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# AMERICAN WOODTURNER

Journal of the American Association of Woodturners
October 2014 vol 29, no 5 • woodturner.org

## HEAVY LIFTING: MARK SFIRRI WEIGHS IN AT PENN STATE GALLERY

## AUBURN OAKS MEMORIALIZED IN MOULTHROP BOWLS

## TERRY MARTIN'S *THE CREATIVE WOODTURNER* REVIEWED

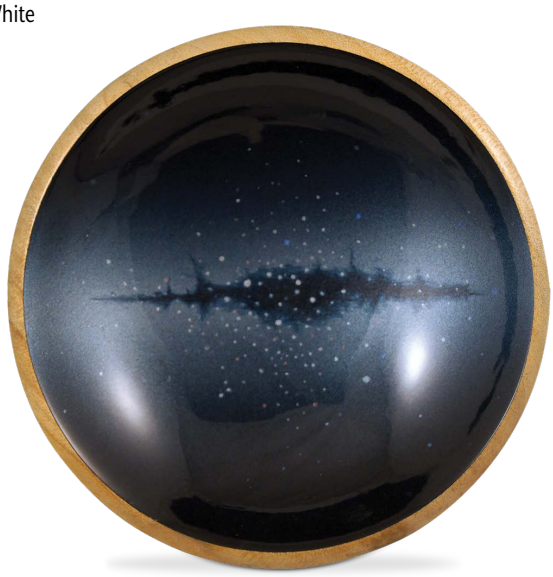
Professional Outreach Program

# Instant Gallery Awards

## Phoenix Symposium 2014

### Excellence Awards

**Paul Hedman,**
*Holy Moly*, 2014, White oak, 12½" × 12½" (32cm × 32cm)



**Jay Shepard,**
*Star Nursery,* 2014, Maple, acrylic paint, water-based lacquer, 1½" × 6¼" (4cm × 16cm)

**Lynne Yamaguchi**
*Back row, from left:*
*Ash to Ashes,* 2014, Bleached, sandblasted ash, 3⅞" × 2⅝" (10cm × 7cm)

*Crackalicious,* 2013, Eucalyptus, 3¾" × 5⅜" (9.5cm × 14cm)

*Filled to the Brim,* 2014, Spalted curly maple, 3⅛" × 7½" (8cm × 19cm)

*Front row:*
*It Comes in Waves,* 2013, Bubinga, 1¾" × 7¾" (4.5cm × 20cm)

Walnut bowl, 2013, walnut, 2½" × 3" (6.5cm × 8cm)

*His,* 2012, walnut, 3⅞" × 3¼" (10cm × 8cm)

Photo: Andi Wolfe

**Molly Winton,** *Caballos Negros,* 2012, Maple, dye, 9" × 4½" (23cm × 11.5cm)

Photo: Andi Wolfe

## Youth Awards

**Kailee Bosch** (age 17), *Discover,* 2014, Recycled books, epoxy resin, 7" × 13" × 9" (18cm × 33cm × 23cm)

**Michael Andersen** (age 16), *Winged Box,* 2014, Ambrosia maple, 2¾" × 7½" × 3 ½" (7cm × 19cm × 9cm)

Photo: Andi Wolfe

**Jennifer Shirley,** *Black Flame,* 2013, Cherry, black leather dye, copper, pyrography, 4" × 2½" (10cm × 6.5cm)

Photos: Clay Foster

Dedicated to providing education, information, and organization to those interested in woodturning

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Journal of the American Association of Woodturners


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## COVER

**Cover** – Terry Martin, from *The Creative Woodturner,* reviewed on page 20.

**Back Cover** – Ralph Watts, *Dragon Tail,* 2014, Holly, ash, American chestnut, tagua nut, boxwood, brass rod, 10" × 14" × 4½" (25cm × 35cm × 11cm)


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### A NOTE ABOUT SAFETY

An accident at the lathe can happen with blinding suddenness; respiratory and other problems can build over years.

Take appropriate precautions when you turn. Safety guidelines are published online at tiny.cc/turnsafe*. Following them will help you continue to enjoy woodturning.

*Web address is case sensitive.

## Editor's Note

This issue of *American Woodturner* contains two stories about woodturners honoring trees of special significance. It is intriguing and warming to think how trees can become so important on a personal level. I have turned projects using wood from trees of particular significance. A customer (Bob) asked me to turn memory boxes for his grown children from a limb that suspended a tire swing his kids used when they were younger. Inside one box lid is a photo of Bob's son swinging on that tire. What projects have you turned using wood from special trees? Please share them with me. Who knows? Several of these stories might make for a good spread in a future issue.

We woodturners create significance from our work in many ways. Members of the Central Florida Woodturners used their skills to honor military veterans (*page 23*), and Jim Duxbury demonstrated for kids at an elementary school (*page 13*). Rare is the case where we turn "in a vacuum" and find it ultimately fulfilling. Our experience is broadened through positive interaction.

The AAW and its local chapters comprise a community of woodturners that provides many opportunities for personal fulfillment. While preparing this issue of the journal, I received a timely illustration of this fact. As if on cue, Paul Stafford, a longtime AAW member, sent a thank you note addressed not to me but to all AAW members (*page 24*). Paul's involvement with the AAW has enriched his life, and likewise I encourage you to look for ways to be interactive with the woodturning community.

—Joshua Friend

# From the President

The AAW's mission is to provide education, information, and organization to those interested in turning wood. Has the AAW enriched your life with the joys of woodturning, artistic inspiration, new skills, a great symposium, and new friends? Have you, your school, or your chapter received an Educational Opportunity Grant (EOG)? All of us have been positively affected by the AAW in some way, and now we are asking you to help support the financial health of our organization by making a donation.

The simple fact is that your membership dues, while sincerely appreciated, are not sufficient to cover all of our operating costs. The AAW's annual international symposium and the *American Woodturner* journal each bring in a chunk of money, but the rest has to be raised one way or another. Raising dues is unpopular but necessary at times. The board did raise your dues $2 this year (about the cost of half a cup of coffee at Starbucks). But we still need to augment our funding through charitable donations. The AAW is an educational, charitable organization qualified as a 501(c)(3) under U.S. tax code, which allows donors to claim the amount of their donations as a deduction when filing their taxes. Some can afford to donate more than others. Please donate an amount you feel comfortable with.

As Binh Pho, Cassandra Speier, and I finish our last year on the board of directors, we want to leave the AAW in as strong a position as we can (financially and otherwise). Starting about eighteen months ago, the board made a considerable investment in time and resources toward developing a fundraising program. This has allowed an expansion of services while holding dues to a modest increase.

The AAW offers many good programs and services, including our publications, both in print (like the *AW* journal) and online (*Woodturning FUNdamentals*). They also include the EOG program, the new Student Membership program, the many resource books that are available, Turners Without Borders, and many more. The board is asked on a regular basis to add more programs. This year has seen the complete overhaul of the website. The new system has the ability to be expanded as our needs increase in the future. All of these benefits carry a cost, and we are seeking to build and maintain AAW's financial health.

### How you can help

Here are some of the ways you can support the AAW:

- **Financial Gifts.** The AAW now offers a program designed for individuals to donate stocks, bonds, or mutual funds. Under current tax law, when a donor gives the actual shares to AAW, the tax on built-up capital gains is forever forgiven. The donor gets to claim the fair market value of the shares or bonds at the date of the donation.
- **Bequests.** You can make a charitable bequest to the AAW in your will. There is language on our website (at tiny.cc/Bequests) showing you how to do this.
- **Artwork.** Collectors can make a tax-deductible donation of turned wood art to the AAW, which will coordinate the sale of the art and invest the proceeds in our mission.
- **Endowment Fund.** A gift to the AAW Memorial Endowment will be invested and the earnings will provide woodturning education forever. This is how our craft school scholarships are funded and is a great way to honor and remember someone.
- **Annual gifts.** Your annual gift of any size is immensely important to help fund AAW's mission and expand our programs. You or your chapter can sponsor a room at the Pittsburgh symposium. Naming a room after you or your chapter is one way AAW can publicly thank major donors.

Binh Pho, David Wahl, and I comprise the Fundraising Committee this year. We are asking that you join us in supporting the AAW. Whatever you give will be deeply appreciated and put to good use to fund the programs and services you enjoy. We will recognize the 2014 donors in the April issue of the journal and at the Pittsburgh symposium. If you have any questions or would like to discuss a donation, please call me at 503-661-7793, or AAW Executive Director Phil McDonald at 877-595-9094.

Thank you,
Dale Larson
AAW Board President

# Apply for an AAW Educational Opportunity Grant

AAW's Educational Opportunity Grant (EOG) fund continues to be strong, thanks to the wonderful generosity of donors and buyers at our annual symposium auction. Funds are available for worthy proposals. ***To be eligible for a 2015 grant, applications must be received by December 31, 2014. All AAW members are eligible to apply*** (except for recipients of grants in 2014). You can complete the application form and review the guidelines at tiny.cc/EOG (case sensitive).

The committee will not consider applications that are incomplete or vague, so please take care when applying. The following tips will help you with your application:

- Complete the application online at tiny.cc/EOG. Only online applications will be accepted. Submit well before the deadline!
- Provide sufficient information so EOG committee members can clearly understand what you are requesting and how you intend to use the funds. Be concise; make your points directly and clearly.
- Include details of how you will use the funds. Specific needs should be itemized. Funds will not be granted for miscellaneous, incidental, or unspecified expenses.
- Explain your educational goal or experience you wish to obtain. Keep in mind these grants are intended for educational purposes. In particular, explain how others will benefit as well.

Grant amounts are limited: up to $1,000 for individuals and students and up to $1,500 for local chapters, schools, and nonprofit organizations. Your total budget may exceed these amounts; however, your grant request should not exceed EOG limits. For special situations, at the discretion of the EOG committee and the AAW Board, grants of larger amounts are occasionally available. In addition to EOGs, the committee will award ten certificates for registration to AAW's 2015 international symposium.

If you have questions, contact Rob Wallace, EOG Committee Chair, at rob@woodturner.org or the AAW office. The AAW Board encourages you to take advantage of this member benefit. ■

## Call for Demonstrators
### AAW Symposium 2015

The AAW's 29th annual international symposium will be held in Pittsburgh, Pennsylvania, June 25–28, 2015. To apply to be a demonstrator, visit tiny.cc/CallForEntry (case sensitive). The deadline for application is October 15. For more information, call the AAW office in Saint Paul, 877-595-9094 or 651-484-9094, or email inquiries@woodturner.org.

Photo: Andi Wolfe

# What is POP?

POP is AAW's Professional Outreach Program. What does it do? POP sponsors many activities for our membership, including an annual exhibition, panel discussions at our symposiums, merit awards, fellowship grants, a showcase for emerging or less-recognized artists, excellence awards at the symposium's Instant Gallery, and a professional directory. Funding for these activities comes primarily from the sale of pieces in our annual exhibition.

This year the POP committee is opening its traditionally invitation-only annual exhibition to a limited number of juried pieces. The theme is ***Creativity in Construction: A Collaboration of Materials.*** The application period is November 1, 2014, to January 12, 2015, with jurying and shipping of the accepted pieces immediately afterwards.

The POP is also inviting applications for two artists for the Artist Showcase at AAW's 2015 international symposium in Pittsburgh. They will be experienced artists who have made significant contributions to the woodturning field but have not received appropriate recognition, or emerging artists who have the potential for making significant contributions to the field. The two selected artists each give two demonstrations and receive free symposium registration, plus a small honorarium. Their work will be displayed prominently in the Instant Gallery. The application deadline is December 1, 2014.

Further details on both of these opportunities can be found at tiny.cc/CallForEntry (case sensitive) or in the August 2014 issue of the *AW* journal, pages 8 and 9. ■

## Call for Entries 2015 Juried Member Exhibit

The theme for the AAW's 2015 juried and invitational exhibit is "Merging," chosen to reflect the location of our symposium host city, Pittsburgh, which lies adjacent to where the Monongahela and Allegheny Rivers merge to form the Ohio River. We encourage you to use any interpretation of the theme for inspiration. All AAW members are eligible to submit entries.

Complete guidelines can be found at tiny.cc/2015Merging (case sensitive) and in the August 2014 issue of the journal. Entry dates are November 1, 2014, to February 3, 2015. Questions? Contact Tib Shaw at the AAW Gallery of Wood Art, tib@woodturner.org.

# AAW Offers Free Student Memberships, Educator Benefits

> **Identifying ways that the AAW can help our members and teachers be comfortable reaching out to youth is crucial.**
> —Linda Ferber

How many of us received our first introduction to woodturning in school shop class? "I was curious how many people in our chapter had received shop instruction while attending school," said Harry Hamilton of the South Plains Woodturners in Lubbock, Texas. So Hamilton took the question to a chapter meeting. It turns out more than forty of the forty-five members present indicated they had taken shop classes in junior high or high school. "I thought the number would be high but was surprised it was more than 90 percent," said Hamilton.

Today, that figure better reflects the number of shop classes that have been cut in the Los Angeles Unified School District alone, one of the nation's largest public school districts, with 660,000 students.

"Exposure to turning today is likely to be through family or from attending a special event such as a regional or national symposium or a smaller event hosted by a craft organization, store, youth program, or local chapter. Without that exposure, they just don't know about turning," said Linda Ferber, a woodturner and AAW Program Director. She continued, "Identifying ways the AAW can help our members and teachers be comfortable reaching out to youth is crucial. Providing solid resources on how to teach, what to teach, and how to be safe can make all the difference."

## Free student memberships, teaching resources, educator benefits

The AAW already offers a collection of resources designed to help begin (and further) woodturning instruction, including:

- The *Teaching Guide*, geared toward introducing woodturning to others, a free download for AAW members.
- Introductory books, such as *Let's Go for a Spin* and the *AAW Safety Book*.
- The digital publication, *Woodturning FUNdamentals*.
- The AAW online forum, a great place to ask questions and learn about other initiatives.
- The AAW Facebook page and website, where information and success stories are shared freely.

"Now, for the first time, AAW is offering a new membership level geared toward students," explained Ferber. Instructors teaching woodturning to students aged 10 to 25 can receive a

Photo: Andi Wolfe


Photo: Andi Wolfe

Photo: John Slemp

Photo: Andi Wolfe

promotional code that provides students with a free AAW online membership, which includes the *American Woodturner* journal in digital format. Eligible instructors include those teaching at accredited institutions and AAW chapter members who teach woodturning. Additionally, shop teachers at accredited secondary and post-secondary schools will receive complimentary registration for AAW's international symposium.

Ferber, along with AAW curator Tib Shaw, is also organizing a student-level competition in partnership with a major woodworking trade association *(see sidebar)*.

> **Students aged 10 to 25 can receive a free AAW online membership.**

"Seeing kids light up at making a project, at watching the shapes come to life, makes it a pleasure. We get as much out of it as the kids do—the experience will last a lifetime," said Ferber.

"Making a connection with woodturning goes beyond making an object," added Shaw. "Learning through the hands, through mastering a skill step-by-step, teaches important life lessons that can't be taught with a book or computer. They may not get back to turning for thirty years, but the seed has been planted, and that seed could be part of keeping this incredible craft vibrant for generations to come."

For more details or to obtain a promotional code for qualified student memberships, visit tiny.cc/AAWYouth (case sensitive). Please send your questions, success stories, and suggestions to Linda Ferber at linda@woodturner.org. ■

## Student woodturning competition announced

The AAW is proud to partner with the Association of Woodworking and Furnishings Suppliers (AWFS) to launch "Turning to the Future," a biennial student woodturning competition. The AWFS currently presents a biennial student woodworking exhibition, "Fresh Wood."

Finalists' work will be displayed July 22–25, 2015, at the AWFS' biennial conference in Las Vegas, which attracts more than 13,000 visitors. As a trade organization, AWFS works closely with woodworking programs and instructors at the high school and post-secondary level, and will be a valuable partner in the AAW's youth and educator outreach efforts.

Eligibility: All high school students in any program and post-secondary students in art, design, or trades programs are eligible to apply.

The competition is open to all forms of woodturning, except furniture making. Work cannot be larger than 20" in diameter. There is no entry fee.

**The application deadline is May 1, 2015.** For more information, visit tiny.cc/StudentEntry (case sensitive).

### Prizes:

- First prize: $500, Second prize: $100, Third prize: $50
- All winners will receive an AAW symposium scholarship and have their work featured in the *American Woodturner* journal.
- Prizes, generously sponsored by Woodcraft, will be awarded in both high school and post-secondary categories.

# Please Update Member Profile, Chapter Details

The AAW Member Directory is available 24/7 on our new and improved website (woodturner.org). Changes you make electronically are "live" for all to see immediately. But a hardcopy version of the Directory is also printed every two years, and the next printing is scheduled for early 2015. To ensure your member profile information is correct in the upcoming printed Directory, please login to your membership account (via the new website) and review/update your profile by December 31, 2014.

*Update chapter information, too*

The new website gives us valuable information regarding chapters, so we are also requesting that chapter presidents (or appointed officers) submit changes to their club's information by visiting tiny.cc/Chapters (case sensitive).

*Expanded website functionality*

AAW's new website is significantly improved in design, navigation, and function. Content is updated often to give you a reason to visit regularly. Go online to:

- Renew your AAW membership
- Build a member profile (including photos)
- Send messages to other members
- Control your privacy settings
- Regulate alerts
- Print your membership card
- View AAW invoices

In anticipation of potential questions and login concerns, we have created a Frequently Asked Questions page to address the most likely issues, found at tiny.cc/AAW-FAQ (case sensitive). ■

NEWS

# AAW Steps Up Auctions

"EOG is an important link: my EOG grant helped me achieve my dream of traveling the country and teaching woodturning and woodworking for a year."
—Beth Ireland, Roslindale, Massachusetts

"The EOG grant we received was a catalyst for our turning program and we now have over 100 students turning as an integral part of our wood arts program."
—Jim Dumser, Community School of Davidson, North Carolina

"Now with our camera setup and sound system, everyone attending can hear as well as see the demonstrator, making for a much improved experience for those who attend."
—James Rupracht, Pembroke Woodturners, New York

"The grant money has helped me teach hundreds of students and shop teachers how to use the lathe in a safer way as well as introduce them to many new projects. The first grant I received was used to help fund a high school woodturning symposium at the school where I taught at the time. That was ten years ago at least, and that symposium continues to run on a yearly basis to this day."
—Jim Jones, Alberta, Canada

"[The] EOG grant and purchase of lathes and tools have allowed us to move forward with a program called "Teach the Teacher," classes to the general public, and demonstrations to our members."
—Jim Wervey, Mid Minnesota Association of Woodturners

The Educational Opportunity Grant (EOG) auction, held annually during the AAW international symposium, is one of the most prestigious wood art auctions in the world. It is also the sole source of funds that are awarded to EOG recipients for local chapter equipment purchases, individual scholarships, and community outreach projects. With low bidding in the last several years threatening the program's health, auction organizers knew action was needed to expand their audience and revitalize the system.

With the encouragement (some might even say stubborn persistence) of AAW board member Binh Pho and longtime AAW auctioneer and board advisor John Hill, both the EOG and Professional Outreach Program (POP) auctions went online, allowing bidders anywhere in the world to participate via live audio feed.

It worked. The average price realized at this year's auction increased by almost forty percent over that of the prior year. As Hill points out, "It takes a minimum of two ready, willing, and able bidders for every piece," and the excitement at the 2014 EOG auction escalated as the new online bidders went head to head with collectors in the room. "The presence of online participants helped jumpstart any bidding that was 'stalling,'" according to spotter and co-auctioneer Rob Wallace.

Along with the higher bids, the online auction provided greater exposure for the AAW, the featured artists, and the woodturning field in general. In addition to the promotion of the event in social media, the auction house promoted it to its audience of more than 10,000 other registered bidders. Organizers were excited to see unfamiliar names on the auction list, and as it turned out, more than twenty percent of the EOG pieces and half of the POP pieces sold went to online bidders.

"Our first effort in 2013 didn't go smoothly, but expanding the bidding audience beyond those physically present was essential," notes AAW Executive Director Phil McDonald, who worked with the auction provider to develop and implement solutions, including having an auction house representative onsite to relay online bids to the auctioneer.

"Online bidders need information in advance," states AAW curator Tib Shaw.


Photo: Andi Wolfe


Photo: Tib Shaw/AAW


Photo: Rob Jaffe


Photo: Courtesy of Eliot School of Fine and Applied Arts

*(Top to bottom, left to right)*
A spotter indicates a bid to auctioneer John Hill at the EOG auction, held during AAW's 2014 international symposium, Phoenix.

**Curt Theobald,** *Circle of Life,* 2014, Butternut, 8" × 4" × 2" (20cm × 10cm × 5cm)

**Christian Burchard,** *White Baskets,* 2013, Bleached madrone burl, 8" × 16" × 18" (20cm × 41cm × 46cm)

A young scout turning at the Pumpkinfest in Canton, Massachusetts, thanks to EOG recipient Beth Ireland's Turning Around America project.

"To increase their confidence, we needed quality images and more detailed information on the work and the artists." A jury process replaced the previous same-day selection system. "It was awkward to ask those who have shared work more spontaneously in the past to apply in advance, but the potential benefits are high," says Shaw, noting the wider online exposure and increased prices realized at the Phoenix symposium.

Twenty-nine pieces were juried in advance by collectors Mary Ann and Roman Hruska, Jane and Arthur Mason, and JoAnn Edwards, executive director of the Museum of Arts and Design. These pieces were posted online a month before the event, and an additional fifteen pieces were added at the symposium. The goal is to have the majority of work viewable online well before the live auction.

"At the same time we were expanding the audience for the live auction, we also wanted to give the silent auction better exposure by making it a featured event on Saturday night," explains McDonald. "The silent auction offers work in a wide range of prices, so everyone can get in on the action, both as donors and bidders. Our goal is to build interest and excitement around the silent auction and have it be bigger next year.

"EOG projects expand and enrich our entire woodturning community. Recipients have used the grants to buy equipment, fund youth outreach programs, expand their teaching programs, and more. Both of these auctions are a great way to support the future of woodturning."

## Fast Facts for 2015:

- Everyone can support the EOG program, either by having items in the auction or by bidding on them!
- Applying for the live auction is free. Applications will be accepted online from January 1 through March 15.
- Silent auction items can be registered in advance or at the symposium.
- For more information, contact Tib Shaw, tib@woodturner.org, or visit tiny.cc/EOGAuction (case sensitive).

