

The feel, grain, and color of the wood are strong factors in my final carving. When I carve found wood, the nature of the wood greatly influences the outcome. The challenge is to follow the grain with every component of the carving and to integrate the natural faults into the finished piece.

I usually make some part of the animal anatomically accurate. On this project, I decided to make the otter's head as accurate as possible. Search the Internet for reference material, such as photos of live animals and taxidermy pieces.

# **OTTER: ROUGHING OUT THE OTTER**



**Prepare the blank.** Choose a blank with enough curve and bulk for the entire otter. I select a large cedar branch. Avoid visible cross grain when possible. Glue a block to the belly area so you can attach the blank to a vise. Use a gouge to remove any surface rot or cracks.



**Rough out the otter.** Visualize the entire otter. Use knives, gouges, or your tools of choice to establish the basic shape. The piece of wood I'm using has a bump on the top left side that is perfectly positioned for a foot. Draw in the rough reference marks.



Remove wood from around the head and front feet. Use a gouge to remove the bulk of the wood. Use a stump cutter in a rotary-power carver in any areas where there is wild grain. Concentrate on establishing the basic shapes.



**Develop the proportions.** Sketch in guidelines for the back feet and tail. Rough out the head so it is in proportion with the body. Develop the carving as a whole; if you only work on the head, you may have to carve it again to fit the rest of the body.



Rough in the head. Otters have sleek bodies that flow from the nose to the tail. Mark the waste areas around the snout and eyes. Taper and shape the head with a pear-shaped stump cutter before carving any details to keep the otter's face from looking flat.



**Rough in the facial features.** When an otter is swimming, the nose leads the body. Keep this flow in mind as you sketch in the eyes and ears. Use your tools of choice to rough in these facial features, and then draw in the mouth and nose.



Rough out the hind legs. Use the natural form of the wood when possible. I form a protrusion that was formerly a small branch into the left downward pointing foot. I use a long tapered stump cutter to remove wood from around the right foot.

# **OTTER: REFINING THE BODY**



Separate the legs from the chest. Remove wood from the chest to raise the front legs and feet from the belly and chest. I position the feet to emphasize the swooping turn of the body. Use a small disc-shaped diamond bit to begin shaping the toes.



Refine the toes. Use a fine-grit tapered diamond bit to shape the toes. The toes are not side by side. Because of the twist in the leg, the toes are layered one on top of each other. Refine the paw and wrist area and add the inside elbow joint.



Shape the back legs and tail. Use a tapered stump cutter to shape the hind legs and tail. I add movement by forming one leg in a bent kicking position while the other leg is outstretched. Pay attention to the grain direction to avoid fragile areas.



**Refine the legs.** On a fast dive, both front legs are close to the body. Use a cone-shaped diamond bit to add separation between the front legs and body. Refine the shape of the back legs and tail with the same bit. Add the details to the bottoms of the back feet.



Add skin folds. Use a flame-shaped diamond bit and a razoredge riffler file to carve small grooves where the tail and legs meet. These exaggerated skin folds help define the muscles and emphasize the implied motion. Add a few folds on the back of the neck.

## **SETTING THE TOOL SPEED**

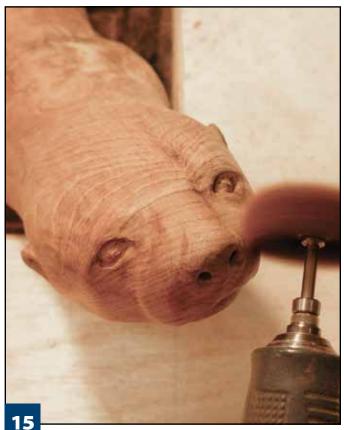
tips

Run the rotary-power carver at a medium to slow speed when carving cedar. Cedar has many hard and soft spots, and some pieces can be sappy. In general, the harder the wood, the slower you should set the tool speed. Bits will clog less when you run them at slower speeds.





Carve the eyes and ears. Use a cone-shaped diamond bit to cut in the eyes. Keep the side profile of the face in mind to prevent the face from looking flat. Cut deep eye sockets and round the eyes within the sockets. Then, finish carving the ears using the same bit.



**Finish the face.** Carve the nostrils and the mouth, which is open to bite the fish. Buff the otter with Scotch-Brite abrasive pads to give it a polished look even before you apply an oil finish.



**Sand the otter.** Use progressively finer grits of sandpaper up to 600 grit to remove all of the tool marks and scratches. A successful sanding job shows off the beauty of the wood and creates a reflective surface, accentuating the shapes.

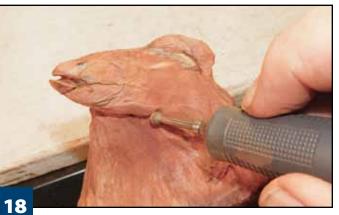
## **OTTER: ROUGHING OUT THE BASE**



Choose the base. I use a cedar tree root. Visualize how the otter will be positioned and attached. Select key areas to carve details, such as the fish. Use round carbide-point bits and stump cutters to remove any rotted or deeply cracked areas.



