Alabama Woodturners Association

AWA Newsletter

A member of the American Association of Woodturners

January 2016

Location: Homewood Senior Center at 816 Oak Grove Road, Homewood, AL 35209
Web Site: www.alabamawoodturners.com

Coming Events

February 13-Maurice Clabaugh -McNaughton Coring System

March 12-Charles Jennings-Epoxy Inlay
April 9-TBD
May 14-TBD
June 11-TBD
July 9-TBD

2016 Officers of AWA

President-John Sowell
Vice President-Carl Cummins
Treasurer-Jennifer Smith
Secretary-Amy Benefield/Jean Cline
Directors-Maurice Clabaugh, Bruce Gibson, Dwight Hostetter, Michael Malinconico, Richard Serviss, Staten Tate
Webmaster-Carl Cummins
Newsletter Editors-Jean Cline, Amy Benefield

Inside This Issue:

In the February iIssue:

A Circle Cutting Jig That You Can Build

By Fred Holder

January-Alabama Woodturner's Karl Harper 'Peppermill'

Officers for 2016

President-John Sowell
Vice President-Carl Cummins
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Board of Directors for 2016

Maurice Clabaugh
Bruce Gibson
Dwight Hostetter
Michael Malinconico
Richard Serviss
Staten Tate
Gary Hales

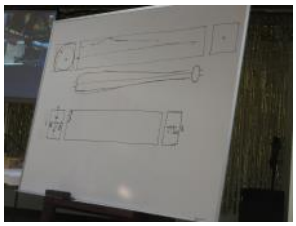
Also coming in the February issue: Christmas party pictures!








Mark Sfirri-November Demonstrator

What is the Beads of Courage Program?

The program is a resilience-based intervention designed to support and strengthen children and families coping with serious illness. Through the program, children tell their stories using colorful beads as meaningful symbols of courage that commemorate milestones they have achieved along their unique treatment path.

How it works

Upon enrollment, each child is given the Beads of Courage bead color guide/tally sheet. Their Beads of Courage journey begins when each child is first given a length of string and beads that spell out their first name. Then, colorful beads, each representing a different treatment milestone are given to the child by their professional health care provider to add to their Beads of Courage collection throughout their treatment.

So-o-o, Where Do We, As Woodturners, Fit In?

beads of COURAGE®
beadsofcourage.org

Beads of Courage gratefully thanks all woodturners who donate their one-of-a-kind, handmade bowls, and boxes to a child in treatment for a serious illness.

Guidelines

In order to hold the beads, turned boxes for the Beads of Courage program need to be about 6 inches in diameter (5 inches minimum), rectangular lidded boxes about 4 x 6 x 4 inches or round lids.If possible, engrave or burn "Beads of Courage" in the lid or side of container. Sign your name and write "American Association of Woodturners" on the bottom.Make sure the lids are easily removable. Any finials should be easy for a small child to grasp and not too elaborate (may break). We ask that you refrain from painting the boxes or bowls. Instead, highlight the beauty of the wood with clear varnish, a stain, and/or burning on the bowl.

Saturday Afternoon Mentoring (Starts about 1 hour after the morning session ends or about 1:00)

WA owns lathes, chucks and tools necessary to use in classes but you may also bring your own tools. Training is held in the Craft Room at the Homewood Senior Center.

If you are interested in participating either as a student or a mentor, Phil would *love* to talk to you and sign you up! Phil Fortmeyer-(205) 612-7496.

November Raffle Results-**Update**

Cherry Log donated by Lee Michaels~Lester Daw
Natural Edge Dish donated by Maurice Clabaugh~Royal Ritchey
Bowl Gouge donor unknown~Jack Capps
Pipe Clamp donated by Howard King~Lester Daw
Hollower donor unknown~Royal Ritchey
Natural Edge Vase donated by Maurice Clabaugh~Buddy Finch
Steady Rest donated by Staten Tate~Bruce Gibson
Baseball Bat **donated by the November guest demonstrator, Mark Sfirri**~Howard King

The November, December and January prizes will be drawn at the January meeting.

Who will take home the November birthday prize? Or December? Or January?

Check out the list of January contenders below.

