

Easy, Elegant Mantel

Build a fireplace surround
from one sheet of MDF
and some stock moldings

BY JUSTIN FINK



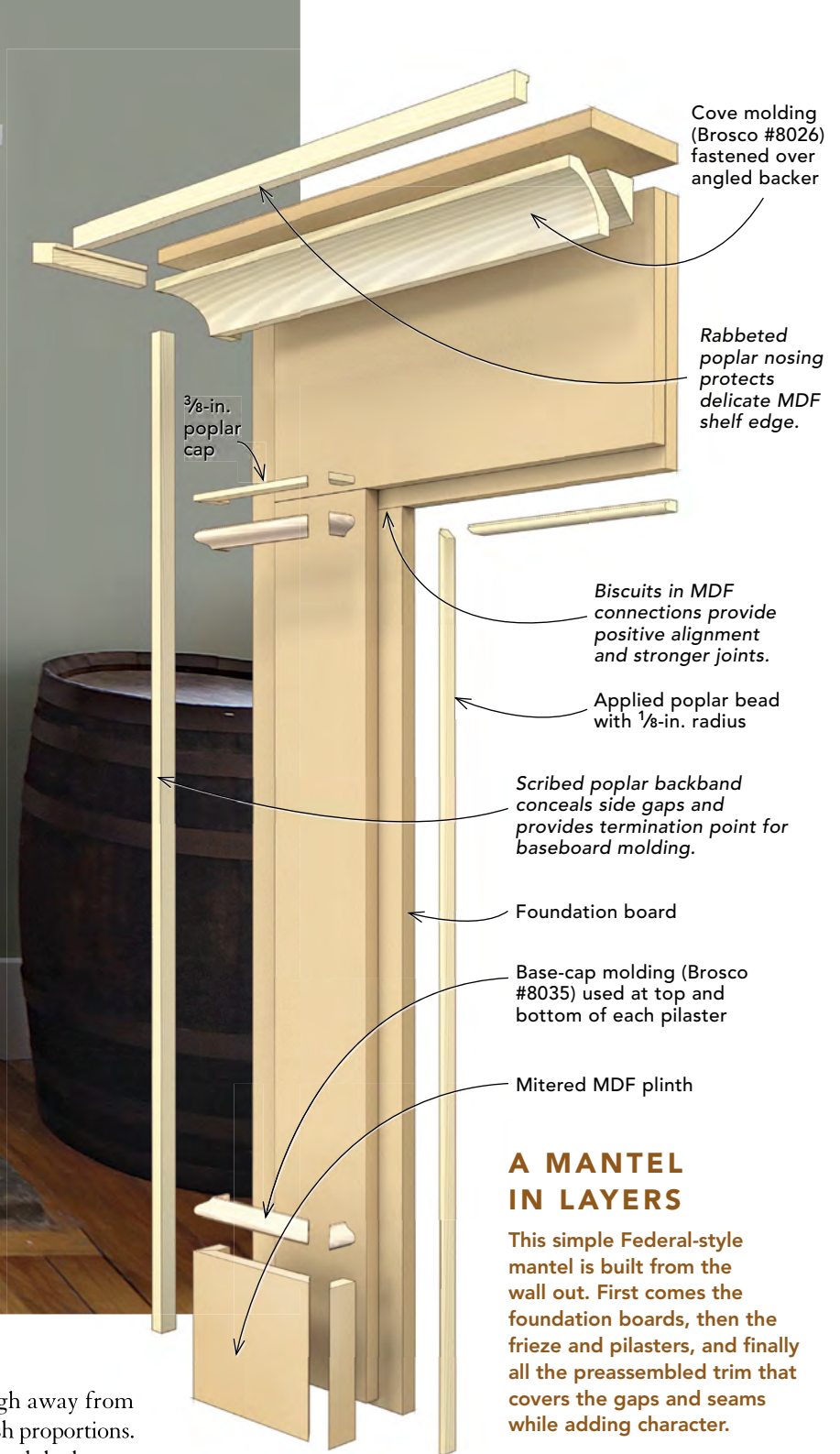
Fireplace surrounds—better known by the more commonly used term *mantels*—are a finish carpenter’s playground. They’re a relatively small, cleanly contained opportunity to create a centerpiece that shows off our craftsmanship, lets us exercise our eye for proportions and design, and, for better or worse, gives us a chance to pile on the moldings. But not every mantel job has a big budget, and that often leads to unimaginative design and execution, or worse, a cookie-cutter, factory-produced, prefab option. But with a bit of creativity, even a modest-budget living room can be finished with an elegant fireplace surround. All you need to build the mantel shown here is about \$125—enough for a sheet of ¾-in. MDF, some 1x poplar, and a couple sticks of stock molding.

