Making Cube Christmas Ornaments

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Acknowledgments: Please note that this was not my idea from the start. I got it from John Lucas that is a member of the World of Woodturners or WOW. I just took it to another level which includes on how to make the wooden jaws to hold the cubes. It is my hope that this will help you understand the complete process involved and some suppliers listed below.

I wish to also thank my lovely wife Marcia and best help mate in the world for putting up with me and all of the clutter that I seem to bring into the house, normally on the dining room table.

Stand with Cube Christmas ornaments:

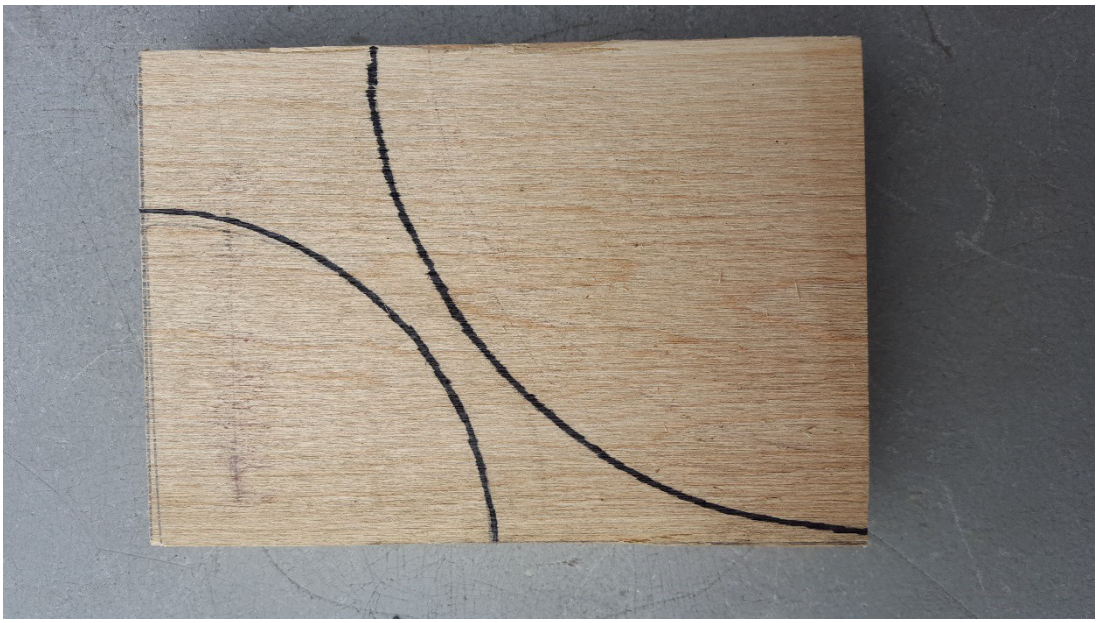
Safety first:

Talk of safety, wear eye protection, wear a dusk mask for the dust protection, loose clothing should be tied back or removed, long hair must be tied back.

Remember just as I, “Johnny” do it this way, it may not be the only way. It is just how I do it.

