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PROJECT PLAN

Maximize your closet!

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Maximize your closet!

Double your closet capacity with smart and efficient built-ins, shelving and rod space

by Travis Larson

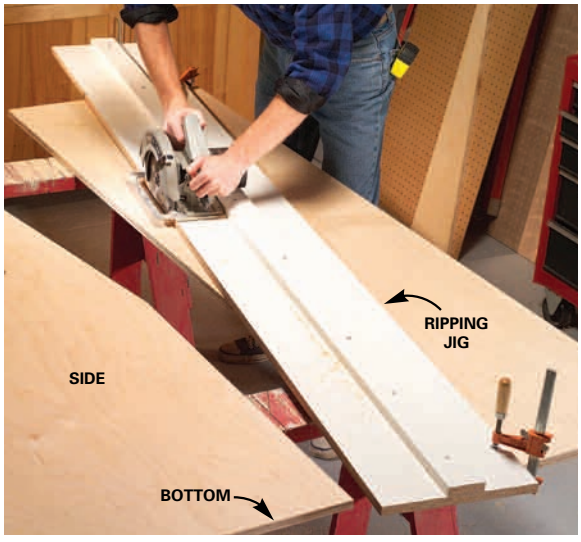
Is your closet too small and overstuffed? Do your cluttered shelves, packed and sagging clothes rods, and jumbled shoes all cry out for more space? Of course, the coolest solution would be to expand the existing closet, but that's usually impossible. Instead, you can organize your existing closet to make every cubic inch count and get more dresser space to boot.

It's surprisingly easy and economical to squeeze more storage out of limited space. In this story, we'll show you how to remodel a standard 8-ft. long, 30-in. deep closet, a size that's found in millions of homes. Here's what we've done to maximize storage.

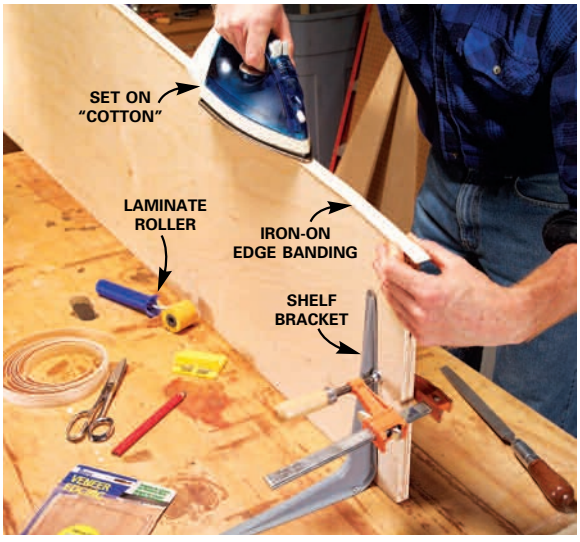
Cabinet module: The 2-ft. wide, 23-in. deep, 78-in. tall cabinet module is designed to provide extra drawer and shelving space. The unit is mounted 6 in. above the floor for easy cleaning. The mounting height also makes installation easier because you don't have to fool with removing and reinstalling carpeting or baseboards.

Clothes rods: Rod capacity is maximized because the rods are double-stacked at one end of the closet for shorter clothes like shirts and skirts. The single rod at the other end of the closet is for slacks and dresses.

Shoe shelves: To tame shoe scatter, we've designed a two-tier shoe shelf. Including the space under the shelves, you'll have 9 luxurious ft. of shoe storage—enough for even those beat-up, knockabout shoes you can't bear to part with.

