AMERICAN WOODTURNER

Journal of the American Association of Woodturners

Vacuum Chucking Systems

Bresler Exhibition

Graeme Priddle

February 2011 vol 26, no 1
woodturner.org

AAW's 25th Anniversary Symposium

Robert Bagley
Born of Old

I look for inspiration in weathered objects, peeling paint, rusted metal, cracked mud beds, and sandblasted driftwood. I collect interesting bones, unusual seeds, and strange cactus skeletons. Often, my ideas for the next piece are inspired from the last.

When I began working wood, I was more interested in discovering and exposing its inherent beauty than in transforming a chunk of wood into something unique. I have explored in the opposite direction as well, filling wood grain and painting the surface. Currently, my focus is in exploring that space between perfectly smooth plastic-coated spheres and jagged-edge trunk-like forms, seemingly ripped apart by nature.

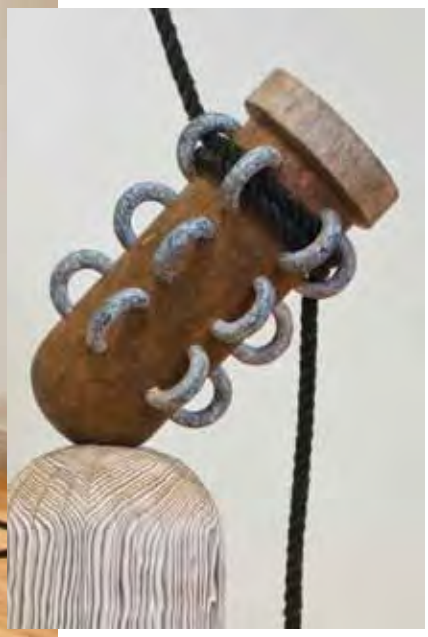
I seldom finish a work on the lathe; more often my lathe is used to rough out a shape, which I then carve, texture, color, and sand. I enjoy discovering techniques to create surfaces that resemble aged wood, imbuing a sense of history into the objects I create. —Robert Bagley

More of Robert's work can be viewed on his website, bagendstudio.com. ■

Wedge Rim Bowl, 2005, Australian pine, black walnut, maple, 6⅝" × 7" × 6⅝" (17 cm × 18 cm × 17 cm)

Weedcatcher, 2009, Cuban mahogany, 8" × 12" (20 cm × 30 cm)

Primitive Bowl #1, 2005, Jacaranda, 5½" × 10¾" (14 cm × 27 cm)



Nautical Considerations, 2008–2010, Cuban mahogany, spalted maple, fir, rope. Installation.

Primitive Basket #1,
2007, Jacaranda,
5½" × 8¾" (14 cm × 22 cm)

Mudflow, 2010, Spalted maple, twine, clay. Installation.

Cluster Pots, 2007, Spalted maple, Cuban mahogany, jacaranda. Installation.

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

American Woodturner (ISSN 0895-9005) is published bimonthly by:
American Association of Woodturners
222 Landmark Center
75 5th St W
St. Paul, MN 55102-7704
office: 651-484-9094
toll free: 877-595-9094
fax: 651-484-1724

email: inquiries@woodturner.org
website: woodturner.org
gallery website: galleryofwoodart.org

Yearly membership in the American Association of Woodturners is $48 USA, $53 Canada, and $63 overseas and includes a subscription to *American Woodturner*. Electronic-journal AAW membership, $38

Send dues to:
American Association of Woodturners
222 Landmark Center
75 5th St W
St. Paul, MN 55102-7704 USA

Or join online at woodturner.org

Periodicals postage paid at St. Paul, MN, and additional mailing offices.

POSTMASTER: Send address changes to AAW, address listed *above*.

Publications Mail Agreement No. 40064408
Return undeliverable Canadian addresses to:
Express Messenger International
P.O. Box 25058, London BRC
Ontario, Canada N6C 6A8

Printed in the USA by
RR Donnelley, Long Prairie, MN

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AMERICAN WOODTURNER

Journal of the American Association of Woodturners

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ON THE COVER

Cover – Dale Nish, *Nagaré Vessels*, 1988, Wormy ash, tallest bowl is 17" (43 cm) tall. Dale Nish, an Honorary Lifetime Member of the AAW, will be a featured demonstrator at the 25th annual symposium in Saint Paul, June 24-26.

Back Cover – Twenty-five images selected from the outstanding work of demonstrators and presenters at AAW's 25th annual symposium in Saint Paul. A key to the images can be found on the AAW website at woodturner.org/sym/sym2011/.

woodturner.org

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Index to previous articles:
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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 in the AAW *Resource Directory* and online at woodturner.org. Following them will help you continue to enjoy woodturning.

From the Editor

Welcome to AAW's 25th anniversary year! It's amazing to consider how many tons of shavings we have generated in our quest for creating the perfect bowl, exploring hollow forms, turning pens, piercing thin-walled vessels, and sandblasting ring-porous hardwoods. The back cover reflects the growth and development of woodturning: the 25 images were specially selected, showing works by the demonstrators who will be at the Saint Paul symposium. This visual mix ranges from plain to painted and pierced with lots of creative innovation in between, reflecting the diversity of the woodturning field.

The articles in this month's journal were written by AAW members willing to share their knowledge about a variety of different subjects. I know that the holidays are behind us, but even so, I wanted to present Jim Gross's multisided, inside-out ornaments early in 2011 to provide readers an opportunity to start perfecting their skills *before* the holidays are here again. The process is complex but looks intriguing. Good luck!

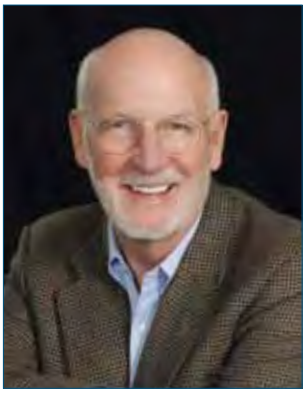
The report from the Bylaws Subcommittee can be found on pages 12 and 13. Please take the time to read the Committee's explanations of the changes to the Bylaws. Voting is easy: Cast your vote at woodturner.org. If you need help with electronic voting, call the office at 651-484-9094 or 877-595-9094 (toll free).

Young turners like Katherine Kowalski represent the future of woodturning. In her article on crochet hooks, she brings a contemporary approach to two crafts, combining knowledge of woodturning and crocheting to make the perfect crochet hook.

I am positive that the AAW's next 25 years will be as amazing as the last!

—Betty Scarpino

President's Letter



Bright Prospects for the AAW's 25th Anniversary Year

We're celebrating the 25th anniversary of the AAW, and good things are happening!

We are pleased to welcome Cindy Bowden as our new Executive Director. Cindy came to the AAW from the Georgia Institute of Technology where she served as the Executive Director of the Museum of Papermaking. Cindy also serves as President of the World Crafts Council North America, a position in which she will continue, bringing the AAW closer to crafts worldwide. Cindy's strong credentials in financial and endowment management, grant writing, event planning, personnel management, and the use of technology such as websites and electronic communications will help broaden the outreach of the AAW, resulting in increased membership. Welcome, Cindy!

Cindy is already deeply involved in planning the 25th Anniversary Symposium that will take place June 24–26 at the Saint Paul RiverCentre. It promises to be the biggest and best symposium ever. Register and make your hotel reservations now to ensure availability. You can register through the AAW website or call the AAW office.

A feature at the 25th Annual Symposium will be the $25 for 25th Program. Every AAW member is invited to donate a woodturning, which will be displayed in a special gallery at the symposium. Attendees may purchase any donated item, no matter how simple or elegant, for a flat rate of just $25. Proceeds from the sales will benefit the AAW general fund. Become a part of this innovative program by sending your woodturning to the AAW office in Saint Paul right away or bring it with you to the symposium. Be sure to sign your donation with your name and "AAW's 25th Anniversary."

One of the many symposium special events will be an exhibition, "Turning 25—A Celebration." We challenge and encourage each chapter to send in a lathe-turned entry that exemplifies and represents the chapter. Don't miss this opportunity to showcase your chapter's best work. Visit the AAW website for details.

As is tradition, there will be a Return to the Community project. This year's project is *Empty Bowls…a grassroots movement to help end hunger.* Every AAW Chapter is encouraged to participate by providing turned bowls. For details, please visit the AAW website home page, and click on the Return to the Community link.

Membership renewals are strong. Thank you for renewing or joining the AAW—2011 promises to be a banner year!

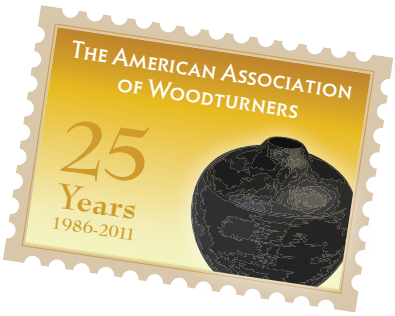
With warm regards,
Tom

Bylaw Revisions

A letter explaining the Bylaw revisions appears on pages 12 and 13. The complete revised Bylaws are posted on AAW's website at woodturner.org/info/bylaws_12_2010.pdf. The entire Board extends its sincere appreciation to the Bylaws Subcommittee for their hard work and encourages all members to vote. If you need assistance with electronic voting, please call the AAW office at 651-484-9094 or 877-595-9094 (toll free).

Join us in Saint Paul for AAW's 25th Anniversary Symposium

June 24–26, RiverCentre Convention Center, Saint Paul, Minnesota



You won't want to miss the fantastic celebration we have planned! We have a full lineup of woodturning demonstrations that is guaranteed to appeal to a wide range of interests. In addition, all of the Honorary Lifetime Members have been invited to demonstrate or host panel discussions. Registration information is online at woodturner.org. An additional lineup of demonstrators and events will appear in the April issue of the journal.

In addition to the largest Instant Gallery of turned objects in the world, the symposium will feature three exhibits: AAW's "Turning 25," Local Chapter Collaborative, and the Professional Outreach Program's "Roots." The Collectors of Wood Art's annual forum will also meet during the symposium. "Conversations with Wood: Selections from the Waterbury Collection" will be featured at the Minneapolis Institute of Art June 17–September 4.

The AAW office is located in the historic Landmark Center, just a short walk away from the symposium site in the heart of the entertainment district of Saint Paul. While at the symposium, stop by and visit our Gallery of Wood Art!

Saint Paul is the capital of Minnesota. The State Capitol building, built in 1905, sits on a hill overlooking the downtown. The Cass Gilbert design is crowned by the world's largest unsupported marble dome. The interior is impressive, with marble stairways, chambers, halls, and numerous oil paintings. Visit woodturner.org for links to other local attractions.

The Minneapolis/Saint Paul Lindbergh Airport is ten miles from the convention center and hotels. The AAW office and Gallery of Wood Art are located close to the RiverCentre—we hope you will stop by for a visit. Make your reservations now. See you in Saint Paul! ■


RiverCentre Convention Center

Accommodations

Host Hotel
Crowne Plaza
11 East Kellogg Blvd.
Saint Paul, MN
800-593-5708
Or reserve a room online at ichotelsgroup.com
Room rates $129, single or double

Alternate Hotel
Hilton Garden Inn
411 Minnesota St.
Saint Paul, MN 55101
651-291-8800
877-782-9444 (toll free)
(0.2 miles from city center)

Be sure to mention American Association of Woodturners to get the discounted room rate.

Featured Demonstrators

Dixie Biggs, Florida

▸ **Simple Surface Treatments**
Join me and learn how to enhance your work with simple textures using a Dremel tool or engraver. Add visual impact with the use of dyes, grain fillers, and colored waxes.

▸ **Need Some Relief?**
I will share the relief carving techniques that I use to create my leaf-wrapped vessels, from layout to detailed carving. Discussion will include tools, bits, and problem solving.

▸ **Detail with Wood Burning and Color**
Learn how the wood burner can be used to add finer detail and contrast to relief work. With the application of color, see how depth and dimension can be added to the surfaces of your pieces.


Harmony, 2008, Jacaranda, bleach, 6" × 5" (15 cm × 13 cm)
Photo: Randy Batista
Collection of Rachel Kohler

continued

25th Annual AAW Symposium in Saint Paul

Nick Cook, Georgia

▸ **Production Turning for Sales**

This session will focus on how to make a wide range of quick, enjoyable, and practical objects. I will demonstrate everything that goes into making production pieces to achieve a highly successful commercial business. Covered will be tool selection, sharpening, and turning techniques for bottle toppers, baby rattles, honey dippers, tea lights, ornaments, and boxes.

▸ **Table Lamps**

See how I combine spindle and faceplate techniques and also include round joinery and boring procedures to design and turn a table lamp. I will show you how to assemble it and add the electrical components to light it up.

▸ **Peppermills and Unique Salt Shakers**

Learn how to design and create a peppermill, from stock selection to glue-up for laminated mills. I will show the proper sequence for drilling and chucking. Sanding and finishing will also be discussed.

Untitled, 2002, Spalted silver maple, 14" dia. (36 cm)

Collection of Jim and Marisa Pruss

David Ellsworth, Pennsylvania

▸ **Hollow Form from a Log**

▸ **Natural Open Bowls from Half Log**

Untitled, 2006, Spalted maple, 10½" × 10½" × 11" (27 cm × 27 cm × 28 cm)

Collection of Jane and Arthur Mason

Clay Foster, Indiana

▸ **Turn Me a Story**

Stories are the fabric of our lives, and turned objects are a wonderful canvas for creating narrative work that is abstract, representational, or realistic. Along with Jennifer Shirley, I will share a slideshow that was inspired by stories in our lives. This presentation will be an inspiration for making pieces that tell stories.

▸ **Low-Tech and Simple Surface Decoration**

I will share several low-tech methods of adorning turned objects such as eggshell finish, coloring with printer's ink, mud-resist burning, grain filling, and milk paint.

▸ **Multiaxis Vessel**

Multiaxis vessels are a relatively unexplored aspect of woodturning. I will present one simple method to get you started in creating multiaxis vessels.

Temple Font, 2006, Wood, stone, brass wire, tile grout, 50" × 15" × 15" (127 cm × 38 cm × 38 cm)

Dick Gerard, Indiana

▸ **African Vivango**

Explore with me the making, cultural background, and varied influences that drew me to create my personal take on African vivango (spirit markers). The finished product combines spindle and faceplate work. Although the turning is simple, the surface enhancements are varied and can be complex. The method of displaying vivango will be discussed.

Untitled, 2010, Poplar, maple, leather dye, 28" × 8" (71 cm × 20 cm)

Mike Hosaluk, Canada

▸ **Fixtures and Fittings for Turned Objects**

Teapots need handles, spouts, and legs! Join me to learn various ways of making and attaching objects to teapots and bowls. The presentation will include turning and a brief slideshow.

▸ **Making Unusual Containers and Boxes**

I will show several tools used for endgrain hollowing and demonstrate different techniques for making boxes. A brief slideshow will be presented.

▸ **Turning and Bending Spindles and Vessels**

Learn how a variety of turned objects can be steam-bent. I will demonstrate techniques for steam bending, such as the use of a microwave. Included is a discussion of different materials for bending.

Balance, 2010, Maple, acrylic gesso, acrylic gel, molding paste, 5" × 10" × 10" (13 cm × 25 cm × 25 cm)

June 24-26, 2011

Todd Hoyer, Arizona

▸ **Wood and Its Characteristics**

This session will cover the unique characteristics of wood as they relate to turned forms. I will discuss cell structures and their orientation in the log, wood movement, shrinkage, and cracking. Emphasis will be on using spalting, insect damage, staining, curl, burls, and weathering as decorative elements on vessel forms.

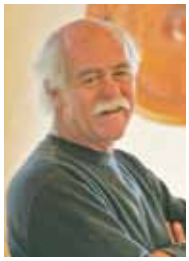
▸ **Turning Crotches**

I will discuss crotch figure and how to orient a vessel to show the unique figure. I will demonstrate how a winged form can be turned from a small crotch.

Winged series, untitled, 1987, Oak, 12" tall (30 cm)

▸ **Vessel Orientation**

Why guess the outcome? I will show you how to look at a log to determine how to orient a vessel to take advantage of grain patterns. I will talk about reducing the size of bowls and hollow vessels to center grain patterns—bigger is not necessarily better.



Jerry Kermode, California

▸ **Natural-Edge Bowls with a Stitch**

Hawaiian methods of bowl repair influenced my use of a biscuit joiner during the turning process. These "stitches" strengthen the vessel and positively emphasize flaws. My discussion will include how to keep the bark on a bowl, finish-turning the foot, and sanding.

▸ **The Art of Nonviolent Woodturning**

Enhance your enjoyment of turning by learning techniques that encourage success, such as posture, breath, yoga and Zen principles, to achieve a relaxed relationship with the lathe and wood. I will cover practical use of tools and materials. Attitude is everything—what you bring to the lathe is what you take away.

▸ **Bowls and Plates for Beginners**

I will show how to work with the orientation and direction of the grain, demonstrate mounting techniques, discuss bowl gouges, and present techniques for finishing bottoms.

Untitled, 2008, Milo, koa, 6⅜" × 8" × 6½" (16 cm × 20 cm × 17 cm)

John Jordan, Tennessee

▸ **Hollow Turning**

I will demonstrate the uncomplicated way to make a hollow vessel using green wood and simple tools, resulting in a refined and elegant piece. Wood selection, efficient gouge use, and shear scraping will be covered.

▸ **Carved and Textured Surfaces**

I will use various hand and power tools to show different methods and types of carved/textured surfaces for turned objects. Join me to learn how to enhance your work, from simple bowls to hollow forms.

Untitled, 2010, Carob, 5" × 7" (13 cm × 18 cm)

Permanent Collection of Arkansas Art Center

▸ **Inspirations and Ideas, Personal Work**

Through pictures and stories, I will illustrate how my work has developed, discuss influences, and suggest how you can create your own work. If you want to go beyond "how" and look into "why," this session is for you.

▸ **The Aesthetics and Properties of Wood or "My Wood Don't Crack"**

This discussion will cover the use of green wood as a material to produce finished, refined work, illustrating simple methods of dealing with wood movement and cracking.

Ray Key, England

▸ **Oriental-Style Boxes**

Using one style of box, I will demonstrate and discuss box design and procedures for making boxes. Vacuum chucking will be covered.

▸ **Delicate One-off Bowls**

Experience the making of small bowls, created for visual and tactile pleasure. Various shapes and features will be explored. I will discuss methods of using a gouge and bulk wood removal.

▸ **Open, Endgrain Vessels**

Learn how to achieve well-proportioned vessels using hook and ring tools, gouges, and shear scraping.

Pagoda box in six parts, 2009, Ebony, 6½" × 3" (17 cm × 8 cm)

Collection of Hans Weissflog

Bonnie Klein, Washington

▸ **Just for Youth**

Join your woodturning buddies in this session to experience a medley of techniques and projects, tailored for young woodturners.

Various projects to be demonstrated for the youth session.

continued

25th Annual AAW Symposium in Saint Paul

Alan Lacer, Wisconsin

▸ Skew and Sharpening

I will present guidelines for sharpening cutting tools such as gouges and skew chisels. I will share tips and tricks to help you avoid the most common mistakes.

▸ Lidded Boxes

Discover how to create a precision-fit lid that snaps shut. I will cover the use and making of a hook tool, which essentially is a right-angle gouge for endgrain hollowing. I will explain why hook tools cut with the grain rather than scrape.

Russian Chameleon Spaghetti Box, 2007, Palo santo, 12½" × 4" (32 cm × 10 cm)

Dale Nish, Utah

▸ Birdhouse Ornaments

Learn how to plan, prepare, and design birdhouse ornaments. Topics covered will be tool techniques and assembly of parts for creating a unique and treasured gift.

▸ Natural-Edge Bowls

I will show the basics of natural-edge turning from wood selection and mounting to tool selection and use, design, sanding, and finishing.

▸ Working Wet Wood

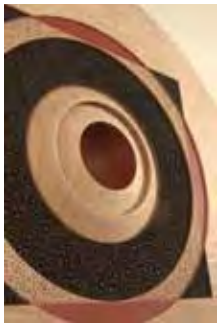
From a half-log of wet wood, I will turn and finish a bowl.

Nagaré Vessel, 1988, Wormy ash, 18" × 7" (46 cm × 18 cm)

Hayley Smith, Arizona

▸ Surface Treatments, Color, and Texture

Color and texture can make or break a piece. I will discuss what is key for creating successful turned objects when adding surface embellishment, on and off the lathe. Find out how wood grain, the scale of grain, and color interacts with embellishments. Techniques will include rotary burr tools and coloration using subtractive processes (bleach) and additive techniques with paints and pigments. Part 1 will include a slideshow of my work.



Square Dance Illusion, 2009, Maple, 13½" dia. (34 cm)

Chris Stott, Spain

▸ Simplify Your Turning Experience

Discover how boxes and small turned items, once removed from the lathe, are completely finished. There is no need to sand, carve, or paint turned objects! Working within the constraints dictated by the lathe can be creative and enjoyable.

Apple Box, 2010, Rippled ash, ebony, 5" × 4" (13 cm × 10 cm)

Al Stirt, Vermont

▸ Bowl Turning, Balancing the Grain

I will demonstrate how I rough out a green-wood bowl and then finish-turn a bowl after it has dried. Emphasis will be placed on getting the best grain pattern from straight-grain wood by manipulating the block of wood on the lathe. Tool use and drying green bowls will be discussed and demonstrated in detail.

▸ Fluted and Textured Bowls

I will demonstrate how I turn and carve two different types of fluted bowls and some variations of texture carving. One fluted bowl is carved with a carving gouge mounted in a pneumatic reciprocating tool. The other is carved using abrasive tools. I will demonstrate the use of rotary tools for creating patterns.

▸ Turned, Painted, and Carved Sgraffito Platter

I will show how I turn a platter, then paint it and carve through the paint to create a pattern in a process similar to sgraffito pottery. The demonstration will include turning beads and coves on platters, developing a pattern, and carving techniques.

▸ Turned and Carved Square Platter

I will turn a square platter and show how I design, carve, and color a pattern that is both controlled and random. I will be using a rotary carver with carbide bits.

African series bowl, 1990, Boxelder burl, 7⅝" dia. (19 cm)

June 24-26, 2011

Malcolm Tibbetts, California

▸ **Introduction to Segmented Woodturning**
This session will be about how to design, cut, and assemble a stacked-ring construction, not just for beginners.

▸ **Checkered Hollow Form**
Using no math and no miters I will show how to stack angle-cut rings of laminated material into vessels with a huge wow! factor.

▸ **Stave Construction**
Join me and learn how to use compound-miter staves in segmented turning.

▸ **Tricks and Tips for Segmenters**
Making segmented turnings can become faster and more accurate by taking the mystery out of many feature-ring techniques.

▸ **Segmented Sculpture**
I will discuss advanced techniques such as tapered rings and mitered triangles. Included will be a discussion of the "why" of this type of work.

Acceptance, 2010, Maple, ebony, 15" dia. (38 cm)

Honorary Lifetime Members Panel Discussions

Albert LeCoff
Mark Lindquist
Jane Mason
Arthur Mason

Doing a Good Turn

A $25 Souvenir for the 25th!

Russ Fairfield

Dennis DeVendra

Here's a special chance to show off your work and make a big difference for the AAW! At our 25th anniversary celebration in June, every member is invited to contribute a commemorative turning to benefit AAW's future growth. Each piece will be priced at a flat $25, and all will be displayed in a special section at the symposium in Saint Paul. Attendees may purchase as many souvenirs of this historic occasion as they wish, for themselves, family, friends, and local-chapter members back home.

All proceeds will help us build for our next 25 years. Proceeds will be reserved for educational outreach and technology development.

Graeme Priddle

John Ferrell

Peppermill, Pen, Paperweight, Pot, Platter – and More

The opportunity to contribute to this unusual and fun event is meant to include the entire spectrum of membership – from beginner to professional, from local chapters to international members.

How to contribute items:

- The piece you contribute can be anything: pen, bowl, furniture, hollow form, jewelry, sculpture – you name it, as long as it is a turned object.
- Each item must be signed by the maker, along with the inscription "AAW 25th Anniversary."
- You can bring it to the symposium yourself, or ship it to the AAW office in Saint Paul in time for the symposium.
- Tickets will be sold at the symposium for $25 each, which allows attendees to select any piece from the vast array of member contributions. Both amateur and professional turners will be contributing one or more pieces, all for the same low price.
- Local chapters of the AAW also are encouraged to join in this event by offering a "$25 for 25" chapter challenge to its members, and then sending the pieces to Saint Paul as a chapter contribution.
- Please include your name and address and a brief description of what you made when you submit the item.

Don Leman

Dick Sing

Don McIvor

Here is your opportunity to purchase one or more special commemoratives created by the entire membership, and contributed by all in the spirit for which the AAW is renowned – sharing our woodturning passion and skills.

This promises to be a fun and popular feature at the symposium, which also will help the organization grow.

We look forward to your contribution, and hope to see you in Saint Paul in June!

Cindy Bowden, Leader in Craft and Museum Fields, Named Executive Director of the AAW

Cindy Bowden, a longtime museum administrator and leader in the international craft community, became Executive Director of the American Association of Woodturners on January 3, 2011.