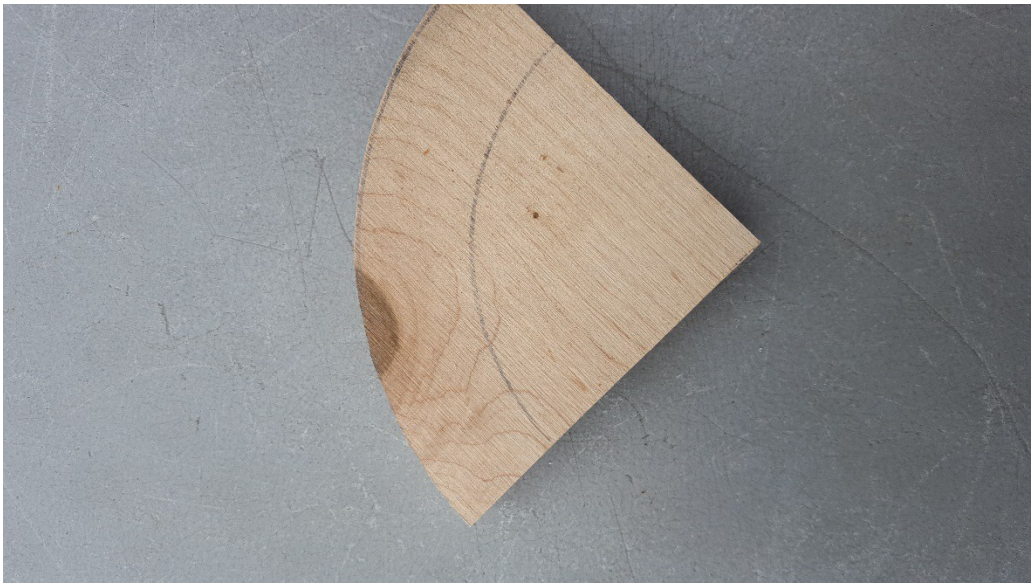
Making the wooden jaws:

Cut four rectangles of hard maple, with this configuration you can make four wooden jaws for the Oneway Stronghold chuck and four for the Oneway Talon chuck. For the Stronghold chuck, about 3&1/2” X 3&1/2” inches. For the Talon chuck 3” X 3” inches.



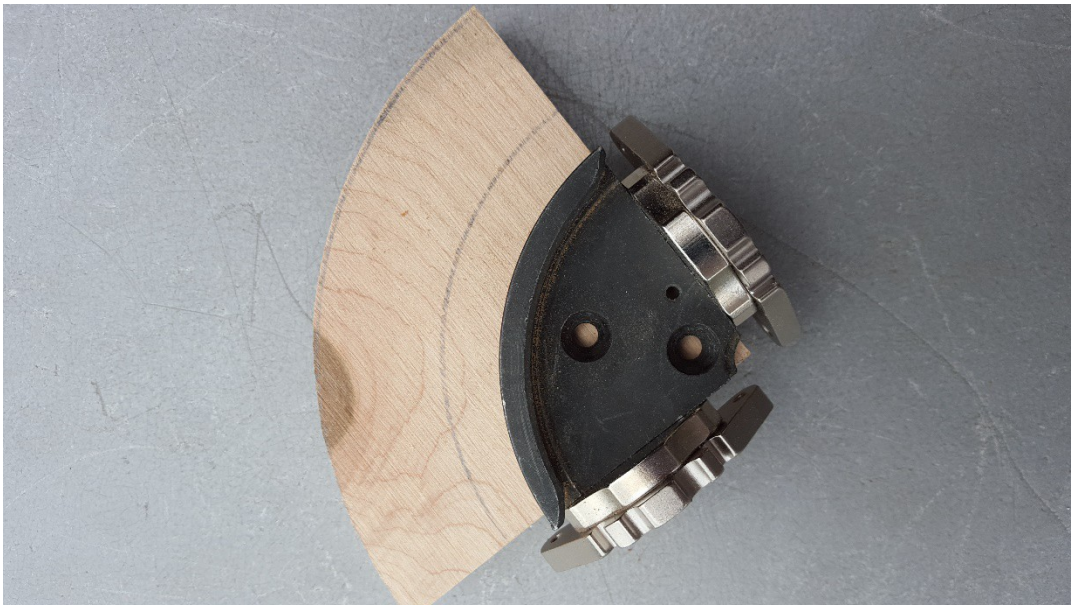
The rectangles should look something like the picture below when placed together.

Cut out the pieces using your band saw.



Use one of the jaws from the chuck and place 2 magnets along the sides so part of the magnet is past the bottom edge of the jaw. Next, place this onto the wood keeping the magnets next to the wood. Then drill holes corresponding to the holes in the jaw being used.

For the Stronghold & Talon chucks. This is a “C” Drill bit size for #6 MM screws. Other chucks may use a different size screw.



