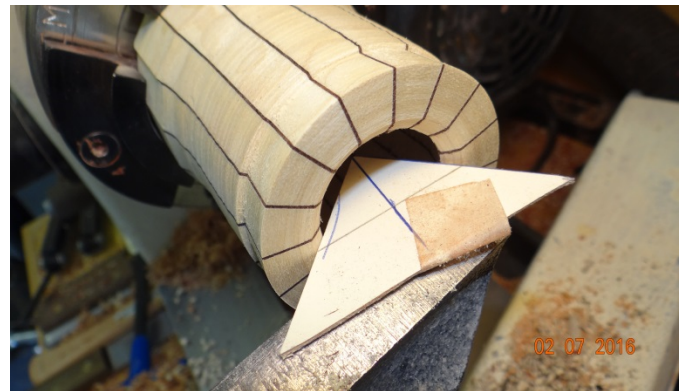
You want to also cut a couple of backing pieces from scape so that when you chuck up the square's it only grips about a 1/8 inch of the squares. Cut finial sticks also while waiting of contrasting woods.



When the globes are dry remove the tape and chuck them up and turn a tenon on both ends. And hollow out the globes to about 3/8 of inch or 1/2 inch thick.

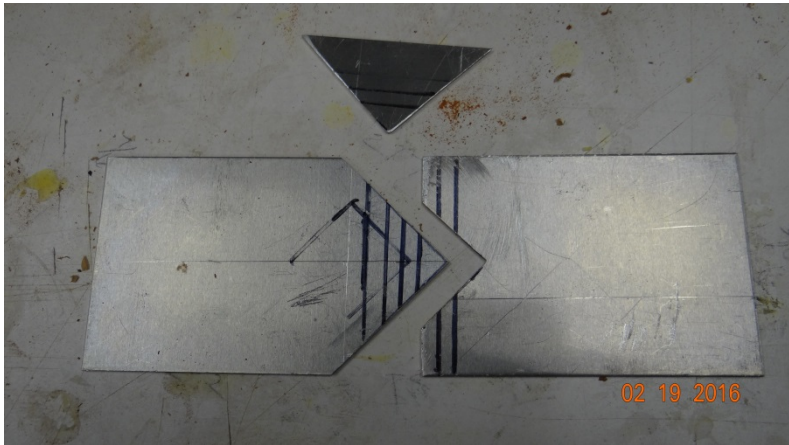


While we have the globes in the chuck we are going to cut a 45 degree cut on the inside of the globes ends. This where we will make a matching end piece with a 45 degree cut to attach the end pieces of contrasting pieces of wood squares.



I made a couple patterns of the 45 degree angles to aid me in getting the same angles on both pieces. These paper patterns won't hold up if making multi ornaments.

I made a set of metal patterns of the 45 degree angles. With guide lines

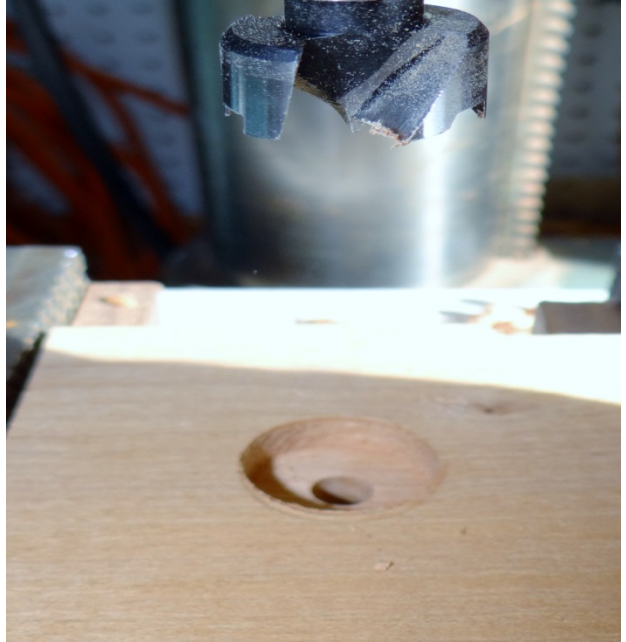


to help visually.