Bowden is a veteran of the American crafts movement, most recently as Executive Director of the American Museum of Papermaking at Georgia Institute of Technology in Atlanta for the past 17 years. She also is currently President of the World Crafts Council North America.

"We are delighted to bring a person with Cindy Bowden's exceptional administrative talents and knowledge of the craft field into a defining role within this organization," said Tom Wirsing, President of the AAW Board of Directors. "She not only has the know-how to manage an organization of nearly 14,000 members but also will bring significant fundraising credentials to our work."

At the American Museum of Papermaking at Georgia Tech, Bowden solicited grants from foundations and individual donors to establish an endowment, expand exhibition space, and organize traveling educational programs and exhibits around the world that attracted more than 19 million visitors.

"The AAW is recognized as the gold standard in the world of crafts and industrial arts, and it is both gratifying and humbling to be chosen to help lead an organization with such a deserving reputation," said Bowden of her appointment. "I intend to work tirelessly in service to and expansion of its membership."

As President of the World Crafts Council North America, Bowden has worked with the Chinese and African Crafts Councils to organize international exhibitions of craft and exchanges of students studying craft and craft technologies.

"Cindy Bowden's appointment concludes an international search effort that encompassed a wide range of outstanding candidates," said Warren Carpenter, AAW board member who headed the search committee. "She will take over at a time of new growth and energy within AAW, and her exemplary management abilities and operating style will be tremendous assets in meeting future challenges." ■

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 that donated this year's prizes, which include tuition scholarships, $100 certificates, sanding supplies, DVDs, chucks, grinding jigs, and lathes!

When you patronize our vendors, please thank them for their support of the AAW. Visit our website at woodturner.org/org/mbrship/drawings to see each month's prizes and winners.

At the end of 2011, 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 Walter Meier Powermatic/JET. Included is free shipping in the continental USA, or up to a $500 allowance for international winners.

2011 Donors

(Others may be added during the year.)

Anderson Ranch Arts Center andersonranch.org
Arrowmont School of Arts and Crafts arrowmont.org
Trent Bosch trentbosch.com
John C. Campbell Folk School folkschool.org
Choice Woods choice-woods.com
Craft Supplies woodturnerscatalog.com
David Ellsworth ellsworthstudios.com
Hunter Tool Systems hunterwoodturningtool.com
Mike Mahoney bowlmakerinc.com
Oneway Manufacturing oneway.ca
The Sanding Glove thesandingglove.com
Thompson Lathe Tools thompsonlathetools.com
Walter Meier Powermatic/JET waltermeier.com/us/en/splash.html

Congratulations 2010 Grand Prize Winner!

Cliff Mann is the lucky recipient of the Powermatic 3520B lathe! Look for more details in the April journal and on the AAW website at woodturner.org.

AAW's 25th Anniversary Logos

We are pleased to present the logos for AAW's 25th anniversary celebration. Thank you to everyone who entered the contest and congratulations to the winner, who wishes to remain anonymous.

Contests

Best Chapter Newsletter/ Best Chapter Website

Each year, the AAW holds two contests: Best Chapter Newsletter and Best Chapter Website. The closing date for applications is April 1, 2011. Winners will be announced in mid-May on AAW's website and at the symposium banquet in Saint Paul; there will be a follow-up announcement in the journal.

Rules and guidelines may be found on the AAW website at woodturner.org/community/chapters/chapter_contests_2011.htm.

How to apply

Best Chapter Newsletter

Email a *link only* to your four best newsletters from the past year, to inquiries@woodturner.org. Do *not* send any of the four newsletters themselves; the file sizes will overwhelm the judges' inboxes!

The 2010 newsletter winners were Chicago Woodturners (chicagowoodturners.com), Woodturners Guild of Ontario (wgo.ca), and Montgomery County Woodturners (montgomerycountywoodturners.org). Read their newsletters to get a general idea of what it takes to put together an excellent newsletter.

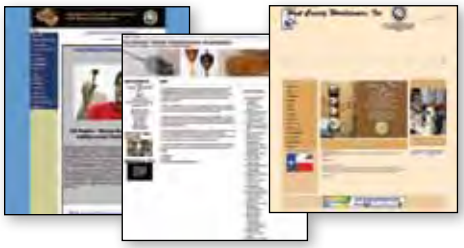
Best Chapter Website

Email a link to your chapter's website, as well as the name and contact information for your webmaster, to webmaster@woodturner.org.

Ed Davidson, AAW's webmaster, will coordinate the website contest. Winners of the 2010 contest were Northeast Florida Woodturners Association (jaxturners.org), Hunt County Woodturners, Inc. (huntcountywoodturners.org), and Montgomery County Woodturners.

For both contests, the judges will be looking for:

- Visually appealing layout
- Current content
- Content that pertains to woodturning
- Content that contributes to AAW's mission statement
- Useful woodturning and news-related information
- Sound writing skills



Hall of Fame

The first-place winners of the chapter newsletter and website competitions have been inducted into AAW's Hall of Fame, prominently honored on our website. The chapters that have won a first place in either category will not compete in that competition in subsequent years.

Above all, newsletters and websites should be fun to read and provide useful information to members of the chapter they serve. ■

—*Kurt Hertzog*

AAW Board of Directors

Call for Nominees

The AAW offers much to its members and we are looking for a few good people who can contribute something in return. Do you have the time, energy, and ideas to be a part of the AAW operations as well as a willingness to help make it a better organization? Be a part of moving the AAW forward—run for a position on the AAW Board!

The AAW elects a volunteer nine-member board to represent the membership and move the organization forward. If you have been a member in good standing for the past three years, you are eligible. The nominating committee will select the six best candidates. From these six, members will elect three candidates to serve a three-year term, beginning in January 2012.

For information on the duties of Board members, call any current board member or visit the AAW website at woodturner.org/info/bod/ for details. ■

If you are interested in serving on the board, please email the following to the executive director (cindy@woodturner.org), no later than May 1:

1. A statement of intent, including qualifications and reasons for applying.
2. Letters of recommendation from two individuals who can attest to your organizational and leadership abilities.
3. A high-resolution photograph of yourself.

The nominating committee will review application materials and schedule phone interviews in late May and early June. Candidates will be presented in the journal, ballots will be sent out in the fall, and election results will be announced in late 2011.

Report to the Membership

Bylaws Subcommittee
Dale Larson, Ron Sardo, Co-Chairs

The Bylaws Subcommittee worked on revisions to the Bylaws from early August through the end of November, 2010. Five volunteers remained with the committee the entire time: Dale Larson, Mark Mandell, Ron Sardo, Rob Wallace, and David Walser. Three members resigned or left.

This report details the suggested changes to the Bylaws made by the committee and approved by the AAW Board of Directors and also provides the reasons for making each change. The proposed changes are in regular type, the explanations are in italics. Throughout the Bylaws, minor editorial-type corrections were made, such as changing "insure" to "ensure," "principle" to "principal," "By-laws" to "Bylaws," and where appropriate, shortened "Board of Directors" to "Board."

The membership will vote on adoption of the revised Bylaws, as posted on the AAW website (woodturner.org/info/bylaws_12_2010.pdf). Each member may electronically vote once. Voting will take place February 1 through March 31. If you wish to discuss the Bylaws with other AAW members, visit the AAW Forum where a special sub forum will be active.

ARTICLE IV

This section was completely rewritten. *Key areas controlling meetings were overhauled in several ways. Visit AAW's website to read the revised Article IV.*

Section 4.01
This section describes our annual meeting at the symposium and points out that it is unlikely that we will have enough members present to hold a formal meeting. Therefore, any proposal that requires a vote of the membership will follow the procedure in Section 4.02.

Section 4.02
The provisions for holding Special Meetings and votes by the members were restructured into the "meeting-by-ballot" format mentioned in the Minnesota statutes dealing with nonprofits. Under this format, a Special Meeting may be called by the Board or by written member petitions signed by five percent (5%) of the membership or ten percent (10%) if the issue is seeking removal of a Director, a change in the Corporation's Bylaws, or other governing provisions. Once this standard is met, the question presented is sent to all members with a ballot so that every member has the opportunity to express his/her choice by a vote. This format is far better suited to an organization like the AAW for several reasons. As previously written in the Bylaws, five percent (5%) of the membership could meet and conduct the business of the AAW, effectively disenfranchising ninety-five percent (95%) of the membership. This proposal:

A) Gives every member an equal say, especially the vast majority who would be unable to travel to some location in order to join in a meeting; and
B) Removes the need for a physical meeting place, the cost to the AAW of organizing a physical meeting, avoiding also the travel expenses for members and hence encouraging greater member participation; and
C) Gives all members a direct opportunity to vote; the costs of a "proxy fight" would be avoided.

The Special Meeting rules set forth how the membership is to be informed of matters requiring a vote. Members are given as much information as is available to help them make choices. It is hoped that this will foster increased participation of members in the Association's business and policies.

Section 4.04
The quorum requirements (the minimum number of AAW members required to be present for an actual meeting) were raised from five percent (5%) to ten percent (10%) of the membership, which complies with Minnesota statutory provisions. The other major change is that voting proxies will not be counted for the purpose of establishing a quorum at a meeting of the members. This ensures that a small core of members cannot effectively disenfranchise ninety-five percent (95%) of the membership by excluding them from a vote on fundamental questions and members' rights.

Section 4.06
The membership is given several choices of how to cast their votes. Included in this list is electronic/web-based voting so that when electronic voting is enabled, the AAW can use the technology without further amending and having the members vote on the Bylaws.

ARTICLE V

Section 5.04
"A Director may not serve more than two (2) successive terms as a Director without at least six (6) years intervening before being eligible to run again for office." *Changed the period between when a Director may run for the board from one year to six years. This change provides for a continuing influx of fresh eyes and new ideas among the Board members.*

Section 5.06
Removed line two: "The board may elect to fill such a vacancy with a candidate from the most recent Board election." *This line is unnecessary.*

Last line changed to: "This term will not be considered the appointee's first term if there are less than two (2) years left on the seat." *This change has been made so that appointing a new Board member for a short period of time does not restrict the member from running for a second term.*

Section 5.07
(a) "Any elected Director may be removed for cause by a two-thirds (⅔) majority vote of the Directors then in office at a Regular Board Meeting or at a Special Board Meeting."
(b) "Any appointed Director may be removed with or without cause by two-thirds (⅔) majority vote of the Directors then in office at a Regular Board Meeting or at a Special Board Meeting."

The current standard is a majority vote of the Board can remove a Director. This two-thirds (⅔) vote raises the standard for such a serious action. There is also a difference between elected Directors and appointed Directors. Appointed Directors have less protection because they were appointed by the Board and they can be removed by the Board.

(c) "A Director may also be removed by a majority vote of the members following the procedure for Member-Initiated Petitions prescribed in Article IV, Section 4.02 of these Bylaws."

The addition of this section allows members to have a Director removed by a vote of the membership; something they could not do up to this time. The provision makes Directors answerable to the members throughout their elected term.

Section 5.12
Changed the first two words in the second sentence from: Director expenses *to:* "Reasonable expenses." *This was done to impress the burden to justify expenses rather than the ambiguity embodied in the previous language.*

Section 5.13
(c)(ii) Ethics Committee

We have added the duties of the Ethics Committee to this section.

1. Meet at least annually to review and recommend changes to the AAW's ethics policies (any such changes will only become effective if approved by a majority vote of the Board); and
2. Meet at the request of the AAW Board of Directors or any member to review ethics matters, to investigate all alleged violations of the AAW Code of Ethics, to report in writing its findings to the Board and to recommend to the Board appropriate resolution of ethics matters; and
3. Such other additional duties the Board shall assign to the committee from time to time."

Section 5.14
We have removed the word "general" *from the membership because the word* "general" *has not been defined in the Bylaws.*

Section 5.15
(d) *Has been changed to* "Employ an Executive Director to deal with day to day operations of AAW."

Section 5.16
(b) *Changed* "Association members" *to* "members of the Association" *for accuracy.*

Section 5.18
(a) (iii) *Inserted:* "No person may run for, or serve as, a Director of the Board of the AAW when a financial or familial relationship exists between the candidate for the AAW Board and AAW employees or other Directors."

This section is currently in the policies and has been moved to the Bylaws. It prevents conflict of interest problems between the Board and the hired staff. It helps keep the Board members free from undue influence.

(b) (i) The members of the Nominating Committee shall be appointed by the AAW Board of Directors for a term of one year.

"The members of the Nominating Committee" *was added to make this a complete sentence.*

(c) (iii) 3. *Changed* "two" *to* "two or three" *members for each position. It reads:* "Responsibilities of the Nominating Committee: (iii) 3. Select two (2) or three (3) candidates for each open position and provide them with guidelines."

This change allows, but does not require, the Nominating Committee to add more candidates on the annual ballot for Directors. It gives the potential to expand participation in the election.

(d) (iv) "The Executive Director will give the list of candidate names to the Chair of the Nominating Committee." *The Board will no longer be directly involved in the candidate selection process. This increases the Nominating Committee's independence. The list of candidates goes directly to the committee without going through the Board.*

ARTICLE VI

Section 6.05
Change of word in the first line from "principle" *to* "principal." *Also in the first line remove* "in general," *because it is unnecessary. The first line will then read:* "The President shall be the principal executive officer of the Association and, subject to the control of the Board, shall supervise the Executive Director of the Association."

Section 6.08
"The Treasurer shall keep accurate financial records for the corporation; deposit money, drafts, and checks in the name of and to the credit of the Corporation in the banks and depositories designated by the Board; endorse for deposit notes, checks, and drafts received by the Corporation as ordered by the Board, making proper vouchers for the deposit; disburse corporate funds and checks and drafts in the name of the Corporation as ordered by the Board; provide the President and the Board an account of transactions by the Treasurer and of the financial condition of the Corporation; and perform other duties prescribed by the Board or by the President. The Treasurer shall ensure that the legal duties of the Treasurer, defined above, are fulfilled by the Executive Director and staff. The Treasurer shall chair the Finance Committee."

This wording, with the addition of the last two lines, has brought this section into alignment with Minnesota nonprofit law.

ARTICLE VIII

Section 8.01
Add: "Any delegation of contracting authority must be in writing." *This is to remove any doubt as to who has authority to sign contracts.*

ARTICLE X

Change "letter of agreement" *to* "written contract" *to give the provision a more formal intent.*

ARTICLE XIV

Section 14.01
These changes restrict the Board's ability to change the Bylaws, and when changes are made, they must be posted to the AAW website (currently done) and printed in the Journal.

"These Bylaws may be altered or amended by a majority vote of the Board. However, if a majority of the Board determines that addition, revision or repeal of a fundamental principle of these Bylaws is required, or it involves the ability of the members to petition the Association, affects their right to vote, call a meeting, or deals with notice to members, then that act must be confirmed by a majority of the members of the Association then casting ballots. Any changes to the Bylaws shall be posted on the AAW website and printed in the Journal."

The Board of Directors recommends to approve changes to the Bylaws.

Tom Wirsing, Cassandra Speier, Warren Carpenter, Jean LeGwin, Kurt Hertzog, Dale Larson, Binh Pho, Botho von Hampeln, and Stan Wellborn. ■

POP News

The mission of the Professional Outreach Program is to promote a greater understanding of professionalism within the field of contemporary woodturning.

Students' wooden utensils.

Clay Foster appointed to Arrowmont Board of Governors

The Board of Governors of Arrowmont School of Arts and Crafts in Gatlinburg, TN, elected Clay Foster, along with three others, as new members this past October. Clay begins his tenure when the school is in the process of creating plans to ensure a successful transition into its future.

Beth Ireland demonstrates woodturning to students at the Massachusetts College of Art and Design.

Last fall the Board of Governors voted for the school to remain in Gatlinburg.

Turning around America with Beth Ireland

Beth Ireland's well-equipped van, full of woodturning equipment, hit the road last summer with its first stop at the Massachusetts College of Art and Design. With the help of AAW member Mark Horowitz, Beth taught a class of students how to make eating utensils. At the end of the day, they ate food they prepared, using the utensils they made. You can follow Beth's journey at turningaroundamerica.com.

Murray Stein sculpture

Congratulations to Murray Stein whose sculpture, *Schubert's Trout Quintet*, was displayed at the Strathmore Music Center in Maryland last June. The keyboard in the sculpture began as a segmented bottomless bowl.

Application to craft fairs

For woodturners who are interested in selling their work, the website, zapplication.org, is a one-stop universal online application system that allows artists to submit and manage applications for participating art shows, festivals, and fairs.

Pop logo

David Nittmann's design was chosen as the winning logo for the POP committee. Congratulations!

Committee members: *Trent Bosch, chair, Barbara Crockett, J. Paul Fennell, Al Hockenbery, Jerry and Deborah Kermode, Bonnie Klein, Binh Pho, Betty Scarpino, Curt Theobald, Kevin Wallace, David Willard.*

American Woodturner Online

Look through and read all 102 back issues of *American Woodturner*, now available on the AAW website. You can search by author or subject, using the online index. Want to turn a sphere? You will find five articles on this topic!

You can enlarge images, fast-forward through pages, view multiple pages at a time, and print pages with the click of a mouse.

The AAW is offering a $38 membership for those who choose to read *American Woodturner* online instead of receiving a paper copy. Regular members also have access to the online journal.

To access the online journal, visit woodturner.org, click on the Member's Area link on the left, enter your member number and password and then select Online Journals from the link on the left. Give it a try!

Membership Cards

AAW membership cards are now available online. Go to the AAW website at woodturner.org and click on Member's Area. Login with your membership number and password.

From the menu on the left side, select Print Membership Card. This will bring up a welcome letter from Cindy Bowden, which includes a membership card in the lower left corner. Simply print the letter and cut out the card portion.

While you are in the Member's Area, check out the many other features available exclusively to members such as 25 years of back issues of the journal, a comprehensive journal index, vendor discounts, and an up-to-date membership directory.

Tips

Magnets

I acquired a large box of used computer hard drives so that I could take them apart for the strong magnets inside. I glue or epoxy the magnets to many things so the objects will stay where I put them and not fall into the piles of shavings and get lost.

I used epoxy to glue magnets onto the top of my headstock so my chuck keys, screw center, spur drive, or whatever stays there.

I pour finishes into smaller bottles and put a metal washer inside the container (if the finish doesn't react with the metal) or I glue a washer to the bottom of the bottle. The washer sticks to the magnet, keeping the container where I want it. This idea also works well for CA and accelerator containers.

Some items require two or three magnets, such as the plug strip for my vacuum chuck.

The magnets easily break into smaller pieces. I glue a smaller magnet onto the top of calipers, dividers, and my tenon-marking pencils so that they can stick to my lathe, within easy reach.

— Dan Burleson, Troy, MO






Fake lacewood patch

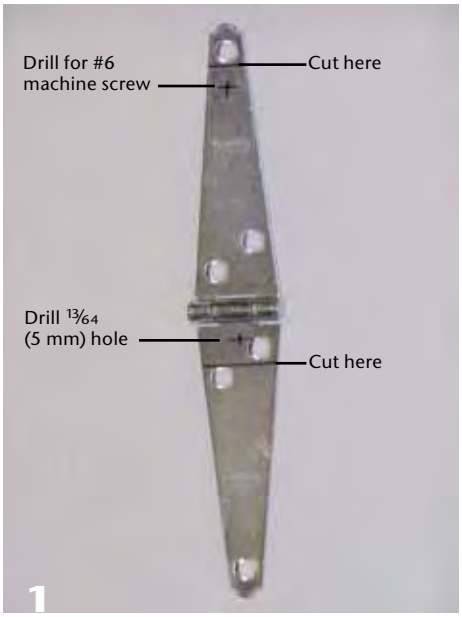
At my June pursemaking class at the Woodturning School in Damariscotta, Maine, pursemaker Ann Prescott encountered a large void on the back of the cherry wood handbag she was turning. She had designed the front of the bag with a large lacewood medallion inset, and decided to try to match her fix for the void on the back of the bag with the lacewood inset on the front of the bag. Ann hollowed out the large void, and then stuffed the hole with layers of cherry wood sawdust, CA glue and toothpicks, arranged at angles to replicate the rays of the lacewood. When the patch had fully hardened, she turned the bag again. The result: a handsome cherry wood handbag with a lacewood medallion on the front and a good-looking fake lacewood patch on the back. Nice work! ▸

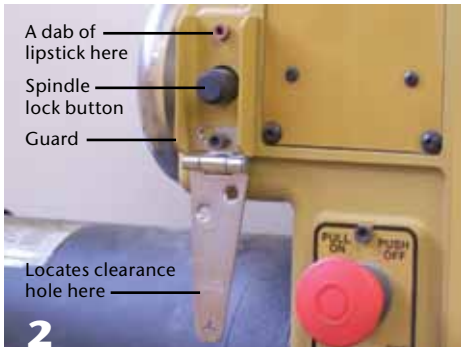
—Denise DeRose, CA

Hands-free spindle lock

The one item missing on my PM 3520 lathe was a hands-free spindle lock. Holding in the lock button with one hand and trying to thread something onto the spindle with the other hand often does not work well. Some turners use the indexing holes and pin as a spindle lock, but that seems tedious.

My solution is easy, inexpensive, and requires only minor modification to the lathe. Buy a light-duty 4" (100 mm) strap hinge, a ⅜" (10 mm) rare-earth magnet, and magnetic cup (Rockler and Lee Valley carry these). You will also need to turn a small pull and either thread it for a 6-32 machine screw or just drill it for a close fit for the screw. A 6-32 × ¾" (20 mm) flat-head machine screw (and maybe the mating nut) are also required.





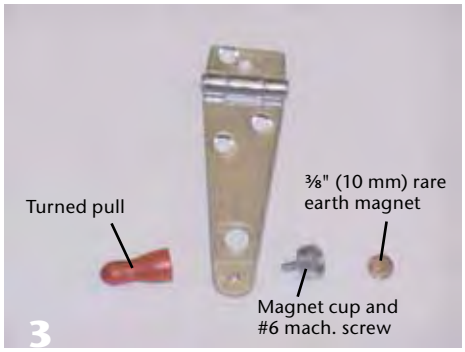
Hold the hinge in front of the lock button and guard. Mark the hinge so that the barrel is just below the guard so that you will have enough metal to drill a clearance hole for the lower guard screw. Mark a second cut line just below the end hinge hole. Mark and center punch for the two holes centered on the hinge *(Photo 1)*.

Drill a 13/64" (5 mm) clearance hole for the guard screw (you can use a 3/16" [4.8 mm] drill and wiggle it around some to open up the hole if you don't have a 13/64" [5 mm] drill bit). Drill a 9/64" (3.6 mm) hole (with a #29 bit) if you plan on tapping the hinge, or just drill a clearance hole for the 6-32 screw.

Now is a good time to tap the 6-32 hole.

Use a hacksaw to make the two cuts on the hinge and file or grind the edges smooth to make sure corners are not sharp.

Remove the lower guard screw and use that screw to mount the now modified hinge. I use a dab of lipstick on the upper guard screw to locate the clearance hole for it *(Photo 2)*.



Modified hinge

Hinge, pull, and magnet

Remove the hinge and drill the clearance hole for the upper guard bolt cap head. This hole needs to be about ⅜" (10 mm) diameter, so it is a good excuse to buy a step-drill. Of course, you can just use a ⅜" (10 mm) drill bit, but be sure to clamp the hinge to a back-up board if you go this route.

The parts should look like the ones in *Photo 3*.

Screw the magnet cup and turned pull onto the hinge *(Photo 4)*. If you did not tap the turned pull, use a nut to hold the 6-32 screw in place and mount the pull to the screw with CA glue. Also use a drop of medium CA glue to bond the magnet into the magnet cup.

Remount the hinge assembly using the bottom guard screw. Rotate the spindle by hand while pressing the spindle lock button until the button pops in and the spindle is locked. Now, flip up the hinge up and the magnet will keep the button in and the spindle locked *(Photo 5)*. Flipping the hinge down frees the spindle *(Photo 6)*.

— Bob Gerenser, CA

Spindle is locked

Spindle is free

Mildew and mold prevention

Mildew, and more importantly mold (the kind that discolors the wood deeply) is a problem for me with the lighter colored woods like soft maple and heavy section pieces of ash. I've not had a problem with darker woods like cherry and walnut.

In the past, I tried using diluted, and even full strength, chlorine bleach on rough-outs to prevent the fungal growth during drying with the paper bag method. The use of bleach after roughing out seemed to have no effect on the mold and mildew growth.

Some web browsing led me to believe that, in effect, the use of chlorine bleach was counter productive. Even full strength from the jug, household bleach has water as its main ingredient. The chlorine in the mix will leave the wood within a day or two, and the water that was introduced during the application will remain for a much longer period. After the chlorine leaves, airborne spores find a surface with high moisture, and they flourish. Therefore, treating with household chlorine bleach actually results in a promotion of fungal activity (in my opinion).

Lately, I have obtained a near 100% success by treating rough-outs with boric acid dissolved in hot water. The solution of course does add water to the roughed-out bowls, but the important part of the mix, the boric acid, does not evaporate. The boric acid causes the pH of the mixture to be toxic to any fungus or spores on the surface of the wood, and as the water evaporates, the boric acid remains on the surface of the wood, preventing any airborne spores from finding conditions favorable for growth.

