



### Meeting Info:

Meeting location:  
8361A Dayton Pike  
Soddy Daisy, TN  
(Horsin' Around)  
At 1:00 p.m. Sat.  
July 20, 2024

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## July Demonstrator

### Tim Mehling

Tim Mehling says he likes working with plain, “round and brown,” unembellished, domestic woods. From both cabinet-grade and harvest woods, he fashions bowls, platters, cutting boards, vases, birdhouses, and urns that are both useful and visually pleasing.

Often, Mehling uses walnut, ash, maple, and flaming box elder. Sometimes, he turns to ambrosia maple that has been enhanced by the trails left by invading beetles. For other pieces, he likes flaming box elder’s magenta streaks that contrast with its white wood.

Using a variable speed lathe, Mehling begins turning with an idea in mind. As he works, he controls the speed based on what the wood is telling him. Watching, he is careful not to turn away grain or the chatoyancy that causes waves of light to be reflected off the piece. He also listens, hearing knots and inclusions before they cause damage.

The beauty of Mehling’s work is multifaceted. A piece might catch a viewer’s eye by its color, grain, chevron design, and/or sheen. Designing segmented pieces composed in patterns, Mehling combines different woods to contrast colors and grains. An intricate piece may include as many as 124 precisely turned pieces that Mehling assembles, glues, and finishes.

Thankful to his mentors and fellow woodworkers for sharing their knowledge and skills, Mehling enjoys not only creating but also teaching others the art of woodworking. He especially likes starting with only a vision, and when it’s done, “knowing that you did it — nobody else.”

(adapted from Ellen Salas article Canton Family Life magazine August 2023)



Tri-State Woodturners  
An official AAW chapter



I was introduced to Woodturning in 2014 by an 83 year old gentleman from Maine. He was starting up a wood shop and wanted to know if I would be interested in turning a wooden bowl. Having always liked wood I agreed to give it a try. As the story goes I was hooked and in 2015 I purchased my first lathe. I joined the Etowah River Woodturning Club and was on my way to an enjoyable hobby of Woodturning and learning. I am humbled to have my work displayed at “Menagerie On Main”. (Tim M.)

Tim will be demonstrating how to make and use a Vacuum Chuck. See his notes at the end of this newsletter pages 12-16

# June Demonstration



Peg Schmid mounted a burl with a faceplate on the backside



The bowl was turned and hollowed out. A finial made to fit the hole. Then the holes



were filled from the faceplate and finished.



# Donation Projects



President, Doug Spohn

## TSW CLUB OFFICERS

**Doug Spohn** President  
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**Doug Spohn** Program Director  
(423) 240-4386 djspohn@epbfi.com

Most above officers are official  
Tri-state Woodturner Mentors



Don't forget the opportunity to give to others by turning one of the donation projects; Beads of Courage Box, Pens for the Troops or Ornaments.



**NEW MEMBER MENTOR:** Are you new to wood turning or at least have an interest in it? TSW provides an opportunity for you to learn from other turners who are willing to give you personal instruction and guidance. There is no fee for this instruction for TSW members. Contact one of the listed officers who will guide you to select a helpful mentor for you.

The following sponsors give generously to Tri-State Woodturners and we want to encourage members to support them generously



5824 Brainerd Rd., Chatt. TN 373411 + (423) 710-8001

Ask about their discounts for AAW club members



# Treasurer's Report



# The Web

Beginning Balance May		2,602.74
Income		124.00
Raffle	44.00	
Dues	80.00	
Expenses		372.00
Rent	72.00	
Demo	300.00	
Ending Balance May		2,354.74
AV special contribution fund		300.00

While watching a recent video using a pressure pot the comment was made that if the user had to choose between a pressure pot and a vacuum chamber he would pick the vacuum chamber. That spurred some interest in what is involved in stabilizing wood with a vacuum chamber. There are many You Tube videos on this subject such as the [DYIEasyCrafts.com](http://DYIEasyCrafts.com) site that explained the whole process in clear detail. If that site does not cover the subject to your satisfaction try a search for "stabilizing wood with cactus juice".

