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A Bevy of Built-Ins

A bed, a desk, a closet, and a laundry hamper transform an attic into a cozy, do-it-all space

BY RODNEY DIAZ

A 5-ft.-tall access door off the stair landing, just a couple of steps down from the second floor in our house, makes for an awkward entry to the 13-ft. by 12-ft. space above the kitchen. But once inside, there's a surprisingly large amount of room to move around in under the gable ceiling. Originally an unconditioned storage space, the previous owners attempted to finish out the room with fiberglass-batt insulation behind paneling, padded carpet over a plank subfloor, and rudimentary electrical outlets and a ceiling fixture.

We gutted the room, insulated it properly, and installed outlets and light fixtures to comply with code and coordinate with built-in cabinetry designed to fit the space and maximize the room's functionality. The design of the built-ins was a long time in the making, as it was challenging to figure out how to make the most of this small space. The construction, by comparison, took less time but was no less of an undertaking. The end result is a carefully planned and executed build-out that I hope inspires you to make the most of an underused or overlooked living space in your home or office. □

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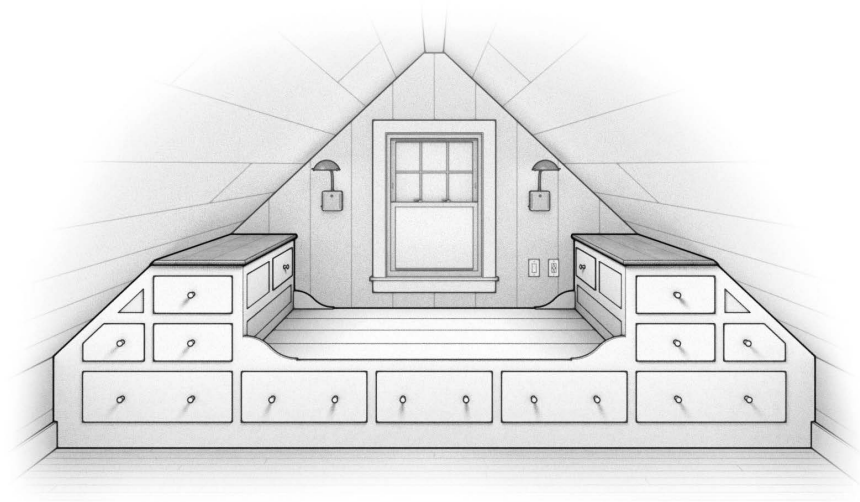
Drawings: Christopher Mills

DESIGN NOTES

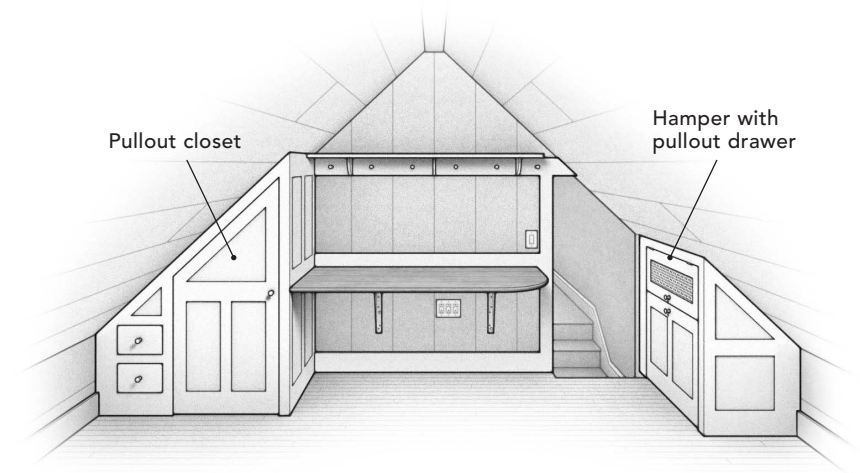
A TALE OF TWO WALLS

With a roof pitch of roughly 12-in-12 (give or take a couple of degrees), the steeply sloped ceilings left short kneewalls on either side of the room. At less than 2 ft. tall, this space under the eaves had little practical use. Leaving that floor space open and confining the cabinetry to the gable-end walls creates a sense of a larger space, with a surprisingly roomy 6 ft. between the bed and the desk.



