CHATTER MARKS
Olympic Peninsula Chapter
American Association of Woodturners
The Newsletter for Woodturners of Western Puget Sound

Inside This Issue

Click on the link for the article you want and you will go to that page

To renew your membership go to the Club website, OPCAAW.COM please log in and then click on "*Renew Membership.*"

Show & Tell photos from previous month's meetings are posted on our website at: http://opcaaw.com/gallery/

MAR 2023

This month's meeting is Mar 29nd at Kitsap Adventist School, 5088 NW Taylor Road, Bremerton.

In-person meeting.

Masks optional.

Activities Include:

Member on a lathe

Featured demonstration

Show and tell

Wood auction

See our website at

OPCAAW.com

On Facebook

https://www.facebook.com/groups/opcaaw

Monthly Demonstration

The March meeting of OPCAAW will feature a demonstration by Ken Conte on how to create a Levitating Sphere.

An Olympia-area resident, Ken Conte took up woodturning in 2008 and has been a member of the American Association of Woodturners and the Woodturners of Olympia since then. He has served on the Board of the Woodturners of Olympia since 2008 and was club president from 2014-2018. He retired after a 35-year career in Washington State government.

Ken wrote an article on how to create a levitating sphere for the August 2022 issue of American Woodturner (see his article in this issue, click here to go there now). His demonstration will bring that article to life and show how he uses magnets (electromagnets and dipole magnets) embedded in his turnings to create wood sculptures that float in mid-air.

One suggestion for your consideration: If you have not turned spheres, it might help you to look at a video or two on turning spheres. His presentation would make a bit more sense to you if you have that background. He won't actually turn a sphere (just not enough time) but he will focus mostly on preparing the sphere blank, dividing it in two, embedding the magnet, and gluing it back together. This is the most challenging aspect of making a levitating sphere. He will discuss the base but, in less detail, as it is basic turning.

Scott Overby demonstrating at the February 2023 meeting

President's Corner

All about the classes… **"Basic Spindle Turning" with Jim Leary 2/26/2023,** sold out pretty fast. This class was unusual in that we had an extra lathe (so six students). Before the class started, we had a waiting list long enough to have a full second class. Rather than wait another year to repeat this class, the board has decided to try to offer this class again. I have contacted the school to see about getting some additional dates so we won't have to replace an existing scheduled class.

When a class is offered on one of these extra dates, the class will first be offered to the people already on the wait list, in the order they were added. There will be a short time to confirm your seat, after that, we will open up the remaining seats like a normal class.

Also, this past month, we have tried out something new, as a recruitment vehicle we ran a mini class at another organization's location. This one happened to be at the Sons of Norway, in Poulsbo. The goal is to add to our membership and promote the art of wood turning. We have been contacted by other organizations to do the same kind of thing, or just demo woodturning ourselves. If you know of places or organizations we could do something like that, please let me know or send the board an email bod@opcaaw.com

Finally, the instructor's for the upcoming classes need assistants. For intermediate and advanced turners, this is a great way to find out if you would like to teach your own class. Contact classes@opcaaw.com for more information.

At the upcoming meeting, George Kromka will be back running one of the small lathes shortly after 5:30 pm until 6:20 pm… it's a great gift idea.

I'm glad to see so many people showing their work at show and tell during the meetings. I find inspiration in looking at other's work, I have included some pictures from last month (more on the next page). I wish I could show all the excellent work… check out the web site, after the photos have been added.

Tim Larson, OPCAAW President

Tops for the Kitsap County Fair

For anyone who might not know, we take spinning tops to the fair as give away items to attract people to watch our demos and talk to us about the club. It would be great if you would turn tops and drop them off at the meetings. We will store them at the school until time to go to the fair. It is not too early to start building our inventory.

If you have not turned a top let me know and I will get one of the fine top turners in our club to help you.

The March 29th general meeting will in-person at the school and there will be a wood auction, show and tell, and demonstration.

Mask are optional for all attendees
If you don't feel well, please stay at home and ZOOM

President's Challenge

Thank you to everyone that participated in February's challenge. Check out the photos on the bottom of this page.

March's challenge is to turn a set of napkin rings.

These are a simple set of six made from the same piece of wood. The wood was pretty enough that I only adorned it with a little bit of wire burning.

April's challenge will be to make something with embellishments, texturing or coloring.

Those that were inspired by Scott's epoxied rings, I would love to see your work.

Some of Feb's Turnings

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Member's Challenge

Win a $50 gift certificate to D-Way Tools.

I would like everyone to try a multiple axis turning to be judged by a non-partisan party. I'm thinking by the September meeting. The sky is the limit. I want to hear the trials and tribulations of your turning and what you learned. I have a spare Joyner setup that can be borrowed if anyone would like to try using it. :)

Scott Overby, OPCAAW Mentor

Enter as many times as you want.








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Hello from your Public Relations

(Dan Holderman publicrelations@opcaaw.com)

ChatterMarks

This newsletter is for all of you and I am dedicated to making it something you want to read each month. I welcome your inputs and reviews. Let me know if I can add anything to make it better for all.

I have started a new section, Member's Column, the first was last month's issue and featured Larry Lemon. This month is Jimmie Allen. I would love to learn more about each of you. Please, consider working with me to feature you in an upcoming issue.

AAW Information

AAW has given me permission to reprint one of their articles in our newsletter each month. I will be choosing something that catches my eye. If you are an AAW member and you see something you think would be good to share with our club let me know.

Roger Dunn suggested this month's article by Ken Cortes who will be doing the demo for the March meeting "Levitating Spheres." You will find this after the monthly update on the club classes or click here.

