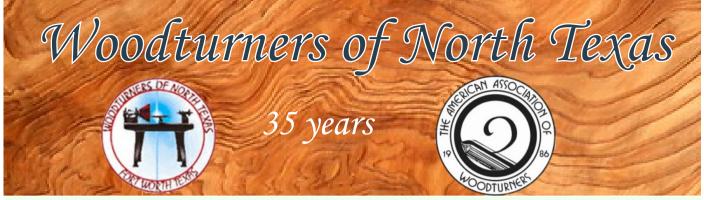
Our Motto: "All The News That Fits ... Gets Printed"



Next Meeting: Thursday, July 27th, 2023 Meeting Start: 6:30 PM. Come early to socialize.

IN-PERSON MEETING!!! Handley-Meadowbrook Lions Club 6013 Craig Street Fort Worth, Texas 76112 or Virtual meeting on the Internet. Zoom meeting link

Jim Barkelew

Engineering a Segmented Bowl





The goal of the demonstration is to create a segmented bowl using the tools and processes I typically use to make "fun" pieces. Perhaps the best part of making a segmented vessel is the turning because there is virtually no end grain. I'll go through the basics and a few unique (I think) things I do in the process. The demo bowl will be similar to one of my first segmenting projects and small enough to do all the steps to a finished piece. Once the basics of segmenting are understood, the variations are endless and the resources for ideas are everywhere (AAW, Youtube, etc...)

"Engineering" sounds scary and complicated. Segmenting involves calculators, trigonometry, and lots of little pieces. There is software available to do the design work, if needed. I'm in awe of the many talented segmenters doing jaw dropping segmented art with 1000's of pieces. The segmenting I do is not complicated and I think it is easy to do. The math is simple and only one number, Pi, needs to be memorized. I don't have an inventory of exotic wood or specialized tooling. I do have lots of salvaged wood from several home renovations. I enjoy the challenge of using salvaged wood to engineer a vessel, especially when the perfect scrap piece is one inch too short.

Segmenting and staved projects really caught my interest, I suppose because I have always built things. My oldest segmented piece is about 40 years old. While renovating several houses I collected old growth lumber and various pieces of wood during demolition. Segmenting is a perfect use for my pile of used wood. I turn for fun and enjoy all forms of sawdust making.

I grew up in the San Francisco bay area in a great small town east of Berkeley. My childhood toys were Tinker toys, Lincoln logs, and an Erector set. I was making sawdust at my Dad's garage workbench before I was 10 years old. I built a lot of model airplanes and helped a neighbor add on to his house. My grandfather was a journeyman carpenter so I think woodworking was inherited. My great grandmother was a talented artist and one of her paintings hangs in our living room. Unfortunately I didn't inherit the "art" gene. My interest in airplanes is all mine, no family history there.

My first turnings were done with my Dad's electric drill and my Erector Set motor. In high school woodshop I did my first real turning using scrapers and lots of sandpaper on a glued up block of walnut and maple. I still have the 55 year old vessel (it has not fallen apart). I went to college at Cal Poly San Luis Obispo and graduated with Aeronautical Engineering and Manufacturing Processes degrees. I landed a job with General Dynamics, Ft Worth (now Lockheed) supporting the machine shop as a CNC programmer. I retired after 41 years of rewarding work building real airplanes. At a family gathering, around 2007, my brother-in-law (Nor-Cal Woodturners, Sacramento) brought an American Woodturner magazine. I was amazed at what I was missing while reading through the articles and ads. Virtually everything was new to me. When I came home from the trip I looked up the local turning club (WNTX) and attended the first meeting I could. In 2012 I attended the AAW national symposium in California and visited family (win-win). The symposium was another eye opening experience and influenced me to attend and support SWAT regularly. Contributing to Empty Bowls and Beads of Courage is very rewarding, causing me to do more serious turning.

Email: jmbark51@gmail.com

Click for Demonstrator handout at the end of the newsletter.

Please note our web site is continuing to be refined. Our library items continue to be uploaded.

Take a look:

URL: https://wntx.org/

To get help with your woodturning project, please go to our Mentor page at:

https://wntx.org

Click "About Us" and go to the bottom of the page.

