

Carving a Feather Pin

The subject of this demonstration is a set of feathers from a wood duck: a secondary flight feather and a sidepocket body contour feather. I selected these particular feathers for several reasons:

- ◆ to show the differences in structure between flight feathers and contour feathers
- ◆ to let you experience carving two types of wood (basswood and tupelo)
- ◆ to demonstrate two different painting techniques.



You will start this project from prepared blanks. On my blanks, I insert a toothpick or bamboo skewer for the end of the quill. This provides strength to the quill and provides greater realism in the finished product. The flight feather blank is basswood, the contour feather blank is tupelo. Basswood cuts well with hand tools, but leaves a fuzzy surface when worked with power tools, Tupelo cuts well with power tools, but tends to tear or crush when cut with a knife.

Feather Structure

Before you start the shaping process, you should be familiar with the differences in feather shapes and structures. The flight feather is stiff with a fairly thick quill, and has an S-shaped end profile. The contour feather is softer with a very thin quill. It is very flexible and molds to the shape of the body and the underlying feathers. Typically it has a cupped profile.

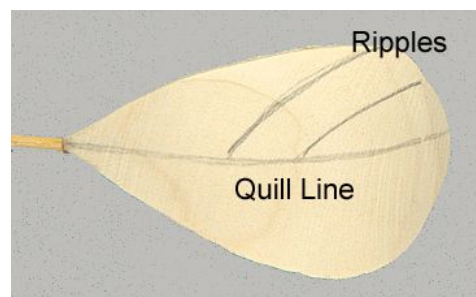
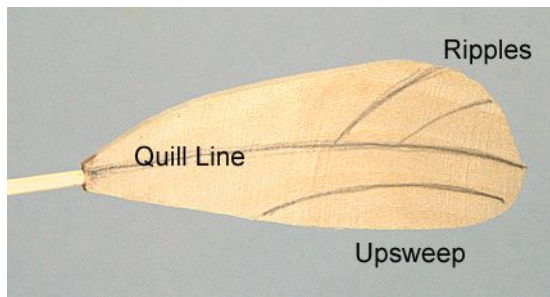


Preliminary Shaping

Taper the feather from the quill to the tip, making sure you have a smooth, curved transition. The middle of the feather should be about 3/16 to 1/4-inch thick. Leave 1/16-inch thickness at the tip.

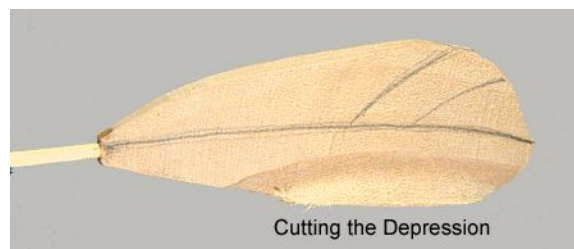


1. Before you shape the feather from side to side, sketch in guide marks to help you get the correct shape.
 - Draw in the quill line. This is the high point of the feather. You will round the feather from the quill line to each edge.
 - Draw the high points of any ripples you will carve into the feather. These are typically seen on the wider side of flight feathers or either/both sides of contour feathers.
 - For flight feathers, the cross section will be "S" shaped. Draw in the location for the depression of the upsweep.

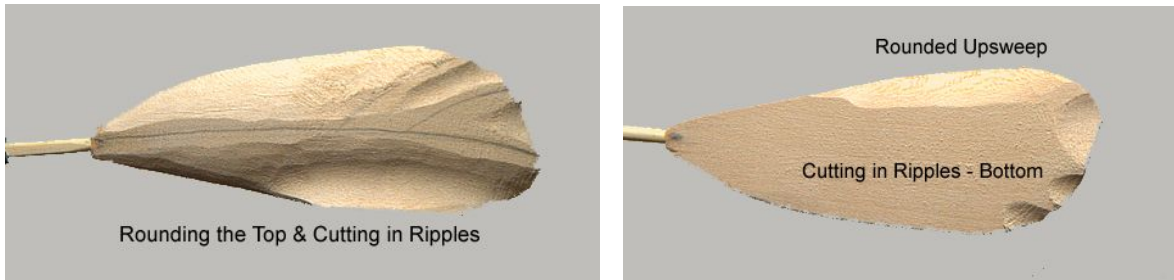


Shaping the Flight Feather

1. Using a gouge or sanding cylinder on a rotary tool, cut in the concave area of the upsweep. Round from the quill line to each edge, leaving 1/32-inch thickness at the edge, 1/8-inch at the location of any ripple edges.

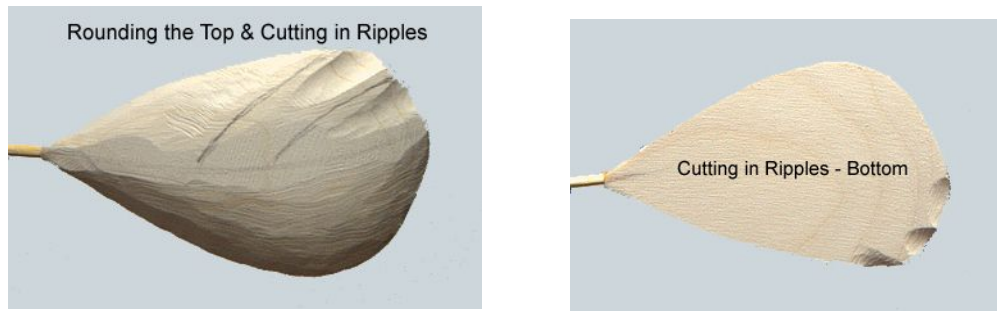


2. When you shaped the feather from side to side, you erased the ripple location marks. Sketch them back in. Cut the ripples into the feather surface (top & bottom) using a sanding cylinder/rotary tool or a rolled-up abrasive cloth. This completes the rough shaping of the flight feather.