Remember we are part of the American Association of Woodturners (AAW). AAW offers its members several benefits that are listed here on their website. And you can sign up as an Affiliate for 3 months free. Click here and give it a test run.

New Mentor

Larry Lemon has volunteered to be a mentor for the Club. See the update on the Mentor Program page. Thank you Larry.

Top Turning

There will be a Sawdust Session at the school March 26th, 9 a.m. until 4 p.m. for top turning. There will be instructors on hand for anyone needed some help turning the tops. If you know how to turn a top come hang out and socialize. Make some tops for the Kitsap County Fair.

New Sponsor

Total Boat has signed on as a Club sponsor. If you follow this link you will get 5% off and they also will donate to our member's appreciation event January 2024. Discount link.

Growing Awareness

Your Board of Directors is working towards spreading the word that our club is in Bremerton, that we hold classes and monthly meetings and offer mentorship. We are trying several things to get the word out; one way is to offer demonstrations. If you know of an organization that would be open to us bringing a lathe to them and showing off by making a little sawdust please get with one of the board members.

Wand Challenge

Remember we are making wands for kids at Camp Korey, WA. See YouTuber Challenge on the next page.

Club Merchandise

If you want to get a cool hat or tee shirt or coffee much then check out https://www.cafepress.com/opcaaw.

Grain Direction

This is one of the best descriptions I have heard on cutting with the grain. If you are a new turner this will help, if you are experienced you still might find it interesting. https://www.youtube.com/watch?v=aEzyATkFJug

Eli Avisera

Eli will demonstrate in Dale Larson's shop on Friday Aug 18th starting at about 9am. His address is 5010 SE Regner RD, Gresham OR. His phone number is 503-661-7793. Email is woodbowl@frontier.com. The charge will be $30 for the day. Eli does some off center stuff, boxes and thin spindle turning. He normally asks the audience what they want to see. He will finish 6-8 projects in the day. He is a wonderful demonstrator and has taught there at least five times. Members who want to come can email him and he'll keep a list. You will need to bring a lunch, too far from town to go get lunch.

Member's Column - Jimmie Allen

I visited Jimmie in his shop and we spent time talking tools and woodturning. A lot of it he let me write down and this is what I learned about him during that time.

Jimmie grew up in a military family and they moved to Bremerton for his father's naval assignment. As long as he can remember, he has always wanted to know how things worked and was interested in making handcrafts. He studied pottery, jewelry making, & mechanical repair. His plan when he got out of school was to train to become an auto mechanic and eventually open his own shop. While waiting for the class to open up, he apprenticed for a cabinet maker and worked on construction crews. Woodworking became his new calling.

Fast forward to 20 years ago when he saw an article in a newspaper on hollow forms and it intrigued him. He found a local Woodturning Club and was instantly drawn to the people and the craft. After a couple of meetings, he encouraged his wife Cindy to attend because of the things he was seeing in Show and Tell. They recognized the value of plugging into the club and after only 6 months membership, Jimmie became the Vice President in charge of Training and Cindy was the Sergeant-at-Arms. That commitment opened up opportunities and the many benefits of being active within the club. They held these positions for 7 years and met Dave Schweitzer and Dan Ackerman at meetings and while performing their volunteer duties. Those two along with others in the Club would change Jimmie's life.

Dan Ackerman, founding member of the club, was known as the box master and making boxes was something Jimmie found interesting - he appreciated the complexity. Dan became a mentor and about 8 years into Jimmie joining the Club, helped him learn box making. Thanks to that mentoring and Jimmie's dedication to craftsmanship - he is now pretty well known for his signature boxes.

But he said that what really took him to the next level was being pushed by his mentors to do demonstrations. He didn't want to do that because it was outside his comfort zone to be in front of a crowd, but after committing to it, he learned by repetition how to interact and be himself in front of a group. The focus to improve his techniques for demos also helped elevate his turning skills.

Another mentor and founding Club member, Dave Schweitzer, was also instrumental in Jimmie's development as a turner and became a close friend. Dave owned D-Way Tools and about 10 years ago he asked Jimmie to take over, Jimmie said no. But later, Jimmie had an idea for a tool that wasn't available - a double ended tool for making box lids and tenons. Dave didn't make this tool and didn't use the size of flat stock steel needed, so Jimmie asked Dave to get him the flat stock to do his own. Dave encouraged him to make a larger batch and sell some to offset the cost. When he took them to a box making class, he ended up selling 19 of his 20. So, he made 20, then 50, and then 100 and they all sold. Thus, the Boxmaster double ended tool line was born - something that he was the first to do. Today there are 16 unique profiles that he designed.

After running the business for a year, Jimmie agreed to purchase D-Way Tools. He is a bit of a perfectionist and when he took over D-Way Tools, he started making changes to improve the tool finish. To Jimmie it is important that if someone buys a tool from him they not only get a great working tool, but a tool that has a polished look and feel. It has only been in the last year and a half or so that he got the finish on the tools to something he was totally satisfied with.

He doubled the tool line and has continues to expand and introduce new tools that he has tested and feels will benefit the woodturning community. He has had to push up against conventional wisdom and has been told some of his tools won't work the way they're designed. He ran into this at symposiums and workshops where he had his tools and a lathe and proved that they do work. Doubters became customers. His negative rake scraper still has "experts" saying they won't cut clean even though these D-Way tools are used nationwide with great feedback. He says there are several people from out of town visiting family or on business trips who always come by the shop for tools. He must be doing something right; I say this not Jimmie. He is a modest guy for sure.