Some of the web surfing also indicates that vinegar and citrus juice will also have the long-lasting surface retardant effect. The boric acid mixture seems to have no effect on the color of the wood.

I'm pretty sure that during the second turning the boric acid will become airborne dust and might irritate mucous membranes, although it's not been a problem for me. While the warning label on the container for boric acid does not sound a loud alarm, some additional Internet research finds that there may be health risks associated with long-term inhalation exposure to boric acid. The risks appear to me to be more of a problem for the fetus of a pregnant woman than for adults, but it also appears that there is some risk in general. An air filtration system to prevent or at least minimize inhalation should be used. Of course, we should be using wood-dust protection anyway!

Here are a couple of websites with additional information regarding boric acid exposure risks: npic.orst.edu/factsheets/boricgen.pdf and www.fs.fed.us/foresthealth/pesticide/pdfs/022406_borax.pdf.

— Dale Miner, OH

Tools for turning miniature hollow forms

Most of my work is fairly large-scale, but I am a packrat and I save all the trimmings to use for making miniature hollow forms. I had been using some tools I made from screwdrivers, but they did not allow me to make the forms I wanted.

At the hardware store I saw an item called a "hook and pick set." I bought a set and heat-treated the metal. I ground a fingernail profile on the end of each tool. These tools already have a useful handle and I find that I can turn a miniature hollow form quickly.

— Jerry D. Johnson, WA

Perfectly straight and perpendicular

How do you ensure that all elements of your turning are in perfect alignment and will display well from every angle? Set up a laser level about five feet away from the work surface and project the laser line so it is at 90° to the work surface. Align everything with the laser line, rotate and adjust the turned piece as needed so it is straight and perpendicular in every direction. ■

—Larry Sefton, TN

Got a Great Idea?

Share your turning ideas! If we publish your tip, we'll pay you $35. Send your tips along with relevant photos or illustrations and your name and mailing address to:

Betty Scarpino
American Woodturner
5246 Evanston Ave.
Indianapolis, IN 46220
editorscarpino@gmail.com

Riding the Bevel

Russ Fairfield

Why should woodturners learn to use and ride the bevel of a roughing gouge, a parting tool, a spindle gouge, and a skew chisel when most turners simply want to make bowls and have no desire turn spindles? Simply put, learning how to ride the bevel while practicing spindle turning is a safe, efficient method to improve all aspects of woodturning. The skills learned while spindle turning are easily transferred to bowl turning.

Riding the bevel makes for a smoother surface with less tearout than not riding the bevel. This is true for all tools for any type of turning. When practicing riding the bevel while spindle turning, the cutting edge of the tool, where it contacts the wood's surface, is easy to see, which helps in the learning process.

The spindle-roughing gouge

I will concentrate on the least understood and used tool—the traditional roughing gouge, now called the *spindle-roughing gouge*. The gouge is ground with a 45° bevel and the profile at the end is square *(Photo 1)*. You can measure the angle if you wish, but close to 45° is close enough. The entire cutting edge of the tool can be used, and a straight profile at the tool's edge will cut more accurately than one that is curved in either direction.

Wood selection

I always use dry 2 × 6 (1½" [38 mm] thick) pine or fir for teaching and demonstrating fundamentals; it is available everywhere, usually has fewer knots than a 2 × 4, and will show a more dramatic difference between good and bad turning techniques than any hardwood. I prefer Douglas fir; it has less natural pitch than pine. Look for a board that has at least six growth rings per inch, and the more the better.

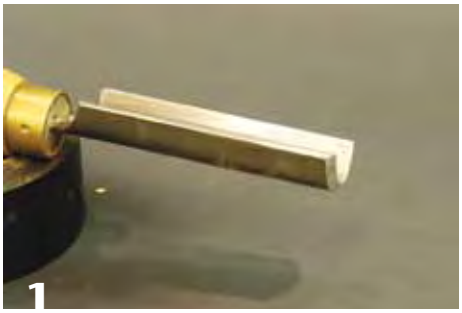
Rip the lumber to 1½" (38 mm) wide and cut it into lengths that are 5" (130 mm) long. This size will fit any lathe. Attach the wood between centers. I prefer a small Steb center, or a dead center that has been modified with a three-cornered file to create teeth around the ring. These types of drive centers require less pressure to hold the wood than centers with a smooth surface and are a lot safer than using two- or four-prong drive centers. For the tailstock, use any live center; however, if the live center is the same diameter as the drive center, the wood can be easily reversed.

The spindle-roughing gouge (SRG) has to be sharpened by hand; there are no jigs that will handle the job. The benefit is that this will make you better at sharpening any tool you take to the grinder. So, before you begin turning, sharpen your SRG.

Rotate the wood to a diagonal position in the lathe (one corner closest to the toolrest). Set the height of the toolrest to where you will be comfortable while holding the tool with its bevel resting on the wood. The front cutting edge of the tool should be only slightly above the centerline of the wood.

With the tool held on the toolrest but away from the wood, start the lathe (run it at about 1200 rpm) and rotate the tool so that the flute is about 30° from being level and is facing in the direction that you will be cutting. Then move the handle about 30° in the opposite direction of the cut. You will now be able to move the tool in a straight line, which will result in smooth tool movement. Slowly advance the SRG into the spinning wood, making sure the bevel is riding *(Photo 2)*. Practice making slow-moving, steady cuts.

You have just learned how to smoothly cut in one direction with the SRG, which is to move the tool into the cut in the direction of the headstock by pushing on the handle of the tool with your right hand and pulling the cutting end along the toolrest with your left hand, all the while riding the bevel.



The cutting edge of a spindle-roughing gouge is sharpened straight and at a 90° angle with the length of the gouge. The profile of a new tool is generally correct, and you should make every effort to maintain the same profile when sharpening. This is a difficult task, but well worth learning. The best bevel is a 45° angle.

Set the height of the toolrest so the bevel of the tool is riding on the wood at the cutting edge. This tool is cutting from the right to left toward the headstock.

Note the ring on the turner's finger. Rings should be removed when working with woodworking machines; I have a scar on my finger to remind me of the danger.

Learn how to turn in the opposite direction, from the headstock toward the tailstock. Note that the hands have reversed position on the tool. Practice this hold until you are proficient and can move the tool easily along the toolrest.

It is okay to grip the tool with your left hand to anchor the tool on the toolrest and your right hand on the tool's handle when cutting from the headstock toward the tailstock. It can be difficult, however, to see and control the cut.

The spindle-roughing gouge can be used to cut in the same manner as a skew chisel. It will cut almost as well and is easier to use.

Cut in the opposite direction

Cutting in the opposite direction is best done by reversing the direction of the tool, as well as changing the placement of your hands on the tool handle *(Photo 3)*. You are better able to see both the cutting edge of the tool and the wood being cut when you make these modifications. There is nothing wrong with holding the tool in the opposite direction with the same handhold as before, but it will be more difficult to see the cutting edge of the tool *(Photo 4)*. Keep practicing these straight cuts in both directions. It may be necessary to raise or lower the toolrest to make it easier to ride the bevel at the cutting edge.

Test the use of the tool's bevel

Move the tool handle up and down a few degrees so you are either cutting while riding the bevel on the wood, or not using the bevel. Notice the difference in the smoothness of the cut between riding the bevel and not. This difference is more obvious with softwood than with harder woods (which is why I prefer fir or pine for teaching). You will achieve a smooth surface when riding the bevel on softwood, but never get as smooth a surface when *not* riding the bevel; the cutting edge will tear the wood grain.

Three-point control

The technique of cutting with the bevel riding applies to every tool you will use for turning a piece of wood. Remember to always have a three-point control of the tool when sliding the tool along the toolrest:

1. Keep the shank of the tool on the toolrest.
2. Keep the bevel on the wood at the cutting edge.
3. Grip your hands on the tool's handle to move the tool in the direction of the cut.

Not using the bevel results in the wood being ripped rather than cut and there is no way to control the cut; you are trying to use the tool with only two supporting points, the toolrest and your hands on the handle. Have you ever tried sitting on a stool that has only two legs? Sitting on a three-legged stool is much more relaxing. Using the turning tool with three-point control is no different.

Why did I say to keep the profile of the cutting edge of the spindle-roughing gouge straight and sharp? The answer is that those straight edges can be used like a skew chisel *(Photo 5)*. Practice using the SRG as a skew chisel and you will discover that the tool is capable of much more than just reducing square pieces of wood into cylinders with rough surfaces. ■

Russ Fairfield, long time AAW member, woodturner, teacher, and writer, passed away on January 4, 2011. Russ leaves a rich legacy to our woodturning community. We will miss him. You can read more of Russ Fairfield's writings at woodturner-russ.com.

Resources for Beginning Woodturners

Significant and helpful resources for beginning woodturners are available through the AAW for reasonable prices. Consider acquiring project books, some of the many DVDs, or a few back issues of *American Woodturner* to help you learn more about woodturning. Simply go to AAW's website, woodturner.org and click on Products; or send an email to inquiries@woodturner.org; or call 615-484-9094 or 877-595-9094 (toll free). Our staff is eager to help you succeed, enjoy, and be safe with all of your woodturning endeavors.

Extending the Bed

David Ellsworth

Finished headboard, made from aspen posts

There are times when the dimensions of our ideas exceed the limits of our equipment, and trying to make a headboard using a lathe with a standard bed length is one of those times. What I enjoyed about this project was recognizing how efficient (and primitive) the lathe is, and appreciating the beauty of working with minimal tools.

For part of the year, I live in the mountains of Colorado, away from my well-stocked studio in Pennsylvania. I have no nearby woodturning friends who might have lathes with bed extensions. I have a lathe and a bandsaw, which is usually all I need, but when faced with making headboard posts for a bed, I had to rely on my own ingenuity.

The two headboard crosspieces required cutting spigots on the ends of 60" (152 cm) weathered aspen logs. The problem, of course, was that the bed capacity on my Robust Sweet 16 is 38" (96 cm) with the extension in place. However, the spur center in the headstock just happens to be 73" (185 cm) from the nearest wall. Hence, an idea formed.

The lathe is bolted to the floor, so it is obviously stable. And the wall is stable, although a bit flexible. Just to be sure nothing shifted, I added a wooden brace against my car tire on the other side of the garage.

My next problem was how I was going to maintain pressure of the log against the spur center. I accomplished this by doubling up a couple of two-by-fours (50 mm × 100 mm), drilling a ⅝"- (16 mm-) diameter hole in them to receive the #2 Morse taper end of the ball bearing live center, then hinging them to the wall stud. All I needed to do then was cut my log to fit between the spur center and the live center, then drive a wedge behind the two-by-fours to create pressure against the spur.

The aspen logs I selected from the forest were not perfectly straight, so I started the lathe around 100 rpm and then increased the speed until I felt it was safe to start roughing the first end. I also tapped the wedge a few times just to be sure, until I had a reasonable working speed of around 600 rpm. After measuring my lengths, I tried cutting the log with a roughing gouge but found it much easier to simply hone my skew—and my spindle-turning skills—and go after it. I was pleasantly surprised at how efficiently the skew roughed out the irregular surface without tearout.

I did not have a caliper to measure the spigot diameters, so I simply drilled a 1½" (38 mm) hole in a board and cut halfway through the hole with the bandsaw to create a caliper. Can life be any simpler?

Once my confidence was up from cutting the first spigot, I rotated the log, end for end, and turned the opposing spigot. I repeated the whole process for the second crosspiece.

The finished headboard has the original weathered surface with no bark, no sanding, and no finish, just the elements of time, moisture, and sun. I did not feel the need to coat the wood; the wood was beautiful the way nature rendered it. ■

Wall-mounted live center

Additional wall bracing

Turning the first spigot

Shopmade caliper

Calendar of Events

April issue deadline: February 20
June issue deadline: April 20

Send information to editorscarpino@gmail.com

Australia
2012 Turnfest! For information, visit turnfest.com.au

New Zealand
March 19–26, Artist Collaborationz, McGregor's Bay, Whangarei Heads, Northland. This collaboration event is held every two years. National and international artists working together, followed by a public auction. For information, email info@collaborationz.co.nz.

Arizona
February 18–20, Desert Woodturning Roundup, Mesa Convention Center, Mesa. Scheduled demonstrators include Mike Mahoney, Lyle Jamieson, Christian Burchard, Mark Sfirri, Stephen Hatcher, Don Ward, Al Stirt, Ron Goble, and special guest Betty Scarpino. Instant Gallery, vendor area, panel discussion, and other events. For information visit desertwoodturningroundup.com.

California
April 29 entry deadline for the annual Design in Wood Exhibition, San Diego County Fair, Del Mar Fairgrounds, Del Mar, June 10–July 4. The theme for 2011 is "Race to the Fair." The competition is open to all woodworkers and includes several woodturning categories. Awards total more than $21,000. Entries can be made online in mid-February at sdfair.com/entry/designinwood. To request a paper entry form, mail a self-addressed, stamped #10 envelope to Design in Wood Entry Office, San Diego County Fair, PO Box 685, Solana Beach, CA 92075.

Florida
February 4–6, 10th Annual Woodturning Symposium held at Lake Yale Baptist Convention Center in Eustis (one-half hour drive north of Orlando). Featured demonstrators include Beth Ireland, James McClure, Franck Johannesen, Curt Theobald, Jack Shelton, Malcolm Tibbetts, Robert Rosand, and Steven Marlowe. Workshops with Dixie Biggs, Bruce Hoover, Emory McClaughlin, Don Geiger, and Rudolph Lopez. For contact information visit floridawoodturningsymposium.com.

Georgia
April 29, 30, and May 1, Southern States 11th Woodturning Symposium, Georgia Mountains Center, Gainesville. Featured demonstrators include Beth Ireland, Mark Gardner, Robert Rosand, and Steve Sinner. Guest demonstrators will be announced in January. Forty rotations, Instant Gallery, gift certificates, door prizes, large vendor area and banquet and auction Saturday evening. Information available in January at southernstatessymposium.org or contact Marsha Barnes at 828-837-6532 or ml.barnes@brmemc.net.

April 30, in conjunction with the Southern States Woodturning Symposium, Chattahoochee Woodturners will present two rotations titled "Planning and Presenting a Woodturning Demonstration," featuring Frank Penta. These sessions are for woodturners who would like to develop or improve their demonstration skills. For information, contact Jerry Chandler or jwc43@bellsouth.net.

Hawaii
March 4–31, 13th Annual Big Island Woodturners Woodturning Show, Wailoa Center Gallery, Hilo. Special events include silent auction and opening artist reception, March 4. Demonstrations will take place every Saturday. For information, contact Don Albrecht at 808-968-7049 or hawaiiwoodturner@yahoo.com or call the Wailoa Center at 808-933-0416.

Indiana
February 19–April 10, "Through the Woods, Around the Block: A Juried Exhibit of Turned Objects," Lubeznik Center for the Arts, Michigan City. Information can be found at lubeznikcenter.org.

Maryland
February 24–27, 35th Annual American Craft Council Show, Baltimore Convention Center. More than 700 top contemporary craft artists will present their latest handmade creations. Tickets to attend the event can be purchased online. For more information, visit craftcouncil.org/baltimore.

Massachusetts
February 5–September 11, "Loom and Lathe: The Art of Kay Sekimachi and Bob Stocksdale," Fuller Craft Museum, Brockton. For more information, visit fullercraft.org.

Minnesota
June 17–September 4, "Conversations with Wood: Selections from the Waterbury Collection," Minneapolis Institute of Arts, Minneapolis. For more information visit artsmia.org.

New York
March 26–27, Totally Turning Symposium, City Center Convention Center, Saratoga Springs. Featured demonstrators include Richard Raffan, Dale Nish, Giles Gilson, Curt Theobald, Jennifer Shirley, Kurt Hertzog, Paul Petrie, Rick Angus, George Guadiane, John Franklin, and Andy DiPietro.

North Carolina
November 4–6, North Carolina Woodturning Symposium, Greensboro Coliseum Special Events Center. Featured demonstrators include Marilyn Campbell, Emmet Kane, Mike Mahoney, Pascal Oudet, Richard Raffan, and Les Thorne. They, along with regional demonstrators, will present 63 sessions (7 periods of 9 rotations). Visit northcarolinawoodturning.com for developing information.

Ohio
July 10–August 21, "National Treasures," exhibit at the Ohio Craft Museum, Columbus. For more information visit ohiocraft.org or contact William Jewell at Jewell@historicalwoods.com.

September 30–October 2, "Turning 2011," 7th biennial symposium, sponsored by Ohio Valley Woodturners Guild. The event takes place in suburban Cincinnati and features Benoît Averly, Jimmy Clewes, Russ Fairfield*, Keith Holt, Richard Raffan, Betty Scarpino, Al Stirt, and Kimberly Winkle, plus local guest demonstrators. There will be a trade show, auction, and lots of good food. Additional details can be found at ovwg.org or by contacting Bob Cochoy at 937-427-2555 or cochoys@sbcglobal.net.

Texas
August 26–28, Southwest Association of Turners 20th Annual Symposium, Waco Convention Center. Featured demonstrators include Nick Arnull, Kip Christiansen, Nick Cook, Douglas Fisher, Dave Hout, Alan Lacer, Robert Rosand, and Curt Theobald. For more information, visit swaturners.org.

Washington
March 19, A Day with John Jordan, Anacortes First Baptist Church, Anacortes. John will discuss the aesthetics and properties of wood, demonstrate techniques, and discuss how he creates his signature hollow vessels. Workshops available March 20, 21. Sponsored by the Northwest Washington Woodturners. For more information visit nwwwt.org/JohnJordanDemoPoster-2.pdf or email Rick Anderson, vicepresident@nwwwt.org.

July 23, "Creativity in Woodturning," 4th annual symposium, Komachin Middle School, Lacey. Demonstrators include Stephen Hatcher and Mike Mahoney. Two daylong workshops follow, Sunday and Monday, led by Mike Mahoney. For more information visit woodturnersofolympia.org or call Al Price at 360-791-0396.

Washington, D.C.
September 24–January 30, 2011, "A Revolution in Wood: The Bresler Collection," Renwick Gallery of the Smithsonian American Art Museum. This exhibit celebrates the recent gift of turned wood objects from Fleur and Charles Bresler. For information, visit americanart.si.edu/exhibitions/archive/2010/bresler/. ■

**Russ Fairfield's presence at our conference will be greatly missed; a replacement demonstrator will be announced soon on the OVWG website.*

Contemplating a Scraper's Potential for Spindle Turning

Matthew C. Lewis

Great spindle turning is possible using a scraper if you understand the tool's capabilities and how to apply them. You are likely familiar with the adage that real turners do not use scrapers when spindle turning. This common notion is often stated as an opinion, without much explanation beyond that scrapers are not cutting tools and therefore do not leave as clean a surface as a gouge or skew chisel. Deltacraft's handbook, *Getting the Most Out of Your Lathe* (1954), however, offers this adage up for contemplation with the statement, "The turning of spindles can be done with either a scraping or cutting technique, the cutting technique by virtue of faster wood removal and a cleaner surface being almost a must for good work."

This article offers some practical considerations for discerning turners, addressing the term *almost* in this passage and breaking the chains of popular turning theory by recognizing the potential of a scraper for spindle work. Although it may be true that the finish from the tool is not as good, a practical second best can be achieved with modified technique and by factoring in the considerations of learning curve, safety, required surface finish, ease of tool maintenance, cost, and production speed. In short, contemplating a scraper for spindle turning should not be driven by community acceptance or by popular opinion, but rather based on consideration of the job, efficiency, and the standard of finish for the final project.

A variety of scraper shapes can be made or purchased to provide flexibility in spindle turning. These include two well-known tools used in an alternative scraping fashion: the parting tool for turning beads and the skew chisel used on its side for forming beads and pommels.

To avoid discussing the nuances of all possibilities for scraping tools, I will focus on the potential of the round-nose scraper for spindle turning.

Context

I begin with a quick review of basic cutting tool and scraper function. Cutting tools generally remove wood by paring wood fibers. Paring is achieved when the tool's cutting edge forms an oblique angle with the spinning wood *(Photo 1)*. A cutting tool is able to cut cleanly because two surfaces of the tool are sharpened to a fine edge which, when employed correctly, slices each fiber completely.

Examples of scrapers/tools for spindle turning

- Skew chisel on its side for delicate removal of small amounts of wood
- Square-nose scraper for tenons and square rebates
- Parting tool for parting off, beads, and other convex shapes
- Drop-nose scraper (a variant of the round-nose) for planing, coves, and beads
- Standard round-nose scraper for planing, coves, beads, and roughing out
- Diamond point scraper for making V-grooves and beads
- Bedan tool for tenons, beads, other convex shapes and smoothing surface

Examples of scrapers and other tools used in an alternative scraping fashion for spindle turning.

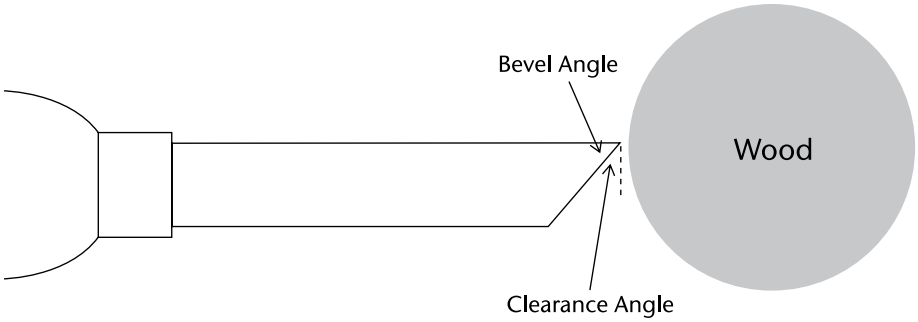


Figure 1. Clearance angle for scrapers is measured by holding the tool's cutting edge next to the spindle turning.

The scraper on the other hand, when held in its standard orientation (flat on the toolrest with the handle in a neutral to slightly pitched position), scrapes the wood fibers. Scraping is done on the wood's surface by means of a burr on the top of the scraper's cutting edge. This action typically leaves a rough surface and occasionally torn fibers *(Photo 2)*. (For an excellent discussion of scrapers and burrs for bowl turning, see *AW*, vol 18, no 1, "Real Woodturners DO Use Scrapers," by Russ Fairfield.)

Configuration

Modern turning literature often recommends small clearance angles (or large bevel angles) for scrapers; these angles are measured as shown in *Figure 1*. Using large bevel angles seems appropriate for faceplate work (bowl turning) because the cutting action is dependent on the use of the burr on the top edge of the scraper; this requires minimal clearance between the bevel and the piece being scraped in order to apply the burr. Although the faceplate-work technique is useful on occasion during spindle turning, a more advantageous orientation that reduces tearout is to rub the bevel while applying the sharpened edge of the scraper nose to the spinning wood *(Photo 3)*. (Safety note: Bevel rubbing is *not* recommended when scraping endgrain and/or during faceplate turning bowls, as a dangerous dig-in can occur.)

For spindle turning, in order for a scraper to be more effective using the bevel-rubbing technique, the angle between the two surfaces forming the scraper tip should generally be more acute than often recommended for faceplate turning. Myron W. Curtis learned from decades of experimentation and successful production turning that a shallow semicircular scraper with a bevel angle of 57° is a good configuration for general spindle turning. Still, an even more acute angle (around 45°) increases the effectiveness of the round-nose scraper for the tight areas associated with some beads, coves, and smooth curves. The cutting action of a round-nose scraper with this type of bevel is further enhanced by shear cutting *(Photo 4)*.

Technique

The performance and versatility of scrapers for spindle turning can be enhanced by adjusting the presentation of the chisel to the wood and by modifying the profile of the cutting edge.

The semicircular nose of the tool makes it useful in developing curved surfaces *(Photo 5)*, concave and convex, in addition to achieving straight lines and tapers. The cutting area for the round-nose scraper is generally from ten o'clock to two o'clock with the twelve o'clock position being the transition point *(Photo 6)*, depending on the direction of cut, orientation to the wood, and the profile of the tool. ▸

The oblique angle used to apply a cutting tool produces a cleanly pared surface.

Scraping with the tool held in its standard orientation leaves a rough surface on spindles.

Modifying the presentation angle of the round-nose scraper by rubbing the bevel when spindle turning produces a cleaner surface than that produced in a standard orientation.

The cutting action of a round-nose scraper is enhanced when using the tool as a shear cutter.

A more acute bevel angle than generally recommended improves the scraper's ability to shear cut along curved surfaces and into tight areas.

The safe and effective cutting area for a round-nose scraper is indicated by the labeled boundaries.

When spindle turning, gently raising the tool's handle while rubbing the bevel of the round-nose scraper produces an effective peeling cut.

Tilting the round-nose scraper to an oblique angle when spindle turning replicates the cleanly pared surface produced by a cutting tool.

To improve the cut when using the round-nose scraper during spindle turning, begin by rubbing the tool bevel on the spinning wood, then gently raise the handle just enough to cut/peel the wood. Using an acute bevel angle, this orientation more closely approximates the action of a cutting tool *(Photo 7)*. This approach will effectively cut/peel side grain, although the finish will vary depending on the wood type and the direction of the wood fibers. The rougher finish that is frequently produced is typically a reason some say that a scraper is not an appropriate tool for spindle work. The finish can be improved fairly simply, however, by changing the orientation of the scraper during cutting.