## 2024 TSW Club Challenges

Each member that brings a "Challenge Piece" and signs it in at the meeting, for the month of the challenge, is entered into a drawing for a gift certificate. You may do what was demonstrated the previous month as well. Doing the challenges provides you with experience in trying something new and will give others ideas of what they can make. If you previously made the challenge, try making another one with some kind of improvement.

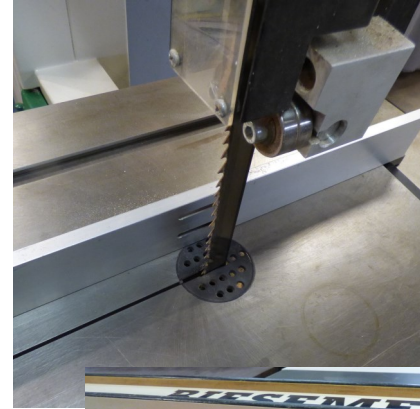
Month	Item
January	Something from scrap wood—8
February	Heart— 5
March	Mug—5
April	Kaleidoscope—6
May	Tippe Top—5
June	Useful homemade Jig—4
July	Wig/Hat Stand
August	Flashlight
September	Natural edge Goblet
October	Ghost
November	Ice Pick

If you have questions contact John Dekle at (423)364-1268 or email - [Turning411@Yahoo.com](mailto:Turning411@Yahoo.com)



# Safety Tips

What safety hazard do you see in these pictures?



Never walk away from your lathe with a chuck key engaged. Always remove it immediately after use. Even if you are the only one in the work area it's a good habit to form. Lowering saw blades to a safe position is another good habit to avoid accidents from happening. These may be common sense matters but they may serve as good reminders to think safety at all times.

## Updates

### Friends of Special Children Donations

If you have something to donate for the FOSC silent auction please bring it to the July 20th meeting or contact Jim Dvorak prior to the July meeting at (dvorak6258@epbfi.com or 423-833-2212)



Allen Quandee was hospitalized a month or two ago with a diagnosis of Myasthenia Gravis—here is a link to explain this condition if you are unfamiliar with it ([Myasthenia Gravis | Johns Hopkins Medicine](#) ). Prayers and a note of encouragement would be helpful. 207 Henderson Woods Dr., Jasper, GA 30143/[Aquandee@etcmail.com](mailto:Aquandee@etcmail.com)



Those at the June TSW meeting know how hot the facility became. We rent from Larry Ridge who had his landlord address the lack of air conditioning which occurred last month. It was addressed and hopefully, the temp will be better this month.

If you have special concerns or know another member with special needs let John Dekle know so he can let other become aware.

# Show and Tell



The above ↑ Bowl in a Log was turned by Bob McElhaney all the other items on this page were created by Charles Jennings



