



Whether called a “mantel” or a “fireplace surround,” the trim pieces and shelf that are arranged around a fireplace can make a bold design statement that turns a purely functional part of your home into a showpiece.

## Fireplace surround

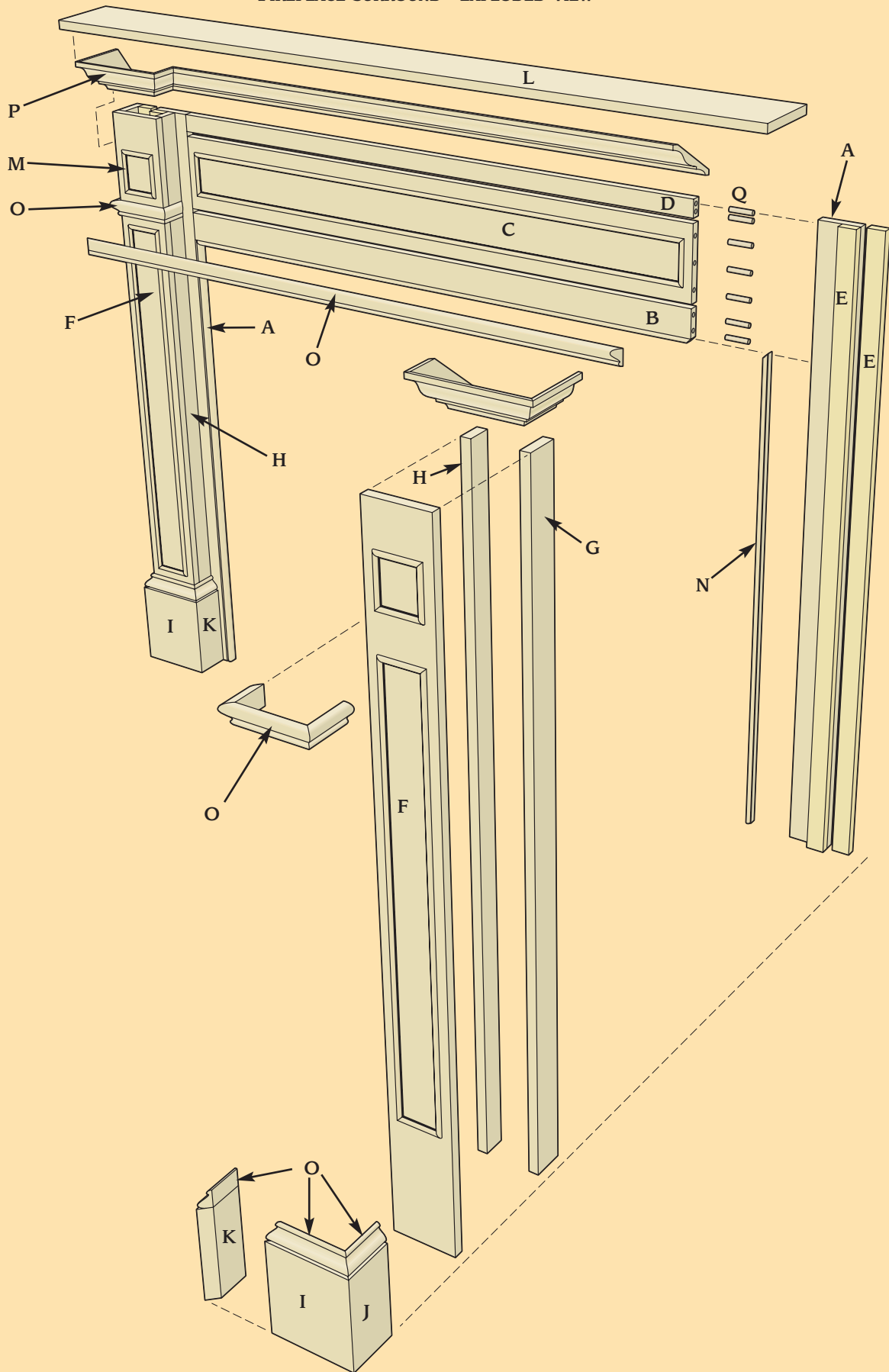
Nothing sparks conversation like a crackling fire. For those times when there’s no fire in the hearth, your fireplace can still be the focal point of the room if it’s outfitted with an attractive fireplace surround. Aside from adding visual appeal, you might also want to replace your existing fireplace surround if you’ve just installed new casings or wainscot and the fireplace surround no longer matches the wood type or style of the rest of the trimwork. The fireplace surround we’ll build on the next few pages is a project you can tackle with basic trim carpentry skills. You’ll also need a table saw, power miter saw, router table and a jig for drilling dowel joints.

