WESTERN CAPE WOODTURNERS ASSOCIATION

NEWSLETTER : AUGUST 2025

The Western Cape Woodturners Association is a group of folk with a common interest in woodturning and wood.

We aim to promote the art of turning wood and to create awareness of this craft in the community and encourage young members to join the fellowship.

Members meet every Wednesday at 6.30pm to do " hands-on " turning and get instruction and help.

The venue is the Pinelands Hobbies Club, Nursery Way, Pinelands, Cape Town.

The Formal Meeting is on the 3rd Wednesday of the month at 7pm.

Visitors are welcome .

AUGUST 2025:

The meeting on 20th August is a demo by Mervin Walsh on beading, making your own beading tool and types of beading.

Thys Carstens gave an expert demonstration in July, showing his skill and experience in the making of a lidded box.

African Blackwood & Copper Resin Hollow Form by Thys Carstens

Thanks to the American Association of Woodturners, American Woodturner publication and authors Bill Wells, Beth Ireland, Michael Hamilton-Clark and Dennis Belcher for their permission to reprint their articles.

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EDITOR'S NOTE :

This month I have some very good articles, with the permission of the American Woodturner, Woodturning Fundamentals and the American Women - in - Turning newsletter.
Molly Winton and Walt Wager give a very clear and good layout for beginning turners in how to go about making a hollow form.
(The article by Walt Wager is a repeat of the same article in WCWA Newsletter March 2019)
Wes Jones gives a different approach in his article on hollowing through the bottom.

ASSOCIATION OF WOODTURNERS OF SA - SYMPOSIUM 3-6 OCTOBER 2025

The symposium this year will again be held at the Northlink College in Plattekloof. We have the privilege of bringing to our symposium the renowned British woodturner Helen Bailey, as the guest demonstrator. She is from Newcastle-on-Tyne, in North-East England. You can look at her website for more information about her work : www.helenbaileywoodturning.com

NOTE : There are two masterclasses to be held by Helen Bailey at the club in Pinelands on 1st and 2nd October. The cost is R1200 for the day.
The theme is making a 3-legged decorated and coloured pot.
There are only 6 places available for each day, so you need to book early.

BIRTHDAYS IN AUGUST :

Best wishes to all the members celebrating their birthdays in August :
Darryl Bailey, Midge De Goede, Rod Douglas, Deon Engelke, Michael Maxwell-Hafen, Steven Offer, Rodney Offord, Dave Stephenson, Mike Torrance, Manda Woermann.

WELCOME BACK to Darryl Bailey who has returned to join the club after some years absence.

This Month : The "ins and outs" of Making Hollow Forms

Turning Hollow Forms: We'll Start With Miniatures

by Molly Winton

The principles and techniques of turning hollow forms are generally consistent no matter the size vessel turned. Experience has shown that learning to turn hollow forms by starting with small vessels reduces many potential anxieties that can interfere with the learning process. Anxieties may include fear of new cutting dynamics, turning/cutting blind inside a vessel, potentially ruining or wasting a valuable piece of wood, experiencing catches that could throw the piece off the lathe causing injury, and so on.

Start with wood that has straight grain, and green or air dried (kiln dried wood is very hard, and more difficult to cut). Make your first pieces out of boring, non-figured wood, so if you mess up there won't be regrets from ruining a lovely piece of wood. Give yourself permission to make an ugly piece, or ruin one or two. By giving yourself this permission (for things which may never happen), it frees up the anxiety of having to be perfect. I have learned way more from my mistakes than from not making them at all. For this article, I've used a green piece of boring and straight-grained maple, 2" square by 3" long.

Place the piece between centers, true it to a cylinder, and cut a tenon on the tailstock end (the center hole will be important for a future step). Once the tenon is turned, mount the piece in your chuck, and if it's somewhat longer than 3 inches, bring the tailstock up to provide support while you shape the exterior of the vessel.

Forming the exterior shape of the vessel is really just another form of spindle turning. Prior to turning your vessel, take a look around at various vase shapes that are appealing to you. Find one that is not too elaborate, and then do your best to duplicate it. If you've never hollowed before I recommend finding a form that is closer to a closed bowl, having a wider rim opening, so when you begin hollowing you can see the cutting edge of the hollower, and notice how the cutting edge meets and cuts the wood. As you become more experienced, you will be able to draw from this visual image when you make the openings smaller.

Forming the exterior shape:

Taper the top of the vessel by removing wood at the top, right corner (Fig. 1), setting the shoulder-to-rim profile. Follow the curve of the vessel from shoulder to the base, leaving extra width at the base for stability when hollowing. The dashed line shown at the base of the vessel indicates where the vessel will be finish-turned when you get to the parting-off phase. If you don't leave the noted bulk at the base of the vessel, as you hollow you will experience vibration and chatter. At this point, add any turned design elements desired, such as a groove, bead, or other lathe-created ornamentation.

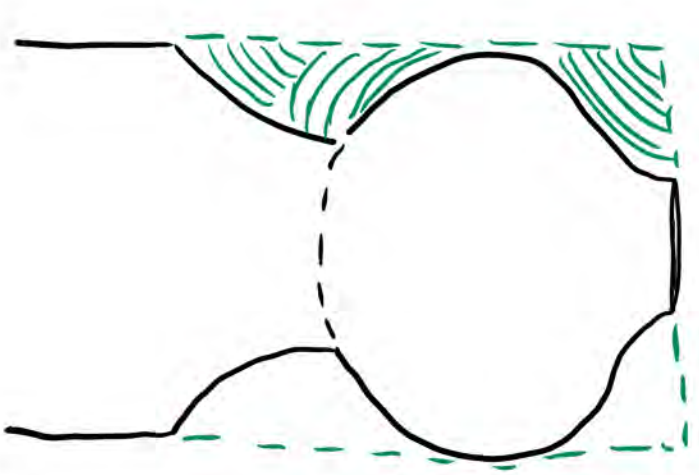


Figure 1. Shaping the exterior of the hollow form.

