WESTERN CAPE WOODTURNERS ASSOCIATION

NEWSLETTER : JUNE 2026

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.

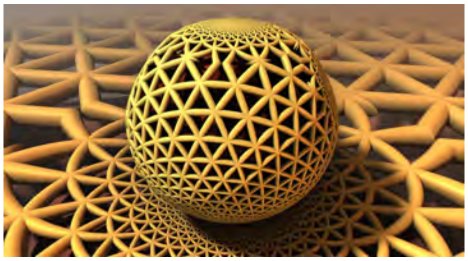
The Formal Meeting is on the 3rd Wednesday of the month at 7pm.

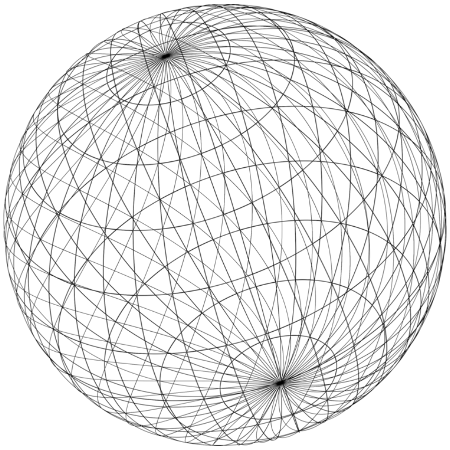
Visitors are welcome .

JUNE 2026:

The June Showcase is coming up :
Hand-in is on 10th June BEFORE 7PM.
We expect loads of beautiful entries and spheres.

SPHERES





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EDITOR'S NOTE :

The newsletter this month is all about making a sphere.
Thomas Foos made some lovely spheres a while ago, and John Wessels has numerous spheres from well-known international turners.

I have found a couple of articles by David Reed-Smith using a geometric method and also a shadow method - which seem to be be somewhat cumbersome methods, but work well, especially if you are producing many spheres.
Then in the tips from Fine Woodworking " More Proven Shop Tips", a short tip by Bill Fox gives a simple method using a light behind the turning to see the ghosting. He uses pointed centres to hold the wood. I have found using small wood cup-centres on head and tailstock obviates getting a dimple from the pointed centres, that you then have to remove later.
I have also included an article on making a hollow sphere by Christian Delhon and a tip on making a hollow sphere by Al Brotzman.

Over the next few months, I am continuing to put some tips into the newsletter for woodworking and woodturning which you might find interesting.
They are taken from, and I acknowledge, The Taunton Press, UK, from "Fine Woodworking on ' Proven Shop Tips' 1985 and 1990.
Some of these are a bit dated but one can usually pick up an idea to cheaply make your own tool or jig.
So I hope you find them useful.

Birthdays in JUNE :

A Very Happy Birthday to :

Simon Carthew, Beyers Cronje, Byron Gopper, Queto Jenkins, Aubrey Kable, Stadler Le Roux, Warren Lock, Glenn Milne, Sulayman Peck, Heinz Pospech, Kevin Pretorius, and Darryn Rogers.

Our grateful thanks to The American Association of Woodturners, American Woodturner & Woodturner magazines and authors :- David Reed-Smith, Christian Delhon, Al Brotzman and Bill Fox , for permission to reproduce their articles.
Also our thanks to The Taunton Press and Fine Woodworking Magazine.

David@DavidReedSmith.com

If you would like to be notified when I post a new article, send me an email. I'll only use the list for that purpose, and I'll mail blind cc so your address won't be any the worse for spam.

If you have comments, questions, or suggestions I'd enjoy hearing from you. Just send me an email. My address is David@DavidReedSmith.com. If it's a suggestion I'd be happy to post it along with this article. Let me know if you would like your email address posted as part of the attribution, or limited to only name, or only first name, etc.

Sphere Template

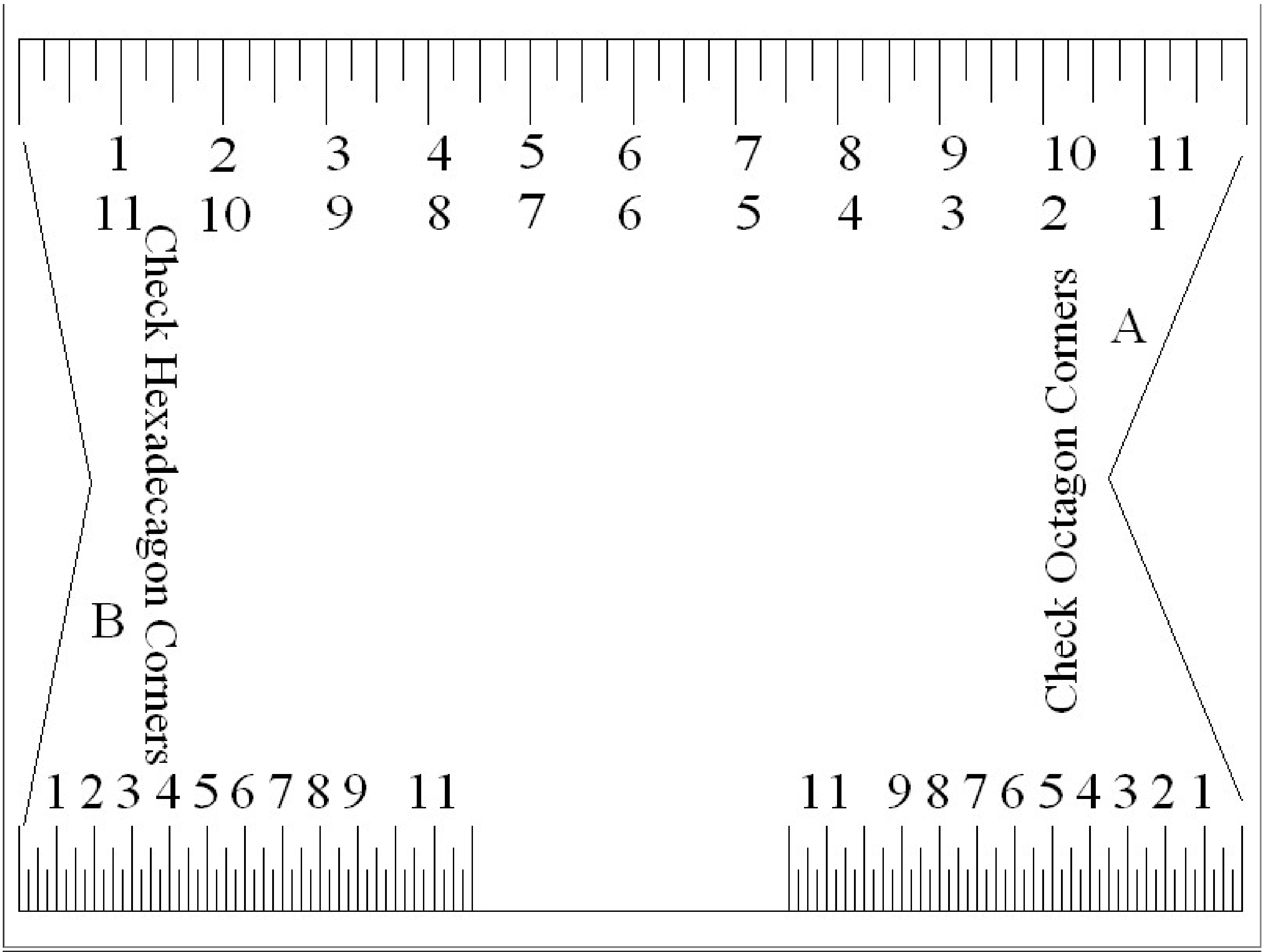
Introduction

At a symposium several years ago I watched a demo by Myron Curtis on turning spheres. Myron started by turning a cylinder exactly as long as its diameter—the cylinder would have a square cross-section. Then he consulted a table to find a distance which he measured from each corner and marked on the cylinder. He then removed the corner, cutting from line to line—yielding an octagonal cross-section . Then he consulted the table again for a new distance to be measured each way from the resulting corners. These corners were then cut away from line to line, yielding a hexadecagon (16 sided) cross-section.

I don't like consulting tables. Or particularly doing math all the time if I don't have to, so sometime after I got home I used my CAD program to draw up a template where the proper measurements can be read off a scale. After making the cylinder one simply measures the diameter. The larger scale is used (it reads from both ends) to directly mark the proper distance. The corners are removed. Then the smaller scale is used to mark the proper distance from the new corners.