**Rough out the fish.** Remove excess wood to provide a stable base and carve the rough outline of the fish, following the natural curve of the grain. Leave extra wood around the fish to add the details, such as the fins and gills.



**Begin shaping the fish.** Sketch in the details and remove the excess wood around the fins. If the wood is hard, stump cutters tend to skip off of the wood instead of cutting. Use a diamond bit at a low speed to maintain control.

## **DUST CONTROL**

tips

When working with power tools, it's important to take preventative

measures to control dust. I cut a hole in the center of my work table for a 4" (102mm)diameter exhaust hose, which I have piped to a vacuum blower. A weather cover for a cellar window helps confine the dust to my workspace.





**Define the fish.** Decide on the type of fish—I chose a trout—and gather reference material. Add rough details with a tapered diamond bit. Use a tapered high-speed steel bit to remove wood from the back of the fish, but make sure the area is strong enough to support the fish.



Shape the area where the otter attaches to the base. Hold the otter in place and note any areas on the base that need adjusted. Use a ball-shaped stump cutter to shape the area on the base to accommodate the otter. Keep dry fitting the otter and base to make sure you create a smooth transition between the two pieces.

## **OTTER: SHAPING THE BASE**



**Rough in the rocks.** Use a medium- or coarse-grit tapered diamond bit to outline the rocks. Create random sizes and shapes. The rocks are not side by side, but piled on top of each other. Shape the base around the rocks to look like a sunken log.



**Undercut the rocks.** Use cone-shaped and tapered diamond bits to relieve the rocks and remove the background. Drive the bits in deep and taper the openings to round the rocks. Sand the carving to remove tool marks and check the flow of the piece.



**Add the plants.** Carve the area under the fish to look like swaying reeds. Pay attention to the grain direction. You may need to adjust the design to accommodate the grain. Use a tapered coneshaped diamond bit and a diamond disc.



**Shape the bottom of the base.** Flatten the bottom of the base with a belt sander. To add more drama to the carving, angle one side of the base downward. Then, pose the otter on the base to determine the best position to attach it.

# OTTER: FITTING THE OTTER TO THE BASE



Fit the otter to the base. Apply a coat of oil to the otter and position the otter on the base. Rub the pieces together lightly. The oil leaves a shiny spot on the base. Carefully remove wood from the base with a fine diamond bit until you are satisfied with the fit.



**Drill a support-pin hole in the base.** I use an old drill bit as the pin. Mark the area for the hole on the base. Dry fit the otter and transfer the hole location from the base onto the otter. Drill a 3/16" (5mm)-diameter hole, half the depth of the bit, at the correct angle in the base.

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**Drill a support-pin hole in the otter.** Place the pin in the base and determine the correct angle to drill the hole in the otter. Drill a ¾6" (5mm)-diameter hole, half the depth of the bit, in the otter. Wiggle the bit back and forth to make the hole slightly oversized so you can make final adjustments if needed.



**Make final adjustments.** After fitting the pieces, I didn't like the visual effect of the flat bottom. I created a footer from scrap wood. Carve large rocks on the footer with a medium-coarse diamond bit. Shape the footer to fit the bottom of the base and glue it in place. Carve rocks across the glue line to disquise the transition.

## **OTTER: FINISH CARVING THE BASE**



**Begin refining the fish.** Use a tapered carbide-point bit to remove wood from under the fish's belly. Use the same bit to expose the fins and begin carving the reeds that wrap around the fish. Use a tapered diamond bit to separate the reeds from the rocks.



**Remove the excess wood around the fish.** To create the illusion of a swimming fish, remove as much wood as possible around the fish. If you remove too much wood, the fish may break off. I place a grate over my exhaust hose to be safe.



**Refine the fish and reeds.** Use a tapered cone-shaped diamond bit to remove stock from between the reeds. Then, add the details around the mouth, eyes, and gills. Buff the fish with a Scotch-Brite abrasive wheel to remove any tool marks.



Add the final details to the fish. Use a fine-grit tapered cylinder-shaped diamond bit to cut the folds in the dorsal fin and tail. Work slowly and do not cut away too much wood. An error here would be difficult, if not impossible, to repair.

# **OTTER: FINISHING THE CARVING**



**Sand the entire piece.** Sand the entire piece with progressively finer grits of sandpaper. Sand to 400 grit in all areas and 600 grit in large smooth areas. Then, use Scotch-Brite pads in a rotary-power carver to sand the deep areas between the rocks and other tight areas.



Attach the presentation base. Cut a simple oval, aligning the grain to coordinate with the lines of the sculpture. Sand the edges and refine the oval with a belt sander, and then round the corners by hand. Sand the oval with progressively finer grits of sandpaper up to 400 grit. Glue the base to the presentation base.



**Apply the finish.** Over the course of two weeks, apply at least twelve light coats of Danish oil or your oil of choice. The first four coats seal the wood. Each additional coat begins to build on the surface. Brush the oil onto a small area and immediately wipe off as much as possible. Do this to the entire carving and allow the oil to dry for several days until you can no longer smell the finish. Do not sand between coats. Blacken the otter's eyes with a permanent marker.