YouTuber's Challenge

The challenge ends at the March meeting, so get going on those wands. Last month's YouTuber Corner featured Lisa Ramlow, If you missed it look back at last month's issue. She is involved in a challenge to help sick kids, her words are just below. But to me this seems like a nice thing to do and we have a lot of nice people in our club. Other than just being a good cause, Camp Korey is in Mt Vernon, WA. It is practically in our backyard being as it is in the PNW. Surely we can get some wands for these kids?? Bring a wand or several to this month's meeting or contact me and I will collect them. This next paragraph is from Lisa Ramlow. The links to the camp are below that.

Thanks, Dan Holderman

I am still just blown away by the response to my YouTube channel, and I have "met" so many great people through it, other turners, artists, and just admirers alike. One of these amazing folks is a turner from Texarkana, TX who goes by Hula's Woodworks. Hula recently hatched a scathingly brilliant plan to help a non-profit organization in Mt Vernon, WA dedicated to giving kids with serious medical conditions an opportunity to go to camp. Camp Korey is currently working on an incredible installation of Wizard's Alley from Harry Potter, though I've been calling it Diagon Alley and I think either one works. In any case, this is a full-blown replica of the Alley and included among the shops is Olivander's Wand Shop. Hula's 1k Wand Challenge is going to put an actual wand in every box inside Olivander's, so that the kids will be able to fully immerse themselves in the experience. Turners from all over the wand are answering the call and I think we might just pull this crazy thing off! So if you want to help, make a wand…or two…or a box full and send them off to Camp Korey. Do keep in mind that these wands should be kid-friendly, maybe a little sturdier than normal and definitely no sharp points. I'm sure the kids will be Making Mischief (and possibly sword fighting) so create them accordingly. Links to Camp Korey are included below and I hope we can help make this happen! I'll be publishing my Hula's Wand Challenge video on Thursday, February 9th if you want to check it out!

https://www.youtube.com/watch?v=mJbYHUnlAhY

https://www.campkorey.org/

https://www.campkorey.org/tiger-pearson-makes-magic-happen/

You Tuber's Corner

This month's contributor is Gord Rock from Canada, here is the link to his YouTube channel https://www.youtube.com/@GordonRock1

I was a woodworker for quite a few years and although I didn't learn any of it from my father, he was also a woodworker who started woodworking after I had reached adulthood and had left home. When he decided to quit woodworking, he asked me if I would like to have the lathe he had been using. I didn't know anything about woodturning other than the little bit that I had seen Norm Abram do on New Yankee Workshop. I accepted his lathe as I knew he didn't know what else to do with it and then it sat literally in the middle of my shop for 5 years as I worked around it. Of course, it always seemed to be in the way. One day I wondered if it even worked as I had never even checked that. I plugged it in, turned it on and was surprised to see that it actually worked. From watching Norm, I knew how to put a blank between centers so I did that and used some old tools dad had given me and found that I could make a rudimentary spindle. After about 2 minutes I think I was hooked. I found out that there was a beginners woodturning course offered at Black Forest Wood Co. in Calgary and made the trip, about 1-1/2 hours each way, every week for 5 weeks to take their 2-hour weekly course. Naturally Dad's lathe burned out fairly shortly and because it was a very old lathe with parts not available, I was not able to rebuild it. Enter lathe #2. I am now on lathe #4. That was all the training I had for many years as YouTube videos were not yet available. Woodturning soon became my passion and I rarely ever do any "flatwork" unless my wife comes up with an idea for something she wants built.

My first YouTube video was done to surprise my adult children. I had made a Cryptex for each of them and as they live in Calgary, I thought it might be a way to surprise them. I made a video showing what they are, put the video on YouTube and sent the link to each of them. I found that I enjoyed video editing so I made another video thinking that it was likely the last one I would ever make but enjoyed it again and decided to try showing the things I liked to turn. That soon turned into another passion and the rest, as they say, is history. I'm not trying to make a living at this as I am retired and just do it for pleasure. I publish fewer videos than I once did due to the onset of back problems but still like to publish one or two each month. I will continue to do this as long as I am physically able to do it and continue to enjoy it. Aside from the woodturning and video editing, my favorite part of this is communicating with those who comment on my videos. My subscribers motivate me. I can't say how much I appreciate those who are interested in following my woodturning path.

Club Classes

George Kromka

OPCAAW is in process of scheduling classes at the 7th day Adventist school every last Sunday of the month until summer then we can start classes on week days also. The Club has contracted with the school to rent the space. The price of the classes will be minimal so we can cover the cost of renting the school and provide a small fund to purchase, repair or replace equipment as required. The classes will be run like last year except the sign up has changed. The sign up will be explained when the class is open for sign up.

Spindle Class February 26th

Class fees will be the same as last year:
$30.00 for members + material cost.
$60.00 for nonmembers + material costs ($30.00 class fee + $30.00 membership fee), Students need to be members for insurance coverage

Material costs are determined by the instructor or material provided (purchased by the club) or both. Material cost will be included when signing up for class. Material costs can be from $0.00 on up but usually around $10.00. Example of material cost could be: pen kits and blanks, bottle stopper kits, pepper mill kits, bowl blanks, tool making kits etc.

Classes will run from 0900 to 1600 (4pm) with a lunch break at noon.

We will have class assistants to help with instructions during class.

Classes will be limited to 3 students minimum 5 maximum. (We have 5 student lathes and 1 instructor lathe.)

If classes fill up please still sign up then we will know that we need to schedule another class soon.

- Pen turning
- Tool making (point, elf and awl tools)
- Coloring (dyes)
- Goblets
- Sphere making
- Winged bowls
- Natural edge bowls
- Bottle stoppers and mandrel
- Hollow forms
- How to hold items on lathe
- Using the skew
- Box making
- Tool handles
- Platters
- Turning enhancements
- Christmas ornaments
- Bird house ornaments
- Children's toys
- Scoops
- Stools
- Thread chasing

Any Suggestions?????