Happy Birthday to AWA's January Birthdays!

Richard Serviss-January 2
Terry White-January 6
Bill Hubbard-January 8
Bill Bradshaw-January 11
Pat Johnson-January 12
Eddy Jowers-January 13
Dwight Hostetter-January 14
Alan Stanton-January 15
John Sowell-January 22
Randy Myrick-January 27
Larry Dye-January 30

Raffle Prize News

We're changing the raffle beginning with November! As most of you know by now, the AAW Symposium for 2016 (June 9-12) will be held in Atlanta! We're trying a new type of raffle with the ultimate outcome being to generate enough money to provide one or more scholarships to the Symposium!

If you have a turning tool, wood blank, item that you have turned, etc. that you would like to donate for the raffle, please bring it to the meeting. We will select some of the items for the current month's raffle and retain some for later. You will get a ticket for bringing an item. Among the items to be raffled will be some of the pieces that past demonstrators have turned and finished.

$1 each~~~~~~~~$5 for 6 tickets~~~~~~~~$10 for 13 tickets

Cups will be placed in front of each item to be raffled and you will place your raffle tickets in the cup of the item you are interested in. A winner will be drawn from each cup.

All tickets will then be placed in a pool for the scholarship drawing.

$1 each~~~~~~~~$5 for 6 tickets~~~~~~~~$10 for 13 tickets

Because of the value of some of the items, we feel that we should generate at least $125 or more in ticket sales before drawing for the items. As you can see, the success of this effort will depend on your willingness to donate nice items and also to buy raffle tickets each month.

If you don't think you are an expert turner, look at any of the newsletters from other clubs. You will see that your turnings are equal to anything out there. Your turned items probably ***ARE*** 'good enough'.

$1 each~~~~~~~~$5 for 6 tickets~~~~~~~~$10 for 13 tickets

Cubes in a Sphere by Fred Holder

In the July/August 2004 issue of The Woodturner Magazine, published in England, there was an advertisement for the Stoneleigh Turning competition for 2004. The featured picture at the top of the page intrigued me and I had to know how to do it. It was obvious from the photo that the original blank was a sphere with six equally spaced stepped holes. This gave the effect of decreasing-sized cubes inside the sphere. The sphere in the photo had six levels of cubes.

Apparently the ball in the photograph was somewhere in the neighborhood of 3-1/2" in diameter. There are at least a couple of ways to do this project: drill steps with Forstner drills or draw circles of the appropriate size and then, using a square end scraper, cut the holes to the proper depth.

Since I normally make the Chinese Ball from 2-1/2" spheres and have a chuck to hold that size sphere, I opted to use that size. I had no idea what size drills to use, so I began to experiment. My first attempt provided a ball with three steps plus a hole in the middle, but the holes didn't intersect one another to give the desired effect of cubes inside the sphere. I finally worked out that the proper depth for a step was 1/2 of 3/8" or 3/16" and the diameter change of drill size needed to change by 3/8" as the drill size changes larger or smaller. At first this didn't seem to work. Then I realized that the original size of the sphere should have been about 2-1/4". I compensated and drilled the first hole 5/16" deep and all of the others 3/16" deep from the bottom of the preceding hole.

Picture 1: This was my first successful attempt to make this project. It is made from Elm and has an African Blackwood base. All holes were drilled with Forstner bits.

In the Beginning

To begin this project, you must choose a spot on the end grain to be the north pole. Then, using this as the starting point, lay out six equally spaced holes on the surface of the sphere. As shown in Figure 1, a straight line from the north pole position to the equator of the sphere is determined by the formula x (radius on x axis) squared plus y (radius on the y axis) squared equals z squared. "z" is the length of a straight line from the north pole to any point on the equator.

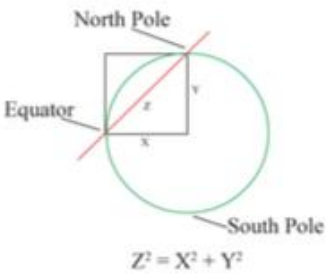


Figure 1. This shows a method of determining the dimension to set your pencil compass to lay out the six equally spaced holes.

