Boutique Measuring Scoop

by Kurt Hertzog

Here's a fun project that will allow woodturners of all skill levels to turn their own "one-of-a-kind" measuring scoop. There are many ways to turn scoops, but I think that the one-piece methods (that I am aware of) are often beyond the capabilities of the new turner. They require some spindle turning, some bowl turning, interrupted cut turning, jam chucking with a flying wing, and a piece of wood large enough for the handle and bowl.

Making a scoop in two pieces greatly simplifies the turning. You can use wood pieces that are too small for one-piece scoops, and your creativity can run wild with the different material choices and combinations available. A rather unique scoop can be turned from virtually any material that can be turned on a wood lathe.

Unfortunately, the downfall of most two-piece methods is that a hefty wall thickness on the scoop is needed as support for the handle. Following is a method that will help eliminate that problem.

SUPPLIES

Wood: one piece of juniper (or material of choice) for scoop body; one piece of juniper (or material of choice) for scoop handle; scrap block of wood for jamb chuck
Tools: lathe with drive centers and 4-jawed chuck, drill chuck, bandsaw, Forstner bit (*optional*), roughing gouge, skew, parting tool, depth gauge, V-block, spindle sander (*optional*), vise
One length of 20-gauge sterling silver wire (or wire of choice)
Assorted grits of abrasive paper
Two-part, five-minute epoxy
***Shellawax* or finish of choice**
Tablespoon or measure of choice

Please refer to all manufacturers' labels for proper product usage.


Fig. 1

The goal is to make a coffee scoop with a bit more pizzazz.


Fig. 2

I've chosen some juniper scraps for the project.

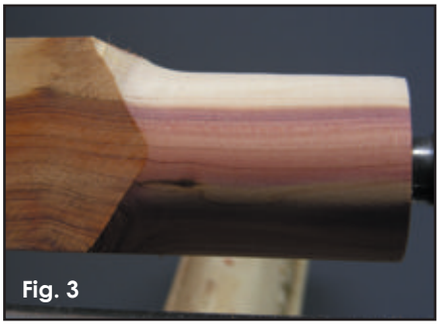


Fig. 3

Round the blank at one end— far enough for the scoop bowl, tenon for mounting, and a bit to spare.

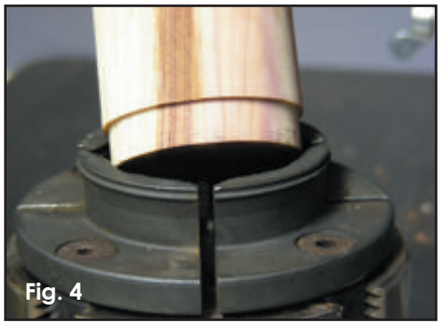


Fig. 4

Cut the tenon long enough to grip, but short enough so it doesn't bottom out on the chuck.

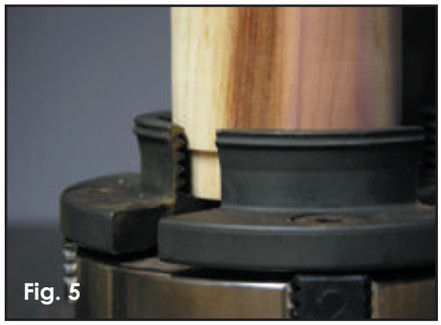


Fig. 5

Since the face of the blank may not be perpendicular to the axis of rotation, the length of the tenon should be shorter than the chuck jaws.

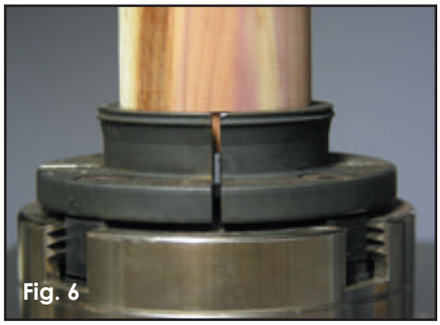


Fig. 6

Properly mounted, the blank should seat on the lip of chuck jaws without touching the bottom and so the jaws won't touch when clamped tight.

DECISIONS

For this article, the coffee scoop is being made to measure beans destined for the grinder. In our household, we grind our coffee beans each morning and I want to replace our plastic one-tablespoon scoop (see **Fig. 1**) with something a bit more presentable. However, your project could be to measure anything, whether it is spices, drink concentrates, coffee beans, or any other dry goods. If you are extremely ambitious, you can even make a complete set of measuring scoops.