Also check out our Facebook page:

https://www.facebook.com/wntx.org

The Woodturners of North Texas newsletter is published monthly. Inputs are due to the editor by the tenth of each month for inclusion in that month's newsletter.

WNT gives permission to all other AAW woodturning chapters, woodworking magazines, and newspapers to use any text material and accompanying photos or drawings contained herein for the benefit of woodturners everywhere. We ask that credit be given to the source of the material. WNT logos and graphics may not be copied without permission.

Copyright 2023, Woodturners of North Texas

WNT WEB SITE: http://www.wntx.org/

Board of Directors

President	Greg Stehle	Cell 480-225-4835
Vice President	David Carter	Cell 972-922-7182
Past President	Bill Collins	Cell 817-797-6715
Treasurer	James Haynes	Cell 214-801-1775
Librarian	Mike Stephens	Cell 817-707-3418
Activities	Jeff Allen	Cell 817-706-4543
Newsletter	Steve Mills	Cell 817-471-5546
Secretary	Brian Begina	Cell 817-829-6106
Audio-Visual	David Walker	Cell 972-345-1738
Logistics	Dave Wilson	Cell 817-800-9420
Web Master	Jim Legrand	Cell 228-342-3391
Member-at-Large	Ann Mellina	Cell 817-905-2040

Calendar of Events

July 27th Regular Monthly meeting 6:30 PM Location: Handley-Meadowbrook Lions Club Demonstrator: Jim Barkelew Subject: Segmented Turning Meeting Link: https://us02web.zoom.us/j/83748 506862?pwd=N3RtVUVzSjk3UGVGc zRJVVpTL1ZqQT09

August 1st Board of Directors Meeting 6:30 PM Location: Remote - Zoom meeting Meeting Link: https://us02web.zoom.us/j/8374850 6862?pwd=N3RtVUVzSjk3UGVGczRJV VpTL1ZqOT09

August 31 Regular Monthly meeting 6:30 PM Location: Handley-Meadowbrook Lions Club Demonstrator: TBD Subject: SWAT Stories Meeting Link: https://us02web.zoom.us/j/86406 929325?pwd=blpwZlBsNzU0RzBCQ

nkzbmhiTmhFQT09



President's Notes for July, 2023

SWAT is just around the corner! Are you going?

Every year I get excited when SWAT is coming up. As soon as the rotations are posted I start planning which sessions I will attend. I know I will be spending a lot of time in the Brazos South room that our club sponsors, because we have a great lineup of demonstrators. I know few people get excited about sanding, but we are going to have Vince's sanding and finishing demo on Saturday morning, and I am planning to attend.

<u>Colwin</u> Way will be the Lead demonstrator in our room, and he has demos that should be very interesting. He also has a very interesting skew tool that he will be demonstrating.

Also, our own Jim Barkelew will be doing a demonstration on segmenting in the McLennan room, so be sure to see Jim.

There are some new vendors this year, and one of Kathy and my favorites is MDI Woodcarvers supply. We have seen them at every AAW Symposium we have attended, and bought many carving and pyrography tools from them. If you do either, please make an effort to check out their impressive array of products.

All of the above is great, but what I like most about SWAT is the fellowship. I have spoken with many people who have attended both the AAW Symposium, and SWAT, and not a single person has said they prefer the AAW Symposium. Credit the SWAT Committee who do an amazing job every year, and our friendly Texas ways. And, speaking of fellowship, we will be having our Friday Night Pizza Party in the Brazos South room as we have for the last two years. This was started for our club because the Friday night meal was discontinued by SWAT. We had at least 30 club members and spouses last year, and we may well have more this year. If you will be attending SWAT this year I hope you will also attend our Pizza Party.

If you want to be even more engaged with SWAT you should talk to Kathy about volunteering some time in the Registration office. They always need help, and if you work the window you will meet some old friends, and some new.

Keep safe and keep turning,

Greg

Woodturners of North Texas: 35 years and Going Strong

A Call for Board Members

Come join the board as we guide our woodturning chapter into the future.

Chapter elections are not until the fall but we are starting now to seek out possible candidates for the many positions that we will be filling this year.

