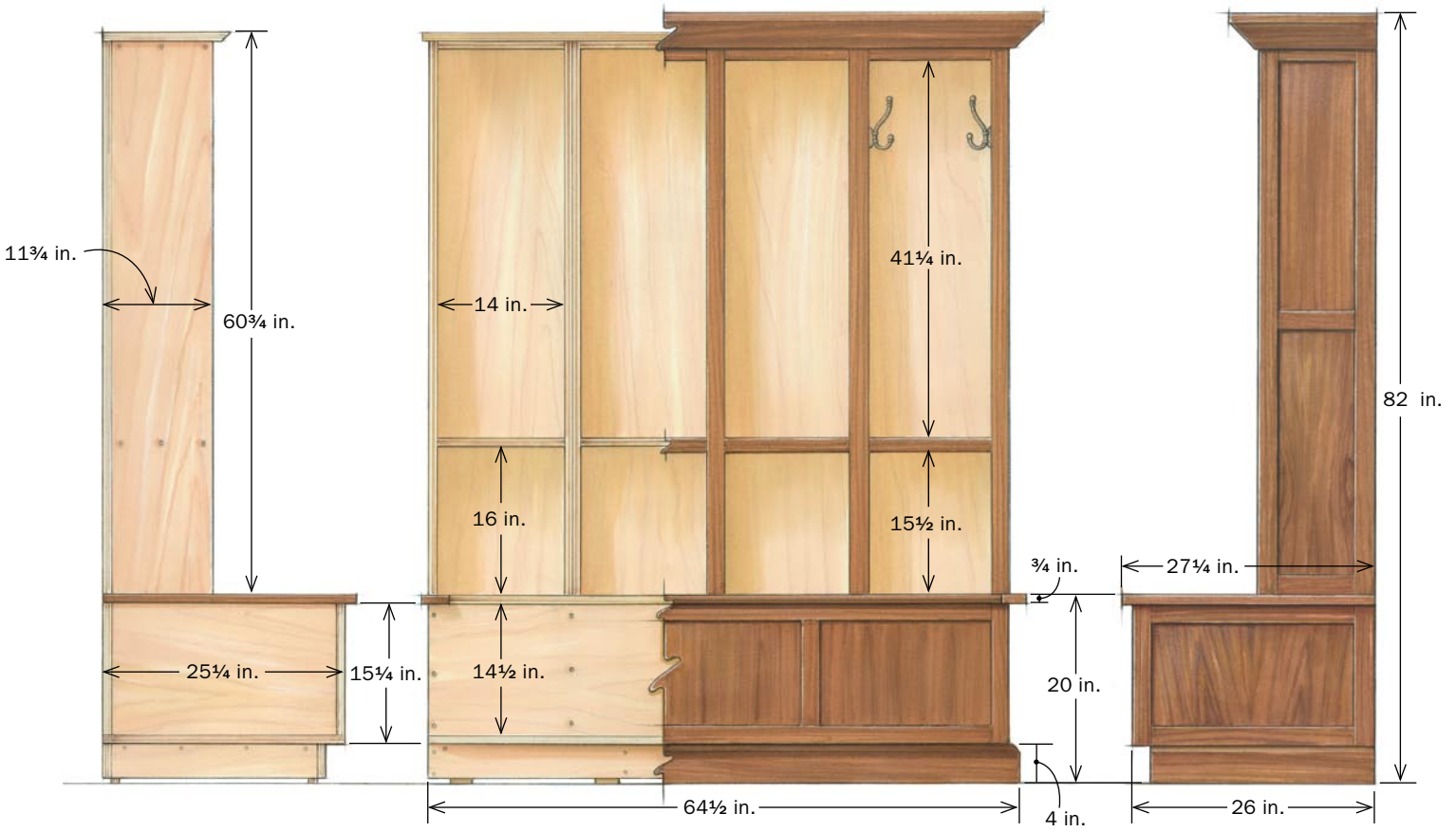
Mudroom Built-In:
Stop Clutter at the Door



Learn the fundamentals of built-in furniture with this stylish storage unit

BY TONY O'MALLEY

Online Extra: Built-in Build-Off

Go to **FineWoodworking.com/extras** to check out the Built-in Build-Off between *Fine Woodworking* and *Fine Homebuilding* magazines, where you can see how a carpenter and a woodworker approached this project in different ways. *FWW* online members also can read the companion *FHB* article online.