# Arrowmont, John C. Campbell Scholarships Available to AAW Members

The AAW is pleased to continue offering financial assistance for quality woodturning instruction. Twenty-eight scholarships will be awarded to selected AAW chapter members to attend classes at either John C. Campbell Folk School, Brasstown, North Carolina (folkschool.org) or Arrowmont School of Arts and Crafts, Gatlinburg, Tennessee (arrowmont.org). Under the program, the AAW Endowment Trust Fund (ETF) and Arrowmont will make available funds for fourteen scholarships at Arrowmont. Likewise, the ETF, working with the John C. Campbell School, will award fourteen scholarships. In total, approximately $16,000 in scholarships will be given to AAW members.

Scholarship nominees must be AAW members and be chosen through a process authorized by their AAW chapter officers. Star Chapters will be allotted two nominations for the first fifty members and one additional nominee for each additional fifty members. All other chapters will be allotted one nomination for the first fifty AAW members in the chapter. After that, each additional fifty AAW members will allow another nomination. If more than twenty-eight members are nominated, a drawing will determine the winners.

The program provides tuition only for courses directly related to woodturning. Room, board, and travel are the responsibility of the winners. All awards will be for courses in 2015. Chapters must provide the names of nominees, the number of chapter members, and the number of AAW members in the chapter to Phil McDonald by November 15, 2014, using the online application found at tiny.cc/chapterscholarships (case sensitive). Winners will be notified by December 1, 2014.

## Prize Drawing for AAW Members

One of the many benefits of membership in the AAW is our monthly prize and year-end grand prize drawings. Thank you to the vendors who donated this year's prizes, which include tuition scholarships, $100 certificates, sanding supplies, DVDs, chucks, grinding jigs, symposium registration, and lathes! Contact Linda Ferber if you would like to contribute a prize, linda@woodturner.org.

When you patronize our vendors, please thank them for their support of the AAW. To see a listing of each month's prizes and winners, visit tiny.cc/AAWDrawings (case sensitive).

At the end of 2014, we will draw another name from our membership roster to give away a Powermatic 3520B lathe. That winner will name a local chapter to win either a JET 1642 or five JET mini-lathes. The Powermatic and JET lathes are donated by Powermatic/JET. Included is free shipping in the continental USA, or up to a $500 allowance for international winners.

### 2014 Donors

(Others may be added during the year.)

Anderson Ranch Arts Center, andersonranch.org
David Ellsworth, ellsworthstudios.com
Easy Wood Tools, easywoodtools.com
Hunter Tool Systems, hunterwoodturningtool.com
Mike Mahoney, bowlmakerinc.com
North Woods, LLC, nwfiguredwoods.com
Tennessee Association of Woodturners, tnwoodturners.org
Thompson Lathe Tools, thompsonlathetools.com
Totally Turning/Showcase Symposium, totallyturning.com
Trent Bosch, trentbosch.com
Powermatic/JET, powermatic.com and jettools.com

# AAW's Value Equation

Since its grass-roots inception in 1986, the AAW community has positively influenced many aspects of woodturning. The continued passion and dedication of our members has helped the art and craft of woodturning evolve into the opportunities we enjoy today. But despite this extraordinary commitment and rich history, traditional art and craft pursuits like ours are at a crossroads, and recent research tells us that woodturners are questioning the value of their AAW membership. It makes sense that the AAW must continue finding ways to add value and stay relevant into the future.

## Direct membership benefits

Following is a brief overview of specific membership benefits as well as future offerings that will add to AAW's value equation. For as low as $45 per year (the price of an online membership), members get all of the following:

### *Educational resources valued at more than $120*

- ***American Woodturner* journal,** six issues annually, each packed with woodturning-related articles, projects, photos, tips, techniques, and news (newsstand price of $53.70).
- **A comprehensive library** of all past issues of the *American Woodturner* journal, dating back to 1986, with a searchable, online index.
- ***Woodturning FUNdamentals*** (six digital issues annually, valued at $26.94), filled with projects, tips, videos, and information on tools and techniques to build basic skills.
- ***Let's Go for a Spin,*** a digital seven-part lesson plan for instructors designed to provide beginning and advanced students with a well-rounded set of turning skills (value $87.70 for the set).
- **The AAW Forum,** an online member-moderated platform for sharing work, ideas, obtaining feedback and assistance, and more.

### *Other valuable resources*

- **Up to $1 million in general liability insurance** when performing services for officially sanctioned AAW business and/or our affiliated chapters. Additionally, AAW offers affordable group health, business, and liability rates, as well as reasonably priced general liability insurance for chapters.
- **AAW's annual international symposium,** which offers exceptional learning opportunities for turners of all levels, as well as demonstrations by world experts, inspiring exhibitions and galleries, and a tradeshow packed with state-of-the-art woodturning equipment and products.
- **AAW Educational Opportunity Grant** (EOG) program, which offers funding to selected applicants for woodturning education projects.
- **Professional Outreach Program (POP) Fellowship Grant,** which


AAW board members (from left): Dale Larson (president), Binh Pho, Art Liestman, Kurt Hertzog, Denis Delahanty, Cassandra Speier, Lou Williams, Philip Hauser, and Rob Wallace.

Photo: Andi Wolfe

AAW Executive Director Phil McDonald (left) chats with Harry Hamilton, President of the South Plains Woodturners in Lubbock, Texas.

Linda Ferber, AAW's Program Director, discusses woodturning at the Southwest Association of Turners (SWAT) symposium.

offers funding to selected applicants for projects that encourage creative growth, research, or provide inspiration for new directions in turned wood art.

- **Annual themed member exhibition** featured at the annual symposium, the Gallery of Wood Art in Saint Paul, and other venues.
- Automatic entrance into **monthly drawings for prizes** from supporting vendors, including lathes, woodturning supplies, chucks, grinding jigs, DVDs, tuition, and gift certificates.
- **Specialty programs,** including the Professional Outreach Program; Young and Student Turners, which provides education and resources for instructors of woodturners aged 10 to 25; Woodturning Beyond Barriers, which offers resources, techniques, and adaptations for turners with disabilities; and Turners Without Borders, which shares woodturning education throughout the world.

## Looking ahead

Meeting the needs of our growing woodturning community continues to be a top priority for the AAW. Earlier this year, the AAW organized a work group called the Chapter Relations Initiative (CRI) to propose recommendations and service improvements aimed at benefiting members and chapters. We are excited to share some of the CRI work group's recommendations you will see fulfilled in the coming year. They include the following:

- An online **"Woodturning Marketspace"** section of the AAW website to feature members-only discount offers and promotions from participating vendors.
- A **chapter officer information kit,** which will include job descriptions, operational information, tips, tools, and best practices to help prepare new officers for their roles.
- A **monthly chapter bulletin** with educational resources and information, inter-chapter information exchange, safety guidance, announcements, board news, and tools to help chapters communicate more effectively with their members about the AAW.
- A **demonstrator scheduling tool** to show demonstrator availability and reduce costs by sharing travel expenses and maximizing travel.

## Thank You

The AAW board and staff appreciate your enthusiasm for woodturning. Your membership in the AAW is a key factor in promoting our art and craft in broader circles and ensuring its future. If you have questions about member benefits, please contact us at 651-484-9094, toll-free 877-595-9094, or by email at memberservices@woodturner.org.

## The AAW and Your Local Chapter

The AAW is a nonprofit association of woodturners governed by an elected volunteer board of directors. With this structure, the continued health of the organization is highly dependent upon the energy, dedication, and passion of its members. Our research shows that the best scenario is a give-and-take between the AAW and its local chapters. On the national level, the AAW can provide valuable resources (some listed below) that can help chapters succeed. Locally, AAW chapter members can share their love of woodturning and positively impact their communities.

### *Benefits for Chapters*

- **Chapter Resources:** In exchange for chapter involvement on the front lines, the AAW provides chapter officers with resources to assist them with program development and chapter operations. These assets are valued at more than $120 and are included in an AAW membership. Officers can also tap into AAW's network of more than 350 other chapters for best practices in areas including programming, demonstrations, scheduling, mentoring, youth education, meeting protocols, financial guidance, charitable initiatives, and more.
- **Chapter Insurance:** The AAW offers two affordable general liability insurance options designed especially for chapters. AAW's "Group Plan" enables chapters to be named in the AAW nonprofit commercial general liability policy for a $90 annual contribution. The "Private Plan" is a private general liability policy available for purchase by AAW chapters for an annual premium of $425. As is typical with any insurance policy, there may be restrictions on chapter eligibility and coverage.
- **Chapter Grants:** Chapters, not just individuals, can apply for an AAW Educational Opportunity Grant (EOG) to help fund educational projects. They can also apply for annual chapter member scholarships to woodturning schools such as Arrowmont School of Arts and Crafts, and John C. Campbell Folk School. In 2013, the total value of AAW distributions under these programs exceeded $50,000.
- **Chapter Symposium Registration:** Chapter representation at our annual international symposium is advantageous for both chapters and the AAW. In 2014, the AAW offered each chapter president a free symposium registration (valued at $275). This arrangement is likely to be extended for the 2015 symposium in Pittsburgh.

# In Memoriam

David Nittmann, 1944–2014

Photo: Steven Kennard

David Nittmann died on August 13, 2014, after a valiant and protracted battle with cancer. He was 69.

Born in Schenectady, New York, David was a U.S. Army veteran of the Vietnam War. He earned a Bachelor of Science with honors in Wildlife Biology and a Master of Science in Watershed Management from Colorado State University. From his earliest memory, David enjoyed playing with wood in his grandfather's workshop. Later, he worked in industrial, commercial, and residential construction before starting his own cabinet and furniture shop in 1980. That venture led him to the lathe, which became his passion.

In 1994, he co-founded the Rocky Mountain Woodturners in Fort Collins, Colorado, where he served as president for the club's first three years. He remained active with that club and with the Front Range Woodturners in Denver, most recently serving as program director for both AAW chapters.

David was a well-known woodturning demonstrator and panelist. He demonstrated at national symposia as well as at regional events and woodturning clubs. He also taught at the Arrowmont School of Arts and Crafts and at the John C. Campbell Folk School. David's artwork was juried into the best national arts/crafts shows, including the Smithsonian, the Philadelphia Museum of Art, the American Craft Exposition, the Washington Craft Show, and the Sculptural Objects and Functional Art (SOFA) shows in New York and Chicago.

In David's signature style, which at first he termed "Basket Illusion" but later called "Matrix Alchemy," he turned, beaded, burned, and dyed his pieces to create the visual and tactile impression of a woven form. He was an authority on the use of color and used the airbrush to create beautifully colored images on his woodturnings. He often collaborated with Cindy Drozda, his long-time partner and love of his life, to create strikingly beautiful basket illusions with Cindy's elegant forms and graceful finials. He and Cindy also collaborated on presentations, their "Left Brain—Right Brain" demonstration being widely acclaimed.

**David Nittmann and Cindy Drozda,** *Diamonds on the Soles of Our Running Shoes,* 2006, Holly, African blackwood, 14" × 7" (35.5cm × 18cm)

Photo: Tim Benko, Benko Photographics

**David Nittmann,** *Redtail,* 2010, Maple, acrylic paint, archival ink, lacquer, 21" (53cm) diam

Photo: Tim Benko, Benko Photographics

David was beloved in the woodturning community and will be remembered for his broad smile, wonderful demeanor, keen sense of humor, dynamic intellect, and tremendous generosity in sharing his knowledge and talents with everyone. He will be profoundly missed by his family and many friends. David is survived by his son, Eric Nittmann of Newport, Rhode Island; his daughter, Kerry Nittmann Manning of Fort Collins, Colorado; Kerry's four children, Riley, Ellie, Clara, and Garrett; David's loyal feline companion, Carter; and Cindy Drozda of Boulder, Colorado. ■

*—Tom Wirsing*

# Elementary Woodturning with a Twist

Jim Duxbury

Jim Duxbury demonstrates at an elementary school.

Woodturning takes strange twists. Unexpectedly, I received an email from an art teacher requesting me to do a demonstration for an elementary school about sixty miles from my house. I didn't know the teacher or the school. Why me? She was planning an "Art Beat" festival featuring many types of artisans, such as painters, potters, toy makers, and storytellers. She wondered if I would be interested in taking part in this event as it was important for children to see how things were made and to meet the craftspeople.

Arriving at the school, I quickly realized this was a big, exciting day for the children and their teachers. I also realized that elementary schools have furniture which is in miniature. The table I requested was the perfect height for a 10-year-old, so my lathe ended up about waist high. But that was okay—I could improvise!

The first group of students showed up, filing excitedly to their seats, unsure of what they would learn from a woodturner. Because I have turned thousands of tops, the turning demonstration went smoothly, as I expected, but the real fun was the surprised expressions and excited comments from the kids when the chips began to fly and I put the wax finish on the spinning top. The grand finale came when the top was actually given a twist and it sat there spinning for a long time.

> **"The real fun was the surprised expressions and excited comments from the kids when the chips began to fly.**

She wondered if I could do a small woodturning project showing the use of a wood lathe—a perfect situation for a mini lathe turning a two-piece spinning top. After I reluctantly agreed to the event, I found out the real plan. There were to be nine demonstrations that morning, three per hour, with as many as thirty third-, fourth-, and fifth-grade children at each rotation. And I had to be set up and ready to go by 7:30 a.m.

Weeks later, I received a manila envelope in the mail with sixteen handmade cards from some of the children who attended my demonstration. Their comments, observations, and remarks of gratitude where well beyond my expectations. I have read each card over many times. This was the most touching reward I could have received and one that I will treasure. Just priceless!

I had a great time telling and showing the children a little about woodturning. I had not expected it to be that much fun. It was a great community outreach and one I would recommend to anyone who gets the opportunity. In fact, go make the opportunity—volunteer to show young people what turning is all about. ■

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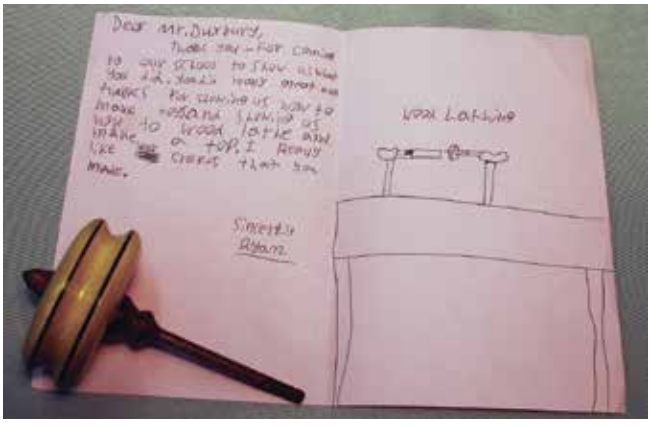
*Jim Duxbury, a woodturner and inventor, prides himself on creating wooden items that function with precision and stimulate creativity, while retaining the qualities and beauty of the wood grain. For more, visit duxterity.com/ec.*


Thank you notes written by the students made the effort all worthwhile.

# Tips

## Repurpose

My household consumes a fair amount of the instant tea and lemonade that come in plastic containers, and I have found numerous ways to repurpose them in the shop. The rectangular and round shapes conveniently hold safety glasses. Round ones protect small turnings like ornaments during shipping and make suitable containers to giftwrap.

Both shapes provide an extra measure of safety when transporting a container of cyanoacrylate (CA) glue. The small containers that hold a measure of tea are useful for mixing dye, epoxy, or holding small amounts of finish. They are safer than glass jars for storing wood dust or coffee grounds for filling cracks.

*—Michael Peace, Georgia*


**Share your turning ideas!**

If we publish your tip, we'll pay you $35. Email your tips along with relevant photos or illustrations to editor@woodturner.org.

—Joshua Friend, Editor

## Custom sanding drums

Sanding inside a bowl can be difficult, and flat sanding discs may not fit the concavity of the inside of a bowl. I use high-density foam to construct ball-shaped blocks; the foam sands and shapes easily on a disc sander. Glue the balls to a stemmed sanding disc using contact adhesive, or use automobile valve stems, which can be found at automobile scrap yards.

Cover the surface of the foam ball with hook-and-loop tape, using contact adhesive.

Make a template from cardstock to cut out the cloth-backed abrasive. Make sure the cloth side is the correct way up. This template is designed for clockwise rotation of a drill. Wrap the abrasive around the ball. It should not come loose with rotation of the drill.

*—Peter Nicolle, South Africa*

## Cage for cutoffs

Cutoffs from bowl blanks make excellent firewood, but those odd shapes are difficult to stack and store for drying and eventual burning. I solved this problem by creating a small fenced area where the cutoffs can be thrown without worrying about stacking. Plastic-coated chicken wire or wire fencing can be formed into any diameter circle and is available in various heights. The cage can be covered and the wire allows for airflow for drying.

*—Bob Bley, California*

## Depth gauge for bowls

I struggled with finding the depth of a turned bowl using a straightedge and tri-square. It worked but was a bit of a juggling act, and I had to remember the dimension. This jig is easy to make, provides a visual reminder of the depth, and is quick to use.

A ⅜" (10mm) dowel is aligned with the center of the headstock and slides through a hole at the top of the gauge *(Photo 1)*. The dowel is secured by a wing nut. A snug fit allows the rod to stay in the last position, giving a visual reference as you approach the final depth. The back side of the gauge has a wing nut *(Photo 1a)* that securely holds the dowel in place. The base of the gauge slides between the lathe ways and registers on the headstock.

This is my prototype, so I made the base adjustable for a wide variety of applications, but found I don't change the settings on the base at all. If you change chucks, just reset the depth and zero point by relocating the collar.

***Here's how it works:***

Set the depth rod to the face of the chuck (top of the jaws). There is a collar on the dowel to the right of the vertical support. Lock it in place to set the zero position *(Photo 1)*. The base of the gauge rides on and between the lathe ways and registers against the base of the headstock.

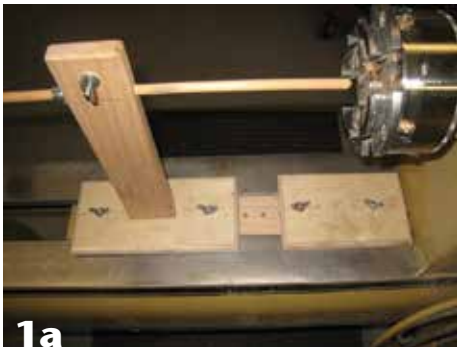
Slide the gauge to touch the face of the bowl. You now have a visual reference for the depth of the bowl, which is the distance between the vertical support and the metal collar attached to the dowel *(Photo 2)*.

Attach a piece of 1"- (25mm-) wide tape onto your drill bit with the back edge of the tape lined up with the collar *(Photo 3)*. To turn the bowl blank to 1" thickness (to allow for warping during the drying process), the depth of the hole to be drilled is easily determined without measuring.

To check the bottom of the bowl and see how much more wood to remove, look at the distance between the collar and the vertical support *(Photo 4)*.

*—Scott Duncan, Connecticut*


1


1a


2


3


4

## Stand for finishing

Over the years, I have tried different ways of holding items to be finished, such as a block of wood with three nails, or a carpet protector from which I cut off most of the knobs. I read the tip about using old bandsaw blades for holding items to be finished in a prior issue of the journal (*AW* vol 29, no 1). That idea was intriguing but did not quite work the way I wanted.

I cut up pieces of tile and hot-melt glued the cut-off bandsaw blades to them, which makes the assembly more stable. I also glued a nut onto two sides, which gives me something to push on to turn the vessel when applying spray finish.

*—Gene Perryman, Arizona* ▸

## Tight quill

Forstner bits are useful to quickly remove excess wood when starting a turning; however, they create significant torque compared to a live center. As the quill is retracted and the drill bit drawn out of the wood under pressure, the threads on the stop screw act as a rake and drag metal toward the outer edge of the quill notch. The resulting burr drags on the inside wall of the quill housing, causing tight movement of the quill. If the quill on your tailstock is hard to extend, and cleaning and oiling it did not solve the problem, try this quick fix.

Extend the quill and check the quill notch for a burr along the lower edge (red line in photo). Take a diamond card file and lightly file the edge of the notch to remove the burr. Wipe the surface clean and re-oil the quill. If you do a lot of work with Forstner bits, file a little more aggressively to put a slight bevel on the lower edge. This will make it harder for a future burr to form.

*—John Franklin, New York*

## Spindle lock

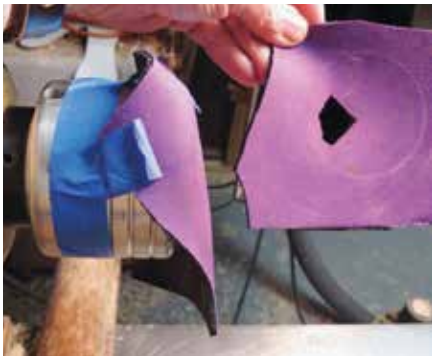
The small, slippery spindle lock on the Delta midi lathe is tucked behind the handwheel on the headstock and can only be reached with the fingertips. It has no knurling or texture to grip and turn. The foolproof fix I came up with takes a minute. Just wrap a large rubber band (I used one from celery sticks) over and over onto the spindle lock. It makes the lock larger and provides something to grip and turn.

*—Barry Rockwell, California*

## Vacuum chuck balancing

For handling out-of-round bowls on a vacuum chuck, I use closed-cell wetsuit material. It is easy to shape and does not require fixing it to the chuck. I can use from one to three layers stacked. Use the tailstock for support as long as possible; then take light cuts with a sharp tool.

*—Richard Preston, South Carolina*



## Dish-mop sander

For anyone who has arthritic fingers or has trouble holding small pieces of abrasive, try a dish-mop sander. It can be used on the lathe or to sand small boards or edges. Buy an inexpensive dish mop, remove its sponge/scourer pad, and replace that with a piece of high-density foam. I used contact adhesive to attach the foam. I glued self-adhesive hook and loop to the face. Any cloth-backed abrasive can be attached. It is a quick-to-make, effective sanding tool.

*—Gary Field, Australia*

# Calendar of Events

## December issue deadline: October 15

*Send information to editor@woodturner.org*

### New Zealand

October 2–5, Woodturning New Zealand International Symposium, Wesley College, Paerata (just south of Auckland). Demonstrators include Cindy Drozda, Cynthia Gibson, Michael Gibson, Ken Wraight, Robbie Graham, Theo Haralampou, Shane Hewitt, Phil Irons, Richard Raffan, Joey Richardson, Vaughn Richmond, Neville and Emma Walker, and Bruce Wood. For more information, visit sawg.org.nz.

March 13–21, 2015, "CollaboratioNZ 2015," Whangarei. Held biennially, this collaborative event gives seventy participating artists a chance to explore new mediums and connect with other artists. For more, visit collaborationz.co.nz.

### California

September 12–October 19, 26th Annual "Artistry in Wood" juried exhibit, Sonoma County Museum, Santa Rosa. Open to woodworkers and woodturners. For details, visit sonomawoodworkers.com.