As far as trim-carpentry projects go, this one is fairly straightforward. The work can be done in a shop, as it was for this project,

or right on site. The tools aren’t specialized, and in most cases can be chosen based on what is already in your arsenal. For instance, I’d be just as comfortable joining boards with floating tenons as I was using biscuits, and even though I used a tracksaw to cut the MDF parts, a well-tuned tablesaw would also work.

The dimensions of the assembly shown here are based on a simple Federal design by woodworker Mario Rodriguez, which appears in his excellent book, *Building Fireplace Mantels*. I scaled the parts and customized the assembly to fit the room where the mantel was installed, but before you go too far down the path of designing, it’s important to consider the restrictions of the building code.

The code is not difficult to satisfy (see drawing right), but fireplaces in old houses don’t always mesh with modern code standards. The problem is that the masonry around the firebox often isn’t wide



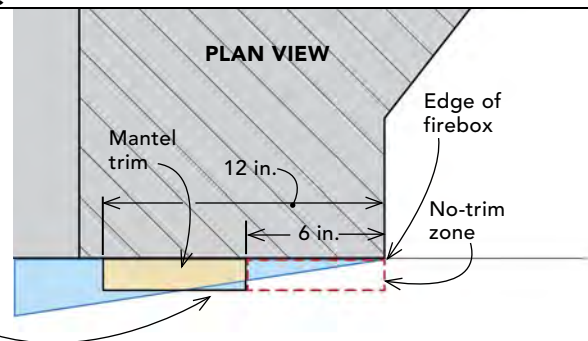
enough to accommodate a mantel that's set far enough away from the firebox to meet code—at least not without cartoonish proportions.

Luckily, the fireplace in this house is nonfunctional, and the homeowners simply wanted a decorative surround as a focal point. But if the fireplace had been operational, I would have scaled up the entire surround to maintain the mantel proportions, and then covered the brickwork with slabs of stone or tile that extend onto the surrounding drywall as far as necessary to cover the gap between the firebox and the mantel foundation boards. Finally, keep in mind that clearance rules for manufactured fireplace inserts and stoves supersede the building codes, and may be stricter. □

Justin Fink is editor of *Fine Homebuilding*. Photos by Brian Pontolilo, except where noted.

Know the code

Combustible trim between 6 in. and 12 in. from the edge of the firebox can only project 1/8 in. per inch. Anything projecting beyond that imaginary line won't meet code.



START WITH A SOLID FOUNDATION

The foundation boards of this mantel have two roles. First, they create a visual backdrop for the entire fireplace surround, helping to ground the design. Second, they act as a flat, plumb surface in an assembly that is rarely so. This allows the rest of the parts of the mantel to attach regardless of the condition of the wall.



All from a single sheet. All of the MDF parts for this project come from a single 4x8 sheet. They are first broken down by width using a tracksaw, then taken to the miter saw to be cut to length.



Biscuits for alignment. The three pieces that make up the foundation assembly are joined together in place rather than installed as one piece. To ensure flush joints that stay tight, the parts are slotted for biscuits and glue-sized before installation.