To begin hollowing, a pilot hole should be drilled to open the interior, and set the interior depth. A drill bit attached to the tailstock can be used for the pilot hole (mark the depth of the hole with tape), or a spindle gouge that has been marked to the appropriate depth can be used. If a spindle gouge is used (Photo 1), orient the flute straight up (12 o'clock position), tip at center. Push the tip of the gouge into the center of the wood carefully at first to center your hole, and then plunge it in to drill. The shavings will climb up the flute, making it easier to clear. Clear the chips frequently, taking care when exiting and reentering the pilot hole.

Photo 1. Drilling the pilot hole with a spindle gouge.

Figure 2 shows the interior of the vessel, with the bold red line illustrating the pilot hole, and the dashed lines indicating where to broaden out the initial pilot hole to obtain better access for hollowing tool use. Broadening out the initial pilot hole can be achieved using the spindle gouge (Photo 2). Rotate the flute towards yourself (approximate 11 o'clock position), so the left cutting edge of the gouge cuts the interior wall of the vessel. Run the gouge up and down the edge of the pilot hole, cutting away and clearing chips frequently. Be aware that when you feel the gouge bottom out at the base of the pilot hole, not to plunge or cut deeper. This will prevent making your vessel a funnel. Stop to clear the chips frequently to prevent binding the gouge on accumulated chips. Binding on chips will cause a catch, cracking your rim, or shattering the vessel.

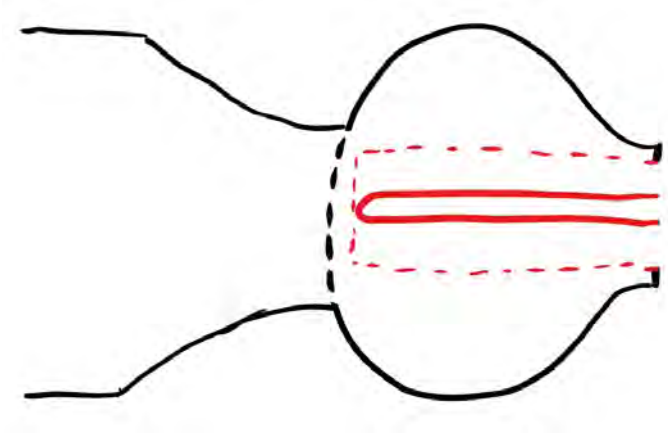


Figure 2. Interior of the vessel after pilot hole is drilled.

Photo 2. Using the spindle gouge to widen the initial pilot hole.

There are commercially made hollowing tools for turning small vessels. However, I found there weren't any small enough to use with the small openings I like to make. Commercially made tools, I have found, aren't made smaller than 1/4–3/8" diameter. If you want to make smaller openings you'll have to make your own tools as I have. Until then, make the size of your openings large enough to accommodate the diameter of commercial tools.

Two small hollowing systems, while not an exhaustive selection, are shown in Photo 3. The top set are made by Kelton Industries, and are their smallest hollowing set, measuring 5/16" diameter; while the red handled, Robert Sorby set are 3/8".

Photo 3. Commercially available hollowing systems.

Of my home-made hollowing tools (modified hex wrenches), I use the 90° tool to hollow from the rim, out to the shoulder (Photo 4). Cut the wood by pulling the cutting edge towards yourself, and then pushing away. You are able to cut the fibers in both directions. This cuts endgrain by approaching it from the side, thus cutting cross grain. Make gentle sweeps, and the wood will cut away easily. Remember to clear the chips frequently. Once I have the desired wall thickness from rim to shoulder (use calipers to measure wall thickness), switch to the 45° hollower (Photo 5), and cut from the base, just up the side wall, leaving a lump approximately 2/3 of the way down the piece. Check wall thickness with calipers at this point as well.

Photo 4. 90° hollowing tool, made from an allen wrench.

Photo 5. 45° hollowing tool, made from an allen wrench.

Figures 3–4 show the process of removing the interior wood. The red area represents the wood that is cut away. One of the issues when hollowing, that causes frustration and anxiety, is the fear of cutting through the wall, and blowing up the piece. The most frequent trouble spot where this occurs is approximately 2/3 of the way down the piece (noted by the yellow arrow in Figures 3–4). The process of hollowing from rim to shoulder, and then from base to slightly up the wall, yielding a triangular lump, is designed to avoid this potential problem.

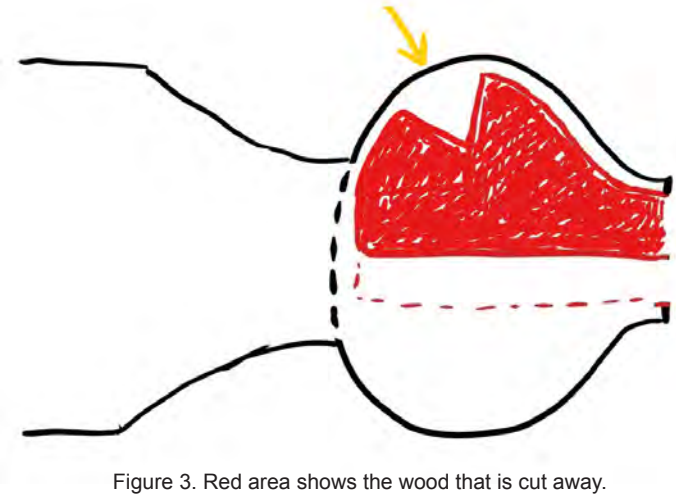


Figure 3. Red area shows the wood that is cut away.

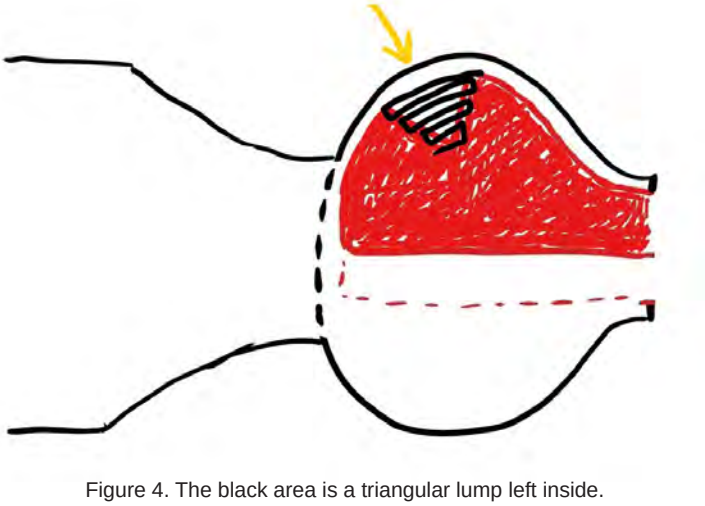


Figure 4. The black area is a triangular lump left inside.