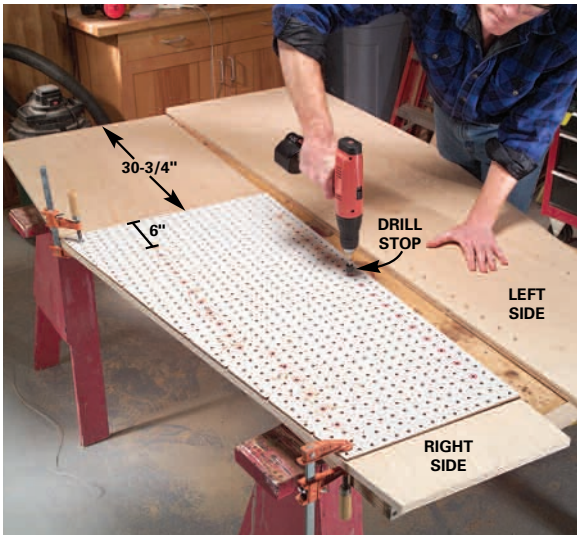


1 Cut the sides to length and width using a ripping jig (p. 39). Rip the drawer dividers to width only. Cut the angles on the front edge of each cabinet side.



2 Clean off any sawdust on the edges and then iron the edge banding onto the outside edges of the sides and the two lengths of drawer divider stock.

3 Trim the overhanging edges of the edge banding with a trimming tool, then file and sand the edges smooth and flush with the edge.



4 Mark the shelf bracket hole locations on pegboard and use it as a drilling template. Flip the pegboard to drill the other side.

Custom-build your own closet system

It's easy to upgrade the typical single rod and shelf found in standard closets for more efficient "closetry." Home centers offer several lines of mix-and-match closet cabinets and organizers so you can design and install a custom closet system. Those systems look inexpensive—until you start adding up all the parts! A similar-size Melamine cabinet module alone will cost about $300. We offer a more handsome, lower-cost alternative—custom-building your own. For that same $300, you'll have a closet full of cabinetry that's so doggone good-looking that you'll want to leave the closet doors open.

This project doesn't call for any fancy woodworking joints. All the parts are end-cut and simply screwed together. While that makes for easy construction, it means you'll have to use plywood-core, veneered plywood (any flavor) because it'll hold screws and has a smooth, even surface ready for finishing. If you want to use particleboard-core sheets, plan on joining parts with biscuits, dowels or any other fastening system you're familiar with. We chose birch plywood to match the bedroom's existing