When making cuts that are straight, tapered, or gently curved, canting the scraper toward an approximately 45° angle while rubbing the bevel will shear the wood fibers *(Photo 8)*. This effect is also accomplished when rolling the round-nose scraper during bead, cove, and tighter curve cutting, the same as for using a gouge or skew chisel. Care should be taken not to cut on the upward side of the cutting edge (above the transition point) when performing this operation, as a catch is likely to occur and the tool will slam down on the toolrest, potentially causing damage. An even longer bevel improves the effectiveness of the round-nose scraper for cutting certain concave or convex surfaces in this manner.

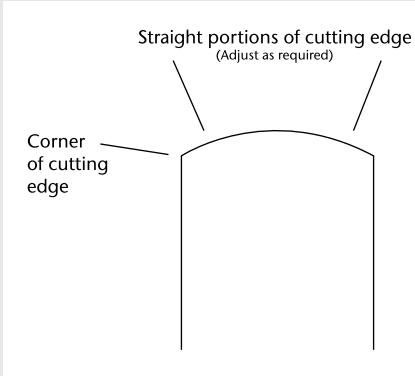
The traditional tipping of the scraper, nose down, can also be used to great advantage while spindle turning where a curve with a precise radius, close to that of the scraper, is required. This technique requires finesse and a light cut *(Photos 9a, 9b)*. A heavy cut will certainly result in torn fibers that are further magnified by side grain wood that is naturally prone to tearout; clean-up is easily accomplished in this case using the shearing technique.

Considerations

Although the round-nose and other scrapers are extremely effective, it would be disingenuous to say that they produce as consistently a clean surface off the blade as do cutting tools for spindle turning. There are, however, several noteworthy considerations in favor of the scraper that may more than make up for the slight degradation in surface finish: learning curve, safety, required surface finish, ease of tool maintenance, cost, and production speed.

The spindle gouge and skew chisel have a rather steep learning curve that includes the potential for catches, which can result in damage to the piece and/or turner, frustration, and elevated risk to safety. A round-nose scraper greatly reduces catch potential and also reduces the training necessary to produce acceptable products. Round-nose scrapers are forgiving. This is not to say that turners should avoid investing the time to learn cutting tools, but at least consider these factors with regard to the job at hand and your skill level. All turners will do well to combine the use of the

The straight portions of the round-nose scraper (see right) make the nose more of a shallow dome shape and emulate the paring edge of a skew chisel and/or gouge when shear cutting. These straight portions are ground at an angle which ensures clearance of the corners of the cutting edge when the tool is rolled. This modification provides a clean and burnished cut as the bevel rides the wood. The corners created by this grind are useful for cleaning up some surface intersections, shoulders, and when initiating a concave curve cut.



Round-nose scraper profile.

Standard scraper orientation is useful on occasion for spindle turning when finesse and a light touch are applied.

A much cleaner surface than expected can result using standard scraping methods.

Architectural turnings such as these balusters are perfect candidates for scrapers, given the less refined finishing requirements and need for production speed.

two types of tools for maximum capability/versatility when spindle turning.

Although the surface left by a cutting tool employed by a skilled turner is typically clean and free of blemishes, on many woods a nearly identical surface can be produced using the aforementioned modification in cutting style. The small differential that may result in the quality of surface texture will easily be cleaned up when abrasives are applied. Furthermore, many turning projects do not require a gallery-quality finish. This is the case in the architectural world where sanding to a 180- or 220-grit finish is acceptable for paint and staining, especially for balusters *(Photo 10)*, columns, newel posts, architectural finials, damage-control plugs (a cork-like fixture used to plug pipes during maintenance), and certain furniture components.

Scrapers provide the turner a much higher degree of accuracy in producing specific finished dimensions because small amounts of material can be removed with precise control (patternmakers rely on scraping tools). Many undulating surfaces are easily smoothed using scrapers, without the use of abrasives. Scrapers, however, typically require more radial pressure than do cutting tools, which can sometimes result in undulating surfaces. Consequently, there is a small investment in learning the necessary feed rates, lathe speed, and pressure required to achieve precise cuts.

Scrapers are easily maintained because they are made from flat stock, do not have a flute, and are easy and quick to grind by hand. Adjustable toolrests on bench grinders suffice for grinding the desired bevel. Scrapers are easily shop-made and are in most cases less expensive than a gouge. Also, they do not require the purchase of fancy jigs and/or many long hours practicing freehand grinding.

For some projects, scrapers are just what are needed and will likely improve production speed when these considerations are implemented.

Conclusions

A scraper's potential for spindle turning is a worthy consideration for the open-minded turner who considers all aspects of the task and is willing to stray from the mainstream in defining the appropriate tool for a given job. Although scrapers are not replacements for cutting tools, they offer a versatile, safe, and cost-effective option for some types of spindle turning. Given the proper circumstances, the use of scrapers can ultimately result in a gain of speed and efficiency during production work. So, next time you are doing spindle work, consider the potential of a scraper. You will likely find a new friend at the lathe. ■

Matt Lewis's primary interest is in tool making and turning architectural elements and other functional items. He consults regularly with his friend, Myron W. Curtis, an accomplished and well-known professional architectural/production turner.

Drop-nose scraper

The drop-nose scraper is a modified round-nose and was born out of necessity from more than 30 years of experimentation and use by Myron W. Curtis (an American progenitor of modern day architectural turning). A user of the round-nose scraper exclusively, Myron developed the drop-nose specifically to simplify his efforts when turning beads and coves on spindle work. Although the basic design may be modified according to task, the dropped nose feature exists to improve balance at the tool tip when tilting the blade while maintaining the rigidity of the complete cross section. By reducing the mass of the blade at the nose, the amount of work required to roll the tool is reduced and the probability of the tool rolling too far is limited, resulting in better control and increased cutting precision.

A drop-nose scraper for spindle turning, designed and made by Myron W. Curtis.

Understanding—and Improving—Vacuum Chucking Systems

John I. Giem

The use of a vacuum chucking system opens a variety of options that simply are not available using traditional methods of holding objects on a lathe. Vacuum chucking solves one of the most common and frustrating problems in woodturning: efficiently finishing the bottom of a turned piece, allowing the turner to eliminate the mounting tenon to shape a seamless platform or foot. Reverse turning with a vacuum eliminates the need for a scroll chuck or jam chucking when putting the final touches on a bowl.

Moreover, vacuum chucks can hold natural-edge bowls with irregular rims and do not require the use of padding to prevent marring a finished surface. They also allow the turner to remount finished pieces for touch-up sanding, minor reshaping, and repairing slight dings or scratches.

Vacuum systems operate on a simple but profound premise. By creating an area of reduced pressure (a vacuum) with a vacuum pump, they utilize the earth's atmospheric pressure to hold a piece against a hollow mandrel in the headstock. To be precise, the vacuum does not pull the bowl against the chuck; rather, the outside pressure pushes the bowl. The amount of force applied depends on the difference of the pressures inside and outside the system.

1 The vacuum system used for this article.

Recognize that as the size of the chuck increases, the force against the bowl will increase for the same applied vacuum. Most vacuum systems will have a control valve that can be opened to increase the leakage, thereby reducing the vacuum. Otherwise, the force generated against a large thin bowl could crush it.

Vacuum systems have the advantage of being fast, easy to use, versatile, and reusable.

A basic vacuum chucking system contains:

- A vacuum pump that generates the vacuum. Such pumps are available through woodturning catalogs but can also be found in surplus stores and on Internet auction sites. Many vendors sell complete kits and the plans to make installation easier.
- Filters to protect the pump from dust and dirt ingested during operation
- Adjustable valves and gauges to control the vacuum level
- A flexible hose and rotary coupling to provide a leak-proof connection between the stationary vacuum pump and the hollow headstock spindle
- A hollow vacuum chuck with an airtight sealing material around the rim. The chuck can be made from many different materials, such as metal, PVC pipe, or even close-grained wood, and is usually threaded directly onto the spindle.

When the vacuum pump, via the valves and rotary coupling, removes the air from within the chuck, a region of reduced air pressure is created between the chuck and the turning. Since the air pressure on the outside of the piece is greater than that on the inside, a force is created that pushes the bowl into and against the vacuum chuck.

It should be noted that vacuum systems, while convenient, have some drawbacks. Porous or open-grained wood will allow air to pass through the walls of the turning and the bowl may not be held securely. Thin-walled turnings can be crushed if pressure is too high. And, vacuums will not hold as securely as a faceplate or a four-jaw chuck.

The problem of leakage

When I decided to upgrade my lathe by adding a vacuum chucking setup, I found many good articles describing how to *assemble* systems. Most descriptions of vacuum systems, however, failed to emphasize the importance of eliminating air leakage. Leakage can cause significant reduction in performance to the point of having undesirable consequences.

My engineering background told me that something was missing. All of these systems work and are successful, but the terms used to describe the systems and the descriptions of the operation were not always accurate. Furthermore, all the articles missed an important point. *The key to understanding a vacuum system and getting the most out of it is to control the leakage of air within the system.* Several authors suggest measuring the leakage by using the static reading of the vacuum gauge while the pump is running, but that is not a true indicator of whether there is leakage. This article will help you work with the system you already have, or will build, so that you better understand how and why it works and how to get the best performance from it.

I will offer an analogy to help explain some of the concepts of a vacuum system. Let's say Monty and Dave take Monty's boat out to do some fishing. Dave is a cautious guy and asks Monty if ▶

The rotary vacuum adapter (coupling) is shown inserted into the spindle in the center of the hand wheel at the outboard end of the headstock.

A small bowl is mounted onto the lathe using a vacuum chuck. This is the configuration utilized to clean up and finish the bottom of the bowl. This same setup is used for the fall-off test when looking for leakage.

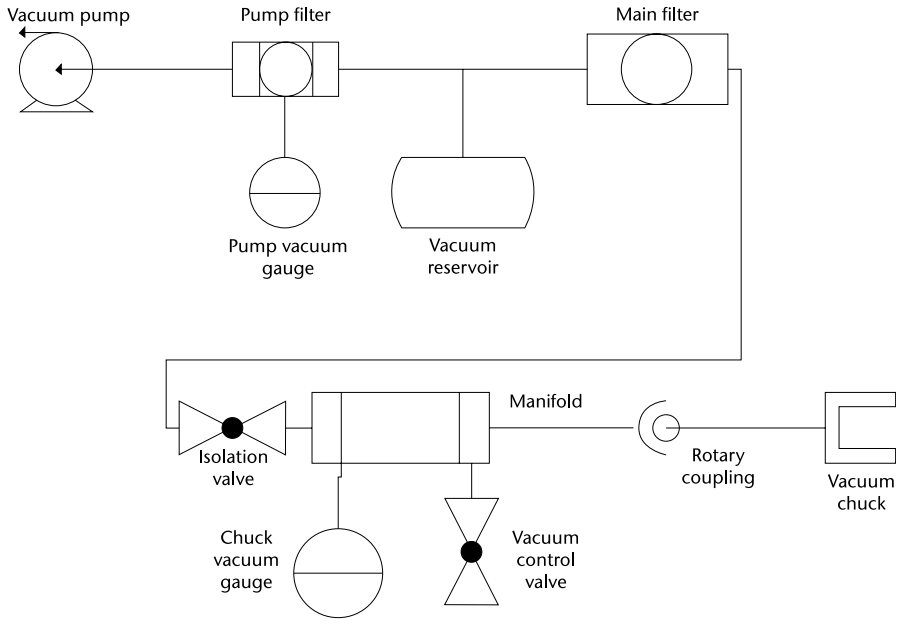


Figure A. Schematic diagram of the system in *Photo 1*. The isolation valve and vacuum reservoir are optional but recommended.

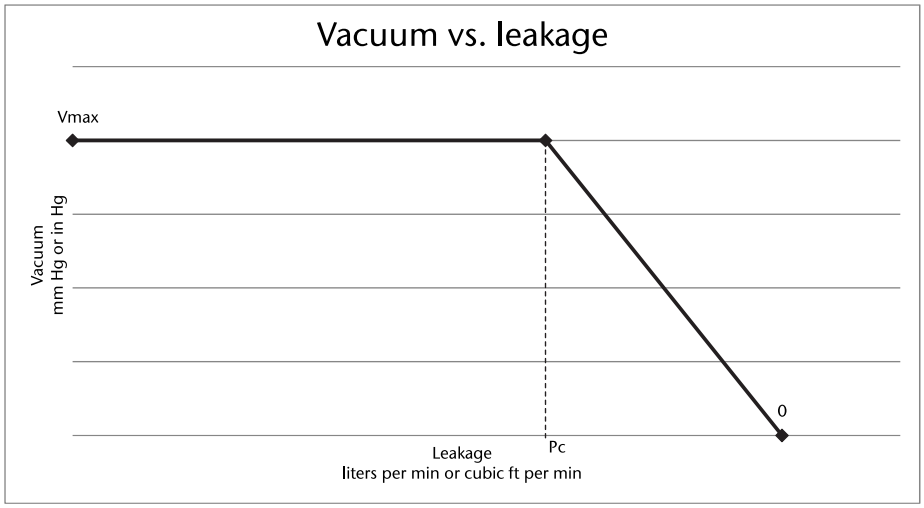


Figure B. The graph shows the relationship between the achieved vacuum and the system leakage. When there are no leaks, the vacuum will be at the maximum, Vmax. As the system leakage increases, the measured vacuum will stay near Vmax until the pump capacity, Pc, is reached and then it will decrease toward zero.

A C clamp is being used to temporarily close off the tubing to isolate the rotary coupling from the rest of the system.

To test for bearing leakage through the vacuum coupling, a plastic plug can be inserted into it.

The chuck to bowl seal is achieved here by utilizing sheet craft foam.

To test the overall system for leakage, an aluminum sheet is placed over the vacuum chuck. It tests the seal on the vacuum chuck as well as all other components and connections.

the boat has any leaks. Monty does not think so, but opens a hatch and looks into the bilge, reporting, "It's a little damp down there but nothing to be concerned about." Dave notices that the bilge pump is running and asks, "Is the water level in the bilge low because there are no leaks or is it because the pump is ejecting water as fast as it comes in?" To find out, Monty turns off the bilge pump and the water level starts to rise, indicating a leak. He turns the pump back on and starts looking for the leak.

A vacuum pump corresponds to the bilge pump and the vacuum gauge reading corresponds to the water level in the bilge. In the boat, the severity of the water leak can be categorized as slow or fast. Likewise, for a vacuum system the rate of change of the vacuum reading, under the right conditions, allows us to classify the leakage as fast or slow. These are not exact measurements but can still be useful.

When the vacuum pump is running and the vacuum gauge shows the maximum reading for that system, it does not indicate whether there is a leak. As long as the leakage rate is less than the pumping capacity of the pump, the gauge reading will stay at the maximum. Only when the leakage exceeds the pumping capacity will the vacuum level start to drop. This is the way that the control valve contained in most chucking systems reduces the vacuum level, by manually increasing the leakage.

By understanding these concepts, you can use them to characterize your system, identify any leakages, and take appropriate action.

Review of vacuum chucking systems

A good place to begin is with a review of a vacuum chucking system *(Photos 1, 2, 3, Figure A)* and a discussion of how each part relates to air leakage. The system pictured is a common system, with the possible exception of the isolation valve, a reservoir, and an additional vacuum gauge.

Figure B shows the general relationship between the vacuum generated within the system and the air leakage into it. For an ideal system, the leakage will be zero and the vacuum will reach its maximum. At sea level, the maximum vacuum will on average be 14.7 pounds per square inch absolute (psia) or 29.9" of mercury (29.9" Hg) or 760 mm Hg. The actual maximum vacuum in your case will depend on the altitude and the barometric pressure of your location.

As previously noted, the leakage rate in actual practice is not zero, so the vacuum will always experience some reduction. As long as the leakage is less than the pump's capacity, the vacuum will be at or near the maximum. As the leakage starts to exceed the pump's capacity, the vacuum starts to decrease toward zero. Note that the pump's capacity is the key to when the vacuum starts to decline. This will affect your decision on the desired capacity of your pump. I will expand on this factor later.

You may be wondering why the vacuum does not drop immediately to zero when the leakage starts to reach the rated pumping capacity. First, the pump's pumping rate depends on the pressure from which it is pumping and results in a curve that drops off gradually. Second, the leakage through the control valve or the wooden bowl is dependent on the differential pressure across it. As the vacuum drops (the differential pressure), the flow rate will decrease. These two factors will interact, eventually balancing to provide a relatively smooth transition from full vacuum to ambient or zero pressure.

Controlling the leakage is the key to understanding and getting the best performance from your system. Sources of leakage include:

1. Pipe thread connections
2. Hose or tubing connections
3. Filter seals
4. Pinholes in reservoir or hoses

To test the seal of the vacuum coupling with the spindle, seal off the end opposite to the coupling. In this case the seal was achieved by wrapping Teflon tape around a solid Morse taper and inserting it into the spindle.

5. Bearing seals in the rotary connector
6. Valves
7. Vacuum-chuck-to-spindle interface (headstock threads)
8. Vacuum chuck body
9. Setting of the vacuum control valve
10. Interface material between vacuum chuck and bowl
11. Pores through the body of the bowl

This list can be separated into three categories:

A. Stable leakage fixed by design or construction, items 1 through 8
B. Variable, set by operator, item 9, control valve
C. Variable with limited control, items 10 and 11

For vacuum systems, we need to keep leakage below the pump's capacity (Pc) for the system to work properly. Leakage group A can be tested and remedied once and should be stable with infrequent need for repairs—we want to drive this leakage to the lowest possible levels. Leakage group C is the most difficult to consistently control. Even though we turn the surface of the bowl smooth and round, there is no guarantee that it will stay that way. It may warp over time. The body of the bowl may leak because of wormholes or porosity, cracks seen and unseen, and worn gaskets may also be an issue.

Assuming that the leakage through the control valve is set to zero, then the sum of the leakage from groups A and C should be less than the capacity of the pump. The difference between this leakage and the pump capacity is the margin of operation for the system. The margin of operation will change with each bowl, sometimes a lot and sometimes a little. The control valve operates within this margin to control the final vacuum applied to the bowl.

In a perfect system, the leakage will be zero and the size of the pump is not much of a concern. In a real system, the major source of leakage should be the leakage associated with the woodturning itself. Consequently, for a given bowl, the system margin of operation is directly related to the capacity of the pump. The sizing of the vacuum pump is not dependent on the size of the bowls to be turned, rather it is dependent on the leakage both between the chuck and the bowl and through the bulk of the bowl. When selecting your vacuum pump, the most important specification is the capacity of the pump measured in cubic feet per minute, not the horsepower or the maximum vacuum developed.

Testing for leaks

We may not be able to measure the leakage directly but we can quantify it indirectly. Remember the rising water level in Monty's boat when the bilge pump was turned off? When you have a bowl on your vacuum chuck and turn off the pump, the reading on the vacuum gauge drops toward zero. (Be sure the lathe is not running; the bowl will detach.) Sometimes the reading drops quickly; other times it is slower. With the control valve completely closed, this fall-off of the vacuum can be used to get some idea of the rate of leakage. The faster the rate of decrease in vacuum, the larger the leakage.

To maximize the performance of the vacuum chucking system, we need to find and reduce any leaks within it. The challenge is to do this without a lot of expensive specialized equipment. Our tool set includes the vacuum pump, valves, vacuum gauges, plugs, and clamps. Our strategy is to divide and conquer. Isolating different sections of the system, and monitoring the vacuum rate of fall when the vacuum is cut off allows us to locate and fix leakages.

Isolating leakage

Most systems are built using flexible plastic tubing. Using a piece of scrap tubing the same as that used in your system, verify that you can apply a clamp, closing it off without permanent damage *(Photo 4)*. The tubing should recover upon removing the clamp. This may be used to temporarily close off or isolate a section of the system. A suitable plug for shutting off the end of a tube can be fashioned from a tapered cap from a tube of caulking *(Photo 5)*.

The isolation valve in the system shown is also useful in isolating sections. When tracking down and fixing leaks, fix the largest ones first. Until the large leaks are fixed, small leaks ▸

For this system, it was found that using Teflon thread sealing tape on the spindle significantly reduced the leakage.

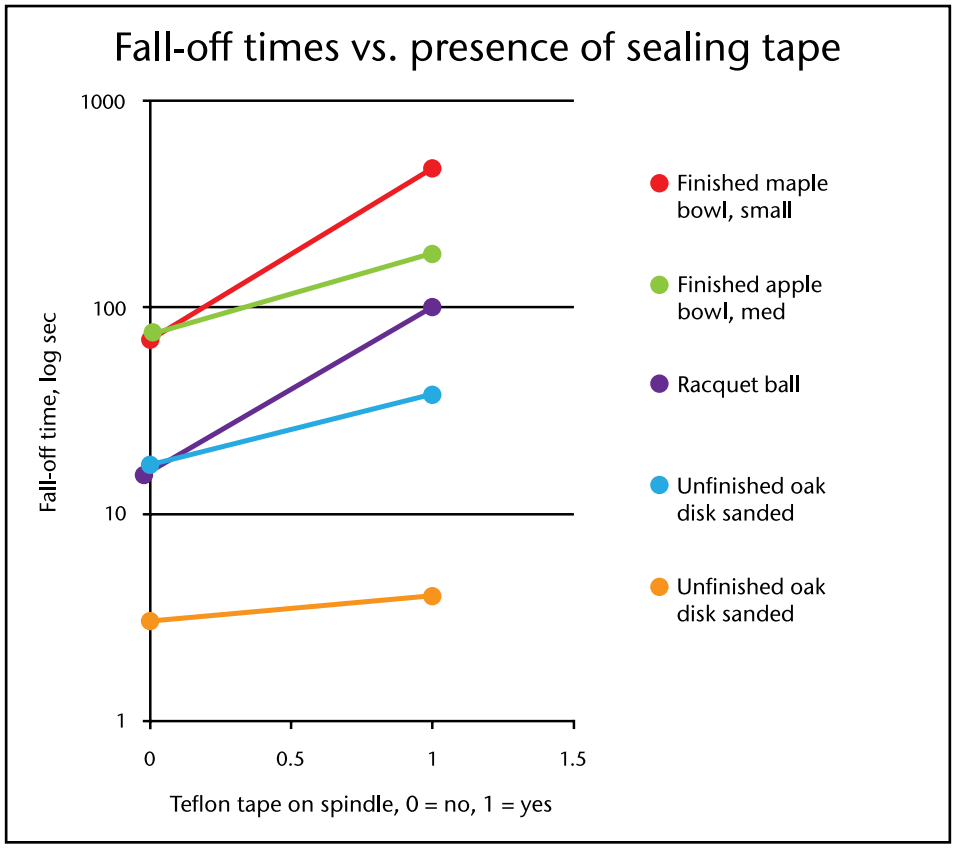


Figure C. The graph shows the change in time for various items to fall off the vacuum chuck. On the horizontal scale 0 indicates no Teflon tape was used on the spindle threads whereas 1 indicates that tape was used *(Photo 9)*. Without the tape, the system leakage "swamped out" leakage of the item being held. With the tape, the system can hold items that otherwise could not be mountable. Note the nonlinear scale on the vertical time axis.

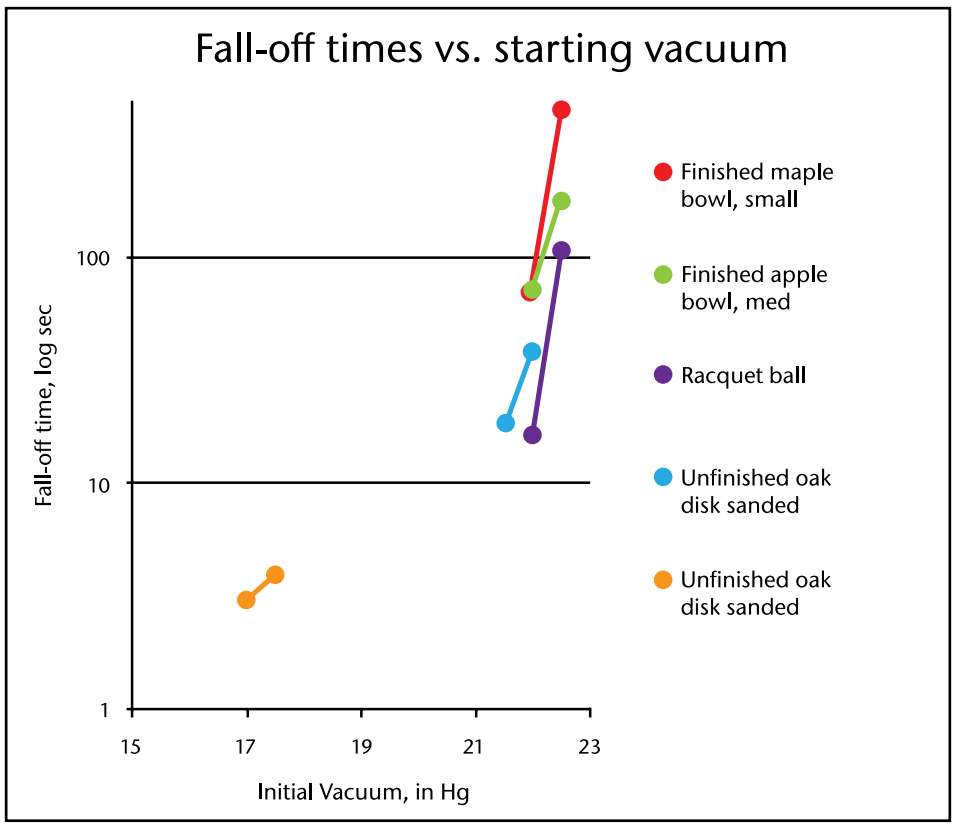


Figure D. When a leaky object is mounted, the vacuum achieved may be less than otherwise achievable. This graph illustrates that when system leakages are reduced (see *Figure C*) the initial vacuum improves and the fall-off time increases indicating that the system-operating margin has increased.

will be hidden by the effects of the larger ones.