Once you have established the desired wall thickness above and below the lump, remove the lump. As the piece is rotating, gently locate the top of the lump with your hollowing tool, to find its peak. Drop the cutting edge just below the peak and pull towards yourself, shearing off the top. When the tool drops off, move downward, and cut backwards, shearing off the next layer of the lump. Continue this back and forth cutting until your tool stops dropping down, and you make one complete pass connecting the top wall thickness to the bottom. STOP! At this point, do not make another cut until you measure the wall thickness to ensure you are consistent. If it's slightly thicker than you want, go back and make one more pass. Chances are, however, it will be spot on.

At the conclusion of hollowing, sand the exterior of your piece to your desired finish. Sand only the area that will not be surface enhanced (no need to waste time sanding areas that will be burnt or carved).

Photo 6 shows how I have continued to follow the exterior curve closer to the base, prior to parting the vessel off. The base is quite close to the chuck jaws, making it awkward to reach the bottom of the vessel. Therefore, I will turn it around and jam chuck it to reach the base more easily. This is where the tailstock's live center mark on the original tenon comes in handy (remember I mentioned this earlier?). I have mounted a waste piece of wood into my chuck (Photo 7) and turned a cone that will fit easily into the rim of my vessel, I put a scrap piece of 400 grit sandpaper between the rim and the cone to hold better (Photo 8), to prevent the piece from spinning as I remove the base. Bring up the tailstock and align the live center mark with the live center (Photo 8). Gently tighten the tail stock. Don't put too much pressure or you risk cracking the rim. Centering the rim on the cone, and aligning the live center back into its previous mark, should ensure the vessel is running true. You now have easy access to the base to maintain the established curve of the vessel from shoulder to base.

Photo 6. Shape of vessel prior to parting off.

Photo 7. Jam chuck and center mark on the tenon.

Molly Winton is currently a member of the AAW board and an internationally-recognized artist and instructor. You can see more of her beautiful embellished turnings at her website: http://www.turningmaven.com.

Photo 8 shows how the piece will look once mounted in reverse, ready to turn down the base. Photo 9 shows the waste wood cut away, turning down the tenon until it is slightly smaller than the desired diameter of the base you want. Finish sanding the portion you just cut away, blending in the finish to the previously-sanded area. Using a thin parting tool, cut a slight concave curve to establish the foot. My completed piece is sanded only to the groove because I will be texturing the area below the line (Photo 10). Photos 11–12 show a selection of finished pieces.

Photo 8. Vessel in the jam chuck.

Photo 9. Ready to part off.

Photo 10. The completed piece, ready for surface enhancement.

Photo 11. Molly Winton hollow forms and bowls.

Photo 12. A grouping of Molly Winton miniatures.

Learn to Turn, Turn to Learn

Hollowing a Simple Form

by Walt Wager

Hollow forms are turnings where the opening is smaller than the diameter of the piece, so the wood inside the vessel is removed through a restricted hole. First, let me recognize the excellent article, "Turning Hollow Forms, We'll Start with Miniatures" written by Molly Winton in the *Women In Turning Newsletter,* available by using Explore! in the AAW website and by clicking the link below (next page). In this article I will amplify what Molly wrote with a bit more detail and information, illustrated by turning a small round pot (photo **1**) that you could use to make a holiday ornament.

1 Small round pot. Making this basic project will show you the fundamentals of hollowing.

Tools

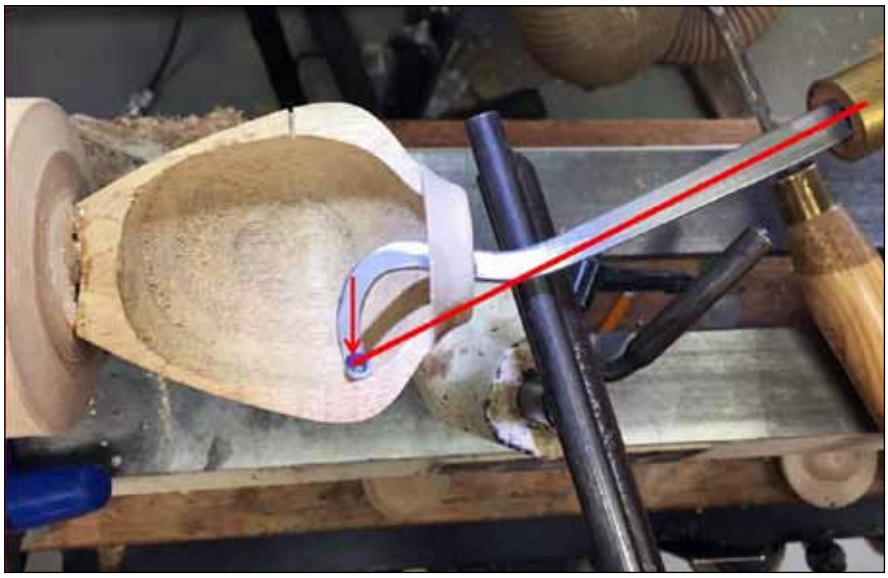
Let's start with tools. The majority of hollowing tools are scrapers. They may be High Speed Steel (HSS), like the ones shown in photo **2**, or carbide inserts, like those shown in photo **3**.

The shape of these scrapers is either straight or bent at different angles, as you can see in **2** and **3**, to reach into spaces inside the hollow form.

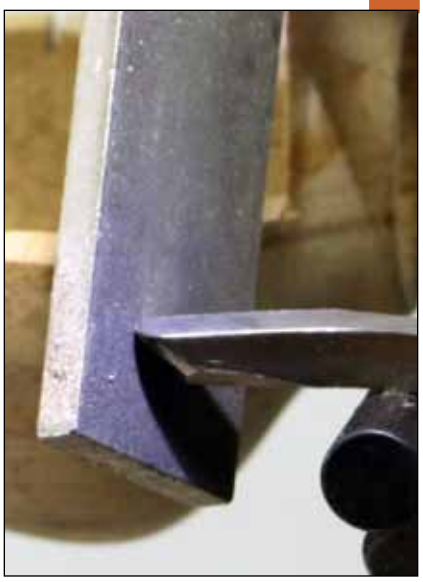
The width of the cutting tip is generally 1/4" (6mm) or smaller.