The window wall

A single double-hung window on the exterior gable wall provides ample natural light, yet limits the options for cabinetry at that end of the room. To maximize storage, a bed platform centered under the window is flanked by matching corner cabinets outfitted with drawers. A trio of drawers under the bed align with the lower drawers in the corner cabinets, tying everything together in a 13-ft.-wide chest of drawers.



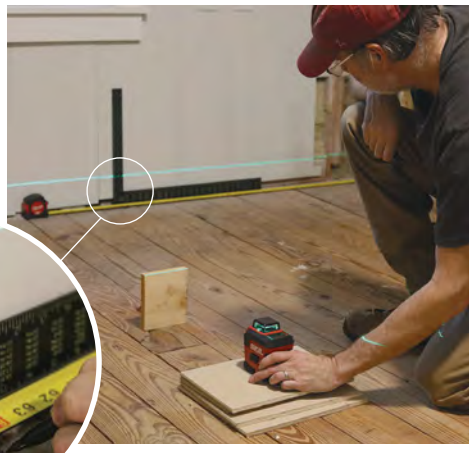
The door wall

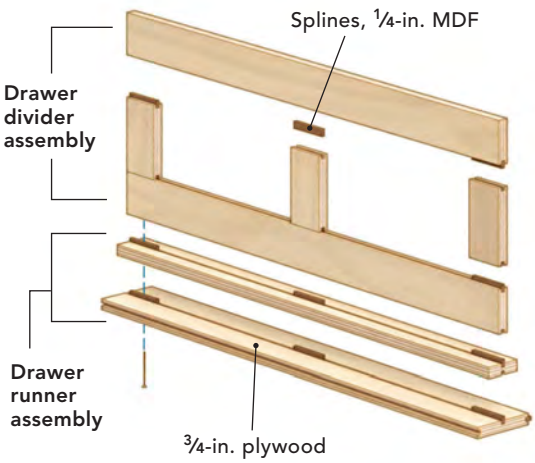
The gable wall opposite the bed houses a pullout closet, a floating desktop, and a hamper for dirty clothes. The closet is actually a large pullout drawer mounted on heavy-duty drawer slides, outfitted with a rod for hanging clothes. A pair of drawers fills the void to the left of the closet. The desktop is mounted to the wall with large angle brackets, eliminating desk legs and keeping the floor space open. The corner hamper is tucked under the eave next to the doorway. It has a pullout drawer that holds a laundry basket.

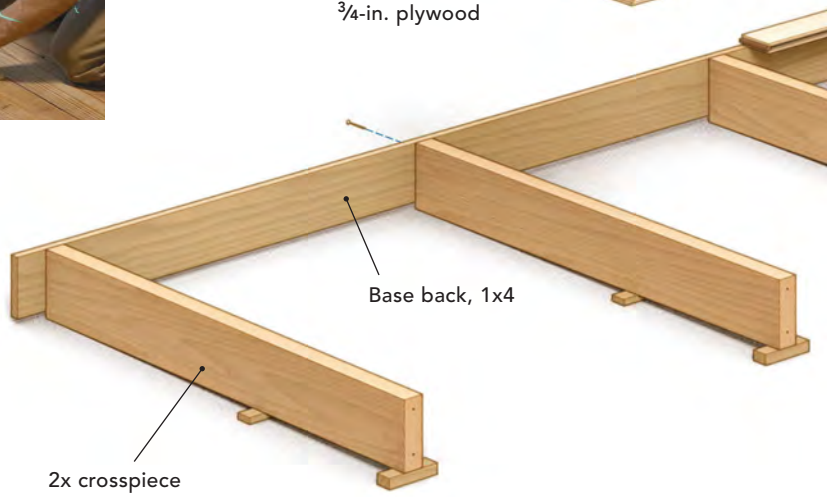
START WITH A LEVEL BASE

Building a massive cabinet that spans the width of the room was challenging. Did it make more sense to build the bottom row of large drawers as a unit, then add the smaller drawers on either side of the bed? Or would it be better to build and install the corner cabinets and tie them together with the bed platform? Either way, a level base had to come first, as the floor was out of level by as much as 1½ in., sinking toward the center of the room from the window wall and the eave walls.