An enclosed porch or mudroom can help keep dirt and snow from reaching the living areas of your house. It's also a great place to stow stuff you'd rather not have cluttering the kitchen or family room: boots, shoes, book bags, sports gear, and the like. But without designated storage areas, a mudroom becomes a minefield. An elegant solution is to make a built-in storage cabinet, which will not only look good and organize your life, but can also add value to your home.

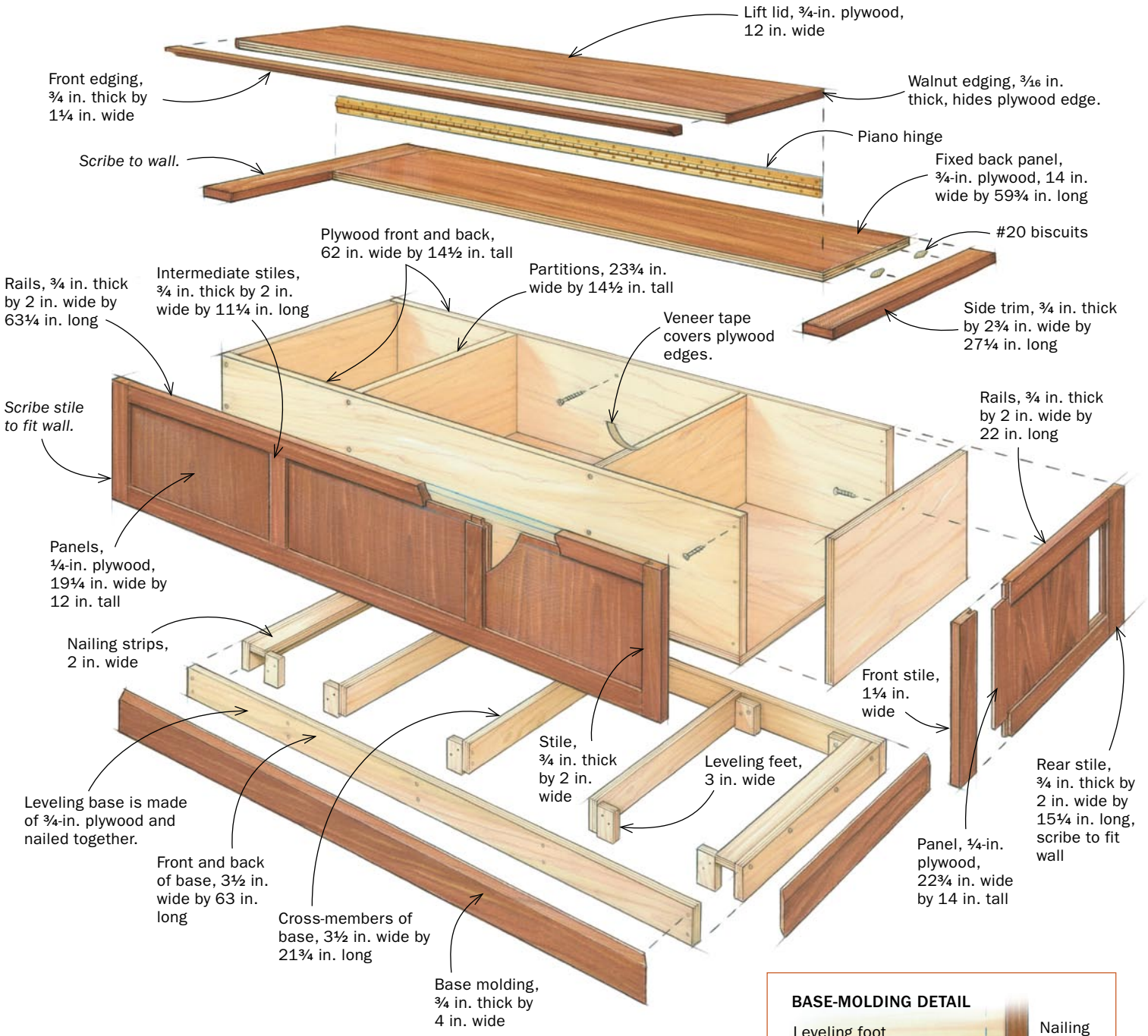
This mudroom unit features a base cabinet topped with open locker-type cabinets. The base cabinet has a lift-lid section for stowing out-of-season stuff like winter boots. The upper cabinets have fixed shelves and hooks for jackets. This piece is designed for a family of four—with each person getting his or her own locker space—but it can easily be made larger or smaller to suit a different-size family.