CHOOSE THE MATERIAL

Depending on your personal requirements, your scoop can be made from almost any material available which can be turned on your lathe. Since we'll be using it for dry measure, I don't have to worry about the interaction of liquids with the material or on the "water fastness" of the finish. Domestic or exotic woods, solid surface materials, or even aluminum could be used if you are so inclined. You can create any size or any level of pizzazz by the turning, materials, or complexity using this technique.

I've chosen a few pieces of juniper (see **Fig. 2**) to work with for the demonstration of this technique. Obviously, you could use a combination of two different species, laminate several different species together, use bone or antler, or whatever you wish.

GETTING STARTED

I always turn the scoop body first and then follow up with the handle. This allows me to turn a handle that is appropriate in size and complexity for the scoop body. I will be using a chuck to hold the scoop for shaping and hollowing, but a chuck is not really needed to make this project. A faceplate mounting technique can be used just as easily.

Start by mounting the body material between centers to turn off the corners. Check to make sure that your stock can be turned round with a tenon large enough so the blank can be securely mounted in your chuck.

Knock off the corners of the blank using your favorite roughing gouge. I intentionally only round the amount of stock needed for the body and the mounting tenon (see **Fig. 3**). You'll see why shortly, if you haven't guessed already.

PREPARE FOR HOLLOWING

Cut the mounting tenon next (see **Fig. 4**). The tenon should be cut long enough to provide as much of a gripping surface in the chuck jaws without bottoming out on the inside bottom surface of the chuck (see **Fig. 5**). This allows the registration of the stock in the chuck to be on the step cut in the wood and the jaw top edges (see **Fig. 6**), which provides much more lateral support and helps to ensure


Fig. 7

Prior to mounting in the chuck, cut off the needed project length in the bandsaw, taking advantage of the flats left on the balance of the blank.

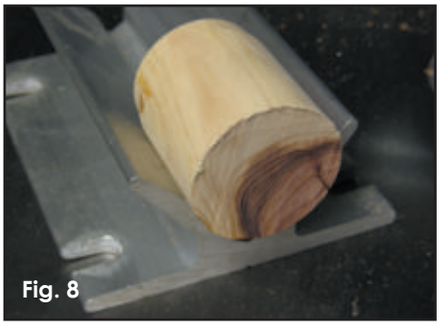


Fig. 8

If the flats weren't available, a V-block could be used to cut circular stock.

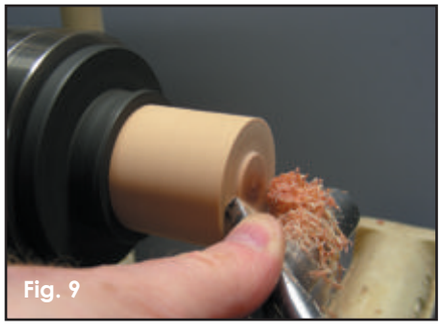


Fig. 9

Face the end to provide a smooth surface for the lip of the scoop.

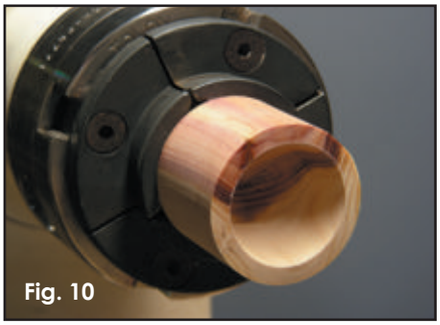


Fig. 10

It looks deep enough for the tablespoon measurement.


Fig. 11

Left securely mounted in the chuck, the scoop body is removed from the lathe for the calibration process.


Fig. 12

The inside and rim are sanded, and the finish is applied after the bowl is successfully calibrated.

that the wood is mounted concentric with the axis of the lathe, unlike that in the previous photograph.

Cut off the excess wood with a parting tool while it is between centers on the lathe if that is your style; however, I prefer to cut it off on the bandsaw (see **Fig. 7**). While unimportant in this project, separating pieces on the bandsaw reduces the amount of material lost to the kerf. This is much more important on projects, such as lidded boxes, where you will want the grain to match as closely as possible.

In this case, it is safe to cut off the scoop body material with the bandsaw because I left the flats on the original wood blank (see **Fig. 3**). I can safely cut off the material, as it is flat against both the bandsaw table and the cutoff fence; I don't need to use a V-block (see **Fig. 8**) or risk cutting unsupported round stock in a bandsaw.

