

A KIT IS A KIT IS A

Right?

Jon Magill

A necdotes help relate a story and make it memorable. Here is mine and how I inadvertently learned about the differences between some of the project kits available on the market. I don't generally use kits for my projects. But when AAW Program Director Linda Ferber asked if I would make some coffee scoops, using kits, as gifts for outgoing AAW Board members, of course I said yes.

Linda wanted to know if I could make three coffee scoops in the style of the screwdrivers I frequently turn on my ornamental lathe (*Photo 1*). She sent me a link to the kit she wanted me to use. My technique and the lathe I use are very specific, but the kit looked like it would work. Great.

Then Linda learned that the particular kit she had selected was out of stock and wouldn't be available for quite a while. She chose a similar-looking kit. Although it was similar looking, I quickly realized it could not be made using my usual techniques. That's when it hit me like a ton of bricks—a kit is not a kit. I will illustrate



what I mean by making coffee scoops using different kits, each requiring very different approaches to use them successfully.

The main difference between the kits has to do with how the workpiece needs to be held to produce the handle for the coffee scoops. Because Linda had asked if I could make the coffee scoops like my ornamentally turned screwdrivers, I needed to use my rose engine lathe, a specialized lathe for ornamental turning. The headstock on the rose engine is hinged and rocks back and forth. The rocking motion makes it difficult for rose engines to have a tailstock. My lathe, like most rose engines, has no provision for a tailstock. Ideally, I needed a kit that did not require the use of a tailstock, or being turned between centers.

The kit Linda initially selected could be turned using a threaded bottle-stopper mandrel, which would work on my lathe. But the alternate kit required a tailstock and was designed to be turned between centers. Now

I was faced with a challenge, and it became obvious that not all kits are created equal.

I frequently tell people that woodturning is 80% workholding and 20% turning, meaning that while you do need to master certain turning skills, ultimately developing a variety of techniques to hold workpieces will determine how far you and your turnings evolve. Many of the most artistic pieces produced by woodturners require a bit of head scratching to figure out how the creator attacked the problem.

Given the importance of workholding, that may be the deciding factor in selecting your next project and kit for it. It certainly was in my case. Let's dive in and see what we can learn by turning three coffee scoops using the different styles of kits available.

Smooth-stem-style kit

Photo 2 shows smooth-stem coffee scoops, designed for a handle turned between centers. This is the simplest of the kits to hold and turn. The only

requirement is to drill a hole in one end of the stock, to glue the stem into after turning.

The instructions for this type of kit suggest starting with a blank about 1" (25mm) square and 6" (15cm) long, depending on your desired finished length. They also suggest adding 1" allowance for cutting the handle off the lathe. I used dense pink ivory for this kit. The flange at the back of the stem is about 5/8" (16mm) in diameter, so allow for that in your handle design.

Once you have your stock selected, you need to decide which route to take for drilling the required hole for the stem. There are numerous approaches for drilling with this style of kit, either using a drill press or drilling on the lathe. Turners making multiples might choose to use a drill press and drill numerous blanks at one time. The best way to maintain alignment during drilling is with a drill press vise of some sort, or a sturdy wood clamp to keep the stock vertical.

I generally prefer to drill on the lathe with a drill chuck in the tailstock. But even that choice has multiple options. You can hold the square stock in a chuck to drill it. Or, as I generally prefer, you can rough-turn the stock round, adding a tenon while between centers, before transferring it to a chuck to drill the end (*Photo 3*).

Before drilling, make sure to measure the diameter and length of the stem of your kit. You may want to use a scrap of wood to test the bit size and depth prior to committing your workpiece to the drill. The kit I used required a 1/4" - (6mm-) diameter hole, about 7/8" (22mm) deep. After selecting the right drill bit, mark it with a tape "flag" to indicate when you reach depth (*Photo 4*).

There are plenty of choices for drive and live centers that utilize the Morse tapers in your spindle and tailstock. I usually opt for a small cup center to

drive smaller workpieces, because it will just slip if I have a catch. Try to select a drive center suited to the scale of your workpiece (*Photo 5*). For a live center that can be positioned in the drilled hole of a workpiece, I prefer to

use a smaller-diameter penturning point, as shown in *Photo 6*. The cones supplied with most live centers are just too large for this scale of turning.

Once you have a hole drilled and your drive and live centers selected, ▶

Ornamentally turned inspiration piece



1 Ornamentally turned style of screwdriver that instigated this article.

Smooth-stem-style kit



2 A smooth metal stem acts as a tenon that is glued into a hole drilled in a turned handle.

Form tenon, drill hole



3 Handle roughed between centers, with a tenon formed so it can be held in a chuck for drilling.



4 Ready to drill the hole for the stem. A tape flag added to the drill bit indicates proper depth.

Drives and live centers



5 Two styles of drive centers, left is a cup center and right a small prong center. Choose a drive sized for your work.



6 A typical tailstock live center and the oversized stock cone at left. For smaller projects, the author prefers a penturner's point shown on the live center and at right.

simply turn your desired handle shape between centers. I generally sand and finish on the lathe, then cut the stub off with a saw, hand-sand the end, and apply more finish.