Making the Template

The template is Drawing1. Even if what you're reading has a copy of the template I suggest you download the pdf file from my web site and print out the pdf, as it will be more accurate that way. You can print the template out onto large label stock, or plain paper. Find a suitable substrate to fasten the template to. You can use very thin wood, or plywood, cereal box cardboard, etc. I used aluminum flashing as it's sturdy but can be cut out with scissors. If you used label stock, just attach the label to the substrate. If you use plain paper, use spray adhesive to attach the label. Cover the whole front surface of the template with clear tape (2" packing tape for instance). Then cut out the template.



Drawing1: The Template for illustration. I suggest you download and print the pdf in the link above.

Using the T emplate

Begin by turning a cylinder that is the diameter of the sphere that you want. You can turn between centers or hold the work in a chuck—there's no difference to the procedure other than having two or one nub to deal with. Measure the diameter of the cylinder with calipers and use the calipers to transfer the measurement to the cylinder as in Fig01. Make parting tool cuts just outside each mark, then clean up the parting tool cuts with skew or spindle, ending up right on the lines. This procedure is very sensitive to starting conditions—the cylinder has to have a square cross-section so be sure that your end cuts are perpendicular to the lathe axis. You'll need to taper the nubs holding the future sphere to gain access so you can measure and mark on the ends.

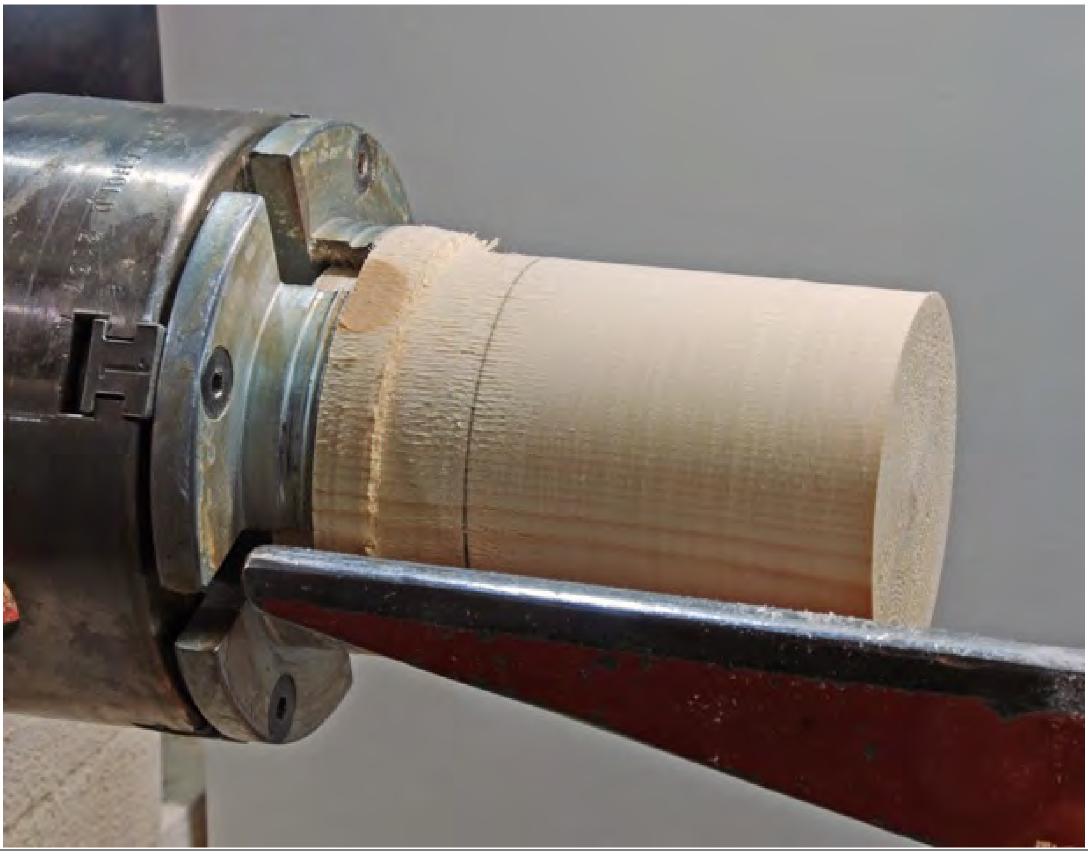


Fig01: After turning a cylinder and marking out a length that is exactly the same as the diameter.

Thinking of the work as half a cross-section, you have two corners, one at each end. Use the larger scale of the template to measure in both directions from each corner of the cylinder as in Fig02. If you haven't cut the nubs thin enough, then go back and cut them smaller, don't guess at this stage. Next use a spindle gouge or other tool to cut away the corners from line to line. Don't try to hog it all off at once, instead make a series of parallel cuts, adjusting as you go to end up with a straight, not curved, cut from line to line as in Fig03. This yields an octagonal, or 8 sided cross-section. You can double check your work by using the more acute end of the template to check the angle at each corner.

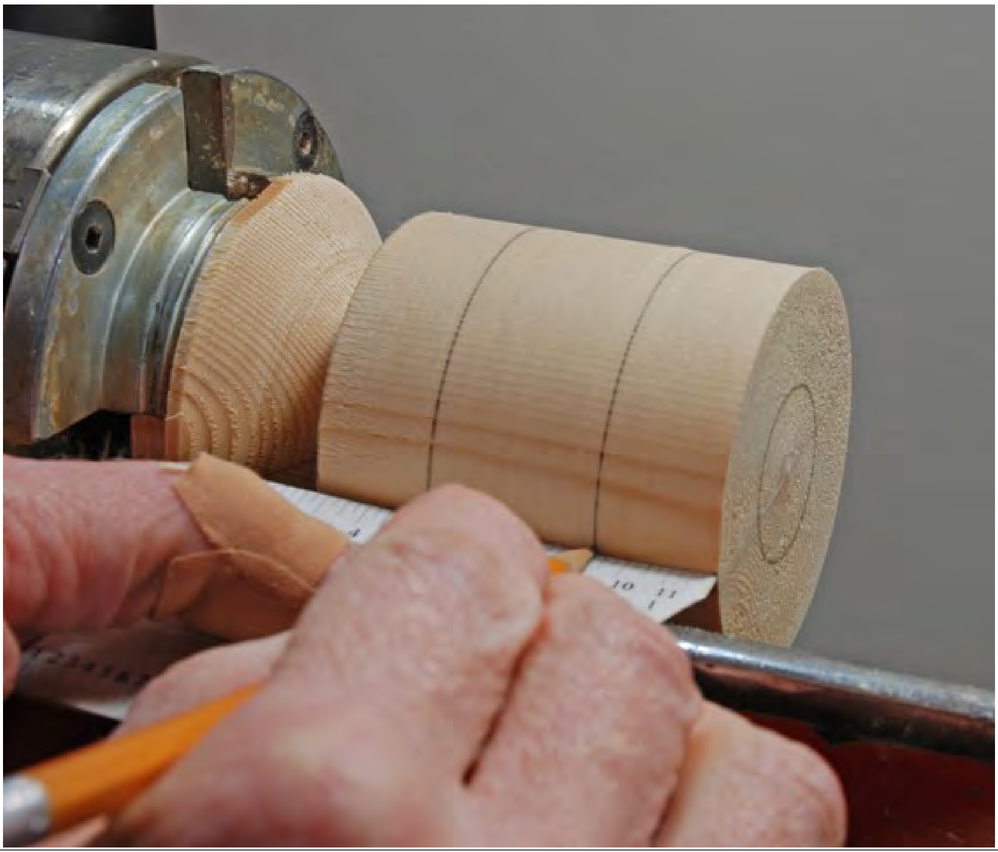


Fig02: Using the larger scale to measure away from edge of the cylinder.