A couple of quick definitions: All of the woodwork that surrounds the opening of a fireplace is considered the *mantel*—not just the ledge that runs along the top.

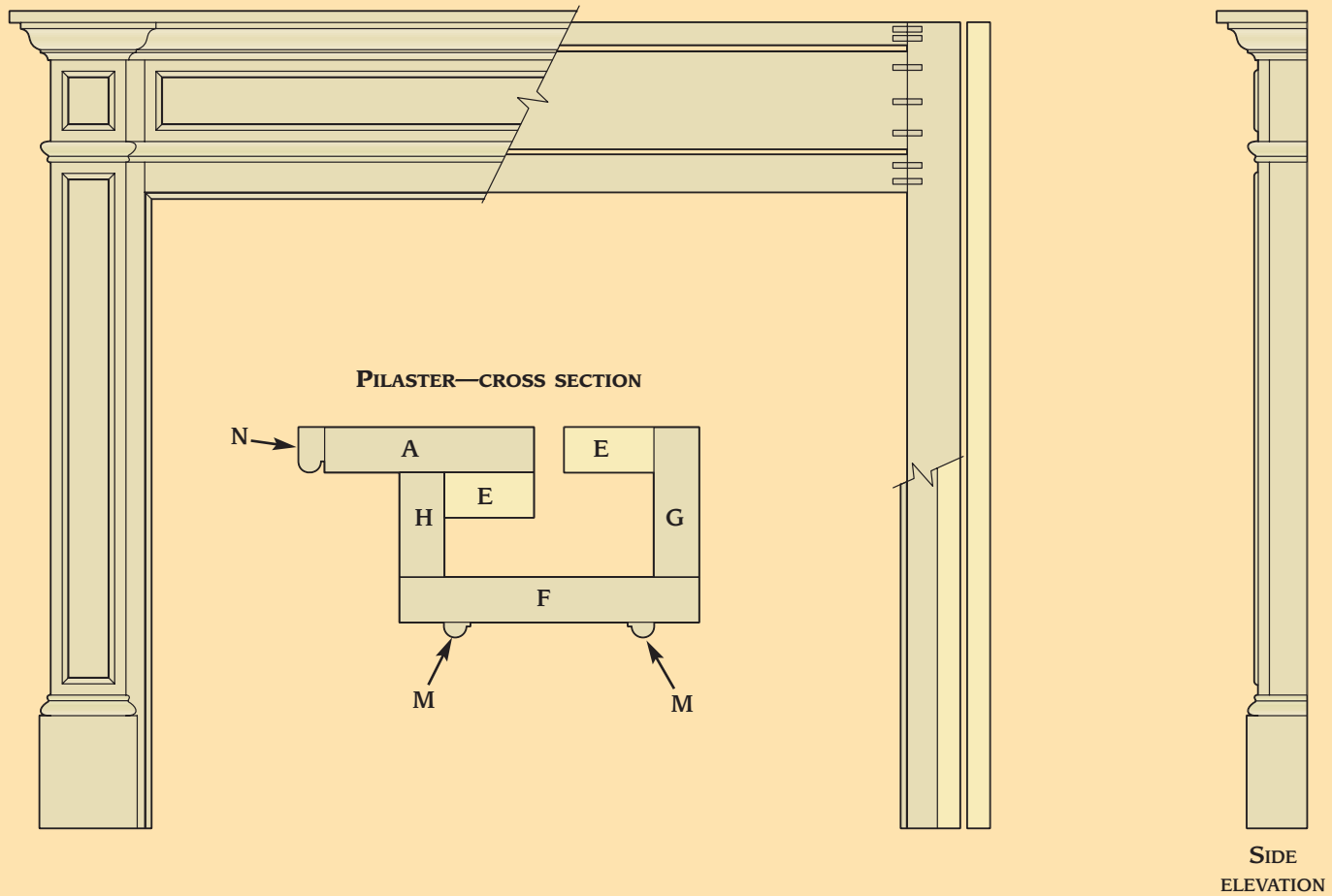
The vertical, column-like trim pieces on each side of the firebox are called *pilasters*, and the horizontal surface immediately above the firebox is the *frieze*. Notice in the surround featured here that the frieze consists of three rails. The reason for the gaps between rails is to provide room for the rails to expand and contract across the grain—especially the wide center rail.