What should be expected in the rate of decrease in vacuum for an isolated section? For the system used in this article, the isolation valve was closed and the pump was turned off. The pump vacuum gauge read 520 mm Hg and stayed at that reading for more than five minutes without detectable change. This verified that there were no significant leaks between the pump and the isolation valve including the filters and the vacuum reservoir. In contrast, when the tubing was closed off between the manifold and the rotary coupling and the isolation valve was closed, the reading on the chuck vacuum gauge dropped to zero quickly. The leakage was traced to a faulty vacuum control valve. Note that without this kind of test, the faulty valve would not have been easily found. After replacing the faulty control valve, I repeated the test. The vacuum reading held for more than five minutes with no observable change.

Most vacuum chucks have a flat surface with gasket material upon which the bowl is mounted *(Photo 6)*. By placing a sheet of aluminum or other stiff smooth flat nonporous material across the chuck, the entire system can be evaluated *(Photo 7)*. Close the isolation valve and observe the change in the chuck vacuum gauge. Do not expect zero leakage at this point but the leakage should be reasonably gradual: vacuum drops to zero over several minutes.

By placing a small nonporous rubber ball inside the vacuum chuck, you may be able to separate out the effects of any

leakage through the body of the chuck. Then, plugging the end of the spindle will allow evaluation of the leakage through the chuck's mounting.

Making a measurement with the spindle plugged and then a measurement with the tubing between the manifold and the rotary coupling blocked will help isolate the leakage contribution of the rotary coupling *(Photos 8, 8a)*.

Fixing the leaks

When a leak is found, fixing it may be simple or it may require ingenuity. Here are a few ideas that may help.

- *A hose barb leaks where it is screwed into another fitting.* Use Teflon tape to seal threads. Sometimes taping does not work, in which case try using silicone sealant on threads before insertion and tightening. After the silicone has set up, do not readjust the threaded connection; you may need to reapply the sealant.
- *Hose to hose barb leakage.* Use a hose clamp.
- *Valve leakage.* Some valves can be tightened with a nut at the stem; otherwise replace the valve.
- *Reservoir leakage.* Seal on the outside with silicone sealant.
- *Vacuum chuck leaks where mounted on spindle.* Sometimes a plastic washer slipped over the spindle will seal the space between the chuck and the shoulder on the spindle. Also, use thread-sealing tape on spindle threads *(Photo 9)*.
- *Leakage through body of vacuum chuck.* If the chuck is made from wood, then seal it with polyurethane finish. If using O-rings, check that they are present and properly seated. Replace if needed.
- *Leakage at interface between chuck and bowl.* Check and repair gasket material. Sometimes using a second layer of closed-foam gasket material will help. Repair contact surface of bowl to better fit chuck.
- *Leakage through body of bowl.* Place painter's tape over wormholes and cracks on the outside of the bowl. For more extensive leakage, try wrapping the exterior with plastic film. Leave the area to be turned or finished exposed.
- *Rotary vacuum adapter leakage.* Apply grease to the O-rings used to form a seal between the adapter and the inside of the spindle shaft. Be sure that the grease used will not degrade the O-rings. Check the bearings for leakage, replace any leaky bearings. Check all gaskets used with the adapter, and replace if needed.

Performance of the system

Be aware that things can change while finishing the bowl. Check the chuck vacuum gauge frequently. The bowl may have shifted, a crack developed, you cut into an unknown flaw, or you may have sanded through the bottom.

For the vacuum chucking system used in this article, with the lathe off, a finished bowl was placed on the vacuum chuck and the isolation valve was closed *(see Photo 3)*. Before the valve was closed the vacuum read 22" Hg. Upon closing, the vacuum decreased and the bowl fell off in 66 seconds. The system was then investigated using the techniques outlined earlier. A major source of leakage was found at the spindle threads. Teflon sealing tape was wrapped around the spindle threads and the vacuum chuck replaced. The fall-off test was repeated. The time for the bowl to fall off was increased to over six minutes.

Several authors have indicated that bowls made of porous woods, such as oak, cannot be mounted on a vacuum chuck because the porosity of oak causes too much leakage. A more accurate statement would be that the total leakage may exceed the capacity of the system. Perhaps, by fixing the fixable leaks, the system capability is extended to allow the leaky bowls to be mounted. Monitoring the vacuum readings can indicate whether the achieved vacuum is adequate to hold your leaky bowl.

Figures C and D are enlightening and illustrate some interesting points:

1. The static vacuum level when the pump is running is *not* a good indicator for the presence or absence of leakage.
2. If the leakage is less than the pump capacity, the vacuum level can be high and look normal.
3. When the pump is turned off or isolated, the rate of vacuum decrease is a good indicator of the relative leakage rate.
4. The leakage along the spindle threads was a major source in this system. Yours may vary.
5. Excess system leakage can prevent mounting items that would otherwise be mountable. With care, even leaky wood can be mounted and turned. Try it—but with care.
6. A leaky system requires a larger pump capacity than one whose leaks were minimized.

Safe vacuum levels

I have been asked, "Knowing that the forces increase with larger chuck sizes, what is a safe vacuum level to use?" It is difficult to give an exact answer. There are two answers. One relates to the force generated to hold your bowl on the chuck. Force calculations are shown in the sidebar. The other answer relates to when the force generated will crush your bowl.

As you know, wood is not an ideal engineering material; it has flaws, wood changes with temperature and humidity, and there are changes within a log and from species to species. Also, the shape of your bowl and wall thickness have a big impact. And, what happens if you get a catch?

An Internet article by Bill Marx, "Allowable Vacuum for Wood Turning," describes the various factors in determining the strength of wood (twistedturner.com/vacuumchuck). Since the thickness and shape of your ▸

item can vary greatly, he simplified the calculations by analyzing a disk ⅜" (9.5 mm) thick using the weakest grain orientation. The result is a chart indicating the allowable vacuum for different size chucks and types of wood. Marx's chart should be viewed as a guide and not an exact answer, yet the article (and the chart) is the best attempt I have seen to answer the question of a safe vacuum level. ■

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Here are links to an article and a discussion on the Internet that you might find helpful:

- Bill Marx: "Allowable Vacuum for Wood Turning," twistedturner.com/vacuumchuck
- Steve Schlumpf: "Vacuum Chuck System—How I Built Mine," February 2008, sawmillcreek.org/showthread.php?p=764151&highlight=vacuum+chuck+system+built+mine#post764151

Measuring Vacuum

When measuring vacuum and pressure, it is easy to get confused with terms: psi, psia, psig, mm Hg, inches Hg and others. These are just different ways of measuring the same thing. We have all worked with thermometers, some marked in degrees Fahrenheit (F), others marked in Celsius (C) and yet another marked in Kelvin (K). They differ in the size of the measuring unit and what they call *zero*. For Celsius, zero was defined as the freezing point of water; 100 degrees is the boiling point. For Kelvin, zero is *absolute zero*, where there is no molecular motion.

When measuring the level of vacuum, it is important to understand that a vacuum is a location where there is nothing; it contains no mass. The *best vacuum* is that of outer space, often called a hard, or absolute vacuum. When we have a location that contains matter such as a gas (air), the molecules bounce around pushing against anything present, such as the inside of a tank. This pushing by the moving molecules produces a force we call pressure. When we measure the pressure we use the units of force per unit of area. Using English units, it is pounds per square inch or psi. In metric, the unit of pressure is kg per square centimeter or in Pascal abbreviated Pa. (Look at the sidewall of the tire on your car. You will see molded figures giving the maximum recommended pressure in both psi and kPa, or kilopascal.)

Okay, now we have a unit of measure for pressure, but what is zero pressure? What do we use as a reference for zero? For psia, the *a* stands for absolute. So, psia means pounds per square inch absolute indicating that it is the pressure measured relative to a hard vacuum. At sea level, the weight of the air creates an average pressure of 14.7 pounds per square inch absolute or 14.7 psia, that is, relative to a perfect vacuum. This pressure at sea level is also referred to as one atmosphere or 1 atm. We are unaware of this pressure since it is the same for us on all sides so the net force cancels out to zero.

But wait, when looking at a pressure gauge lying on the table, I see 0 psi not 14.7 psi. What gives? To be precise, the gauge should be labeled 0 psig, where *g* stands for gauge. This gauge is using the ambient air around itself as the reference. So, it is saying it is measuring zero pressure difference relative to the surrounding air. Another way to look at this is to say that at sea level, 0 psig = 14.7 psia = 1 atmosphere = 101.3 kPa. These all mean the same thing, just different units of measure with different zero reference points.

Air pressure on the Weather Channel will be expressed as inches of mercury (in Hg). This is a holdover from the original mercury barometers. The height of the mercury in the tube is due to the pressure of the ambient air balanced against the weight of the column of mercury. This air pressure measurement of the ambient air is relative to that of a hard vacuum. The barometric pressure can be expressed as inches Hg or mm Hg. Realizing that the average absolute air pressure will decrease about 1" Hg for every 1,000 feet of altitude, readings taken at altitude are normalized to that of sea level for easier communications and predictions.

Now let's look at measuring a vacuum with a vacuum gauge. All measurements we are concerned with are relative to the ambient air pressure, so zero vacuum means that it is the same as the free air. Most vacuum gauges measure the differential pressure between ambient and that inside the system. Early studies of vacuums were performed using a glass tube in the shape of a U containing mercury. One end of the U was left open to the ambient air, the other was connected to the area evacuated, the vacuum. As the vacuum increased, the column of Hg in that side of the U rose while that open to the air fell. The amount of vacuum generated is measured by measuring the difference in height of the Hg in the two sides of the U. Modern vacuum gauges are still marked in inches Hg or mm Hg. If the vacuum gauges were marked in psig or Pa, then the readings would need to be negative numbers.

The maximum vacuum that can be generated at sea level is -14.7 psig = 29.9" Hg = 760 mm Hg. (Did you catch the minus sign?) Watch out for articles that quote a vacuum outside of these limits; it indicates a mistake somewhere. For example, a vacuum of 25 psi is an obvious error. Either the number is wrong or they are using the wrong units. Also, watch out for altitude effects. Here in northern Colorado the altitude is about 5,000 feet. The upper limit on the achievable vacuum would be around 24.5" Hg (29.9" Hg – [1.05" Hg/1,000 ft] × 5,000 ft = 24.65" Hg).

Typical mechanical vacuum gauges used in our shops are not precision devices and are not provided with simple methods for calibration. Also, because of the size of the dials and the graduations on those dials, they do not lend themselves to making precision readings. Despite these shortcomings, these gauges are useful in the context of this article—to set vacuum levels, to find and reduce leakages, and to detect changes over time in the performance of a system.

The force holding your bowl against the vacuum chuck is a function of the area of the chuck and the differential pressure between the inside and outside. The differential pressure is measured by the vacuum meter. For a circle, the normal shape of a chuck, the area = Pi times radius squared. The pressure is in inches of Hg or mm Hg (1" Hg = 0.491 psi). For a 2" chuck with a vacuum of 20" Hg, the differential pressure = 20" Hg × 0.491 psi/inches Hg = 9.82 psi. The area = 3.1415 square inches so the force of the bowl against the chuck will be: Force = 3.1415 × 9.82 = 30.85 lbs. Rounding off gives an estimate of 31 lbs of force holding the bowl against the 2" vacuum chuck. Similar calculations for a 4" chuck at 20" Hg will have a force of about 123 lbs pressing the bowl against the chuck.

This compound meter measures both pressure and vacuum. Pressure rotates the needle clockwise and is measured in psig or kg per centimeter squared. A vacuum rotates the needle counterclockwise and is measured in inches Hg or cm Hg. Note that switching units between pressure and vacuum can help avoid confusion.

Multisided Inside-Out Turning

Jim Gross

My local woodturning club, Inland Woodturners, issues a monthly challenge. For January 2010, we were encouraged to make an inside-out turning. I have done several four-piece inside-out turnings in the past and I was not excited about doing another one.

I decided to pass on the challenge; however, the week prior to the club meeting I ran into our club president, Darrell Harris, at our local Rockler store. He told me he was looking forward to seeing what I would create. Well, that did it—I felt challenged to come up with something new. The following Monday at work when I noticed a gear on a machine, an idea struck me. If pieces of wood were made in a gear-tooth fashion they could be assembled with any number of sides and then reversed to make a multisided inside-out turning.

I have made four of these turnings (one six-sided and three eight-sided) and my procedure is still evolving. For instance, I decided to do the sanding step prior to the finial assembly on the third attempt and sanding at that point in the process worked very well.

I am a chemical engineer by education with a lot of industrial manufacturing experience. I have been turning for about five years. I had to take a year off for frozen shoulder in both arms. Since regaining the motion in my shoulders, I take much more time and care in my woodturning endeavors. My method to create inside-out turnings with more than four sides may be a new way to add challenge to an old method of turning.

I highly recommend the use of a faceshield while cutting and turning these parts. When things go wrong, as they sometimes do, pieces fly everywhere.

Number of sides and wood selection

First, determine how many sides you want your finished piece to have. Any number greater than four is possible. Use *Table 1* to determine the saw tilt angle and the number of pieces to be cut.

For this challenge, I chose eight sides. I need sixteen wedge pieces cut to 22.5° and eight spacers *(Photo 1)*. I used ¾" × 6" (19 mm × 152 mm) wood stock, making half a light color and half dark for contrast. Make sure the edges of the stock are square. A bow in the wood will not allow the parts to align properly.

It is important to cut the parts across the grain because, otherwise, making long pieces and then cutting them to width will result in tearout during the turning process *(Figure A)*.

Number of sides (S)	Saw blade angle	Number of pieces to be cut
5	36°	10
6	30°	12
7	25.71°	14
8	22.5°	16
9	20°	18
10	18°	10
11	16.36°	22
12	15°	24

Blade angle = 180°/Number of sides

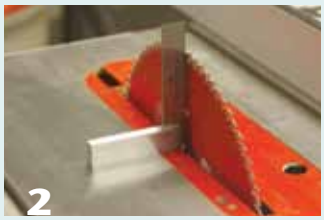
Table 1. Sides, Saw Angle, and Number of Pieces Required

Set the table saw blade angle

Set the angle on the blade as accurately as possible. When fitting multiple ▸

1

You will need sixteen wedge pieces and eight spacers.



Square the blade to the surface of the table saw.

Square the miter gauge to the saw blade.

Attach a digital angle gauge to the blade and zero the gauge.

Set the angle of the blade and lock the blade in place.

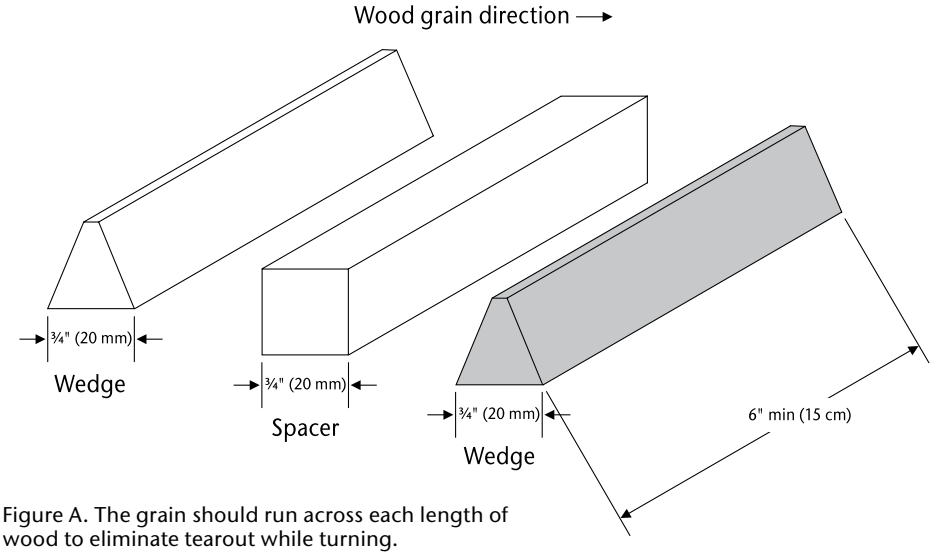


Figure A. The grain should run across each length of wood to eliminate tearout while turning.

parts together, an error of 0.1° will compound to 1.6° error on an eight-sided turning. To achieve the correct angle, begin by using a square to ensure that the blade is 90° to the table *(Photo 2)*. Next, use a square to make sure that the miter gauge is square to the saw blade *(Photo 3)*. Once that is done, I use a digital angle gauge to set the blade angle. Attach the angle gauge to the blade after squaring it and zero the angle gauge *(Photo 4)*. Set the blade to the angle from *Table 1* and lock it in place *(Photo 5)*.

It is important that once the blade angle is set and the width of cut is determined, nothing be changed until all parts are cut.

Set the width of cut

The large flat side of the wedge pieces should be ¾" (19 mm). Attach a spacer (a piece of wood) on the table saw fence to act as the width stop *(Photo 6)*.

Attach a spacer on the fence to act as a width stop.

Leave enough space between the spacer and the blade to ensure that the piece of wood that is cut off can fall away from the blade after being cut.

Make a test cut. Make adjustments to the fence if needed.

Make sure that this piece of wood does not extend into the saw blade area. Leaving enough space allows the cut part to fall away from the blade after being cut, thereby reducing the risk of it flying across the room *(Photo 7)*.

Using a squared piece of scrap make a test cut *(Photo 8)*. Make adjustments to the fence accordingly.

Cut the parts

Cut the sixteen wedges using this setup, eight light ones and eight dark ones. After cutting the first wedge, turn off the saw and wait for the blade to stop before reaching in to take the part. Yes, you are turning the saw on and off a lot, but it is a small price to pay for keeping your fingers intact—it only takes a split second of inattention to lose a finger. (I know several people who have had to have fingers reattached and I want to keep mine in their original working condition.)

Flip the wood stock over and make the next cut. I cut several extra pieces over the amount needed. This way, if I discover a flaw in one of the pieces I do not have to try to re-create the saw setup.

The first glue-up

It is possible to increase the diameter of the finished part by putting a spacer between the two wedge-shaped pieces during the glue-up, which is what I did for the sample in this article. The width of the spacers is ¾" (19 mm). Return the saw blade to its vertical position, 90°. Move the fence until the correct width is achieved. You will need the same number of these as the numbers of sides, in this case eight (see *Photo 1*).

Select two wedges that you want to glue together and add a spacer. I use Tightbond yellow glue for this glue-up. Completely cover the gluing surfaces with glue. Bring the pieces together in a vise and squeeze the glue out *(Photo 9)*. Wipe off the excess glue with a damp cloth. Removing the excess glue now will save lots of time later. Do not leave any glue on the angled surfaces *(Figure B)*. ▸

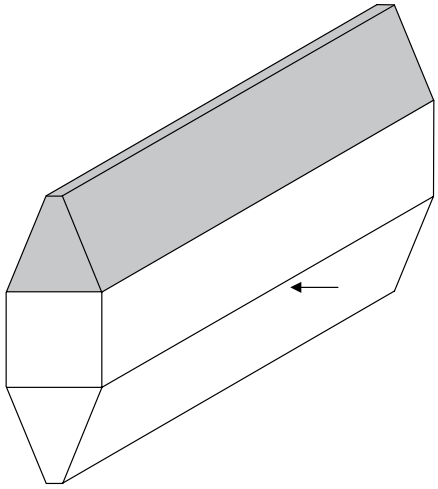
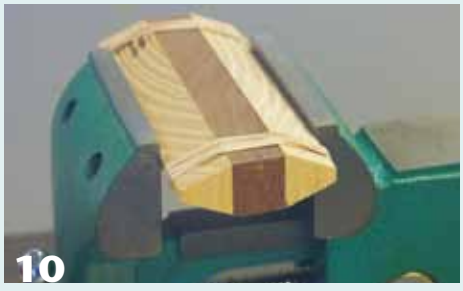


Figure B. The first glue-up: Wipe excess glue from joints.

9 Use a vise to clamp the wedges and spacer together.

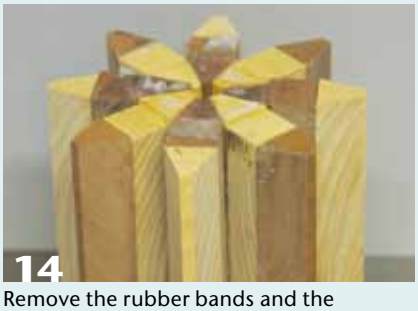


10 Attach a rubber band to the end of each assembly. Wipe off excess glue, then wrap more rubber bands around each assembly.

11 Let the glue in the assembled sections cure overnight.

12 Using the eight glued-up sections, form a star assembly, standing it upright on a flat surface. Hold it together with rubber bands. Apply thin CA glue to the joints at this end.

13 Add rubber bands to the other end of the assembly and apply more CA glue.



14 Remove the rubber bands and the assembly is ready to turn.

Mount the assembly onto the lathe.

Turn a gentle curve in the middle of the assembly. You will be turning a lot of air, so take easy, small cuts and have the lathe running about 1,200 rpm.

Deepen the cove and make sure you cut into the innermost piece of wood, as that will become the outside later.

With calipers set to slightly larger than the required diameter, gently cut to the final dimension.

Number the top edge of the pieces so that they can be oriented the same way for reverse turning.

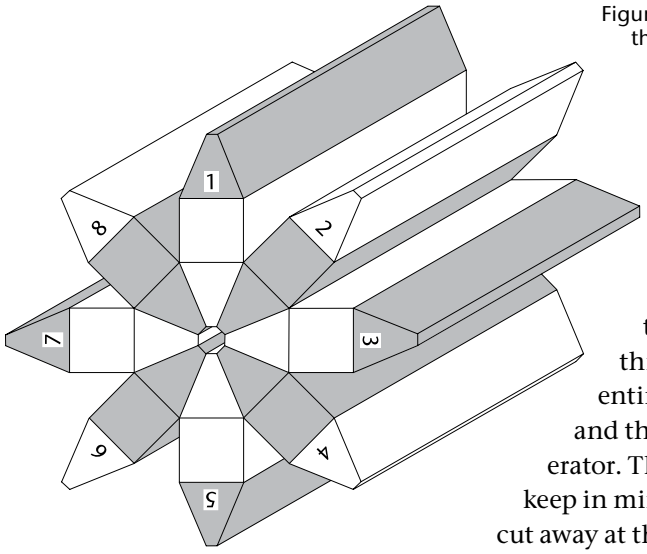


Figure C. The second glue-up: Only the first ¾" (20 mm) needs to be glued on each end.

Once the glue has been wiped off, wrap the ends of wedge with rubber bands while it is still in the vise *(Photo 10)*. Remove the part from the vise and add more rubber bands to the middle of the part. Allow the parts to cure overnight *(Photo 11)*.

A small amount of misalignment is okay and will disappear on the final product. Allow the glue to completely dry. Remove the rubber bands and scrape any remaining glue from the angle pieces. If you wiped off the excess glue before wrapping with rubber bands, this is a simple process; if not, it can take quite a bit of time.

The second glue-up

Using the eight glued-up sections, form a star assembly and stand it upright on a flat surface. Hold it together using rubber bands. Add enough rubber bands to make the joints tight *(Photo 12)*. Press down on the parts so that they are all at the same height. Move the parts until the edges of the adjoining parts line up *(Figure C)*.

Take your time with this—when you move one section, another section will also move. Once you have the parts lined up where you want them, apply a small bead of medium CA glue on the joints and allow a small amount to run down the joint on the inside of the center hole. Spray the end with accelerator to set the glue. Next, use thin CA glue to cover the entire end of the assembly and then spray on more accelerator. This is a messy process, but keep in mind that the glued area is cut away at the end of the process.

Make sure to have plenty of ventilation when using CA glue. The fumes can be overwhelming and they are toxic.

Turn the assembly over and repeat the process on the other end *(Photo 13)*. Remove the rubber bands. The assembly is now ready to turn *(Photo 14)*.

The first turn

Wear a faceshield! CA glue is brittle and can break apart. Even so, using this type of glue is necessary to the process.

Mount the assembly onto the lathe using a four-jaw chuck and a revolving cone center in your tailstock *(Photo 15)*. I turned the ornaments at 1200 rpm and sanded at 500 rpm.