September 14 through March 15, 2015, "In the Realm of Nature: Bob Stocksdale & Kay Sekimachi," exhibit at Mingei International Museum, San Diego.

### Hawaii

March 14, 15, 2015, 6th annual Honolulu Woodturners Symposium. Jerry Kermode will be the featured demonstrator. For more, visit honoluluwoodturners.org.

### Idaho

February 21, 22, 2015, Idaho Artistry in Wood Show, Boise Hotel and Conference Center, Boise. Show will include competitors from all skill levels in wood carving, turning, scroll work, fine woodworking, gourd art, and pyrography and will feature demonstrations, vendors, raffles, an auction, and banquet. For full details, visit idahoartistryinwood.org.

### Iowa

August 30, 2014–January 25, 2015, "Turned Wood" Exhibition, Lewis Gallery, Figge Art Museum, Davenport. Featuring work by Steve Sinner, Lane Phillips, Galen Carpenter, Harvey Fein, Michael Mode, and Michael Peterson. For more, visit figgeartmuseum.org.

### Minnesota

Ongoing exhibit: "Touch This!" featuring fascinating facts about wood and woodturning, as well as pieces you can touch. For more information, visit galleryofwoodart.org.

### North Dakota

October 10, 11, The Dakota Woodturners' Fall "Hands-On" Symposium, Bismarck. Pat and Peggy Bookey will provide instruction on thin-wall turning and piercing. For more, contact Mark Gilbertson, 701-222-3630.

### Ohio

October 3, 4, Ornamental Turners International biennial symposium, Hyatt Hotel, Columbus. There will be practical, theoretical, and historical lectures as well as live demonstrations on ornamental turning. For more, visit ornamentalturners.org.

### Oregon

March 6–8, 2015, Oregon Woodturning Symposium, Linn County Expo Center, Albany. Demonstrators include Mike Mahoney, Trent Bosch, Jimmy Clewes, Kirk DeHeer, David Schweitzer, Dale Larson, Molly Winton, Eric Lofstrom, Nick Stagg, and Sara Robinson. For more information, email gerrost@yahoo.com or visit oregonwoodturningsymposium.com.

### Tennessee

January 30-31, 2015, Tennessee Association of Woodturners 27th Annual Woodturning Symposium, Marriott Hotel and Convention Center, Franklin. Demonstrators include Nick Cook, J. Paul Fennell, Ashley Harwood, Todd Hoyer, and Dennis Paullus. There will be an instant gallery, banquet, auction, and opportunity for attendees to have their pieces critiqued. For more information visit tnwoodturners.org/symposium, email tawsymposium@aol.com, or call 615-973-3336. For vendor space contact mine@tds.net.

### Texas

October 16–19, Fourth Biennial Segmented Woodturning Symposium, Drury Hotel, San Antonio. For more information and registration, visit segmentedwoodturners.org.

### Wisconsin

October 25, 26, 6th Annual Expressions in Wood Expo, the Plaza Hotel and Suites, Eau Claire. Presented jointly by Chippewa Valley Woodturners Guild and West Wisconsin Woodcarvers Guild. Demonstrators include Allen Jensen, Tim Heil, Bob Boettcher, Barry Grill, Mark Palma, and Wayne Dubberke. For more information, visit expressionsinwood.net or contact Rich Thelen, rlthelen@charter.net.

## Remember to Vote!

### AAW Board Election


Photos and statements of the six nominees running for election to the AAW Board of Directors appear on the AAW website and in the August 2014 issue of the journal. Please read the statements and then vote for up to three candidates.

There are two ways to vote: 1) by electronic ballot, available on the AAW website at tiny.cc/BoardVote (case sensitive) or 2) by paper ballot, included with your August journal.

Ballots must be cast electronically or received in Saint Paul no later than midnight CST, October 17, 2014.

We encourage you to participate in the voting process and hope you take the time to help make this election turnout significant.

# Honoring A Special Tree

David Vannier

A large silver maple, previously the centerpiece of the courtyard at the United Methodist Church of Campbell, California.

Valuable turning stock from a valued tree.

Jim Laflin with his segmented turned centerpiece, which he donated to the church.

In May 2013, I received a call from a woodturning friend, Jim Laflin, asking me to bring my chainsaw to his church, the United Methodist Church of Campbell, California. A branch had broken off and fallen from the church's coveted silver maple tree. The tree, roughly 65 years old, served as a centerpiece in the courtyard, providing shade for outdoor gatherings.

While I had seen the tree a few times before, I had not realized how large the fallen branch was, weighing roughly one ton. The church caretaker must have had someone watching out for him, as the falling branch just missed him when it came down, ripping a rain gutter from the side of the building and breaking a light pole.

I joined members of the church's men's club in cutting up the fallen branch. We ended up with two pickup truck loads of firewood and two trailer loads of turning blocks.

As we were doing this work, I decided to take a closer look at the tree. My past experience with silver maples was that it was generally white but spalted easily, creating some really nice turnings. This wood, however, had a dark center, with very little sapwood. There was some staining on the trunk, which I had not thought much about originally, but as we examined the gaping hole left by the branch in the side of the tree, I started having second thoughts. I broke off a piece of bark, and stuck it into the trunk, pushing it in more than twelve inches. Significant rot in the tree made it safety hazard.

The church applied for an emergency permit to remove its beloved tree. A tree company spent two days cutting it down, forced to proceed slowly and carefully. We hauled off another load of firewood and three trailer loads of turning wood. During this process, there was a steady stream of church members, all saying goodbye to the tree and expressing how much they were going to miss it.

Since the emergency removal of the tree was not in the church's budget, the unexpected expenses were a hardship. Jim and I offered to turn pieces of the wood, which could then be sold to church members to raise money. Thanks to the generosity of several members of the West Bay Woodturners, an AAW chapter, we completed a significant number of turned items, including pens, magnifying glasses, key chains, lanterns, and bowls. Most of these items were sold to church members for more than the asking price, and we were able to raise just over $5,000, enough to cover the tree removal expenses.

The church is turning 125 this year. To commemorate this milestone, Jim turned a segmented centerpiece to hold flowers on the altar. The piece, which comprises nearly 125 pieces of wood and has the Methodist Church insignia burned into the bottom, was presented to the church at a special ceremony.

*Special thanks to Starry Chen, Gene Frantz, Ed Howe, Glenn Krug, Dennis Lillis, Jim Laflin, and David Vannier for the donated turnings.*

*David Vannier has enjoyed working with wood since high school and has been an active member of the West Bay Woodturners since 1999.*

A special and unexpected pleasure was the poster made by Jim Laflin's granddaughter, Heather. The loss of the silver maple truly brought the church's community together.

# EOG Recipient Organizes Woodturning Instruction for the Blind

After six weeks of intensive hands-on training, Credo High School eleventh-graders joined with eight blind or visually impaired high school students for a day-long course in woodturning. The experience resulted from a collaboration between Julian Shaw (a recipient of an AAW Educational Opportunity Grant), Credo High School's woodworking teacher, and Hoby Wedler, a blind doctoral student in chemistry at the University of California, Davis. The workshop was part of an innovative course run at Credo High to train assistants for blind or visually impaired (BVI) students in science, technology, engineering, and math (STEM) fields and practical skills. The woodturning class was made possible in part by a grant from the AAW.

Students prepared for the one-day event by taking a twelve-week Developing Capacities course. The emphasis of this course was developing the social-emotional, communication, spatial, and kinesthetic skills needed to assist blind students. The woodturning portion was the first step toward developing the necessary partner communication skill set, some background protocols, and abilities to negotiate successfully a complex social/cognitive relationship that needs to develop between sighted assistants and BVI students interested in pursuing STEM careers.

During the preparatory classes, Credo students were combined in sighted and blindfolded pairs. Each student in the pairing experienced a woodturning task without the use of sight (while blindfolded) and developed an understanding of the challenges of performing a complex task. During this sustained interaction, there were increasing possibilities for achieving emotional attunement, negotiating shared meanings, and developing joint attention with each other. In essence, the students became more "tuned in" to each other in the broadest possible way. This immersion helped students develop a deeper understanding of the capacities required in these "specialized zones" of development.

The effectiveness of the course was largely reliant upon developing in-depth communication skills, which are different for each pair of students and different depending on the events encountered. Competent assistants to BVI students must be able to "read" their partners' actions and speech and make crucial judgment calls about whether to allow BVI partners to proceed at their own pace or intervene either through verbal communication, spatial guidance, or kinesthetic modeling. The assistant's role is not to guide the BVI student to a stated goal, but instead to follow the BVI student's lead and in doing so help create a new way of communicating.

"It was beyond expectation—one of the highlights of the year for me. Our juniors really rose to the occasion. They showed an amazing degree of maturity guiding other high school students. Our students were exemplars," said Julian Shaw in reflection of the event. "It was a teacher's dream. All of our students were totally engaged, and I just let the day unfold. Everyone went away with a sense that we were doing the right thing."

The intent for all students at Credo High is to develop capacities and skills in a broad range of areas with an emphasis on integrating these capacities with the more established cognitive intelligence. Ongoing social-emotional development, and self-reflection is an integral component of the educational program throughout the school.

For more about Credo High School, visit credohigh.org or email julian.shaw@credohigh.org. ■

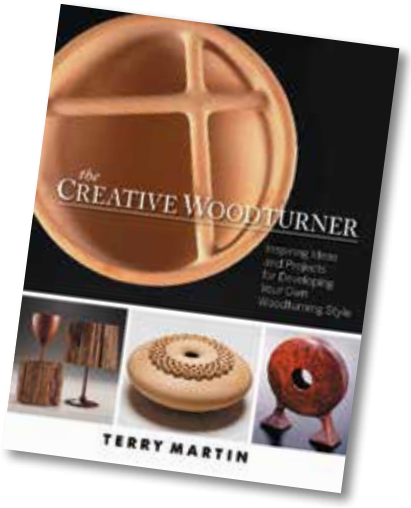
*—Julian Shaw, EOG Recipient*

Connor Campbell sanding his rolling pin under the guidance of Samantha Bayless.

Instructor Hoby Wedler and Credo student Bella Roper assisting Joe Retherford with a project.

Alex Fuller assisting Sean McGee in marking a rolling pin blank with a center finder.

# Book Review: *The Creative Woodturner: Inspiring Ideas and Projects for Developing Your Own Woodturning Style* by Terry Martin, Linden Publishing, 2014, 143 pages




Terry Martin will be familiar to many as a frequent contributor to *American Woodturner* and other publications, as an international demonstrator and lecturer, and as a prolific wood artist. He is the author of two previous books on woodturning, *Wood Dreaming* and *New Masters of Woodturning* (with Kevin Wallace). In this new book, *The Creative Woodturner*, Martin breaks from the usual "how to make it" theme common in woodturning books. His emphasis is not on the mechanics of how to make something, but on how to develop the ability to conceive new designs and to devise the perhaps novel techniques needed to execute them.

In the introduction, Martin contemplates his thirty-year journey in woodworking and describes how his identity has evolved from bowl turning craftsman to wood artist. He has variously regarded himself as a woodturner, woodworker, craftsman, and artist. To these labels, I might add wood philosopher because the thrust of this book is the philosophy of creativity in woodworking. This inspiring recount of his journey is filled with bits of wisdom, including pithy quotes from some unlikely thinkers as diverse

*(Left) Butterfly Cyclops*, 2013, Macassar ebony, 5¼" × 3" × 2" (13.35cm × 7.5cm × 5cm)

Martin describes the design evolution of his popular *Cyclops* series and reveals the creative steps employed in its making.

*(Right) Not More Than... Not Less Than...*, 2012, Queensland rosewood, 6¾" × 3" (17cm × 7.5cm)

Made from an old fence post, *Not More Than... Not Less Than...* celebrates texture and creative whimsy and is a good example of how Martin breaks the rules for the sake of creativity and fun.

*(Left) Impossibowl*, 2012, Huon pine, 3¼" × 8¼" (8.25cm × 21cm)

Martin describes how he turned this puzzling piece.

*(Right) Vessel in a Bowl*, 1995, Huon pine, 6" × 11" (15cm × 28cm)

Martin acknowledges he was not trained in design and does not typically explore ideas on paper. Instead, he has developed mental imaging abilities. *Vessel in a Bowl* came to him in a state of half-sleep.

as Pablo Picasso, Thomas Edison, and Richard Branson.

The first two chapters, "*Thinking* about Turning" and "Idea Tools," address the concept of creativity and how to capture and nurture it. The following sixteen chapters extend these lessons by presenting example projects from Martin's experience. In each chapter, he describes the evolution of a novel conceptual design and shows how it was executed. The final two chapters are richly annotated galleries of Martin's work—the first showing a broad spectrum of his art, the second focusing on his *Cyclops* series.

There seems to be no sure formula for achieving creativity, but Martin offers promising guidance based on his own experience and that of others. His first advice is not to get bound up with rules and tradition when contemplating either projects or the means for carrying them out. In fact, he encourages a thorough questioning of convention: Why not? What if? and Why must it? Martin discusses several conduits to inspiration, the most basic of which is to get immersed in the search, keep trying ideas, and keep making mistakes until you succeed. He points out that this often causes the subconscious to carry on the search and to yield apparently spontaneous ideas. Also, he suggests we look to other fields of art and to nature for inspiration.

Martin prefaces his example projects with a somewhat tongue-in-cheek argument titled, "Why These Pieces Are 100% Turned." Indeed, even by conservative standards, many of them are. Conventional woodturning is employed in all but one of the projects and remains an essential element in the finished pieces. The last project, which describes the process behind Martin's *Tree* series, is the one exception, where no woodturning was involved. Despite this distinction, Martin feels his *Trees* are "the best things [he has] ever made" and offers an explanation: "I listened to that quiet voice in the back of my head that always tells me to break the rules. It seems the most creative thing I ever did as a turner was *not turn on the lathe*."

Each project tells a story of the evolution of a novel design concept from inspiration through the details of its execution. Along the way, Martin offers numerous hints on woodturning techniques that are broadly applicable to other woodturning applications. The sixteen projects range in difficulty from fairly simple to very difficult for an experienced woodturner and several require good woodcarving skills as well. The end results are all outstanding objects of art.

*The Creative Woodturner* is lavishly illustrated and printed on photo-quality paper in keeping with the excellent quality of the photography itself. It is a book that would be a pleasure for anyone to pick up and read and belongs on the coffee table when it returns from the shop. ■

*—Dennis J. Gooding*

# Call for Participants
# 2015 AFTAB Collaborative Event, Aiguines, France

After the success of its first collaborative seminar, "Art and Material," in June 2013 (*AW* vol 29, no 2), AFTAB (The French Association for Artistic Woodturning) is planning a second collaboration June 8–13, 2015. The event again will be held at Jean-François Escoulen's School of Turning in Aiguines, France. The event's goal: No limit in creation!

"We will welcome fifty international artists from all kinds of crafts and media," noted Alain Mailland. "There will be five days of collaborative work, followed by an auction on Saturday."

To apply for participation, visit aftab-asso.com (click on the "events" tab, then "Aiguines 2015") or email collab2015@aftab-asso.com. Upon notification, we will send you full information including an application. **The deadline for application is October 31, 2014.** Participants will be selected by jury, based on the diversity of media used and on the quality of work regarding creation and technique. You will be asked to submit at least five images of examples of your work. ■

Artists collaborate in the metal shop during the 2013 event.

A variety of workstations support collaboration.

# SOFA CHICAGO
## Call for Demonstrators

At its twenty-first annual event November 7–9, SOFA, the renowned art fair dedicated to sculpture, objects, functional art, and design, will once again feature woodturning. In addition to individual galleries displaying finished work, a demonstration booth will be hosted by the Collectors of Wood Art (CWA) and the Chicago Woodturners. The CWA will also present a special exhibition and sponsor a panel discussion, "Beyond Boundaries: Wood Art for the 21st Century." If your work will be featured in this venue, you are invited to demonstrate woodturning during the event. For details, contact Binh Pho at BinhDPho@Eaton.com.

SOFA organizers are excited about woodturning demonstrations returning to this event, as they are an interactive opportunity for artists to show their skills at the lathe and provide exposure for artists and their galleries. I hope all SOFA artists will join Michael Hosaluk and me to be part of these presentations.

Galleries representing woodturners at the SOFA event include Blue Rain Gallery, Craft Scotland, Creative Saskatchewan, Donna Schneier Gallery, Flow, Katie Gingrass Gallery, Option Art, Thomas R. Riley Galleries, Wexler Gallery, and William Zimmer Gallery. For more, visit sofaexpo.com. ■

*—Binh Pho*


Photo: Cheri Eisenberg

# Oklahoma Chapter Partners with UK Club

Two separate woodturning clubs from two countries... yet with so much in common. For one, they both had well-known woodturning demonstrator/instructor Jimmy Clewes conduct masterclasses at their clubs. Following a long-distance introduction by Clewes, Michael Reggio of the Central Oklahoma Woodturners Association (COWA) and David Buskell of Cheam Woodturners, Sutton, UK, agreed that the two clubs would become sister organizations. The arrangement put into place, at least initially, the exchange of newsletters, links to each other's websites, exchanges of information on problem topics, and an exchange of materials and woodturning projects. The two clubs are continuing to find ways to improve their ongoing dialogue.

Members of both clubs, including Reggio and Buskell, had the opportunity to meet in person at the AAW international symposium in Phoenix. Buskell said this was "a good step towards at least putting the faces to the names." Cheam supplied a unique selection of turning blanks to COWA and is looking forward to seeing what turnings will result. In the meantime, COWA has sent an array of turned objects (made from wood separate from the gifted turning blanks) to Cheam.

"Twinning," as Buskell calls it, "is a common trend amongst towns here in the UK. By way of example, Sutton, which is the main town in the Borough where Cheam meets, is twinned with towns in France, Germany, Denmark, and Italy. Cheam Woodturners considers itself progressive, with aims to expand its role within the community and provide opportunities to broaden its members' knowledge and experience. Buskell concluded, "Cheam is pleased to have found a chapter in the US that has similar ideals and views."

For more information, visit cheamturners.co.uk and okwoodturners.net. ■


Michael Reggio of Central Oklahoma Woodturners (left) and David Buskell of Cheam Woodturners, Sutton, UK, forged a "twinning" relationship between their clubs.


A gift of unique blanks from Cheam to COWA.


COWA's perfect reciprocation to Cheam: A variety of finished turnings.

# Central Florida Chapter Honors Wounded Warriors

Philip Spicer

Members of the Central Florida Woodturners (CFW) and the military veterans who are currently "stationed" at the new Veteran Administration's complex in Orlando, Florida, experienced a very special day on June 7. The Community Living Center, part of a new VA hospital complex, has a capacity of 120 veterans, most of whom were awarded the Purple Heart during their active duty, which spanned armed conflicts from WWII through Vietnam. CFW members decided to show their appreciation for what these men and women have done for our nation by giving each of them a lathe-turned bowl with their service branch medallion and a letter of appreciation, signed by our club's president.

During May 2013, then-AAW Board Member Stan Wellborn sent an email to all AAW chapters encouraging community outreach programs using woodturning as the vehicle. He mentioned two chapters as examples of this type of activity: the Montgomery County (Maryland) Woodturners and the Capital Area Woodturners (Washington, D.C.), both of which had initiated pen-turning programs for wounded warriors in their areas. Prompted by Stan's correspondence, we at CFW began investigating how we could similarly show support for our veterans. We contacted members of those exemplary chapters to learn their do's and don'ts. Since most of the veterans at the Orlando VA facility had limited mobility or were too physically frail to make pens, our club's steering committee decided we should make and award bowls to them instead.

This program was introduced and enthusiastically endorsed by a unanimous vote of our membership. The project was kicked off in January and at each chapter meeting a portion of our program was devoted to accepting bowls or encouraging members to continue making more. Meanwhile, the project's co-chairs were working with the VA on the logistics of the initiative. During April, we exceeded the minimum objective of 120 bowls with a total of 127. Each of these works then had a two-inch military service branch medallion embedded in the bottom.

On June 7, eleven volunteers from our club met at the VA facility, giving the bowls and letters to these heroes and, more importantly, spending a little time with each of them simply listening to stories about their military experiences. Examples included a fighter pilot severely and permanently wounded in Korea who had been awarded the Silver Star and two Bronze Stars. It was interesting, but not unusual, to find it was not the medal recipient who told us about the decorations that had been awarded but another veteran who also was at the facility. This type of modesty was common among the veterans. One veteran, when handed his bowl and letter, placed the bowl over his heart and tearfully exclaimed, "No one has ever been so kind to me. Thank you!" The woodturners who participated said they were genuinely moved by the dedication, bravery, and sacrifice they heard about during the experience.

After the bowls and letters of thanks had been distributed, the veterans were treated to a woodworking demonstration by master turner Danny Hoffman, who showed them how their bowls were made. This was followed by a lively question-and-answer period that revealed the veterans' enthusiasm for what they had seen. The experience proved to be rewarding for all involved. ■

*Photos courtesy of VA Public Affairs.*

Some of the 127 bowls with embedded military branch medallions that were handed out by CFW members.


A CFW member and Warrior after he received his bowl and letter of appreciation.

CFW members, glad for the opportunity to show their appreciation for our Wounded Warriors.

# Thank You, Fellow Turners
## An Open Letter from Paul Stafford

I started turning about the same time AAW was established and have spent many enjoyable hours turning and carving since the 1980s. After retiring from professional employment, I got serious about woodturning. As with many others, my hobby grew into a business of creating and selling my woodturned art. Now, several decades later, I am retiring once again and am writing to thank all those who physically and emotionally crossed my path and influenced this period of my life, during which I was deeply involved in the woodturning community.

There are too many of you to list individually, and I don't want to try for fear of leaving someone out. Some of you I don't even know personally. Perhaps I read an article you wrote or one that was written about you. Some I sat with at a lunch table at a symposium, others at a local AAW chapter meeting. You may be a friend, a gallery owner or customer, wood art collector, wood supplier, someone I chatted with in an online forum or perhaps at an art festival or wood show of some kind, maybe someone with whom I shared an email conversation.

One of the finest attributes of woodturners is their inclination to share. I believe that characteristic was the principle behind the formation of AAW. Now there are multitudes of services that the nonprofit AAW provides for which I am thankful. For me, it was primarily the international symposiums and *American Woodturner* journal that provided inspiration and education. My thinking has been stimulated by continual discussions in the *AW* journal on whether woodturning is an art or a craft. I am fortunate to live in Colorado, where there is an abundance of internationally known, professional turners, with whom I've enjoyed face-to-face conversations. Through these opportunities, I was encouraged to attempt various utilitarian, artistic, and sculptural techniques. I also learned how to participate in a safe manner.