Figure A Closet assembly

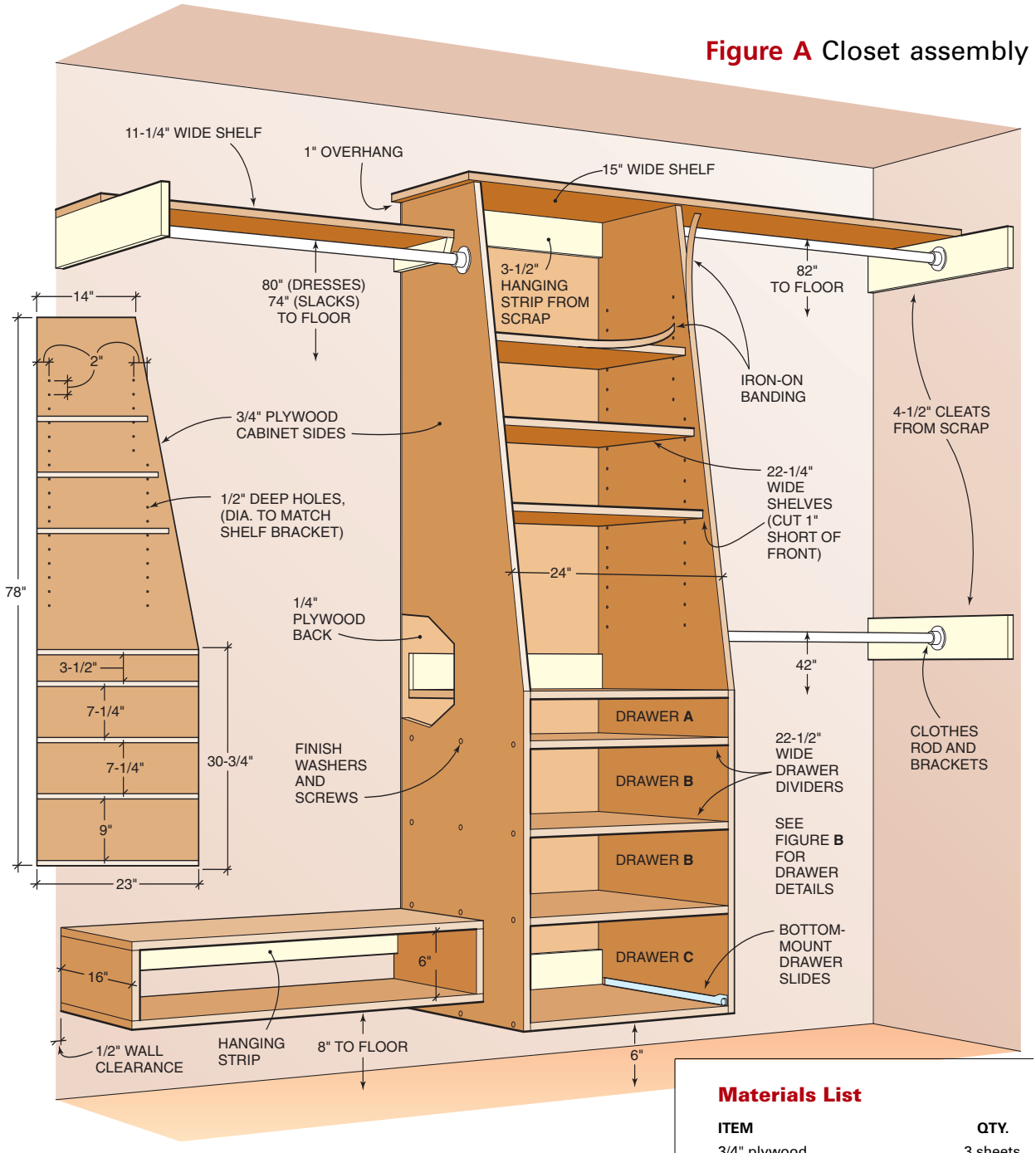
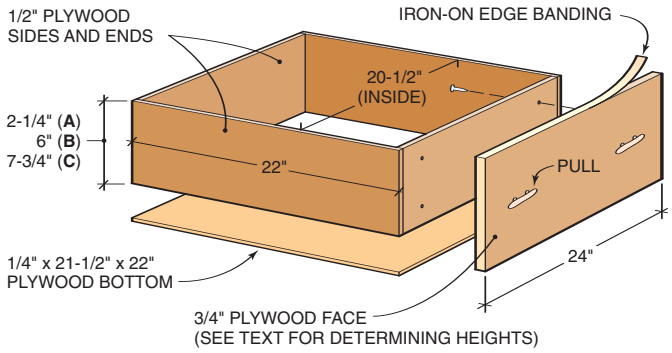
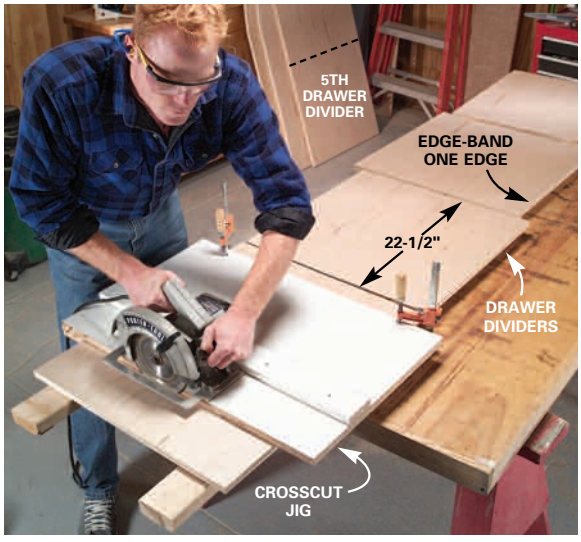