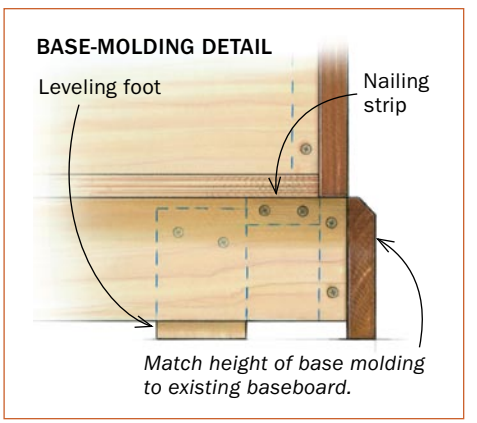
The construction is simple: maple plywood cases with walnut face frames and applied frame-and-panel assemblies, which give

Photos: Thomas McKenna

BASE CABINET OFFERS SEATING AND STORAGE

The lower cabinet is a plywood box faced with walnut frames and panels. The height is perfect for sitting to change shoes, and the lidded box has plenty of room for items you don't want to see, like boots and outdoor gear.





the piece a furniture feel. Most of the parts are made in the shop and assembled on site.

Build the plywood boxes first

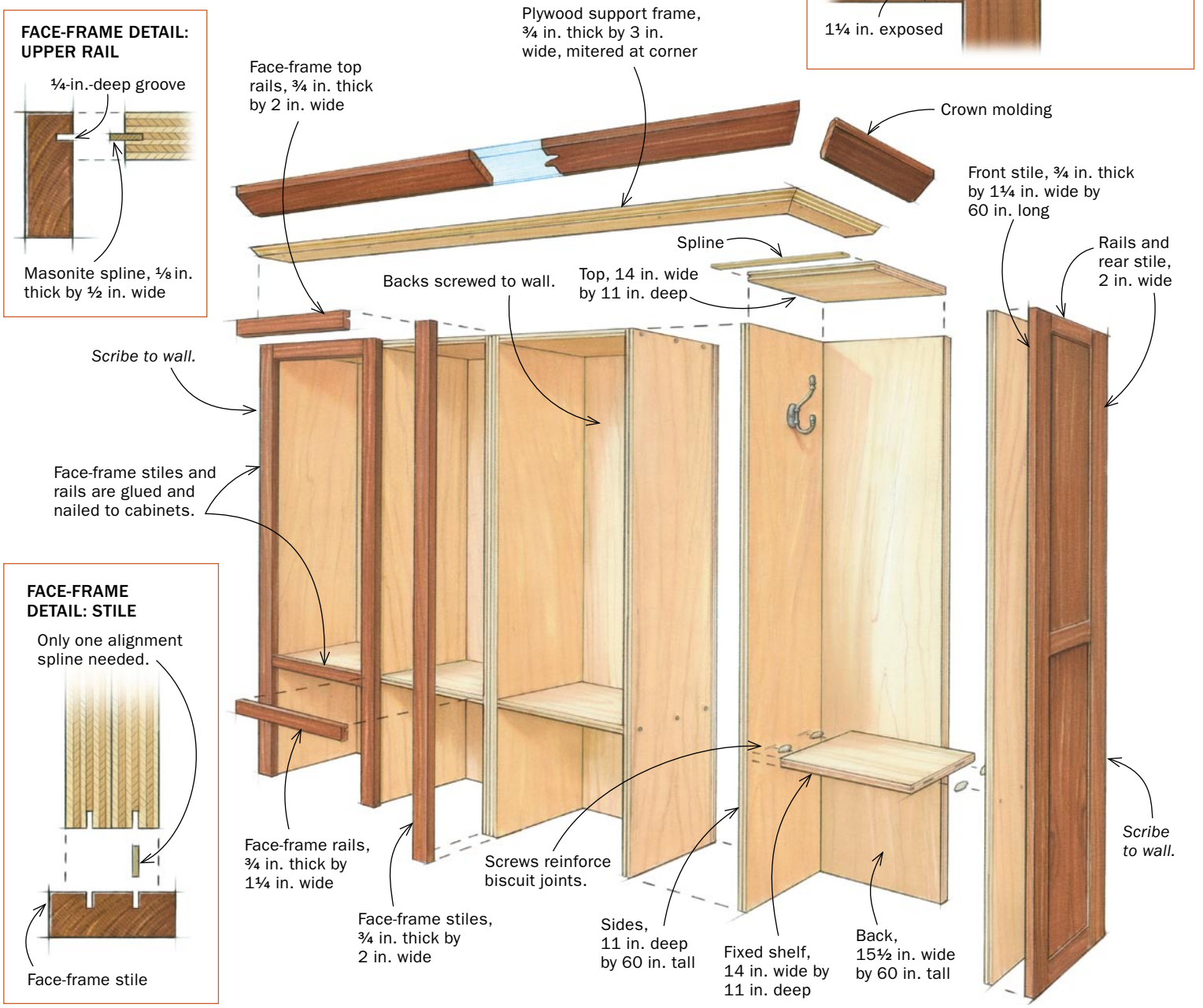
For this project, I used prefinished ¾-in.-thick maple plywood for all the cases. Though not commonly available at major home centers, the plywood often can be special-ordered at lumberyards. It saves you considerable finishing time, and creates a bright, durable interior that looks great with the dark walnut exterior.

For the upper lockers, I made four identical skinny cabinets and screwed them together. These smaller cabinets are easier to build, move around in the shop, and install. And this method can make the difference between needing a helper and getting the job done on your own. The plywood edges on the upper lockers are hidden with

Drawings: Bob La Pointe

UPPER CABINETS SERVE AS LOCKERS

The top cabinets are individual plywood boxes screwed together and faced with solid walnut. These lockers have small cubbies for backpacks, purses, and briefcases, and larger spaces to hang coats and jackets.



solid-walnut face frames, which are glued and nailed in place. To help align the face frames, I used ⅛-in.-thick splines cut from tempered Masonite. Before assembling the cases, I cut the grooves for the splines in all the front edges using a router and a slot-cutting bit. To assemble the cases, I used screws and biscuits.

Base cabinet is built the same way— The base cabinet for this built-in goes together with the same biscuit and screw joinery as the locker cabinets. One difference is that I used an adhesive-backed maple edge-banding on the top edge of the two exposed partitions.

Put on the edge-banding before you cut the partitions to size. That way, the banded partitions don't vary in size from the unbanded ends of the case. Trim the edge-banding with a chisel.

Make and prefinish the walnut parts

Once the plywood cases are glued up, you can begin working on the walnut face frames, the frame-and-panel assemblies, and the lift-lid assembly. All of the walnut parts should be finished (I used Minwax Wipe-On Poly) before installation. It's much easier that way.