The “C” drill bit is used to drill the 6mm holes in the wood as the picture below shows. Use a drill press and insure that the magnets are kept next to the Maple wood.

Counter sink the holes so the 6mm screws will sit below the surface of the Maple wood as in the picture below.

Screws may be purchased at most hardware stores.

Place the drilled blanks onto the chuck with the screws slightly loose. Tighten the chuck down then tighten all screws. This will help align the wood.

Place a compass in the center of the wood and draw a circle for the chuck being used.

For the Stronghold chuck, mark a circle about 6.50”.

For the Talon chuck, mark a circle about 6.00”.

Remove the wood from the chuck and cut along the mark line using the band saw.

Place the wood back onto the chuck then put onto the headstock. With the chuck in the closed position, true up the outer side using the tool of choice. I use the Hunter tools as they give me a very smooth cut

requiring little sanding, but that is done to make them look nice and smooth.

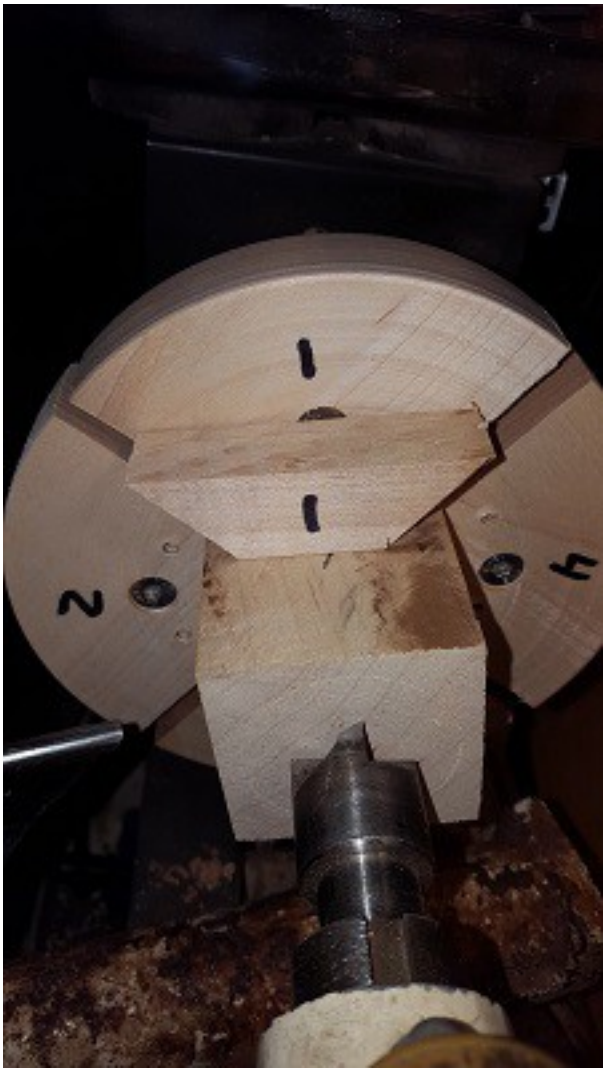
True up the face using the tool of your choice as in the picture below. Also true up the outer side and sand it smooth.

Check the chuck and number the pieces of wood, so each is numbered for the chuck as in the picture below.

Note: you will need to cut cubes of wood, this can be one of the hardest part of this project. All sides must be equal in the width and length. I have used from 1&1/2” to about 2” wood to make the cube Christmas Ornaments. So, keep that in mind when proceeding. I mark each cube on all 6 sides with a #1 for reorientation later.

Open the chuck about 1/4 to 3/8 of an inch. Mark a cube to find the exact center. Place a cube next to the wooden chuck.

Cut four pieces of Maple wood about 3/4-inch square and at a 45-degree angle as in the picture below. I used a spur drive as the point was better than on the live center. Mark each so it will correspond to the chuck as pictured below.