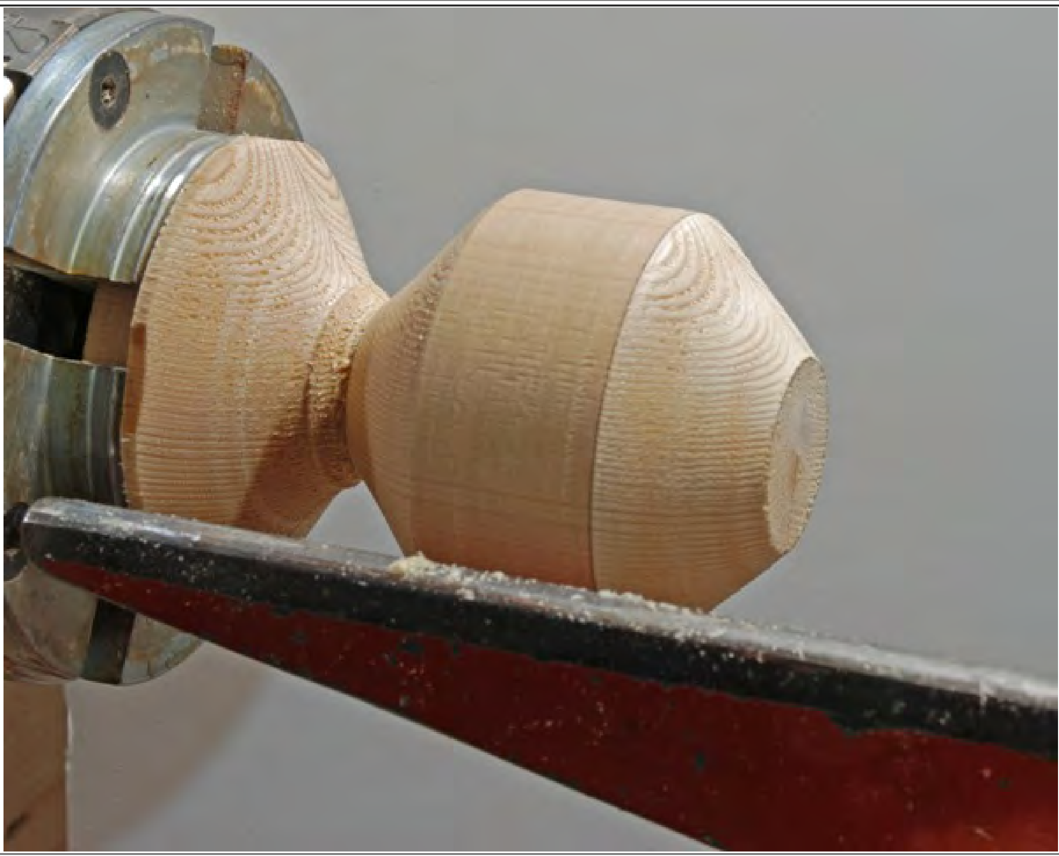


Fig03: After turning away the corners between the lines.

Thinking of the work as half a cross section, you now have 4 corners. Using the smaller scale, measure in both directions from each corner as in Fig04. Now turn away the corners from line to line, as in Fig05. The result in cross section will be a hexadecagon, or 16 sided polygon. You can double check your work using the more obtuse angle on the end of the template to check the angle at each corner.

Fig04: Measuring from each corner of the octagon with the smaller scale.

Fig05: After cutting away the corners of the octagon between the lines.

Round over each remaining corner as in Fig06. Then complete the shaping and finish the sphere by sanding with progressively finer abrasives, as in Fig07.

Fig06: After rounding over the corners of the hexadecagon.

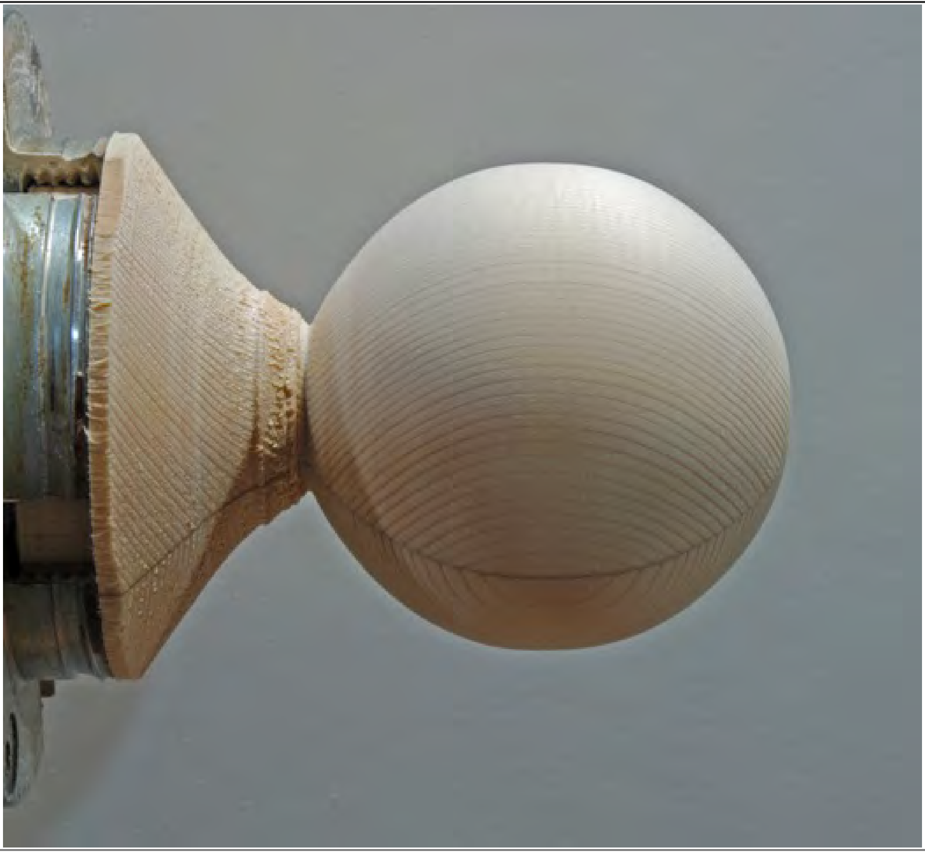
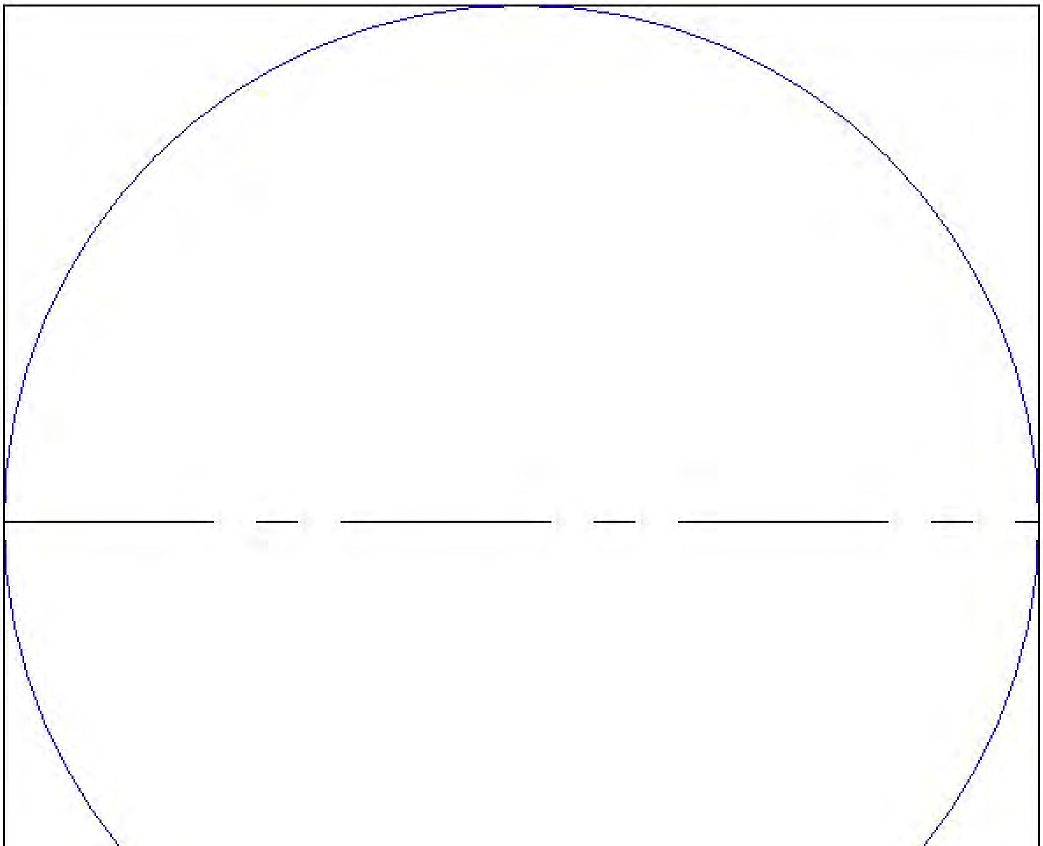