Figure B Drawer assembly

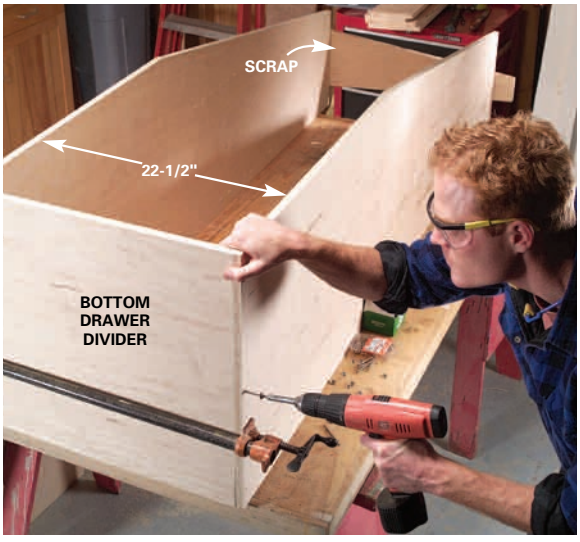


Materials List

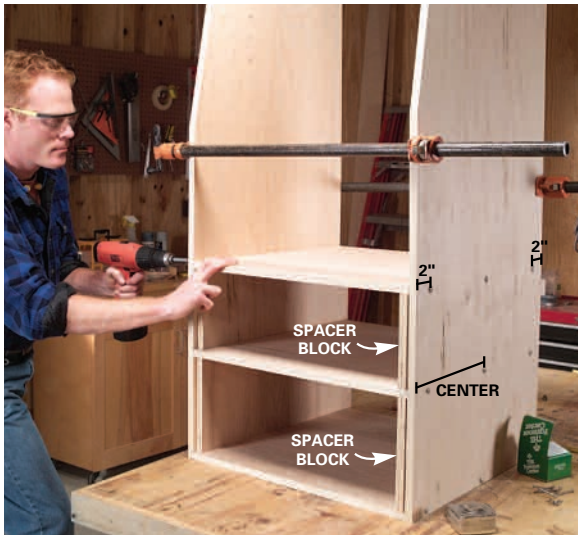
ITEM	QTY.
3/4" plywood	3 sheets
1/2" plywood (buy a 4x4 sheet if it's available)	1 sheet
1/4" plywood	1 sheet
Iron-on edge banding	3 rolls
Construction adhesive	1 tube
Woodworking glue	
8' chrome closet rods	1
6' chrome closet rods	1
Closet rod end brackets	3 sets
No. 8 finish washers	50
No. 8 2" oval head screws	40
No. 8 3" oval head screws	12
22" "Liberty" bottom-mount drawer slides	4 sets
Drawer pulls	4 (or 8)
Shelf brackets	12



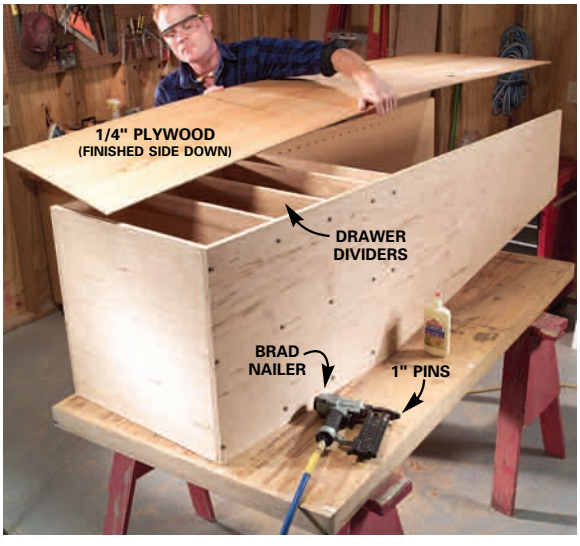
5 Cut the five edge-banded drawer dividers to length with the crosscutting jig, four from one length and one from the other.