The shank of the hollowing tool is straight, with the cutting edge out at an angle, or on a curved section of the shank. The curved tool has the

2, 3 Tools. All hollowing tools are scrapers, with straight and bent shanks to reach everywhere inside a vessel. Steel tools, top, and carbide-tipped tools, right.



4 Downward force. The cutting tip is in line with the shank of the tool. To minimize torque, keep the straight part of the shank on the toolrest.



5 Hone steel. Touch up often using a small diamond hone.

cutting tip in line with the straight part of the shank, lessening the torque (twisting force) on the tool. There is still a downward force where the tip engages the wood, illustrated in photo **4**, as there would be on any tool.

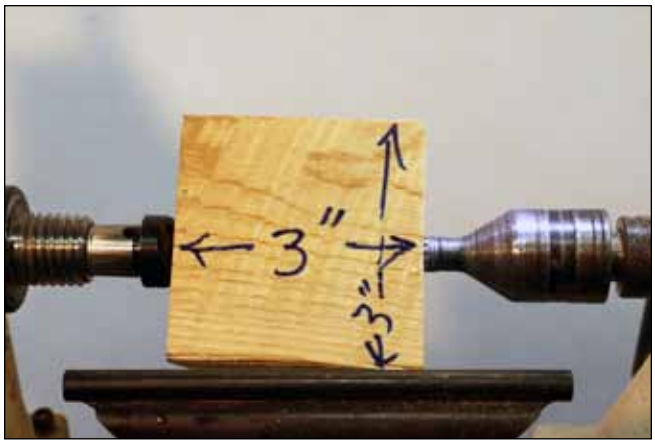
Sharpening

The tools must be sharp! I use a diamond hone frequently when turning small hollow forms, as shown in **5.** Carbide tools stay sharp longer than HSS tools but even they get dull. They also can be sharpened with a diamond hone and a drop of honing oil or water. Hone across the flat surface of the insert, photo **6**.

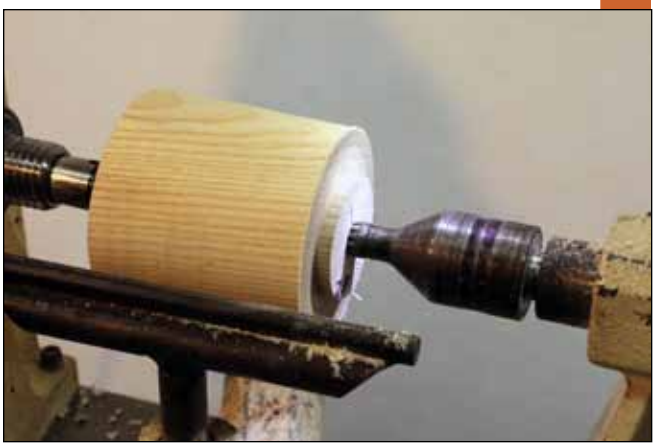
6 Hone carbide. Hone across the flat surface with a drop of water or light oil.

Syringa Hollow Form - Thys Carstens

Waboom Hollow Form - Thys Carstens



7 The blank. Start with a 3" (7.5cm) cube of wood, mounted with long grain parallel to lathe axis.



8 Tenon. Rough-turn to a cylinder with a chucking tenon on one end.

Wood for hollow forms

Freshly cut and wet, air dried, or kiln dried? You can use any of the three for small hollow forms, realizing the fact that green and air-dried wood will shrink and move while drying. Green or air-dried wood is usually the easiest to hollow, but for these exercises it won't matter much what type of wood you use.

Cut an approximately 3" x 3" x 3" (7.5cm) blank of wood. Cut a couple of pieces, one for this practice exercise and one for a more closed hollow-form later. Mount it on the lathe between centers so that the grain runs parallel with the lathe bed, **7**. Rough the blank to round, then cut a tenon on one end, **8.**

Shape the outside

Hollow forms can take many shapes, and some shapes are more difficult to hollow than others. I suggest starting with a simple shape, like the one shown in photo **9**, to get the feel of the forces on the tools. Shapes that are almost spherical are easier than shapes that have wide shoulders, as shown in photos **10** and **11**.

For the first exercise, the hollow form will be a spherical shape with a rather large 2" (5cm) opening on top. Using a bowl or spindle gouge, shape the outside so that the top (opposite the tenon) comes slightly back toward the center, as shown in photo **12.**

9 Simple shape.

10 More difficult shape.

11 Most difficult shape.

➪

12 Outside shape. Shape the outside of the pot, leaving wood for a foot on the tenon side.

13 Remount. Grip the tenon in a scroll chuck, face off the end, and make a drill-centering divot.

Bore the center

After shaping the outside, **12**, remount the blank in a scroll chuck. Back off the tailstock and face off the tailstock end of the form. Cut a small drill-centering divot, photo **13.**

To hollow the form you are going to be cutting into endgrain. It is far easier to cut into side grain, so bore a hole in the center of the form to the depth that you are going to hollow. I generally use a 3/4" (2cm) Forstner bit but a 1/2" (12mm) twist drill would be sufficient.

Mark the bit with tape to the depth you want to bore, **14**. Remember that the tip of the drill bit has a point on it – consider the point to be the bottom of the inside of the hollow form.

For this exercise drill a hole 2-1/4 " (5.4cm) deep, **15**. This is the bottom of the inside of the vessel. You need a drill chuck with a Morse taper that fits into the tailstock quill. As an alternative, you could bore with a spindle gouge, pushing it straight in at the center.

For the drilling operation set the lathe speed to between 300 and 400 rpm. Bore in about 3/4" (2cm), back the drill out to clear the waste, then drill in another 3/4", back the drill out to clear, and then drill the final 3/4". From my experience the larger the center hole, the easier it will be to hollow. OK, you are now ready to try out your hollowing tools.