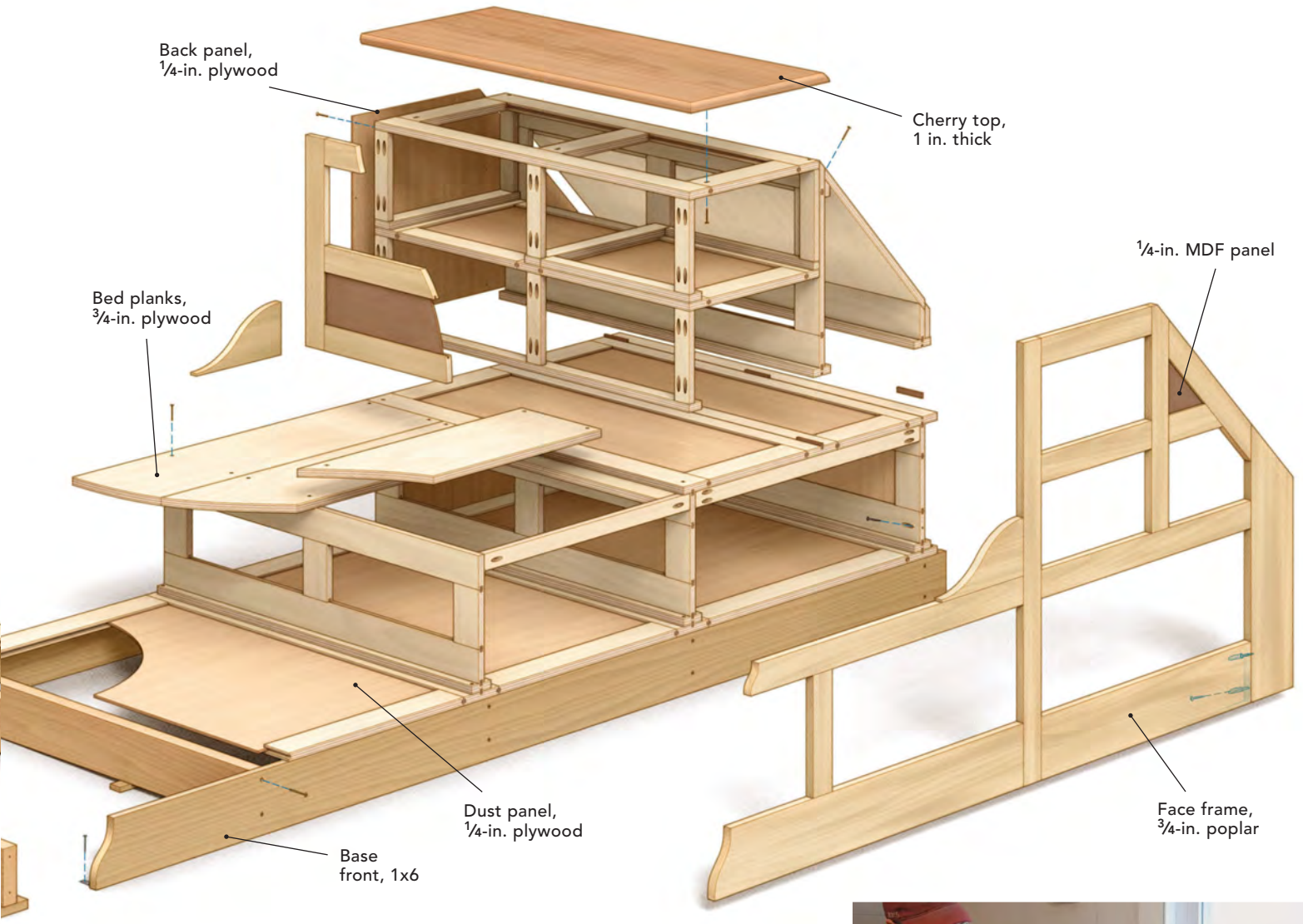
Locate the low spot first
A cutoff from the front of the 1x base is placed at the front center location of the cabinet, also the lowest point in the room. A laser set to the top of the cutoff casts a level line across the wall. At six locations, the height of the level line is measured where 2x framing will run from front to back under the built-ins. Each 2x is ripped to width.