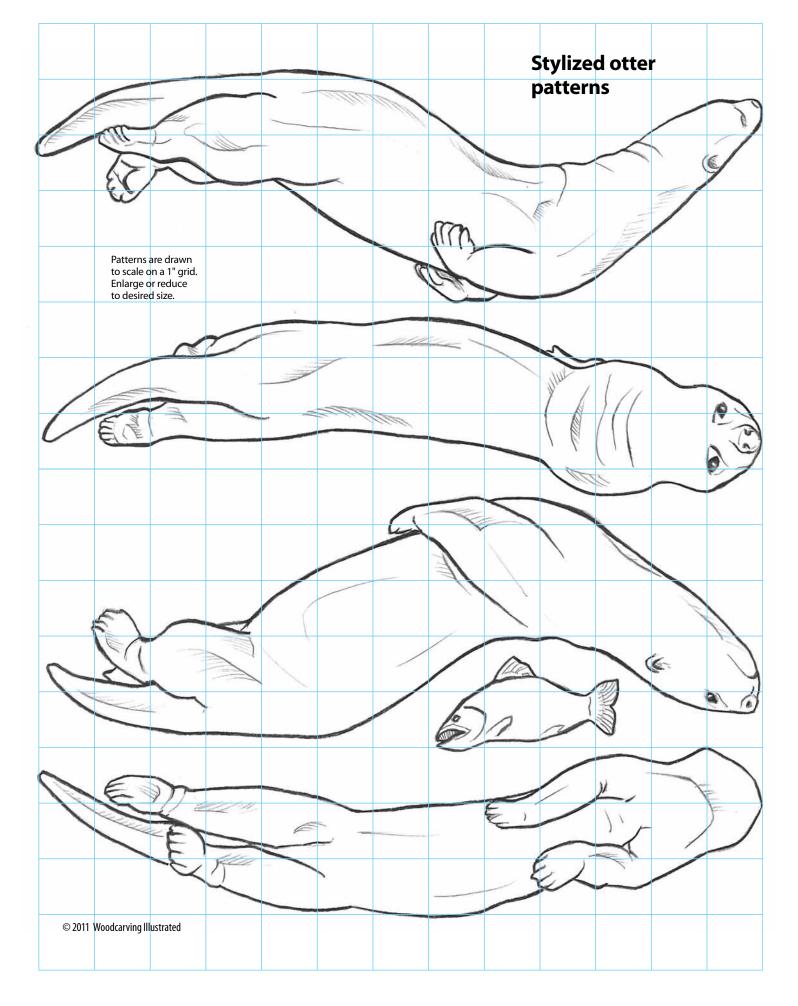
Attach the otter to the base. I drilled a second 3/16" (5mm)-diameter hole in the otter and base to prevent any movement during handling. Apply clear, two-part, fast-setting epoxy to the support pins and the holes in the otter and base. Place the otter in position and hold it in place until the epoxy sets.





# **Adjusting the Design**

After I finished the sculpture, I felt there was too much bulk in the base, which detracted from the focus of the main subject. I used rotary-power carving bits to remove wood in the rock area and create an opening. Then, I carved larger rocks that look less busy. I then sanded the adjusted section and re-oiled the area.



## materials & tools

## **MATERIALS:**

- 4" x 8" x 13" (102mm x 203mm x 330mm) cedar or cedar branch that matches the curve of the otter
- 4" x 8" x 16" (102mm x 203mm x 406mm) cedar (base)
- 3" x 5" x 11" (76mm x 127mm x 279mm) cedar (footer)
- ¾" x 8" x 12" (19mm x 203mm x 305mm) mahogany or wood of choice (presentation base)
- Five-minute epoxy
- Wood glue
- Cyanoacrylate (CA) glue
- Danish oil
- Assorted grits of sandpaper up to 600 grit

- Extra-fine Scotch-Brite synthetic steel wool
- · Black permanent marker
- Old 3/16" (5mm)-diameter bits (support pins)

### TOOLS:

- Gouges of choice. I use a mallet and several gouges to remove wood quickly; the shape isn't critical. Use the tools you have.
- Knives of choice. I use a bent knife and a few knives with curved blades to fit into tight areas.
- Rasps, micro planes, and rifflers
- Rotary-power carver or micro motor

- Carbide-point bits: tapered, flameshaped, and ball-shaped
- High-speed steel bits: ball-shaped, disc-shaped, and flame-shaped
- Stump cutters: large ball-shaped, medium ball-shaped, small ballshaped, pear-shaped, tapered, tapered cylinder-shaped
- Fine-grit diamond bits: ball-shaped, tulip-shaped, small flame-shaped, medium flame-shaped
- Mandrel to hold Scotch-Brite discs
- Brushes of choice (to apply finish)
- Drill with 3/16" (5mm)-diameter bit
- Belt sander



About the Author Sumner Misenheimer lives in Byfield, Mass., with his wife, Dorothy.

His father introduced Sumner to woodcarving as a youngster. After earning a journeyman status as a silversmith and silver chaser, Sumner opened his own printing business. The carver spends time in his shop every evening and sells his work to collectors. Sumner also takes commissions. For more of his work, visit www.wildlifeartisan.net.



woodcarvingillustrated.com

