

OT

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American Association of Woodturners

Ornamental Snowflakes

By Jon Magill



With the help of a jig, you can create a blizzard of creative ornaments.

Ornamental turning, or OT, rarely appears in the same sentence with “production work.” Yet here is a production technique that will allow you to create multiple ornaments relatively quickly and easily.

The foundation of this particular technique rests with the jig (really just a socket) into which you place a blank for cutting on one side. It’s easy to reverse the blank and then cut a pattern on the other side. The result is a simple-to-make, two-sided ornament. Or in this case, you can turn a collection of thin snowflakes.

Make a socket

Begin by making the socket itself out of a piece of ¼”-thick hardwood. Rough-cut the wood into a disc appropriate to grip in your chuck. Drill a hole in the center of your disc to allow mounting onto a wasteblock with a central screw and a fender washer (or use your tailstock). Once mounted, true the outer edge to a diameter that will work with your chuck jaws. Cut a tenon about half the thickness of the disc to grip with the jaws. Leave a shoulder to register against the face of the jaws.

Transfer the disc to your chuck with tower jaws and cut or drill through the center to open up the middle of the disc.

Move the chuck and jig to the rose-engine lathe (see Spring 2007 *American Woodturner*). Before you start cutting, a few simple steps will help avoid some of the obscure pitfalls that could prevent your jig and blanks from mating.

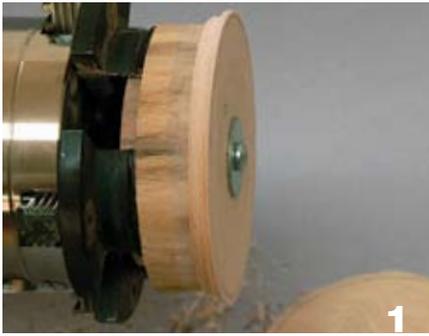
First, ensure that your headstock is oscillating about a vertically centered position (swinging the same distance toward you and away from you as it rotates). Second, check that your cutting frame is set exactly at the correct center height. If either of these is not done, there will be distortions in your pattern—both the hole in the socket and the outside of the blanks. These distortions may prevent your jig from holding the blanks.

Finally, make sure that your slide rest is perfectly parallel with your lathe’s headstock. You can do this by holding a straightedge against the headstock and along the edge of the long portion of your slide rest. This adjustment will keep your jig and blanks from being cut at a tapered angle.

Using a horizontal cutting frame, or HCF (see “Cutting Frames,” Spring 2008 *American Woodturner*), open up the socket in the disc to a size appropriate for your final ornaments. The tower jaws allow the head of the cutting frame to pass completely through the disc, creating parallel sides without hitting the inside of the chuck. If you do not have tower jaws, you will need to devise an alternate technique.

The final size of the cut-through opening should be slightly smaller than the stock size you plan to use for your ornaments. Stock in the 2”-to 3”-diameter range seems to work well for this project.

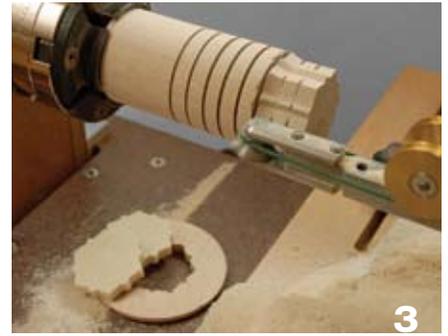
Mark your disc at each edge of the #1 jaw on your chuck. Remove the jig and sand if necessary to clean up the front and back faces of the disc. Then make two small blocks to span the opening, leaving a space through the center, and glue these to the inside of the disc. (Hotmelt adhesive is perfect for this application.) Make sure the blocks are small enough to clear the inside edges of your chuck jaws. These blocks provide backing for the blanks when they are placed into the socket of the jig.



1 Using wasteblock and 4-jaw chuck secured to a wood lathe, cut a tenon and leave a shoulder on the 1/4" disc for the jig.



2 Using a horizontal cutting frame and holding the disc in lower jaws, cut the socket all the way through the disc to make the jig.



3 Cut along the outside of the cylinder to create the end-grain blanks that will be sliced off. Check the fit by sliding the jig onto the cylinder.



4 Two jig discs and several blanks are ready for rose-engine detailing. Blocks glued to the back of the lower jig provide backing and allow reversing the blanks.



5 Mark the jig on the inside, indicating the left and right edges of the #1 jaw of the chuck. The shoulder and tenon on the disc work as normal.



6 Make a series of cuts, adding phasing for interest, across the first face. Reverse the blank and cut the other face to finish the ornamental snowflake.

Prepare your blanks

Prepare some blanks using spindle-oriented stock. The goal is to end up with slices of end-grain material for your blanks. True up cylinders to slightly larger than the outside diameter (OD) required, with a tenon on one end. Good choices if you are making snowflake designs include white woods like holly and hornbeam, or alternative materials like faux ivory. Any wood that can be painted is fine too. Acrylic interference medium paints in reds and greens, over a coat of white, add a nice holiday sparkle.

With a cylinder mounted in your chuck (**Photo 1**), mark off thicknesses (1/4", or the same thickness as your disc) and use a thin parting tool to cut grooves slightly deeper than the "peaks" will be (otherwise the peaks may be damaged when separating

each blank off the main cylinder). Move the cylinder to the rose-engine lathe and cut the outside profile by slowly feeding into, and then along the length of, the cylinder (**Photo 2**). Keep your jig handy to check for fit as you work down to the final diameter. Remove the stock and slice off the individual blanks using a bandsaw, handsaw, or parting tool (**Photo 3**).

Turn a snowflake

Using a couple dabs of hotmelt adhesive, mount a blank into the socket (**Photo 4**). Mount the chuck that holds the jig onto the rose-engine lathe. Place the disc into the chuck and align your #1 jaw marks (**Photo 5**). Make a light cut around the periphery of the blank, then stop the lathe and cutting frame, and check that the "points" of the snowflake are aligned with the jig's points (**Photo**

6). If adjustment is necessary, open the chuck slightly to rotate the disc as needed, then retighten.

Proceed through a sequence of cuts on one face, remove the jig, and use your thumbs through the back of the disc to pop out the blank. Reverse the blank into the jig with another couple drops of hotmelt glue and cut the second face.

For the truly adventurous, piercing all the way through the center portion of your ornaments creates an even more delicate version of these snowflakes.

Drill carefully to add hangers or thread to display your new batch of snowflakes on the tree.

Send feedback, questions, and suggestions to jon@magill.com.