6 Screw a scrap to the top of the cabinet, spacing the sides 22-1/2 in. apart, then clamp the bottom drawer divider between the sides. Predrill and fasten.



7 Stand the cabinet upright and rip spacer blocks from scrap to space and support the other drawer dividers as you screw them into place.



8 Glue and pin the cabinet back to the sides and dividers to square the cabinet. Then glue and pin the hanging strips to the back and sides.

woodwork. All of the materials shown are found at any well-stocked home center. See the list on p. 37.

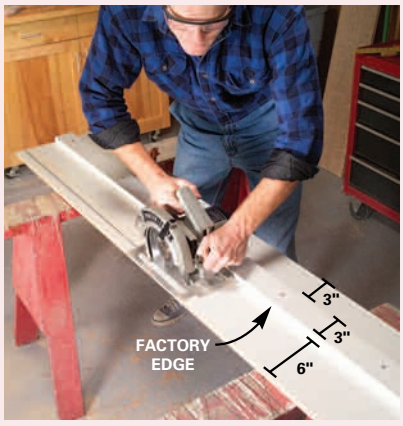
As for tools, you don't need much aside from a good circular saw, a screw gun, a carpenter's square and two 30-in. bar clamps. You'll also have to blow the dust off the clothes iron and use it to apply the edge banding (**Photo 2**). But there are a few other optional tools you'll find useful. While it is possible to hand-nail the parts together, a brad nailer (**Photo 8**) will speed up construction. (Since you can now buy a brad nailer for under $100, this project is a good excuse to add it to the toy collection.) Also pick up an edge-banding trimmer for quick, accurate edge trimming (less than $10; **Photo 3**).

Building the cabinet box

Start the project by cutting the cabinet box sides (**Photo 1**) and two 23-in. wide lengths for the drawer dividers; see **Photos 1 and 5**. Consult **Figure A** on p. 37 for all of the cutting dimensions. Before you cut the drawer dividers to length, edge-band one

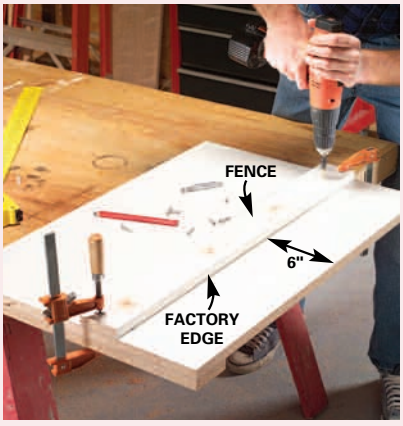
Cutting plywood with simple jigs and a circular saw

If you have a full-size table saw, great—you'll be able to use it for most of the plywood cuts. If you have a portable table saw, use it for the smaller ripping jobs like making the shelving and drawer parts. But you can also do a fine job with only a circular saw fitted with a plywood blade and a couple of simple, screw-together jigs made from cheap Melamine closet shelving stock.



Ripping jig: Use an 8-ft. length of 16-in. wide shelving to build the ripping jig. Draw a line 3 in. from the edge and cut along it with the circular saw. Screw this piece to the larger piece about 3 in. away from one edge with the factory edge facing the widest section of shelving as shown. Then use that edge as a guide to cut off the Melamine. Now it's just a matter of lining up that edge with marks on plywood stock and clamping it to make perfect cuts up to 8 ft. long on any piece of plywood (Photo 1).