> President Vice President Activities Logistics Librarian

For more information on these positions, check out the current by-laws on our web page (<u>wntx.org</u>). Look under the "About Us" heading. Also, you are welcome to join in on the next board meeting via zoom on the first Tuesday of each month. See newsletter calendar for the zoom link information.

If you have questions, please contact Greg Stehle at <u>president@wntx.org</u> or myself at <u>whc6845@yahoo.com</u>.

Bill Collins WNTX past-president/chair, nominations committee

Learning Opportunities

Get Ready! SWAT 2023 August 25, 26, 27

SOUTHWEST ASSOCIATION OF TURNERS

Education through demonstration Est. 1992

Southwest Association of Woodturners (swaturners.org)

Spouse Activities

Wood World of Texas (Dallas)

August 29th-September 2nd

Click link for details

HANDS ON WOODTURNING CLASSES - TAUGHT INTERNATIONAL WOODTURNER MARTIN SABAN-SMITH- ALL THE WAY FROM HAMPSHIRE ENGLAND

Who's Up for A Challenge?

Last month's challenge was to turn an oval box with a spherical lid as demonstrated by Todd Raines.

For this month (July) the challenge is to turn and hollow from the bottom, a long neck hollow form as demonstrated by Jack Roberts during the June meeting. The June newsletter has illustrated instructions.

The hollow form is to be at least 6" tall for experienced turners. This height requirement is not necessary for novice turners. However, the challenge is to push your skills to a higher level. Therefor novices should attempt to meet the height requirement if the tools are available. If you have difficulties with the technique, please contact one of our mentors for help.

As a heads up, future challenges will be, unless notified differently, to repeat the item made and the technique used as shown in the monthly demo. Detailed requirements for each challenge will be given during the monthly meeting and in the newsletter. Also be prepared to briefly tell the club about your challenge submission if called upon. Please describe how you decided on the form, the material and technique used, and the tools involved.

Happy turning





Oval Box(June) Challenge















Display Items



Bill Boehme Bottom Hollow Vase



Bob Grinstead "Flame Spiral"



Display Items









Paul Tiefel "Fire in the Black Hole"

WNT BEANCOUNTER'S BULLETIN-JULY 2023

LACQUER AND SANDING SEALER

We currently have a few cans of sanding sealer, but are out of lacquer.

A new order of lacquer and sanding sealer will be available at the July 27 meeting. The new price will be \$10. Current inventory will be sold for \$9. Notes from Keith:

Open Shop - Home

This is a free once-a-quarter opportunity to get together at a member's personal shop to see their shop, exchange stories, possibly observe some skills or techniques and perhaps learn about a new toy (um Tool) or possibly receive some instruction from a club member.

This does not replace the existing quarterly open shop events held at the lion's club, before one of our regular meetings.

This quarter Saturday May 27, 2023 we met at Bill Holt's shop at 3013 Wingren Rd. Irving, TX 75062

My thanks to Bill and family for a wonderful day of storytelling showing off his ship and lots of sharing of woodturning tips and tricks. ! 14 members attended and a great time was had by all. Bill and several others provided donuts and Bill provided coffee and showed us the equipment he has acquired and uses in his shop.

Bill's shop is very organized with storage boxes along the walls at ceiling height all numbered and inventoried. He showed us how he built his very large workbenches and the tool storage cabinets on the wall were truly amazing! His collection of tools is very complete. For a 2 car garage shop it is packed with equipment and still leaves room for work to happen. Very well planned.

Keith Adams

SWAT 2023 Registrar

817-271-1617

Keith-Adams@att.net

Open Shop - Home Here are some pictures of the event:









EMPTY BOWLS

The Empty Bowls Event is a two-hour, lunch time fund raising event held once a year by the Tarrant Area Food Bank (TAFB). All tickets include food tastings from local restaurants and your selection of a handcrafted bowl. They have wood, glass and ceramic bowls. Tickets for the event are \$100 or \$150 for early admittance. If you get in early, you get first pick for your bowl. The Event was held in April last time.

