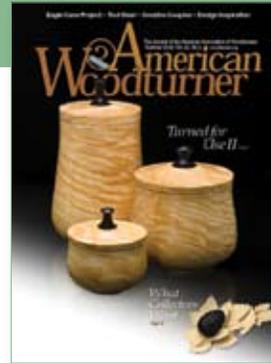
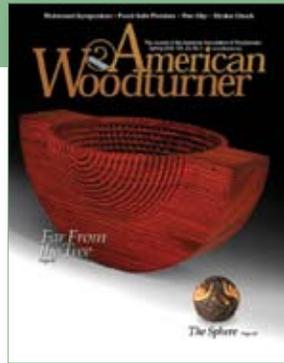
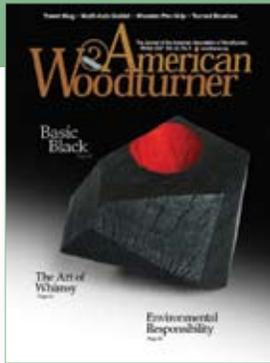


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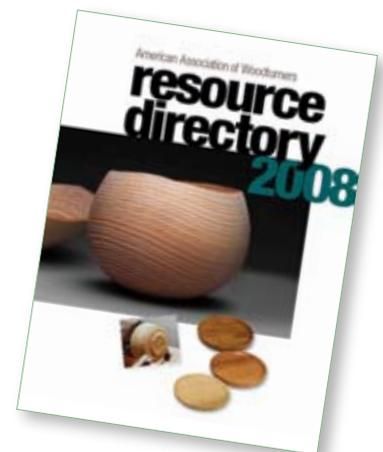
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A variety of basic tree shapes provides plenty of creative variations to these ornaments turned on three eccentric positions.

Usually, I remember where I found the idea for a project. But this time, I don't. I started working on eccentric trees right after turning a batch of "North Coast" trees that Bob Rosand described in the Winter 2007 issue of the journal.

These are quick and inexpensive to turn from construction-grade lumber (unless you're trying to take the ornament upscale). They're easy to turn if you're comfortable with a skew and off-center mounting, and are good practice if you're not. If you're truly terrified of the skew you can use a different tool, although it will be slower.

Here's a quick overview of the turning steps: Mount the ornament between centers and turn a tree shape. Then mount the tree with the base slightly offset (eccentric) at three equally spaced intervals to create "branches." After accenting the branches with acrylic paint, re-chuck the ornament, clean up the tree profile, and turn the angel top and base.

You could turn the entire tree between centers, but I find it easier to do the last turning with the ornament mounted in a chuck. This allows me to finish, drill, and sand the angel's head on the lathe.

Get started

For turning tools, you'll need a 1" skew, a $\frac{3}{4}$ " spindle roughing gouge, and a parting tool.

To make the best use of your time (unless you're making a big batch of ornaments) it helps to easily switch to the off-center positions without removing the chuck. I use a homemade drive center that mounts in my Beall collet chuck.

For the tailstock, it's nice to have a center that will limit penetration

Eccentric Trees

By David Reed Smith

and avoid splitting the stock. I used a washer, but there are other ways. (For a discussion of methods for chucking and tailstocks see my website at davidreedsmith.com.)

For turning stock, construction-grade pine or Douglas fir is ideal because it's light and inexpensive. For the first project, create a 1½×1½×6" block.

Turn the tree

Allow a generous extra amount for mounting a tenon in the chuck and a nub at the tailstock end that won't tend to split.

Take the time to make a clean crosscut on at least one end of the turning square, as it's easier to mount to a center you can see. Mark the center of the square at both ends. Dimple the mark with a center-punch to help you find the mark on the lathe. On the tailstock end, draw three equally spaced lines radiating from the center mark (Photo 1). Then make a mark on each line equally spaced from the center. (After you turn your first tree, experiment with different distances to find what looks best to you; ⅜" is a good distance to start with.) Mark each distance with a centerpunch.

Mount the turning square between centers and use a spindle roughing gouge to reduce the square to a cylinder. Use a parting tool and calipers to size a tenon at the headstock end that will fit your chuck. Make another cut with the parting tool to mark the base of the tree. With a spindle roughing gouge or skew, reduce the full tenon to the marked diameter.

With a spindle roughing gouge, reduce the diameter at the tailstock end to a little more than the diameter of the finished finial (about ½"). Define the bottom of the finial with a parting tool or skew cut. Allow

a generous extra amount for a nub that won't split (Photo 2).

Now shape the tree with a ¾" spindle roughing gouge. Pick any simple shape that you like. I think the trees look equally attractive with a straight, convex, or concave profile. It's a good practice to skim the surface with a skew.