Crosscutting jig: You can use the ripping jig for crosscutting, too, but this crosscutting jig has the advantage of a stop on the bottom. Push the stop against the plywood, align it with the cutting mark and clamp for quick, accurate crosscuts. Make it from a 4-ft. length of 24-in. wide Melamine shelving (or plywood if wide shelving isn't available). Cut a 4-in. wide strip for the stop from one end and another 4-in. wide strip from one edge for the fence. Align the factory edge of the short piece with the factory edge at the other end of the shelving to make the stop. Then clamp and screw the two pieces together while checking alignment with a carpenter's square. Flip the jig over and measure from the long factory edge 6 in. to position and screw the long saw guide as shown. The key with both jigs is to use the straight factory edges for guiding the saw.



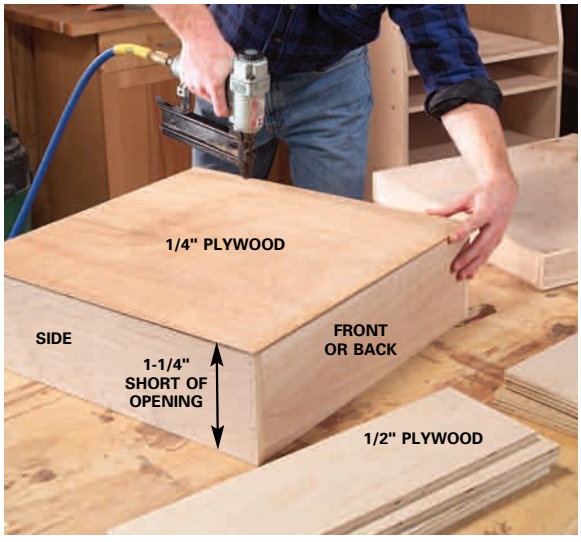
edge. That way the exposed edges will be finished before they're cut to length (**Photo 5**).

Before you assemble the cabinet, drill the holes for the adjustable shelving. We show the old trick of using a pegboard jig for consistent hole spacing (**Photo 4**). Because the sides taper, you'll have to shift over a row or two of holes to keep the narrower top shelf brackets within a few inches of the front. Try to keep the front and rear holes about 2 in. from the edge. Buy a drill bit that matches the shaft on the shelving brackets that you chose. It's best to use a "brad point" drill bit to keep from splintering the veneer. Either use a depth stop or mark the drill bit with a piece of tape to keep from drilling through the plywood.

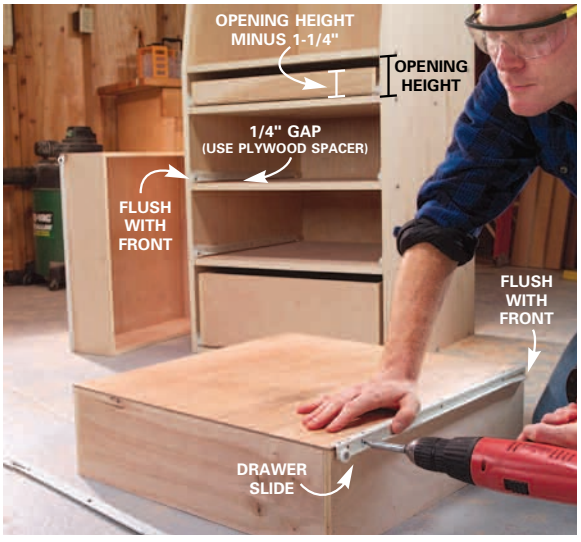
Begin assembling the cabinet on its back by attaching a spacer strip at the top and then screwing the bottom drawer divider into place (**Photo 6**). Predrill with a 1/8-in. bit and drive 2-in. long No. 8 oval head screws with finish washers (p. 38). Then stand the cabinet and, using spacer blocks ripped from scraps, position and hold the drawer dividers in place while you screw them to the sides. Keeping the dividers tight to the spacers as you screw them into place is important for the drawers to work properly.