If you build this surround according to the dimensions given in the cutting list, the opening will measure 42 in. tall and 50 in. wide. Adjust the part lengths as needed to suit your fireplace size. Be sure to check the building codes in your area to see that these dimensions conform to setback regulations for attaching combustible material around a fireplace. Usually, there needs to be 6 to 12 in. between the firebox opening and the surrounding woodwork. Codes may also specify how far the mantel shelf must be kept away from the firebox opening. This distance may vary, depending on the amount the mantel shelf overhangs the firebox.

FIREPLACE SURROUND—EXPLODED VIEW



FIREPLACE SURROUND—CUTAWAY



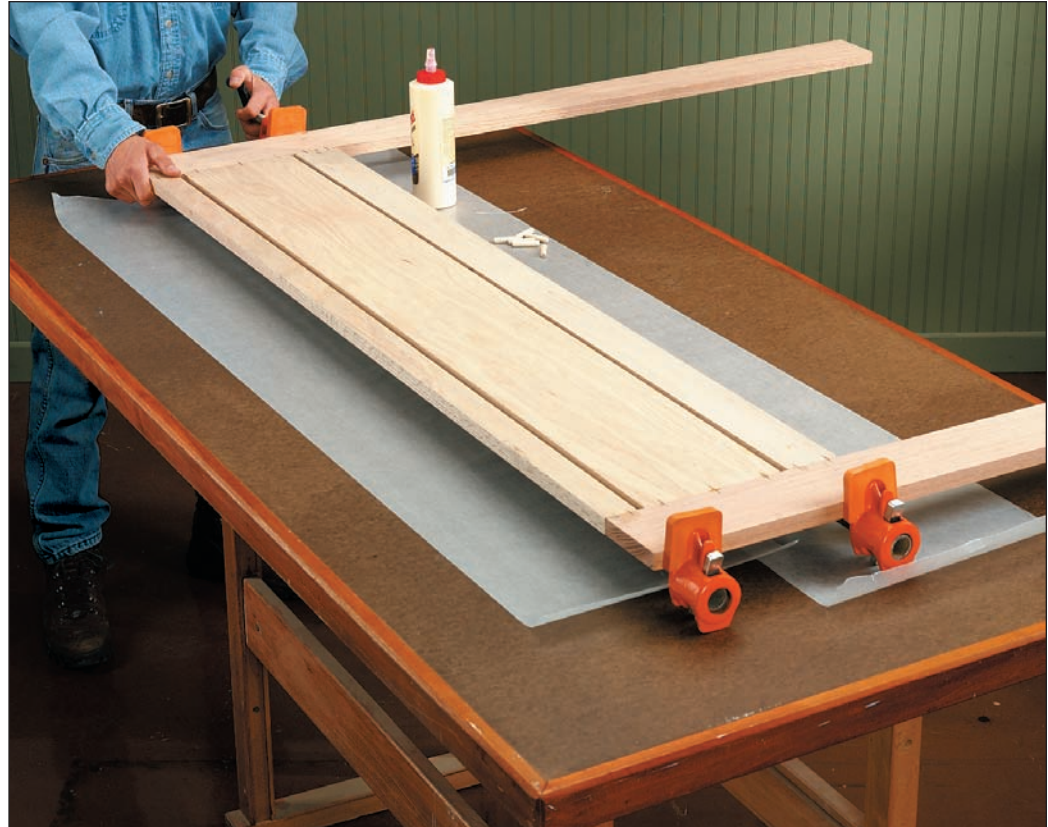
CUTTING LIST—Fireplace Surround

KEY	No.*	Description	Size*	Material
A	2	Pilaster backers	$\frac{3}{4} \times 3\frac{1}{2} \times 53\frac{3}{4}$ "	Oak
B	1	Frieze rail (bottom)	$\frac{3}{4} \times 2\frac{1}{2} \times 50\frac{7}{8}$ "	Oak
C	1	Frieze rail (middle)	$\frac{3}{4} \times 6\frac{1}{2} \times 50\frac{7}{8}$ "	Oak
D	1	Frieze rail (top)	$\frac{3}{4} \times 1\frac{1}{2} \times 50\frac{7}{8}$ "	Oak
E	4	Pilaster cleats	$\frac{3}{4} \times 1\frac{1}{2} \times 53\frac{3}{4}$ "	Pine
F	2	Pilaster faces	$\frac{3}{4} \times 5 \times 53\frac{3}{4}$ "	Oak
G	2	Pilaster outsides	$\frac{3}{4} \times 2\frac{1}{2} \times 53\frac{3}{4}$ "	Oak
H	2	Pilaster insides	$\frac{3}{4} \times 1\frac{3}{4} \times 53\frac{3}{4}$ "	Oak
I	2	Plinth faces	$\frac{3}{4} \times 6\frac{1}{2} \times 7\frac{1}{2}$ "	Oak