With a pencil, mark off intervals for the branches (Photo 3). You can use regular or graduated intervals; just don't make them random or much less than ¼" apart. (Experience has taught me that the trees look better when the branches are marked.)

Go eccentric

At the headstock end, remount the blank at one of the offset locations. Leave the tailstock at the same center, which will make the branches taper near the top. This also reduces the likelihood that you'll accidentally part off the top of the tree. Normally a 2-prong center is best for offset turning, but since the shift is small and pine is soft, a cup drive works fine. Rotate the lathe by hand to make sure the tree clears the tool rest.

Use your skew to make a V-cut at the branch location marked closest to the bottom (Photo 4). Keep the side of the cut at the tailstock side more or less vertical. Cut until it looks like you're cutting as deep as the ghost image. You actually cut about two-thirds of the way around the tree, which has a pleasing appearance. If you do end up cutting deeper than you planned, make adjustments during the last turning.

If you're uneasy about making V-cuts with a skew, you can create the V-cuts with a spindle gouge. Roll the gouge so that the flute faces straight to your right. Hold the gouge so that the axis of the shaft points straight to the axis of the ornament, point the



1 With a centerpunch, mark offset centers on the headstock end of the turning square.



2 Rough-turn the shape and add a 1" finial at the base and top of the tree.



3 Mark the branch locations at roughly equal intervals. You don't need the precision of dividers, but don't be random.



4 To make a V-cut with a 1" skew, use an underhand grip with your index finger hooked under the tool rest to anchor your hand.

bevel of the gouge where you want to go, and push in a little bit. Roll the gouge over so it points straight to your left and aim the bevel to about where the last cut ended up and repeat until the V-cut is as deep as you like. Practice this first on non-offset work.

Now skip two lines and cut a V-cut at the fourth line. Skip two more lines and make a V-cut at the seventh line, and continue in the sequence until you reach the top of the tree. Stop the lathe and have a look at the Vs to make sure they're cut cleanly.

For expediency, leave the V-cuts unsanded, as it's difficult to sand well with a constant air/wood transition. If you are compelled to sand the V-cuts, make a sanding aid by cutting a length of wood to a triangle the width of your V-cuts. With a spray adhesive, adhere sandpaper to the stick. Then use a back-and-forth motion to sand one side of the V. Flip the tool over and sand the other side.

Remount the ornament at another offset axis. Check again to make sure the ornament doesn't hit the tool rest. (Make sure you really did pick an unused axis, not the one you selected earlier.) Make a series of V-cuts at the second, fifth, and eighth lines until you again reach the top of the tree. Then remount the ornament on the last axis and cut on the remaining lines.

Add color

Remove the ornament from the lathe and set up a painting station. You'll need a clear sealer to keep the paint from wicking into unwanted areas. (Choose clear spray paint, spray lacquer, shellac, or sanding sealer.) Be sure to seal the walls of the V-cuts. Allow the sealer to dry.

After the sealer dries, paint the inside of the V-cuts with green

acrylic paint. Neatness doesn't count as you'll be turning away excess paint. Allow the paint to dry.

Remount the ornament in your chuck. Bring up the tailstock for additional support. Use your skew to skim the tree to remove paint and pencil lines. Stop the lathe to make sure you've removed all marks and excess paint (Photo 5).

Turn the angel

Reduce the finial area to the maximum diameter and height of the angel, leaving a nub for continued tailstock support. Use a $\frac{1}{4}$ " spindle gouge to turn her head and shoulders/wing tops. Undercut the wing/shoulder area about $\frac{1}{32}$ ".

Use a $\frac{1}{4}$ " or $\frac{1}{2}$ " skew to make an undercut V-cut to define the bottom of the wing. Then turn the bottom of the angel's dress, blending it into the V-cut at the bottom of the wing. Turn a shallow cove with a spindle gouge to add some character to the wing (Photo 6).

With a parting tool, reduce the trunk to final diameter ($\frac{3}{8}$ " to $\frac{1}{2}$ "). Take a finishing cut on the trunk by using the parting tool like a skew, or use a small skew or spindle gouge. Clean up the bottom of the tree and the top of the base with a skew (Photo 7).

Finishing details

Sand the ornament with progressively finer abrasives, starting with a grit appropriate for the surface your tooling left. With sanding out of the way, remove the nub at the head and sand the top of the head.