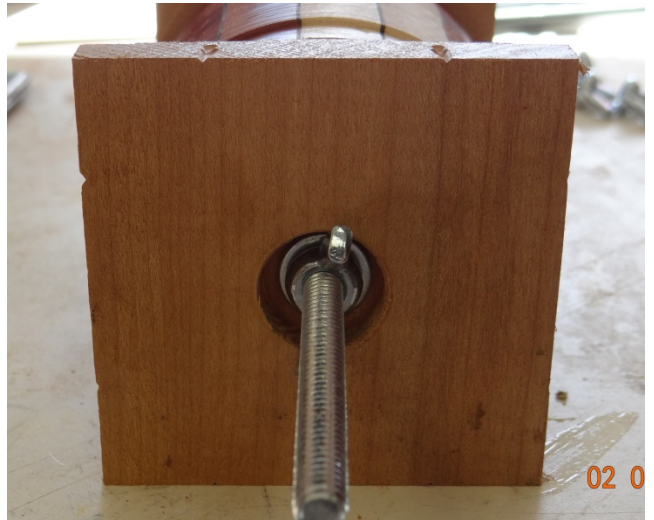
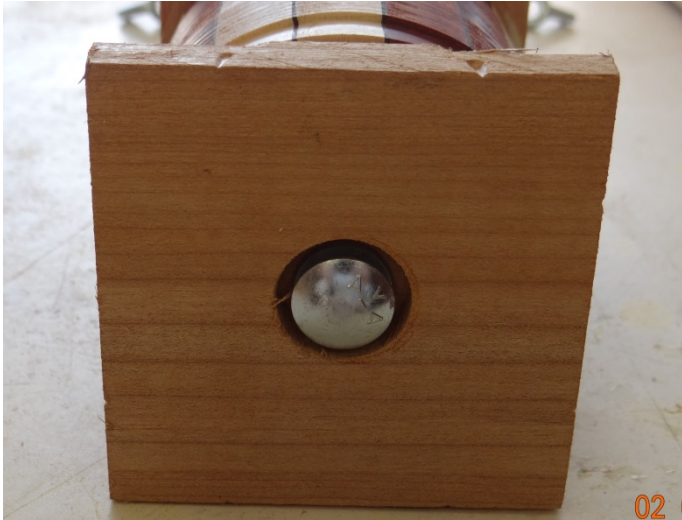
You need to test the fit of the 45 degree angles and mark the end pieces to the correct end of the globes. You hold the globe to the end piece and get a burn mark. To check the fit of the globe to end pieces.







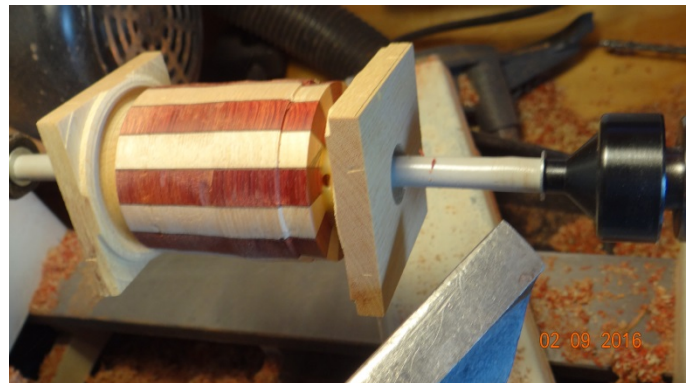
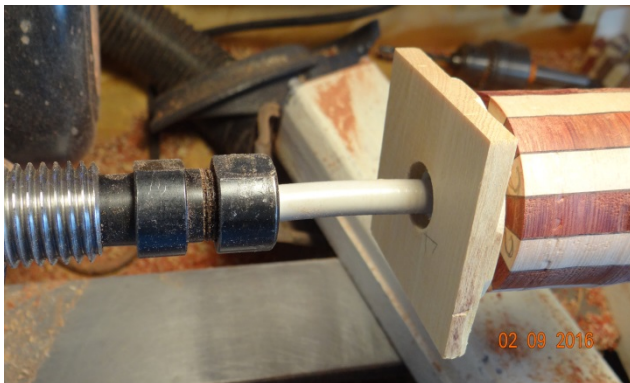
Preparing the end caps to be glued to the globes body, drilling a 1/4 inch hole in the center of each end cap and then drilling a 5/8 hole on the opposite side to help retain a 5/8 washer and later a rubber washer to help turn the globe, on the pen jig.



Globes are assembled with the end caps glued and held by the 1/4 x 5 1/2 stove bolts with wing nuts.



Assembled globes with end caps glued and drying.



When the glue has dried, place the assembled globe on the pen jig, with a rubber washer next to the globe with a metal washer behind it, then nylon spacer. The end of the jig feeds into a mandrel saver tail stock center to hold it secure. I'm using a ¼ inch drill rod for mine shaft instead of the threaded pen shaft that came with the pen jig. While mounted in this way your able to turn the globe blank to shape, but you have to take baby bites because of the rubber washers are the only thing that holds the globe tight for turning.





Pen jig with the mandrel saver tail stock center end support, nylon spacers made from a 3/8 water faucet connector attachment line for a sink. I just enlarged it a 1/64 inch than a 1/4 inch so it would slip over the 1/4 inch drill rod.