More to follow. Keep up to date at checking our club website calendar regularly:
http://opcaaw.com/my-calendar/

LEVITATING SPHERES

Ken Conte

Levitating Sphere, 2021, Figured maple, electromagnet, base: 1¼" × 10⅞" (32mm × 28cm); sphere: 4½" (11cm) diameter

Photo: Stephen Hatcher

I started turning fourteen years ago. For most of that time, I've enjoyed turning spheres, and I've always wanted to find a way to levitate a sphere in the air. This article explains how to do just that.

Electromagnets

If you hold two dipole magnets close together, you'll find that opposite poles attract and like poles repel. It would be nice if you could levitate one magnet above one or more strategically arranged magnets. Unfortunately, dipole magnets alone are too unstable to do this, and one magnet will fly off very quickly if you try. You can, however, accomplish stable levitation with the use of electromagnets (*Photo 1*). The base unit consists of four electromagnets powered by an AC adapter. A single disk magnet is levitated above the base.

The key to stable levitation with electromagnets is a series of sensors in the base that constantly monitor the position of the levitating magnet. When the power is on, the sensors detect any movement in the levitating magnet and prompt the appropriate electromagnet to return it to the correct levitation spot.

There are two basic types of electromagnets. One type sits below the levitating magnet, effectively pushing it up to a stable position, and the other sits above the levitating magnet effectively pulling it up to a stable position. While I've incorporated both types in woodturning projects, my focus has been more on the former, as they are much easier to find. The overhead units I have used were salvaged from commercially sold products.

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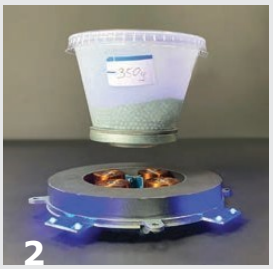
Test your electromagnet



(1)The Lusya load-bearing magnetic levitation module.

(2)The author confirms the weight capacity of the electromagnet using a non-magnetic material such as lead shot.

SAFETY WARNING

Strong magnetic fields can impact medically implanted devices. People with such devices who wish to work with electromagnets should consider consulting a physician first.

A quick internet search for "magnetic levitation module" will reveal several systems on the market that levitate a disk magnet above an electromagnet base. Some are kits that require you to assemble the base unit. I would avoid these unless you are quite electronically inclined. It is much easier to start with a base that is assembled and ready to use. There are a few key things to look for when deciding which unit to buy:

- **How much weight can be levitated?** This is critical because it will be a significant factor in determining the size of the sphere you plan to levitate. There are units on the market with a variety of maximum weight capacities.

- **What is the diameter of the levitating magnet?** The larger the diameter of the levitating magnet, the larger you will have to make your sphere.

- **How high above the base will the object levitate (suspension height)?** This factor has a significant visual impact on your finished piece.

The suspension height is impacted by the weight placed on the levitating magnet. A heavier load will reduce the height. Also, and importantly, when you place a board or nonmagnetic object between the levitating magnet and the base, the suspension height does not change; you are simply filling the space. So, as you plan your project, you will want to make the sphere as light as possible and to have as little wood as possible between the levitating magnet and the electromagnet base.

For the project shown in this article, I used a Lusya load-bearing magnetic levitation module with LED lights. Similar units sold under various brand names can be found at aliexpress.com, Amazon, eBay, and from other suppliers. Mine has a weight capacity of 17.6 oz (500 grams) and a suspension height of 0.7" to 1" (18mm to 25mm). The levitating magnet is 2" (5cm) in diameter. It comes with a 12-volt 2-amp AC adapter. With this system, I can levitate spheres 4" (10cm) in diameter or larger. The measurements used to make the sphere and base are based on this system. If you purchase a different product, you may need to adjust the measurements accordingly.

Note that many levitation systems come with LED lights, which serve different purposes, one of which is to help you find the levitation spot. But they are not necessary to the system working. Once the electromagnet is incorporated into a wood base, you'll have to find the levitation spot without the help of the LED lights.

Test your electromagnet

Once you get your electromagnet system, you should practice levitating the magnet above the base, focusing on doing so by feel. ▸

Levitating Sphere, 2020, Madrone (base); holly (threaded box sphere), electromagnet, base: 7" ×8¼" (18cm×21cm); sphere: 3 5/16" (8cm) diameter

Photo: Stephen Hatcher

It's helpful as well to test levitating different weights to get a sense of the stability at different weights and how the weight will impact the suspension height. ***A word of caution: These are powerful magnets, so you should keep gouges and other metal objects out of range.*** Also, protect the base magnet by placing a thin piece of cardboard or foam over the electromagnet base. If the levitating magnet slips, it can crash into the base with enough force to damage the system. A good method of testing the weight capacity and separation height of your unit is shown in *Photo 2*.

Sphere considerations

The greatest challenge with this project is placing the levitating magnet in the sphere then turning the sphere to a predetermined diameter. The minimum sphere size is dictated by the diameter of the levitating magnet. To maximize the suspension height, the levitating magnet has to be as close as possible to the bottom of the sphere without breaking through. And you will need to hollow the sphere to keep it as light as possible. The larger the sphere, the more hollowing you will have to do.

Once you've decided on the diameter of the sphere, you can determine where to locate the magnet. And once the magnet is in place, you are committed to turning a sphere of that diameter. If you go smaller, you run the risk of exposing the magnet. If you go larger, you will be adding additional wood at the top and bottom of the sphere, reducing the amount of separation space.