J	2	Plinth outsides	$\frac{3}{4} \times 4 \times 7\frac{1}{2}$ "	Oak
K	2	Plinth insides	$\frac{3}{4} \times 3\frac{1}{4} \times 7\frac{1}{2}$ "	Oak
L	1	Mantel shelf	$\frac{3}{4} \times 6 \times 68\frac{3}{4}$ "	Oak
M	30 ft.	Face Bead Molding	$\frac{7}{16} \times 1\frac{1}{4}$ " x various	Oak
N	12 ft.	Edge Bead Molding	$\frac{7}{16} \times 3\frac{1}{4}$ " x various	Oak
O	12 ft.	Panel Molding	$1\frac{1}{16} \times 1\frac{3}{8}$ " x various	Oak
P	8 ft.	Crown Molding	$\frac{9}{16} \times 3\frac{1}{4}$ " x various	Oak
Q	14	Dowel Pins	$\frac{3}{8}$ dia. x 2"	Hardwood

\* Length and quantity of parts depends on individual project dimensions.

## HOW TO BUILD A FIREPLACE SURROUND

**1** Rip and cross-cut the pilaster backers and three frieze rails to size. Attach the frieze rails to the inside edges of the two backers with dowels and glue. Lay out the parts so the top frieze rail aligns with the tops of the backers and there are  $\frac{3}{8}$ -in. gaps between the rails. Make the dowel joints by drilling  $\frac{3}{8}$ -in.-dia.  $\times$  1-in.-deep holes in the ends of the rails and the edges of the backers, using a doweling jig. The narrow rails should have two dowels per end and the wide rail should have three. Then, spread glue on the dowels and the mating surfaces of the rails and backer, and clamp the parts together on a large, flat worksurface. **NOTE:** When gluing up the wide frieze rail, spread glue only to the outermost dowels. Leave the outer edges dry to allow for wood movement.