14 Depth gauge. Mark the depth with tape so the point of the bit indicates the pot's bottom inside.

15 Bore. Mount the drill bit in a tailstock chuck and bore in stages to the exact bottom depth.

16 Scraper setup. Set the toolrest so the straight hollowing tool cuts on center with its handle horizontal and parallel to the lathe axis.

17 Cutting. Take shallow cuts by sliding the tool along the rest from the center opoening toward the outside.

Cutting with scrapers

When the tool is inside a hollow form mounted in spindle orientation, you are mostly cutting side grain. Using the straight hollowing tool, start in the center opening you just bored and move the tool from the center toward the left outside edge. Take shallow cuts, no more than 1/16” to 1/8” (1.5 to 3mm) deep.

Unlike gouges, a scraper is used with the handle either parallel with the lathe bed or slightly elevated, as shown in photos **16** and **17**. Set the toolrest so that you are cutting at the center of rotation. The tool should be parallel to the bed of the lathe. Keep the toolrest as close to the cutting tip as possible, with one hand against the rest and the other on the end of the handle.

I like to work from the top down into the piece and establish the desired thickness of the walls at this stage, because I can see the rim and where the tool is cutting, **18**. It is desirable to get the thickness of the walls as even as possible so that as the wood dries, it shrinks evenly and

18 Walls. Establish uniform wall thickness near the opening before hollowing to full depth, using the bent tools.

19 Bent tools. To minimize unpredictable torque, keep the straight part of the shank on the toolrest.

doesn't crack. Also, the wood, especially green wood, will be drying as you turn, and the top walls might move as you get further into the piece, so you won't be able to come back and cut them later.

I use the straight hollowing tool as much as possible because I can get the toolrest close to the work and unlike the bent tools, it has no tendency to twist. However, if the shape of the piece requires the bent tool to follow the outside shape, then it must be used.

Using a bent tool

With any bent tool, it is important to keep the straight part of the shank on the toolrest, as shown in **18** and **19**.

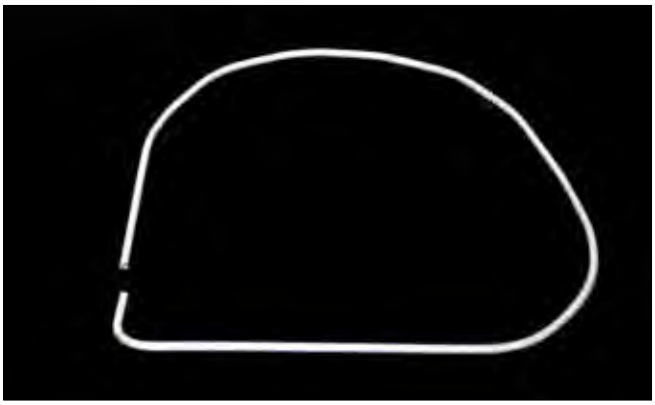
This may require backing the toolrest out from the workpiece. This means that you have less leverage holding the tool, so it will be more likely to grab as it contacts the wood. You simply must be aware of this and take light cuts. The further from center the tip of the tool is from the straight part of the shank, the more torque, so use as short a bent tip as possible.

20 Room to work. Because it's mostly side grain, the bent tool makes short work of the waste wood.

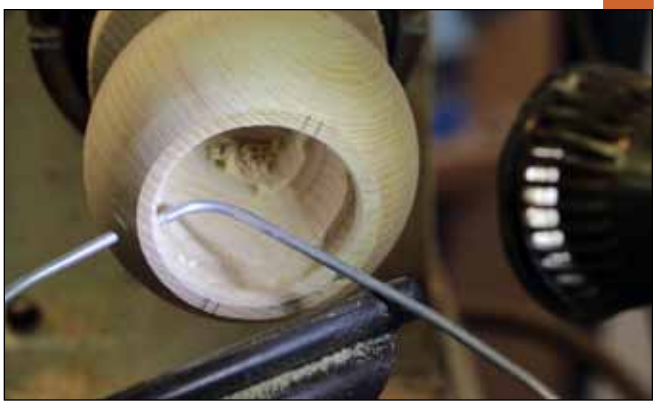
With curved hollowing tools, with the tip aligned with the handle, there is no twisting torque, but there is still the downward force from the spinning wood contacting the cutting tip. So, the closer the toolrest to the cutting tip the less the downward force, and the longer the tool handle, the easier it is to counter this force.

Cutting out the middle

After establishing the wall thickness and removing some of the wood from the top, you need to make room to work in the middle (photo **20**). In an enclosed form, because of centrifugal force, the chips will collect at the widest diameter. You need to stop periodically to remove the chips so they don't bind on the tool and cause a catch. Use compressed air or some sort of scoop (maybe an old iced tea spoon) to remove the chips.



21 Caliper. A loop of coat-hanger wire, or #14 iron wire, can be bent into a wall-thickness gauge.



22 Wall thickness. Move the caliper along the inside wall and eyeball the gap on the outside.

Wall thickness

Your goal in hollowing should be to make the walls of the vessel an even thickness.

If the hollow form has a wide enough opening, with the lathe stopped you can pinch the walls between your fingers. This won't be possible on forms with small openings, and you will have to use a caliper of some type. For small hollow forms you can make your own caliper out of coat-hanger wire, shaped as in photo **21**.

Set the gap in the wire to about 1/2" (12mm) and you can judge the difference in the gap as you move the caliper along the inside wall, **22**.

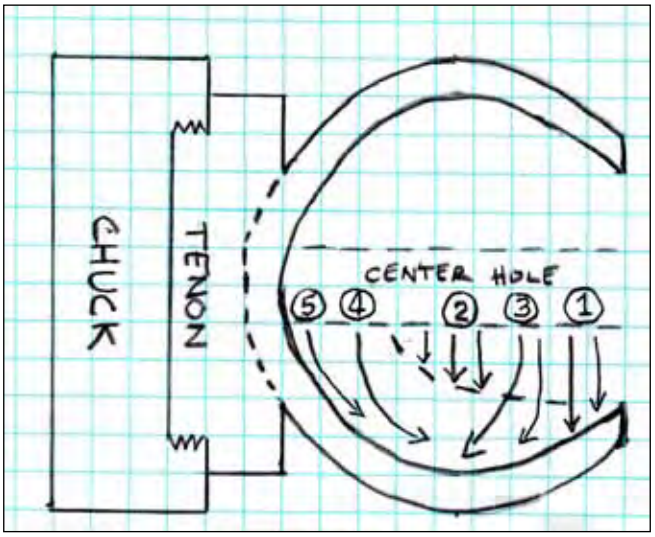
The hollowing sequence and directions of cuts are illustrated in **23**. The sequence I use is:

1. Establish the wall thickness at the top opening.
2. Use the straight hollowing tool to enlarge the drilled hole in the middle, working from the center to the outer wall.
3. Continue the cut from the top toward the center to finalize wall shape and thickness.
4. Remove wood from the bottom and middle of the form, working from the center toward the outer edge and the bottom toward the top.
5. Gently clean up the inside bottom wall of the form.