There are options for placing the magnet inside the sphere. One option is to rough-turn the sphere, leaving a tenon on top to hold the sphere in a chuck so you can turn a recess in the bottom for the magnet. You can then hollow the sphere through this recess, glue in the magnet, glue in a plug to cover the magnet, and then finish turning the sphere. This method is not my preference because the plug rarely matches the grain and is fairly obvious, but it's fine if you plan to paint the wood or otherwise cover up the glue line and natural grain.

I prefer natural wood spheres and the mystery surrounding how the magnet got in there. So my preference is to divide the sphere blank in half, create a recess for the magnet from the inside, glue the magnet in place, then glue the blank together and finish turning the outside. A good glue line with matching grain is not immediately obvious.

TURNING SPHERES

EXPLORE!

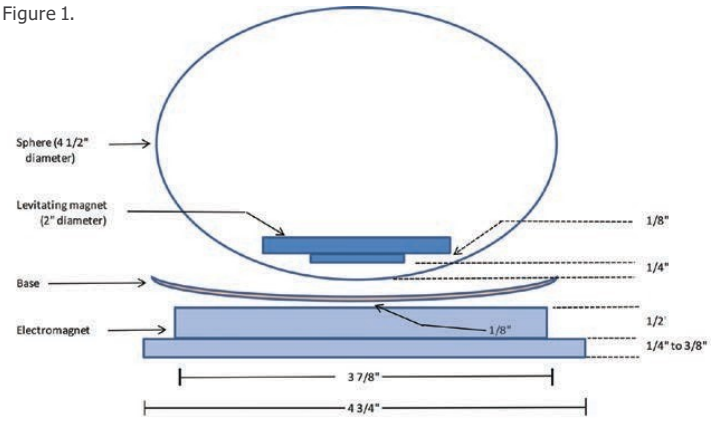
To learn more about turning spheres, find helpful resources in the AAW archives. Log in at woodturner.org and use the Explore! search tool.

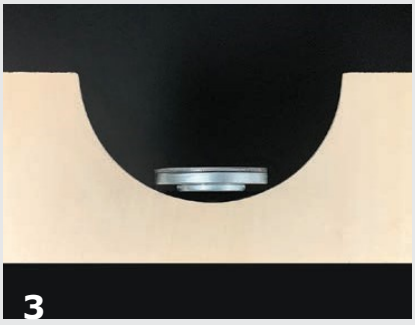
- "How to Turn Perfect Hollow Sphere - No Jig," video by Alan Stratton

- "Making Spheres," by John Brewer, *AW* Summer 2001 (vol 16, no 2)
- "Build Your Skills and Train Your Eye by Turning a Sphere," by Kip Christensen, *AW* August 2016 (vol 31, no 4)

Placement of magnet in sphere

Figure 1.





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A scale drawing and model template are useful in determining the distance between the bottom of the magnet and the bottom of the sphere (in this case, ¼"). The template is useful, too, as a gauge when turning the sphere to its final, predetermined size.

Make the sphere

Determine sphere size

A scale drawing or model (*Figure 1* and *Photo 3*) helps to visualize the placement of the 2"-diameter magnet in the bottom half of a 4½"- (11cm-) diameter sphere. The levitating magnet should be as close as possible to the bottom of the sphere, while leaving enough wood at the outer edges so it won't break through.

Choose a blank long enough to turn a tenon on both ends with a little extra room for adjustments. A blank 6½" (17cm) long works well for a 4½"-diameter sphere. Place the blank between centers and turn it down to a cylinder 4½" in diameter. Turn tenons on both ends. Mark the center, top, and bottom of the sphere with the top and bottom lines each 2¼" (6cm) from the centerline.

Next, determine how far above the bottom of the sphere to locate the levitating magnet. To do this, use a scale drawing or model to measure the distance from the bottom of the sphere to the bottom of the magnet, as shown in *Figure 1* and *Photo 3*. For a 4½" sphere, placing the bottom of the levitating magnet ¼" (6mm) from bottom of the sphere allows about ⅛" (3mm) clearance at the outer edge of the levitating magnet. Place a mark on your blank ¼" from the mark representing the bottom of the sphere (*Photo 4*).

Weigh your blank to get an idea of the starting weight, bearing in mind that you will want the sphere to be as light as possible when finished and certainly lighter than the maximum capacity of the electromagnet. In this case, the rough blank in *Photo 4* weighed 27 oz (765 grams); recall that the weight capacity of my electromagnet is 17.6 oz (500 grams).

Hollow sphere, affix magnet

Divide the blank in two, trying to retain as much wood as possible, especially on the bottom half. To do ▶

Rough-turn sphere

Sphere blank turned to a cylinder with a tenon on each end. Mark key locations on your blank: A: bottom of sphere; B: bottom of magnet; C: center of sphere; D: top of sphere.

Halve sphere

Cut the sphere blank in two at the centerline. The author cuts partway in and completes the cut at the bandsaw. Note the horizontal pencil line across the center to help realign the wood grain when the two parts are rejoined.

Levitating Sphere, 2021, Madrone burl, electromagnet, base: 2¾" ×15" ×11" (7cm ×38cm ×28cm); sphere: 4½" (11cm) diameter

Photo: Stephen Hatcher

Hollow sphere, glue in magnet

A stepped recess inside the bottom of the sphere accepts the magnet. The deepest part of the recess stops ¼" from the bottom of the sphere.