# Show and Tell



Don Moore ↑ Tea Pot



Ed Lewis 2 bowls ↗ →

Jerry Bowman Lantern, Trivet & Jig ↓



Pens for the Troops →  
donated by Erik Elakman



# Show and Tell



Pictured above are items turned by Eric Schaffer

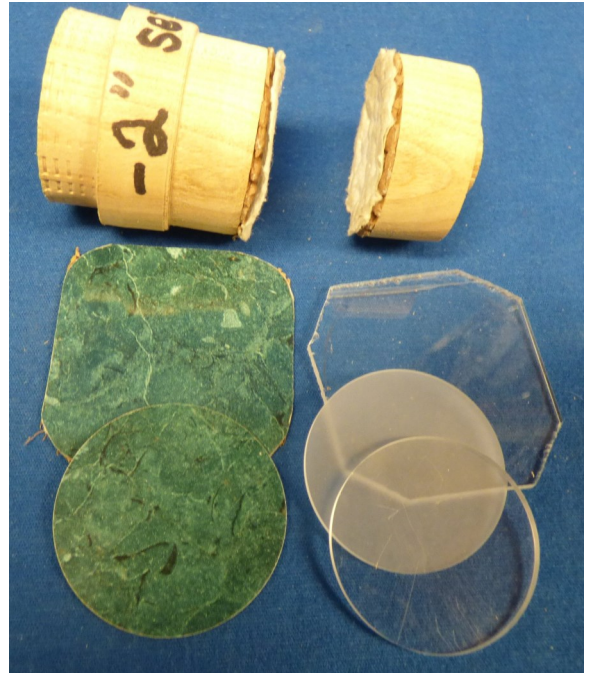


Pens for the Troops and Tops turned by Johnny Renfro





# Show and Tell



This page are creations by  
John Dekle



# Show and Tell



Top Left—Jerry Schnelzer ~ Top Right—Kenny Schaffer



Lower 3 items created and turned by Michael Anderson



# Show and Tell



Pens for Troops



Suzanne Ruckman

Roger Kent



Gary Farlow

Suzanne also  
Made these →



Tim Mehling  
designed and  
created these  
Hollow Vessels

← →



# Notes from Demonstrator

## Vacuum Chuck Machining and Assembly - Polyethylene

Important: Theory of operation. The vacuum is originated with the vacuum pump and travels through tubing and is connected to the hollow tube where it protrudes from the head stock. The tube terminates at the motor grade sealed bearing. The vacuum chamber is created within the PVC coupling and seals against the workpiece, aided by the closed cell gasket. There is no need to seal the headstock, this system eliminates the potential of additional vacuum leaks.

The updated use of polyethylene to capture the bearing and carry through headstock eliminates the fitting of 1/8" IP (.39") lamp rod and rattle of metal to metal in the headstock. This also saves time, eliminates alignment problems and bent rods.

Work safely. When using vacuum chuck, wear safety gear and proceed cautiously, do not stand in the trajectory of flight path of a dislodged work piece. Start slowly, use tailstock live center until you feel comfortable.

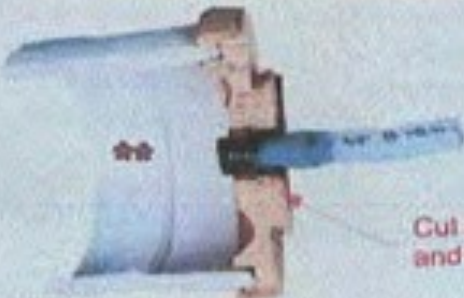


- At left are parts that come in a kit. Not all pieces come with every kit/combination:
- Motor grade sealed bearing, assembled with coupling and shoulder screws (1, 2, or 3)
  - 18" Polyethylene tubing extension through headstock (1, 2, or 3)
  - 4" OD PVC coupling (recommended, commonly referred to as 3" schedule 40) or various sizes of PVC your choice.
  - Foamies assortment, 2mm
  - Instructions

### Cup attachment methods:



- (a) Lathe face plate, If you opt for the face plate, make sure it is dedicated to this coupler. If you take it off it will never be perfectly re-centered.
- (b) Epoxy imbedded nut, note no recess for shoulder on headstock
- (c) Beal threads. Pictured is using threads in a composite block (excellent stability)
- Also treads on 3"x3"x1 1/2" dense hardwood. Cut threads before gluing to intermediate wood. Treat threads with CA glue.
- (d) Tenon or dovetail to fit your 4 jaw chuck my preferred method as described in instructions.
- Or can use your imagination.



Cut away showing my original and favorite (Frugal) setup



I believe the tenon/dovetail is the most economical "frugal" and efficient way of attaching. It is time efficient also, you remove your workpiece from the 4 jaw chuck, and then attach your vacuum coupler.

Basic hardwood 4 1/2 x 4 1/2 x 1" block (dense, not red oak). Tenon or dovetail is turned with piece between centers or 'jam chucked' to 4 jaw chuck with jaws spread wide, with live center applied tightly. Reverse and clamp in a 4 jaw scroll chuck. I usually mark the #1 jaw position on the wood for truer repeat clamping.



Use a 7/8" dia. Forstner bit using drill chuck in tail stock to bore the depth of the bearing thickness, 1/4". Then a 3/4" Forstner bit, through bore to allow clearance for coupling. Drill press could also be utilized, make sure bore is centered.

Note: see notation on page 4 about adhesives.

Test fit bearing/rod assembly for clearance. 3/8" tube should point towards headstock. Sparingly apply light coat of adhesive to ID of bore in block. Make sure no glue interferes with bearing seal, or the through bore of block. Drill pilot holes and screw shoulder screws to overlap bearing race and contain bearing in wood block.