Test the fit before final assembly. I found that the kit's casting needed a light touch-up with a file under the flange to get rid of the "flash" (thin overflow at the mold seam). Once I

filed that, the scoop sat nicely on my handle. For assembly, roughen the metal stem of the scoop with coarse sandpaper before gluing it into the handle. Thick cyanoacrylate (CA) glue or five-minute epoxy is sufficient for this type of project.

This kit is very easy to turn between centers, and its simplicity allows nearly infinite design

flexibility. The small-diameter stem allows for thinner-necked handles than other kits. The casting is relatively heavy, and for that reason I did find this kit favored denser woods and a longer handle to feel balanced in my hand (*Photo 7*).

Penturning-mandrel-style kit

Photo 8 shows a penturning-mandrel-style kit. If you are already set up to turn pens, this kit style may be the obvious choice for you. It is designed to be turned on a penturning mandrel (7mm, in this case) and requires a set of bushings, as most pen-type kits do.

The instructions for this kit suggest a blank from $\frac{5}{8}$ " to 1" square, and slightly longer than the supplied tube. The tube in my kit was $2\frac{7}{32}$ " (7.25cm) long, and the instructions suggest

Completed smooth-stem kit



A longer handle helps to balance the relatively heavy metal-cast scoop.

Penturning-mandrel-style kit



This kit requires a penturning mandrel, with bushings and spacers.

Mount and turn handle



10 Read kit instructions thoroughly; this kit requires reversing one bushing to turn a smaller tenon at the tailstock end.



11 Holding the kit's end cap up to the turning aids in visualizing the final shape.

Completed mandrel-style kit



12 Departing from a pen shape adds interest.

Threaded-stem-style kit



13



14

(13) Threaded-stem scoop kit, designed for use with a bottle-stopper mandrel.

(14) Some bottle-stopper mandrels have internal threads to mount directly onto your lathe spindle, and some have a smooth shank to grab in a collet or drill chuck.

adding $\frac{1}{16}$ " (2mm) to the blank for trimming. I chose figured madrone for this kit. The collar and end cap are about $\frac{9}{16}$ " (14mm) in diameter.

As with typical pen kits, you need to drill a hole all the way through your blank. Most penturners use a centering vise on a drill press for this task. Once the blank is drilled, glue in the brass tube from the kit. If you already turn pens, you likely have an opinion on which glue to use. Epoxy, polyurethane glue, and medium or thick CA glue all seem to have their respective devotees, pick one. When the glue has cured, use a barrel trimmer to trim the blank down flush with the ends of the brass tube.

Mount your blank on a pen mandrel with the required bushings and spacers. My mandrel is a fixed-length type, so I needed to add extra spacers to reach the shaft nut (Photo 9).

Two specific things to point out here. First, read the instructions that came with your kit. I had different kits with multiple techniques. The kit illustrated here uses an initial turning to one bushing diameter, then reversing the tailstock-end bushing to use its stepped-down diameter to turn a tenon on the scoop-end of the workpiece, which needs to fit inside the kit's collar (Photo 10). Second, while this kit

uses a penturning mandrel, you are not turning a pen. You have the freedom to turn a non-pen-like shape. Holding the end cap up to my workpiece helped to visualize a nice line off the wood into the end cap (Photo 11).

One of the advantages of turning pen-type kits that may not be obvious is that you can easily take the workpiece off the mandrel at any time and put it back on. This is often useful if you want to pre-assemble the kit to evaluate some visual aspect. Not all kits and turning techniques are as forgiving when it comes to taking the workpiece off the lathe mid-process to assess something, like a fit or proportion, then get it back on the lathe perfectly centered again.

This kit is very quick and easy to turn. As long as you familiarize yourself with the instructions, there is a lot of room for interpretation and creativity. This is a great kit if you already turn pens and want to add more shape to your turned profiles. But like all pen kits, you cannot vary the length of the blank when turning these scoops.

Because these scoops are formed from sheet metal, they are the lightest weight of the three kits (the other two kits are cast). The threads for the end cap are stamped on the flat tang, and I wasn't

convinced they would remain secure with long-term use. The lightweight and short handle suggest using less dense wood varieties to balance better with this kit. The short handle does make it a good option for people who like to store their scoops in their coffee containers (Photo 12).

Threaded-stem-style kit

Photo 13 shows a threaded-stem-style kit. This kit is designed to work with a threaded bottle-stopper mandrel, turned with or without a tailstock. It can also be turned between centers without the mandrel. The kit requires drilling, so like the smooth-stem kit, if you drill on the lathe, you need to either use a chuck to hold your square blank, or turn a tenon when you rough out your blank and grab the tenon in a chuck.