**Paul Stafford,** *Zippered Group,* 2007–2010, Various materials, largest: 12" × 6" (30.5cm × 15cm)

I am particularly thankful for the demonstrations I have attended at local chapter meetings and symposiums. Woodturning demonstrators seem to have a sense of service and strive to make a clear, tangible difference in the lives of others with their interpersonal skills. I have never been to a demo that wasn't helpful and enjoyable in some way. I've learned to expect a few laughs, too, as demonstrators and attendees certainly have a sense of humor. Demonstrators tend to exude motivation, energy, and success as they confidently share their passion and try to foster it in others. I also recognize it is the AAW that fosters the environment and opportunities that enable those experts to share. I am thankful for that, too.

Like many others I didn't just take from the community—I tried to give in various ways. I used my writing skills to create how-to, philosophical, and technical articles for *AW* and other woodturning periodicals. I saw a method to improve the jaws used on lathe chucks and developed a safer design.

Paul Stafford, a long-time member of the Front Range Woodturners, an AAW chapter, Denver, Colorado.

I introduced a few young people to the woodturning field on a one-on-one basis, which is like planting a seed and seeing what talent sprouts. I prompted a local art gallery to sponsor an exhibit of Colorado woodturners as a way to educate the public on woodturning as an art form.

I wish to urge new and experienced woodturners to promote the principals inherent in AAW's philosophy and mission statement in ways that benefit themselves and the woodturning community. Enter local art shows and festivals to inform the public about woodturning, both as an art form and as a means to make utilitarian objects. That's a good way to sell your turnings so you can buy new tools. If you're inclined, share your talent as a demonstrator. Discover the enjoyment of volunteering and being part of the charitable efforts of your local AAW chapter. You'll open your creative talents in ways you have never imagined.

You might recognize my name, or perhaps you have seen my signature zippered vessels. If so, I thank you for that aspect of being part of the woodturning family. Happy and safe turning, and goodbye from Paul Stafford! ■

# *Turn* A YARN BOWL

Jim Meizelis and
Terry Quiram

Not long ago, I went to a yarn store to show off my shawl pins and rings (vol 28, no 4). The owner's daughter asked if I made yarn bowls. Until then, I had never heard of yarn bowls, but I accepted the challenge—to make a bowl that will hold and dispense yarn during the knitting process.

Once I made my first yarn bowl, I knew I wanted to turn more. For one thing, turning the bowls is fun and uses large scraps cluttering my shop. For another, the bowls make great gifts for the mature crowd I often seem to be around. I wanted to make between 10 and 20 bowls for gifts and to sell, so I needed a way to produce them quickly and safely. I also had to refine the design and find a good way to cut the slot for the yarn to play out. As I experimented with different designs, I kept looking for better and safer solutions. The slot turned out to be the most challenging and creative part of the project.

## Refining the design

A yarn bowl needs good stability so it won't move around as the yarn feeds out. The bottom can be heavy with a wide base. The pot shape I developed works well. After a few trials, I settled on a bowl with an inside diameter of 6" to 8" (15cm to 20cm) and from 4" to 6" (10cm to 15cm) high. Bigger bowls are better because they are heavier and more stable. Wall and bottom thickness can range from ½" to ¾" (13mm to 19mm).

Searching the Internet, I discovered that some ceramic yarn bowls have only a hole for the yarn. A J-shaped slot is better, because it allows the yarn ball to be removed without having to pull the end of the yarn through the hole, which would disrupt an unfinished knitting project.

Trial and error can be a wonderful teacher, and this project taught me a lot. I tried four ways to cut the J slot: by hand with a coping saw, a spiral cutter in a rotary tool, a holesaw in a drillpress, and a holesaw used at the lathe with a drilling accessory. None of these methods was ideal, although drilling at the lathe offered acceptable results safely. The other three methods were simply too inconsistent or unsafe. Then a friend, Terry Quiram, suggested another option—a router jig that would be used off the lathe. This was the winner for making repeated, quality results in a safe manner. Following are descriptions of the two methods I found acceptable for cutting the J slot.

## Holesaw at the lathe

With the bowl mounted on the lathe in a scroll chuck, I set up my lathe drilling accessory with a 2¾" (70mm) holesaw to cut the J slot. I then drilled a 7/16" (11mm) hole at the end of the slot. To cut a curved slot and not an entire circle, it was necessary to position the holesaw above the lathe's ▸

axis and less than halfway over the bowl's lip. Think of a cylinder intersecting another cylinder; by offsetting the vertical axis, I was able to cut using only part of the holesaw *(Photo 1)*. This method yielded quite satisfactory results, although I had to do a little work with a coping saw to connect the slot to the smaller hole *(Photo 1 inset)*.

## Router jig

The router jig consists of two plates that squeeze against the bowl and prevent it from shifting. The jig also holds a template for a router outfitted with a guide bushing and a ¼" (6mm) spiral upcut bit *(Photo 2)*.

Terry made the jig from ¾" (19mm) plywood. It has one adjustable side and one fixed vertical side that is glued and screwed into a dado in a square base *(Figure 1)*. The drawing gives dimensions for a jig to hold a bowl up to 8" (20cm) in diameter. Adjust the dimensions accordingly for the intended size of your yarn bowls. To make the jig, cut the plywood to size and drill the four holes for ⅜" (10mm) T nuts. Drill two holes on top of the fixed vertical side to hold two 10-32 threaded inserts; they hold the router template in place. Cut four pieces of ⅜" threaded rod to length and screw them into the T nuts. Thread two nuts onto the opposite end, locking them together. (I used two nuts so I could drive the rods with a socket and my drill. You can use wing nuts instead, but it will take longer to clamp up.) Glue two sheets of thin closed-cell craft foam (available at craft stores) to the inside faces of the vertical sides. The sheets prevent the bowl blank from moving and damaging its rim.

It is important to tighten a clamp to the plywood to prevent the threaded insert from blowing out the sides when you screw it in place *(Photo 3)*.

Making the router template is the hardest part of the router-jig construction. The J slot form is not sacred—you can use a variety of slot shapes, as long as the yarn is able to go down and then back up so it will play out from the side or bottom of the bowl. Terry created two options for this project *(Photo 4)*.

The width of the template slot should match the outside diameter of the guide bushing you intend to use. It is important for the template slot to form a smooth curve for the guide bushing to ride on; this will require careful cutting or sanding. After cutting the template slot, move


A drilling accessory for your lathe will hold and accurately position a hand drill, allowing for holes to be made perpendicular to the lathe's axis. The holesaw works well for cutting the curved slot. You still need to smooth the transition between the slot and the hole (see inset).


The router jig has one fixed and one movable side to hold the bowl. Craft foam on the sides keeps the bowl from slipping. Slots on a template screwed to the jig guide the router to make the cut.

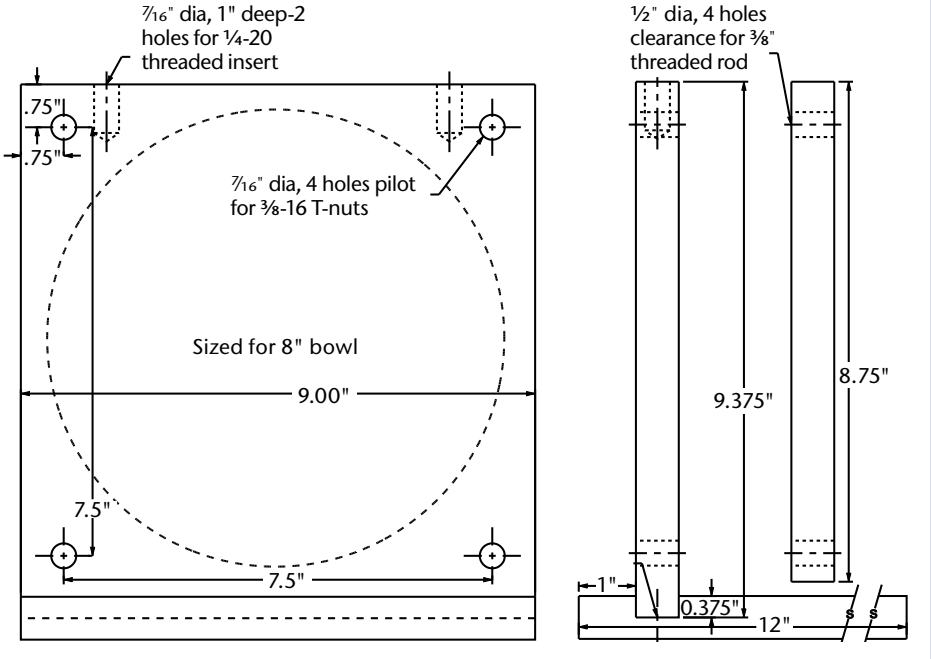



Figure 1. Plan view and elevation for the router jig, sized for an 8" (20cm) bowl.

the guide bushing through it to find any spots that are too narrow. Sand the sides until the bushing slides smoothly from one end of the slot to the other. Finish by drilling holes for machine screws that will fit the threaded inserts.

We used scrap wood for the template, cutting the slot on the scrollsaw with a 3-tpi skip-tooth blade. You could use good-quality Baltic birch plywood or phenolic-faced plywood instead. Whatever you use, be sure it is thicker than the depth of the guide bushing; otherwise, the bushing will rub the bowl and lift the router off the template. If you use bare plywood, you might want to apply a coat of wax to help the router move smoothly.

I was going to use my big router for this project, but its large baseplate made it difficult for me to see the bit as it moved through the template; I used a compact router for its better visibility. If you use a compact router, be sure it will accept your guide bushings. I wanted to use a laminate trim router, but the bushings would not fit its baseplate.

## Using the jig

Remember to use a faceshield and dust protection. They are critical because you will probably have your face close to the router. Clamp the jig securely to a work surface. Following are guidelines for using the jig:

- Use a test bowl—something inexpensive from a store or thrift shop—the first time you attempt to use the router jig. If you make a mistake, you will not have ruined a good bowl.
- Center the test bowl under the J slot and snug against the template. I prefer to center the bowl on facegrain because the wood has better support for the bottom of the "J." Centering on endgrain weakens the J slot.
- Do not cut the slot in one pass, as this is an unsafe practice. Instead, set the router bit to just skim the top of the bowl blank for the first pass. Lower the bit by about ⅛" (3mm) for each successive cut. For safety, retract the bit after each pass.
- Keep routing until the bit cuts through the bowl wall. Check to make sure there are no areas of uncut material before removing the yarn bowl from the router jig. It is nearly impossible to realign the bowl in the jig once you have removed it.
- After you have cut the J slot, eliminate any small snags; that is critical to prevent the yarn from catching as it plays out. Rayon yarn is especially prone to snagging. Round the edges with abrasives. Then, after you have applied finish to the bowl, add one or two thin coats of two-part epoxy on the J-slot surfaces. The epoxy provides a much smoother surface than other finishes.

Once I mastered the router jig, I turned more than 15 pot-shaped bowls. Best of all, the final results looked professional *(Photos 5, 6)*. ■

*Photos by Tony Meizelis*

*Jim Meizelis began woodturning in 1998, when he inherited a lathe made from recycled coal mining machinery. Jim is a member of the Central Illinois Woodturners and the Arizona Woodturners Association. He can be reached at meizelis@frontiernet.net.*

*Terry Quiram was introduced to woodworking by his fifth grade shop teacher and has never looked back. He began using a scrollsaw in 1987 and started turning in 2000. Terry also makes turning tools for himself and others. He is a member of the Central Illinois Woodturners. He can be reached at walnut1950@yahoo.com.*

3 Clamp the sides of the jig when you drive in the threaded inserts.

4 These slots were made with a scrollsaw, but a coping saw will also work. Sand the sides so the router's guide bushing will slide smoothly.

5 Once you master the jig, you can begin making numerous yarn bowls to be routed.

6 Once you cut the slots, apply some epoxy to the edges to eliminate snags.

# LOW-COST HOLLOWING FOR THE NOVICE

Jim Rinde and Bryan Rinde

Two barriers to learning how to hollow vessels are cost and safety. A set of hollowing tools can cost more than $600. Hollowing tools must be held securely and safely while the cutting tip is several inches off the end of the toolrest, hidden inside a revolving piece of wood. This requires some skill and self-confidence with handheld tools or buying a boring-bar system, which can be expensive.

To overcome these barriers, I made my own hollowing tools that fit into a shopmade torque-arresting tool brace for about $25 dollars. With this system, the cutting tool rests on the front (or normal) toolrest while the tool handle is held in the brace like a boring bar. Little force is required to make cuts, so the turner's focus can be on the turning process, not on keeping the tool level and cutting properly. These tools with their ½"- (13mm-) diameter shafts are useful for hollowing vessels up to about 6" (15cm) deep. For larger vessels, use tools with larger-diameter shafts.

I designed these tools for my own personal use but realized they would be useful to novice turners. To illustrate how to teach a beginner, I helped my 11-year-old grandson, Bryan, hollow two vessels.

## Shopmade hollowing tools

*Photo 1* shows my set of shopmade hollowing tools with ½"- (13mm-) diameter shafts. The handles, which are not turned but flat on the top and bottom, are made from 1" (25mm) oak. They measure 1½" (38mm) wide × 12" (30cm) long, so one board foot of oak is enough to make seven handles for less than a dollar each. In use, the flat handle fits into the brace with a gap just larger than the height of the tool handle.

The tool shafts are made from ½"-diameter carriage bolts that were 8" (20cm) long before I cut the heads off. They cost about $1.50 each at my local hardware store. The cutting tips are made from high-speed steel (HSS) tool bits, available from many sources. Each tip measures 3⁄16" × 3⁄16" × 2½" (4.8mm × 64mm) and costs about a dollar. Additional sizes of ⅛" (3mm) and ¼" (6mm) square HSS tool bits are also available. A single 2½" long tool bit can be ground and broken in half to make two cutters. Each cutter has one end sharpened and the other end rounded (using a grinding wheel). The rounded end is glued into a hole drilled into the side and close to the end of the shaft (carriage bolt).

Using these materials, each tool cost me less than $3.00—certainly a lot less

than the cost of commercially available hollowing tools.

In addition, I have made other tools with shaft diameters from ⅜" to ¾" (10mm to 19mm). The ¼" (6mm) cutters are useful for the larger-diameter tools. One benefit of using a torque-arrestor brace is that the cutting tip can be offset from the tool's center axis. Two tools have the cutting tips offset about 2" (50mm) (*Photo 2*).

The area just inside the opening of a vessel that has a flat shoulder or top is difficult to cut with normal hollow-form tools. I made a special tool based on the ones David Springett uses to turn nested Chinese balls. The tool and toolrest are salmon-colored, shown in *Photo 2*.

In addition to these standard hollowing tools, this system can be used with replaceable cutters. The red-handle tool in *Photo 2* (the lower tool) shows one with a teardrop-shaped cutter from a boring-bar system I purchased years ago.

## Torque-arresting tool brace

*Photo 3* shows my shopmade torque-arresting tool brace, but if you already have a boring bar setup, use it. I made mine from a 2" × 3" × 8' (5cm × 8cm × 243cm) framing stud and bought 10' (300cm) of ¾" (19mm) straight metallic electrical conduit tubing. The total cost was about $6 with enough material left over to make another one.

A key factor is to make the torque-arresting tubes parallel to the lathe bed and each other. The distance between the top of the bottom tube and the lathe bed needs to be such that when the tool's cutter is positioned at the centerline of the lathe's axis, the tool is horizontal with the lathe bed. In my case, I made the brace for a lathe with the axis 12" (30cm) above the lathe's bed. For my tools, this distance was 11½" (29cm).

To ensure the arresting tubes were parallel, I temporarily screwed together the boards that make up the two sides so they could be cut to exactly the same length and the holes for the tubes drilled at the same height and distance apart. I joined the sides to the base with screws and added blocks of wood for additional rigidity. After dry-fitting, I disassembled it, glued everything back together, and replaced the screws.

I bonded the bottom tube in place with five-minute epoxy but did not glue the top tube in place. I left it free so it could be slid out of the way to make it easier to insert the tool into the vessel when using tools with long cutters and also when the opening of a vessel is small. The top tube will not move when hollowing, as torque will hold it firmly in place. The galvanized-steel tubes were rough, so I mounted them onto my lathe and sanded the surfaces.

## Make a laser system

Hollowing is faster and simpler when you know the position of the cutting tip. For that, a laser system is essential. Making one is easy and inexpensive.

I bought a laser pointer for $10 and found a way of adapting it to my boring bar. My laser required a button to be pushed and held to keep the light on. First, I designed a holder to hold the laser in a fixed position. Second, I drilled a hole directly above the laser's push button and threaded the hole to accept a screw that, when advanced, would push the button and keep the light on.

The next step was to design a method of attaching the laser to the tools. This required a stand-off to hold the laser above the turning and a mechanism to swivel the laser left or right and in and out to position it above the cutting tip (*Photos 1, 10, 14*). For roughing, the laser is often positioned directly on the cutting tip.

1 A basic set of shopmade hollowing tools and a laser system.

2 The author's shopmade hollowing tools.

3 Shopmade torque-arresting tool brace.

When making final passes, the laser is positioned just off the cutting tip by an amount equal to the desired wall thickness. Used in this way, the light falls off the vessel when the desired thickness is achieved.

## Bryan's first hollow turning

We started with an open-ended design so he could see the cutting tip and learn the proper technique for cutting endgrain (the grain of the wood runs parallel with the bed of the lathe for endgrain hollow turning). The vessel was fairly deep, which required hollowing with the cutting tip extended several inches off the toolrest. Its shape was based on an *umeke*, a traditional Hawaiian ▸

bowl form (*Photo 4*). The wood was freshly cut ash.

Initially, I mounted the wood onto the lathe between centers and turned a straight-sided cylinder with a tenon on one end so the wood could be held in a four-jaw chuck. I made sure the shoulder of the tenon would rest on the top of the chuck jaws and be as long as possible, but not bottom out in the chuck. If attaching the cylinder to a faceplate, use lots of large, long screws to get a firm, safe grip. *Editor's note: See companion articles by David Ellsworth and Lyle Jamieson for their perspectives on hollowing safely.*

To begin the hollowing process, Bryan used a Forstner bit to drill a 2"- (5cm-) diameter hole into the end of the wood to the final depth for the inside of the vessel (*Photo 5 and Figure 1*). Next, he used a 3½" (9cm) Forstner bit to increase the diameter of the hole (*Photo 6*). Drilling the holes was easy and saved a lot of hollowing by hand. When drilling these holes, be sure to have the lathe set at a slow speed and frequently remove the wood shavings.

Using a bent-shank hollowing tool, Bryan started to reduce the wall thickness to about ½" (13mm) thick (*Photo 7*). Cutting halfway to the final thickness in the first pass gave Bryan a chance to get the feel of the tool and to learn the proper way to make the cuts, from the center out toward the wall.

I had Bryan switch tools and begin using a teardrop-shaped scraper to even out the wall thickness (*Photo 8*). He used the same tool to reduce the wall thickness to ¼" (6mm). When this was finished, we went back to the bent-shank hollowing tool to hollow the round bottom (*Photo 9*).

In the bottom area of the vessel, it is not possible to visually judge the wall thickness, so we added the laser guide (*Photo 10*). With the laser set for a ¼" (6mm) wall thickness, hollowing continued.

With the inside surface roughed out, we switched back to the teardrop-shaped cutter to smooth out the inner wall. Sanding was next (*Photo 11*).

Did Bryan hollow this vessel by himself? No. There were times when we had four hands on the tools as part of his instruction. This was both a learning and demonstration project and Bryan did more than 90% of the hollowing and demonstrated competent tool control.

A wide-mouth vessel is an excellent shape for learning hollow turning.

Drill a hole with a Forstner bit to establish the final depth.

Enlarge the hole using a larger Forstner bit.

To reduce wall thickness, use a bent-shaft tool.

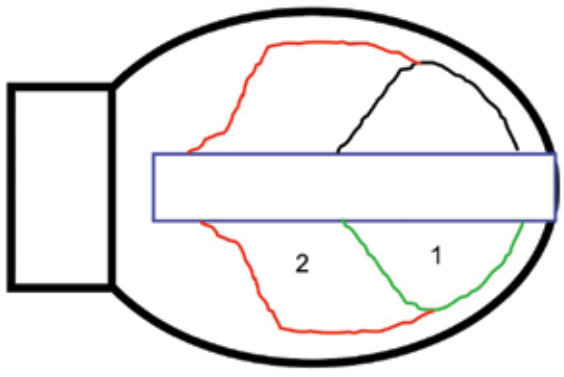


Figure 1. Rendition of the drawings made for Bryan. The hollowing started with the vessel turned to shape on the outside and a hole drilled down its center (blue). Area 1 represents the first hollowing, outlined in green. The cuts are made from the center area toward the outer wall (from right to left). The second area (2) is shown in red.

## Second vessel

To build on skills learned from the first hollow vessel, I chose a piece of redwood for the second vessel. It contained white sapwood and burl. We would end up with an attractive vessel.

In January, I started by rough-turning the outside shape and drilling out the center, and the vessel sat until Bryan had time to start hollowing it

in June. The wood was dry, hard, and somewhat brittle—not the best choice for hollowing. The opening would be 1¼" (32mm). The vessel was 6" (15cm) tall (*Photo 12*).

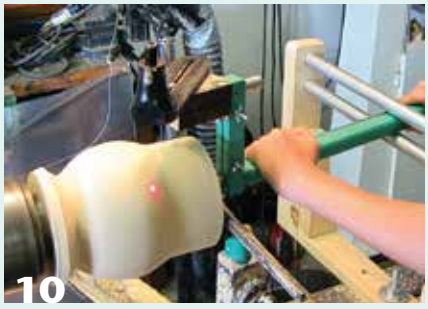
We started using the David Springett-inspired tool to hollow the area directly below the flat top of the vessel (*Photo 13*). The toolrest height was set so the cutter cut at the centerline. This tool has a limited range of reach, but does a good job of clearing out the shoulder area.

We switched to the bent-shank hollowing tool and started removing wood near the center. At this point, the area being turned was near the top and the cutter could be seen through the top opening, but after clearing out the center to within about a ½" (13mm) wall thickness, it was time to add the laser (*Photo 14*).

One of the difficulties for a novice is visualizing the cutting process. To help Bryan, I made a drawing of the vessel and outlined its profile. I drew where wood had been cut away, where we wanted to cut next, and the direction to move the cutter. As we removed wood, I refined the drawing (*Figure 1*).