Edge-banding basics

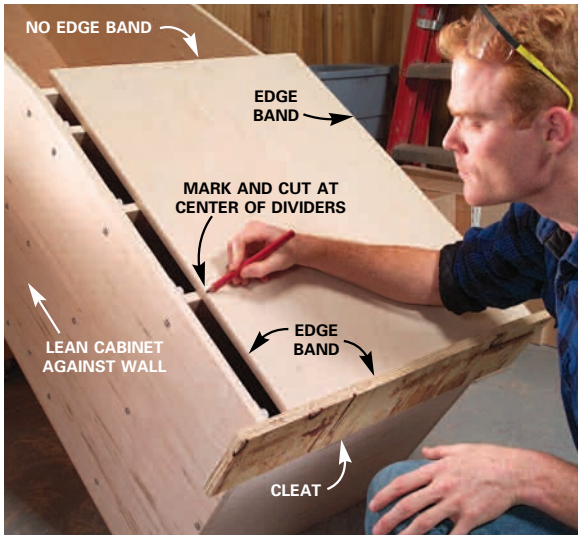
If you've never used iron-on edge banding, it'll only take you a couple of attempts to achieve proficiency. Don't worry if you make a mistake; run the iron over it again and the heat-sensitive glue will release so you can adjust the piece and iron it back on again. Cut each strip of banding about 1 in. extra long with a sharp scissors. Leave about 1/2 in. or more of banding



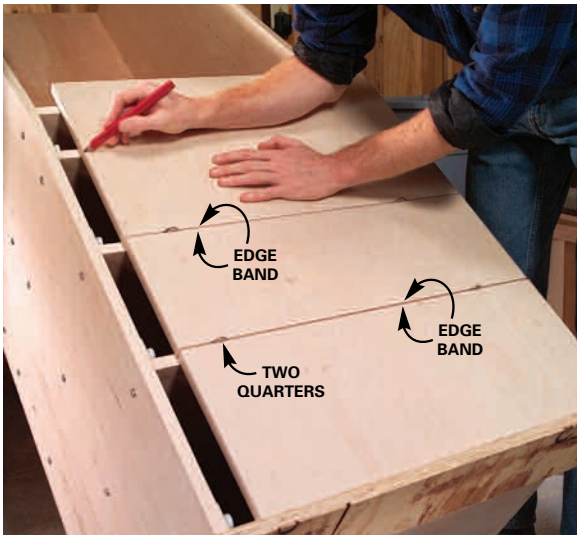
9 Glue and pin the drawer sides together with 1-in. brads. Before the glue sets, square each drawer by gluing and pinning the bottom in place.



10 Screw the drawer slides into the cabinet and bottom edges of the drawer boxes. Slide each drawer into place to check the fit.



11 Set the drawer front panel (edge-banded on three sides) on a temporary cleat screwed to the cabinet bottom. Mark and cut the lowest drawer front. Edge-band the raw edges.



12 Space each panel two quarter thicknesses apart, then measure and cut the next. Edge-band the two raw edges that meet, then repeat the procedure for the next panel.

overhanging the starting corner because it tends to creep when you iron it. Move the iron along (set on "cotton") at about 1 in. per second all the way to the other end, guiding it with your other hand as you go. As you guide it, make sure the banding edges hang over each side of the plywood. Before it cools, push a block or roller over it to embed the banding. Then let the banding cool for 30 seconds or so and check for voids. Re-iron and embed any loose spots.

Cut the ends as close to the plywood as possible with the scissors and then run the edge-band trimmer down both sides to trim off the overhang. You'll have to make multiple passes to get all of the spots flush. The trimmer works best if you trim with the grain. Sometimes that means reversing direction in the middle of trimming. Use a file held at a 45-degree angle to remove oozed-out glue and banding that's still a little proud, then sand all the joints smooth with a sanding block and 100-grit paper.

You'll save a lot of time simply by edge-banding all the parts after ripping them to width and before cutting them to length. Then you won't have so many individual parts to edge-band, or those pesky short drawer front ends to deal

13 Place crumpled newspaper behind each drawer and replace the drawers. They should stick out about 1/2 in. beyond the cabinet front.