**2** Install the frieze assembly on the fireplace wall. If your fireplace is surrounded by a wall with wood framing, locate and mark the wall studs first. Set the assembly in place so it's centered on the fireplace opening, and shim beneath the backers, if necessary, to level the top of the frieze. You may want to tape your level to the frieze for leveling to keep it from falling off as you work. Notice that the inside bottom corners of the backers will show once the pilasters are installed. If you've shimmed the assembly, use a compass to scribe the bottoms of the backers, then trim them so the frieze assembly stands level and tight to the floor without shims. Attach the assembly to the wall framing with 3-in. wallboard screws. Locate the screws along the pilaster backers and the top frieze rail so they'll be hidden once the pilasters are installed. If there are no studs located in the backer attachment areas, secure them to the wall with construction adhesive and molly bolts or screws driven into suitable wallboard anchors. To install the fireplace surround on masonry walls, use lead or plastic expanding anchors and screws instead of wallboard screws.



**3** Cut the four pilaster cleats to size, and attach one cleat to each of the pilaster backers so the outer edges of the parts align. Fasten the cleats to the backers with glue and 1¼-in. wallboard screws.



**4** Rip and cross-cut the pilaster faces, insides and outsides to size. Assemble both pilasters with glue and 6d finish nails or 2-in. pneumatic nails. Sand or lightly plane the joint smooth, if necessary, after the glue dries.

## HOW TO BUILD A FIREPLACE SURROUND (CONTINUED)



**5** Attach the remaining two pilaster cleats on the wall. To determine the location of these cleats, set the pilasters in place on the backers so the inside piece of each pilaster rests against the cleat already attached to the backer. Draw a reference line on the wall down the outside of each pilaster, then remove the pilasters.



**6** On the wall, draw a second set of lines  $\frac{3}{4}$  in. in from the first reference lines to mark the cleat locations. Attach the cleats to the wall along these lines, driving the attachment screws into wall framing. If there are no studs located in the cleat areas, use construction adhesive and molly bolts or screws driven into suitable wallboard anchors.



**7** Slip the pilasters over the cleats, and attach them by nailing through the sides of the pilasters and into the cleats. Use 6d finish nails or 2-in. pneumatic nails to fasten the pilasters.



**8** Cut the plinth outsides, insides and faces to size. The grain pattern should run vertically when the plinths are installed. Bevel-rip one edge of the side plinth parts and both edges of the plinth faces at  $45^\circ$  so the plinths will form miter joints where they wrap around the pilasters.



**9** Install the plinths. First, dry-fit the plinth parts around the pilasters to be sure the miter joints will close tightly. Spread glue over the back faces of the plinth parts and along the mitered edges. Tack the plinth pieces to the pilasters with finish nails. To help hide some of the nails, nail at an angle down through the top edges of the plinths. Locate the other nails as close to the floor as possible.