HOLLOWING THE BODY

With the scoop body material securely fastened in the chuck, face off (see **Fig. 9**) and hollow the blank (see **Fig. 10**). There is nothing magic about the hollowing and you are welcome to use your favorite technique and tool. The beginner may choose to use a Forstner bit and then round off the corners; the adventuresome turner may want to do a bit of Raffan-style back hollowing; but, the rest of us will do something in between that yields a roundish shape at the bottom. Hollow to a depth that you think is sufficient for the volume required from the finished scoop. Once you are ready, it's time to move to calibration.

CALIBRATION

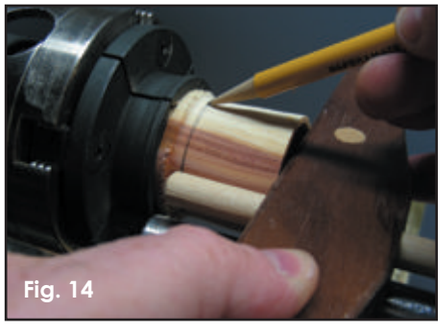
Let's face it...this isn't a NASA level project—we're measuring coffee beans by the scoop. My calibration method is pretty simple, yet effective.

With the blank still securely mounted, unthread the chuck and set it so the hollow is upright (see **Fig. 11**). I use the tablespoon that we've used to measure our beans for years (shown) to scoop out the required volume of beans and dump them into the hollowed scoop. If the scoop holds the same measure as the spoon, it's calibrated.

There are a few options if they don't hold an equivalent measure. If the turned scoop is too deep and holds more than the required amount, mark the inside of the rim at the proper volume. Remount the chuck and turn away the rim until you reach that mark. If the hollow doesn't hold enough, remount it and turn a bit deeper until you get there.

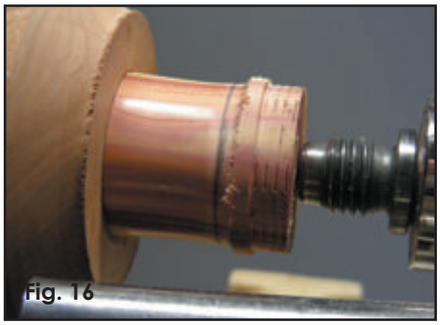
Use a finely granulated material (such as sugar, salt, or instant coffee) for your calibration effort if your scoop demands a more accurate standard. You can even use level spoonfuls of material with better packing factors to achieve even greater accuracy.

The outside of the scoop body is shaped after the inside is completed.



The bottom depth is marked once satisfied that the shape is right and the bowl has been sanded and finished.

A scrap mounted in the chuck; a jam chuck is created to hold the scoop blank.



Always use the tailstock whenever possible.

The bottom is shaped still using the tailstock for as long as possible.

The scoop body completed with the mounting wire groove cut.

FINISH THE INSIDE

Sand and finish the inside of the scoop and rim once the scoop is calibrated accurately (see **Fig. 12**). This is a great time to do it, since the scoop is mounted advantageously for a friction finish. This mounting will be gone soon and this kind of opportunity won't present itself again.

Some folks are concerned about "food-safe" finishes. For this project, I chose *Shellawax*, a friction finish formulated mainly of shellac and wax. The scoop has very limited dwell time with the food product and it is a dry contact. This, coupled with the fact that shellac is used safely in pharmaceuticals and foods, alleviates any concern about the safety of this finish for this application. If you choose some other finish, make sure you are comfortable with the food safety issue, especially if you plan to sell the scoops or use them as a gift where you won't be the end user.

FINISH THE OUTSIDE (WELL ALMOST)

With the inside and the rim turned, calibrated, sanded, and finished, it's time to move to the outside of the scoop body. Thin the walls, finalize the shape, and apply the finish to as much of the scoop as possible while mounted securely in the chuck.

Thin the walls of the scoop to the desired thickness (see **Fig. 13**). Don't be too concerned about leaving them beefy, because the handle-mounting technique doesn't require much wall thickness.

Shape most of the scoop body next. For example, this mounting method permits you to taper the body should that be your design.

Once shaped, sand the outside and again apply the friction finish.

Take the opportunity to measure and mark the bottom (see **Fig. 14**). Should the inside meet the outside of the scoop during subsequent turning, your measurement capabilities become extremely limited. Remove the scoop body from the chuck to prepare it for the next mounting method.