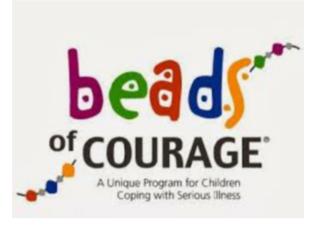
The WNT Board has agreed that Empty Bowls is a very worthy activity and should be supported by the Club.

I will be collecting bowl donations at our monthly meetings. <u>Please</u> <u>only contribute quality bowls</u>. The people attending the EB Event are paying a healthy sum and we should not insult them with a poor-quality bowl.

If you have any questions or comments, please let me know at <u>randkbiz@msn.com.</u>

Thanks, Ron Travlor

Empty Bowls 2023/2024					
Turner's Name	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Total</u>
Glynn Cox	1	0			1
					0
					0
					0
					0
Monthly Total	1	0	0	0	
Grand Total					1



Beads of Courage Program

This program is designed to support, strengthen and encourage children and families coping with serious illness. The program lets the children tell their story using colorful beads as meaningful symbols that commemorates milestones they have achieved along their treatment path. The average child gets 500 beads. The Woodturners of North Texas is taking on the challenge again this year.

Requirements

The lidded box/bowl interior diameter should be 6" (5" minimum diameter, 6" depth, 4" minimum). The lid should have a finial/knob that is easy for a child to grasp and not too elaborate. The 'Beads of Courage' logo bead to be placed inside or outside will be available at the meeting or can be mailed to you upon request. The "Beads of Courage" inscription can also be engraved or burned in the lid and can be placed inside or outside of the lid (no political or religious undertones are accepted). A poly finish best, others may be rejected.

Customarily your box or bowl will be taken to SWAT and displayed along with the others from the club. Your thanks is knowing a very ill child is getting something that will help them through difficult times.

Please visit the Beads of Courage website at

http://www.beadsofcourage.org/bead-bowl on ways to contribute. The workmanship and finish should be in keeping with WNT standards.

Librarian Letter

Dear Club Members,

This Note is an update from your Club Librarian (<u>librarian@WNTX.org</u>) to all Club Members.

The Library has switched from the old card system for accounting of the library Books and Videos to a computer system.

There are a few policies added to the Library Check-out system:

- 1. You will only be able to check-out 4 Books and Videos at any given time.
- 2. The Check-out length of time is 60 days.
- 3. To check out a book or video you must meet the following:

Be a Member of the WNTX Club. Fill out a card with the Following: Full Name. E-mail Address Phone Number that I can text to.

The cards to fill out are available at the librarian's desk in the back of the meeting room.

- A list of Books and Videos for Check-out will be available on line on our web site at (<u>WNTX.org</u>) and at each meeting on the Library table. A printed list will also be available on the Library table during the Club meetings.
- Take special Note that each Book/Video has a designated ID #. This number matches an inventory number in the computer system.
- To RETURN Books and Videos, just place them in the RETURN box on the library table.

The Club has built a large library and it was built by the past librarians and Club Members. To be the Librarian of such a knowledge base is indeed a privilege. I want to share this Knowledge base with everyone in the Club. So, Peruse the list of Books and Videos check them out and enjoy.

There is no reason that the Library of best Turning Club in North Texas cannot be better. So we are asking for good ideas.

- 1. Posting on line Videos demonstrations by club members.
- 2. Feature video of long term Club Members and their contributions to the Club.
- 3. Post video and Book reviews from club members.

If anyone has a Suggestion or Information for Videos and Books please E-mail the Librarian who will share your ideas with the Board: <u>librarian@WNTX.org</u>



Affiliate Membership FREE Worldwide

The **free** Affiliate membership offers access to the complete collection of AAW online resources, including the *American Woodturner* journal, for a **full three-months**.

Free: Affiliate Membership

Membership features:

- Online access to American Woodturner and Woodturning FUNdamentals, both current and archived, as well as other online publications.
- Online access to learning portals including Woodturning Fundamentals and Demonstrator Direct (develop a demonstration).
- Online access AAW produced videos and video series.
- Find online projects, articles, and tips using AAW Explore! and a few keywords.
- Locate a wide selection of curated online woodturning videos that have been pre-screened for quality content and safety using Video Source and a few keywords.
- Members-only or discounted access to AAW hosted online and live events, including AAW symposia.
- AAW email newsletters: AAW Tool Box (weekly), Keep Turning with AAW (bimonthly).
- Member galleries for inspiration and ideas: Maker Photo Gallery, AAW Forum Gallery, and more.
- Directories: Members, Chapters, Demonstrators, Schools, Educators, and more.
- Discounts in AAW online store.