The instructions for this kit suggest a blank $1\frac{1}{2}$ " (38mm) square, by $5\frac{1}{2}$ " (14cm) long. I selected a smaller-diameter and longer piece of tulipwood for my blank. There is no limitation here except having enough wood at the scoop end to drill and tap. The flange on this kit is about $2\frac{1}{32}$ " (17mm) in diameter.

The main difference with this kit is that after drilling, you'll need to tap the workpiece to accept the threaded rod that holds the scoop to the handle. Depending on your wood ►

selection, drill a $\frac{9}{32}$ " (7mm) hole for softwoods or up to an $\frac{11}{32}$ " (9mm) hole for denser woods. This will be used to tap for the $\frac{3}{8}$ "-16 tpi thread. The threaded stem is 1" long and requires extra depth for tap clearance, so drill at least $1\frac{3}{8}$ " (35mm) deep.

After tapping, saturate the threaded wood with thin CA glue, let that dry, and then re-tap.

After drilling and tapping, you can turn the handle between centers, use a chuck and live center, or reverse your workpiece

onto a bottle-stopper mandrel to turn using a live center, as I did (Photos 14–16).

Photo 17 shows the completed threaded-stem-style kit. I saved this kit for last because I found it to be the most versatile. It is the only one that would work on my ornamental lathe without a tailstock (Photos 18, 19). Another advantage of this kit is that a variety of other kits use the same thread-mount handles, so your turning designs can be adapted for different projects. A side benefit of the threaded-rod mounting system is that the turned wooden handle can be removed to allow cleaning the metal parts without harming the wood.

Given the numerous kit options available today, I hope this tour through turning the three different coffee-scoop kits added some perspective and creative options to help with the selection of your next woodturning project. ■

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Mount and turn handle



15 Rough-turned blank reversed onto a bottle-stopper mandrel for turning between centers.



16 Sanded and finished handle on the lathe. The waste at the tailstock end is cut off with a saw with the lathe off.

Completed threaded-stem-style kit



17

The threaded-stem mounting allows for the scoop to be removed for washing if necessary.

Rose engine lathe accents



18 A bottle-stopper mandrel used on a rose engine lathe without a tailstock, to turn handle for a threaded-stem kit.



19 Completed ornamental coffee scoop.

Kit Sources

Kits used in this article were purchased from the following sources:

- Woodcraft–WoodRiver® Coffee Scoop Turning Kit, smooth-shank-style kit, chrome or gold finish
- Penn State Industries–Coffee Scoop Kit, penturning-style kit, available in two sizes and two finishes
- Craft Supplies USA–Artisan Coffee Scoop Kit, bottle-stopper mandrel/threaded-shank-type kit, chrome

Make a Simple No-Kit Scoop



I don't normally use kits and, to be fair, I don't typically make coffee scoops either. But the experience of investigating the options and using a kit to fulfill Linda Ferber's special request revealed some valuable insights about the types of kits available. As an alternative to kits, I'd like to offer an uncomplicated approach to making a scoop. While there have been many articles on this subject, this technique might be a little less intimidating for some turners.

There are many ways to hold and turn a scoop, but the more challenging of them use a single, long, solid piece of wood that becomes an off-balance spinning "propeller" during the scoop hollowing. That can be scary and dangerous. A less daunting approach is to start with a sphere that has a short socket into which you can attach a handle later; this method provides easier workholding options during hollowing.

Turn sphere with drilled socket



Start by rough-turning a blank to a cylinder, and drill a shallow hole in one end. The hole is in the tailstock end, and a cone center is positioned in the hole. Just beyond the depth of your hole, lay out the ends of the sphere on the cylinder (measure the diameter and mark that as the length). Turn away the waste wood on each end, then form the sphere.



Sketch rim line on sphere



When your sphere is round and the size you want, sand it, then cut off the waste end (headstock side) with a saw. Sand the end by hand to blend into the sphere. You should now have a sphere with a socket on one end. Lightly sketch a "latitude line" around the sphere where you think you want the rim of your scoop to be.

Mount sphere in tall jaws



A few layers of tape protect the wood and the socket stem, as the workpiece is held lightly in a chuck with tall jaws. I placed a short spacer behind the sphere to allow just the portion I will be hollowing to protrude beyond the jaws. The socket fits between two of the narrow jaws. Rotating the lathe spindle by hand, draw a line onto the sphere and rock the sphere in the jaws until that line parallels your original hand-sketches line. Tighten the chuck just enough to hold the sphere snugly, but not dent the wood.

Hollow scoop



Turn away wood down to your hand-sketches latitude line, and hollow the scoop. I measure and drill a depth hole first. Sand and finish the inside of the scoop now because you will not have another chance.

Assemble scoop to handle



Turn a handle with a smooth tenon to fit into the scoop's socket. Using tape for padding, I employ the best clamp in the shop, my lathe, to align and glue the scoop onto the handle.