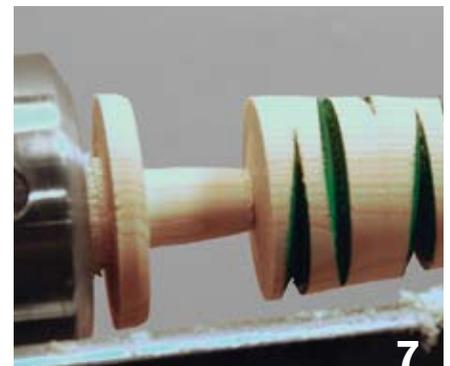
Use the tailstock to dimple the head to drill for hanger/halo mounting. Then use a #55 bit to drill the hanger mounting hole. (Jump ahead to creating the halo and make a sample so you can measure the appropriate drill diameter.)



Skim the surface of the tree to remove excess paint and pencil lines.



Shape the side of the wing by cutting a shallow cove.



With a skew, clean up the surface of the trunk and base.

If you're turning a batch of ornaments, save some time by mounting the drill in a pin chuck. Then instead of swapping out the tailstock for a drill chuck, back off the tailstock, mount the tail of the pin chuck on the tailstock, line up the drill point, and then advance the tailstock while holding the pin chuck in place by hand. Part the ornament off at the base. Use a drum or disc sander to sand the bottom of the base flat.

Pick whatever part of the ornament looks best to you as the front and use a drum sander to sand the front of the angel almost flat. Don't sand into the tree, and stop short of the halo mounting hole in her head.

Apply the finish of your choice (I prefer lacquer or clear gloss paint).

To make it easier to hold the ornament during spraying, I find bamboo skewers (available in kitchen shops) are ideal (**Photo 8**). Measure the diameter of the skewer and use a drill of that diameter to drill a hole in the center of the base of the ornament.

Prepare a drying stand by drilling slightly larger holes in a scrap piece of wood—size the wood piece to accommodate all the ornaments in your batch.



8
Using a bamboo skewer to hold the ornament, spray a clear finish to the tree.



9
To form a halo/ornament hanger, twist 22-gauge wire around the shank of a 1/4" drill.

Hold on to the skewer with one hand and spray the can of finish with the other. You can turn and angle the ornament with the skewer until the finish has been applied to the whole surface (even the bottom). Then set the skewer into the holder until the finish dries. Apply another coat if needed.

Angel needs a halo

Bend a halo/ornament hanger from wire. Select something smooth and round to match the desired diameter of the halo. (I use the shank of a 1/4" drill.)

Cut a short length (about 2") of 22-gauge brass wire and clamp both ends in a vise. Insert the rod into the loop and turn the rod until the wire is twisted into a tight spiral. Unclamp the vise to remove the wire and slide the loop off the rod. Bend the spiraled wire so it angles below the center of the loop (**Photo 9**). At the point of the wire directly below the center of the loop, bend the spiral wire so it points straight down.

Trim the wire to length with wire cutters. Apply some cyanoacrylate (CA) glue to the tip of the spiral wire and insert the wire into the hole drilled in the angel's head. If you want to hang the now-finished ornament you can loop a hanger wire around the base of the halo.

Starting with the basic ornament you can make many changes, such as leaving off the base, changing or omitting paint, or changing the finial. Some of these are discussed in the Variations sidebar on my website.

Basement woodturner David Reed Smith (David@DavidReedSmith.com) lives in Hampstead, Maryland. He is treasurer of the Baltimore Area Turners.

Limited Penetration Tailstocks

MODIFIED POINT

Most commercially available tailstock centers are suboptimal for small work in soft wood because a cup center is too large and a point center tends to split the wood. One way to solve this problem is to shape your own center with a finer point and flat area to limit penetration.

Early Oneway live centers use a tapered dowel pin as the center pin. You can take the center to a well-stocked hardware store and find a tapered dowel pin that fits and has the amount of extension you want. Mount the new dowel pin in the tailstock and then mount the tailstock in your headstock.

Find a rod or nail about the diameter of the tailstock knockout pin and insert it in the live center cross hole to lock the tailstock. Tape the pin in place. Turn on the lathe at a slow speed and file the point however you like.

Newer Oneway tailstocks use a #0 Morse taper as the center pin. You can do the same thing if you can find a suitable pin. An Internet search convinced me it would be easier to make a pin. Chuck a 3/8" rod on your lathe and file until it matches the taper of the pin that came with the chuck. Then mount the new pin in the tailstock center and shape the point.

WASHER

A V-point tailstock and a small washer provide a low-tech solution. If you get tired of chasing the washer across the shop, glue it in place with CA glue.



After filing a tapered dowel pin into a limited penetration center.



Use a small washer to prevent the tailstock from penetrating too far and splitting the soft pine.