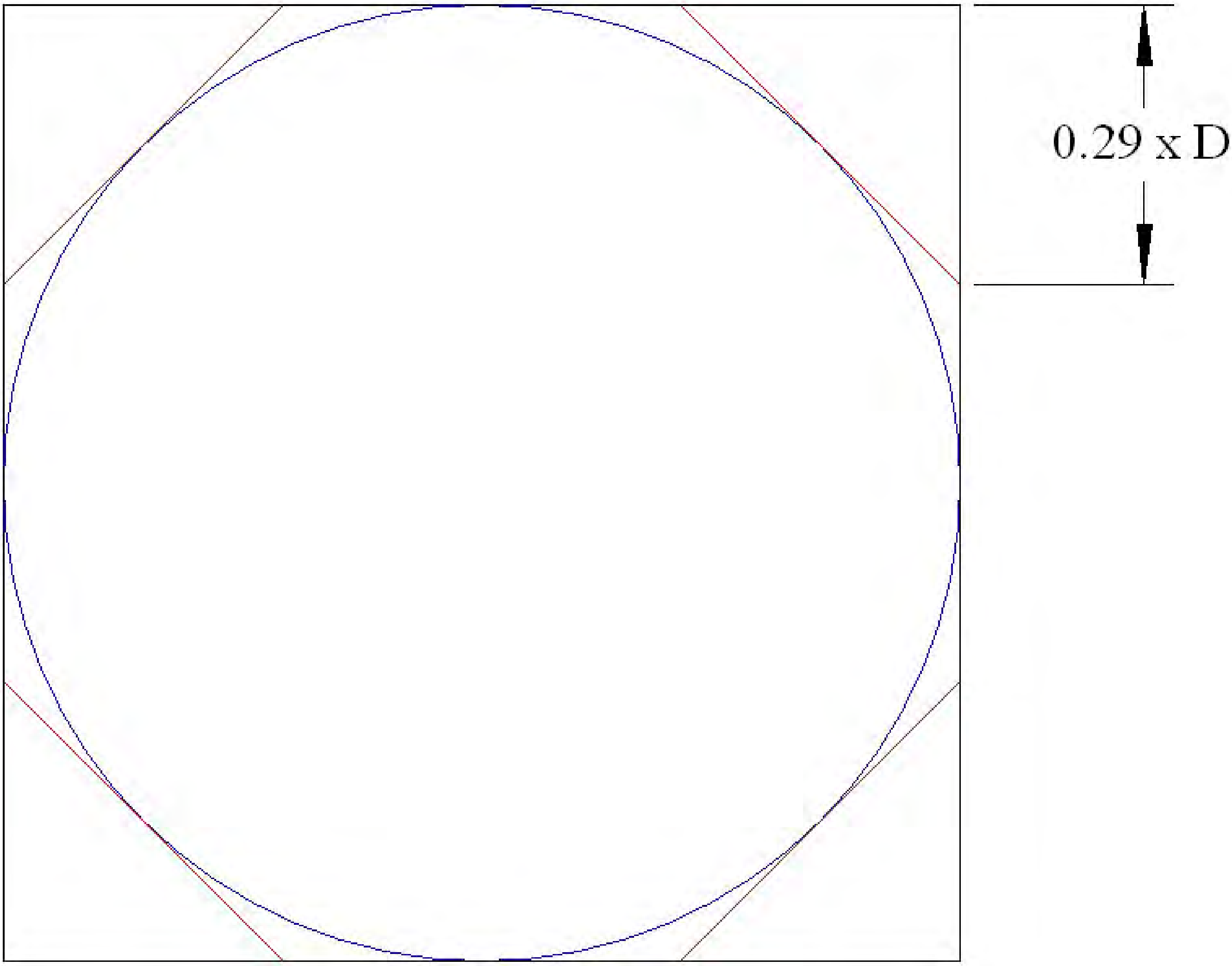
Fig07: After the final shaping with abrasives.

The Geometry

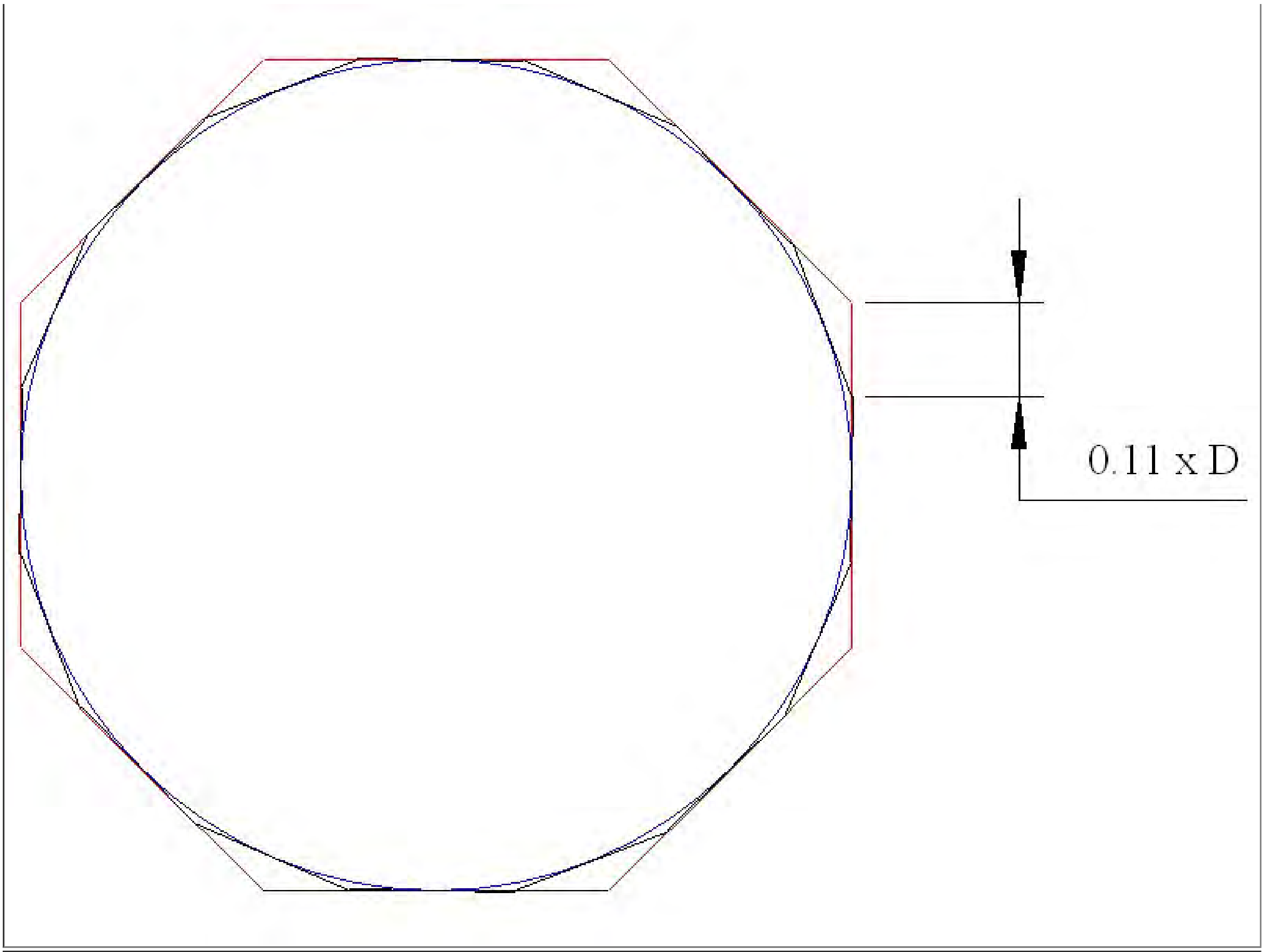
For those of you who like a bit of a theoretical frame to hang rote procedures on, I've done up a few drawings to illustrate what's happening in cross-section. Drawing2 shows the cross-section of the beginning cylinder with the future sphere shown in blue. Drawing3 shows what the larger scale does (it's 0.29:1), measuring 0.29 of the sphere diameter from the corners of the square locates the corners of the octagon that contains the same sphere. Drawing4 shows what the smaller scale does, measuring 0.11 of the sphere diameter from each corner of the octagon locates the corners of the hexadecagon (16 sided) that contains the sphere.



Drawing2: The starting cylinder, in cross-section, containing the sphere in blue.



Drawing3: Measuring a distance equal to 0.29 times the diameter from the corner of the square cross-section locates the corners of the octagon.



Drawing4: Measuring a distance equal to 0.11 times the diameter from the corner of the octagon locates the corners of the hexadecagon.

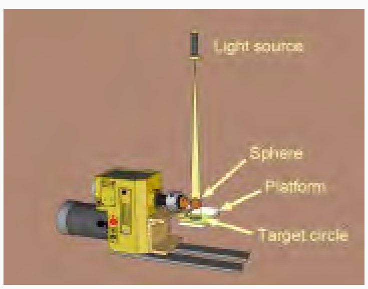
Author

David Reed Smith is a basement woodturner who lives, turns, tinkers and writes in Hampstead , Maryland . He welcomes comments, complaints and suggestions via email at David@DavidReedSmith.com.