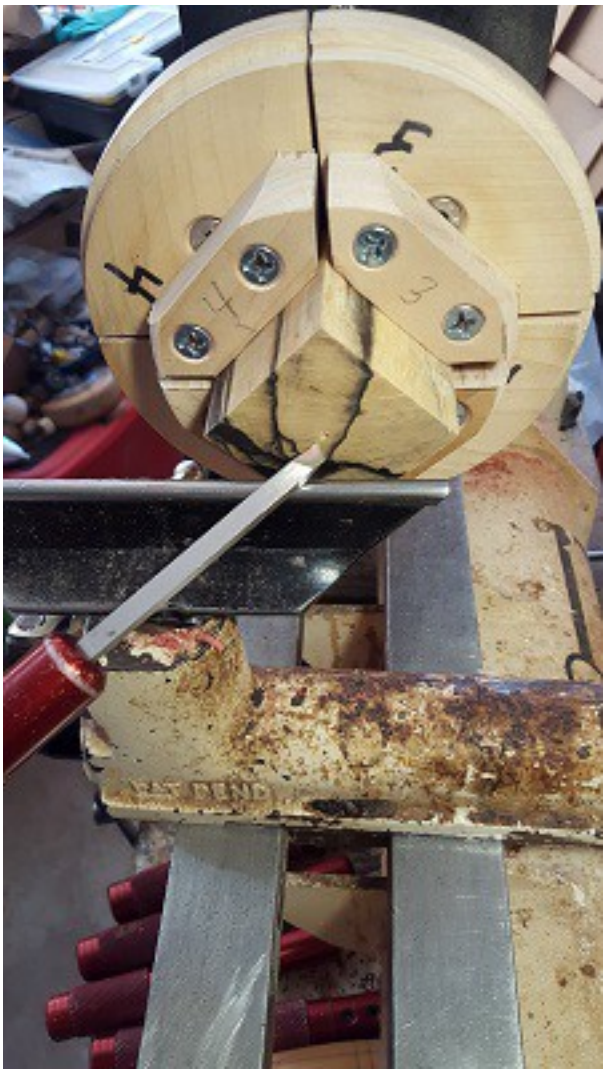
I used #12 wood screws to attach the wood to the chuck. Drill and counter sink holes in all four pieces of Maple wood. Then place next to the cube, mark where the holes will be using a #12 screw. When all have been marked remove the chuck from the headstock, drill pilot holes and attach the Maple to the chuck as in the picture below.

Note: tighten the chuck down and turn the sharp corners off as in the picture below.

Now the fun begins:

Use a pencil and mark the right corner on the sides of the cube, this will be for orientation later. The picture shows where I have marked one cube.

Place a cube into the chuck as pictured below, tighten the chuck down securely. Start the lathe and use the point of a skew to mark the center of the cube as in the picture below.



Stop the lathe and use dividers and mark the cube face to show the outer cut area.

Start the lathe and use the point of the skew to cut a small “V” grove in the face of the cube as the picture

below shows. This will be much easier to see when doing the actual turning.

Use a 3/8 inch Forstner bit and with the lathe running drill on slow speed to a depth of about 1/2 inch.

Stop the lathe and check the chuck for tightness again.

I use the #1 hunter tool for the hollowing but one could use a small round scraper or even a round negative rake scraper to do the hollowing. Only hollow to the depth of the Forstner bit.

Stop the lathe, loosen up the chuck, rotate the cube to a different side and perform the above steps. Do this for all 6 sides of the cube.

This is an action shot of a cube with the lathe running.

Another action shot, you can see where a side has been hollowed, but the face has not been hollowed yet.

The picture below shows a side of the cube hollowed to the 1/2” depth.

Next step is to drill another 1/4 to 3/8 inch deep and continue the hollowing to the new depth. Locate the mark on the cube talked about earlier. Place the cube in the correct orientation as when first drilled. Do this on all six sides of the cube and hollow out the center. This is where care will need to be taken as the sides will start to intersect, if that is a good word. You will be cutting into the sides and will be cutting some air. Too rough of a hand here and you can blow up the cube. Don’t ask me how I know that.