8
The inside of the vessel can be smoothed and the walls thinned using a teardrop-shaped scraper.


9
A bent-shaft tool hollows a round bottom.


10
Using a laser for hollowing helps determine wall thickness and where the tool is cutting.


11
Inside of the vessel, sanded.

## Suggestions and recommendations

- If you are going to teach someone to hollow vessels, you are responsible for his or her safety.
- Before you hollow for the first time, find an experienced mentor.
- Use solid, green (fresh-cut, still-wet) wood. Avoid bark inclusions and decay.
- If you are going to teach someone hollowing and anticipate it will take several days to finish, consider mounting the wood onto a faceplate to eliminate re-centering problems. Use plenty of large, long screws.
- Start with a vessel that has a wide opening or hollow an open-bowl form. As you gain confidence in your ability to hollow safely, try hollowing vessels with a smaller diameter opening.
- Use slow speeds and take very light cuts. ■

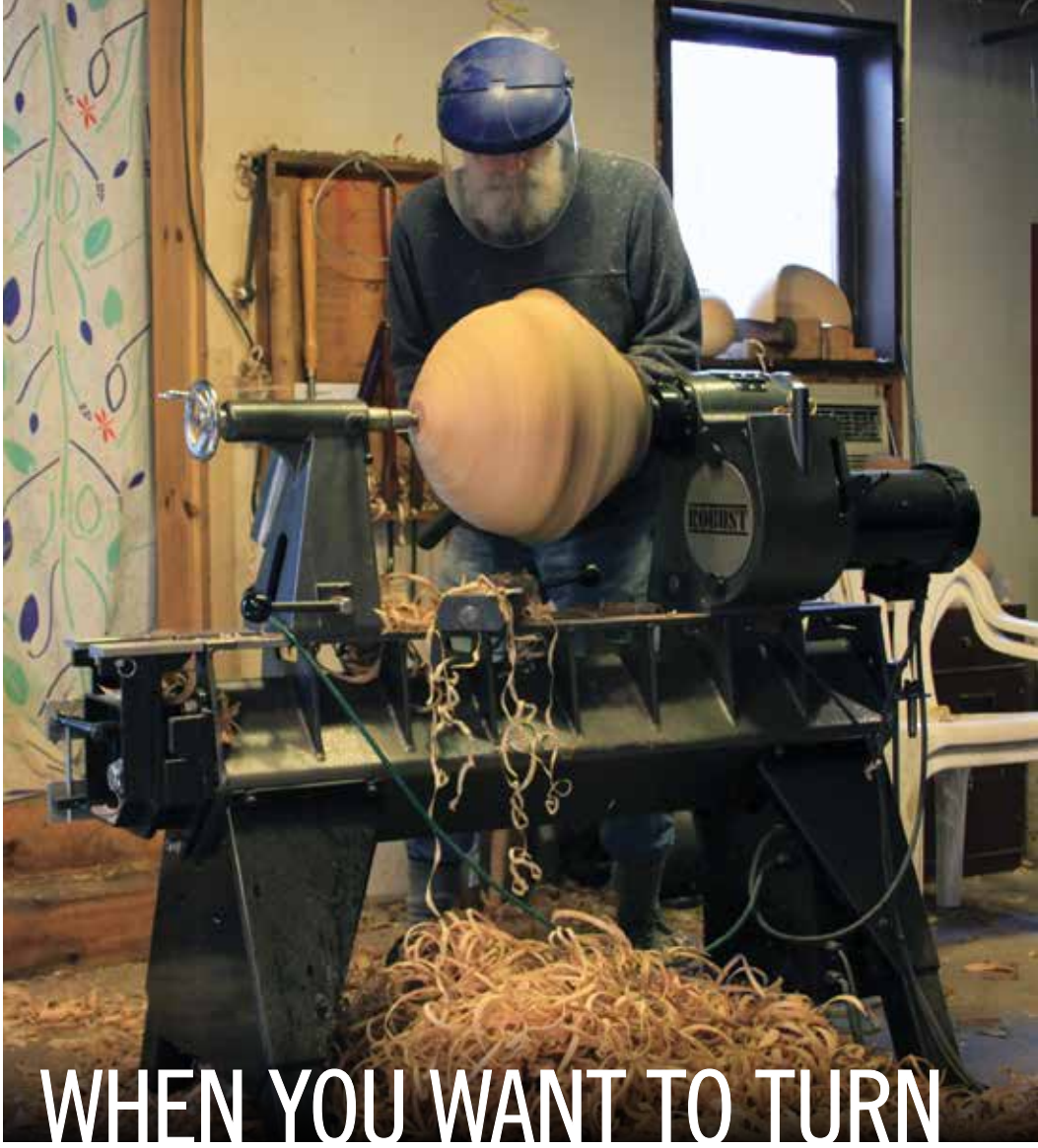
*Jim Rinde is a retired research chemist living in California. His grandson, Bryan, lives nearby and is in fifth grade. Jim can be reached at jerinde@verizon.net.*


12
The redwood vessel before hollowing.


13
We started the hollowing using a Springett-inspired tool. Note the custom toolrest specifically for this tool.


14
Hollowing with bent-shaft tool and laser.


Bryan and Jim with finished vessels.



# WHEN YOU WANT TO TURN LARGER HOLLOW FORMS

David Ellsworth

The desire to grow with the scale of our work parallels the learning curve that brought us to the lathe in the first place. Equipment manufacturers, both private and corporate, have responded effectively to this growth with products of increased capacity and, in most cases, good ergonomic design and usability.

## Lessons I've learned

The "bigger is better" trail certainly has led to some wonderful woodturning innovations, but not without the cost of trial and error, and sometimes the errors weren't pretty. Here are some lessons I've learned the hard way. First, if you don't have adequate equipment for turning larger pieces, your block of wood can spend as much time spinning around on the floor as on the lathe, hopefully bypassing your head en route. Second, safety is *the* critical factor for succeeding in actuating dreams of turning larger pieces–meaning safety *has* to become an intrinsic part of the process. Third, it is wise to consider the inevitable wear and tear not only to the equipment but also to your body.

What I see today with so many turners making this shift to larger-scale work is a valiant attempt to reinvent a wheel that's been spinning for 40 years and with no need to change the bearings. Basically, turning bigger forms requires that everything grows proportionately. This means bigger equipment, bigger tools, more horsepower, and an attitude that accidents are preventable with adequate preparation and good research. The alternative simply isn't worth it.

Here, then, is an overview from my own experience with equipment, procedures, and safety ideas from the ground up. I would also suggest that these ideas are equally valid for moderate-sized objects, as they all focus on simple principles and common sense.

### *The floor*

Concrete is obviously the best surface to support a lathe in order to reduce vibration. Some turners have even cut a hole in their wooden floor and poured a concrete pad from the ground up. A super idea if you can do it.

### *The lathe stand*

Steel or cast iron legs work 100% better than a wooden stand, regardless of how much bracing and weight is added to stabilize the machine. A dancing lathe does not a happy day make. Even minimal vibration of the work piece will result in poorly cut surfaces followed by clouds of dust from excessive sanding.

### The lathe

When stepping up your lathe's diameter capacities, increasing the width of the feet (the footprint) creates a remarkable amount of stability, with 28" to 30" (71cm to 76m) being ideal in most situations. Anything less than 24" (61cm) will result in vibration when working on off-center or mega-sized pieces.

An object's size is actually a relative concept since it involves diameter, height, moisture content, species, how well it has been trimmed before mounting, and, of course, one's personal experience. A standard spindle size of 1¼ × 8 tpi or 33mm is quite adequate for handling a broad range of objects upwards of 25" (64cm) diameter, although a 2" (5cm) shaft size would be a good idea for much larger forms. Horsepower (hp) is also relative, but for most work, 2 hp is adequate and 3 hp is better. Speed is critical, as the lathe must be capable of 100 rpm minimum with full torque when starting a piece. All modern machines have this capability, but older machines were designed as spindle lathes, not bowl lathes, and they generally have a low speed of around 600 rpm with almost no torque. Starting even a 10" (25cm) diameter bowl blank at that speed might well be a disaster of vibration and aerial bombardment. Given these variables, it is vitally important to always start the lathe at its minimum speed when roughing out a block. Increase the speed as needed until adequate cutting is achieved without vibration.

## Mounting procedures

The most effective way to mount a rough block of any size on a lathe is between spur and revolving tailstock centers. The reasons are simple, yet often overlooked: a) It is totally safe as long as one keeps firm pressure of the tailstock's live center against the piece by tightening the tailstock handle regularly while roughing out the form, and b) we learn about the layout from the freshly exposed grain patterns as we're roughing out the form. Controlling the grain direction has a huge effect on the ultimate success of the object's design and this method gives us the option of adjusting the form to achieve control of the grain layout.

The basic choices for spur centers are the standard two- or four-prong variety with a diameter of 1" (3cm). The two-prong center will dig deeply into the wood when the prongs are positioned parallel to the grain, but it may dig too deeply in softer woods if you are trying to save that area as part of the finished piece. The four-prong center is fine for most applications, although one may need to regularly clean out the debris that forms between the prongs when turning softer woods. In both examples, adequate pressure from the tailstock is critical. Two-inch-diameter drive centers are available for larger work, and some even have removable center points and prongs.

Any ball bearing live center for the tailstock will do the job, although I prefer using cup centers rather than cone-shaped centers. Cone centers make a significant hole in the block of wood, which makes it virtually impossible to make subtle changes when trying to readjust the form to control grain layout.

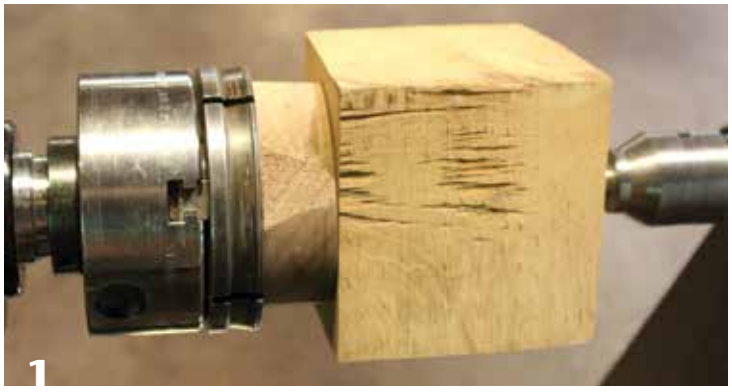
When it comes to actually attaching an object to the lathe, the three basic methods are glueblocks, chucks, and faceplates. Each has its merits, but also some drawbacks that need to be addressed. Safely attaching wood to the lathe involves consideration of the wood's moisture content, density, weight, and dimensions. Regardless of the mounting method used, *never ever* turn a bowl or vessel of any size or shape without the tailstock pressed securely against the form. Not only does this prevent the possibility of losing the piece from excessive vibration or a tool catch, but it eliminates any vibration when forming the shape or when making those all-important finish cuts just before sanding. Remove the tailstock only when it is in your way and you are ready to turn the inside of the form.

### Glueblocks

Glueblocks are an easy, effective, and safe solution for attaching small- to medium-sized blocks of either soft or hard woods, including wet woods, with the use of cyanoacrylate (CA) glue. It is especially effective when using soft spalted woods that can't be grabbed with a chuck or faceplate screws. Disadvantages include: a) the odor (fumes) of CA glue when using the activator is extremely toxic, b) difficulty in preparing perfectly flat surfaces to form a tight glue joint with pieces in excess of 4" (10cm) diameter, and c) using soft woods for the glueblock that will break down the transfer of support from the mass of the headstock to the object, resulting in vibration when cutting on the form. Use dry, hard woods like birch, maple, and oak for a glueblock *(Photo 1)*.

### Chucks

Chucks are versatile when used with small- and medium-sized forms, but ▸




A workpiece mounted via glueblock.

not as effective with soft woods due to the crushing pressure of the jaws against the spigot. Larger forms are definitely a problem, especially taller vessel forms. Due to the height of all chucks, the base of a tall form will be 3" to 4" (8cm to 10cm) away from the mass of the headstock, resulting in vibration. Many forms have been thrown out of a chuck due to improper shaping of the spigot, which must exactly match the shape of the jaws *(Photo 2)*. This problem also occurs when entering the endgrain openings of vase-like vessel forms where the tip of the tool is cutting directly into the endgrain fibers. A better choice would be a faceplate, which brings the base of the form as close to the mass of the headstock as possible. A general rule with chucks is, the bigger the jaws the stronger the grip. In fact, with large jaws, you can often plan the base of the form to be located inside the spigot, thus increasing the overall height of the form.

Carefully shape the spigot, or tenon, to match the jaws of your chuck.

The author's faceplate made from a heavy-duty chain gear.

Countersink the holes on the wood-facing side of your faceplate so frayed wood fibers will not get in the way of a flat union.

### Faceplates

Faceplates are the strongest and safest way to hold large objects to the lathe. Faceplates should be made of either steel or cast iron–not aluminum–to help transfer the mass of the headstock directly to the object without a breakdown in support. Basically, the thicker the plate, the larger its diameter, and the more screws being used, the better *(Photo 3)*. Turners have used every type of screws imaginable from lag bolts on down, all depending on the nature, condition, and size of the objects being turned. I personally never use anything less than #14 sheet metal screws, which require ¼" (.64cm) diameter holes and use a #3 Phillips head driving bit. Sheet metal screws are hardened steel and have deep and sharp threads for greater lateral gripping power. They don't need to be terribly long–usually penetrating only ¾" to 1" (1.9cm to 2.6cm) into the wood–so they are ideal when used on facegrain materials like bowls and vessel forms, including burls. Endgrain objects like vases require longer screws, and the holes need to be pre-drilled to the interior diameter of the screws to prevent splitting of the wood. Don't even think about using drywall screws for any reason.

One of the reasons many turners resist using faceplates is that the screws end up directly where they plan to put the base of the forms, thus wasting wood. This can easily be avoided by placing the screws near the perimeter of a larger diameter plate. The base of the form can then be designed to reside inside the ring of screw holes and adjacent to or very close to the surface of the plate.

There are two important safety hints for faceplate use that are consistently overlooked. First, when driving screws into green wood, small fibers always rise above the surface around the hole. These fibers raise the plate slightly off the flat surface of the wood, causing the screws to take all the force of the cuts. As a result, they and the plate will become loose on the wood. The solution is to countersink the holes on the front face of the faceplate using a ½" (1cm) drill bit *(Photo 4)*. This gives the fibers a place to go so that the plate remains secure to the wood. Second, turn the base of the block dead flat and intentionally rust the entire face of the plate to create an abrasive-like texture. This will give the wood a small amount of grip throughout the face of the steel plate, which, again, takes some of the pressure off the screws. This is one case when rust is your friend!

It is a simple fact that most people coming to woodturning today are guided by an incredible enthusiasm rather than having much experience with machinery or handheld tools. Fortunately, there are numerous means for learning the craft as we have seen through the extraordinary objects being produced. The temptation to venture into larger forms is as seductive as the centering process that defines a turner's methods of work. It is when we take the step into larger forms that we need to consider the folly of being naïve. Woodturners must take it upon themselves to learn and consider all safety factors that apply in a given situation. ■

*David Ellsworth is a full-time studio woodturner and teacher living in Buck's County, Pennsylvania.*

# SHOPMADE HOLLOWING TOOLS

Lyle Jamieson

A proper captured hollowing system allows you to turn inside the hollow form with only fingertip control. Note my body position and stance; it should not be hard work.

There is a great deal of satisfaction to be had when designing and making your own lathe tools. Indeed, years ago, we used to make most of our own turning tools. Now, catalogs contain a wealth of excellent tools proven to be safe, versatile, and easy to use. Still, there are those who enjoy making their own tools. For them, I offer some important considerations for safety, as well as taking shop-built tools to the next level.

## Are shopmade tools right for you?

Years ago I used any piece of metal I could find for cutting tools, if it was the right size, including planer blades, files, chisels, and Allen wrenches. I got lucky and did not have any injuries, but I was flirting with danger for what I did not know about tool steel. Some knowledge of metallurgy is needed. It is hard enough learning how to turn, and if you add to that learning curve the making of homebuilt tools, a beginning woodturner can unknowingly add significant risk. What about heat treatment, hardening, annealing, losing temper? Just the relatively simple task of tapping threads for set screws requires a specific skillset. What tap to use, what thread size, what drill size to use? Did you know there are drill sizes denoted in letters and numbers that correspond to various needs for tapping *(Photo 1)*? There is a lot to know to make and assemble lathe tools that will function safely. ▸

While tapping threads, the hole size has to be precise to allow the tap to cut cleanly and accurately.

To complicate matters, there are often limitations to a shopmade tool's versatility when cost is the driving force. Some tools work well for small projects, such as Christmas ornaments and lidded boxes, but as scale increases, shopmade tools may not have the required stability. Keep in mind that as the size of the vessel being turned increases, the forces at work are multiplied, and improperly designed tools can pose serious risk to the turner's safety.

## Considerations for tool design

### Strength

The boring bar needs to be strong and stable enough to do the scale of work you desire; do not sacrifice strength by using tool steel that is too thin. Strength is dependent on the diameter of the boring bar, not its length. The tradeoff is that larger-diameter boring bars need slightly larger vessel openings, yet smaller-diameter boring bars limit the toolrest overhang before vibration kicks in. In addition, a wood handle is a weakness for large turnings.

### Stability

Design your tools to have no moving parts or pinch points to ensure stable cutting action inside the vessel. If the cutting tip flexes or moves while cutting, this can cause a catch. With a captured hollowing system set up properly and cutting on or above the centerline, catches will not happen.

### Torque arrest

In hollowing situations where you undercut shoulders for bulbous or other hard-to-reach shapes, the cutting action creates enormous twisting forces. To put these forces onto a small, narrow handle will cause the handle to bind up in a gated toolrest or backrest, resulting in bound-up cutting action. And, if the tool has a jerky cutting motion from the torque produced, it is difficult to clean up the resulting tool marks or make a thin-walled vessel. Using a handheld boring bar is not much better; an hour or two of use will cause significant fatigue. Fingertip control and easy movement inside the vessel are the goals, and they can be achieved by designing a broad-platform handle to spread out the torque forces. This is especially important when hollowing large-scale vessels.

### Range and reach

A swivel assembly with an infinite range of cutter positions equates to easy cleanup of tool marks. Design your tools accordingly. For instance, using the left side of a high-speed steel (HSS) cutter shaped and sharpened with a broad radius *(Photo 2)*, any required cleanup can be accomplished easily.

Hollowing a variety of shapes could lead to the need for many boring bars with dedicated tips. But it is possible to achieve a range of cutting action with just one boring bar if the cutter has a wide range of positions. The backrest comes into play here, too.

> "I never use chucks, especially for hollow forms."
> —Lyle Jamieson

The boring bar and backrest support must be versatile enough to undercut shoulders and reach into small openings without constant adjustment and fiddling.

### Efficiency of the cutter

A large teardrop-shaped cutter removes too much wood in one pass and promotes vibration. Bigger is not necessarily better. Larger cutters tax the holding method, the wood, and the boring bar. I recommend and use a 3⁄16" (5mm) cutting tip. The efficiency of the smaller cutter means you can hollow bigger, taller, faster, and easier, all without vibration.

### Laser

It is no longer necessary to work blind in a shaving-filled hollow form. Using a laser when hollowing can accurately measure wall thickness, allow for quicker hollowing, indicate the inside depth, and open up possibilities to make a variety of shapes. However, in use, lasers need to be set often and accurately. To make a laser that is easy to set up, use a small block with a hole the diameter of your support bar. Cut the block in half and bolt it back together to form a simple clamp *(Photo 3)*. On the smooth, round surface of the laser-arm support, the clamp becomes adjustable to infinite positions with one hand. Attach the laser to the block for fast, accurate adjustments.

## Safety considerations for hollowing

### Wood

Using a log that has the pith in it is inviting cracks. Using punky, unsound logs or wood that is not solid is inviting a blow-up. The most successful hollowing is accomplished with sound, freshly cut wood.

### Faceplates

I never use chucks, especially for hollow forms. It is not that the chuck fails, but the jaws are grabbing a sponge-like material and wood fibers compress. This is a limitation and I find I can hollow faster, easier, and bigger with the wood screwed to a faceplate.

When screwing into the endgrain of a hollow form blank, screws are more likely to strip. This is one reason it is important to use a faceplate with many screw holes *(Photo 4)*. If necessary, drill more screw holes in your faceplate. Before mounting the log, turn it between centers and cut a slightly concave surface to mate against the faceplate. Along with the correct screws, this will provide a strong holding method. The best screws to use are No. 12, pan-head, sheetmetal screws, 1¼" (32mm) long. These screws require a No. 3 Phillips drive and last for many vessels.

I am drawn to funky, spalted, bark-included wood with lots of color and character from voids. But it is important to be smart and safe in handling this type of wood. One tip is to drill dowel holes crossgrain into a questionable piece of punky wood. Place the dowels so they intersect the faceplate screws *(Photo 5)*. This has much better holding power than screwing into the endgrain of compromised material, which is easily stripped.

2 A swivel assembly with HSS cutter. Note the grind on the left side of the cutting tip. This grind configuration allows ease of cleaning up tool marks.

3 A simple bracket will clamp the laser to the support bar.

4 Both the large 7" (18cm) faceplate and smaller glue-block faceplates have been upgraded by drilling additional screw holes. Precise placement of the holes is not necessary. A 4" (10cm) faceplate with 12 holes (not pictured here) is sufficient for safely attaching a log for hollowing.

5 When screwing into endgrain, dowels inserted perpendicular to and aligned with the screw holes will greatly increase holding power. Drill deep into the wood so the screws go through the dowels.

### Vibration

You might get lucky for a while, but an accident can happen if you grit your teeth and proceed when experiencing vibration. There are four situations that cause vibration: 1) exceeding the limits of your lathe—the size of its spindle and the strength of its bearing assemblies, 2) the method of holding the wood, 3) the wood itself, which can flex and vibrate—keep extra waste wood for support and hollow in stages rather than using a steady rest, and 4) exceeding the limits of the boring bar and hollowing system.

Eliminate the cause of vibration rather than implementing a quick fix that could result in unintended consequences.

## Compromise

If you intend to proceed with shop-built tools, consider a hybrid. Buy a few critical components and make some of the parts like the backrest and handle. The bottom line is to do some homework so your system is safe and does not exceed its capabilities (or yours). If the system causes frustration or limits your scale or shapes, cost will be secondary. Do not put yourself in danger. Turning hollow forms is all about having fun. If creating your own tools is fun, do it right and enjoy using them! ■

*Lyle Jamieson sells hollowing tools and systems he designed and developed. For more, visit lylejamieson.com.*

# HOW TO GET THE MOST FROM YOUR VACUUM CHUCKING SYSTEM

John I. Giem

The author uses an orifice plate mounted on a vacuum chuck to measure the airflow rate into the system. This test entails systematically opening orifices on the plate, taking readings on a vacuum gauge, calculating airflow, and graphing the data.