Because most walls aren't square or flat, you'll need to fit the end pieces of the

CLEAN CUTS IN PLYWOOD

Rip, then crosscut. *When breaking down a full sheet of plywood on a tablesaw, rip the pieces to size, then crosscut them using a sled.*

The final cuts. *To reduce tearout, keep the show face on top, and use a good combination blade and a zero-clearance insert or crosscut sled. To further reduce the chances of tearout during a crosscut, apply masking tape over the bottom side of the cut line.*

BISCUITS AND SCREWS SPEED ASSEMBLY

No clamps required. *Assemble the shelves, top, and sides with biscuits and screws. The screws not only reinforce the biscuits, but they also eliminate the need for clamps. Drill clearance holes and countersinks in the top pieces, and pilot holes in the edges below to prevent splitting.*

built-in to that irregular surface. So leave any piece that butts against the wall about ⅜ in. oversize in width (or length for the moldings) to allow for scribing and fitting.

Face frame—Mill the face-frame stock to thickness and width, but leave the pieces long. They'll be trimmed to fit the case during installation. That will leave the end grain unfinished, but no one will see it. I chamfer the edges and ends of every face-frame part to create a small V-groove at each intersection; this detail not only looks good but also masks any minor unevenness at the joints. You can't chamfer the ends now, because the pieces aren't cut to final length, but you should chamfer the edges and prefinish the pieces.

Frame-and-panel assemblies—The front and exposed side of this built-in are covered with applied frame-and-panel

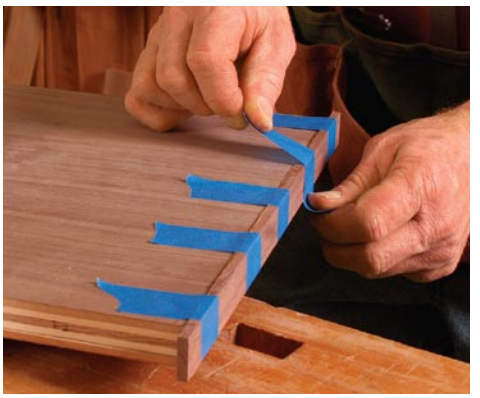
Fixed back gets solid edges. *Attach the side trim pieces to the fixed back with biscuits.*

assemblies made from solid walnut and ¼-in.-thick plywood and assembled with simple joinery (see drawing, pp. 30-31).

Base and crown moldings—Like the face frames, both the base and crown molding are solid walnut. For efficiency, mill up both at the same time. The base molding has a simple beveled profile. It's a good idea to leave it a bit wider than its finished size and trim it to fit after installation. The crown molding also is simple.

All four bevel cuts are made with the tablesaw blade at 42°. Clean up any saw marks with a handplane or sandpaper. The miters and scribing are done during installation. To support the crown, I use a beveled plywood strip screwed to the top of the case. Cut the strip and bevel its edge.

Last, the lift lid—The top of the lower cabinet features a lift lid, a fixed back (on which the upper cabinets will sit), and two pieces of side trim. I decided to use ¾-in.-thick walnut plywood for the lid and fixed back to eliminate any wood movement worries. To ensure a good grain match, cut the fixed back and lid from one piece of plywood.



Hide exposed edges on lid. *The side edge-bandings are glued on with masking tape as the clamps, and the front edging is attached with biscuits. All the edging is trimmed flush with a block plane and cleaned up with sandpaper.*

Soft landing for fingers. *After gluing on the front edging and trimming it flush with the plywood, rout a cove along the bottom edge to serve as a finger pull.*