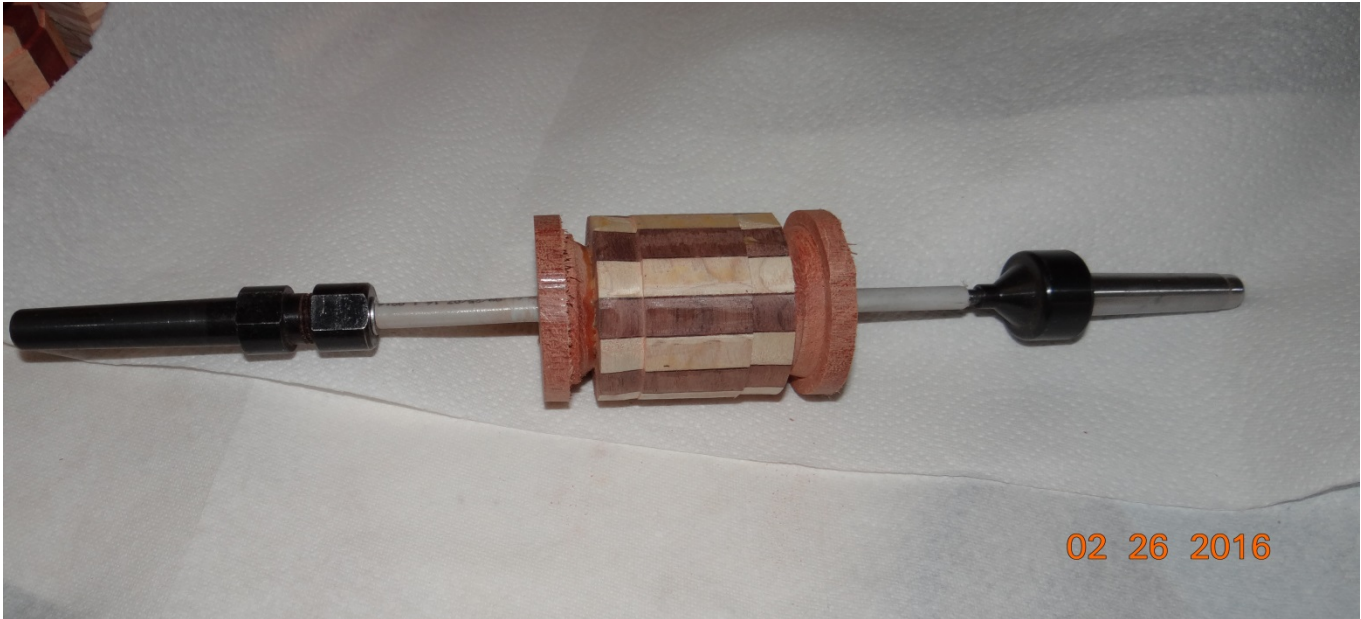


Here is a couple examples of the shapes that you can turn, you can see the metal washers (5/8 inch washers) that are showing you the size of the ends where the finials will be attached. It helps you to see without measuring all the time the size of the finial's attachment areas. As time passed on I changed the nylon spaces to steel spacers. The nylon spacers heated up and cause the tension to become loose on the turning.

Here I band sawed the globes to help out by limiting the time on the lathe.



As you can see I made a few globes to turn, hoping that some will turn out ok! There's a couple different styles shown zig zaged or as segmented building of a bowl ( brick layered).

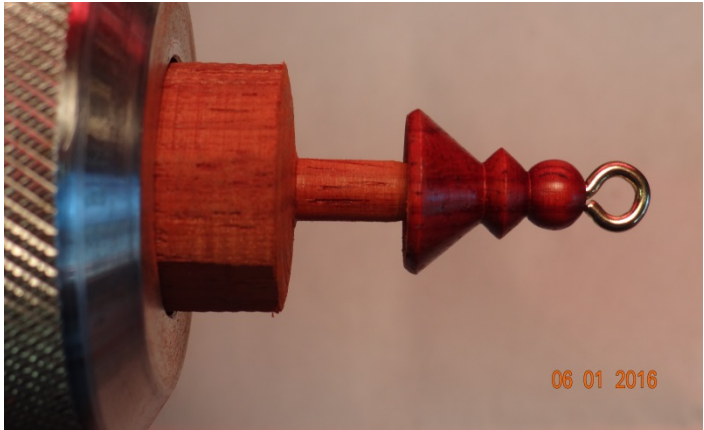


Here is a set up ready to be turned. Right side to the tail stock and the left to the head stock.



Finials for the ornament are mainly onion style or icle.

Heres Paduak onion finial and the top finial in padauk.



These are finial sticks prepared to be used in my collet chuck, this chuck saves knuckles. The finial sticks have been turned and cut a tenion on the end to fit the 1/2 "collet, that I used in the collet chuck.



This is a oop's forgot I hollowed

the inside of these ornaments and this one got a bit too thin.

Here's a few finished ornaments:



Heres a pair of 132 piece ornament, 32 bloodwood pieces, 32 maple pieces and 64 wenge veneer pieces that make up the rings, 2 padauk end caps and burmese blackwood for the finials. The black walnut display base.



Heres a group of ornaments:



This is what the difference is when you use a different size wedges (smaller is better 7/16) Of an inch or less.



Black walnut & maple with wenge veneer, padauk and yellow heart end caps  
Burmese blackwood, blackwalnut finials.



Here a Maple & Wenge veneer body and Purple heart end caps, Burmese blackwood finials.

Design's are what you make them, let your mind go! And enjoy the project!

One thing when working with wedges there is a lot of strips, changes made with different woods of contrasts.