Glue and clamp the magnet in place, using tailstock pressure with a length of scrap wood.

this, I start the cut with a parting tool just to the top side of the centerline to avoid later adjustments to the bottom mark, which will impact the distance between the levitating magnet and the outside of the sphere (*Photo 5*). I like to complete the cut with a bandsaw to minimize loss of wood from the cylinder. *For safety at the bandsaw, use a V-block jig when cutting the cylinder. Never cut an unsupported round object on a bandsaw.*

Hollow the top and bottom halves of the sphere using your tools of choice. On the bottom half, stop hollowing ⅝" (16mm) from the bottom, then use a parting tool to carefully hollow the 1⅛"- (29mm-) wide recess for the smaller base of the levitating magnet. This recess should go to the depth of ¼" above the bottom of the sphere, per your original mark on the blank. Once you have formed this recess, come up ⅛", the height of the smaller base of the levitating magnet, and turn the 2"-wide recess to accommodate the larger part of the magnet (*Photo 6*).

Glue the magnet into the recess. I use a two-part epoxy rated for wood and metal and apply clamping pressure with the tailstock (*Photo 7*).

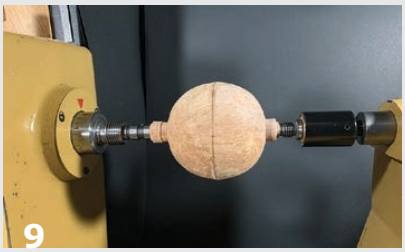
Complete the sphere

Prepare the glue surfaces of both halves. Take care with this, as you want as fine a glue line as possible. I leave a generous gluing surface ⅜" (10mm) across for strength since the glue line will be stressed when I finish turning the sphere. Glue the two halves together, clamp, and allow it to dry (*Photo 8*). I use standard wood glue for this application. Hollowed, the cylinder now weighs 22 oz (624 grams), including the 4⅛ oz- (117 gram-) weight of the levitating magnet.

When the glue has cured, remeasure the bottom, center, and top marks on your cylinder. The distances may be short since you lost some length when you parted the blank in two and from preparing the glue surfaces. Ideally, the bottom is still at or very close to 2¼" from the centerline. In order to maintain the distance of the levitating magnet relative to the bottom of the sphere, try to make any needed adjustments to the top of the sphere by marking a new top line 2¼" from the centerline (the glue line). Note: The centerline doesn't have to remain exactly on the glue line. If the glue line is substantially short of 2¼" from the bottom mark, you can measure up 2¼" from the bottom mark and establish a new centerline and then another 2¼" to establish a new top line.

Rejoin halves, turn sphere

The two hollowed halves are glued back together with wood grain carefully aligned. Clamp the pieces between centers and allow the glue to cure.



Turn the sphere, being sure to stick to the predetermined diameter (in this case, 4½"). The glue line is nearly imperceptible.

Form chucking recess on top of base

The base is turned to overall size, with an expansion recess turned on top.

Form stepped recess in bottom of base

With the base remounted in the chuck in expansion mode, turn a stepped recess in the bottom to accept the electromagnet. The base is scooped slightly (made concave) to allow for a good fit of the chuck in expansion mode in the wider recess.

Once you have made any needed adjustments to the top and center marks, finish turning the sphere between centers (*Photo 9*). I use a small spindle gouge and an occasional touch with a negative-rake scraper to complete the sphere. As you get close to the magnet at the bottom of the sphere, you will begin to feel it pulling your gouge into the wood. This isn't a big problem, but as you proceed, you may have to hold the gouge carefully so the magnet doesn't pull your gouge tighter into the wood than you want. My completed sphere weighed 9 7/8 oz (280 grams), including the weight of the magnet (*Photo 10*).

Sand, embellish if you care to, and use your finish of preference to complete the sphere.

Make the base

The base has to be large enough to accommodate the electromagnet. You will need to keep as thin a layer of wood over the electromagnet as possible to maximize the separation height.

Turn a stepped recess

Select a blank at least 6" (15cm) in diameter and a minimum of 1½" (38mm) thick. Place the blank between centers or use your chuck's woodworm screw in the bottom so you can access the top surface. Using your tools of choice, turn the top surface flat, then turn a recess ¼" deep so you can hold the blank using your chuck in expansion mode. For my serrated No. 3 jaws, I made this recess 4" wide (*Photo 11*).

Reverse-mount the blank, so you'll have access to the bottom of the base, where you will turn a stepped recess for the electromagnet. Once the base has been turned flat on both sides, carefully measure the thickness of the blank from the bottom of the top recess (now in the chuck) to the bottom of the base. My base measured 1⅝" (4cm) thick.

Using a small bowl gouge and then a box scraper to straighten the sides, turn the first recess 3⅞" (10cm) wide and to a depth that will position the top of the electromagnet ⅜" below the surface of the expansion recess on the top of the base. For my base, this recess was 1¼" (32mm) deep. Turn the bottom of the recess as flat as possible.

Now turn a second recess 4¾" (12cm) in diameter to a depth ½" (13mm) above the bottom of the first recess. This wider recess will be used to attach the electromagnet to the base and as a chucking expansion recess to complete the top. Test the electromagnet for fit and adjust if necessary. The top of the electromagnet should sit just short of touching the bottom of the first recess, and the four tabs used to attach the electromagnet should rest squarely on the upper recess (*Photo 12*).

If necessary, undercut the bottom of the blank, making it slightly concave, to ensure a good fit for your chuck (*Photo 13*). This also helps reduce the weight of the base. Sand the bottom to prepare it for the finish of your choice. ▸

Shape top of base

With the base remounted once again, turn away the expansion recess in the top, leaving a concave depression with a final thickness ⅛" or less in the center. Finish shaping the top of the base.

Levitating Sphere, 2022, Dyed alder (base); figured maple (sphere), electromagnet, base: 14½" ×6" (37cm ×15cm); sphere: 6½" (17cm) diameter

Complete top of base

Reverse the base in the chuck, now expanding the jaws into the wider recess on the bottom. Using your tools of choice, shape the base to your preference. Turn away the top expansion recess, and form a concave depression in the top center of the blank. Measure the thickness frequently as you turn this depression area to a thickness of not more than ⅛" in the center (*Photo 14*).