The reasoning behind this two-step process is that there will be less force while holding the cube on the last couple sides than hollowing to the completed depth to start with.

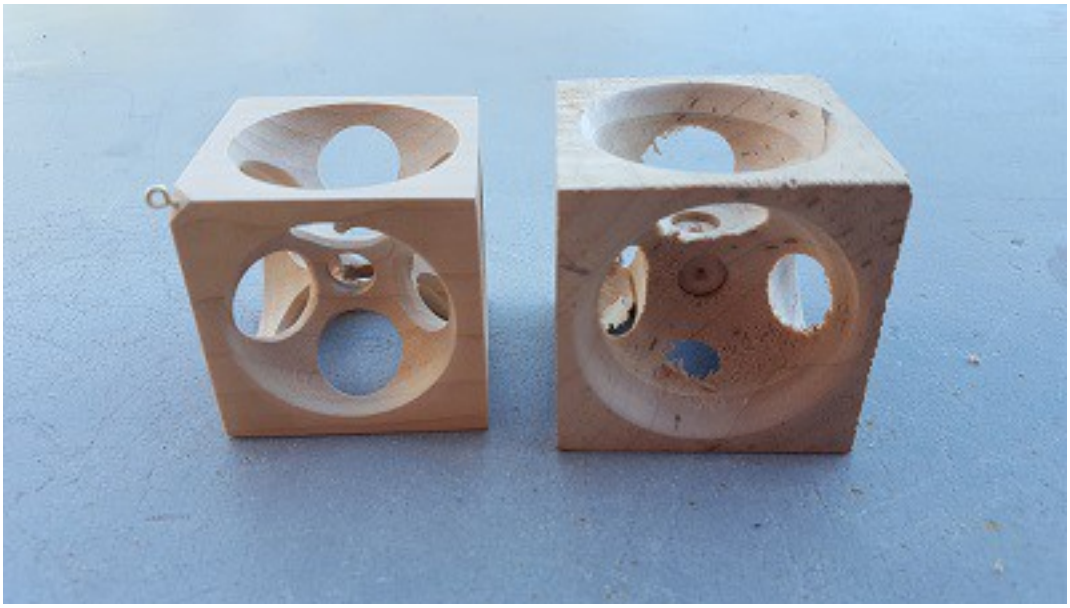
Once all sides have been hollowed to the second depth, place the cube in each orientation and drill to the center of the cube. This will reduce some more weight from the cube.

Sand all sides using all grits of a 5” sanding disk in a drill. Note: Vince Welsh has the 5” pad and sanding grits in stock. A belt sander could be used or palm sander with the different grits of sand paper.

I use my right-angle drill laying between the lathe bed ways to sand all sides of the cube.

You will need to clean up the holes with a Dermal tool or Foredom type tool with burrs, sanding sleeves, flap

wheels and maybe a little hand sanding. The picture below shows a completed cube on the left and the one on the right still needs the holes cleaned up.



You may wish to leave the cubes plain if they have pretty figured grain. I use rattle can spray finish. If plain wood such as maple in the picture above, you may wish to decorate the cubes with pyrography, dyes, painting or just be creative and just do them your way.

I print out a label with my name the month and year along with the name of the wood. This I attach to Maple veneer, punch a hole in both and attach a color cord. This is then attach to the cube with the 3/8” brass screw and gold finding.

Supplies and suppliers:

Hunter tools for turning:

www.hunterwoodturningtol.com

Ph, 612-718-7926

Thompson tools:

http://thompsonlathetools.com/ 440-241-6360

Sanding supplies:

VincesWoodNWonders.com

Vince@vincewoodNwonders.com

Toll free 1-877-284-8969

Sabur Tooth Burrs and Bristle disks

The Old Texas Woodcarvers Shop

www.texaswoodcarvers.com

1-800-752-9781

Small brass Eye screws:

Meisel Hardware Specialties

1-800-441-9870

#7416 3/8” long, brass, 20Pk $6.95 or a 100Pk $18.00

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Feel free to contact me with any questions.