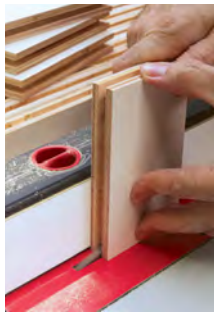


Scribed, shimmed, and screwed
The front of the base is a long 1x6 scribed to the floor. With the back ends of the 2x crosspieces resting on the floor at the wall, the front ends are shimmed flush with the top of the front and screwed together (above). The back ends of the 2x crosspieces are fastened flush with the top of a long 1x4, which is in turn screwed to wall studs (right). With the base secured at the wall, a few angle brackets are screwed to the backside of the base front and fastened to the floor to lock everything in place (far right).



LIGHTWEIGHT BUT STURDY FRAMEWORK

The web-frame construction of these chests of drawers was borrowed from traditional furniture-making. Using loose-spline joinery makes glue up easy. The grooves are cut with Freud's box-joint cutter and are exactly ¼ in. wide, which matches the thickness of the MDF splines, resulting in tight glue joints. Where dust panels need to float in the grooves, ¼-in. plywood, which is slightly less thick, slides in easily. This approach also keeps the weight of the carcase down compared to using only ¾-in. plywood.



Groovy joinery
Unless the tablesaw is set up to cut exactly in the center of each workpiece, the potential for misaligned parts during glue up is high. Make a light pencil mark on one side of each piece and make sure that side is against the fence as it's grooved.

Glue up in stages
The vertical drawer dividers are glued up separately from the flat drawer runners. Once the glue sets, the two are glued and screwed together from the bottom, creating a strong framework to support the bed platform.

BUILD IN LAYERS

Once the cabinet construction began, it became clear that building the corner cabinets separately and connecting them with the bed platform was the way to go. At over 3 ft. square, each cabinet is hefty but slides easily into place thanks to the level base. Cabinet face frames are added to the front and side before installing the bed framework, planks, and face frame.

Clamps as a workbench
The bottom web frame is glued up with parallel bar clamps, which proved to be a solid, stable platform for the rest of the cabinet build.

Add the second layer
The upper web frames are added and incorporate a lip to support the ends of the planks that make up the bed platform.

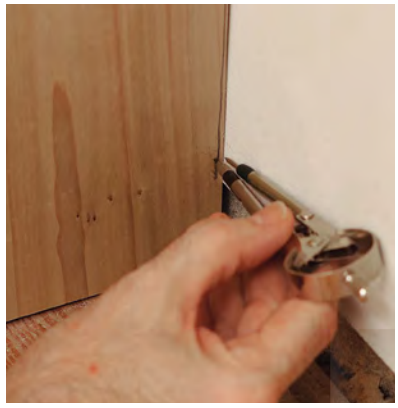
Support where you need it
Blocks clamped to the vertical divider hold the web frame for the top row of drawers at the proper height. Outer supports are pocket-screwed to it and the frame below.

Top off the framework
The subtop is fastened in the same way, while drawer runners for the upper drawers are glued and clamped in place.

Solid backup
The angled subtop is screwed from the outside with angled cleats holding it in position. It and the short outer support are the only solid ¾-in. plywood components.

Slide it into place
With a ¼-in. plywood back added to lock everything square, the assembly comes out of the clamps and slides into final position before being screwed to the base at the outer front edge (inset, right) and the opposite rear corner.