Tool capabilities

Don't exceed the capability of your tools. Most mini hollowing tools are only good for cutting about half their shank length into the hollow form. For example, a tool with a 6" (15cm) shank will be able to cut to a 3" (7.5cm) depth.

As you get to the bottom of a hollow form you have two things working against you. First, the cutting tip is further off the toolrest, giving you less leverage advantage. Second, and more important, you are cutting more directly into endgrain, and there is more chance of a catch. Here's where drilling the hole to the desired depth becomes so helpful. When you reach the bottom of the hole, don't bore deeper. Use the straight tool to come across the bottom and up along the side toward the middle.



23 Hollowing Sequence.

24 Sanding aid. To sand the inside, fold a disk of sandpaper into the slot in a dowel.

25 Mark bottom. Measure and mark the inside bottom on the outside of the form.

26 Part off. Be sure to leave enough wood for a small foot.

Sanding

Sanding the outside is no problem. Sanding the inside can be a problem. Don't stick your fingers inside a spinning hollow form. Instead, cut a slot in a 3/8" (9-10mm) wood dowel and fold a disk of sandpaper into this slot, **24**. Use it to sand the inside of the hollow form.

Parting Off

First, mark the bottom of the inside depth onto the outside of the hollow form, **25.** Now you can determine where to part the piece off to achieve the bottom thickness you want, **26**.

When you have finished parting off the hollow form, make a jam chuck out of the waste that is still in the chuck. Measure the inside diameter of the hollow form and cut a tenon on the waste block as shown in photos **27** and **28**.

Reinstall the tailstock onto the lathe and bring the live center up to the bottom of the form to support the form on the jam chuck, **29**.

27 Measure opening. Set a caliper to the inside diameter.

28 Jam chuck. Cut a tenon on the waste block, sized to fit the opening.

29 Remount. Plug the hollow form onto the jam chuck and bring up the tailstock live center.

30 Cut the foot. Undercut the bottom so the form has a foot that sits flat on the table.

31 Power sand. The rotating pad cleans up the center of the foot.

Cutting a foot

I use a spindle gouge to undercut the bottom slightly, to make a foot that will sit square on the table. I cut as close to the live center as I can without breaking off the wood, **30**. Finally, with the lathe stopped, I cut off the nub and sand the bottom with a 2" (5cm) rotary pad on an electric drill, **31**.

OK, you finished hollow form #1. Now, using what you learned, turn a second hollow form through a 1" (2.5cm) hole, as in photo **32**.

Happy hollowing!

Walt Wager is a 16-year member of the North Florida Woodturners chapter of AAW. He teaches woodturning at Camelot's Woodworking Studio in Tallahassee, Florida. His website is waltwager.com, and his e-mail is waltwager@gmail.com.

32 Challenge. After making a simple hollow form, try making another with a smaller opening. ❐

HOLLOWING THROUGH THE BOTTOM

Wes Jones

After making a number of bowls and spindle projects, many woodturners want to try their hand at hollowing. Hollowing techniques are primarily scraping methods and are most useful for making vases and other forms where conventional cutting methods with a gouge cannot be used. The typical approach is to hollow through the top of the vessel. I'd like to offer an alternative—hollowing through the bottom, which allows you to leave a very small (or even nonexistent) hole at the top.

After hollowing, a plug is glued into the hole in the bottom. By making the plug from similarly oriented wood from the same log and carefully fitting it into the hole, you can disguise the hollowing method very effectively. In this article, I show how to make a teardrop-shaped hollow form with a ⅜"- (10mm-) diameter hole in the top, but since this technique lends itself to a variety of vessel shapes, you can apply this method to any form of your choosing.

Wood selection

I like to use green, or wet, wood for these vessels, although dry wood can also be used. Position the log so the pith is exactly in the center of rotation at both ends. That way, the wood will dry and shrink concentrically and any warpage of the hollowform will be minimized. Select a freshly cut log with no cracks radiating out from the pith. The log section shown here, maple with some ambrosia markings, is about 10" (25cm) in diameter and 12" (30cm) long (*Photo 1*).

If you prefer, you can quarter a log and use a section of wood without the pith. But it is likely the piece would warp into an oval shape. If you do this, leave extra wall thickness to true up the vessel after it has dried.

Rough-turn vessel

Carefully position the log with the drive and live centers on the pith. For driving log sections, I find a 2"- (5cm-) diameter, two-flute drive center to be ideal; mine is made by Best Wood Tools, and it fits in my scroll chuck. Holding the drive

Straight from the log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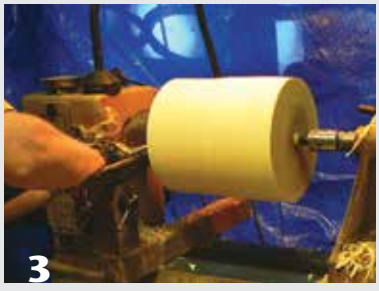
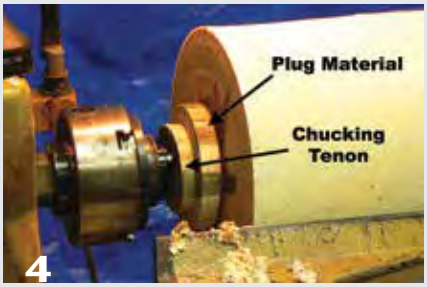

3

Mount a freshly cut log with the turning centers on the pith. Rough out a cylinder and true up the ends.