This formula simplifies down to z equals the radius times the square root of 2 (or 1.414). For the 2-1/2" sphere, set your pencil compass to the 1/2 of the diameter of the sphere; i.e., 1.25" times 1.414, to obtain a value of 1.7675".

Here is where one of the first inaccuracies can come into play. It is unlikely that one can set a pencil compass to that precise number. I made up a flexible cardboard template of that length as determined with my digital calipers. Laying the template from the north pole across the surface, I marked three locations about 120 degrees apart on what would be the equator. Then measuring from each of these locations, I made a mark near the south pole. I selected the center of these three marks to be the south pole.

I then mounted the sphere between centers on the lathe and drew a circle around it at the equator location. I engaged the indexing pin and marked one of the holes. I moved 90 degrees (six holes on my Nova DVR 3000 index head) and made another mark. Two more equal moves and I had four equally spaced holes marked on the equator line. At this point, I was ready to start drilling holes. If you can manage to set your pencil compass to the 1.7675" dimension, you can easily layout the holes with the compass. Select a pole position and insert the point. Draw a line around the sphere. On that line select some point and draw another circular line around the sphere. Now at one of the intersections of these two lines, draw another line around the sphere. This gives you a location for the other pole position and four equally spaced lines on the equator line. Of course, all of this assumes that the ball is perfectly round.

Picture 2. In this photo, the tail center is being used to align the ball on center before the chuck is tightened.

Mount your sphere in the chuck with one of the positions aligned with the axis of rotation of the lathe determined by inserting the tailstock center into the intersection of the lines. Lock the chuck down and replace the tailstock center with the drill chuck and a 1-1/2" Forstner drill bit mounted in it. Drill into the sphere until the outside edges of the Forstner drill bit is ready to cut the surface of the sphere. Make a mark on the side of the drill bit that is 5/16" from the surface of the sphere. Drill down to this line. Check to make sure that your hole is 5/16" deep. If it is, use a fine point pen to mark a line on the drill bit to indicate the depth of cut. This is for use on the other five outside holes. Figure 2 shows the relationship of any four holes drilled on the equator at each drill depth.

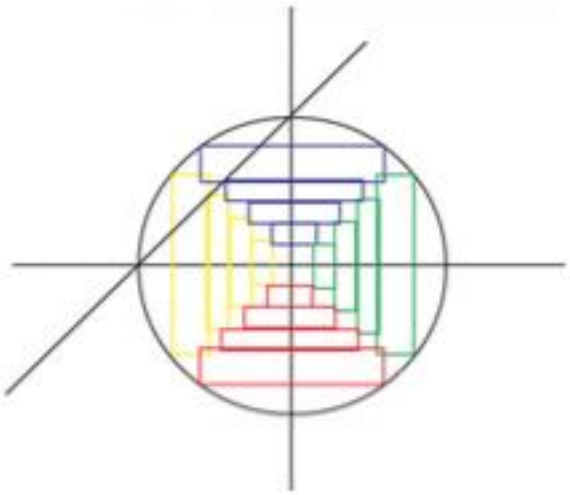
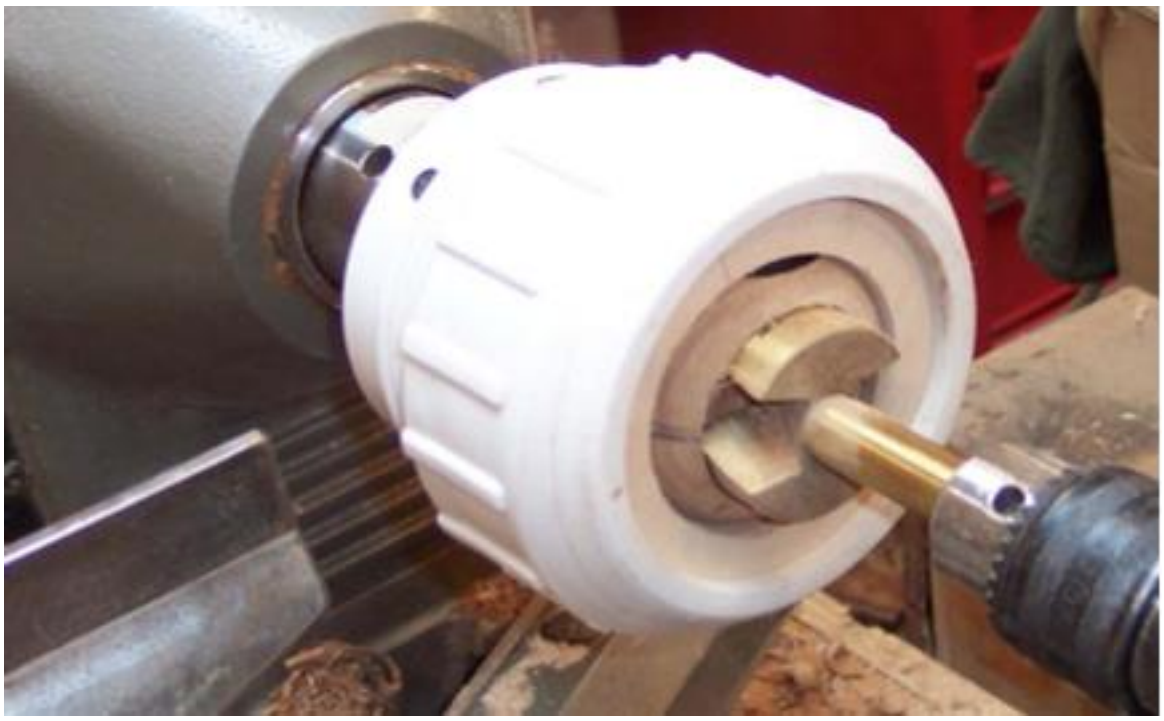