Mark OD of PVC on flattened face of block with compass, dividers, or by centering coupler to spinning wood block and marking with pencil. Using 3/16" parting tool, initiate cut, stopping lathe often, test fit and adjust and turn the groove for coupler. Bore approximately 3/8" to 1/2" deep. Reduce turning pressure, keep firm on tool rest (no bounce), tool sharp and make sure final cut is level and true.

With (see note page 4), partially fill bore, (chuck off lathe groove facing up) insert PVC cup and apply pressure so that cup is deeply seated. Rotate by hand while applying pressure so that glue spreads evenly. Visually check the gap between wood and cup and center. Also you can clamp using wood strips to center pressure. Let cure.



Remount on lathe to true up the cup to workpiece mating surface. Acceptable runout should be 1/16" or less. If greater than 1/8" part off cup at wood and bore new groove, reglue new coupler. Lathe speed 350+/- RPM, use negative angle rake scraper on PVC, suggest sharp skew chisel, bur up, laid flat on tool rest. Caution: PVC will shatter if your scraper has a up or positive angle. Ask me how I know. Firm pressure in and pressure down against tool rest, also left hand cradling back of cup to avoid chatter. Finish with light pressure to form radius for mating surface of your work piece.

Bottom cutaway picture shows relationship of items.





NOTE: My former recommendation GOZ Glue by LOCTITE is no longer available. Suggestions: 'All Purpose Construction Adhesive' with 'properties', bonding to wood, plastics, metal, read the small print. Tends to be rather thick, tough to seat PVC in bottom of groove. Epoxy works very well. Mix a big enough quantity on thick glossy folder paper or flat section cut from milk jug (similar) with a crease to make trough and pour into groove. Keep in mind drying time.

Cut craft foam approximately 5" x5", center and attach to chuck, using masking or electrical tape to secure corners. Make a center cutout as shown on side photo. Sticky backed foam doesn't secure well to begin with and once it does stick you can't get it off without using a scraper. Also see separate sheet with alternate foam suggestions.

The 18" long 3/8" OD polyethylene tube that carries the vacuum through headstock will push into



hollow 3/8" ID tube, no clamps needed. Long tube can be removed between uses or left attached. Curvature can be straightened in very hot water or left as is, no wear problems. Tube can be trimmed or left long. Long tube will be more versatile with usage on a wide range of small and large lathes.

With pump assy and hardware mounted, slide 3/8" ID hose onto tube. The idea is 'easy on, easy off' why use a clamp when it is not needed. If fit is sloppy, a small tie wrap wound twice around hose and snugged up will make a good vacuum connection.

Bring work piece up to foam pad, with live center (hopefully there is a center mark). Alternately use a reverse adapter in tailstock holding 4 jaw chuck. If not, approximately center and turn on pump, remove live center, slowly open ball valve and reduce vacuum to approx 5". Rotate lathe by hand and gently nudge to center work piece using tool rest corner as guide. Close valve, turn on lathe, slowly bring up to speed. Finish turning, sanding, finishing your piece.

Note: 25+/-"Hg of vacuum, (your pump should pull 27") with a 4" OD cup = 150# of holding power at sea level. Parameters above reduced for safety, reality. Porous wood, voids, warps, irregular surfaces, seriously reduces vacuum and holding power.

Mouse pads, other closed cell foam pads, exercise pads, torn fishing foam waders etc can also be used. If you can blow through the foam don't use it. Craft foam can be found in children's craft area of big box stores in different thicknesses. PU camper shell tape 1 1/4" x 3/16" one side sticky twice around diameter overhanging PVC 5/8", overlap 1/16" and tucked towards center works great and is longer lasting (found in weather striping area of building centers).

Questions:

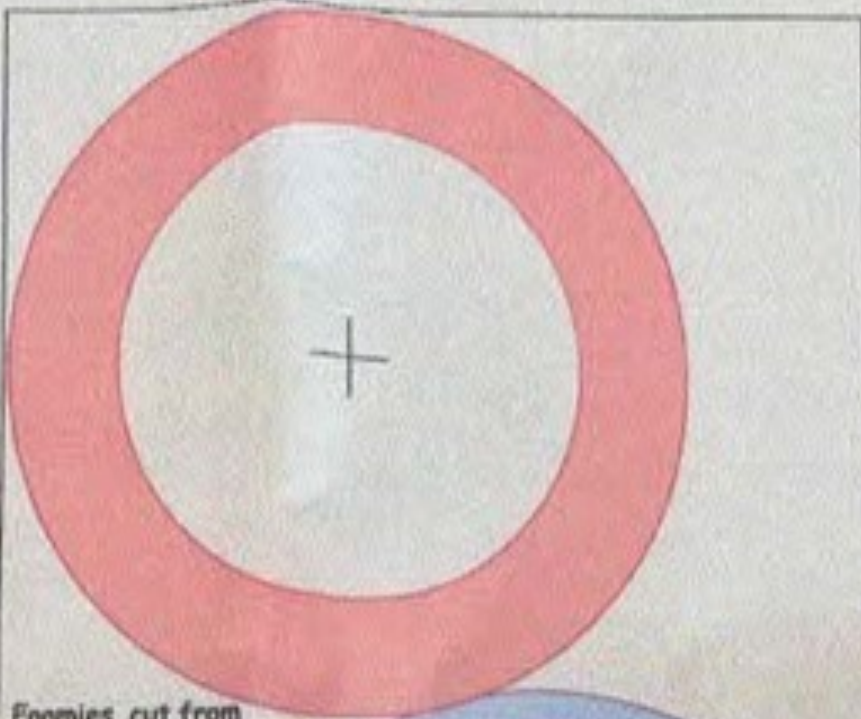
[FrugalVacuumChuck@gmail.com](mailto:FrugalVacuumChuck@gmail.com)

Bob Leonard 847-561-7795

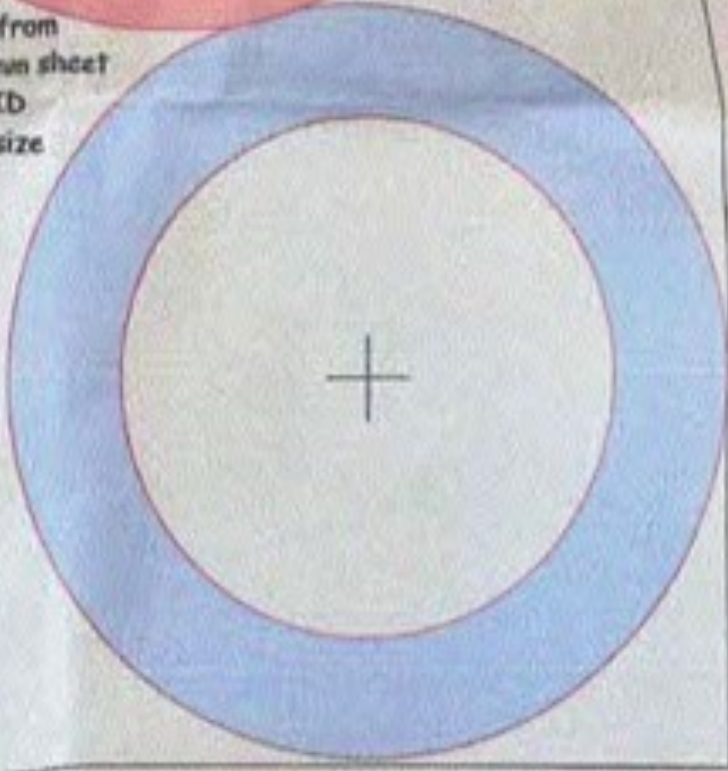
[www.FrugalVacuumChuck.com](http://www.FrugalVacuumChuck.com)

# Template

**Alternate Suggestion:**  
 With contact cement spread a thin layer on radius area of PVC (the contact surface between vacuum chuck and workpiece). Then with 'Foamie' on flat surface, lower vacuum chuck while centering with equal margins (approximate).  
 Let dry for 15+/- minutes.  
 Note: contact cement is only to hold 'Foamie' in place. The contact of PVC and 'Foamie' against workpiece is the vacuum seal.  
 When 'Foamie' is torn or tired, it can be peeled off. If remnants remain use negative rake scraper and slow (350 RPM +/-) lathe speed to true up surface.



Foamies, cut from 5.5"x8.5"x 2mm sheet  
 4 1/4"ODx3"ID  
 approximate size



A popular brand of contact cement. Browse your hardware store, building center, craft store. Note small size and brush attached inside cap.