FINISH THE OUTSIDE (FOR REAL)

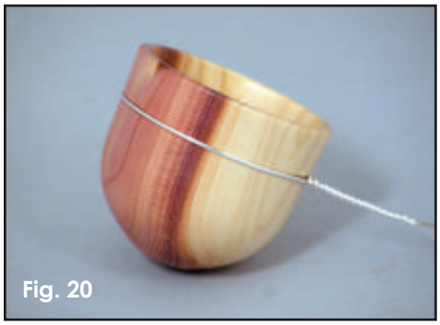
Use a jam chuck to finish off the bottom of the scoop body. This is an extremely versatile and powerful mounting technique that you should master if you haven't already.

Mount a scrap block of wood on the lathe, and with either a chuck or a faceplate, true it up; the block will be turned so the blank is held by a friction fit (see **Fig. 15**).

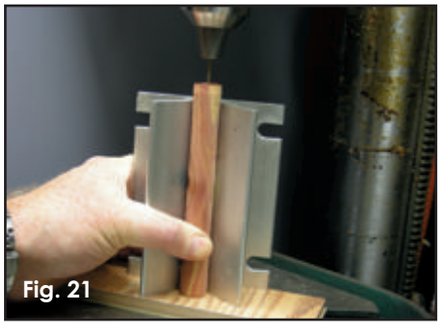
I chose to have the chuck "squeeze" the wood from the outside rather than the inside. Either technique would have worked, but I think thin-walled items do better with a squeezing rather than an expanding grip.

Mark the diameter of the recess and "creep up" on the mark with a parting tool until a light press-fit is

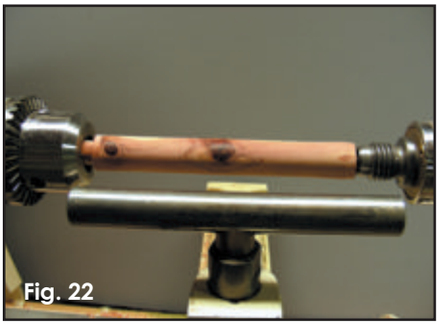
Choose your wire so the proper groove can be cut.



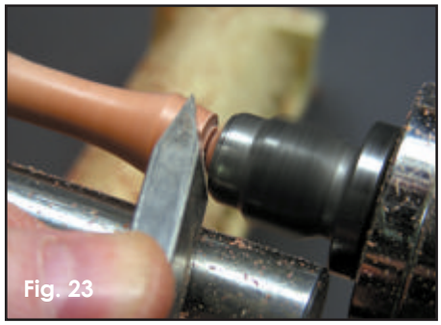
The scoop body is finished, both inside and out, and the wire is attached and twisted, ready for assembly.



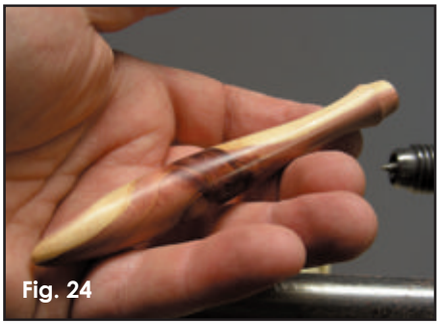
After rounding, the center is used to drill a hole large enough and deep enough to accept the twisted mounting wire.



The blank is mounted in the drill chuck with the tail center in place in the drilled hole.



The interface end is trued up using a skew chisel.



The handle turning is completed.

achieved. Regardless of how well the jam chuck fits and holds, there is no shame in using the tail center (see **Fig. 16**) for as long as possible. Not only will it be safer, but it will allow you to make heavier cuts than you otherwise could.

Continue to shape the bottom of the scoop, paying particular attention to where the inside bottom is located. Before removing the mark made earlier (see **Fig. 14**), you may wish to reset the depth gauge from the face of the jam chuck to the mark. This will allow you to check the location of the inside bottom after the mark is gone and continue to refine the shape and alter the thickness of the outside (see **Fig. 17**). Sand and finish as far as you can while you have the tailstock in place.

At this point, it's time to put the groove in for the mounting system. Cut a small V-groove in the body about a third of the way down from the top for the mounting wire that will be added later.

Decide how deep you want the groove, depending on whether you want the wire flush, proud, or just below the surface. I use a skew chisel for this cut, and when it's done, I do a complete friction finish over the entire outside that I can reach.

With "heavy" work completed, thin the nubbin to the smallest diameter possible. Use a skew chisel, a thin parting tool, a fingernail grind gouge, or a small saw, depending on your comfort level.

Remove the tail center and use light cuts to take away the remnants of the nubbin. Remember, light touch with everything, since now the only mount is from one side and it's the friction of the jam fit only. Thoroughly finish the remainder of the scoop body (see **Fig. 18**).