Figure 2. This drawing shows what is happening inside the sphere if a cross section was taken through the center of any four holes.

Note: If the wood is fairly hard and heats up while drilling, I suggest that you arrange to flow air onto the wood and drill bit while drilling to prevent heat cracks and possible failure of the project.

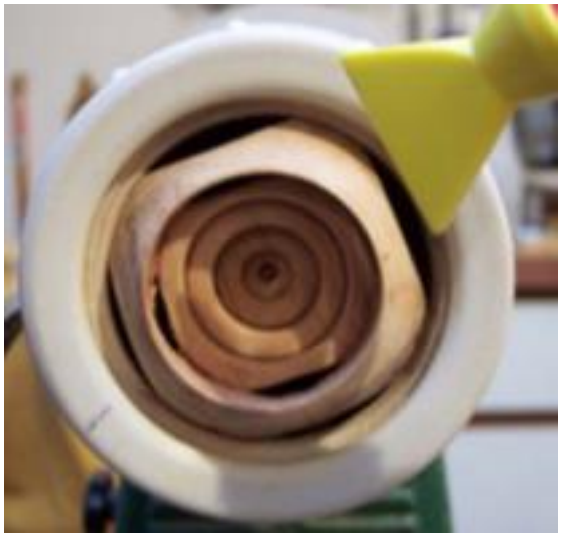
You now have a decision to make. You can align each of the other holes and drill the 1-1/2" hole for each of them before changing to the next smaller size drill. Or you can drill holes with all of the drills with this set up. I'm personally not sure which is the safest. I have done it both ways and had failures doing it both ways.

Picture 3: This set up shows the operation of drilling the first step at any given position. Note the mark on the drill which was made after the first hole was drilled in the ball.



Picture 4: By drilling two adjacent holes, you can check to ensure that you are drilling to the proper depth to obtain the optimal overlap of the holes to create the effect of cubes.

All of the rest of the holes to be drilled must be 3/16" deep from the bottom surface of the previous hole and in each case they are 3/8” smaller than the preceding hole. Therefore, the next size down drill is 1-1/8” in diameter. I recommend that you back off your tailstock spindle as far as it will go and make a mark on it to indicate zero. Then make a mark again when the tailstock spindle has moved out 3/16". With the tailstock spindle set to the first mark, move the tailstock assembly in until the drill bottoms against the surface of the previous hole. Lock down the tailstock assembly and drill in until the 3/16" mark appears. Retract the drill and check the depth of the hole. If the drill slips in the chuck or the tailstock slips on its mounting, your hole will not be the right depth. Therefore, I recommend checking each hole for depth. The next hole to drill is the 3/4" hole. It should also be drilled 3/16" deep. Repeat this operation for the 3/8" drill and you are ready for the next hole location.