After I published my first article on vacuum chucking systems (*AW*, Vol 26, no 1), I learned that many turners still had questions: How well is my system actually working? What size vacuum pump do I need? Can I use an old pump? Why can't I get enough suction (vacuum) to mount my bowls? I began investigating these issues for my own benefit as well as for others. Underlying my research is the sobering fact that if you do not monitor the vacuum within your system, your vacuum levels, and therefore holding power, are unknown. And without knowing how securely your workpiece is held on the lathe, you are at greater risk of ejecting the workpiece and injuring yourself or others.

## Vacuum basics

A vacuum chuck uses air pressure to hold a piece of wood on the lathe. A vacuum pump removes air from within the vacuum chuck, so the air pressure outside is greater than the air pressure inside, pushing the workpiece onto the chuck. The air moves from the chuck through the lathe spindle and down to the pump via filters, valves, and tubing. All of this hardware constitutes the vacuum system, which has three distinct regions: the pump, the plumbing, and the workpiece.

To achieve the desired vacuum at the chuck, the pump must remove all the air leaking into the system through the workpiece, from the seal between the workpiece and the chuck, and from within the plumbing. The vacuum generated at the pump depends upon the amount of air it pumps out of the system. With nothing connected to the input or output, the pump will move the most air and there will be no vacuum. If we starve or limit the air going into the pump, the vacuum gets stronger (*Figure 1*). Like barometric pressure, vacuum is commonly measured in units of mercury—inHg or cmHg; 1 inHg equals 2.5cmHg. The higher the number, the stronger the vacuum.

It is safe to assume the workpiece will leak air into the system because most woods are porous. This leakage is often difficult or impossible to reduce. The seal between the chuck and the workpiece may also leak. Leakage in the system plumbing is easier to find and eliminate. Likewise, restrictions to the airflow will cause changes in the vacuum levels, and those restrictions can also be identified and reduced.

The strongest vacuum will be at the input of the pump and the weakest, within the chuck. Since the vacuum generated by the pump gets stronger by decreasing airflow, the best vacuum at the chuck will occur when leakage into the system is minimized. This means any air leaking into the system plumbing will degrade the vacuum at the chuck, depending on where the leak is and how much air flows in. The system leakage can cause additional vacuum losses due to airflow restrictions between the chuck and the pump.

A simple exercise with a drinking straw and cup of water will illustrate these principles. Put your finger over one end of a straw and suck on the other end. This represents a good vacuum system with no leakage. Your mouth is the pump, the straw is the plumbing, and your finger is the workpiece. The entire vacuum that your mouth generates is delivered to your finger. Now remove your finger, put the straw in the water, and suck. The water flowing through the straw represents leakage at the workpiece. If you pinch the straw, you will reduce the flow of water, having introduced

a restriction in the plumbing. The same holds true for the plumbing of your vacuum system. Make a small hole near the middle of the straw and try to suck up water. The hole in the straw represents leakage in the system's plumbing, degrading your ability to draw water. Logically, the larger the hole, the greater the degradation. Pinch the straw again, above and then below the hole, and the flow of water will be reduced or stopped altogether.

The straw exercise illustrates that system performance will always be less than or equal to the pump's performance alone. The overall performance of a vacuum chucking system depends upon three things:

- Identifying and reducing the sources of air leaking into the system.
- Reducing restrictions to airflow so that air can move to the vacuum pump and out of the system efficiently.
- Assessing the vacuum pump's performance, checking for internal leakage from wear, and how its air-moving ability matches up with any leakage from the system or workpiece.

## Testing your system

A series of five tests will allow you to check and improve the three areas of concern noted above. It is best to run the tests in the order shown on these pages. The first three are simple and easy. The last two are more involved and possibly unnecessary for your system, depending upon the results of the first three.

### *The basic tests*

**1. Leakage drop-off test.** If you seal off the system and isolate it from the pump, you can detect leaks through the readings on the vacuum gauge. To conduct what I call the leakage drop-off test, turn on the pump, place a nonporous flat plate over the vacuum chuck, and run the system to its maximum vacuum. Then isolate the pump from the rest of the system using an isolation valve or clamp *(Photo 1)*. Watch the vacuum gauge to see how fast the vacuum drops; the slower it does, the less leakage in the system. A good system should hold the plate on the vacuum chuck for four minutes or more. Every time I use my system, I perform this test to be sure all is well before I start turning. I can judge the leakage performance by watching the vacuum gauge; I do not need to wait for the plate to drop off.

**2. Open chuck test.** This test helps find restrictions in the system between the manifold, where the gauge is located, and the vacuum chuck. I discovered the need for this test when one day I noticed the vacuum pump was running, but the vacuum at the manifold was not zero, even though I had nothing mounted on the vacuum chuck.

With the vacuum system fully assembled and ready to use, but with the pump off, record the vacuum gauge reading at the manifold. It should be close to zero. Now, with the manifold bleed valve closed and without placing anything on the chuck, turn on the vacuum pump and read the vacuum gauge at the manifold. You should see a small increase in the reading caused by the airflow ▸

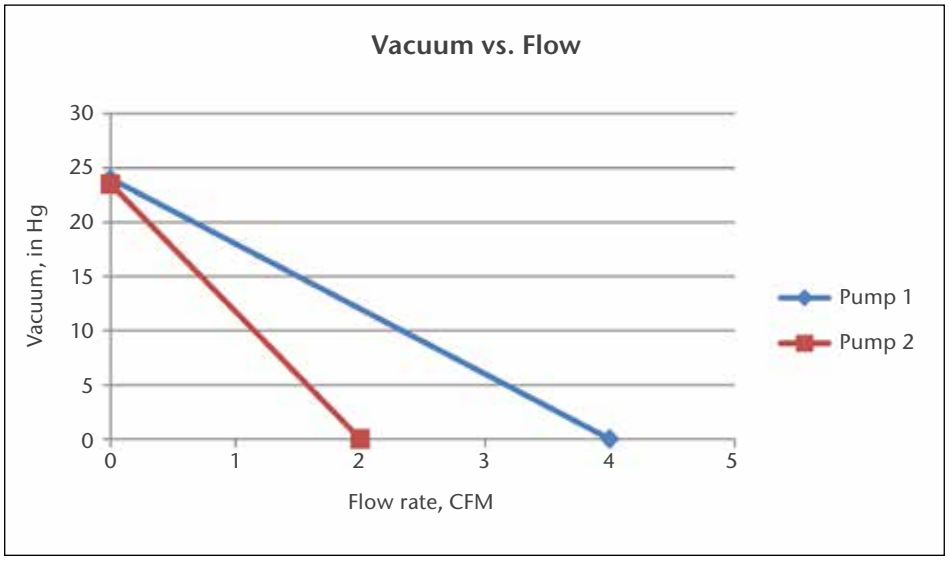



Figure 1. This graph shows the performance of two ideal pumps of different capacities: 4 cfm for pump 1, 2 cfm for pump 2. Each reaches the zero vacuum level at its maximum air-moving capacity.

The aluminum block is the system's manifold, the point where the components come together. At the top is a bleeder valve, used to set vacuum levels. At the bottom is the connector and hose leading to the fittings on the lathe. On the left is the isolation valve, connected to the hose leading to the filter and vacuum pump, and at the upper left is the manifold vacuum gauge.

A rotary vacuum adaptor ties the rest of the system into the lathe. Three manufacturers make these adaptors for the same lathe. Notice the differing methods implemented to achieve similar functionality. The adaptors are oriented to show the critical orifice, or narrowest opening, for each. The unit on the left will have an airflow estimated at about 30% of the unit on the right.

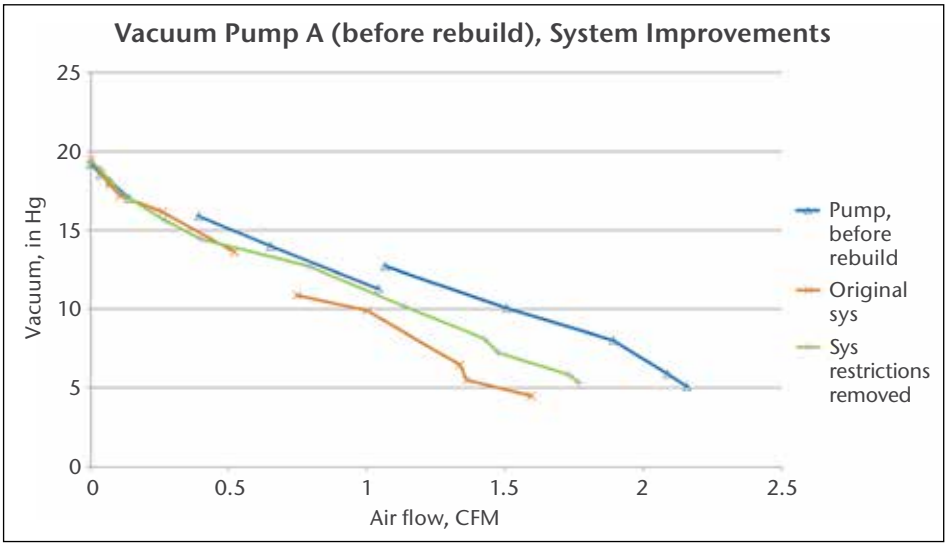



Figure 2. This graph shows the effects of improvements in the system. Before being rebuilt, the pump's maximum vacuum was 19.1 inHg. When placed in a system, the system performance dropped by nearly half, as represented by the bottom orange line. After a few improvements, performance (center green line) moved upward. The system's performance curves follow that of the pump until the air flowing through the restrictions start to limit the achievable airflow. Reducing those restrictions can be significant. In this case a mounted object with approximately 1.5 cfm leakage would be held at 5 inHg (rather marginal). With the improved system, that same item would be held at about 7 inHg, which is enough of a difference to impact whether some workpieces can be mounted at the lathe.

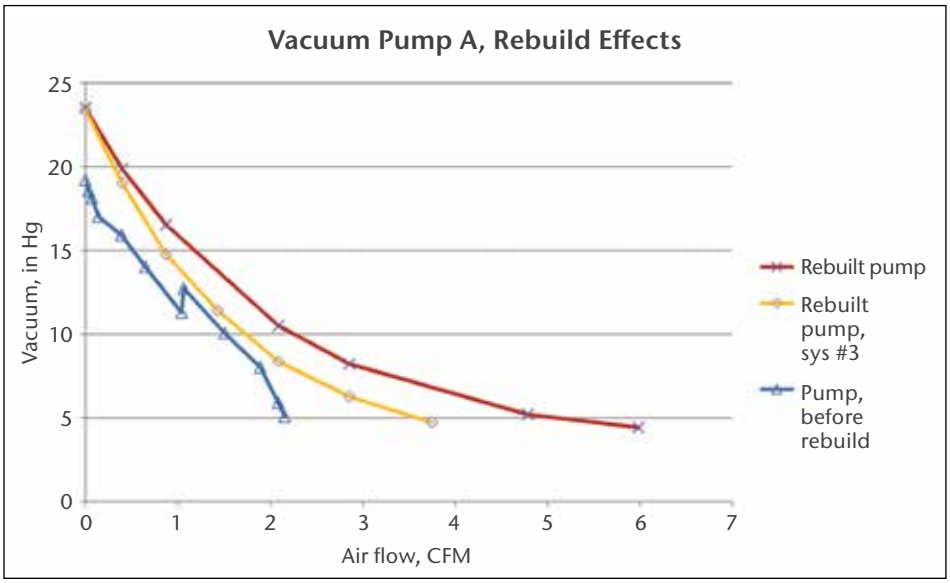



Figure 3. The effects of rebuilding the vacuum pump used for Figure 2. Before rebuild, the maximum achievable vacuum was 19.1 inHg. After rebuild, that rose to 23.5 inHg. The rebuilt pump also shows improvement in the airflow rates for a given vacuum because of the reduced leakage around the pistons of the pump. Leakage within the system will produce a degradation of performance similar to that of a badly worn pump.

restrictions between the manifold and the vacuum chuck. The airflow path will include the spindle bore, the rotary vacuum adapter, hoses, hose barbs, and any other fittings.

When you check the path of air through the plumbing, look for the critical orifice first. This is the place in the airflow path with the smallest area in cross section. It can be caused by any narrowing of the airway at the plumbing fittings, including a kink in the hose or the passage through an adapter. The critical orifice will dominate the restrictions to the airflow for the entire system. To that end, it is easy to check the size of the bore through the rotary vacuum adapter—the larger the better *(Photo 2)*.

This test illustrates that the vacuum reading at the chuck will be lower than that at the manifold. After all, in this test the vacuum at the chuck is zero and the vacuum at the manifold is not zero. What is a reasonable vacuum reading? In one of the systems I tested, the initial vacuum was 6 inHg (15cmHg). I then made several modifications: removing unnecessary parts; changing to a shorter, larger diameter hose; and installing larger hose barbs. On retesting, the vacuum at the manifold dropped from 6 inHg to 2 inHg (5cmHg), indicating airflow had improved markedly.

If there are significant restrictions between the manifold and the pump, this may affect the open chuck test by limiting airflow, thus masking any other restrictions. If you have a second vacuum gauge, measure the vacuum at the pump while running the open chuck test. If the reading at the pump is significantly greater than at the manifold, you may have another critical orifice between the manifold and the pump. Check the entire system, looking for places where airflow may be restricted. Ensure the air filter between the manifold and pump has not been clogged with dust, for example.

Using larger diameter hose will provide better performance, improving incrementally with each step up in size. A 1" (25mm) hose would be better than ⅜" (10mm), although the benefits of upgrading to that size may not be worth the extra effort and inconvenience.

If your vacuum pump is at a distance from the lathe, the length of plumbing may cause degradation. Larger plumbing from the pump to the lathe may be justified by offsetting the losses due to the plumbing length. However, it may be better to move the pump closer to the lathe rather than increase the size of the plumbing. Making multiple vacuum readings simultaneously at different places between the pump and lathe while running the open chuck test will help identify significant losses.

**3. Pump blocked-input test.** Not all pumps are created equal. For an ideal vacuum pump, a graph of the manufacturer's specifications would be a straight line from the maximum vacuum with no airflow to the maximum flow with no vacuum (*Figure 1*). But in the real world, actual performance does not always follow a straight line because of the effects of internal leakage and airflow restrictions within the pump itself. The vacuum generated depends on the amount of air the pump moves. Therefore, measuring the vacuum generated with the pump's input blocked is a good way to gauge excess pump wear.

The test itself is easy: Connect a vacuum gauge directly to the pump's input port. Turn the pump on and read the vacuum level. To interpret the readings correctly, you need to determine the target vacuum level you expect, making allowances for altitude.

For example, a good pump will deliver a vacuum within 1 to 2 inHg (2.54 to 5.1cmHg) of the local air pressure. At sea level, where the average air pressure is 29.5 inHg (75cmHg), the pump would deliver around 28.5 to 27.5 inHg (72.4 to 69.9cmHg). As the altitude rises, the average air pressure drops about 1 inHg for every 1,000 feet. I live in northern Colorado, 5,000 feet above sea level, so my average air pressure is 24.5 inHg (62.2cmHg), or 5 inHg (12.7cmHg) lower than at sea level. Accordingly, that same pump's expected vacuum would be 23 to 24 inHg (58.4 to 61cmHg).

I have acquired and borrowed many different types of vacuum pumps—some new, some used, and some badly in need of refurbishing. Most pumps achieved about the same vacuum level in a blocked-input test. Internal leakage due to wear accounted for the differences. As an example, I tested two used piston pumps before and after they were rebuilt. For one, the maximum vacuum before rebuild was 19.1 inHg (48cmHg); it rose to 23.5 inHg (60cmHg) at 5,000 feet after being rebuilt. There was also a significant improvement in the measured flow rates (*Figures 2, 3*).

### The more-involved tests

The last two tests entail recording and graphing multiple readings of airflow as you deliberately control and gradually increase the amount of leakage at the chuck, using a tool called an orifice plate (*see sidebar*). When these tests are done, the measurements will provide a reasonable picture of the pump and system flow rates, which you can then use to determine how well your system is functioning and whether you want to refine it.

An orifice is a small hole of known size drilled through a plug or plate. By knowing the pressure drop across the orifice and its size, I can determine the air flowing through it. The orifice plate I devised is similar to the plate used in the leakage drop-off test, but with numerous small holes drilled in it. The plate lets me make consistent airflow measurements. By always using the same vacuum gauge and set of orifices for my measurements, I get consistent data, which tells me that changes in the measurements are due to system changes and not the measuring tools.


3

When running airflow tests, use a large vacuum gauge like the one pictured left. The smaller one is an inexpensive unit commonly used in vacuum systems and may not deliver sufficient accuracy and readability. Also, inexpensive gauges may not be accurately calibrated, leading to differences in the readings when using more than one gauge. For consistent measurements, gently tap the gauge before each reading to help overcome internal friction of the needle mechanism.

To minimize errors, make a separate port on the side of the vacuum chuck and take the vacuum measurements there. Otherwise, leakage or restrictions somewhere in the system may compromise the data.

Begin with all orifices masked off and verify the leakage for the equipment being tested is low enough that it will not significantly affect the readings. (I used one or two layers of black plastic electrical tape to mask off the holes.) Unmasking an orifice admits air, so the resulting vacuum will drop. The amount of change depends upon the number and size of the orifices. The ability to see or measure the change depends upon the sensitivity of the vacuum gauge used. In these measurements, I used a 4½"- (114mm-) diameter vacuum gauge with graduations for every ½ inHg (*Photo 3*).

Uncovering more orifices of the same size or switching to a larger orifice will increase the airflow. The number of ▸

uncovered holes along with the measured vacuum allows the determination of the flow rate. Begin by uncovering one hole and working upward. Take five or more vacuum readings using different sets of the same-size holes. Do the same for the sets of larger holes.

For multiple readings at each data point, move the tape between readings but do not change the number of open orifices, just the positions. Averaging the set of readings helps reduce errors caused by differences within the set of orifices. Do not use orifices of different sizes at the same time, as that will introduce too many variables. When graphing the data, each set of measurements with a single-sized orifice will generate a single line or curve. Each set of orifices of the same size will have a different offset in its curve and usually will not line up with the adjacent-sized orifices due to using uncalibrated equipment. To convert the vacuum readings for different-sized orifices, I utilized tables listing the flow rates for various orifices, given the vacuum across the orifice (*Tables 1, 2*).

In order to make the analysis easier, I used curve-fitting techniques to model the data in the charts and developed a set of equations. They made the analysis faster and reduced errors encountered when interpolating between the data points in the table.

Calculate the vacuum averages for each set of readings and then determine the flow rates using the derived equations. Plot these data pairs on a graph. Recognize that when you change to different-sized orifices, there will be a discontinuity between the plots because you are using uncalibrated equipment. However, the discontinuities will not change the interpretation of the graphs or the need for any corrective actions.

Generally, I do not make flow measurements below 5 inHg (13cmHG) due to vacuum gauge inaccuracies, and I will not knowingly use vacuum chucks for turning below that level due to the risk of dislodging the workpiece.

**4. Pump flow test.** Using the flow measurement procedure above, measure the pump performance and plot it on a graph with the vacuum on the vertical axis and the flow rate on the horizontal axis. For this test, connect the pump and the vacuum chuck with a short length of large-diameter hose and suitable fittings to avoid or minimize airflow restrictions (*Photo 4*). The vacuum gauge should be connected to the side of the chuck, using a separate port from the one being used by the vacuum pump.

This test will reveal several items of interest. The pump's vacuum level at zero flow will correspond to the vacuum measured when doing the vacuum pump blocked-input test. From that point the pump performance curve will move downward to the right. If the curve is a reasonably straight line, the pump is performing well. If the plot starts out as a straight line and then curves downward, the pump may have some internal flow restrictions and/or leakage.

The intersection achieved by extrapolating the end of the curve down to the flow axis indicates the flow capacity of the pump. If you are not making altitude

**Orifice Characteristics**

| | Orifice Flow, CFM | | | |
|---|---|---|---|---|
| Vacuum level, in. Hg | #74 | 1/32" | 1/16" | 1/8" |
| 0 | 0 | 0 | 0 | 0 |
| 1 | 0.0137 | 0.0318 | 0.2047 | 0.8125 |
| 2 | 0.019592 | 0.053842 | 0.293977 | 1.17058 |
| 4 | 0.025484 | 0.075884 | 0.383255 | 1.52866 |
| 6 | 0.02893 | 0.088778 | 0.435479 | 1.738123 |
| 8 | 0.031375 | 0.097926 | 0.472532 | 1.88674 |
| 10 | 0.0349 | 0.13 | 0.501237 | 2.002015 |
| 12 | 0.0349 | 0.13 | 0.524756 | 2.1 |
| 14 | 0.0349 | 0.13 | 0.53 | 2.1 |
| 16 | 0.0349 | 0.13 | 0.53 | 2.1 |
| 18 | 0.0349 | 0.13 | 0.53 | 2.1 |
| 20 | 0.0349 | 0.13 | 0.53 | 2.1 |
| 22 | 0.0349 | 0.13 | 0.53 | 2.1 |
| 24 | 0.0349 | 0.13 | 0.53 | 2.1 |

Table 1. This is a simplified version of a downloadable chart showing the flow rates for various-sized orifices as a function of the vacuum across them. The flow rates reach a limiting value at higher vacuum levels due to turbulent air flow as it reaches supersonic levels. Consequently, at the higher vacuum levels the flow does not increase with increasing vacuum.

| Orifice | Eq. | Range. 0 to in Hg | Const. |
|---|---|---|---|
| 1/32 | F=0.0318*ln(vac) + 0.0318 | 10 | 0.13 |
| 1/16 | F=.1288*ln(vac) + .2047 | 13 | 0.53 |
| 1/8 | F=0.5116*ln(vac) + 0.8125 | 11 | 2.1 |
| 3/16 | F=1.1517*ln(vac) + 1.8618 | 13 | 4.8 |
| 1/4 | F=2.0279*ln(vac) + 3.2277 | 13 | 8.5 |
| #74 | F=.0085*ln(vac) + 0.0137 | 10 | 0.0349 |

Table 2. To make the calculations easier and minimize errors in making interpolations from the tables, I derived these equations from data tables. They are used to calculate the flow rates for a given vacuum. The first column is the orifice size. The second calculates the flow for lower vacuum levels, the third is the vacuum level where the flow reaches supersonic speeds and becomes constant, and the fourth is the flow rate in cfm for vacuums larger than given in column three.

corrections for pressure and volume and are using uncalibrated equipment, be wary of comparing this projected performance with the pump's specifications.