Sphere – Shadow Method

This is the easiest and most direct method for turning a sphere, in my opinion. No marking on the blank nor rechucking between cup centers is required. You get instant feedback as you turn the blank from a cylinder to a sphere.

The idea is to use a small spotlight mounted above the lathe to cast a shadow of the blank onto a target circle located underneath it. To turn the sphere, simply remove wood until the shadow of the blank fits inside the target circle.



Some preparation is required. An appropriate source of light must be provided and you must build a platform to hold the target circle. However, neither the platform nor the light source require working to close tolerances.

Credit for this method goes to David Reed Smith. Links to his website and an explanation of the process are given at the end of this article.

The Light Source

A sharper shadow will be produced if the light source is located as high as possible above the lathe. Further, the source should have a small diameter and should project a beam of light so you get the most illumination where it's needed.

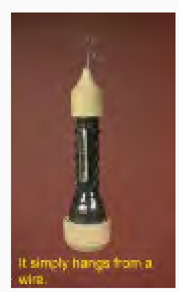
I’ve tried two different sources. One is a 35 watt halogen flood lamp mounted about 40” above the spindle of my lathe. The other is a small 3-LED flashlight suspended about 30” above the spindle. Both use a baffle with a 1/2” hole to limit the diameter.

The mount for the halogen lamp is a crude affair that snaps into the metal grid of the drop ceiling above my lathe. A porcelain socket holds the bulb, and a small frame underneath the bulb holds the baffle.

Note: A halogen lamp gets really hot. If you use one, do not use cardboard for the baffle; it will catch fire in short order. I used thin aluminum, the kind used for flashing when you install a roof. Also, the construction is open so that air can circulate freely around the bulb and socket. There is no reason to enclose the bulb.

My LED flashlight simply hangs by a wire from the baffle made for the halogen bulb. The wire is attached to the flashlight by way of a small end cap that gives a friction fit against the rubbery surface of the flashlight.

Another end cap with a 1/2” hole fits over the business end of the flashlight to limit the diameter of the light source. It too is held on by friction.



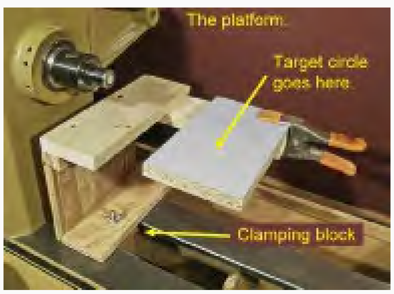
The light source should be directly above the center of the sphere. A plumb bob is handy for positioning the source but not essential. Absolute precision is not required.

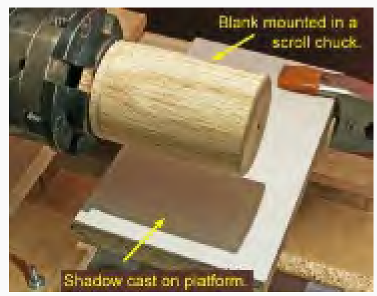
Which source do I use? Even though both work well, I use the halogen bulb to avoid having to deal with batteries for the flashlight.

I've found that I need some ambient light in the room in order to see the target circle. I turn off the lights directly above my lathe but leave the lights on in the more distant parts of the shop.

The Platform

My platform is supported at only one end so the banjo can slide underneath it. It has a U-shape so that it does not get in the way of the tool rest. A spring clamp holds the piece of melamine-covered particle board to which I tape the target circle.

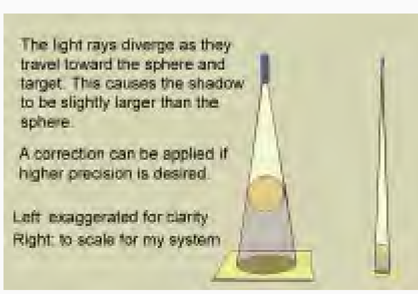




The top surface is about 3” below the centerline of the spindle. This will accommodate a sphere approaching 6” in diameter, a rather large sphere.

Splitting Hairs

Strictly speaking, the diameter of the sphere and that of its shadow will not be the same; the shadow will be slightly larger. This is because the light rays diverge as they travel from the source.



For a typical setup, the diameter of the shadow will be about 10% larger than that of the sphere. If that difference is not important to your work, you may skip this section. Otherwise, press on.

A correction factor (c) can be calculated for your system based on the distance the light source is above the spindle and how far below the spindle the top surface of the platform and target circle is:

Correction factor = distance source to spindle / distance source to target

$$c = t / s$$

where t is the distance from the source to the platform and s is the distance from the source to the center of the spindle.

For my halogen system, the source is 40” above the spindle. It is 43” above the target circle because my platform is 3” below the center of the spindle. Therefore, the correction factor is

$$c = t / s = 43” / 40”$$

$$c = 1.075$$

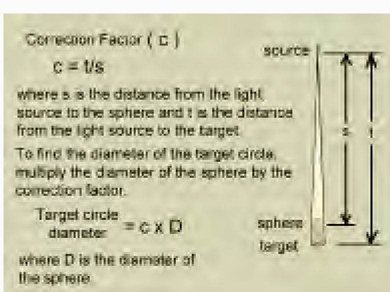
Now suppose we want to turn a sphere as close to 2.90” in diameter as we can because this is the diameter of a baseball. How large should the target circle be?

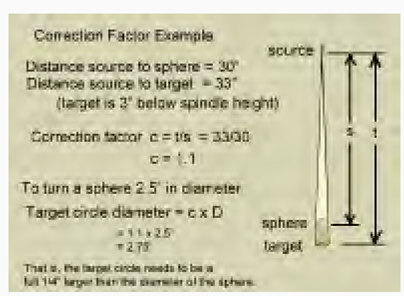
Target circle diameter = correction factor x diameter of the sphere

$$= c \times D$$

$$= 1.075 \times 2.90” = 3.118”$$

If we turn a baseball without applying the correction, the ball will turn out about 7/32” undersize. Is this important? Maybe, or maybe not.





Once you calculate the correction factor, it will not change as long as you do not change the height of your light source nor the height of your platform. So, calculate it once and write it on the wall.

Here’s **something that won’t work.** Suppose you have a cylindrical blank for a sphere mounted on your lathe, already trued up and ready to roll. You cannot simply measure the diameter of the blank and make the target circle the same size. If you do, you will wind up making your sphere smaller than what it could have been. Bite the bullet and apply the correction factor to find how much larger the target needs to be. That way you will get the biggest sphere possible.

Here’s **something that works pretty well.** If you have a trued-up blank on the lathe and want to make a target circle for it, measure the width of the shadow cast by the blank and use that as the diameter of the target circle. This avoids having to use the correction factor. Measuring a shadow involves a bit of judgement (It’s hard to get a grip on a shadow.) but the results can be good.

Turn a Sphere!

My suggestion is to begin with a sphere about 2.5 to 3” in diameter. Find a blank about 5” long, put it between centers, and form a tenon on one end. Mount the blank in a scroll chuck and bring up the tailstock for support.

True up the blank and turn it to a uniform cylinder. Measure its diameter. This will be the largest sphere you can get from that blank, but you will get it only if you make the target circle a bit larger by applying the correction factor as described above.

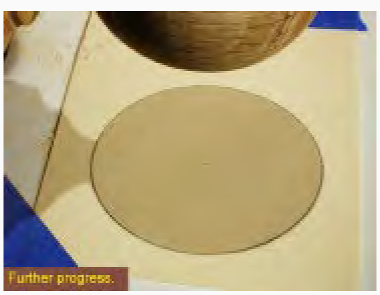
On an index card or other piece of card stock, draw the target circle. Carefully center the circle in the shadow of the cylinder and tape the card to the top of the platform. Locate the circle a short distance back from the end of the blank to avoid having the dimple made by the point of the live center appear on the surface of your sphere.

Position the tool rest so you can see past it to the target circle. If the cutting tool is applied to the blank at center height, you will be able to see the shadow of the tip of the tool while you are cutting.

Some practice may be required for you to become accustomed to the cutting process. This is quite similar to being able to make a cut while looking across the top (horizon) of a workpiece instead of looking where the tool makes contact with the wood. In this case you will be looking at the shadow cast on the target circle.

The next photos show further progress and a profile view of the sphere corresponding to the view of the shadow.

As you near completion of the sphere, do the sanding before reducing the diameter of the nubbin significantly.