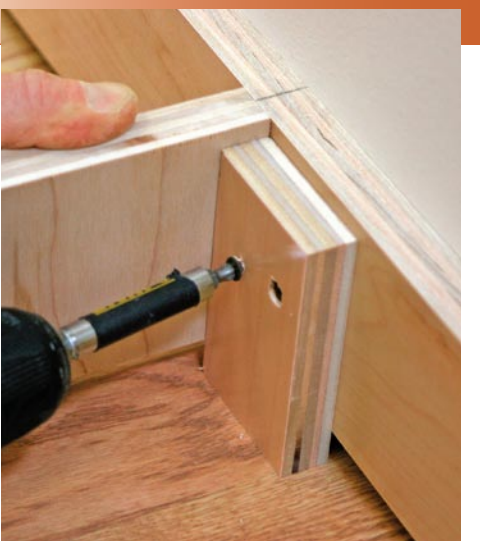
Assembly: Start with a level foundation

Built-in cabinetry must be installed level and plumb, no matter how out of whack the floors and walls may be. One of my favorite tricks is to install a separate base

Install from the ground up

BASE: SET IT AND FORGET IT

Installing the cabinets over a separate base makes leveling easy. Assemble the base from scrap plywood, using nails or screws; set it in place and level it. Once that's done, you know that all the cabinets above will be level.



Add feet. *Use shims to get the base perfectly level (left) and up to the target height. Once the base is at the target height, screw on the plywood feet (above).*

SCREW IN THE LOWER CABINET

First, screw the cabinet to the base and to the wall. Then add the side panel and the fixed back of the lid assembly.

Put the cabinet on the base. *Screw it to the base and to the wall with finish-head screws. Shim behind the cabinet if the wall isn't plumb.*

Side panel is next. *Scribe the rear stile to the wall and trim the panel flush with the front of the cabinet. Screw it to the cabinet from inside.*

Top it off. *Place the fixed back panel on top and screw it to the lower cabinet from above. The screws will be hidden by the upper lockers.*

that can be leveled without moving the entire cabinet back and forth in the process (see photos, above). Once the base is complete, install the cases, starting with the lower cabinet and finishing with the upper lockers.

Cover up the plywood edges—Now it's time to install the front frame-and-panel assembly, the lid, the face frames, and the moldings. The front is screwed to the lower case from the inside. The lid is attached to the fixed back with a piano hinge.

When gluing and nailing on the face-frame pieces, attach the verticals first and the horizontals last. Because they're for alignment only, you need only one spline per vertical piece, even though the three middle pieces cover two cabinet sides.

On the horizontal frame pieces, remember to chamfer the ends, and apply finish to that small chamfer before installation.

Now all you have to do is install the crown molding and base molding. Once you're finished, you'll have a handy place to store all sorts of stuff, and a convenient seat where you can put on and take off shoes and boots. □

Tony O'Malley, a woodworker in Emmaus, Pa., specializes in making custom built-ins.

UPPER CASES: ANCHOR AND SCRIBE

The upper cases are screwed to one another and to the wall. Then the side and front panels are scribed to the wall and screwed on from inside. If you don't like seeing screw heads inside the lockers, cover them with matching maple screw caps, available from Fastcap.

Clamp and screw. *Set the four locker cabinets in place and attach one to the next with countersunk drywall screws, which help draw the pieces together. Screw the cabinets to the wall, shimming the back where necessary to keep them plumb.*

Scribe to the wall. *Where the frames meet the wall, you need to create a seamless fit. The best approach is to set the panel in place and slide a light-colored pencil (which shows on the dark walnut) along the wall to mark its contours. Trim up to the line using a block plane, jigsaw, or belt sander. Your other goal is a flush surface at the front of the cabinet.*

FINAL DETAILS: LID, FACE FRAMES, AND MOLDINGS

Once the upper lockers are in place, you're near the finish line. All that's left is to install the lid, the face frames, and the crown and base moldings. Don't hurry these jobs, because these details are the most visible. Conceal the nail heads with a colored wax crayon.

Hinge the lid. *Screw the piano hinge to the lid, then attach the assembly to the fixed back.*

Face frames without frustration. *Rather than attaching a preassembled frame, O'Malley glues and nails on the pieces one at a time, beginning with the verticals. Then he fits the horizontals.*

The topper. *To give a better attachment surface for the crown molding, nail on a plywood support piece along the edges (above). Then miter the crown, and glue and nail it in place (below).*