When making a spherical ornament, turn a gentle curve in the middle of the assembly *(Photo 16)*. Use care as you are turning a lot of air. Small easy cuts are best; sharp tools are a must!

The deeper you cut, the thinner the outer edge of the ornament will become and the riskier the turning. Make sure that you cut into the innermost piece of wood as that will become the outside later *(Photo 17)*.

Cut into the innermost piece of wood at least ⅜" to 7/16" (9.5 mm to 11 mm). If you cut any deeper, the parts can break when they are separated. I set the width of my calipers to be slightly larger than what I want so

that I do not cut too deep *(Photo 18)*. I use a ⅜" (10 mm) spindle gouge, a ½" (13 mm) bowl gouge, and a half-round-nose scraper to cut the curve.

For sanding, I find that holding the abrasive paper underneath the turning will keep my fingers from getting hit.

Mark the top edge of the pieces and number them so that they can be oriented the same way for the reverse turning *(Photo 19)*.

Gently pry the sections apart. (You might want to use a workbench or piece of wood underneath the assembly.) Make sure the assembly is lying in a horizontal position.

Sand the edges of the spacer into a taper.

Break apart the assembly

Now that the inside is turned, remove the assembly from the lathe and pry it apart. I use a wide chisel for this. With the assembly in a horizontal position I place the chisel between two parts just outside the glue line, then I gently pry the sections apart *(Photo 20)*. If prying does not work, strike the chisel with a wooden mallet.

Do not try to achieve separation of the sections with the assembly in a vertical position—the thin areas can break. Separate all of the pieces. Glue the unintentionally broken ones back together again.

Time to sand

When there is a spacer block added to the sides, it is a square shape. When turned, the spacer remains square. In order to give the ornament a more elegant look, sand the edges of the spacer into a taper (*Photo 21* and *Figure D*).

Use a belt sander to remove material. Take care not to sand the inside wedge, otherwise the next glue-up will be compromised.

The third glue-up

The third glue-up is a repeat of the second glue-up, with one extra step. Assemble the pieces as you did in the first glue-up, having previously turned each piece inside-out (*Photo 22*). Once the assembly is glued together, lay it on its side, and using thin CA glue, glue the joint where the pieces are joined together (*Photo 23*). Make sure that some of the glue travels along the joint all the way to the center of the assembly. This is important in order to keep the finished assembly from falling apart when removed from the lathe (*Figure E*). Use thin CA glue to reinforce the thin section of the sides of the ornament (*Photo 24*). The glue will sand off when finished.

Turn and sand the outside

Turn the outside of the ornament following the curve of the inside (*Photos 25, 26*). Sand the outside of the ornament and the inside edges between the pieces. This is done by hand with the lathe off. If the lathe is running, you will get your fingers smacked as the piece rotates. Additionally, the outer edge of the ornament is fragile and can break if you hit it when sanding.

Once the sanding is finished, part off the excess material from the tailstock end of the ornament (*Photo 27*). This area can be sanded with the lathe running as it is a continuous surface.

Next, use a saw to remove the ornament from the headstock end (*Photo 28*). This area will also need to be sanded by hand.

Because CA glue was used to hold the wood together, the glue joints will be fragile. Use care to keep the ornament from experiencing excess shock. Above all, avoid doing what I did, which was to let the photography backdrop fall ▸

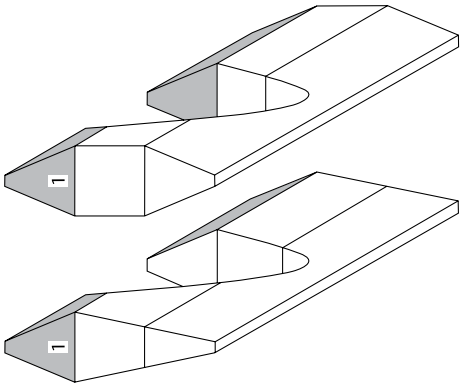


Figure D. Once the parts are separated from the assembly, sand to the shape shown.

22

Reassemble the sections, having turned each one inside-out. Make sure the numbering is correct. Glue the assembly together as you did in the first glue-up.

23

After the ends of the assembly are glued, lay it on its side, and using thin CA glue, glue the joint where the pieces are joined together.

24

If needed, apply more CA glue to reinforce the thin section of the sides of the ornament. The glue will sand off when finished.

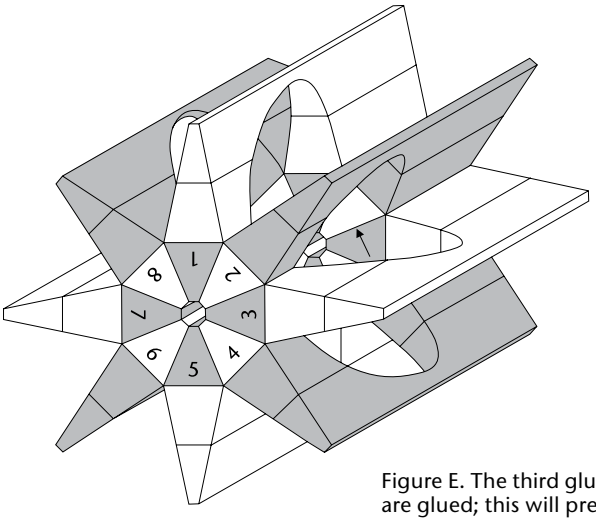


Figure E. The third glue-up: Make sure that the interior joints are glued; this will prevent the assembly from falling apart.

onto the ornament, knocking it to the floor, causing it to break into nine pieces. Screaming and exasperation ensued. Luckily all the breaks were clean and I could glue the pieces back together.

Finials and finish

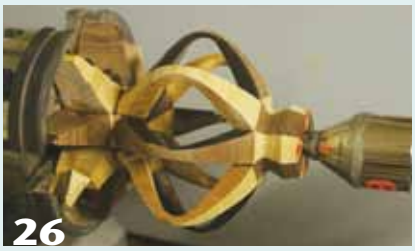
Turn two finials and glue them onto the ornament. I used a wipe-on finish.

This process makes an ornament large enough to be used as a Christmas tree topper. There is a whole world of shapes that can be made using multi-sided inside-out turning. Enjoy creating new and interesting projects! ■

Jim Gross is a member of the Inland Woodturners, which is located in the Inland Empire of Southern California. Inland Woodturners is a local chapter of the AAW. Their website is inlandwoodturners.com.

25

Turn the outside of the ornament to follow the curve of the inside.



26

After the turning is finished, sand the outside of the ornament and the inside edges between the pieces.

27

When sanding is complete, part off the excess material from the tailstock end of the ornament.

28

Use a saw to remove the ornament from the headstock end. Sand that area.

Baby Barbells

A Rattle Toy

Joe Larese

Celebrating the birth of a child with a gift is a universal tradition, and by making a fine wooden rattle, you will create a keepsake that parents will treasure and the baby will enjoy. This project exercises skills in endgrain hollowing, box making, and reverse jam chucking.

The idea for this rattle developed from an egg. The classic form, parted in the middle, hollowed and rejoined by a shouldered tenon has been a mainstay in turning. While learning to make these traditional objects, I realized that by adding a handle to the egg shape, and depositing rice (or orzo) into the hollow, I could make a baby rattle. The original rattle was a huge success with friends and family, but I continued to look for additional forms to incorporate in my turnings. While visiting a friend, I admired the handle of an antique book press, thinking it was similar to the rattle's shape but closer in form to vintage barbells. The challenge was to work through a process to make the rattle from a single blank, assuring grain match and tight-fitting joints. The methodical approach and repeat cuts would help improve my woodturning skills.

This rattle is made up of two spheres, one on each end of a handle. Each of the two spheres is a lidded box (lid one and lid two) made up of two hemispheres (four hemispheres total). The bottom of each box (spherical shape) is connected to the handle like a goblet would be. The entire rattle is made from one piece of wood. ▸

1

Using a fine-grained species of wood, turn a cylinder to a 1⅞" (48 mm) diameter that is 8" (200 mm) long. Turn a tenon on each end and mount the cylinder into a four-jaw chuck.

2

Part off a length of the cylinder, leaving a 1½" (38 mm) length mounted in the chuck.

3

Clean up the endgrain at the rim, slightly slanting the cut toward the center of the cylinder.

Use a spindle gouge to plunge-cut a ¾" (20 mm) deep hole. If you are unfamiliar with making a hole in this way, use a drill bit to drill the hole.

Hollow the inside of the first hemisphere/lid, leaving a wall thickness of about 3/16" (5 mm). You are turning endgrain, so the cut is from the center to the outside.

Turn the outside of the first hemisphere/lid, matching the outside curve to the curve of the interior.

Part off the hemisphere and leave a small tenon on the end. Use an awl to mark a hole in the center of the tenon.

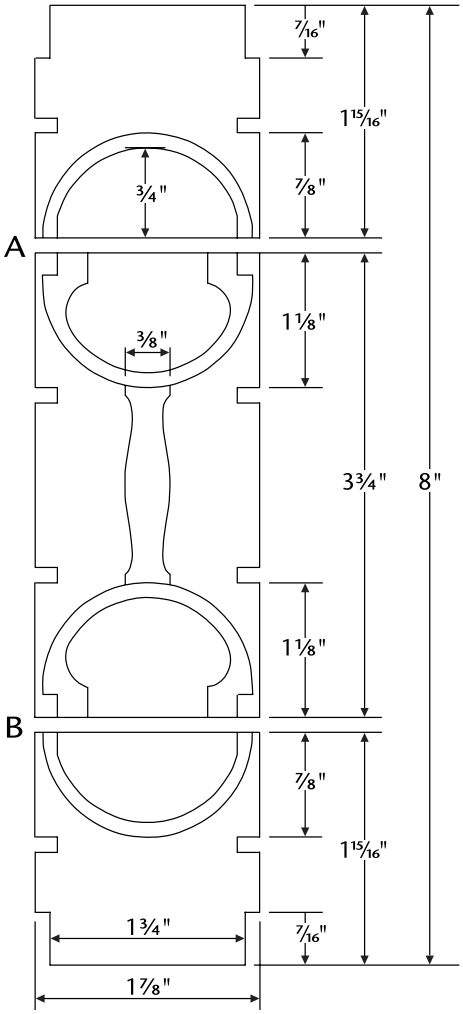


Figure 1. Dimensions and cut lines (A and B) for the baby rattle.

Illustration: Lloyd Johnson, woodturnerpro.com

Turn a cylinder

Select a straight-grained length of maple, cherry, or birch that will yield a cylinder that is 1⅞" (48 mm) diameter by 8" (200 mm) long. Avoid woods that can irritate skin, such as black walnut or cedar and most exotic woods. Mount the wood between lathe centers and turn to a 1⅞" (48 mm) diameter cylinder. Create a tenon on each end to fit into your four-jaw chuck *(Photo 1)*. Ensure that the shoulder of each tenon is cleanly cut and is at 90° to the face of the cylinder. I use a ½" (13 mm) skew chisel to make a peeling cut. I follow the cut with a shearing cut with the long point to square the shoulder.

Part off at "A" *(Figure 1)*, leaving 1½" (38 mm) extending from the chuck *(Photo 2)*. Set aside the length just parted off. This cylinder, approximately 5⅞" (150 mm) long, will form the other portion of the rattle.

The wood left mounted in the chuck will form the first hemisphere (lid number one). Clean up the endgrain at the rim and make the cut 90° or slightly greater *(Photo 3)*. Slightly undercutting the rim will allow a tighter intersection of two hemispheres.

Hollow the first hemisphere

Use tape to mark a point ¾" (19 mm) from the tip of a ⅜" (10 mm) gouge. Adjust the toolrest so the tip of the gouge is at the center of the wood. Present the gouge with the top of the flute at 45° and facing you. With the tool horizontal and in line with the bed of the lathe, push the gouge into the wood to the depth of the tape *(Photo 4)*. (Alternatively, you can use a drill bit to drill a depth hole if you are not proficient with using a gouge in this manner.)

Make a mark on the outside of the cylinder at the ¾" (19 mm) depth, plus 3/16" (5 mm) *(Figure 1)*. That mark helps to establish the diameter and shape of the outside of the lid/hemisphere.

Hollow the inside of the hemisphere to the ¾" (19 mm) depth and allow about 3/16" (5 mm) for the wall thickness all the way to the rim, aiming for a flowing curve. To hollow endgrain, move the tool from the center to the outside *(Photo 5)*.

The last 3/16" (5 mm) of the sides must be straight to allow an easy fit with the other half of the sphere *(Figure 2)*.

After the inside is hollowed, shape the outside of the hemisphere/lid. To establish the wall thickness, part to the waste side of the mark you previously

The Consumer Product Safety Commission has determined that because round shapes such as balls can completely block a child's airway, toys need to meet strict size requirements. Additionally, any ball-shaped toy less than 1¾" (45 mm) in diameter is banned for sale with intended use by children younger than three years old. For this reason, the diameter of the ends of the barbell must be at least 1¾" (45 mm).

Turn a shoulder that fits the first hemisphere.

Regularly check the fit.

Use a skew chisel to clean up the endgrain.

Fit the lid onto the cylinder, line up the grain, and bring up the tailstock.

Shape the outside end of the first hemisphere aiming for a wall thickness of about ⅛" (3 mm).

Slide the tailstock away and complete the hemisphere. Sand that end.

made on the outside. Start to turn the curve to match the interior, increasing the depth of the part in steps as you continue to match the interior curve *(Photo 6)*.

Part off the hemisphere/lid and leave a small tenon on the end. Use an awl to mark the center of the tenon *(Photo 7)*. This indentation will allow you to align the lid with the tailstock center in a later step.

Fit the first hemisphere/lid

Mount the portion of the cylinder you previously set aside into a four-jaw chuck. Using a small portion of a parting tool, gently turn a shoulder that fits the first hemisphere/lid you hollowed *(Photo 8)*. Cut in small steps and keep the hollowed hemisphere/lid close at hand, regularly checking the fit *(Photo 9)*. Caution: Without tailstock support the cylinder can easily be knocked off center, so take gentle cuts with a sharp tool. A scraping cut exerts too much side pressure.

Once a tight fit is achieved, use the long point of the skew chisel to clean up the endgrain. Slightly undercut the shoulder to ensure a seamless intersection *(Photo 10)*.

Fit the lid onto the cylinder and align the grain. Bring up the tailstock and insert the point of the ▸

Begin hollowing the second hemisphere using a parting tool. Leave a wall thickness of about ¼" (6 mm). The inside wall should be straight and ¼" (6 mm) deep.

Finish hollowing the inside of the second hemisphere. Use a scraper to undercut and blend the curve.

Part off the cylinder at the point where you marked "B" from *Figure 1*. Hollow and form the section left in the chuck (the second lid), as you did for the first lid. Remove from the lathe.

With a short waste-wood cylinder in the four-jaw chuck, turn a tenon to fit the inside of the hollow you created on the end of the second section.

With the cylinder jam fitted onto the waste wood and the tailstock drawn up, turn a tenon on the end of the cylinder.

Fit the second hemisphere/lid onto the tenon.

Using the tailstock for support, finish-turn the end of the lid.

Use calipers to match the diameters of the two lids.

live center to the awl mark made earlier *(Photo 11)*. Turn the diameter of the cylinder to just over 1¾" (45 mm) diameter at the intersection and start to finish the end of the lid. (Any smaller than 1¾" [45 mm] after sanding will no longer be child safe!) Aim for a finished wall thickness of about ⅛" (3 mm) to provide the best sound *(Photo 12)*. After shaping is finished, slide the tailstock away to complete the end of first lid *(Photo 13)*. Sand that area.

Hollow the second hemisphere

To hollow out the inside of the other half of the sphere (the second hemisphere), begin by making a 90° cut with a parting tool, leaving a ¼" (6 mm) wall thickness for the tenon. The inside wall of the tenon should be straight and ¼" (6 mm) deep *(Figure 2, Photo 14)*. This section will later be jam fit to a waste block, so leave enough wood for support.

From the end of the straight wall, hollow ¾" (19 mm) deep into the hemisphere. Use a scraper to undercut and blend the hollow *(Photo 15, Figure 1)*. Measure the depth of the hollow and add a heavy ⅛" (3 mm). Transfer this combined measurement to the outside of the cylinder. Part a shallow groove to the waste of the mark to establish the intersection of the barbell's handle *(Figure 1)*, but do not part all the way through—leave plenty of wood to form the handle of the rattle.

Turn and hollow the third hemisphere/second lid

With the lathe off, measure 1½" (38 mm) from the chuck jaws and make a mark. Use that mark to part off the cylinder at "B" in *Figure 1 (Photo 16)*. Using the wood that is left in the chuck, hollow out the third hemisphere/second lid. Use the directions previously given for hollowing

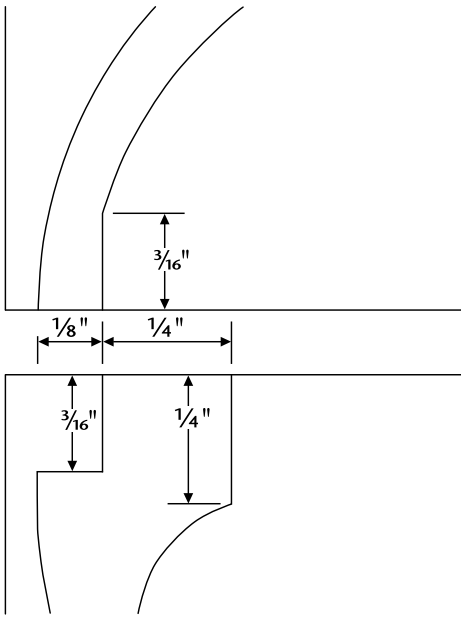


Figure 2. Detail and measurements for the lids.
Illustration: Lloyd Johnson, woodturnerpro.com

hemisphere/lid one. Remove from the chuck. This hemisphere will be the second lid.

Fit and finish the second lid

Insert a short waste-wood blank into the four-jaw chuck and turn a tenon to fit inside the hollow you created on the end of the second section *(Photo 17)*. The fit should be tight. Mount the cylinder onto the tenon and draw up the tailstock. Use tape to reinforce the jam fit if needed.

Use the parting tool to form a tenon on the end of the cylinder *(Photo 18)*. Onto this tenon will be fitted the second lid/hemisphere *(Photo 19)*. I keep the live center in place for much of the stock removal. Use a very narrow, freshly honed parting tool and remove stock with only one-half of its width at a time.

After fitting the hemisphere/lid and with it in place, bring up the live center *(Photo 20)*. Finish turn the end of the hemisphere/lid the way the first lid was finished. Use calipers to match the diameters of the two spheres *(Photo 21)*. Set the lid aside.


22
Carefully hollow the fourth hemisphere.


23
Reattach the lid and finish turning its profile, sanding when finished.

Hollow the fourth hemisphere

Remove the tailstock and carefully hollow the fourth hemisphere *(Photo 22)*. Reattach the lid and finish turning its profile. Sand it *(Photo 23)*, remove it, and set it aside.

Turn the handle

Slide the tailstock forward and place the live center inside the hollow of the hemisphere just turned. Remove the tape to access the rest of the rattle. Use calipers and a parting tool to establish a ⅜" (10 mm) diameter at the intersection of the barbells and the handle *(Photo 24, Figure 1)*. Carefully turn the middle section to form the handle. I use a skew chisel and a spindle gouge and work carefully to form a gently curved handle *(Photo 25)*. Do not turn the handle too thin; otherwise it could break.

Sand all parts and finish with a child-safe product *(Photos 26, 27)*.

Embellishments

I prefer a smooth joint with matched grain, but adding grooves or beads at the intersection of the barbell halves can add visual and tactile appeal. Before gluing the ends onto the rattle, try rice or orzo (a pasta product) in varying quantities inside the rattle and listen for the difference in sound. Once you decide on the contents, glue the lids on using either water-resistant PVA glue or a two-part epoxy.

After you give one of these rattles to a family member or friend, expect to make more of them! Sometimes when I am at the lathe working on yet another rattle, wishing I had not started this mini-production item, I think fondly of what a friend said. She was holding her baby while showing him the rattle, "Look what Uncle Joe made, just for you!" Priceless. ■

Safety First

The size of the rattle prevents it from being a choking hazard. There are other safety precautions to take into consideration when making this toy.

1. The finish needs to be food safe. I use shellac.
2. The joints for the hemispheres should be tight and glued with fresh water-resistant glue or epoxy.
3. The contents of the rattle should be very small and food safe in case the rattle joint ever fails. I use rice or orzo.

All of the rattles I have made have been given to family and friends and I have the advantage of letting them know all the precautions that were taken in making the toy. Despite this, I tell parents that their baby should not play with the rattle unattended.

Joe Larese is a member of the Kaatskill Woodturners in New York and the Nutmeg Woodturners League in Connecticut and is a turning instructor at the Brookfield Craft Center. He is a photojournalist by profession and participated in the photography panel discussion at the 2010 symposium in Hartford.


24
Use calipers and a parting tool to establish a ⅜" (10 mm) diameter at the intersection of the barbells and the handle.


25
Carefully turn the middle section to form the handle.


26
Sand all parts and finish with a child-safe product.


27
Use the scrap wood as a jam-fit chuck to hold the lid for finishing.

Creating Crochet Hooks

Katherine Kowalski

As a crocheter, I was often disappointed when I bought wooden crochet hooks from independent woodturners—it quickly became clear to me that those woodturners had never crocheted! With few exceptions, their tools were completely unusable; the hook shapes were wrong or fragile, the decoration hurt my hand, and the ergonomics were unspeakable.

Interest in crocheting is booming, especially among young people. With the "green" and handmade movements that are taking place, fine, one-of-a-kind craftsman-produced tools are especially valued. There is much more to creating crochet hooks, however, than turning a simple spindle and carving a notch in the end. This article is about creating a comfortable, beautiful, usable crochet hook that will be treasured by its user for years to come.

Wood selection

An excellent measuring device (and reference) is Susan Bates' Knit-Chek, which can be purchased online or at any craft store that sells yarn. (The Knit-Chek tool features holes for sizing crochet hooks.) In order to determine the size of the crochet hook you decide to make, the measurement of the hook is taken at the cylindrical section right where the hook is carved.

The shaft and hook should be one piece of wood, straight grained. Hard, dense, and fine-grained woods look and perform best. If you use burl or cross-grain wood for the shaft, the hook will break. Match the wood type to the size of the hook you will be creating:

- Hooks size D–7 (3.25 mm to 4.5 mm) are extremely tiny, and should be made out of wood that is both strong and flexible, such as true rosewoods (*Dalbergia* genus), olivewood, and other oily species.
- Sizes H–K (5 mm to 6.5 mm) are in the middle size range, and may be made from any number of materials, including Dymondwood, domestic hardwoods (maple, cherry, walnut), or colorful exotics.
- With the largest sizes (8 mm and above), even softwoods such as pine may be used. I prefer to choose lightweight woods rather than heavier-weight exotics because they cause less stress on the hand for those crocheters with arthritis.

Segmentation

Here is your chance to add artistic flair to your crochet hook! Thin bands of dyed hardwood, burl, figured woods, and unusual materials (antler, bone, acrylic) can be added to accent the primary wood and make your crochet hook one of a kind. The crochet hook I turned for this article is made up of three parts: a shaft of Aqua Dymondwood, an accent band of Fuchsia Dymondwood, topped off by a finial of spalted tamarind.

When you use two or more segments for a crochet hook, make sure that the glue line occurs at a place where there is little or no stress on the crochet hook. All materials should be segmented with the grain going in the same direction, parallel to the primary wood you will use, which should be parallel to the bed of the lathe. Cut the pieces on a clean-cutting saw such as a tiny miter saw or a table saw. The finished blank should be ¾" (20 mm) square by about 8¾" (225 mm) long *(Figure A)*.

Because this is an endgrain joint, the connection must be strengthened with the use of a tenon. I use 3/16" (1.6 mm) brass tubing (which can be purchased in a hobby shop that sells model airplane supplies), lightly roughed with sandpaper. After marking the centers of each

Crochet Hook Diagram

Total Finished Length: 8" (20 cm)

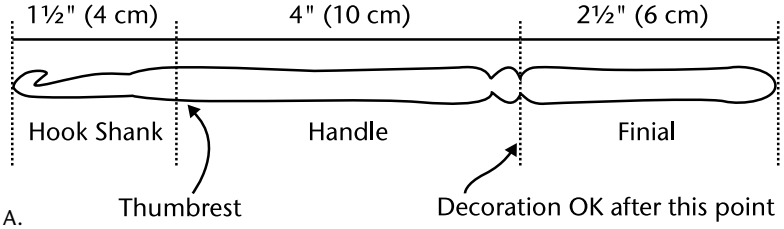


Figure A.

piece, drill a hole with a 3⁄16" (1.6 mm) drill bit about ½" (13 mm) deep *(Photo 1)*.

I recommend using polyurethane glue such as Gorilla glue to bond the pieces together; it is known to be more archival than CA glue. It is also more flexible and better able to withstand turning forces than epoxy.

Follow the directions to apply the glue, making sure to spread it inside the hole and around the brass tube. Cut the tubing with a small metal saw, and clamp the wood pieces together *(Photo 2)*. Give the glue a day to cure.