**5. System flow test.** Once system leakage has been fixed, all of the system's resources will be available to remove leakage from the workpiece. To measure system performance, mount the vacuum chuck and orifice plate onto the lathe. Do not turn on the lathe, but fit the vacuum gauge into a port on the side of the chuck. Using the procedure outlined above, measure the flow performance for the complete system.

With all the measurements complete, plot the system performance on the same graph as the pump measurements. The system vacuum versus flow measurements will always be at or below the pump's curve, as anything between the pump and the chuck will restrict the flow with increasing flow rates (*Figure 4*). The system curve will follow the pump curve at the lower flow rates. As airflow increases, restrictions in the system will cause the vacuum levels to fall off faster; the greater the restrictions, the faster the fall-off. For example, at 5 inHg (13cmHg), the pump may be able to move four cubic feet of air per minute (cfm), but the system will only allow 2 or 3 cfm because of internal system airflow restrictions.

If the pump capacity is considerably greater than what the system will allow, the excess pump capacity is not usable. Many turners dismiss leaks as unimportant, believing their pump is large enough to negate the effect of leaks. But the ability to handle leakage is also dependent upon the system plumbing, not just the pump's capacity. If a small-capacity pump is used in place of a large one, the system may not be the limiting factor and system performance will closely follow the pump's performance.

The pump and system performance curves show how pump capacity and the system plumbing interact. A small capacity pump is the limiting factor in the ability to remove workpiece leakage. But as pump capacity increases, airflow restrictions start to take effect. For large leakage from workpieces, the system plumbing is the limiting factor, and in this case the full capacity of the pump may not be usable.

Another factor to consider is pump downtime—the elapsed time from turning on the pump until full vacuum is generated to hold the workpiece on the chuck. Larger pumps will improve pump downtime but may be limited by system airflow restrictions. For smaller or remotely located pumps, a vacuum reservoir can improve pump downtime. Use an isolation valve at the manifold and a reservoir connected to the plumbing on the pump side of the valve. Close off the isolation valve and let the pump evacuate the reservoir, reaching full vacuum. Place the workpiece on the vacuum chuck and open the isolation valve. The workpiece will be quickly grabbed by the chuck. In some instances, this was the only way I could get some workpieces mounted.

If you want to quantify any improvements you make to your system, measure both the pump performance and system performance and plot them on a graph. Any improvements you make will move the system performance closer to the pump's performance. This will also verify that any changes made did not have adverse effects.

Is the reduction of the vacuum at the chuck due to flow restrictions really significant? It can be, as Figure 3 illustrates. ▸

To assess a pump's airflow, use large tubing to connect it to the vacuum chuck. Fit the vacuum gauge in a separate port on the side of the chuck. With the pump running, uncover the desired number of orifices of the same diameter and record the vacuum level. Run repeated tests, each time uncovering the same number of same-sized orifices and covering the previous set. This photo shows three 1/32" orifices opened.

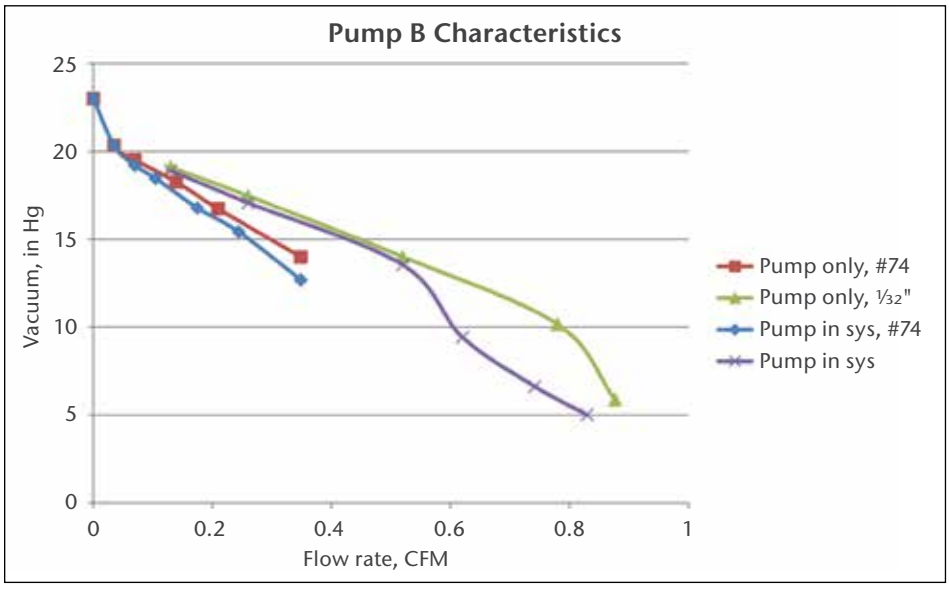



Figure 4. This graph illustrates the difference between the operation of the pump itself and the entire system. The testing used two sizes of orifices in the orifice plate; the discontinuity occurs where the plots switch from one size to the other. At low flow rates, the system and pump curves track each other closely. But at higher airflow rates, restrictions in the system cause system performance to drop faster than that of the pump.

In the case of a workpiece that yields 1.5 cfm leakage, the workpiece would not have been mountable with the original system, whereas the graph predicts that with the improved system, it would be held at 7 or 8 inHg (18 or 20cmHg). In this case, not having the improvements would have compromised the ability to mount the workpiece. After the pump was rebuilt, the vacuum holding power was further improved.

To further improve holding power, repair plumbing leakage as needed. Thread sealing tape can be used to seal where two parts are screwed together. Be sure there are no loose ends of tape projecting into the flow path. These protrusions can have an impact on the flow and could dislodge and go into the filter or pump. An alternative to thread tape is silicone sealant.

## A system at its best

Understanding how your vacuum chucking system works and being able to test, improve, and maintain it will greatly improve your use of this versatile lathe accessory, while decreasing the risk of a lathe accident. And, even with the use of a vacuum system, always support the work with the tailstock whenever possible. ■

*John Giem is a retired engineer and longtime woodworker with a passion for woodturning and writing about it. This is his third article for* American Woodturner *on vacuum chucking systems. Active in the Rocky Mountain Woodturners in Northern Colorado, he can be reached at jgiem@comcast.net.*

# How to make an orifice plate

To make your own orifice plate used in testing the effectiveness of your vacuum chucking system, you will need the following:

- An 8" square aluminum plate. The thickness is not critical as long as it is stiff enough not to warp and allow leakage. A softer aluminum alloy is easier to drill. You can substitute a different metal or plastic as long as it passes the leakage drop-off test before drilling the holes for the orifices.
- Drill bits in these sizes: 1/32", 1/16", and No. 74. Small, numbered bits are available through specialty retailers on the Internet. Get several of each size and expect to break a few. You may also need an adaptor to hold them in the drill.
- Colored marking pens and/or a sharp scribe for laying out the hole locations.
- Fine sandpaper and alcohol to prep and clean the plate.

### Getting started

Lightly sand and clean both sides of the plate, giving it a smooth matte finish without deep scratches. Find the center of each face, mark, and center punch it. Mount the vacuum chuck you plan to test on the lathe, and then mount the plate onto the vacuum chuck. Use a point center in the tailstock to center the plate on the chuck, using the center punch marks for alignment.

Turn on your vacuum system to apply vacuum. With the lathe running at a slow speed, mark a series of circles on the plate. The outer circle should be at least 1" (25mm) larger in diameter than the chuck. The second circle should be about ½" (12mm) inside the chuck. Make the third circle ½" (12mm) inside the second, and the fourth ½" (12mm) inside the third (*Photo a*). Draw diagonal lines through the center, intersecting the circles and denoting the locations of the orifices. You do not have to locate the orifices precisely, as long as they are spaced far enough apart so they do not interact.

With the lathe off and the tailstock out of the way, place the toolrest close to the surface of the plate. Set the height so that a marker or scribe will pass through the center point. Using the indexing feature of the lathe, draw lines across the surface of the plate, with each line passing through the center and crossing over the three inner circles. My lathe has 24 index points, giving 15° between each of the diagonals. Where the diagonals intersect the three inner circles denotes the locations of the orifices. The innermost circle will have 1/16" holes, the middle circle 1/32" holes, and the outer circle No. 74 holes. If you used colored markers, each circle will be a unique color and will contain only one size of holes.

Although not necessary for making the measurements, I used the outer circle as a guide to cut the orifice plate into a circular disk. This allowed the use of a fixture to simplify drilling the holes in the desired pattern.

I strongly suggest using a drill press with an adapter to hold the small bits; you will have better control, less drill bit breakage, and the entry and exit points for the holes will be smoother. To avoid breaking the small bits, use very light pressure and, if using a handheld drill, keep the bit aligned. If you break a bit and cannot get it out, mask off that area with two or more layers of electrical tape on both sides of the plate to prevent leakage. Either skip this position or drill a new hole nearby.

I used a framing square as a fixture on the drill press table to help position a round plate for drilling (*Photo b*). It ensures the holes are drilled in a uniform circle. Reposition the square for each drill size. If you leave the orifice plate square, you will have to manually reposition the plate for each hole. After you have drilled the holes, lightly sand both sides of the plate to remove any burrs around the holes. Hold the plate up to the light to confirm each hole is open and burr-free. The orifice plate is now ready to use.


*This orifice plate has eight 1/16" holes within the inner green ring, 24 1/32" holes between the green and red ring, and 24 No. 74 holes barely visible between the two red rings. The smallest holes allow measurements at lower leakage rates. The holes should be spaced about ¼" apart to prevent airflow interference between them.*


*When making a round orifice plate, a framing square clamped to the drill press table helps align and drill the holes. A small adaptor (inset) is mounted in the regular chuck to be able to hold and use the small drill bits.*

Matt Moulthrop applies one of several coats of high-gloss finish to the Auburn Oak bowl as it rotates slowly on his lathe.

Photo: Janet Guynn, Jule Collins Smith Museum of Fine Art

# *Auburn Oaks*

## Memorialized in Moulthrop Bowls

Dave Long

The ceremony held to unveil the largest of the Auburn Oaks bowls was a highlight befitting two majestic live oak trees. The bowl represents a symbolically positive outcome of the story of an incomprehensible act of revenge from a crazed sports fan.

The staff of the Jule Collins Smith Museum of Fine Art in Auburn, Alabama, had produced nearly perfect lighting for the piece, which stood alone in the large hall. Nature's beauty was on full display, thanks to the skill and vision of a gifted wood artist, Matt Moulthrop.

Patrons approached the large bowl with funeral-home reverence to enjoy the last publicly displayed piece of their beloved trees. There were hushed conversations and a few quiet sobs. "It's wonderful to see something so beautiful come from such an ugly and hateful act," said one woman.

Moulthrop stood quietly in the background accepting congratulations as the Auburn faithful viewed the bowl at its official unveiling on May 16, 2014. He gave a smile when reminded that a member of America's most famous family of wood artists will forever be linked with some of the country's most famous trees, and with the zealot who killed them.

"It was something I just had to do. I had to get involved," Matt said. "Trees are living, breathing organisms, and maybe these magnificent live oaks were sending me a message. Who knows? Sometimes we have to get out of the way and just listen. There was more stress in this project than anything I've ever done in turning—there were times when I questioned why I got involved, but seeing the reaction of everyone here, it was all worth it."

### Oaks poisoned

Sometime on the weekend of December 4–5, 2010, Harvey Updyke poured several gallons of the herbicide Spike 80DF on the root base of two southern live oak trees that stood at the gateway to the campus of Auburn University, a school of 25,000 students located in southeastern Alabama. Football fans have done strange things over the years when their teams lose, but no one else has purposely killed what many considered nearly sacred trees. Updyke was arrested, fined, served jail time, and required to repay the university for expenses in attempting to save the trees.

During the next 42 months, the poisoning of the trees became an ongoing story with the international news media, in part because Auburn had won the 2010 national college football championship. Over a two-year period, Auburn spent nearly $800,000 attempting to save the trees before finally cutting them down on April 23, 2013. ▸

Prior to being poisoned by a vengeful football fan, two revered southern live oak trees stood at the entrance of Auburn University for more than 75 years. Replacement oak trees will be part of a new gateway to the campus, currently under construction.

Photo: Auburn University Photographic Services

Ribbons in Auburn's blue and orange school colors adorned the two trees after they were poisoned in December 2010. Funds poured in from all over the state of Alabama in an effort to save the iconic trees.

Photo: Auburn University Photographic Services

## Revered trees, a school symbol

The two oaks' low-hanging branches formed a natural canopy as a gateway to campus. They were known as the "Toomer's Corner Oaks." The area in the city of Auburn at the intersection of College and Magnolia Streets was known as Toomer's Corner in honor of Toomer's Drugstore, a popular campus hangout for decades.

Rumors always had the oaks dating to the Civil War. After the trees were cut down, however, the age was established at around 75 to 80 years old. Campus records show a mass planting of trees, which may have included the oaks, in 1937.

The two live oak trees saw their share of fanfare over the years. As always happened after big athletic wins, Auburn fans covered the trees with toilet paper, an act known as "rolling the trees." Auburn grads requested their ashes be scattered under the trees. The oaks witnessed marriage proposals, baptisms, and an occasional act of late-night student passion.

"Those trees became part of the fiber of the campus and the Auburn family," said Gary Keever, a horticulturist for 32 years who headed the project to save the trees. "People around the world knew about the Toomer's Corner live oaks."

That fame made them a perfect target for Updyke. Soil samples from areas surrounding the trees came back showing more than 200 times the herbicide needed to kill the trees.

Updyke's arrest set off a firestorm of media coverage with a horde of network television mobile units descending on campus. "I've had to handle media for a lot of stories in my many years of doing this job, but nothing like this. We were literally overwhelmed," said Mike Clardy of the Auburn media relations office. "We had hundreds of media covering the story from all over the world. It was a one-of-a-kind story. College kids steal mascots from their football rivals and paint rocks. But no one poisons trees, especially not a supposedly sane man."

## Moulthrop family legacy

Like many in the Southeast, Matt Moulthrop is a football fan. He follows his alma mater, the University of Georgia, closely. He was stunned when he heard the trees at Auburn had been poisoned. "That's just insane, an act against God and nature," he said. "I went to Georgia and got my master's at Georgia Tech. Those schools have some crazy fans just like everyone in the South, but usually there's no property damage."

As the effect of the poison on the trees was revealed, Moulthrop began to fear the worst. "One morning at breakfast in late April 2011, Matt and I were watching the news and a report on the condition of the trees came on," said Moulthrop's wife, Amanda. "Matt got real, real quiet. I don't think I've ever seen him that engrossed about something on television. He didn't say anything for a long time, then said, 'Those trees are going die no matter what they do.'" Matt wanted to get involved, but didn't know anyone at Auburn or even where to start.

Matt Moulthrop is the third generation of the most well-known family of wood artists. His grandfather, Ed Moulthrop, was one of the pioneers in the 1960s and 1970s when woodturning evolved from a utilitarian activity to an art form. A successful architect before becoming a wood artist, Ed made huge glossy bowls that were presented to presidents, popes, and princes. His son, Philip, gave up a law career to follow in his father's footsteps and introduced new styles, including his signature mosaic bowl. Philip's son, Matt, was in the corporate world before deciding he was happiest in the shop.

The family was the subject of an episode in 2011 on the PBS television series *American Masters*. The three wood artists are also celebrated in a beautiful table-sized book by Kevin Wallace, *Moulthrops: A Legacy in Wood*.


Matt Moulthrop with the "Heartwood: Woodturned Vessels" by Ed Moulthrop, Philip Moulthrop, and Matt Moulthrop. The exhibit accompanied the unveiling of the Auburn Oak bowl and featured thirty-one bowls from five private collections covering more than sixty years of the three generations' work.

Photo: Mike Etheridge, Auburn University Photographic Services


*(Top)* The Auburn Oak bowl, one of twenty made by Atlanta-based woodturner Matt Moulthrop, has become part of the permanent collection of the Jule Collins Smith Museum of Fine Art. The bowl measures 15" × 26" (38cm × 66cm).

Photo: Dave Long

*(Middle)* More than 300 alumni and friends of Auburn University attended the debut of the Auburn Oak bowl.

Photo: Anthony Hall, Auburn University Photographic Services

*(Bottom)* Matt Moulthrop (right) discusses the challenges of producing the Auburn Oak bowl with Paul Richelson, director of the Mobile (Alabama) Museum of Art. The Mobile Museum was one of the first in the United States to host large wood art exhibitions, including one in the 1970s that was the first to bring together the work of woodturning pioneers Bob Stocksdale, Rude Osolnik, and Ed Moulthrop, Matt's grandfather.

Photo: Mike Cortez, Auburn University Photographic Services

## Connecting to Auburn

It required a long and winding road of emails and meetings with university officials before Matt finally received the harvested Auburn Oak timber. For the initial connection to Auburn, Matt tapped into the wood-art collector network and was given the name of Jim Gorrie, a Birmingham, Alabama, contractor and active Auburn alumnus. In an email to Gorrie in April 2011, Matt explained who he was, what he did, and offered his services as a wood artist, should the need arise.

Gorrie forwarded the message to Grant Davis, Secretary of the Auburn Board of Trustees. Davis copied the message to Marilyn Laufer, Director of the Jule Collins Smith Museum. "When I found out Matt wanted to get involved, I said, '*Hell, yes!*'" said Laufer. "The Moulthrop name is very well known in the museum world. When we get an offer from Matt to make a bowl, I take it." Laufer is well respected by the board of trustees and on campus for turning the museum into one of the hidden gems in the South.

Moultrop was put in contact with horticulturist Keever, with whom he continued to work closely on the project. "They changed the soil around the roots, brought in experts from Dow Chemical with possible antidotes, and tried a lot of different things to save the trees," said Moulthrop. "But every time I was in touch with Mr. Keever, it didn't sound promising." The dialogue between Moulthrop and Auburn administration became serious in November 2012, when it was determined the trees would not survive and needed to be cut down. ▸

Most of the Auburn people making decisions about the fate of the trees had viewed the *American Masters* episode on the Moulthrops, which made them feel even more reassured they made the right decision allowing Matt's involvement. "A lot of local Auburn woodturners and some graduates who also did woodturning asked about making the bowls," said Laufer. "But Matt Moulthrop has the artistic background and the production setup in his shop to handle bowls the size we wanted. Additionally, he could meet our deadlines."

Moulthrop's first official visit to the Auburn campus was January 29, 2013. He met with a group of faculty members who made sure their voices would be heard regarding the trees. "It was interesting to say the least," said Moulthrop. "There was a lot of emotion in the group. Some people didn't want someone from Georgia touching their trees. Others wanted to know exactly what I had planned. It was a situation I had never encountered. I guess I gave all the right answers because I got their approval. But I knew then it would feel like I had a million people watching me in this project."

## The wood

That day in January when Moulthrop saw the trees for the first time, he picked out which portions of the trees to work with. Auburn officials announced in March 2013 that the Toomer's Corner Oaks would not survive and had to come down. Matt Moulthrop would get the timber to make memorial bowls.

Auburn's spring football practice is known as "A Day" and annually big crowds gather. At the 2013 A Day, April 21, 83,000 fans packed the football stadium for the intra-squad game. All 83,000 then proceeded to the intersection of College and Magnolia for the "final roll."

The following Monday, the trees were given a final blessing and then cut down before a crowd estimated at 15,000 and a national television audience. The ratings for the event were higher than many primetime TV shows. "My schedule wouldn't allow me to be there for the cutting, but I would have been emotional," said Matt. "Seeing all those people saying goodbye to their trees... I would have lost it."

Moulthrop received the timber a day later and left it outside to begin the drying process. "A lot of the Auburn people wanted the big bowl for homecoming in the fall, and I had to tell them, 'no way,'" said Moulthrop. "I agreed to get them some bowls within a year, but even then we had to speed up the drying time by using different methods.

"Several people asked if there was poison in the wood. The answer is no—the poison killed the roots. Without any way to get nourishment, the trees slowly withered away."

Moulthrop first touched the wood with a chainsaw and gouge in June 2013. The wood blank for the largest bowl weighed in at an estimated 500 pounds and came from the crown of the tree where the branches began to grow out from the trunk. Matt usually does not leave bark inclusions in bowls but did on this one so people could see where the branches had grown.

It took Matt three days to rough-turn the primary bowl, the lathe running at a slow 30 rpm. He used a large chuck the size of a tractor gear to hold the wood. "I've never had a piece of wood kick my butt like that one did. There was no straight grain and no sapwood and the wood had many curves and contours. I must have sharpened the gouge 500

"Rolling the Trees" became a campus tradition at Auburn. The student body would converge at the intersection of College and Magnolia streets after big athletics wins to celebrate and cover the live oaks and surrounding trees with rolls of toilet paper. At the "Final Roll," April 21, 2013, a crowd of 83,000 bid their beloved trees farewell.

Photo: Auburn University Photographic Services

times. When the bowl was finished, it weighed 75 or 80 pounds. A lot of woodturners don't like turning this kind of oak because it has so many checks and cracks. My biggest fear was this piece might blow up, but it stayed together during the roughing-out process," said Moulthrop.

Once the bowl was roughed out, it went into a barrel of polyethylene glycol to soak for six months. That chemical allows the cells of the wood to become flexible and dry without cracking. It is a process all the wood for Moulthrop bowls goes through.

Matt started the final shaping and finishing of the big bowl in December. He usually turns bowls in solitude with no hard deadline, so he was under subtle but continual pressure from individuals associated with Auburn in the year he worked on the bowl. Matt had to block out everything around him to concentrate on the shaping, sanding, and finishing. The sanding and the finishing took the most time because the surface area had grain patterns running in many directions, which required specialized sanding. All totaled, Matt invested about 150 hours of handwork in the big bowl.

Arborists cut down the two oak trees on April 23, 2013, before a national television audience and 15,000 people watching live. Auburn spent $800,000 over a two-year period attempting to save the trees. Efforts included putting new soil around the roots in holes six feet wide by six feet deep. Once cut, the oaks revealed intriguing grain patterns.

Photo: Auburn University Photographic Services

The Auburn Oak bowl after Moulthrop spent three days roughing out and hollowing the vessel. He called it the toughest blank he had ever worked with because the grain pattern swirled in so many directions. Bark inclusions indicate for viewers where branches had grown.

Photo: Matt Moulthrop

Matt Moulthrop let the timber from the oaks dry until June 2013 before starting the rough-cutting process. Here he measures for centering the wood before mounting the 500-pound blank onto the lathe. This was the blank for the largest of the twenty bowls Moulthrop produced.

