

## Octagonal porch posts

I've always been intrigued by octagonal posts, especially when they start square, turn into an octagon, then turn back into a square. When the octagon tapers as it rises, the fun really begins. I've made tapered octagonal posts in all sizes, from massive posts that hold up timber-frame barns to octagonal newel posts on stairways and porch posts (photo right).

### Story pole for consistent layout

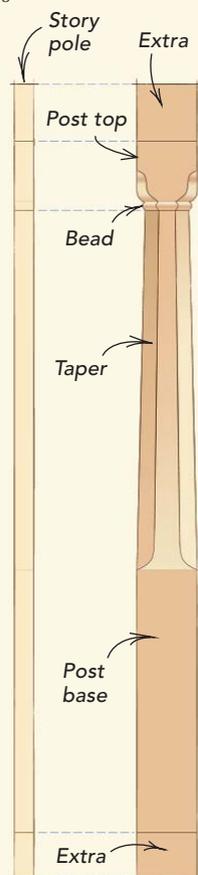
Because octagons are formed from a square, I take great pains to square the posts before I start. To lay out the length of the octagon and the size of the top block (capital) and the bottom block (base), I work from a drawing of how the posts will be used. I'm careful to include details, such as the height of handrails that intersect the posts.

From the drawing, I make a story pole that shows the top and bottom of the octagon, the size of the top block, and the width of the decorative octagonal bead at the top of the taper (drawing right). The story pole ensures that the details on all the posts will be identical.

### Router sleds for quick tapers

The first step is tapering the four sides of the post. After squaring the layout lines to all four sides, I lay out the four-sided taper. On these posts, each side tapers  $\frac{3}{16}$  in. A router riding on simple sleds is the safest, most accurate method for cutting tapered surfaces. I chuck a sharp  $1\frac{1}{4}$ -in. straight-flute bit into the collet of a router outfitted with a wide aluminum base. Aluminum is lightweight and stable, and it stays flat much better than wood.

A strip mounted on the lower end of the sled raises the rails so that the taper begins flush with the post face at the lower end.



A story pole with all the locations of all the key points makes layout quicker, and it keeps layout consistent from post to post.



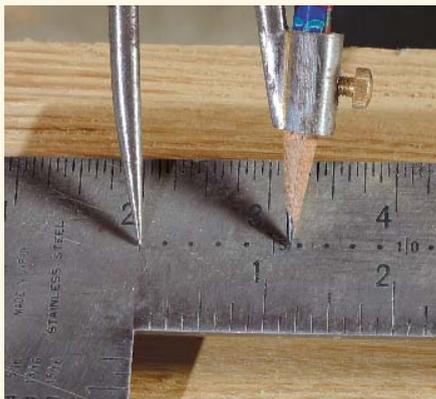


**Flat sides are tapered first.** A simple sled with the lower end elevated the depth of the taper guides a router equipped with a wide aluminum base for accuracy and stability.



**Angled sled turns four sides into eight.** A sled similar to the first, except that it's equipped with 45° angle blocks, directs the router to cut the angled sides of the octagon.

## OCTAGON LAYOUT



**So that's what those little marks are for.** First, set the dividers on the framing-square octagon scale to the width of the post, in this case 5½ in. (photo top). Next, mark the center of the post at the bottom of the octagon (photo center). Swing the dividers on both sides of the centerline for the corners of the octagon (photo bottom). Repeat this layout process on all four sides of the post.



Each face of these octagons tapers ⅜ in. from the bottom to the top, but because the stops at the end of the sled are placed farther back to include the width of the router base, I use a shim strip that's slightly thicker than ⅜ in. Marks on the sled index the sides to the layout lines I drew on the post earlier.

### Two ways to calculate eight sides

To figure the width of each side of the octagon at the bottom of the taper, I use the octagon scale on my framing square (photos left). I transfer the octagonal layout lines to all four sides of each post. This step can be done before or after I taper the four sides.

When I've tapered the four sides of the post (photo above left), I calculate the sides of the octagon at the top of the taper. The octagon scale on the framing square is good only for whole inches (half-inches if your eye is sharp). Because the octagon at the taper's top is a fractional size, I lay it out using a calculator ("Laying Out Octagons," *FHB* #152, pp. 92-93). For accuracy, I use a combination square to measure from the edge of the post to the edge of the octagon instead of from the centerline out. I then draw the edges of the octagonal tapers with a straightedge to make sure my router cuts are right on.

The sled for the octagonal tapers has blocks mounted inside the rails that hold the sled at a 45° angle (photo above right). At the lower end, I attach the blocks to a flat strip the same thickness that I used to raise the flat sled. If I've done the layout and calculations properly, I can zip through the rest of the octagon without adjusting the sleds.

To cut the bead at the top of the octagon to the right thickness, I mark the height of the angled bead with a gauge block to match the height of the original bead (photo top left, p. 130). After resetting the router-bit depth and reindexing the sled, I use the



**An eight-sided bead as well.** A gauge block set at the proper depth marks the angled sides of the bead. The same angled router sled that cut the octagon is repositioned, and the depth of the bit is adjusted to cut the angled bead.



**Razor-sharp tools for hand-carved details.** To create the carved details at the top and bottom of the octagon, flat chisels pare down the convex surfaces (photo center), and a curve-bladed gouge shapes the concave surfaces (photo right).



router to cut the octagonal bead flat. I cut a kerf with a backsaw for the top of the bead so that it can curve back to the post.

### Aluminum flashing for lasting templates

At this point, the octagonal tapers should be close, and a sharp scraper takes off any router irregularities down to the lines I drew. In the past, I've made posts that transition directly back to the square top and bottom, but they have a clunky look to them. Instead, I prefer to ease the corners for a gentle transition. Different shapes yield different visual effects, but for these posts, I chose a modified lamb's tongue at the top and a plain curved runout at the bottom.

For consistency and durability, I cut templates from a rectangular piece of aluminum flashing folded in half lengthwise ("Trick of the Trade," right). I draw the desired shape on the flashing and cut it out with tin snips. A file fairs the curve to the exact line. I now have a template that not only will last for these posts, but that I'll also keep in case I need the same shape for posts or beams in the future.

### Sharp chisels and gouges shape the corners

Wood-carving is a Zen kind of experience for me and one of my favorite things to

do as a timber framer. Razor-sharp chisels are really extensions of my hands. When the time comes to create the shapes such as the lamb's tongue or the bead, I pull up a stool (to put me at the right working height), then take my time and enjoy the process of seeing shapes emerge in the wake of the blade.

Regular flat chisels work great for paring down convex surfaces, and curve-bladed gouges work the concave areas (center and right photos, above). I cut the curve from

one side, then move my stool and work from the opposite side. When carving the round profile of the octagonal bead, I work both edges in toward the center. Where adjacent bead sections meet, I draw a line up from the corner of the tapered octagon below. When the shape is right, the line should continue straight through the bead.

*Timber framer Rob Turnquist is a principal of New England Barn Company in Gaylordsville, Conn. Photos by Roe A. Osborn.*

### TRICK OF THE TRADE



**TEMPLATES FOR SHAPES** such as this lamb's tongue are easy to make out of aluminum flashing. I fold the flashing in the center, draw the shape, and cut it with tin snips, using a file to smooth the edges. I hang on to templates in case I need the same shape in the future.

### Durable aluminum templates