Drill the hole where the brass tube will be inserted. The brass tube strengthens the endgrain-to-endgrain joint.

Use Gorilla polyurethane glue to secure the brass rod into the holes. There are three sections to this crochet hook.

Turn the shape

Mark the center on each end of the blank. Mount the wood onto the lathe using a Steb or small cone-and-ring center. (Traditional spur centers tend to crack exotics, Dymondwood, and brittle acrylics.) Turn a tenon on the finial-end of the hook. Remove the blank from the lathe and reverse chuck it with the tenon held in 1" (25 mm) jaws. Support the other end with a Steb or small cone-and-ring live center.

Do not seat the base of the tenon against the jaws; wood attached this way often results in the piece flexing excessively as it gets thinner. Leaving a ¼" (6 mm) gap allows the wood to move just slightly *(Photo 3)*. If turning a nonsegmented, solid-wood hook, the blank may be mounted between centers, preferably Steb centers.

As you turn, start at the midway-point, turning the hook to final diameter, and work toward the tailstock. My favorite tool to use is a fingernail spindle gouge, using light cuts to turn the shape. The part of the blank that vibrates the most is in the center, so work from the center toward the ends.

Domestics, exotics, acrylics, burls, and dyed hardwoods can be combined to make truly unique crochet hooks.

Turn the hook section, and make sure you end up with a cylinder of the size appropriate to the hook you want to make *(Photo 4)*. A true, straight-sided *cylinder* is necessary—this is the section on which crocheters measure their stitches to make them consistent. Use your Knit-Chek for reference, and use calipers to measure, making sure you leave allowance for sanding.

Ergonomic concerns

As you are turning, make sure that any ornamentation (beads, coves, grooves) is added well beyond the part of the hook that will be held, otherwise the design will irritate the user's hand. An easy reference guide is to stop the lathe and place your own hand around the hook, and take note of where the side of your hand touches the hook—beyond that area is where you can freely apply design elements *(Photo 5)*.

I often extend the decoration beyond the magic cut-off point; however, I do so using soft shapes. I turn elongated beads and use v-grooves or coves in between the beads to avoid sharp elements. When designing a crochet hook, make sure the hook is well balanced. Bulbous, heavy shapes on the finial end are not only less aesthetically pleasing, they often make the hook unbalanced, resulting in hand fatigue when the hook is used for long periods of time.

Carved basket, hand-spun alpaca yarn, and a flurry of colorful, elegant crochet hooks

As part of my signature style, I curve the shaft because it adds a feminine touch *(Photo 6)*. On larger hooks, I shave off even more in this middle section to reduce the weight of the tool.

Finishing

Crochet hooks are held sometimes up to eight hours at a time. Their surface must be smooth. Precise tool technique will help you turn refined shapes and allow you to start sanding at a higher grit. Start with the grit appropriate to ▸

your technique, and progress through all the grits, ending with 4000.

Apply sanding sealer (if appropriate), then buff with EEE Ultra-Shine. I then apply a coat of Myland's Friction Polish, followed by Renaissance Wax. Because these tools are handled so frequently, use a finish that will age gracefully and is easily touched up by the user.

Cut the hook

The easiest way to cut the hook is to use a fiber cut-off wheel held in a rotary tool *(Photo 7)*, making sure the hook is aligned on the true side grain *(Figure B)*. Make the cut at about a 40° angle, cutting a slope into the shaft, no more than halfway into the wood. Then, gently curve the edges and blend them together with cylinder-shaped diamond carving bits, making sure you remove all burn marks *(Photo 8)*. Smooth with 320 grit sanding discs. Hand-sand the hook to perfect smoothness, all the way to 4000 grit. (There's nothing worse than a hook that catches in the yarn!) Painter's sanding sponges, and flexible Abranet abrasive work well to get into the hook groove. Apply the same finishes mentioned previously (omitting the sanding sealer and EEE).

Design considerations

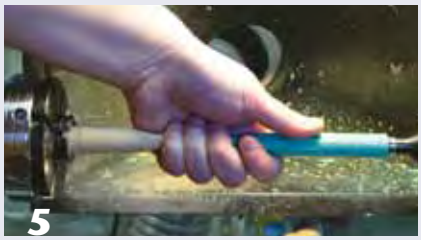
Crochet hooks are easy to customize. Almost any type of wood, acrylic, or other material that can be turned can be used in a variety of combinations. The coloration possibilities are limitless! If you need ideas, ask your intended recipient what her (or his) favorite colors are, or take a cue from their personal space.

Turquoise, coral, copper, and brass inlays (among many other materials) add an extra flair. Hooks may also be pyrographed, painted, dyed, or inset with precious stones. (Again, take care that your decoration is well away from where any skin will be touching.)

When gluing different kinds of wood together, I find it aesthetically pleasing to use a plain wood for the shaft (such as cherry) and combine it with a wild wood for the finial (perhaps burl). I usually add coordinating bands between the two primary sections. Burls, spalted, figured woods, magical acrylics, dyed hardwoods, exotics, domestics, birdseye, wavy, curly, sunflower seeds, coffee beans, banksia pods, tagua nuts—all can be utilized in the very tiniest pieces to create fabulous crochet hooks.

Leave a ¼" (6 mm) gap between the shoulder of the turning blank and the shoulder of the chuck jaw.

Measure the diameter of the crochet hook to achieve the correct size. Use a Knit-Chek and calipers.



Use your hand as a guide to determine where to place design elements on the crochet hook.

The author turns a gentle curve on her crochet hooks to add a feminine touch.

Cut the hook part of the crochet hook using a fiber cut-off wheel held in a rotary device.

Use a cylinder-shaped diamond carving bit to make sure the burn marks are removed from the hook area.

Tips

- Dymondwood is very abrasive and dulls tools quickly; sharpen your turning tools often. I recommend using powdered metal tools. A carbide-tipped bandsaw blade is worth buying if you resaw a quantity of Dymondwood or other hard exotics.
- An easy way to find the true sidegrain is hold the piece in the light, and look for outlines *(Figure C)*. Turn the hook 90° and you have the true sidegrain.
- Anything with corners, such as simple parting cuts or fillets, are sharp enough to be bothersome to the user's hand—don't include them on the working part of the crochet hook.
- As you are turning, be aware of the internal tenon—it rarely ends up exactly on center. Take care cutting coves and v-grooves near the segmentation points.
- Tenons may be made from wooden dowels, aluminum rods, brass tubes, or other materials.

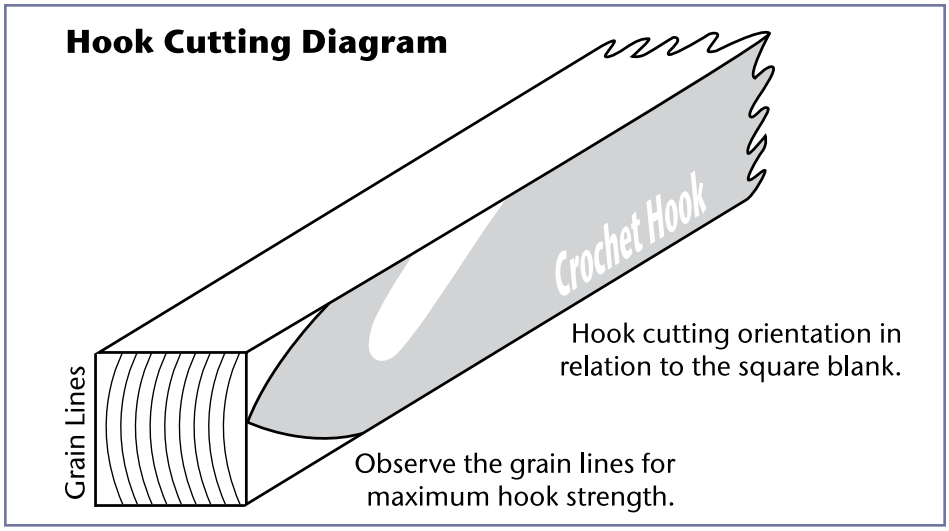


Figure B.

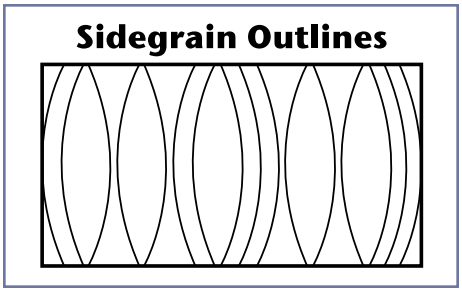


Figure C.

Let your imagination run wild with the vast array of materials available; develop a signature style with your own decorative techniques.

- When you have wild wood such as spalted maple or burl wood, simple shapes look elegant. For finely grained exotics or multi-ply dyed hardwood, beads, coves, and fillets accentuate the coloration and make for a lively design. ■

Katherine Kowalski is a full-time professional woodturner known for her luxury fiber arts tools and her unique contemporary artwork. She teaches and demonstrates around the country. For more information, visit her website at KatherineKowalski.com, or email katherine@daystarhandworks.com.

The Fiber Arts Connection

Katherine Kowalski

As a fiber artist, I derive immense enjoyment from using finely crafted crochet hooks to create my signature free-form designs. As a professional woodturner, I strive to create those unique tools. I believe in using art to create art, and I have combined my knowledge of fiber arts with my passion for woodturning to create functional, ergonomically delightful, and stylish tools for fiber artists.

Since the first day when fiber artists required precision tools to create their work they have relied on woodturning craftsmen to create them. After that first lathe-turned tool was delivered, whittled twigs just did not measure up!

Turners create knitting needles for knitters; crochet hooks for crocheters; nostepindes, spinning wheels, and drop spindles for weavers and spinners; lace bobbins for lace makers; and awls, needle cases, and pin boxes for other needle workers. From the bowls that Russian spindles rest within to shuttle bobbins for tatting, wooden and bone tools have been turned for fiber artists for hundreds (if not thousands) of years.

Over time, these tools evolved from being strictly utilitarian to highly embellished works of art. Woodturners design beautiful knitting needles and carve on fine bone crochet hooks. They texture and paint lace bobbins and make extraordinarily beautiful spinning wheels. Tools for fiber artists have moved into the realm of artwork and are coveted and collected. In some cases, toolmakers are better known than the fiber artists themselves!

Several prominent fiber artists use my tools in their daily work, and my tools are in art collections worldwide. What gives me most honor and satisfaction, however, is that I have created special hooks for fiber artists with disabilities, allowing them to pursue their craft beyond what the commercial enterprises allowed, enabling them to create their special works for years longer than they dared hope.

Custom-made fiber art tools are warm to the touch and much lighter-weight than their commercially produced counterparts. They can also be made with wider shafts for easier holding. Although these qualities may seem trivial, they are very important to our friends and spouses who have arthritis or other limitations.

Best of all, wooden tools show off the beauty of natural wood. With plastics abounding and cast resin mimicking wood grain, much of the public has forgotten what real wood is like. Jog their memories! Show off your fine woodworking! These spindles offer an excellent canvas for experimenting with the variety of techniques we learn at our local clubs and symposiums: carving, texturing, airbrushing, painting, pyrography, stone inlay, and segmentation. There is nothing quite so personal as creating something that is touched all the time. It is wonderful to utilize tools that are handmade; the maker's heart, mind, and soul seems to multiply creativity, and ease the art-making process.

The link between fiber artists and woodturners is strong and alive. I challenge you to create that connection with someone you know.

Graeme Priddle
A Man of His Land

D Wood

If you ask Graeme Priddle for directions to his home and studio in the northern North Island of New Zealand, his reply reflects the speaker, his nationality, and the landscape. After leaving the main highway, you take a right turn at Pigs Head Road—the road sign may or may not be there because local farmboys keep taking it—then, watch for a group of letterboxes, including a green plastic one. That is your last marker. The road then narrows to the degree that you pray you don't meet a vehicle trying to go where you have been. A woman materializes at an artistic-looking property, but relief is short-lived as she directs you farther toward the back-of-beyond. Finally, a dog, with its cicada chorus, heralds your arrival. You are at the end of the road and your destination.

Seeing this remote location enhances my understanding of Priddle's work. Graeme is the other Kiwi featured in Martin and Wallace's book, *New Masters of Woodturning*, and while the authors describe the property that facilitates Priddle's practice and lifestyle, they emphasize that the ocean and seafaring are Graeme's primary influences. Yet, to experience this close valley on a hot summer morning and sit on the deck, which has a contained vista of native ferns and spiderwebs, creates a different impression. Graeme Priddle is as much about the core of this country as he is about its extremities. He returns to this protective sanctum after his frequent trips to Australia, North America, and Europe. Here he breathes deeply, conceives his designs, and is restored by family. This is home, the heart of his creativity.

My visit to Northland took place in early 2009. At that time, Graeme was taking a break from the annual routine that had permitted him to remain financially viable as a professional turner. For the previous ten years, he taught workshops and gave demonstrations during the North American summer. New Zealand's summer was spent producing work for overseas and national galleries. Although Graeme loved teaching and the opportunities to hang out with like-minded colleagues and students, each trip was exhausting. The desire to maintain his market presence and sustain valuable relationships became overwhelming. He shut down his computer. Using his radio technician's qualifications he found full-time employment as a broadband installer and put woodturning on the back burner.

Initially, Graeme welcomed the salary and "the sense of relief at being able to survive." Despite fashioning a roster of four ten-hour days per week, with three days for turning, this did not pan out as neatly as he had hoped. By the time I saw him, his lathe and texturing tools had not been touched in over a month. He described this as a great loss and, as I returned to the real world after our interview, I railed against the reality for such artists in New Zealand. Local galleries for fine craft are few, as are art collectors. International visitors, the primary purchasers of top-calibre woodturning, concentrate their travel in the summer months, January to March. In addition, shipping fragile articles is increasingly risky as customs authorities escalate inspections. The global recession, which has affected all artisans, compounds the ongoing reality for New Zealanders.

When I saw Graeme two months later at CollaboratioNZ '09, however, he had given up the day job and was happily turning, carving, and rushing about, confirming that his passion was, once more, at the fore. He has the energy and unrestrained enthusiasm of a much younger man, which, last year alone, was invested in trips to the AAW symposium, Marc Adams School of Woodworking, and workshops/demonstrations in North Carolina, Tennessee, New Jersey, Hawaii, and at Magma GmbH in Austria. He participated in Australia's collaboration event in October. The year 2010 included commitments in eight American states, the biennial Emma Lake collaborative in Canada, a residency in France, and classes in Britain and Europe.

Tangaroa's Gift, 2007, Jarra burr, kina (sea urchin) shell, acrylic paint, 3" × 10½" (8 cm × 27 cm)

This is a punishing schedule, but the drive to advance his aesthetic while balancing the need to make a living is deeply ingrained. The significance of a restorative quintessential New Zealand home becomes clear. The house's character is no-frills, yet rich. Its shelves bear the swaps and gifts from colleagues around the world.

Priddle's woodturning career began with the purchase of this home. The family's move to Whangarei for his employment as a radio technician in the late 1980s prompted a search for land on which to establish a home-based lifestyle. The idea was to make freeform furniture from the property's deadfall timber, but the depressed economy of the late 1980s intervened. A chance visit to the Whangarei Studio Woodturners Guild on the night it showed a video featuring David Ellsworth, prompted Graeme to hatch a decade-long plan to become "the next Ellsworth."

With a borrowed lathe, the perseverance to teach himself, the perspicacity to assimilate wisdom▸

Detail

Detail

Tahi, Rua (one, two), 2007, Matai, acrylic paint, 15" × 4" × 4" (38 cm × 10 cm × 10 cm)

Graeme Priddle's home, surrounded by the bush.

Hawk Totems near the ocean in New Zealand. Graeme and glass artist, Shona Firman, collaborated on this project.

from veteran turners, and practice galore, Graeme turned bowls, hollow forms, weed pots, and vases for eight years. He also sold roasted chestnuts, dug holes, pitched hay, and milled/marketed timber blanks and burls to pay the bills.

Paua, 2009, Swamp kauri, acrylic paint, 3" × 11½" × 10" (8 cm × 29 cm × 25 cm)

Detail

Gradually, he evolved a form of personal expression aimed at galleries that exhibited sculpture. A portfolio of the latter garnered acceptance into the Wood Turning Center's International Turning Exchange (ITE) in 2000 (Rolly Munro and Priddle attended concurrently), thereby opening a floodgate of creativity and opportunity.

In 1996, Mike Hosaluk invited Graeme to travel to the University of Saskatoon. Hosaluk understood only too well the isolation and aloneness that accompanies artistic concentration. He envisaged a gathering of peers, in those pre-Internet days, to establish a network that was readily renewable. Priddle obtained a grant from Creative New Zealand (CNZ) to attend his first Emma Lake Collaborative. Although he was intimidated by the multinational array of talent and daunted by an introduction to Stephen Hogbin, the experience was life changing. In a subsequent report to CNZ he sought funds to replicate the Canadian event and, with the support of Whangarei glass artist Shona Firman, gave a slide presentation at her gallery to foster local interest. As a consequence, in May 1998, fifteen artists and friends encamped at the Priddle homestead to have a week's trial run at collaborating, followed by an auction of the finished products. The first Emma Lake clone was born.

The following year, sponsorship plus fees supported catering and equipment rental for a gathering of ten overseas and twenty-five national attendees in Whangarei. The most recent CollaborationNZ, 2009, hosted sixty-five participants in diverse disciplines such as woodturning, jewelry, ceramics, furniture making, glass, ironmongery, weaving, printmaking, stonecarving, and fibers.

Priddle, as site coordinator, is still part of the committee that organizes the event. In 2011, eighty artists from a diverse mix of countries and cultures are set to gather. Graeme flourishes

Starfish Vessel, 2006, New Zealand kauri, mulga, paua shell, copper, metallic thread, acrylic paint, 8" × 5" × 3½" (20 cm × 13 cm × 9 cm)

Point Break, 2008, Sheoak, ebony, copper, metallic thread, acrylic paint, 10" × 6" × 4" (25 cm × 15 cm × 10 cm)

Starfish Vessel, 2006, Ebony, paua shell, copper, metallic thread, acrylic paint, 8" × 5" × 3½" (20 cm × 13 cm × 9 cm)

Intense concentration is needed as Graeme turns wood off-center to begin one of his *waka* pieces.

Waka, Iti, 2010, New Zealand matai, acrylic paint, 1¾" × 6" × 2⅓" (45 mm × 150 mm × 60 mm)

Detail

while surrounded by his mates—local and from abroad. Ironically, the intense camaraderie that results from eating, sleeping, and working with the group only lasts for one week every two years; the collaborators rarely see each other in between events.

Priddle was eagerly anticipating the March 2009 version when I met him. The work occupying his studio until then was outdoor sculpture, totemic in content. It combined Firman's cast glass and Graeme's carved elements. Several successful juxtapositions were evident, but the series proceeded slowly—the conception of the wooden form to merge with each glass shape takes time. The placement of several finished pieces amongst the foliage surrounding Priddle's studio demonstrated how naturally the totems nestled into the landscape. These contemporary *pakeha* (European) markers seemed as powerful and iconic as those revered by the Maoris.

Priddle's signature pieces—canoe forms and bowls with charred mottled surfaces—are reminiscent of New Zealand's native bush. New Zealand has five endemic tree ferns (*cyathea* and *dicksonia*) whose stalks, as the ferns age, harbor the remains of previous fronds, along with a brown/black fibrous beard. Priddle's proximity to these colors and textures can be seen in his *waka* series as noticeably as the reference to Polynesian canoes—the openings, stance, and patterns of the *waka* are conjured up by standing beneath the native forest canopy. The bowls are solid and grounded, shiny yet soiled like mammoth truffles. There is even a virtual scent of rich damp loam and subterranean fire about these canoes and bowls.

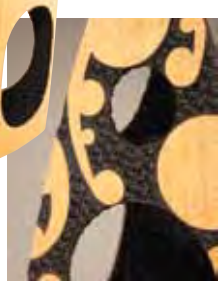
Even without its title, *Starfish Vessel* can be imagined as a primeval artifact from the floor of an ancient arboreal kingdom. Wood tones in the draped timber, accentuation of grain, contrasts of smooth and rough, organic patterning, and balletic whittled sticks that support the fabriclike configurations combine to remind me of my own hours in the Northland interior.

Priddle credits the tradition of Maori carving as an influence on his work. A visit to a Maori *whare* (meetinghouse) reveals that much of the carving is inside, enveloped within the ancestor that the *whare* represents. This introversion is synonymous with enclosure and containment, to which woodturning, itself, is irrevocably wed.

Priddle wants each viewer to bring his or her own story to the work created. He believes that "art is the content you put into the wood." His content is a reflection of himself, his environment, his heritage, and his experience. Graeme Priddle is 100 percent New Zealand/*Aotearoa*. ■

D Wood received an MFA in furniture design from the Rhode Island School of Design. She writes about craft media for a variety of international publications and is currently a PhD candidate in design studies at the University of Otago, New Zealand.

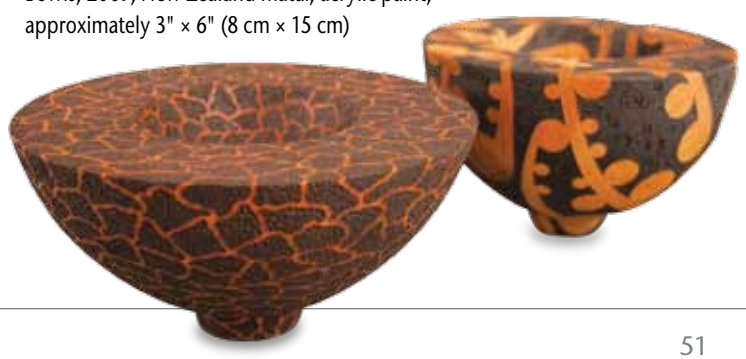
Pyrography is one of the surface embellishments Graeme frequently uses.



Detail

Wakara (Yacht), 2006, Monterey cypress, acrylic paint, 20" × 6" × 6" (51 cm × 15 cm × 15 cm)

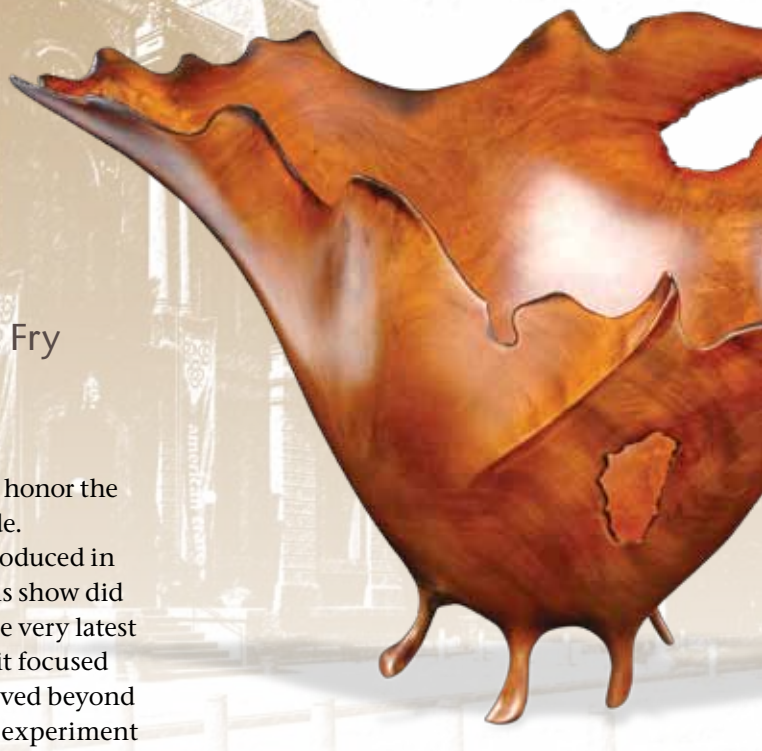
Bowls, 2009, New Zealand matai, acrylic paint, approximately 3" × 6" (8 cm × 15 cm)



Bresler Exhibition at the Renwick Gallery

David M. Fry

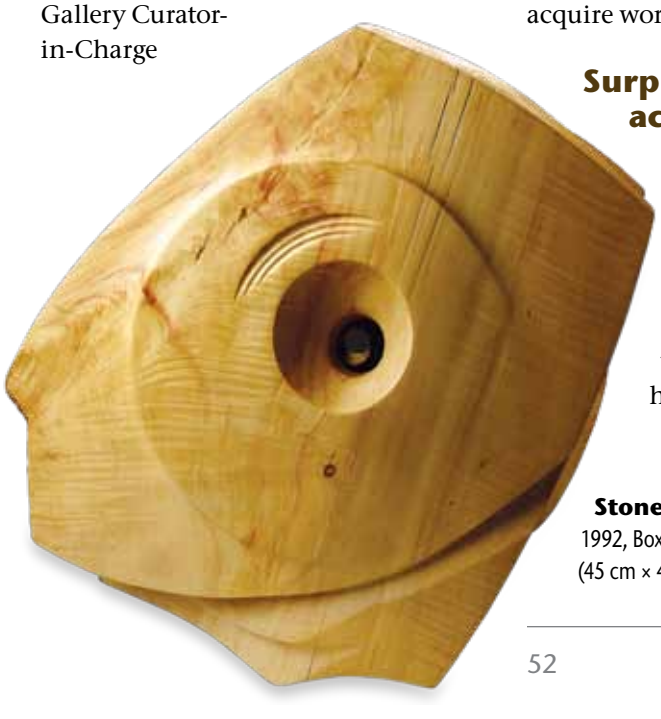
Photo: Ron Blunt



Derek A. Bencomo, *Hana Valley, First View,* from Peaks and Valleys Series, 1995-1997, Milo, 8¾" × 15¾" × 15½" (22 cm × 40 cm × 39 cm)

Three signature vessels by Michelle Holzapfel greeted me as I entered the anteroom to the main hall showcasing "A Revolution in Wood: The Bresler Collection." Opposite the Holzapfels stood a full-size lathe and demo station to dramatize the creative touchstone of the show. Just ahead, a large window framed most of the featured sixty-six works beyond—both free standing and clustered—from thirty-six wood artists. Donated by collector Fleur Bresler and her husband, Charles, in 2003, these works were selected by former Renwick Gallery Curator-in-Charge Kenneth Trapp, in whose honor the unrestricted gift was made.