Picture 5. This photo shows that all of the first holes have been drilled and then the other levels on this hole have also been drilled.

When all holes are drilled, you should be able to look into the holes and see what looks like decreasing sizes of cubes all connected to the previous layer at their points. A project such as this requires a stand. You could simply make a little egg cup-type stand to set it in; however, it would be hard to keep the item oriented properly using this type of mounting. Therefore, I felt a permanently attached base would be better. I turned the base for the one illustrated in the photo at the beginning of this article out of African Blackwood. I turned a small tenon on the top of the base and drilled a matching hole in the sphere. This hole needs to be located in the center of one of the triangular area between three holes. This gives the best orientation, in my opinion, for the finished project. What I've just described is how I did the first one of these, made out of a 2-1/2" sphere. Unfortunately, my 40+ year old mathematics doesn't seem to allow me to work out the formula to determine how deep the first hole needs to be drilled on any size of sphere and what size diameter hole is required. I thought I could just use the same formula going up in size as I do in going down in size, but something didn't seem to work here either. What I have determined is that by drilling two adjacent holes of an estimated size, I can determine at what depth that size hole will overlap and give the desired opening at the interception. Using this method, I was able to increase the size of the sphere slightly to give four steps in the sphere. I had to use a different size starting drill, which changed all of the other drills used. Each drill still had to be 3/8" smaller than the previous one and was drilled into the sphere 3/16" deep from the previous level. In this case, the last hole drilled was 1/2" instead of 3/8" as for the smaller sphere. This project required me to make up a larger chuck out of three inch PVC compression fitting.

Picture 6. This photo illustrates the first successful version of this project and the number two version which is made from a larger sphere and contains four steps inside each hole.

Making the Ball Chuck

Picture 7. This photo shows the basic components of the ball chuck that I use. Left to right: screw on cap, plywood washer to fit between the sphere and the cap, male part of the PVC compression fitting is fitted with a hardwood block with a spherical recess. This one has sandpaper glued in to grip.

My first chuck of this type was made from a 3" PVC compression coupling. I cut off one end to make a very nice chuck. I glued a 1 inch, 8 tpi nut into a block of elm and turned it to fit inside the coupling, glued the wood into the coupling, inserted four screws to help the glue, turned a hemispherical depression for a 2-1/2" sphere in the elm, turned a piece of 1/4" plywood to fit inside the lid, put the lid and plywood onto the chuck body and turned a hole in the plywood to fit onto a 2-1/2" ball. I then drilled a hole to insert a piece of 3/8" dowel to use as a lever for tightening and loosening the cap, glued a 3" sanding disk into the bottom of the hole (after cutting slots all of the way around), and I had a very serviceable ball chuck. The only problem was that the cap was too big for my hand and I had problems screwing it down and loosening it. I repeated the operation with a 2" compression coupling and used a Oneway Chuck insert instead of a 1 inch 8 tpi nut. Now I have a chuck with a screw-on lid that I can hand tighten and loosen and that can be adapted to any lathe that I can buy a Oneway Chuck insert for. It works great.

These chucks are very easy to make. It takes me about an hour to make one. I've found that either a Oneway Stronghold Chuck Insert or a piece of cross grain oak with 8 tpi threads to fit a Nova Chuck Insert work very well for me. However, you can mount the wooden block onto a dedicated faceplate to fit your lathe.

Another thing that I'm doing these days is to coat the spherical hollow with hot melt glue. I then take a round nose scraper and spread the glue evenly on the surface of the spherical hollow. When I'm ready to chuck up a sphere, I turn on the lathe and sand the spherical hollow lightly with 80-grit sandpaper. This slightly warms the glue surface and allows it to grip the sphere very firmly. I should caution, do not warm it too much or you may find your sphere permanently attached to your chuck.

Have fun with this new way to decorate a sphere!