Support these businesses that support us!



10% discount to current Woodturners of North Texas members.

http://www.woodworldtx. com/

13650 TI Blvd. Dallas, TX 75243 (972) 669-9130



10% discount to current Woodturners of North Texas members.

http://www.woodcraft. com/

754 Grapevine Hwy Hurst, TX 76054 682-334-1025

The Regular Monthly Meetings are held on the last Thursday of each month at 6:30PM via Zoom.

Board meetings are held on the first Tuesday of each month at 6:30PM on Zoom. All WNT members are invited to attend.

If you would like to attend the Board meeting, email your request to Greg Stehle at president@wntx.org



10% discount to current Woodturners of North Texas members.

http://www.rockler.com/

3810 S. Cooper St. Arlington, TX 76015 (817) 417-0070

Craft Supplies woodturnerscat alog.com 1-800-551-8876

Penn State Industries

https://www. pennstateind. com 1-800-377-7297

Anchorseal The club has purchased a 55-gallon drum of Anchorseal sealant for green wood and it is available to members for \$15.00 per gallon. It is available at the club meetings.

Rules for advertisements: Free ads are available only to WNT members. The deadline for submission or cancellation of an ad is the 10th of the month to be placed in that month's newsletter. Ads will only run for one issue unless notified (email wntnewsletter@gmail.com) by the 10th of the month. Also, if you decide to cancel an ad, please notify the editor (have you spotted the trend yet?) by the 10th of the month.

Segmenting, a Recycling and Engineering Opportunity

Jim Barkelew Woodturners of North Texas Email: jmbark51@gmail.com

The goal of the demonstration is to create a segmented bowl using the tools and processes I typically use to make "fun" pieces. I'll go through the basics and a few unique (I think) things I do in the process. I enjoy the challenge of using salvaged wood to engineer a vessel, especially when the perfect scrap piece is one inch too short.. The demo bowl will be similar to one of my first segmenting projects and small enough to do all the steps to a finished piece. Once the basics of segmenting are understood, the variations are endless.

I turn for fun and don't use segmenting software. When I have the urge to make a segmented vessel, I scan my stash of salvaged wood for some inspiration. Sometimes it's an idea for a feature ring, or a nice piece of wood that would make a 10-15 inch ring. Gathering the ring materials and cutting them to usable size typically drives my vessel designs. The general shape and form comes from the materials I have. The demo bowl is inspired by my first segmented piece of about 40 years ago. The process can be expanded in many directions and the numerous on-line videos and web sites can give inspiration.

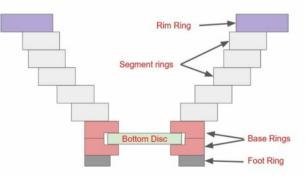
Tools and Aids

Fine tooth (60-80) saw blade Cutting sled Wedgies to set the sled <u>www.segeasy.com</u> Calculator Dial calipers 12 inch scale ³/₆ inch bowl gouge, ¹/₂ inch spindle gouge Negative rake scraper ³/₈ inch bedan tool 12 inch Hose Camps Rubber bands PVA glue Non-stick flat surface

Segments and Rings

The essence of "segmenting" is segments and glued-up rings. Segments are a geometric shape, trapezoid or triangle, that requires some basic math to define. The number **Pi** is the only number you need to remember. I use 3.1416 for Pi but 3.14 or 22/7 will work fine.