Finally, turn the nubbin down as small as you dare, then use a parting tool, long point of a skew, or a small saw to separate the sphere from the rest of the blank.

Removing the Nubbin and Sanding its Footprint

Exercise caution when removing the nubbin to avoid having it break off and pull fibers out of the surface of the sphere. When in doubt, cut it long and sand it away.

My preference is to mount a soft sanding pad in a Beall collet chuck mounted on my lathe. (Photo in previous article.) I begin with 180 grit if I have considerable material to remove. This is often the case because I typically, for some reason, leave a bump at the foot of the nubbin.

Once I get the footprint sanded down close to the final surface, I switch to a higher grit, typically 220, and continue. With the lathe running fairly slowly, I keep the sphere moving in a more-or-less random pattern, centered on the footprint. In due course, I go on to 320 and 400 grit and finally call it good enough.

If you use a soft pad with the lathe turning slowly, the sandpaper will conform to the surface of the sphere and make it less likely that you will create a flat spot if you happen to linger a bit too long in one area.

After the sanding, all that remains is to apply the finish of your choice and the sphere will be done.

Sanding during the Finishing Process

Sometimes it seems that just as soon as you remove a sphere from the lathe, you wish you could put it back on, briefly, to touch up a spot that needs a bit more sanding. Or, if you embark on a finishing process that involves multiple layers of finish with sanding in between, it is convenient to be able to stick it back on the lathe.

This can be done with cup centers but they are a bit cumbersome to use. On the other hand, a small vacuum chuck is ideal. You basically stick the sphere on the chuck, turn on the lathe, and sand away. Further, changing the axis of rotation is quick and easy.

A link is given below to an article on this site that shows how to make a vacuum chuck for the specific purpose of holding spheres for sanding.

Credits and Links

David Reed Smith
http://www.davidreedsmith.com

Photo: Mike Mahoney

Spherical Box

It's a ball that begs to be handled. It's a box that stirs your curiosity. It's a container that will open your eyes.

By Christian Delhon
Photos: Deryl Duer

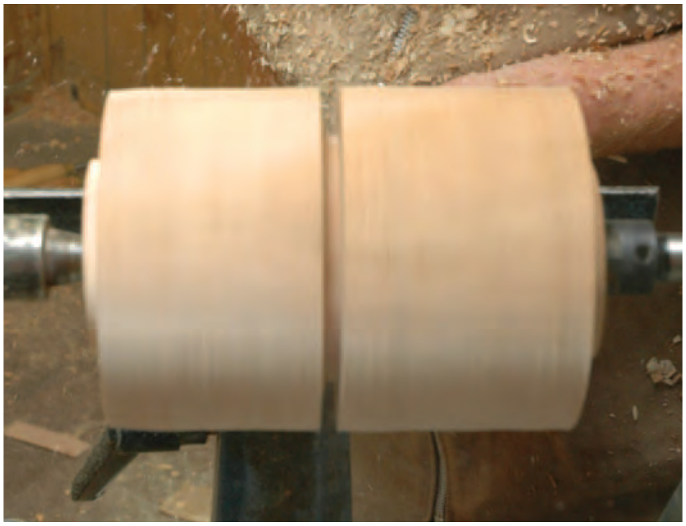
At the Utah Woodturning Symposium, French woodturner Christian Delhon held attendees on the edge of their seats while he effortlessly hollowed and shaped a chunk of maple into a lidded box. Not content to stop there, he added beads to half of the ball before dividing the other half into eight segments.

With Christian's commentary, Deryl Duer's helpful step-by-step photos, and a sprinkling of illustrations, we're confident you're up to the task of completing this project. Let's roll.

Get started

For tools, you'll need a 3/8" spindle gouge or 3/8" bowl gouge, parting tool, and ring tool. I also use a bedan and a custom-ground V-tool from a spindle gouge as shown in the sidebar on *page 49*. You may get similar results with a point tool. For chucking, this project requires a 4-jaw self-centering scroll chuck and two 4-prong drive centers.

For turning stock, I selected a 5×5×5" block of seasoned maple. You'll also need a 6½×6½" block of green wood for a jam chuck.



1 **Mount the piece of 5×5×5" stock between centers. True the ends. After turning a cylinder with a spindle or bowl gouge, true up both ends with a 3/8" spindle gouge or 3/8" bowl gouge. Then, create a 3/8" tenon at both ends to hold the piece in your 4-jaw chuck. (My tenons are 3/8× 2½".) With a parting tool, cut the turning stock into two equal parts.**

2 **Mount one end of the piece in a 4-jaw chuck, then true up the unchucked end with your spindle or bowl gouge.**

3 **With a bowl gouge and a ring tool, begin removing stock from the unchucked end. The depth should match the interior radius of the ball. This ball has a 4"-diameter interior.**

4 **To form the mortise shoulder, use a parting tool or bedan to remove stock. This joint is 1 cm deep (about 3/8") and is half the thickness of the box. Once you're satisfied with the profile, sand through 150, 220, and 320 grits. Then by hand, apply a penetrating finish of your choice.**

5 **Clamp the bottom half of the ball onto a 4-jaw chuck and remove stock with a bowl gouge and ring tool, using the same steps described *above*.**

6 Record measurements from the top of the ball (mortise) to cut an accurate tenon. To create an accurate joint, I measure the inside of the completed piece and adjust the second piece. With a parting tool, slowly reduce the tenon diameter to accept the lid. Remember that every fitting cut removes double what you think. Aim for a fit that is tight enough to hold the lid on the base while turning the outside of the box.

7 After you're satisfied with the fit, hollow out and finish the base as described *above* with the bowl gouge and ring tool. The radius should match the lid plus 1 cm (about 3/8"), equal to the depth of the tenon.

8 Reassemble the two halves and secure them between centers. Adjust the assembly as necessary. With a bowl or spindle gouge, remove any discrepancies created when turning the joint.

9 Accent the assembly joint with a V-tool (see the sidebar on *page 49)* or point tool.

10 With a caliper, measure the outside diameter of the ball, then use a pencil to mark half of the distance from the center joint. Then mark the center of the piece with a pencil.

11 Reduce the stock surrounding the spurs of your drive centers, taking care not to remove the pencil lines defining the ball diameter.

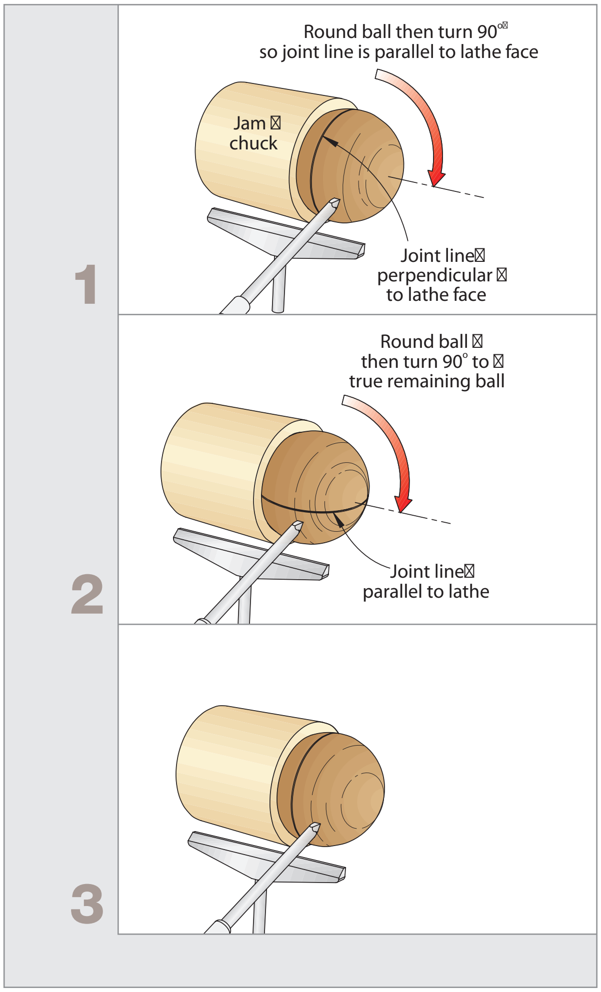
12 With a detail gouge, remove stock to form half of the sphere. To make this step foolproof, you may wish to cut a plywood template to guide you in shaping the profile.

13 Slow down the lathe to about 50 rpm (or the slowest setting possible), then use a detail gouge for the final touches. To help separate the pieces, use a parting tool. Do not force apart the two sections; doing so may tear off fibers in your joint.

14 Before proceeding, make a jam chuck from green wood, which provides elasticity in the wood fibers you'll need to successfully grip your turned halves. Form the jam chuck by removing stock with a bowl gouge and ring tool. Use a ruler to monitor this step as shown *above*.