14 Apply four beads of construction adhesive to the drawer boxes and restack the drawer fronts, spacing them with double quarters.

15 Lay a board across each edge of the fronts and clamp overnight. Then drive four 1-in. screws through each box into the fronts.

16 Set cabinet on blocks and center it in closet. Plumb it, shimming as needed, and drill 1/8-in. pilot holes through the cleats into studs or drywall.

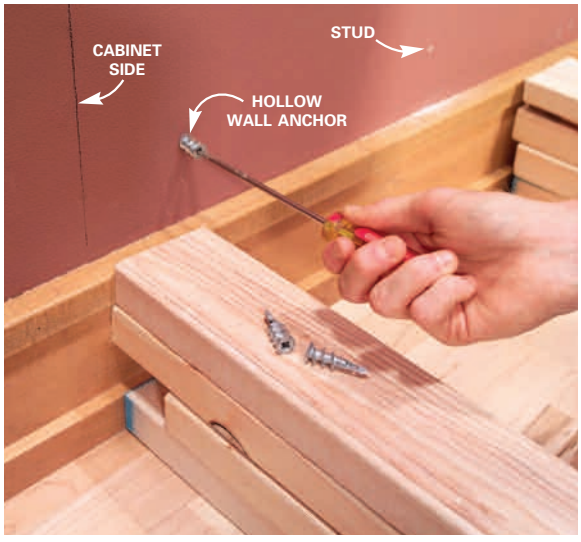
with. Pay attention to the simple little clamping tip shown in **Photo 2**. Screw a shelf bracket down and clamp the wood to it. That'll hold the pieces steady for edge banding.

Drawer construction

The prospect of building drawers makes most neophyte woodworkers' knees rattle, but don't worry—it's not all that hard. The key is to build the cabinet and the drawer boxes square. If you're using drawer slides other than the ones we call for, be sure to read the directions before building the drawers. They'll tell you the necessary height and side-to-side clearances.

Building a square drawer is easy if you pin together the sides and then square them up with the plywood bottom before the glue dries (**Photo 9**). Accurate side-to-side dimensions are crucial. You can always shim out the drawer slides if the drawers are a little narrow, but if they're too wide, you'll have to rebuild them.

Now is a good time to finish ripping and edge-banding your adjustable and fixed shelves. Don't cut them to final width until the cabinet is mounted so you can measure and cut exact widths to fit their selected positions. Stain and finish everything at the same time



17 **Remove the cabinet and screw drywall anchors into the holes without stud backing. Reposition the cabinet and screw it to the wall.**

18 **Build the shoebox about 1/2 in. short of the wall. Screw a cleat to the wall, then screw the box to the cabinet and nail it to the cleat.**

19 **Screw the closet rod brackets to the cleats and the cabinet, then install the clothes rods. Cut the top shelves and fasten them to cleats (Figure A).**

20 **Add the drawer pulls and adjustable shelves, then fill it up. *Still* not enough space? Donate whatever doesn't fit!**

prior to installation. We used an oil-based honey maple stain and top-coated it with two coats of satin polyurethane.

Making it fit in your closet

The cabinet unit is 78 in. tall, so it will fit in any closet with 8-ft. walls, even with the 6-in. gap at the floor. Alter the height if you have a lower ceiling.

You'll have to set the cabinet aside before mounting it to install drywall anchors unless you're lucky enough to have the cabinet fall in front of two studs. Position the cabinet in the closet, then plumb and mark the wall (**Photo 17**) so the pilot holes line up with the anchors after you reset it. Then measure to the wall to determine the final length for the top shelf—don't forget to add 1 in. for the left-side overhang. Place cleats and shelves anywhere you wish. Build the cabinet taller, wider or with more drawers. Drawer sizes can be easily altered too—make deeper ones for sweaters or shallower ones for socks. The project how-to's shown will work for any configuration that best suits your needs.

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Photography • BILL ZUEHLKE
Technical Art • EUGENE THOMPSON