WOOD® MAGAZINE'S

best Workshop Ideas

10 Great projects to improve any woodworking shop

INCLUDING:

- SUPER-TOUGH WORKBENCH
- LUMBER-STORAGE RACK
- WALL-CABINET SYSTEM

Supplement to WOOD® Magazine

Letter from the Editor

Rarely a day goes by when I'm not reminded of how much the readers of *WOOD*® magazine appreciate articles on improving their workshops. Through letters, e-mail, phone calls, and surveys, woodworkers tell me that they love to discover new ways to organize their tools, materials, and accessories.

That comes as little surprise, of course. For many of us, our workshops are the most important "rooms" we live in. Woodworking provides us with a peaceful escape from the cares of the world, and a conduit for expressing ourselves creatively. Naturally, we want these spaces to function efficiently and be comfortable.

So, I'm extremely pleased to offer you this idea-packed booklet of some of our best-ever shop projects. If you like these kinds of projects, stay tuned to future issues of *WOOD* magazine where you'll find more great shop ideas in every issue. I guarantee it!

Bill Krier

WOOD Magazine's

Best Workshop Ideas

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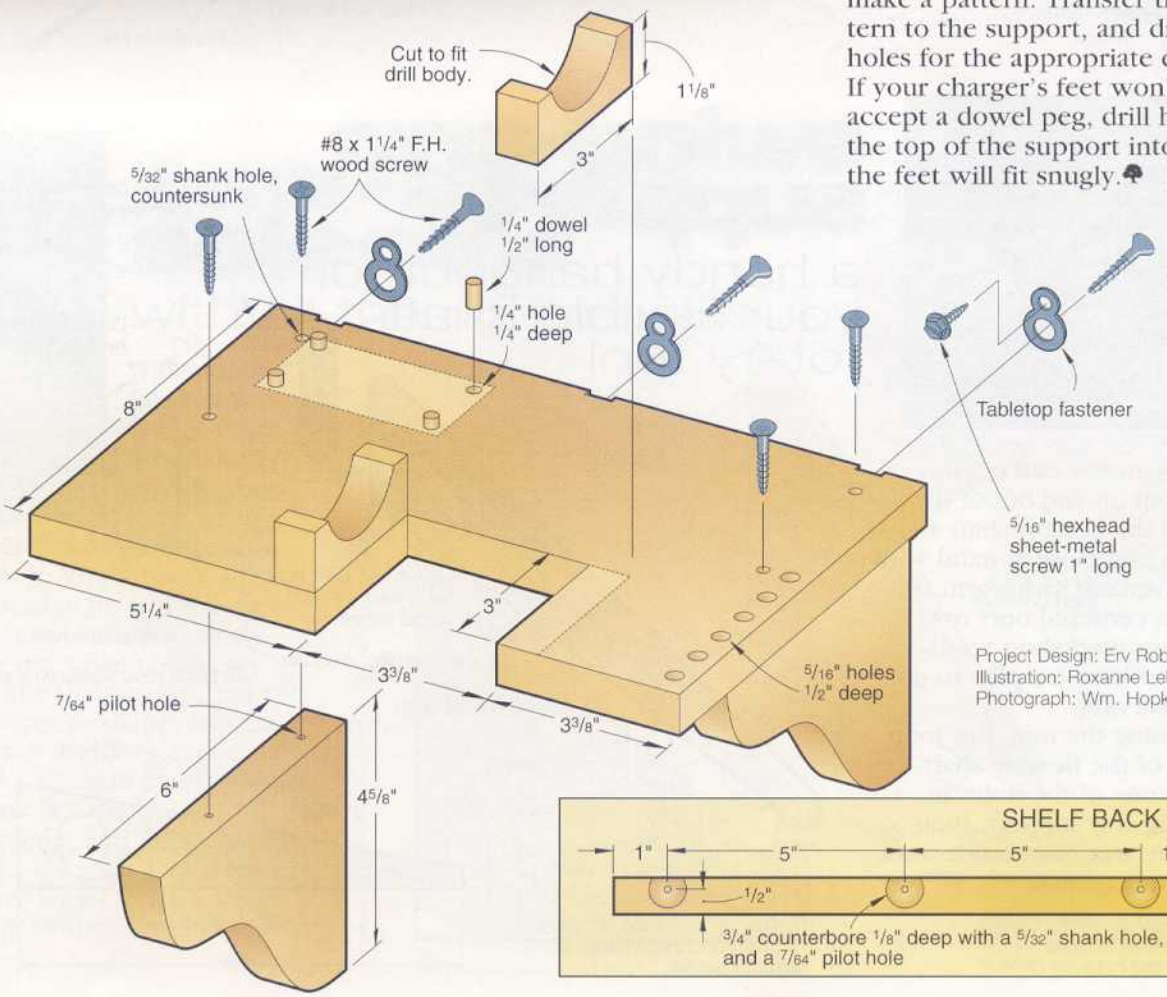
recharging station

This handy workshop accessory goes together quickly, and always will be close to your work and fully charged when you're ready to use it.

You'll have to customize the support to accommodate your particular drill and charger. (We built the support shown for a Hitachi handle drill). For instance, if you have a pistol-grip style drill, you may need to shift the grip opening to the right and modify or reposition one or both cradle brackets to hold the drill.