15 Put the assembled ball in the jam chuck, being careful to place the assembly joint exactly perpendicular in the hollow. Use the tailstock to help with this alignment. Jam the sphere into the hollow by tapping lightly underneath. Remove rough areas with a detail gouge, taking light sweeps in the direction of the jam chuck to avoid accidentally popping out the ball.

3 steps to a round ball



16 Frequently monitor the smoothing process by stopping the lathe and by running your finger over the piece to check for the feel of a false curve.

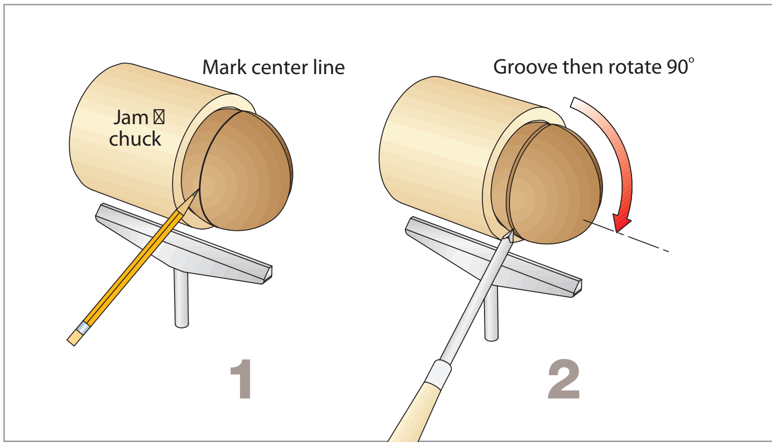
17 Mark two pencil lines approximately ¼" from the joint. These pencil lines reference what not to remove. At this point, it is important to cease stock removal at the joint. Otherwise, the ball will not end up round. Sand the piece to finish smoothness.

18 Turn the ball 90 degrees so the assembly joint is now parallel to the hollow. Repeat the detail steps performed previously. When finished, the ball should be round on the outside.

19 With a pencil, draw rings on the bottom of the ball. Carve the grooves with a custom-ground tool as shown opposite *below* or with a point tool. With a detail gouge, cut the beads and add finishing touches. Then sand to 320-grit smoothness.

20 Return the ball to the jam chuck—this time with the grooved half facing inward and the assembly joint parallel to the hollow. With the lathe turning, mark the tip of the ball with a pencil. Then, divide the sphere's diameter into eight segments. The drawings *below* and a compass may help you lay out this step.

Detailing the ball into segments



21 **Position the joint of the sphere at a 90-degree angle to the hollow. Use light pressure to lock the piece in the jam chuck. Rotate the lid by hand to verify the correct position.**

23 **While the lathe is stopped, verify that your traced markings and the tip are on the same layout. This is important to ensure accurate segments. You can also trace the grooves with a wooden pencil. This will help you visualize any errors early on and also will help properly position the half-sphere in the hollow.**

22 **With a light touch, gently remove stock for a groove about 1⁄16" deep. Stop the lathe frequently to monitor progress. This groove should follow the pencil mark from steps 20 and 21.**

Christian's custom tool

To make the grooves in the spheres, I ground an old spindle gouge as shown *above* to a shape similar to a V-tool. You may be able to accomplish similar results with a point tool.
—*Christian Delhon*

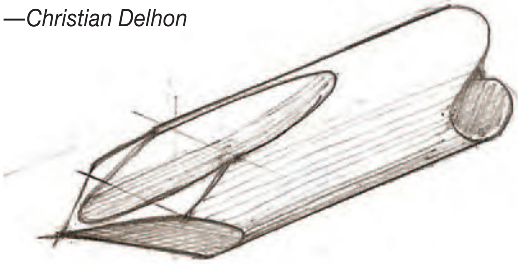
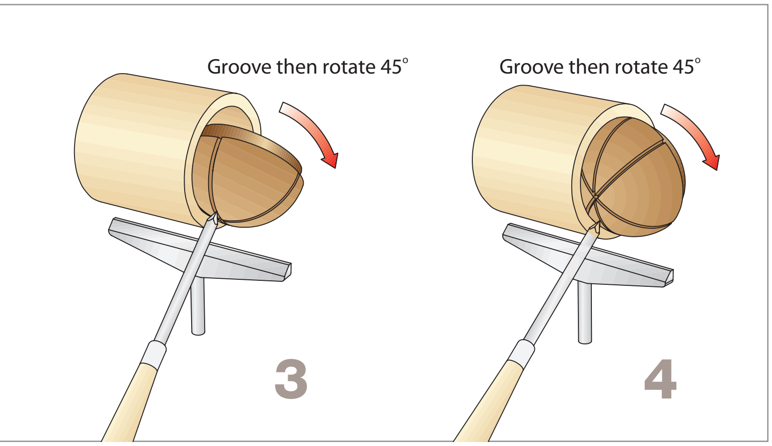


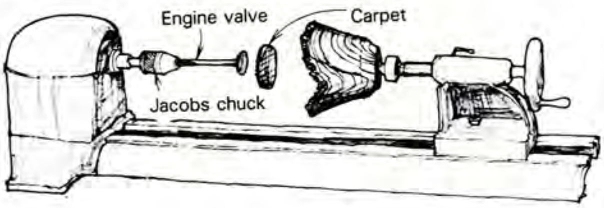
Illustration: Angelo Ifrate



Illustrations: Roxanne LeMoine

A cabinetmaker by trade, Christian Delhon has been woodturning for more than 10 years. He has demonstrated his turning projects—inspired by 18th-century work—at many international events. Christian (christiandelhon.com) lives in Rue des Halles, France.

Driving with old engine valves

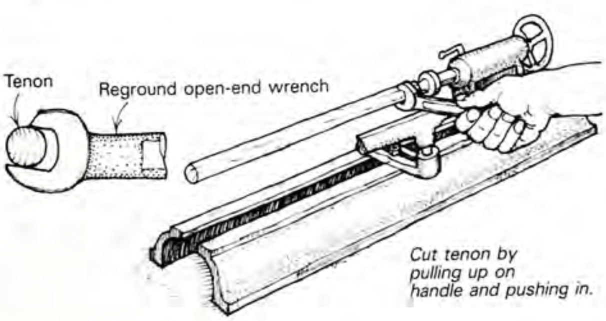


I've found that an old car valve works well as a live center for turning the base on a bowl that has its top edge left natural from the log. The valve stem is small enough in diameter to fit in a Jacobs chuck, and it's long enough to allow fairly deep bowls to be turned. The valves are usually free, because service stations that rebuild engines normally throw them out.

First, I fasten the valve in the chuck. Then with a small circle of indoor-outdoor carpeting inside the bowl for padding, I bring the ball-bearing tailstock up to the center of the bowl's bottom, which I've marked with a centerfinder. You need quite a bit of pressure for this technique to work properly, so leave plenty of wood on the bowl's bottom when you are roughing it out; you don't want the tailstock center to punch through the bottom. Things may get out of balance, so wear face protection and keep your lathe at low speed. Be sure to leave enough wood around the tailstock center for safety; this nub will be easy enough to clean up by hand after the bowl is removed from the lathe.

—Robyn Horn, Little Rock, Ark.

Wrench tenon cutters



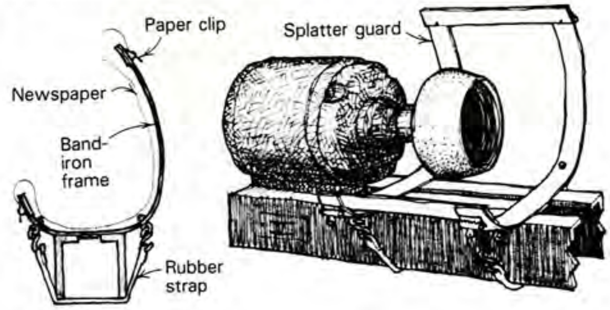
Here's a quick production method for turning tenons: You can make a precision tenon cutter by modifying a high-quality open-end wrench of the same size as the desired tenon. First, carefully grind and sharpen the top jaw at an angle, as shown in the sketch, to provide a cutting edge. Add a handle to the tool if you like. Next, turn the stock to within 1/8 in. of the desired tenon diameter. Then, with the lower lip of the tenon cutter riding under the spindle, pull up on the handle and push in. The cutting action will stop when the tenon is sized—much like a go/no-go gauge. If the tool cuts tenons that are too small, file a bit off the lower lip.

—Cecil Gurganus, Todd, N.C.