Segmented Vessel Anatomy

Dlameter x Pi = Circumference Example: 10" x 3.1416 = 31.4" circumference

Circumference / # of segments = Segment length (note this approximate and not mathematically correct) <u>Example:</u> 31.4 / 12 segments = 2.62" segment length

Length of board = circumference + (#segments x saw kerf) + 3 in (extra 3" length for safety when cutting) Example: $31.4 + (12 \times 0.13) + 3 = 35.9$ " board length

Segment Wedgie Sled

A sled is the best way to accurately cut segments. There are many designs on the web to choose from or come up with your own. Mine is similar to a crosscut sled with adjustable rails and a lower platform to catch the segments. The length stop is attached to the rip fence to allow using the existing scale to set the segment length.

There are two ways to cut segments from the board alternating or aligned. Alternating is the most common and most efficient for wood use. The outer edge of the segment alternates between edges of the board. Aligned cutting keeps one edge of the board on the outside of the segment.



Alternating Segment Cuts



My Segment Sled and Accessories



Aligned Segment Cuts

To keep track of the orientation of the segments after being cut, lines can be drawn on the board. When assembling the ring the segments can be alternated up/down, or all one direction. Alternating minimizes any error in the cutting set-up.

I typically orient the segments in the ring using the end grain orientation. Looking at the end grain on the inside edge of the ring I mark the side with the small triangle.

Ring Glue-up

After the segments are cut lightly sand the saw cut fuzz off the edges. Dry fit the ring to check for gaps. Also check that the ring is circular by measuring the



diameter in 2 places. If there are gaps, fix the problem and cut new segments. Or, glue two half rings with short dowels in the gap, sand the halves and glue together.

For clamping the rings there are several options - hose clamps, rubber bands, tape, string clamps, zip ties, or band clamps. I use hose clamps (large rings) and rubber bands (small rings). I use a ratchet nut

driver to tighten the hose clamps. A small mallet is used to tamp down the segments before final tightening of the clamp. Check the glue squeeze out for dry joints. Use a plastic scraper to remove excess glue. Cleaning up the extra glue speeds drying.

Bottom Disc

I tend to start a project with the bottom disc. This is a good way to use a small piece of nice wood not usable for something else. A floating (not tightly glued) bottom disc has the best chance of not having failed glue joints over time. The bottom disc is not structural so the thickness is not critical. I use about 3% inch thickness.

My preferred bottom disc came from an illustration in the 1949 Popular Mechanics book. This disc takes several steps to make but gives a nice visual accent to the vessel. The segments are right triangles cut from a rectangular blank. Straight grain wood looks good as well as a glue-up of two (or more) contrasting woods. The length of the blank is the radius of the disc. The width is the width of the segment plus the thickness of the saw blade. Each blank yields two segments.

I cut the wedge segments with a sled for obvious safety reasons, and accuracy. The sled angle can be set accurately using the appropriate wedgie. The sled also allows fine adjustments to the segment angle for a tight fit using tape as a shim.

Dry fit the disc segments to determine the approximate center hole diameter. If there are gaps in the segments apply a small piece of tape to the sled to increase or decrease the wedge angle. Re-cut the wedges one at a time until the gap goes away. For glue-up I use sockets from my tool box as filler for the center hole. There is a sweet spot for the hole/socket size that keeps the outer edges in a circle. I





cover the socket with packing tape for easy removal after the glue dries. I use hose clamps to get a good tight glue-up.

I use a hand nut driver to tighten the hose clamp until glue squeeze-out is obvious. This shows that all







joints have glue. Scrape off the excess and tap down the segments to

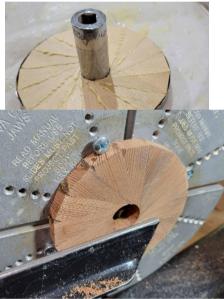
even up the surface. Tighten the clamp fully. Scrape off excess glue to speed the glue drying. I don't use power tools to tighten the clamps. Once the glue grabs ($\frac{1}{2}$ -1 hour) the socket can be pushed out before the glue fully hardens.

The disc needs to be flattened, the center hole needs to be plugged, and the disc needs to be finish turned/sanded before it is assembled with the rings. Cole jaws are used to flatten both sides of the disc. The center hole is bored out to clean up the glue and have a true surface for the plug. I bore a slight taper in the hole to ensure a nice tight fit.

For the plug I use leftovers from bottle stoppers, tops, or other projects. A 2x2x3 blank size is about right. Turn a chuck tenon on one end and chuck it up.