Composed of pieces produced in the 1990s and earlier, this show did not claim to represent the very latest in woodturning. Rather it focused on pioneers who had moved beyond traditional lathe work to experiment with carving, piercing, stacking, remounting, coloring, scorching, or even deconstructing their turnings. A few makers had mastered their distinctive techniques and styles before Fleur Bresler started collecting, but most were still evolving when she began to acquire works in the mid-1980s.



Stoney Lamar, *Self-Portrait,* 1992, Boxelder, 17⅞" × 18¼" × 6½" (45 cm × 46 cm × 17 cm)

Surprises and renewed acquaintances

I strolled into the show full of expectations based on a recently received catalog (see *AW*, vol 25, no 6 for the catalog review). The actual walk-through reminded me how photographs—like shop drawings or models—can inform and excite us, but can also—without intent—deceive.

Both scale and energy proved startling in the real-life encounter with Derek Bencomo's *Hana Valley: First View* in milo, the catalog's cover image. It would have been hard to foresee the electrifying sweep of this turned and carved landscape, thrusting out a flaring horizon of craggy edges. The plunging slopes carried the high voltage down to dancing feet, which had looked a bit precious in the catalog, but now seemed vital to a work in perpetual motion. Inspired installation allowed me to circle the piece with no loss of its poise or drama.

Mark Sfirri also provided a jolt with his surrealist baseball bat collection

and *Glancing Figure*. His deranged bats in assorted woods convincingly testified to both the playfulness and violence of wood pounding leather at 90 mph. The scale was smaller than expected, but even so, the colorful set conveyed antic punch.

Glancing Figure, also less than life scale, left little to be desired in the sheer virtuosity of its execution. Far more than a single photo can convey, the walnut figure not only radiated technical mastery of multi-axis turning, but also beguiled with its curves and proportions from every vantage point. In fact, the best view might have been from the rear, where the crisp lines of the elongated head raced to a point. As Curator Nicholas Bell noted in the catalog, the pad-footed figure embodied the transformation of high craft into sculpture.

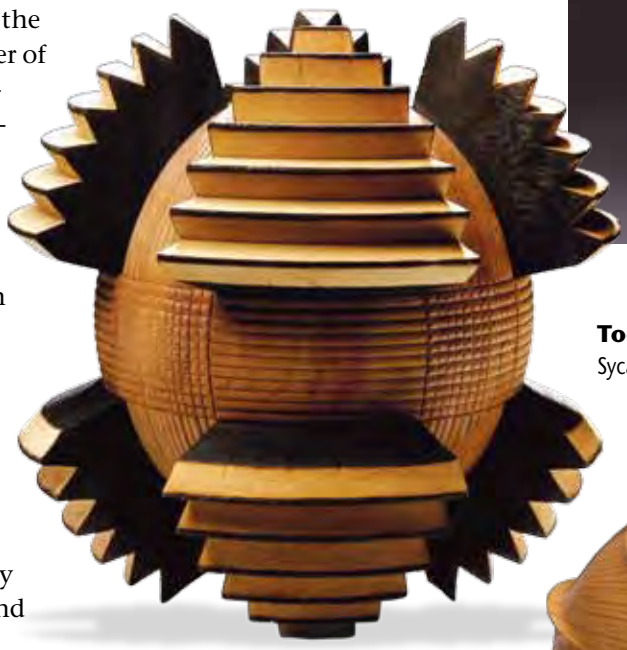
Another champion of recentering, Stoney Lamar, offered a different take on the human form—his own—in the show. With the economy and power of haiku, *Self-Portrait* in boxelder conjured its maker with just a few well-placed lines resolving the features of the face. Unfortunately, the position of the work in its case limited my view to one side of the head, so the whorl of the ear on the other side was lost from sight.

If *Self-Portrait* beckoned with a contemplative air, Todd Hoyer's distressed vessels and spheres of sycamore, ash, and mulberry loomed grimly with sawtooth fins and charred cusps, or with constricting grids imposed by remounting. Smoke, desert sun, and decay had left their marks. With their outsize rawness and directness, Hoyer's pieces made no attempt to ingratiate, but they definitely commanded my attention and respect.

Mark Sfirri, *Glancing Figure,* 1997, Walnut, 46" × 15¾" (117 cm × 40 cm)

David Ellsworth does not normally come to mind within the realm of multi-axis turning, but happily *Mo's Delight* put in another appearance at the Renwick on this occasion. Sporting delicate handles and spout from remounting, this mischievous teapot in unpretentious oak ranks among my favorite turnings of all time. Its mood stood in sharp contrast to that of the artist's ominous *Patan*, another in his Solstice series of color works. Its receding-hole pattern recalled the descending arc of the analemma, but the scorched exterior, fiery paint, and title—the name of several cities in southern Asia—evoked (at least in me) the conflagrations of the early 1990s, when this region fell under the shadow of war.

Two pieces that shimmered unexpectedly were *Integration*, Bud Latven's brick-laid vase in maple and African blackwood, and Charles and Tami Kegley's monumental carved ▸



Todd Hoyer, *Suspended Sphere,* 1994, Sycamore, 12¾" × 12½" (32 cm × 32 cm)

David Ellsworth, *Mo's Delight*, 1993, White oak, 8¾" × 6¼" (22 cm × 16 cm)

Frank E. Cummings III, *On the Edge Naturally,* 1990, Kingwood burl, 18k gold, mother-of-pearl, 12¼" × 6⅛" × 7¼" (31 cm × 16 cm × 18 cm)

platter from a monster mahogany board. Latven's luminous bands deftly lapped and elevated the darkness, while a blade-burnished ring of chip carving animated the Kegleys' megaplate.

Center stage

My early hunch about Michelle Holzapfel's preeminence in this show was fully confirmed by both the installation and work itself. This was not surprising, given the extensive depiction of her pieces in the catalog. Museum staff had ensured that her art was the first to come into view in the exhibition and that her pièce de résistance occupied the spatial heart of the show. Only spoon maker Norm Sartorius had as many works (five) on hand, but as inspired as they were, they occupied far less space.

Two untitled pieces displayed Holzapfel's early transformations of the traditional vessel with their beaded and braided necklaces. Her 1993 *Autumn Vase* in maple burl reflected a more adventurous sculptural sensibility, with deep surface relief and a graceful profile. The mass of the piece nevertheless did not quite seem to serve its delicate subject. The later *Suspended Ring Vase* in spalted maple, however, brooked no second thoughts. Here a sumptuous vessel—a heart, a giant's locket, or perhaps just a simple vase—stood bound by delicate cords carved so convincingly taut that the binding hooks holding the ample mouth had "pulled" it free. The piece somehow looked impossible, but this was no 2-D illusion. The arcing micro-piercings under the mouth crisply proclaimed its flawless emancipation.

Holzapfel's ultimate jewelry, *Table Bracelet: Promenade Suite*, danced atop an uncovered base. Like a postcard from the unconscious, it defied simple explanation. The seven-foot bracelet was bookended by two eyeless heads whose mouths clasped a chain of eight fantasy vessels promising food, drink, and fire. The regal candelabra figure reclined between minions. Deep integral couplings pinned by spiral-top brass rods provided the intimate linkages. This was surely the work of a high conjurer.

Bud Latven, *Integration,* 1992, Maple, African blackwood, 13⅝" × 3⅝" (34 cm × 9 cm)

Charles Kegley and Tami Kegley, untitled, from Woven Series, 1997, Honduras mahogany, 2⅜" × 27⅛" × 27" (6 cm × 69 cm × 69 cm)

Michelle Holzapfel, *Suspended Ring Vase,* 1996, Spalted sugar maple burl, 12⅝" × 14⅜" × 5¾" (32 cm × 37 cm × 15 cm)

Hugh E. McKay, *Morata,* 1997, Madrone burl, pipestone, 10¼" × 9⅜" (26 cm × 24 cm)

Miniatures and mixed media

Renwick Gallery staff had surpassed themselves in artfully grouping the smaller pieces. The case containing David Sengel's *Hummingbird Box*, Michael Lee's *Armored Crab*, and Janel Jacobson's *Coiled Snake* and graphite study spotlighted the level of care and detail lavished upon such exquisite works. Although extraneous materials—India ink, gold powder, thorns—sometimes accompanied the woods used, they had been subtly applied for aesthetic unity. William and Marianne Hunter had exercised less restraint, but got away with it enviably in *Evening Blossom* and *Africa* by using black ebony as the base material and gold, enamel, and semiprecious stones in delicate patterns.

Some larger works likewise featured exotic materials. Not the miniature that I had expected, *On the Edge Naturally* by Frank Cummings III featured a kingwood burl cup topped with fretwork. A solid sapwood crest contained a lifelike self-portrait, while fine mother-of-pearl and gold bands circled the waist and foot. The vessel managed all this without succumbing to busyness; the ornament was rich but highly controlled. Barry Macdonald's crisply capped jars also achieved more with restraint. The small ebony feet of his full-bodied forms slipped into the shadows and, in effect, levitated the pieces. Multiaxis-turning genius Hugh McKay took a different course in *Morata*, a helmet-like form thrusting out a bevy of sharp flanges. The air just outside it seemed dangerous, and the space within, stifling. This was a powerful piece. With its burgundy pipestone mantling, I would like to have seen *Morata* just after its making, when the madrone was probably still pink.

Barry T. Macdonald, *Carob Jar #192,* 1993, Carob, ebony, bloodwood, 12" × 7⅞" (30 cm × 20 cm)

Final tribute

Near tour's end, I stopped to visit the work of an old friend, Hilliard Booth, whose elaborately incised southwestern Indian pot beckoned. A big, outgoing man, he died with a chainsaw at his feet not long after turning this piece in 1996. For years he had produced huge bowls—some over 20 inches—outboard on an 11-inch Rockwell lathe rolled out from his apartment. Only fanatical drive could have overcome these restrictions, but he had it aplenty, along with an intuitive grasp of proportions and fair curves. He embodied the struggle that probably every maker in this show faces, between passion for the craft and the inevitable physical, financial, and emotional toll exacted. His was an arduous quest at times, but I doubt that he ever regretted it.

Oliver Hilliard Booth III, Untitled, 1996, Cherry, 6¾" × 11⅛" × 11⅜" (17 cm × 28 cm × 29 cm)

During the last thirty years, David Fry has worked as a bowl maker, production turner, and woodworking instructor in the Washington, DC area. He has also coauthored two books for Doubleday/Anchor, edited manuscripts for a scholarly biomedical press, and written for NASA and other Federal agencies. He occasionally juries woodworking shows and writes about craft.

More information about the Renwick Gallery of the Smithsonian American Art Museum can be found at americanart.si.edu/renwick. ▶

Demonstrating at the Renwick Gallery

Showing Off Our Craft

Phil Brown and Stan Wellborn

Photos: Phil Brown

Woodturners in the Washington, DC region overcame a variety of challenges in order to demonstrate to museumgoers how wood is shaped on a lathe. The occasion was the opening week of "A Revolution in Wood: The Bresler Collection," a major exhibition of wood objects at the Renwick Gallery of the Smithsonian American Art Museum, located across the street from the White House.

Renowned wood collector Fleur Bresler suggested that demonstrations be arranged through local AAW chapters and asked Phil Brown, a prominent and longtime woodturner from Maryland, to help organize this activity. After months of searching, the museum staff located a small and seldom-used lathe in the museum's off-site cabinet shop and built a clear protective shield to stand between spectators and the lathe.

Clif Poodry (MCW) shapes the outside of a small vessel in the Palm Court entrance to the Bresler exhibition at the invitational opening.

In a museum that holds a priceless collection of craft art, great care needs to be taken when working with spinning wood, flying chips, and sharp tools. The Renwick Gallery prohibits demonstrations that produce dust, smoke, or sparks. In order to sharpen tools, we installed a grinder in the museum's basement. To minimize dust, we turned green wood. Open and closed vessel forms and finials were our focus. Flying chips and spinning wood drew interested museum visitors. Some remarked that they had no idea how lathes worked or how wood was shaped into attractive objects.

Woodturners from three local AAW chapters—Capital Area Woodturners, Montgomery County Woodturners, and Chesapeake Woodturners—volunteered for twenty-six dates, including press day and the event's gala opening. Turners brought in their own work for the public to caress and examine. Museum staffers were impressed with our chapter support and were enthusiastic about the response to our live demonstrations. We were all pleased to be part of this significant event. ■

Nicholas Bell (Curator, Renwick Gallery) and Fleur Bresler (donor to the Renwick Gallery) share a moment at the press preview opening.

Museum staff Katie Crooks and Tierney Sneeringer enjoy Eliot Feldman's touchable turned objects.

Nicholas Bell, Robyn Kennedy (Chief of the Renwick Gallery), with donor Fleur and Charles Bresler.

Members' Gallery

Jim Rinde's turned bowl wins third place in the 2010 American Bamboo Society's annual Arts and Crafts Competition.

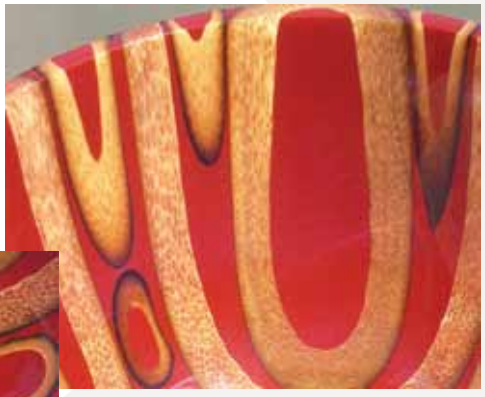
Eyes are important to me; I am blind in one eye and have incorporated eye designs into some of my turnings. I used this title thinking of the saying, "Beauty is in the eye of the beholder."

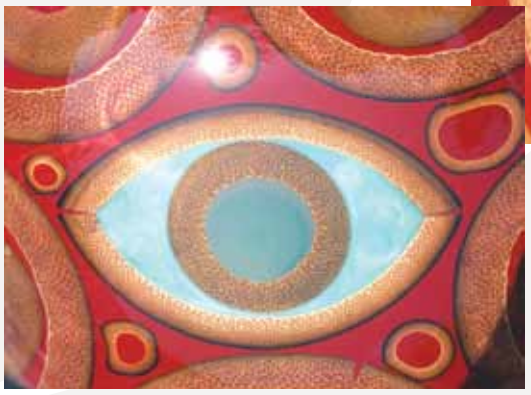
I created a design for the bamboo and then cast it in liquid epoxy resin, curing the resin to form a solid block. I turned the solid block using regular woodturning tools.

My first attempt failed because of the lack of adhesion of the epoxy to the surface of the bamboo. To solve the adhesion problem, I burned the waxy coating off the outside of the bamboo using a propane torch.

Jim Rinde is a retired research chemist from Camarillo, CA. He is a member of the Channel Islands Woodturners. Jim has been woodturning for twenty years and has published several articles on turning epoxy resins. In his professional career he spent twenty-five years working with epoxy resins and holds numerous U.S. patents, some of them in the field of epoxy resin technology. (For more information about the Bamboo Society, visit bamboocraft.net).

Jim Rinde, *Eye of the Beholder,* 2010, Bamboo (black, green strip, and giant), epoxy resin, pigments, fillers, iron oxide, 3" × 4½" (8 cm × 11 cm)

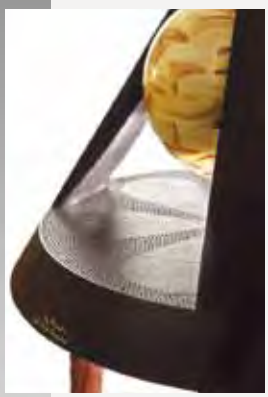




Detail of the inside bottom of the bowl.

Ray Muniak, Ohio

I have made a living selling my wood art for over twenty-five years. I am in retirement mode now, so I have decided to make more ambitious pieces. I named *John Owen's Adventure* for my seven-year-old granddaughter who has muscular dystrophy.



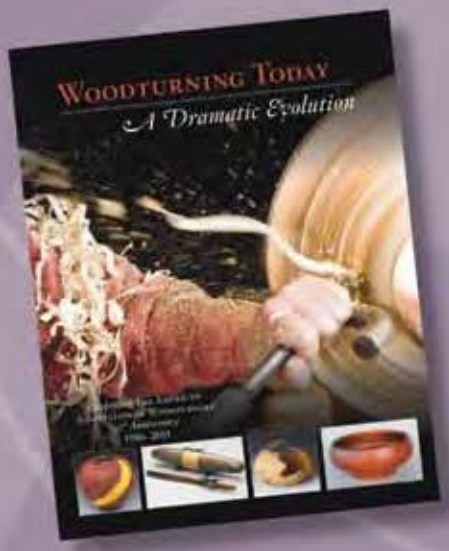
John Owen's Adventure, 2010, Boxelder, poplar, 64" (163 cm) tall

David Buskell, England

I was commissioned to make bases in walnut and wenge for a local sculptor. During our conversations, he told me he was a professional model maker and asked if I had used Chemiwood. I had not heard of it, so he gave me a sample to turn.

Chemiwood (or modeling board as it is better known) is used in a variety of applications where a stable medium is required. There are many sources for the product (Google "chemiwood"). It can be easily turned, glues up well, and takes a finish nicely. I used terracotta paste wax on this piece. ■

Untitled, 2006, Chemiwood, 1¼" × 7½" (3 cm × 19 cm)



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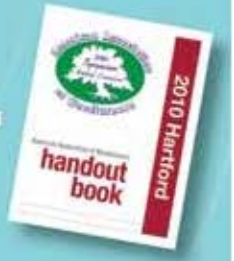

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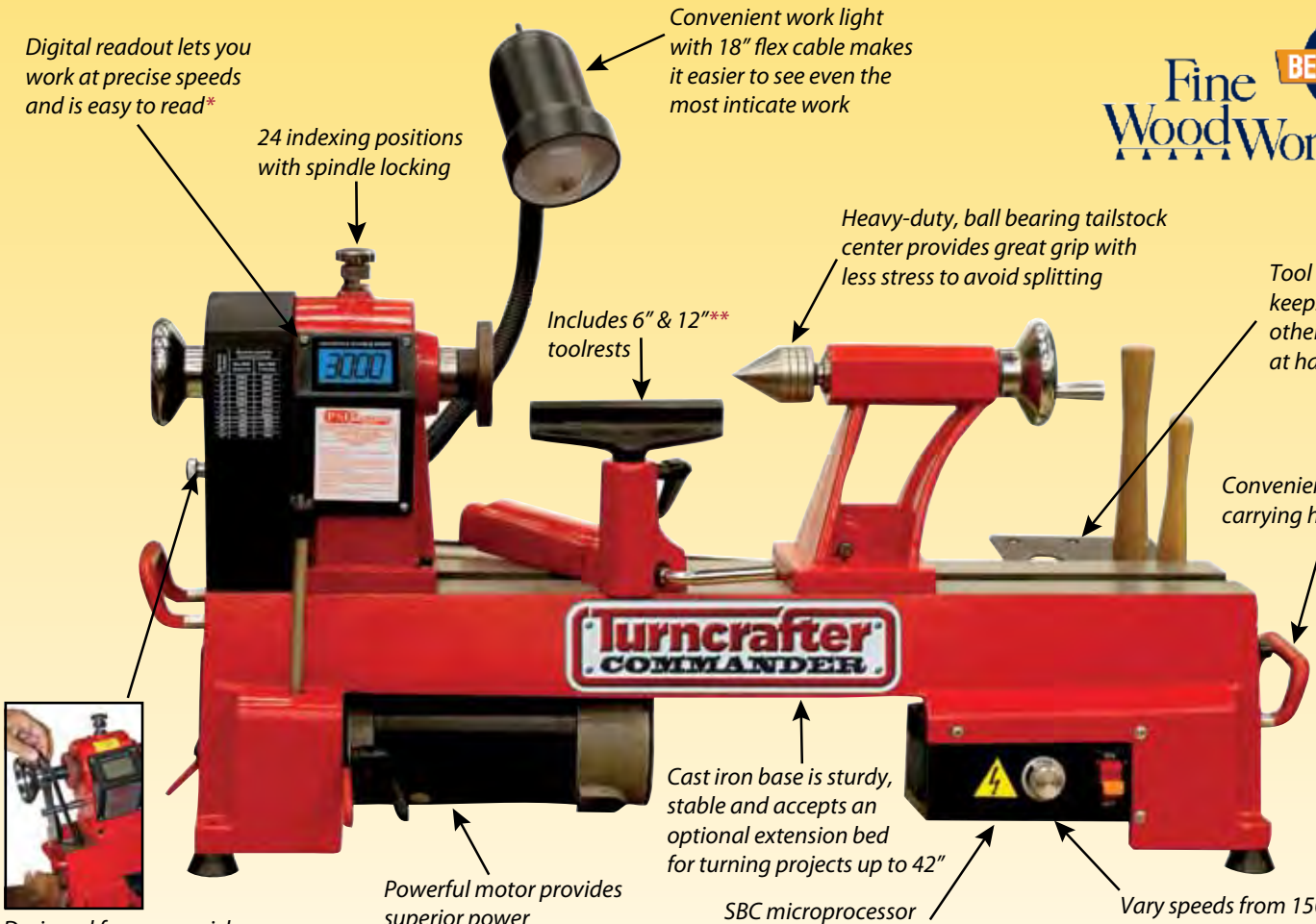

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The AAW 25th **Annual Symposium**

Register early and save!

Saint Paul, MN June 24–26, 2011

woodturner.org

REGISTRATION FORM • PAGE 1

☐ **Yes,** I am traveling to Saint Paul for the 2011 AAW Annual Symposium June 24–26 at the Saint Paul RiverCentre
Demonstrations end at 3:15 p.m. on Sunday, June 26

The symposium is open to anyone with an interest in woodturning. The full registration fee includes demonstrations, instant gallery, and trade show. Purchase banquet/auction tickets separately. Please register at the earliest possible date to assist us in planning the banquet and demonstrations.

Register online by June 13 at woodturner.org

Or mail by June 6 to:

AAW Annual Symposium
222 Landmark Center, 75 5th St W
St. Paul, MN 55102-7704
Phone: 651-484-9094 Toll free: 877-595-9094
Fax: 651-484-1724
Email: inquiries@woodturner.org

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Spouse/Domestic Partner: _____

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Enclosed is: ☐ Check ☐ Cash ☐ Money Order

In the amount of: $ _____

Please make checks payable to:
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_____/_____/_____/_____

Exp. date: __ __ - __ __ CVV: __ __ __

Signature: _____

see you in **Saint Paul**

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See you June 24-26 in Saint Paul!

Register Early and Save!

	Member	Nonmember*
Through May 15, 2011 —	☐ $250	☐ $310
After May 15, 2011 —	☐ $300	☐ $360
After June 13, on-site registration only —	☐ $350	☐ $410

Includes demonstrations, instant gallery and trade show. Banquet/auction ticket must be purchased separately.

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Registration includes admission to all turning events. It does not include banquet/auction ticket, which must be purchased separately.

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SINGLE-DAY REGISTRATION —	☐ $175	☐ $200

Per day attended. Does not include banquet/auction ticket, which must be purchased separately.

☐ Friday ☐ Saturday ☐ Sunday

☐ **YOUTH REGISTRATION** (10 through 17)
I plan to bring one youth for free, full registration. See the AAW website (woodturner.org) for special youth registration and parental consent forms.

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STUDENT REGISTRATION —	☐ $100	☐ $150

Student ID required (25 and under). Does not include banquet/auction ticket (separate purchase).

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Fee:
Through May 15, 2011 — ☐ $55
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Check the AAW website (woodturner.org) for updates.

☐ I would like to volunteer to help at the symposium.

*Nonmember fees include a one-year AAW membership. Rates are higher for those living outside the United States.

For cancellation through May 15, 2011, a $50 processing fee will be deducted. After that date the registration fee is non-refundable.

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Need some inspiration? You'll find it at the AAW Annual Symposium instant gallery.

See you June 24–26 in Saint Paul!