Photo: Matt Moulthrop

The rough-cut Auburn Oak bowl was lowered into a 55-gallon drum of polyethylene glycol (PEG), where it soaked for six months. PEG allows the cells of the wood to become more flexible and dry without cracking. Matt's grandfather, Ed, began using PEG in the 1970s.

Photo: Matt Moulthrop

## Recipients

The Auburn University Foundation determined who would receive the other bowls from the trees. The largest bowl remains on permanent display at the Jule Collins Smith Museum of Fine Art. Another slightly smaller bowl is part of the decor at the home of the university president. The eighteen other various-sized bowls will go to distinguished alumni.

The foundation also wanted a host of smaller pieces made, such as plates and plaques. That work went to Atlanta-based Nick Cook, one of the best all-around production woodturners in the country. All of the products made from the trees, including the bowls, come officially licensed as Auburn Oaks. The bowls have special markings in a specific sequence to identify them from possible counterfeits.

"I'm exceedingly happy with the way it turned out," said Moulthrop. "We've gotten great comments from all the Auburn people. The Auburn Oak bowl ranks right up there with the best I've ever made. At times I wasn't sure I made the right decision getting involved, but now I know I did." ■

*Dave Long is a freelance writer based in Beavercreek, Ohio. He has collected wood art for more than twenty-five years.*

# Heavy Lifting

## MARK SFIRRI WEIGHS IN AT PENN STATE GALLERY

David M. Fry

*Lodie Whostle, Pally Ludie, Chubbette, Husky Low Rider,* 2013, Pine, largest 12" × 42" × 10½" (31cm × 107cm × 27cm)

This past spring, woodturning sculptor and furniture maker Mark Sfirri mounted a retrospective exhibition at Penn State University Great Valley that simultaneously honored and challenged venerable traditions of modern art and high craft. There was space, too, to celebrate and spoof the trappings of popular culture. Of course, artistic license has defined much of Mark's thirty-five-year career as a maker and teacher. What made this display distinctive were recent works not far removed from the log or sawmill. The hefty newcomers stood apart from the refined, undulating forms of previous years, also on view.

All together, "Many Things Considered" featured some sixty sculptures, plus more than two dozen prints and watercolors rarely exhibited. Surprisingly, most of the turnings hung on the wall, probably to accommodate the eighty-plus opening-day guests within the campus gallery's two small rooms. The open floor actually added prominence to the few freestanding pieces, but the placement of other figures in peripheral cases prevented walk-around viewing.

Henry Gallery at Penn State Great Valley, 2014

## Emulating the master

New work accounted for a quarter of the exhibited turnings. Several of Mark's recent sculptures diverged sharply from his signature multiaxis forms—the mangled bats, tipsy candlesticks, and svelte human figures. For example, *Continuous Column – Sandy* rose cairn-like along a single axis of cracked, slate-colored wood salvaged from the hurricane. Through the finish, strong ash grain ran along eight plump quarter-spheres with deeply sawn, alternating faces. This was no witty candlestick writ large. It was an allusion to Constantin Brâncuși's *Column of the Infinite*, also known as his *Endless Column*. The 1938 metal version, with its seventeen human-height polyhedrons zigzagging upward 98' (30m), is considered by some to be a pinnacle of twentieth-century public art, and the maker to be the father of modern sculpture.

Two decades earlier, Brâncuși had carved a 6½' (2m) oak forerunner with radically different proportions, and it seemed no coincidence that Mark's column here reached an identical height. But what a difference in aesthetic impact! With only three complete elements and little variation in surface planes, Brâncuși's original fell far short of conjuring infinity or establishing a meaningful visual profile. It would take twenty years and a towering restatement to convey—particularly to the viewer at the base—a dynamic jagged blade thrusting heavenward. While no room-size sculpture could muster such an effect, Mark's homage arguably surpassed his predecessor's initial attempt by incorporating more elements, fattening and pivoting them, and creating surfaces that interacted strongly at eye level. The intent of *Continuous Column* might have attained even greater fulfillment had the grout-like junctures between the "slate" quarter-spheres not interrupted the grain flow.

## Reign of the heavyweights

The solidity of Mark's column carried over into several functional pieces in the show. His *Curved Painted Bench* in particular commanded the floor, with the massive seat retaining its lumberyard warp and checking. The stocky, faceted legs splayed subtly to catch the sloping, dimpled top at a decisive right angle. More prominently, the leading edge of the seat shimmered with a parade of jostling prisms chiseled along two tiers. The bottom tier reinforced the central mass and decoration and gave way just beyond the legs for visual relief. This combination of rugged features, balanced proportions, ▸

Brâncuși's studio with early version of *Endless Column*, 1920, detail from Edward Steichen photograph, Wikimedia Commons

*Continuous Column - Sandy*, 2013, Ash, paint, 80" × 13" × 13" (203cm × 33cm × 33cm)

and sloping planes radiated the energy of primitive art alongside the sophistication of modern design. It was a remarkable feat of imagination and engineering.

Other furniture in the show represented an even more radical departure from Mark's well-known reinterpretations of neoclassical, stick-built furniture. An unpainted foursome of one-piece stools and benches, for example, flaunted their bulk, knots, and deep checking. The diagonal flats and whimsical Scandinavian names of the stools lifted *Lodie Whostle* and *Pally Ludie* above rustic simplicity. Creaturely contours and cocked knobs at the ends of the benches gave *Husky Low Rider* and *Chubbette* the kinetic posture of playground seating.

## Slimmed down

Thoughtful installation kept the stocky works from overpowering the slender furniture and sculpture hovering in the background. The *Lunar Pad Foot* coat rack provided the strongest contrast to the full-bodied forms with its elongated spindle and tripod. Even with eye stalk hangers and futuristic pad feet, the piece assumed the classical pose of a revisionist antique.

Similarly, Queen Anne pad feet provided a graceful beginning to Mark's multiaxis human figures. Although sleek life-size renditions of these have appeared elsewhere,

*Curved Painted Bench*, 2007, Walnut, milk paint, 20" × 81" × 10" (51cm × 206cm × 25cm)

even at 3' (1m) heights here, they brought to life an idealized human form—poised, broad-chested, and thin-waisted with flowing body contours resolving in chiseled heads. Asymmetry in the upper body suggested movement. Two of these figures had been recently reworked, with the current versions mounted atop pyramidal bases echoing the prismatic heads.

While the pad-footed figures emerged from single blocks of wood, the squiggle/ribbon forms originated as split turnings rotated 180 degrees and re-turned inside out. With this approach, *Ribbon Silhouettes* presented a less-romanticized physique with more familiar bulges. It also took advantage of multiple turnings by placing two finished characters in conversation and using the space between to outline their relationship.

## Uncommon vessels

True to Mark's reputation as a spindle woodturner, his hardwood vessels had largely taken shape between centers. These, too, brought the human form to mind, though more subtly. Scooped out on one side and puffed out on the other, several containers had upright cashew shapes that preempted much of the interior. Raised panels over the bulges hinted at offset hidden compartments or perhaps just added a decorative touch. Either way, their presence appeared unnecessary, given the elegance of the simple profile.

Several spoons on display allowed Mark's eccentric candlestick structures to play out horizontally. *Ceremonial Spoon*, painted by Brooke Schmidt, not only dominated its display case, but also competed with a half-dozen other works for best of show. Trompe l'oeil folds with ingenious shading and highlighting gave the work an unearthly presence worthy of ritual.

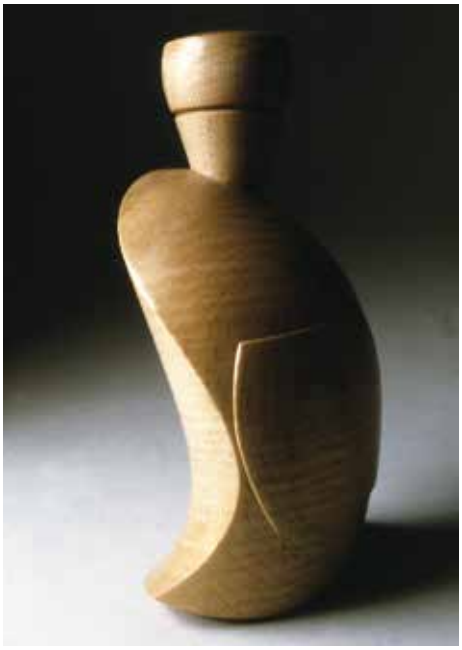
## A lighter vein

Although a sculptor of serious subjects, Mark may be better known for his humorous creations. Probably nothing has proven more popular than his curved, knotted, ▸

*Lunar Pad Foot,* 2012, Curly cherry, 68½" × 22" × 19" (174cm × 56cm × 48cm)

*Glancing Figure: France and New Hope,* 1998 and 2013, Wood and paint, 36" × 5½" × 5½" (92cm × 14cm × 14cm)

*Ribbon Silhouettes,* 1999, Oak, 20½" × 12" × 6" (52cm × 31cm × 15cm)



*Curly Maple Vessel,* 2000, 11¾" × 5" × 6" (30cm × 13cm × 15cm)

and disjointed baseball bats, ten of which appeared in the exhibition. In their various manifestations, such *Rejects From the Bat Factory* have brought a number of commissions and critical acclaim for their comic absurdity and flawless execution. Like even the best one-liners, however, they risk losing their punch with frequent retelling.

Mark's playfulness also found expression in his zany containers, toothy hunting trophies, and villainous, cockeyed candlesticks, some of which featured his classic touch of gothic. Despite the use of comic book graphics and focus on consumables—soup, condiments, and a hangover remedy—the containers steered clear of the product enlargement and ironic photorealism of pop art. Some of the jars bore titles for a French audience, although Mark discovered that the idioms (e.g., spring chicken) did not always compute in translation.

*Ceremonial Spoon,* with Brooke Schmidt, 2001, Mahogany and paint, 5" × 18" × 3" (13cm × 46cm × 8cm)


Assorted containers, 2003, Poplar and paint, largest 9½" × 5" × 4" (24cm × 13cm × 10cm)

## Creativity

The exhibition's wall signage focused almost entirely on process, which was not surprising in view of Mark's thirty-year tenure as a woodworking professor. His comments here and elsewhere noted how new ideas emerged sometimes daily, competing for a place on the lathe or bench. For his characteristic eccentric turned forms, he might lay out the different axes beforehand on paper to determine how the resulting profiles would interact. Sometimes he carved, then turned; other times, he reversed the sequence. In the exquisitely detailed *Slate Bowl*, superlative work resulted from hand carving alone. It is apparent Mark believes the creative process requires continual practice and revision to visualize what is achievable.

## Future retrospectives

The new Henry Gallery on campus offered a beautiful, well-lit venue housed within a conference center hosting thousands of visitors and potential buyers. The space provided Mark, just coming off a prolific sabbatical, a timely opportunity to show pieces from a long career. What the limited display area could not contain was the full spectrum of his output over the years. In fact, only three exhibited pieces predated 2000, long after he had established his reputation as a multiaxis-turning pioneer.

It is tempting to imagine what a comprehensive museum retrospective might look like down the road. It could include the fruitful collaborations of those early years with painter Robert Dodge and Mark's off-axis co-conspirators

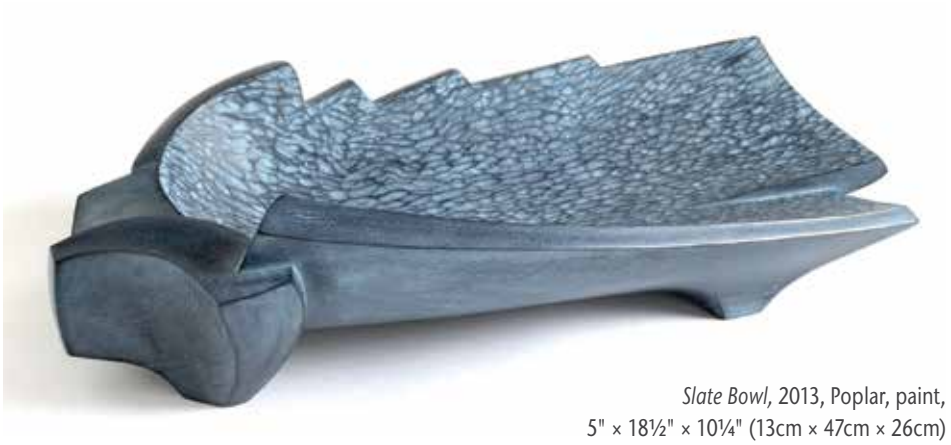
Jean-Francois Escoulen and Michael Hosaluk (of the Mark and Mikey Show). The work with Dodge in particular would afford a broader view of what Mark has accomplished as an immediately identifiable, iconoclastic furniture maker.

Equally important, a comprehensive retrospective might generate a catalog that, among other things, expanded Mark's bio to place him in a larger historical context. Having studied art and architecture as a youth and reached the master's level at the renowned Rhode Island School of Design, he absorbed Tage Frid's old-world discipline of fine woodworking and the rich history of design. In the decades since, he has authored numerous technical and scholarly articles and established himself as an authority on American sculptor and furniture maker Wharton Esherick.

It is highly probable that Mark's extraordinary powers of invention have not materialized out of a vacuum, but risen from a deep reservoir of influences that shine through his work. These include not only Esherick, but also the cubists and German expressionists, charismatic educator and designer Rudolf Steiner, and furniture maker Fritz Westhoff. Such figures generally avoided close imitation of nature and often relied on prismatic abstractions and organic curves and shapes, sometimes in combination. Mark's genius has been to generate these forms in a turned wood spindle unshackled from a single rigid axis and its inevitable symmetry. Of course, the lathe will never shed all its traditional limitations, but in Mark's bustling studio, the column of possibilities still seems endless. ■

*David M. Fry turns wood and writes near Washington, D.C.*


*Rejects From the Bat Factory,* 2005, Ash, poplar, paint, 34" × 25" × 5½" (86cm × 64cm × 14cm)



*Slate Bowl,* 2013, Poplar, paint, 5" × 18½" × 10¼" (13cm × 47cm × 26cm)

# THE FACTS

## Lyle Jamieson

### About Hollow Forms Turning Systems

**History**

In 1996, Lyle Jamieson started producing a boring bar hollowing system with a laser-assisted measuring device that changed how hollow form turning is done. This was revolutionary. There were turners in that era that were using home-built boring bars that were so big and heavy that the turner could not hold the handle up and still have control and accuracy. Lyle took this stabilized platform approach and shrunk it down so anybody could afford to do hollow forms without sitting on the lathe and beating up their bodies in the process. To keep the price down, Lyle's system is low on glitz and high on function - it works! One important aspect of Lyle's boring bar is, it is MADE IN USA! There have been a number of boring bar systems that have come and gone in recent years. You can count on Lyle being around when you need help.

What's the difference?

**Scale**

The ¾ inch diameter boring bars have been the standard for decades of hollowing. They allow the most flexibility for getting into relatively small mouth openings and can reach out over the toolrest to hollow without vibration in most traditional shapes. Lyle's straight bar creates stability, strength, and accessibility. It is safe to use with no moving parts that create pinch points. At the next symposium you attend, you can look out over the instant gallery room and know you can turn any shape you see out there. What's the difference?

**Accessibility**

It is important to open up possibilities with your tools, not limit them. Lyle's swiveling tip tool holder allows an infinite range of cutting motion for the efficiency of the 3/16 inch cutting tool to reach any shape vessel imaginable. The boring bar and backrest support are versatile enough to undercut shoulders without constant fiddling. Lyle has developed the cutters with 3 ranges of reach with one boring bar. No need to purchase special boring bars to access the different shapes desired. What's the difference?

**Torque Arrest**

Lyle uses a "D" shaped handle torque arrest method because it spreads out the considerable twisting forces with a broad brush. When the cutter is positioned around to the left to undercut a shoulder or reach into that hard to reach spot through a small hole, the torquing forces can get intense. Lyle wants the fingertip control to clean up tool marks and smooth the inside contour of the vessel. What's the difference?

**Physical Effort**

It can't get any easier. The Jamieson system allows you to stand comfortably in front of the lathe with fingertip control to reach any desired hollow form shape. No need to get a stiff neck and sore back leaning over the lathe looking into the entry hole. No need to sit on the lathe and hang onto the handle with a death grip. It is all about the fun. You do not need to work hard hollowing any more. What's the difference?

**The Laser**

Everyone knows the benefits of laser measuring. It is no longer necessary to work blind in a shaving-filled hollow form. The laser puts you in complete control of the wall thickness. Never turn through the side of a vessel on which you have worked for hours to get the outside shape just perfect. The laser must be easy to set, quick to set, and accurately set. The laser, in real life use, must be reset often and accurately to do uniform, thin-walled vessels. Some lasers take three hands to set them. The laser can "see" through the waste wood and show the shape and depth of the inside bottom of your vessel. What's the difference?

**Education and Backup**

The Jamieson system has Lyle with it and behind it. Lyle has been a respected, reliable educator for decades. He has a popular instructional DVD that covers the techniques of the boring bar system and the use of the laser measuring device. He publishes a monthly newsletter with tips and tricks on hollowing as well as a Question and Answer section covering a wide range of topics. Sign up for his newsletter at www.lylejamieson.com or view archived copies. Lyle has been published many times in most of the woodturning publications with articles on subjects ranging from preventing catches to carbide cutter techniques. You will see Lyle as a featured demonstrator at the AAW symposium in San José 2012 and at many regional symposiums either demonstrating, as a vendor, or both. People that have the Jamieson System are considered Part of the Family. What's the difference?

"It's All About The Fun!"

**Summary**

As Joe Friday said: "Just the Facts, ma'am, nothing but the facts." The Jamieson hollowing system is the best, easiest to use, easy to set up, inexpensive, comes with instructions. Set up correctly it will never get a catch. Children and young turners have enjoyed it for years. One hundred percent satisfaction guaranteed. Ask anybody that has one, "What's the difference?"

Lyle Jamieson is a full-time woodturning sculptor & instructor from Traverse City, MI. He is President of the Northwest Michigan Woodturners(tcturners.org). Lyle is known for his figurative sculptures & for the Jamieson boring bar & laser measuring system. He will be a featured demonstrator at the San José symposium, 2012. For more about Lyle, visit his website: www lylejamieson.com.

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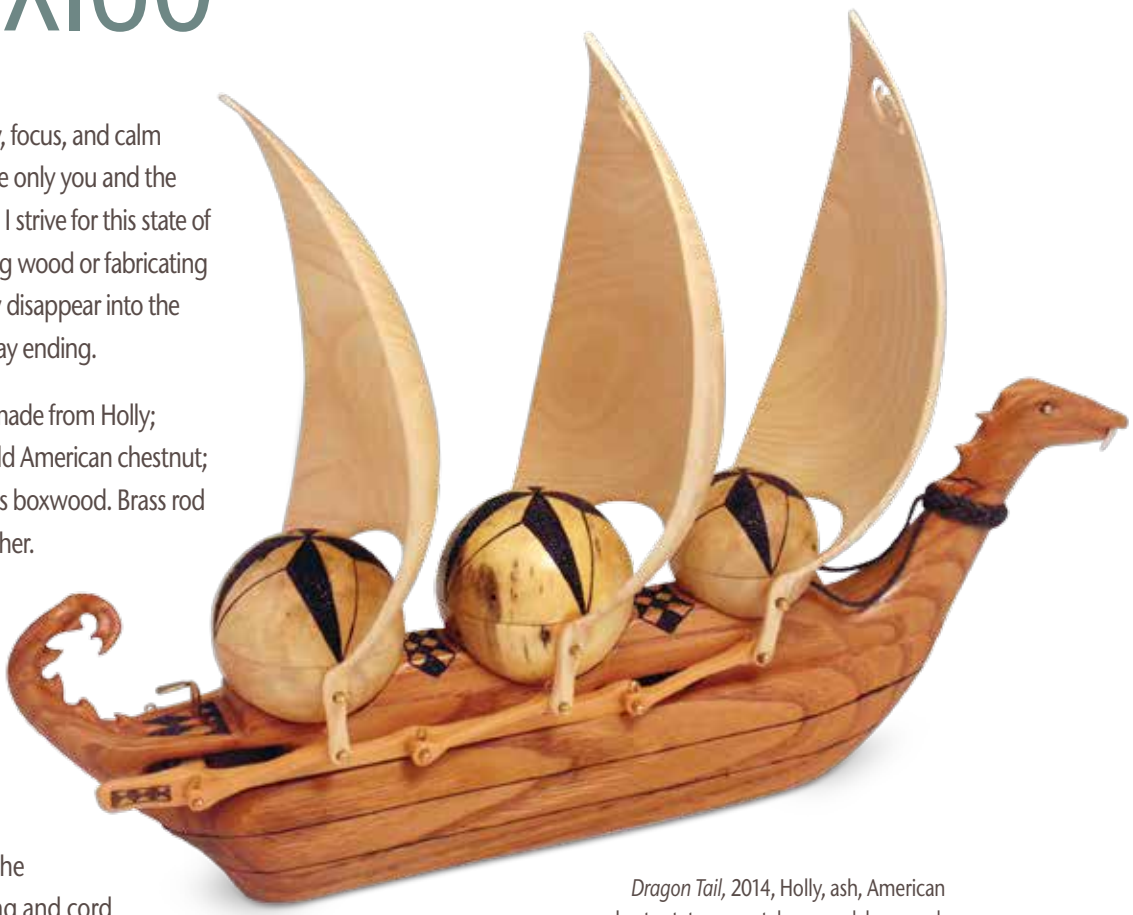
# RALPH WATTS
## NEW MEXICO

Zen philosophy emphasizes simplicity, focus, and calm abiding to reach a state of mind where only you and the task at hand reside in your awareness. I strive for this state of consciousness while turning or carving wood or fabricating parts for sculptures. The hours quietly disappear into the work and it surprises me to find the day ending.

Each "cargo hold" is a threaded box made from Holly; the sails are Ash; the body, 110-year-old American chestnut; the teeth, tagua nut; and the linkage is boxwood. Brass rod and cotter keys hold everything together.

To furl the sails, pull aft on the checkered ends of the linkage alongside the aft deck and remove the retaining pin. The internal spring will pull the sails down. Replacing the retaining pin will keep the sails in place. Turning the vessel upside down reveals the spring and cord that activate the sails. With the sails furled, *Dragon Tail* measures 18" (46cm) long and 6½" (16.5cm) tall.

Each sail has a curlicue (the Dragon's tail) carved near the top. The deck and cargo hold graphics were burned, then textured with a high-speed burr. All brass ends are polished and removable.



*Dragon Tail,* 2014, Holly, ash, American chestnut, tagua nut, boxwood, brass rod, 10" × 14" × 4½" (25cm × 35cm × 11cm)