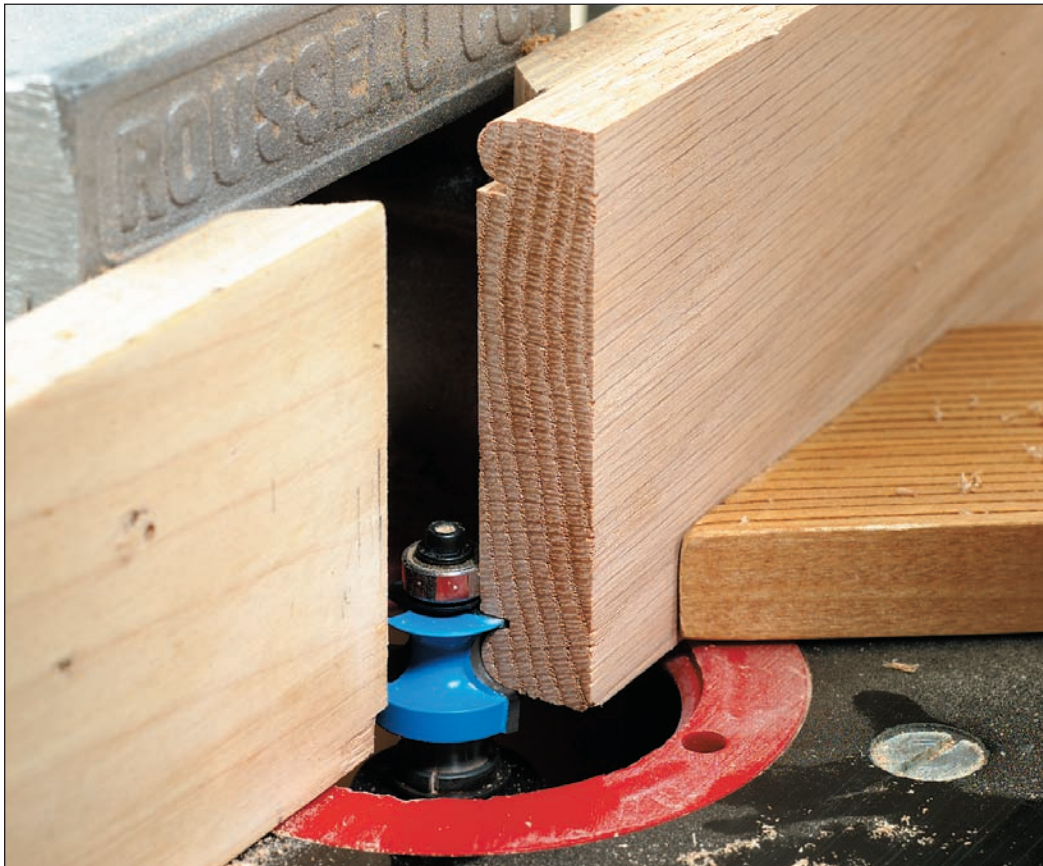
**10** Cut and nail strips of panel molding to fit around the pilasters (hiding the gap formed between the middle and bottom frieze rails) and around the top ends of the plinths. Use miter joints to join the moldings around the pilasters and either miter or cope joints to make the inside corner joints where the pilasters meet the frieze. Glue and nail the molding in place.



**11** Attach the mantel shelf: Rip and cross-cut the shelf board to size, and set it in place on top of the frieze and pilasters to check its fit to the wall. If the wall surface isn't flat and creates gaps along the back edge of the shelf, scribe and trim the back shelf edge to improve the fit. Be sure the mantel shelf overhangs the pilasters evenly all around. Secure the shelf by nailing down through the shelf and into the pilasters and top frieze rail.

## HOW TO BUILD A FIREPLACE SURROUND (CONTINUED)

**12** Cut and nail crown molding beneath the mantel shelf to form a decorative cornice. The crown molding also will help support the shelf. Follow the same technique for cutting the molding on a power miter saw as you would for installing crown molding at a ceiling (See pages 136 to 149). Cut and install the molding, starting at the frieze and working outward. Use cope joints for making the inside corner joints where the frieze and pilasters meet. Build the cope joints so the long center piece of crown molding butts against the pilasters, then cope the short inside pieces of crown that fit against the pilasters. Switch to compound miter joints for wrapping the crown molding around the pilasters. Spread glue along the miter joints, and attach all the molding pieces to the pilasters, shelf and frieze with 3d finish nails driven into pilot holes.



**13** We detailed the pilaster faces and the inside edges of the surround opening with bead molding made to spec on a router table and table saw. If you aren't interested in milling your own moldings, you can bring the sizes and profiles shown here to a millwork/cabinetmaking shop and have them make it for you. Or, substitute a stock molding you like from your local lumber center. The face and edge bead molding called for in the cutting list have the same profile, but the thickness of moldings varies. Make the molding stock by routing both edges of a wide oak board on the router table with a piloted beading bit.



**14** Rip the routed edges of the molding stock off on the table saw to cut the molding to size. Repeat this process to make more strips of molding. Change the saw fence setting to make the two thicknesses of molding required. Also cut strips of edge bead molding to fit around the inside edges of the fireplace surround.



**15** Lay out the square and rectangular patterns on the pilaster faces for applying the face bead molding. Lay out and install face bead molding on the center frieze rail to form that decorative detail.



**16** Miter-cut, glue and tack the face bead molding in place with 3d finish nails or brads. Cover all exposed nailheads with tinted wood putty or a putty stick, and ease sharp corners and edges of the fireplace surround with 180-grit sandpaper. Apply your choice of stain and varnish to complete the project.