Rough turn a tenon and a shoulder for the disc. The tenon should be longer than the disc is thick. Size the tenon to fit the hole taper snugly as it butts against the shoulder. Use light cut cuts to size the tenon. Glue and clamp the disc to the plug. A cone center works perfectly as a clamp.

When the glue is dry, turn the disc to a diameter approximately at the middle of the ring it will be mounted in. True up and flatten both sides of the disc. Finish sand to 320-400 grit. Part off the disc from the plug blank. I usually part about half way then saw the rest of the way. The side facing the chuck is the bottom side.





At this point the bottom side of the disc can be put in a chuck or cole jaws and the center plug turned. This can also be done after the bottom rings are assembled.

Bottom Ring Assembly

The bottom disc is captured between two rings. Flatten the two rings using cole jaws. Cut a rabbit in the ring with a diameter slightly larger than the disc diameter and a depth approximately half the thickness of the disc. I do this with a bedan tool and check the depth using a dial calipers. The fit of the disc can be slightly loose but not tight. Turn the inside surface of the ring because this is the easiest time to do it. It also avoids damaging the disc if turned later on.

Flatten the second ring and cut the rabbit. Check the second ring depth with the calipers and disc. There should be no gaps between the rings and the disc with hand clamping pressure. Finish the inside surface of the second ring.

Glue the rings and disc together. The glue should be applied to the ring mating surfaces, not the discs. Some glue squeeze out will lock the disc in place but allow some movement over time.

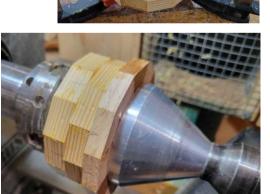
I like to add a foot ring of hardwood. I usually use oak or ash because I have a lot of salvaged cabinet frames and door frames. I try to size the foot to fit one of my chuck jaws. That way I can turn the bowl using a chuck. I use $\frac{1}{2}$ - $\frac{5}{8}$ inch thick strips for the segments. Flatten the foot ring surface and glue the base assembly to the ring.

When the glue is dry, reverse the base assembly in the chuck and true up the base ring to fit the chuck jaws. Turn the inside surface of the foot but keep away from the bottom disc because it is difficult to sand out tool marks. Turning the bottom now avoids having to do it when doing the final bottom cleanup.

When the bottom ring is turned, reverse the assembly in the chuck. Mark the jaw #1 location on the base so it can be rechucked accurately. True up the exposed ring surface and glue











the next ring on. Rotate the next ring glue joints for a "brick-lay" pattern.

To help with the alignment of the gule joints I mark the middle of at least 4 segments by eye. I align the

glue joints of the new ring with the marks. This will center the ring with the previous ring. As the glue dries keep adding rings by truing up the current ring surface and gluing the next in place.

As the rings are added, the inside surface can be rough turned. This allows easy access to trim the corners off the ring edges before the vessel gets too deep.

Finish Turning

Once the glue has fully cured the fun turning can begin. Segmenting gives a rough vessel that basically has no end grain so the turning is relatively easy. The main issue is vibration/chatter because of the long overhang. To reduce the chatter I use a $\frac{3}{6}$ bowl gouge and take light cuts. I finish from the top down of the vessel to keep the rigidity of the base intact.



Turn 2 or 3 outside ring edges to within about $\frac{1}{6}$ of cleaning up, then rough the finish shape. Rough the inside surface parallel to the outside leaving excess material. Continue turning to the base and refine the shape. Once the outside shape looks good, finish the surface with shear scraping, negative rake

scrapers, or your preference. Finish the inside parallel to the outside. Depending on the depth, hollowing tools can be useful. A spindle gouge with the flute at about 60 degrees can also be used. When finishing the surface make sure all the glue joints are fully cleaned up.

Finish Turn the Bottom

Reverse the vessel to a jamb chuck, cole jaw chuck, or vacuum chuck. Finish turn the area at the base and sand.

Apply a Finish





I typically use wipe-on poly that I mix using gloss poly and thinner at about 50/50 mix. I usually apply 3 coats using a low speed rotator that I built.



... making



Good Shavings