

TURN A PURSE BOX



Walt Wager
(purse box) with
Cynthia Gibson
(pyrography)
Photo: Michael Gibson

Walt Wager

I first saw a picture of this kind of box on a friend's desk, but after searching the web and not finding anything like it, I set out to construct one from the photo. If you have a couple of Forstner bits and a small scroll chuck, it is a pretty simple and fun project. I call this a purse box because it seems a likely place to safely store a set of earrings or necklace, but it could be used

to hold anything that will fit. The box comprises two tubes—one that slides into the other—and the parts are held closed by friction or magnets.

Turn the inner tube

Start with a 2" (5cm) square blank 7" (18cm) long. Rough-turn the blank to round and make a tenon so you can hold the workpiece securely in a four-jaw

chuck. It is important that the blank run true, so once it is chucked you may need to true it up.

With a 1 1/16" (27mm) Forstner bit held in a Jacob's chuck mounted in your lathe's tailstock, drill a hole in the end of the blank 2"-2 1/4" (5cm-6cm) deep. This hole establishes the inside of the inner tube. The next step is to turn the outside of the inner tube



1 Drill into the purse box blank to form the inside walls of the inner tube.



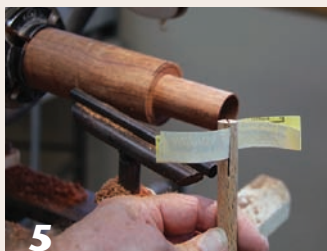
2 Use a 1 3/16" Forstner bit to create a visual reference for the wall thickness of the tube.



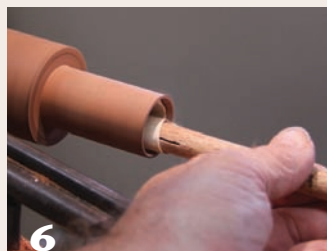
3 Carefully reduce the diameter of the inner tube.



4 A simple gauge made by drilling the appropriate sized hole in scrap wood works well for checking your progress. Just slide the gauge over your workpiece (with the lathe off).



5 A safe way to sand inside a tube is to use a dowel to hold the abrasive.



6



7



8

Indicate a section that will become the top of the inner tube. This is a good place for design elements such as beads, coves, or burn lines.

straight and parallel to the inside (*Photo 1*). This inside tube will later slide into a $1\frac{3}{16}$ " (30mm) hole in the outer tube, so the wall thickness of the inner tube should be turned slightly thinner than $\frac{1}{16}$ " (2mm).

Using a $1\frac{3}{16}$ " Forstner bit, drill a shallow hole (just deep enough so you can see the edge) in the end of the blank. This mark will act as a visual gauge for turning the outside of the inner tube (*Photo 2*). Bring up the tailstock live center to steady the tube and turn the diameter down to the $1\frac{3}{16}$ " mark left by the Forstner bit. Turn the outside to the length of the hole you drilled (*Photo 3*).

A handy way to determine when you have reached the outside diameter of the inner tube is to make a ring gauge by drilling a $1\frac{3}{16}$ " hole in a piece of scrap wood. Stop the lathe frequently to check the diameter of the inner tube using your gauge or calipers. The gauge should slide smoothly over the tube without being too loose (*Photo 4*).

This is a good time to sand the inside and outside of the inner tube. To sand the inside, make a sanding mandrel by cutting a slot in the end of a dowel to hold the abrasive (*Photos 5, 6*). Do not put your finger and sandpaper into the spinning tube, as this is a dangerous practice.

Mark off about $\frac{3}{4}$ " (19mm) for what will be the top end of the tube (*Photo 7*). A spindle gouge works well for shaping this top section before parting off the inner tube. *Photo 8* shows a small bevel, to a cove, to a bevel, and

a slightly domed or rounded end, but you can use any design you like here.

Turn the outer tube

To form the outer tube, drill a $1\frac{3}{16}$ " hole in the remaining blank to a depth of at least $2\frac{1}{4}$ ". The inner tube should fit smoothly into this hole and go all the way into the hole up to the edge of the top. If the inner tube does not slide in far enough, drill the hole in the outer tube a bit deeper.