COMPLETE THE SCOOP BODY

The main difference between this scoop and other two-piece scoops is the attachment method. Most two-piece scoops rely on a thick wall in the body to receive the handle. The thicker wall is not only for drilling a receiving hole for the handle tenon, but also for glue bond surface. Substituting a wire helps solve both of these issues and allows the wall thickness to be reduced considerably. Using this attachment method, the wall thickness can be made much thinner than when using other attachment techniques.

Wire selection is up to you, and both the diameter and composition of the wire can vary. For example, I chose 20-gauge sterling silver wire from an earlier jewelry project. There is, however, no need to use precious metals; use whatever you have handy or can find in the hobby store (see **Fig. 19**).

The groove in the scoop body made earlier (see **Fig. 18**) will be the channel for the wire wrap that will help support the handle. Orient the bowl with the best side visible.

Sand the end of the handle with the bowl curve until you are satisfied with the fit.

The before and after look at my coffee measuring system.

Cut a length of wire that will completely wrap around the scoop bowl and be long enough to twist securely—this is not the time to be stingy.

Twist the wire tightly until it completely fills the channel with the twisted portion up tight to the body (see **Fig. 20**). Any excess can be trimmed off prior to the installation of the handle.

Once you have a tight twist on the wire and the scoop body is securely captured, measure the diameter of the twisted wire. A hole must be drilled in the handle large enough to accommodate the now thicker wire.

MAKE THE HANDLE

Mount the selected handle material between centers and round the stock. Once the centers on the blank have been established and the corners knocked off, it is time to drill the hole for the twisted wire with a bit slightly larger in diameter than the diameter of the twisted wire. This can be accomplished either on the lathe, using a drill chuck, or in a drill press.

Because it is important to drill the hole on the same axis as the turning, I use a V-block to stabilize the blank and to ensure that it is parallel to the drill press quill (see **Fig. 21**). Drill the handle on center and to a depth that will provide sufficient glue surface to attach the handle.

Once the hole is drilled, remount the handle material in the lathe with the tail center in the drilled hole. Cut a tenon on the headstock end to allow the handle to be held in a chuck or drill chuck. Though this technique isn't absolutely required, I find that holding the stock in a chuck with the tail center providing "light" support yields better results than trying to turn the handle between centers alone (see **Fig. 22**). This will allow you to hold the handle securely with only light pressure on the tail center.

Shape the handle with the tool of your choice—I prefer to use a skew. While you have the handle mounted, take the opportunity to face the scoop end of the handle. This is all end grain and will cut nicely using a skew chisel (see **Fig. 23**). Other than parting off, finish turning the handle to whatever shape you desire.

Sand and finish the handle. I used a friction finish again, but use whatever you used previously for the bowl.

The handle can be parted off in a variety of ways. You can thin down the stock and then cut it off with a small saw. The blank can be removed and the stub end cut off on the bandsaw. Another method is to turn the blank very thin using a skew or spindle gouge, and then part it off with the tool. Regardless of your separation method, you should wind up with a finished handle that will complement the scoop bowl (see **Fig. 24**).

ASSEMBLE THE SCOOP

The last task is to assemble the scoop parts. Dry-fit the two parts to make sure they fit well together. Trim the length of the twisted wire, if necessary; you should be able to easily slide the twisted wire up into the hole on the handle. If any corrections are needed, now is the time to do it: deepen the hole, expand the diameter, or shorten the twisted wire according to your needs.

I like to contour the front end of the handle to match the radius on the bowl. This I do on an oscillating spindle sander, but it can be done using the bowl itself. Wrap a piece of sandpaper around the bowl with the grit facing out, and sand the end of the handle to achieve a perfect fit. The handle end may also need to be notched to allow for the wire if you choose to keep the wire band proud of the surface (see **Fig. 25**).

After any required modifications have been made and the dry-fit meets your satisfaction, it is time to glue the two pieces together. I recommend a two-part, five-minute epoxy.

Mix enough of each part to coat the twisted wire to within 1/4" of the bowl. Install the handle, using a twisting motion to spread the epoxy in the hole. Press the handle up to the body and secure until the glue cures. I stand mine up by lightly squeezing the handle in the wooden vise with the bowl up in the air. The weight of the bowl will keep it in place.

Allow the epoxy to cure for 24 hours before using the scoop. Now, stand back and admire your work, and ask yourself which of the two scoops shown in **Fig. 26** would you rather have?