Scribe the face-frame parts
The face frame is scribed to the ceiling with an angle finder. The angle is transferred to the miter saw for a matching cut.



Scribe, scribe again
Scribed to the wall with a compass and to the floor with a scrap of new flooring, the side and bottom edges are trimmed with a jigsaw.

Assemble the face frame
The parts scribed to the wall and the floor are pocket-screwed together. The assembly is then clamped in place while subsequent parts are cut and fit one at a time. The last piece of the puzzle is a triangular ¼-in. MDF panel set into grooves cut in the same fashion as the web-frame joinery.

A clean front
The assembled face frame is clamped in position and screwed from behind, leaving a clean front that needs no nail holes filled. The end panel facing the bed is installed using the same technique.

Fill in the gap
With the plywood bed planks installed, cleats are installed between drawer dividers to add rigidity behind the face frame at the front edge of the bed.

Cut curves in place
Rectangular stock for the curved bed-rail brackets is easier to attach to the face frame before shaping with a jigsaw and sandpaper.

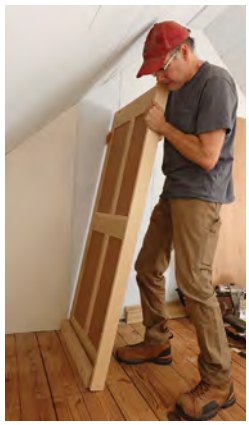
Pulling it all together
Like the corner cabinets, the bed's face frame is installed as a unit, pocket-screwed from behind, except for the bottom, which had to be face-nailed.

A PAIR OF PULLOUT BOXES

The closet and the hamper function in a similar fashion, with drawer boxes riding on full-extension drawer slides. The closet is outfitted with a false front door and a rear upright panel supporting a closet rod. The hamper works in the same way, with a cabinet-door panel on the front of a box that holds a laundry basket.

Square the opening
A plywood mounting block is squared flush with the front of the corner cabinet and pocket-screwed to the floor.

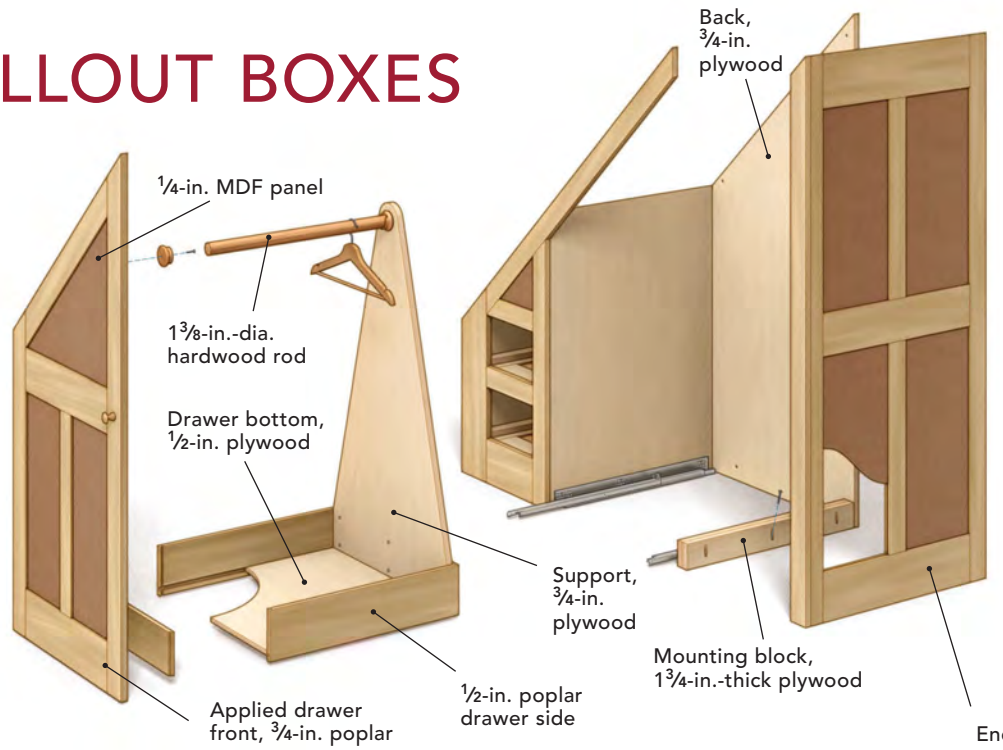
Install the end panel
The end panel is pocket-screwed from behind to the mounting block at the bottom and to a ¾-in. plywood back panel that's secured to the wall.