Turning splatter guard

There are several advantages to finishing a turned bowl or spindle on the lathe. But one big disadvantage is that the finish sprays all over the lathe and the wall behind. When I finally got tired of taping newspaper behind and on the lathe, I enlisted the help of Dr. Bill Riddle, the metals instructor at our school, to build the finishing shield shown here.

We welded together pieces of 1/8-in. by 1½-in. band iron for the shield's frame. The piece of band iron welded to the bottom

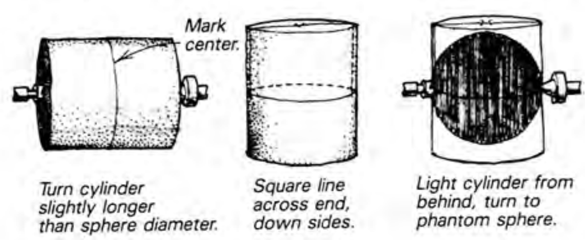


serves as an index to locate the shield between the lathe's ways. We riveted a No. 2 Boston paper clip to each corner to hold a sheet of newspaper spread inside the shield. Finally, we attached two rubber tie-down straps to the rear of the shield. These straps are pulled under the lathe bed and hooked into rings on the front of the saddle to cinch the shield down.

—Jerry Brownrigg, Alva, Okla.

Turning spheres

While chatting at a meeting of the Guild of Oregon Woodworkers, I learned that I turn spheres differently from most other turners. First, I turn a short cylinder with the grain running along the long axis. I turn the cylinder slightly longer than the diameter of the finished ball, then mark around the center of the cylinder with a pencil. Next, I square across one end and down each side to give me the location of two new turning centers. I chuck the cylinder in the lathe on these new centers and hang a light behind the turning. With the light turned on and the workpiece spinning in the lathe, the outline of a phantom sphere appears through the workpiece. I turn to this phantom line with a skew, being careful to avoid kickback, then sand and finish. If you don't have much experience with a skew, you may want to do most of the work with a gouge, then finish carefully with a skew.



Turn cylinder slightly longer than sphere diameter. *Square line across end, down sides.* *Light cylinder from behind, turn to phantom sphere.*

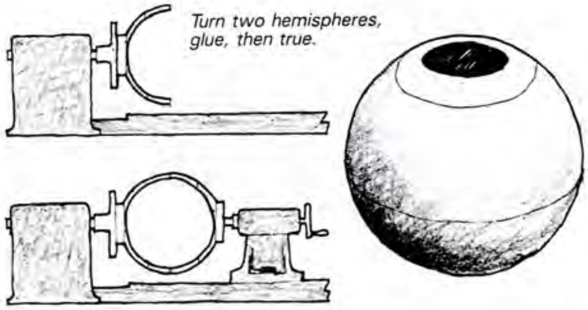
This approach leaves tiny defects that can be filled and sanded where the centers have dented each side. Reduce these defects by using a small spur center and a ball-bearing center.

—Bill Fox, Salem, Ore.

Steady rest for baseball bats

For years, the eighth graders in my woodworking class have wanted to turn baseball bats. I've always put them off because the small diameter of the bat's handle invariably results in whipping and chattering, especially at the hands of an inexperienced turner. I licked the problem by making the steady

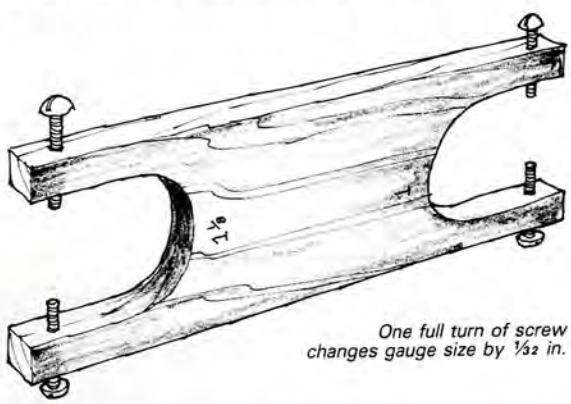
Turning hollow spheres



For those of us who have neither the tools nor the skill to hollow out a solid sphere on the lathe, here is an alternative. First glue up two blanks using truncated wedge segments and solid wood caps (see "Segmented Turning," *FWW* #54). Turn two hemispheres, as shown in the sketch above, and glue them together after they have been hollowed to the desired wall thickness, leaving some extra thickness to allow for truing later. To glue the hemispheres together I leave one hemisphere attached to its faceplate in the lathe and use the tailstock to apply pressure while the glue sets. It is a good idea to leave the tailstock in place for extra support while you true the sphere to its final shape.

—Al Brotzman, Madison, Ohio

Adjustable go/no-go lathe gauges

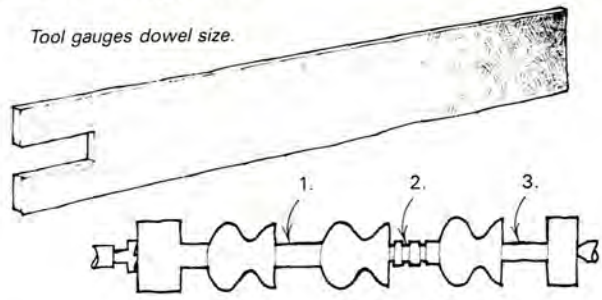


A set of these shopmade gauges will make measuring diameters easy and precise. Start with a length a ⅜-in.-thick, close-grained hardwood. Cut U-shaped recesses in each end slightly larger than the diameter to be measured and trim the piece so that the "arms" of the gauge end up about ⅜ in. square. Next, using a 9/64-in. bit, drill holes for the adjustment screws in each arm as illustrated. These holes should be ¼ in. from the ends, square and centered.

Now install four 1-in.-long, size 8-32 machine screws in the holes. Turn the screws right into the holes—no tapping is necessary. In fact, the self-cut threads will make lock-nuts unnecessary. Round over and smooth the ends of the screws to increase accuracy. Now you're ready to set the gauge to the required dimension with an inside caliper or any convenient standard. One full turn of the screw makes a 1/32-in. change in the gauge dimension.

—R. H. Taylor, Southport, Conn.

Lathe sizing tool



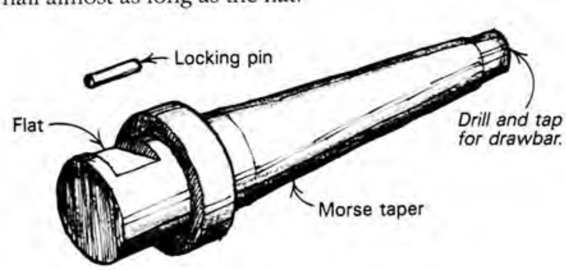
I turn many wooden knobs in multiples of four, and I needed a quick and accurate procedure to put ½-in. dowel stems on each knob. This easy-to-make sizing tool does the job beautifully. Start with a 12-in. length of ⅛-in.-thick steel. Square the end and cut a ½-in.-wide slot 1 in. or so deep into the end of the bar. File the slot to exact size. You may wish to bevel the tool's cutting edges above and below the slot, so they have a shape similar to the cutting edge of a parting tool. However, I found that the sizing tool will function perfectly well with sharp, square corners. To use the tool, first turn the knobs to shape with their stems slightly oversize (1). Plunge the sizing tool down on the stems at ¼-in. intervals to produce bands of the true dowel size (2). Then bring the remainder of the dowel down to size with a parting tool or chisel (3).

—J.C. Collier, Upper Hutt, New Zealand

Self-locking pin chuck

This lathe chuck features an ingenious self-locking mechanism that allows quick and easy mounting and dismounting. It works equally well in both forward and reverse rotation. The chuck is ideal for projects with predrilled, centered holes, such as candlesticks, bud vases, wooden flutes and the like. You simply mount the hole over the end of the chuck to turn the profile.

To make the chuck, start with a length of mild steel bar. Turn a Morse taper on the tail of the chuck to fit your headstock. Then turn the head of the chuck to fit a predrilled hole in your turning blank—¾ in. for example. Now file a flat spot on the head, as shown in the sketch. The depth of the flat should be just a bit greater than the diameter of the locking pin. The locking pin is nothing more than a piece of nail almost as long as the flat.



To use the chuck, first drill a hole the same size and depth as the head of the chuck in your workpiece. With the locking pin centered in the flat, slip the workpiece on the chuck and rotate the work until the pin wedges and locks the workpiece in place. The chuck will lock in either direction—be sure you lock the work opposite the way your lathe will be turning. If you don't, tool pressure will unlock the chuck while you work.

—John G. Martin, Cumberland, Maine