Sand, embellish if you care to, and prepare the top of the base for the finish of your choice.

Make a wiring channel

Return to the bottom of the base and use a power carver or other tools to create a channel to accommodate the adaptor plug and wires. The adaptor plug will be attached to the bottom, back side of the base. Using a disk sander, flatten a small area at the back of the base to mount the adapter plug (*Photo 15*).

Drill pilot holes to accept screws on the surface of the wider recess, corresponding to the four tabs on the electromagnet.

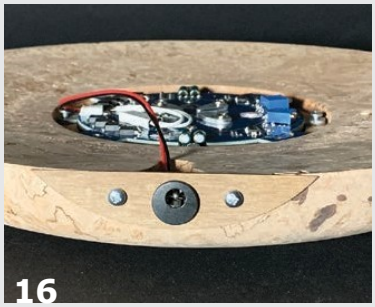
Test-fit the electromagnet, wiring, and adaptor plug to make sure everything fits properly. A thin piece of laminate and two screws hold the adaptor plug in place nicely (*Photo 16*). Remove the components to apply a finish, then do the final installation of the electromagnet and adaptor plug.

Final thoughts

Once you're comfortable turning a sphere to a predetermined diameter with the levitating magnet close to the bottom and making a base with a very thin top surface, you can add any number of interesting variations. Embellishing the sphere and base presents endless creative possibilities. I hope you've found this article interesting and that it adds a unique challenge to the list of things you can do with a sphere! ■

Ken Conte retired in 2013 after a thirty-five-year career in Washington State government. He took up woodturning in 2008 and has been a member of the AAW and the Woodturners of Olympia since then. Ken has served on the Board of the Woodturners of Olympia since he started turning and served as club president from 2014 to 2018.

Cut wiring channel, install components



Carve a channel on the bottom of the base to accommodate the adaptor plug and wires. Test-fit the electromagnet and adaptor plug before applying a finish.

You read the article—now see the video!

Ken Conte has created a helpful video, covering how to install and work with the electromagnet components of this levitating-sphere project. View the video at tiny.cc/Levitate or scan the QR code with your mobile device.

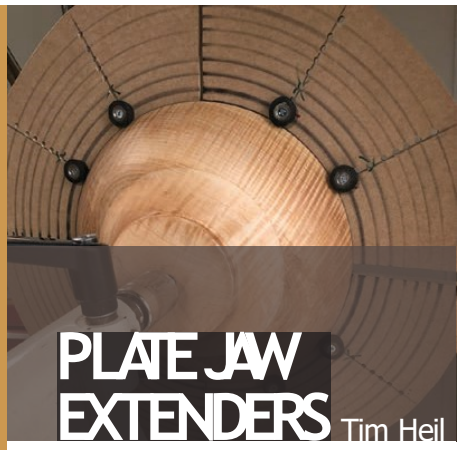


PLATE JAW EXTENDERS

Tim Heil

For completing the bottom of a bowl, I reverse-mount the work on my O'neway plate, or jumbo, jaws. But they hold bowls only up to 10" (25cm) in diameter. To accommodate larger bowls, I made a set of larger jaws from medium-density fiberboard (MDF) and attached them to the plate jaws using the existing threaded screw holes. This idea will also work with other manufacturers' jaws, but you'll need to customize accordingly.

Lay out, cut, and drill

My lathe has a 24" (61cm) swing, so I started by drawing a 22"- (56cm-) diameter circle on a 1"- (25mm-) thick piece of MDF. Making the jaws 2" (5cm) smaller than the lathe swing allows for a comfortable amount of clearance.

Next, I drew intersecting lines to divide the large circle into pie-shaped quadrants. I also drew a circle 4" (10cm) in diameter in the center, which, when cut out, will allow access to the chuck jaw screws.

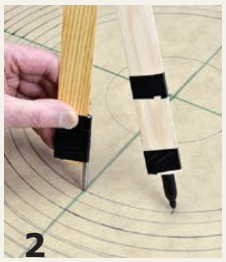
To locate where the gripper holes would be drilled, I drew circles ½" (13mm) apart. I then used the compass on each circle to divide each jaw into thirds, indicating the locations for two equally spaced, 1/4"-diameter holes (*Photos 1, 2*).

Cut the circle out as marked, then cut out the four pie-shaped jaws. Also cut out the inner 4" circle.

The four pie-shaped quadrants (the new chuck jaws) must be drilled so you can screw them to the existing jaws. I located the screw holes by using the original jaws as a locator jig (*Photo 3*). These holes are 1/4" (6mm) in diameter and countersunk so the screw head will be flush with the MDF.

Mark quadrants and gripper hole locations

1



2

(1)After dividing the large circle into quadrants, use a compass to draw circles to locate where the grippers will be placed. Don't have a compass large enough? Make one using paint stir sticks, a nail, and a marker.

(2)Use the compass to divide the circles on each quadrant into thirds. This will locate the holes for two grippers per jaw.

Locate jaw-mounting holes

3

After cutting out the circle and each of the four jaws, use the original plate jaws as a locator jig and mark where holes should be drilled to attach the new jaws.

Drill holes for grippers

4

Align and hold all four jaws together using double-sided tape. Drilling the gripper holes at the same time will improve accuracy.

My O'neway jaws called for flathead metric machine screws, M6 ×12.