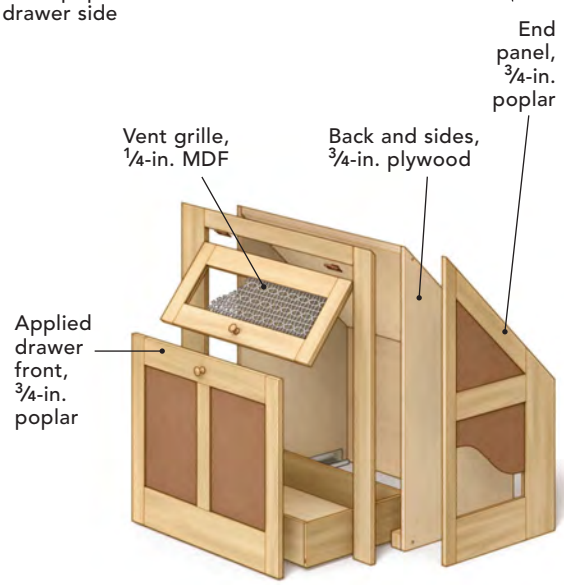


Nail it off
A plywood cleat fastened to the ceiling provides backing for nailing the top edge of the face frame and the end panel.

Mark in place
The face frame is assembled with the top diagonal piece left long. Once clamped in place, the horn is marked where it meets the end panel and trimmed to fit.

Hidden hardware
Blum undermount drawer slides enable the closet to smoothly open and close while supporting a rack of hanging clothes.





Get the funk out
The hamper is a miniature version of the closet in both form and function. Its one unique feature is a laser-cut ¼-in. MDF vent grille in the hinged hanging door for airing out dirty laundry.

A FLOATING DESKTOP

A 5-ft. long panel of solid cherry is fastened to wall-mounted workstation brackets. Absent legs or an apron, the surface appears to float against the wall. Above the desktop is a shelf mounted on top of a Shaker-style peg rail.

A touch of Shaker trim
A 10-in.-deep shelf is pocket-screwed from behind to the peg board before the assembly is nailed to wall studs.

Bracketology
Aluminum brackets from A&M Hardware are screwed to wall studs. Weighing only 4 lb. each, the two brackets support over 1400 lb. together under load testing.

Turn the corner
The corner of the desk is curved with a 13-in. radius to ease entry into the room. The edge is softened with a bullnose profile routed with a ⅝-in.-radius roundover bit.

CABINET TOPS AND DRAWERS

The corner cabinets are capped with 1-in.-thick solid cherry tops that mirror the desktop. Unlike the closet and hamper, the drawers slide on drawer runners built into the cabinets.

A consistent overhang
Each cabinet top is scribed to the wall, then an angled cut on the back pins it under the ceiling. The tops are marked from underneath where they meet the face frames. Then the top is flipped upside down and a 1-in. offset is marked and cut.

The movement you need
The leading edge of the top is held in place by screws fastened from below through slotted holes in the subtop, allowing for seasonal movement. The exposed edges are shaped with the same bullnose profile found on the desk.

Easy sliders
A coat of paste wax applied to the drawer runners in the cabinets and to the bottoms of the drawer sides make even the biggest drawers slide in and out with ease.

Drawer details
For a step-by-step look at the drawers' rabbet-and-groove construction, visit FineHomebuilding.com/magazine.