Make a plug



Use a parting tool or bedan to create a chucking tenon and a disk of material to later use as a plug. Using wood from the bottom of the workpiece will blend seamlessly with the vessel.

The author parts most of the way through next to the plug material, then finishes the cut with a hand saw with the lathe off.

Mount the plug material in a chuck and form a 10-degree taper to the approximate diameter of the hole you will hollow through.

center in your chuck is a great time saver. When you are ready to quit holding the work between centers and mount it in the chuck, the chuck is already in place.

Use a spindle-roughing gouge or large bowl gouge to turn away the bark. ***Safety Note: A faceshield is a must when turning away bark because large pieces can fly off and strike you in the face.*** If the log is very out of round, you may find a bowl gouge to be safer than a spindle-roughing gouge. Once the bark is removed, you can switch back to the spindle-roughing gouge to form a cylinder. Next, position the toolrest at one end of the workpiece and use a bowl gouge to true up the end (*Photos 2, 3*). True up the other end of the cylinder in the same manner.

Remove plug material

Mark off 1" (25mm) from the end of the cylinder to indicate the bottom of your vessel. The 1" thickness of material will be parted off and used to make the plug. Use a bedan or long parting tool to reduce the diameter of this material to the approximate diameter you expect to need for the plug. Then form a tenon to fit your chuck (*Photo 4*). It is very important to align the grain of the plug with the grain of the hollowform, so before removing the slice, draw a radial line on both ends of the cylinder from the center outward. These lines will be used later to align the plug properly.

Using your parting tool, begin to part off the 1" slice, widening the cut as needed so that the parting tool does not bind. Stop cutting when you have just a small section of wood connecting the slice to the rest of the cylinder. With the lathe off and the workpiece sitting on the bed of the lathe, complete the separation using a hand saw (*Photo 5*). Don't try to twist the slice off from the cylinder, as wood fibers would be pulled out of the center.

Remount the cylinder between centers, being careful to position the drive center exactly on the pith again. True up the cylinder once more if necessary, then form a chucking tenon on both ends of the cylinder. Remove the workpiece from the lathe.

Form the plug

Mount the plug material in the chuck. Using a small bowl gouge begin to form a 10-degree taper on the plug. This angle will make it easier to get a good fit in the bottom of the hollowform later. The angle of the taper is approximate and not critical at this point. I use a skew chisel as a scraper to ensure the surface of the taper is straight (*Photo 6*). Remove the plug from the chuck and wrap it in a brown paper bag to slow the wood's drying and prevent it from cracking while you are working on the hollowform. ▸

Drill spout, shape vessel

Mount the cylinder in a chuck, holding the tenon at the bottom. After some initial shaping, the author drills into what will become the neck, or spout.

With the tailstock brought up for added support, continue shaping the hollowform.

Drill and shape bottom

Reverse-mount the vessel, now holding the spout tenon in the chuck. Drill a larger hole through the bottom.

Use a bowl gouge to form a tapered opening.

Shopmade Bevel Gauge

You can make your own bevel gauge from a thin piece of aluminum attached to a strip of wood with a screw and wing nut. Its adjustability makes reading and transferring bevel angles a snap.

Hollow the vessel

The author's hollowing rig, a captured boring bar system.

Drill and turn vessel

Mount the cylinder in the chuck, using the tenon at the bottom of the workpiece. Position the live center on the pith at the tailstock end, as before, to ensure proper alignment, and tighten the jaws securely. Then remove the live center and install a drill chuck in the tailstock with a ⅜"-diameter twist bit. With the lathe running slowly, drill through the pith to form a hole that will be the spout at the top of the hollowform (*Photo 7*). Drill as deep as the drill bit will go, backing the bit out frequently to clear the chips. Remove the drill chuck and once again install the live center in the tailstock.

Bring up the tailstock to support the cylinder while shaping the outside of the vessel. Using a bowl gouge or small roughing gouge, begin to define the outside profile, leaving the neck of the vessel extra thick to provide support during the hollowing operation (*Photo 8*). Do not reduce the diameter of the neck any smaller than the diameter of the tenon at the top.

As you shape the bottom of the vessel, be careful not to get too close to the chuck. The shape of the bottom does not have to be perfect because you will have an opportunity to refine it later. The tenon on the bottom will eventually be removed.

Reverse the workpiece, now clamping the top tenon in the chuck. Tighten the chuck jaws loosely and rotate the workpiece by hand to make sure it will run true. The live center can be brought up to help align the workpiece. If it is not running true, lightly tap the bottom to improve the alignment. When the workpiece is running true, tighten the jaws securely.

Once again, remove the live center and install the drill chuck in the tailstock, this time with a large bit

Refine plug hole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Set a bevel gauge to match the plug taper. Then transfer this angle to the opening at the bottom of the vessel. Refine this angle as needed using a skew as a scraper.

for drilling out waste from inside the hollowform. I use a 1½"- (38mm-) diameter ship auger bit, but you could also use a large Forstner bit with an extension to get enough depth. Carefully measure where you want the drill bit to stop. Hold the drill bit up to outside of the workpiece and determine the depth. You will have to imagine what the finished shape of the neck of your vessel will look like. Mark or apply a piece of tape on the shank of the drill bit (or extension) at the bottom of the hollowform. Now mount the bit in the drill chuck and drill out the waste through the bottom of the vessel, being careful to stop at the indicated depth (*Photo 9*). Remove the drill chuck.

Hollow vessel

Before you get your hollowing tools out, use a small bowl or spindle gouge to enlarge the drilled hole at the bottom (*Photo 10*). Make a tapered opening a little smaller than the diameter of your plug. But don't fit the plug just yet—you'll need to hollow out the workpiece first.

Any small- or medium-sized hollowing system will work on a vessel of this size. I use a shopmade "D-handle" captured boring bar system (*Photo 11*). As you hollow, leave the wall thickness at about ½", enough to allow for some truing up of the outside after drying if needed. There is no need to make the walls very thin, as the interior cannot be seen once the plug is glued into the bottom. The primary purpose of the hollowing process is to ensure the piece does not crack as it dries.

As you hollow into the neck, or spout, area, visualize the finished shape of this section. Strive for a smooth transition from the body to the drilled ⅜"-diameter hole in the top. No sanding of the inside surface is required.