Shaping the Contour Feather

2. For the contour feather, round from the quill line to each edge, leaving 1/32-inch thickness at the edge. Leave a greater thickness (about 1/8) at the ripple edges.
3. When shaping the feather from side to side, you erased the ripple location marks. Sketch them back in. Cut the ripples into the feather surface (top & bottom) using a sanding cylinder/rotary tool or a rolled-up abrasive cloth. This completes the rough shaping of the contour feather.

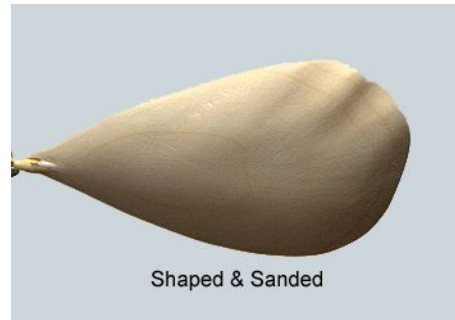
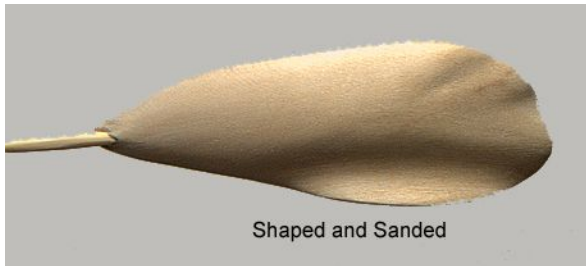


Final Shaping of Both Feathers

4. With a sanding stick, carefully shape the front of the barbules and the tip of the quill. On the example shown below, note how the barbules of the feather gradually slope down to the bottom of the quill.



5. Using rolled up pieces of abrasive cloth, refine the shapes of the flight and contour feathers.. Start with 120 grit cloth and work your way down to 400 grit. Sand until you have removed all the surface scratches and are satisfied with the shape of the feather.

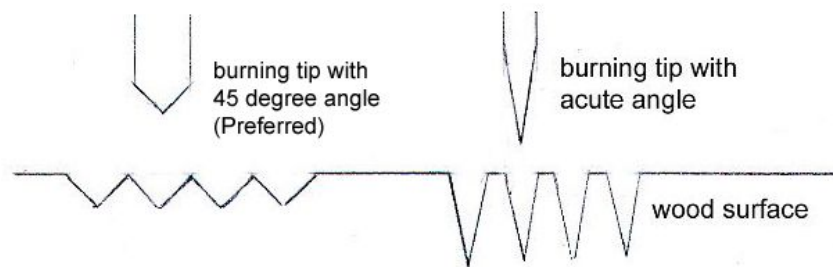


6. If using basswood, burnish the entire feather using a small felt wheel on a rotary tool. This removes any "fuzzies" prior to burning in the detail.

Burning

Texture is added to the feather using a heat-controlled burning pencil. For best results, here are some suggestions:

- ◆ Adjust the pen temperature so that the burning lines are very light in color. If the pen drags through the wood, the temperature is too cold; if the burn line is dark brown, the pen tip is too hot.
- ◆ Sharpen the cutting edge of the burning tip at an angle of 45° from vertical. This keeps the burn lines from being too narrow and too deep.



- ◆ Use magnifier glasses to help you keep your burning lines close together. Strive for 60 to 80 lines per inch.
 - ◆ Shine a light source from the side onto your feather to accentuate the highlights and shadows of your burn lines.
1. Lightly sketch in the quill of the feather. Starting at the quill end, burn in the two quill edge lines. If you are right-handed, burn in the left line first. With the flat side of the burning tool, you may want to "raise the quill" at the base of the feather by pressing down the wood on each side of the quill.



Note: After burning in the quill, and before burning in the barbules, I like to pre-seal the top side of the feather by brushing on a coat of shellac, mixed 50/50 with denatured alcohol (the commercial equivalent is KT Super Sealer). I feel that pre-sealing helps the burning tip to glide over the surface of the wood. The disadvantage to pre-sealing is that it gradually builds up a charred residue on the burning tip that must be removed periodically. If the pre-sealer raises the wood grain, burnish the surface of the feather again, using a felt wheel on a rotary tool.

2. Lightly sketch in the barbules at about 1/4-inch intervals. This will help you to maintain the proper angle when burning in the barbules. **The barbules curve back at about a 30 degree angle from the quill as shown below.**

Note: The most common beginner's mistake is burning in the barbules as straight lines at too shallow an angle, creating a feather that resembles an evergreen tree!



3. Burn in the barbules, keeping your lines as close together as possible. Strive for 60-80 lines per inch. If you are right handed, burn your lines from left to right, working counter-clockwise around the feather from the quill end. When burning a line, you want to see the lines previously burned.



4. If some of your lines are too far apart at the feather edges, you can correct your "mistakes" by burning in some feather splits.

Preparing the Feather for Painting

Spray or brush three or four coats of sealer over the entire feather, top and bottom, letting the sealer dry between coats. Krylon clear satin acrylic or Deft satin lacquer are both good sealers.

After sealing, I generally attach a 1 to 2-inch length of quarter inch dowel to the back of the feather to act as a handle for painting.