You can finish-turn the top of the inside tube using the outside tube as a jam chuck. If the fit is too loose, wedge

it in with a piece of paper towel or wax paper (*Photo 9*). I used a spiral tool to decorate the top and filled in the lines with gilt cream.

You are now ready to turn the outside of the outer tube to your desired shape and diameter. I put the inner tube back inside the box so I can turn the bottom to be symmetrical with the top (*Photo 10*). Part off the outside tube.

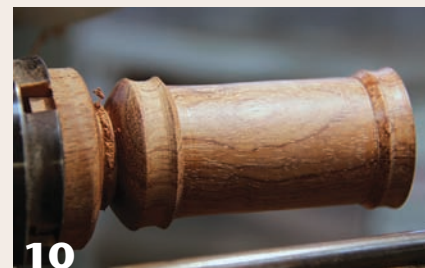
Other steps

Now make a $\frac{3}{16}$ "- (5mm-) long tenon on what is left of the blank still in the chuck. This tenon will become the ▶



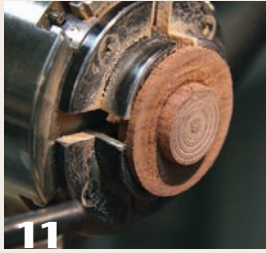
9

Use a hole drilled into the outer tube as a jam chuck to hold the inner tube for finish-turning its top. If the fit is too loose, add a layer of paper towel to take up the extra space.



10

Turning the outer tube with the inner tube inserted provides a visual comparison of decorative elements.



11 Form a bottom for the inner tube by creating a short tenon on the waste material, gluing the tube onto the tenon, and then parting the tube off. This creates a closed inner tube.

14 Carefully apply the inner tube to a drum sander to create the box's opening.

15 Jam chuck the outer box onto a waste block tenon to finish-turn the bottom.



16 Drill holes near the edge of both tubes to accept recessed magnets, which provide a hidden method of holding the box closed.

17

18 A small crystal recessed into the top and aligned with the box's opening serves as a decorative reminder of the tube's orientation.

bottom of the inner tube. Glue the tube onto the tenon. When the glue has cured, part the tube from the waste in the chuck and you have a closed tube (Photos 11–13).

To make the inside tube a box, form an opening by holding it against a sanding drum. Extend the opening to about halfway through the tube (Photo 14).

Make a jam chuck to finish-turn the bottom of the outer tube. I finished this part the same as I did the top of the inner tube—by decorating it with a spiral tool (Photo 15).

Add magnets

I use two small rare earth magnets to hold the box closed. The magnets I use are $\frac{5}{16}$ " (8mm) diameter and about $\frac{1}{16}$ " (2mm) thick, so I drill $\frac{5}{16}$ " holes slightly deeper than $\frac{1}{16}$ " to recess the magnets in the tubes (Photo 16).

I intentionally position the magnets at the edge of the inner and outer tubes because when you twist the box slightly, the two magnets will repel and push the box open. After determining the orientation of the inner and outer tubes, I use a piece of blue tape to mark the edge on the outer tube where I need to drill the hole for the inside magnet (Photo 17).

If the fit is smooth and snug, you may not need magnets to keep it closed, but you don't want it so tight that you have to struggle to open it.

the top of the inner tube so the purse box owner can quickly identify the orientation of the box opening. This prevents someone from spilling the contents when sliding the box open. I used a $\frac{7}{32}$ " (6mm) drill bit to slightly recess a decorative crystal (Photo 18).

The only thing left is to finish your box. For this purse box, I used a buffed wax finish. If you made a friction-fit box, be careful when finishing. A couple of layers of lacquer might make the box too tight.

Voilà—a finished product. Although there are a number of steps, this project can be made relatively quickly, and the variations on design and finish make each box unique. ■

Walt Wager, a former university professor and industrial arts teacher, joined North Florida Woodturners and the AAW in 2002. He lives in Monticello, Florida, and is the Studio Coordinator and resident instructor at Camelot's Woodworking Studio at King Arthur's Tools in Tallahassee. Walt's work can be viewed at waltwager.com.



Indicate the opening

I like to put a small jewel in