Now shape the tapered opening in the bottom to accept the tapered plug. I use a very simple bevel gauge to help get the angles to match (*see Shopmade Bevel Gauge sidebar*).

Set the bevel gauge to match the angle of the taper on the plug. Then check the taper of the bottom opening and adjust as needed. Once you have the correct angle, it is a simple matter of gradually increasing the size of the opening until the tapered plug fits. You can scrape with a skew chisel to get the tapered surface straight (*Photos 12-14*).

Glue in plug


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Glue the plug into the bottom of the vessel, aligning the grain to its original orientation. The tailstock provides clamping pressure.

Glue in plug

One of the keys to hiding the joint where the plug is glued into the bottom is to align the grain perfectly. Remember the vertical, radial lines you drew on each end of the cylinder? You can use these lines to rotate the plug in the tapered hole to get a really good match of the woodgrain. Mark the proper position of the plug at the joint.

This glue joint is going to be established in wet wood and must be strong and reliable since we are going to drive the workpiece using the tenon on the plug later. I have found that polyurethane glues work very well in this application. Coat the mating surfaces with glue, carefully rotate the plug to align the grain, and use the tailstock to clamp the plug in place (*Photo 15*). The ▸

polyurethane glue will foam as it reacts with the moisture in the wood and will fill any slight irregularities in the mating surfaces.

Shape the neck

After the glue has dried, you can begin the final shaping of your hollowform. Chuck the workpiece by the tenon on the plug. Bring up the tailstock (using a cone center if possible) on the spout to align the workpiece before tightening the chuck jaws. True up the outside of the vessel if necessary.

Using a bowl gouge or small spindle-roughing gouge, shape the neck of your hollowform (*Photo 16*).

As you do this, try to visualize the shape you made as you hollowed the inside. Remember that you have a ⅜" hole in the spout. Remove the live center and shape the spout using light cuts, bringing the outside diameter at the top to ½" to ⅝" (16mm).

Sand the vessel

Sand the outside of the vessel (*Photo 17*). If the wood is too wet to sand, you may have to wait a couple of days for it to dry a little. One drying trick I use is to put a small air hose connected to an aquarium air pump into the spout. Let it run for a day or two. The slow airflow will help to dry out the hollowform from the inside. Put the vessel into a brown paper bag and scrunch the top of the bag around the spout to equalize the moisture content around the vessel and slow the drying rate of the outside surface.

Shape and complete bottom

To turn the bottom of the vessel, we need a way to hold the work and drive it from the spout. I use a small jam chuck with a rubber O-ring to grip the outside of the spout. You can purchase a thick O-ring from your local hardware store; look for one with an inside diameter of about ¾" (19mm).

To make the jam chuck, cut a square piece of wood that will fit into your chuck. If necessary, turn a tenon on the jam chuck for mounting. Depending on your chuck, turning this tenon may not be necessary. Chuck the piece of wood and drill a clearance hole through the center. Then, using a skew chisel or scraper, turn a small recess around the hole to accept the O-ring. Make sure the clearance hole is large enough that it will not bind on the spout when it is pushed into the O-ring. I use thick or medium cyanoacrylate (CA) glue to hold the O-ring in place (*Photo 18*).

Put the spout into the O-ring chuck and bring up the tailstock against the bottom to hold the vessel (*Photo 19*). Use gentle pressure with the tailstock. We only want it tight enough to drive the vessel without slipping.

Using a small bowl gouge, turn away the tenon on the bottom and shape the bottom of the vessel, leaving a small nubbin of wood under the live center. Then undercut, or dish out, the bottom slightly so the vessel will sit flat without rocking (*Photo 20*).

Refine neck area, sand


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With the vessel now held in the chuck by the base tenon, refine the shape of the neck/spout.


17

Sand the exterior of the hollowform.

Reverse-mount vessel


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A shopmade O-ring jam chuck allows the author to remount the piece to complete the bottom. The spout fits into the jam chuck hole, and the tailstock holds it in place.

Complete the bottom

Turn away the plug tenon and shape the base of the vessel. Leave a small nubbin under the live center.

Carefully placed V-grooves help to hide the glue line of the plug, leaving no evidence of how the piece was hollowed.

With the workpiece removed from the lathe, use a small hand saw to cut off the remaining nubbin of wood. A piece of cardboard protects the base.

Use the point of a skew to form a small V-shaped groove at the glue line. Make one or two other V-grooves on the bottom to help disguise the actual location of the glue joint (*Photo 21*).

Use a small spindle gouge to cut the nubbin down to a little cone. Then remove the vessel from the lathe and use a small saw to cut off the nubbin. I typically place a small piece of lightweight cardboard with a hole in the center over the nubbin to prevent the saw from scarring the bottom of the vessel (*Photo 22*).

Final steps

Use a small sanding disk in a drill press or hand drill to finish-sand the bottom of the hollowform. Hand-sand the vessel in the direction of the grain if needed. The inside of the spout can be sanded also, using a small custom flap sander. Using a ¼"- (6mm-) diameter dowel 6" (15cm) long, cut a slit with a fine saw in one end about 1½" long. Put a small piece of sandpaper in this slit and wrap the paper around the dowel. Chuck this dowel in a drill press or hand drill to sand inside the spout (*Photo 23*). Be sure the sandpaper wraps around the dowel in the direction it will rotate.

Sign your vessel on the bottom and finish it with your favorite finish. I like to apply several coats of a hand-rubbed oil finish, such as Waterlox, over several days. When the finish has built up sufficiently and does not show any "flat" areas, you have put on enough finish. You can then buff it out if you want a high gloss finish. I have also used walnut oil to provide a lower luster finish.

Your completed vessel is sure to prompt lots of questions at your next club meeting. When your friends ask how you hollowed it through such a small opening, just smile and say, "Trained termites." ■

Sand inside the spout

A custom flap-sander made from a dowel reaches inside the spout.

Wes Jones has been a lifelong woodturner and woodworker. Living in Lawrenceville, Georgia, he is a member of three woodturning clubs in the Atlanta area and has served the clubs in various leadership positions. Wes has taught and demonstrated woodturning and has published more than a dozen articles on the subject. For more, visit wesjoneswoodturner.com, or contact him at wwjones@comcast.net.