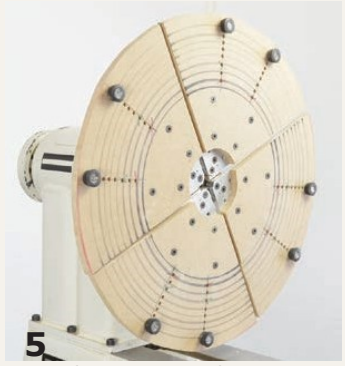
To ensure accuracy when drilling the gripper holes, I stacked all four sections and held them together with double-sided tape. Each jaw is drilled to accept two grippers, for a total of eight grippers (*Photo 4*). I used #10-24 ×11/2" flathead machine screws and matching nuts to secure the grippers.

In use

With the grippers in place and the new jaws secured tightly to the plate jaws, you are ready to trim the foot of a bowl (*Photo 5*). I suggest using the maximum number of grippers to guarantee the most holding power. Depending on the shape of the bowl rim, it may be necessary to stack the grippers at double height.

When using jumbo jaws, keep the lathe at a slow speed and take light intentional cuts with a sharp tool. Bring up the tailstock to help secure the bowl for as long as possible. ■

Ready for use!



5

Mount the new jaws to the existing plate jaws using screws with threads that match the threads in the existing holes. Attach the grippers using screws with nuts located at the back side.

Tim Heil was introduced to woodturning in junior high school woodshop in 1966. He joined the AAW and the Minnesota Woodturners in 2002, and that put his woodturning skills in high gear. His favorite wood is lilac.

Save the Dates!

AAW Virtual Events (click here)

Follow this link to the AAW (American Association of Woodturners) webpage for Virtual Events. They have an upcoming events schedule tab and a tab for past virtual events. You must be an AAW member to view the past events.
Coming up: Live Online Event, AAW Presents: Lyle Jamieson Turning a Thin-walled Goblet
Saturday, March 18, 2023 3:00 p.m. Eastern Time Register Here.

2023 AAW Symposium in Louisville, KY (click here)

Kentucky Exposition Center
June 1 - 4
2023 Featured Demonstrators: Pat Carroll, Ireland; Lynne Hull, US; Ulf Jansson, Sweden; Mauricio Kolenc, Uruguay; Joss Naigeon, France; Seri Robinson, US; Curt Theobald, US; Jacques Vesery, US; and Derek Weidman, US
Registration is open!

Eli Avisera

Eli will demonstrate in Dale Larson's shop on Friday Aug 18th starting at about 9am. His address is 5010 SE Regner RD, Gresham OR. His phone number is 503-661-7793. Email is woodbowl@frontier.com. The charge will be $30 for the day. Eli does some off center stuff, boxes and thin spindle turning. He normally asks the audience what they want to see. He will finish 6-8 projects in the day. He is a wonderful demonstrator and has taught there at least five times. Members who want to come can email him and he'll keep a list. You will need to bring a lunch, too far from town to go get lunch.

The Mentoring Program

CONSIDER A MENTOR

The OPCAAW **Mentors** are a select group of artisans and professionals who we have designated to promote, encourage, and guide novice and intermediate woodturners within our organization. Mentors provide counsel on subjects like shop setup, equipment purchase, safety, wood preparation and specialized skills. These are some friendly folks willing to give you a point in the right direction.

While not actually a formal training program, meetings with mentors often become just that. In some cases, advanced formal instruction is available at an hourly rate.

OPCAAW Mentoring is ***available only to members***. Please bring your current badge with you to the first session.

The current Mentors are:

George Kromka (Bremerton)	360-373-1028
Jim Leary (Kingston)	360-913-8073
Brad Stave (Gig Harbor)	206-910-5459
Scott Overby (Port Orchard)	360-535-3203
Larry Lemon (Gig Harbor)	253-278-9058

What is the Mentor Program?

Mentors are AAW and club members with significant woodturning experience, who volunteer their time to help members learn woodturning techniques. They can generally help with hands-on, one-on-one instruction within their areas of expertise. In addition mentors can provide counsel on subjects like shop setup, equipment purchase, safety, wood preparation and other specialized skills.

I am not a club member. Can I contact club mentors for help?

The mentor program is designed to support club members only. You are encouraged to join our club to access this benefit, and all other benefits we offer.

Do mentors charge for lessons?

No, mentors volunteer their time. The need for extensive woodturning training may lead you to enroll in paid instruction available from individuals, conferences, or schools. See the website's Resources menu, which includes pages for northwest schools, national schools, and studio workshops.

Do mentors come to my shop?

Not necessarily but can be arranged. You and your mentor will arrange a suitable date, time, and location for instruction. Reach out to any of the mentors here by identifying yourself as a club member, and asking for some help! These are some friendly folks willing to give you a point in the right direction.

Mentors must:

1. be a member of OPCAAW in order to be covered by the AAW insurance program
2. must not charge a fee for the insurance to apply
3. instruct students on the proper safety precautions of woodturning
4. present a demonstration at a monthly club meeting at least once every 2 years

Students must:

1. be a member of the OPCAAW
2. set up a date and time to meet with mentor

How can I become a Mentor?

Mentors all have unique skills and are asked to declare what they feel they can offer to the members of the club. By doing a demonstration at a club meeting the members will have an opportunity to get to know the mentor and determine if they are interested in contacting the member.

There is no limit on the number of mentors.

An application to become a mentor needs to be submitted to the board and the application will be accepted or denied. If denied an explanation will be given to the applicant. The applicant may be asked to give a demonstration of their skill set to the general club at a monthly meeting prior to acceptance or denial.

CHATTERMARKS is produced by and for **The Olympic Peninsula Chapter of The American Association of Woodturners - OPCAAW** and is published monthly electronically. All articles are copyrighted by **OPCAAW** unless otherwise noted. *Letters to the Editor* and article submissions are welcome.

Tim Larsen
President

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