Glass-smooth edges in MDF One of the downsides to working with MDF is that, if left untreated, the porous fibers exposed by sawcuts are difficult to finish smoothly. I used to rely on spackle to smooth these problematic edges, but more recently switched to glue-sizing the edges instead. Glue-size is essentially watered-down yellow glue that's brushed or rolled onto the edges of the board, where it soaks into the wood fibers and hardens. I find that a couple of passes with this watery glue solution (allowing for dry time between coats) followed by light sanding, then shellac-based primer, will result in a surface that's smooth to the touch.



SIMPLE SCRIBING



1

Plumb and level. After measuring the setback from the edge of the firebox to where the inside edge of the foundation boards will land, use a pencil to strike dead-level and plumb lines across the masonry.



2

Get set to scribe. After aligning the inside edge of each vertical foundation board to its plumb line, set your scribes to equal the distance from the top of the board—which is left longer than necessary—to the level pencil line on the masonry.



3

Mark the bottom. Still holding the extralong foundation board in position, trace the contours of the hearth onto the bottom face of the board. Once cut away, the board will fit at the bottom and be in alignment at the top.



4

Beveled for a tight fit. Cut along the scribed line using a jigsaw set to a slight undercutting bevel, taking the back edge of the board out of the equation to ensure the front sits tight to the hearth.

AN EASY FIT, EVEN ON WAVY WALLS

At just $\frac{3}{4}$ in. thick, the foundation boards don't leave room for scribing to meet the wall. Instead, focus on getting the foundation boards plumb and in plane with each other, then cover the gaps with a scribed shelf on top and backbands on each side.



Pry it plumb. Once the glue sets, the foundation boards will act as a single unit. At this point, it can be pulled away from the wall as much as necessary to get it plumb before adding a few more finish nails through and into the framing around the masonry.



One-piece frieze. Prefabbed in the shop to include the cove molding installed over an angled backer, the frieze and cove molding can be set as a single piece. Center it on the horizontal foundation board, align it flush along the top edge, and fasten it with finish nails.



In and up. Left just short of full length to allow for an easy fit, each pilaster gets glue and biscuits along the top edge before being slid up tight to the underside of the frieze. The gap at the bottom will be covered by the base detail.

Easier backbands. After scribing and cutting the beveled edge of an extrawide piece of poplar to fit the wall on each side of the mantel assembly, mark where it overlaps the face of the foundation boards. Add $\frac{1}{8}$ in. to this marked line to create a slight reveal and cut along the line using a tracksaw.





Hide the top. After scribing the mantel shelf to fit any waves in the wall, set it in place and fasten it down to the frieze assembly with finish nails.



A stronger shelf. The MDF mantel shelf is likely to take abuse, and therefore demands a hardwood nosing. To ensure alignment and help provide positive fastening, use a tablesaw to cut both shelf and nosing with nesting rabbets, leaving a slight reveal on the top and bottom to create a nice shadowline and eliminate the need for sanding in place.

MOLDINGS MAKE A FINISHED MANTEL

Moldings can be mitered and fastened to the mantel piece by piece, but preassembling them is a better approach. When the focus is on joining each piece of molding to another rather than to a substrate, you end up with strong assemblies that behave as a unit, reducing the chance that miters will open up over time.

Cap the pilasters.

By flipping the base-cap molding upside down and adding a $\frac{3}{8}$ -in. cap made from poplar, the top of each pilaster can be finished with a look that matches the plinths.



Finish with a bead.

The beads used to conceal the gap between foundation board and masonry—which are the only shop-cut molding on this project—are routed into the edge of a piece of poplar and then ripped off to create profiled strips ready for miters and pin nails.



Easy plinths.

After scribing the preassembled MDF plinths to the hearth at the bottom of each pilaster, slide them into place and tack them with a few finish nails before fastening the base molding to conceal their top edges.



To see a video about the construction and installation of this mantel, visit FineHomebuilding.com/magazine.