The charger's feet fit over short lengths of dowel to keep the charger from shifting on the support. To position the dowels correctly, touch an inkpad lightly to the charger's feet, then set the charger on a sheet of paper to make a pattern. Transfer the pattern to the support, and drill holes for the appropriate dowels. If your charger's feet won't accept a dowel peg, drill holes in the top of the support into which the feet will fit snugly.



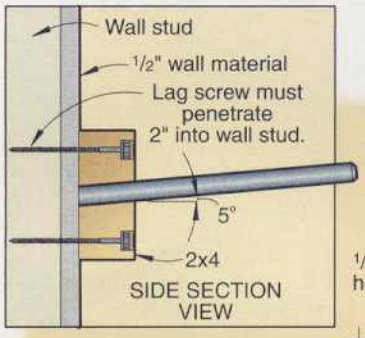
Project Design: Erv Roberts
Illustration: Roxanne LeMoine
Photograph: Wm. Hopkins

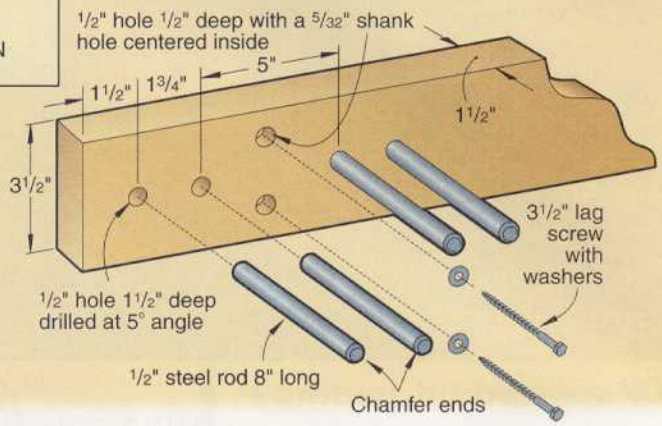
the heavyweight champ of

pipe-clamp racks

Sturdy steel rods won't bend or break

By building this pipe-clamp rack (it takes no time at all), you can store dozens of clamps in a small space. You'll need some 2×4 stock, ½" steel rod, 3½" lag screws, and washers. Drill ½" holes at a 5° upward angle through the 2×4 where shown. Then, attach the 2×4 to your wall with the lag screws. Cut your steel rod and chamfer the ends (for safety) with a file or bench grinder. Drive the rods into the holes in the 2×4, and hang your clamps.





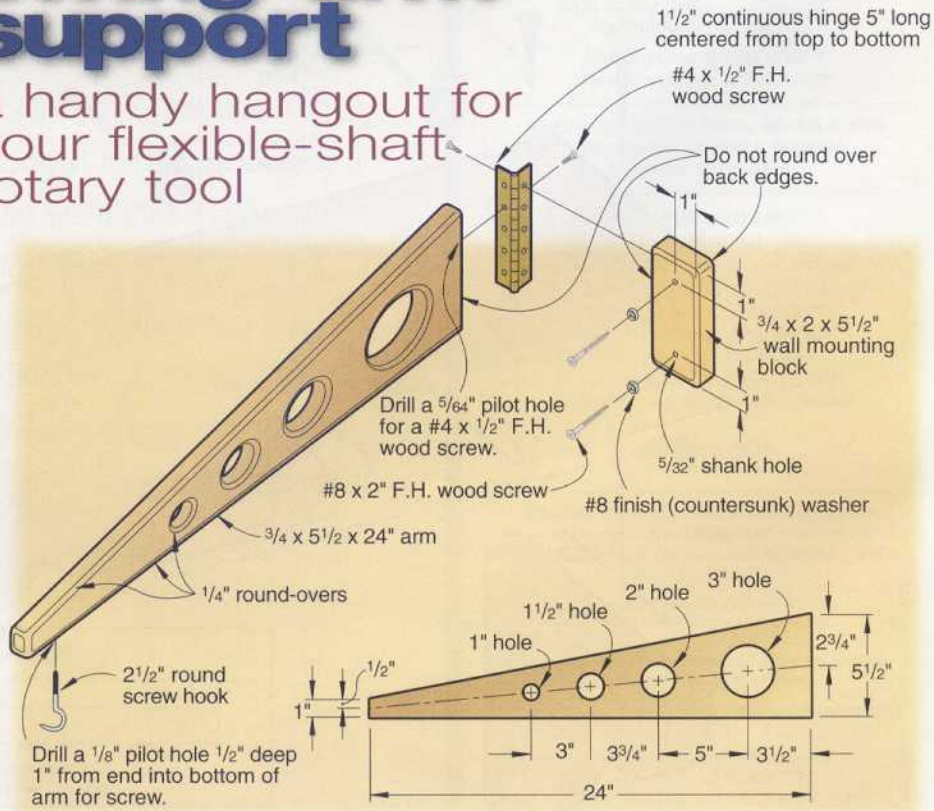
Project Design: James R. Downing
Photograph: Hetherington Photography
Illustrations: Roxanne LeMoine

swing-arm support

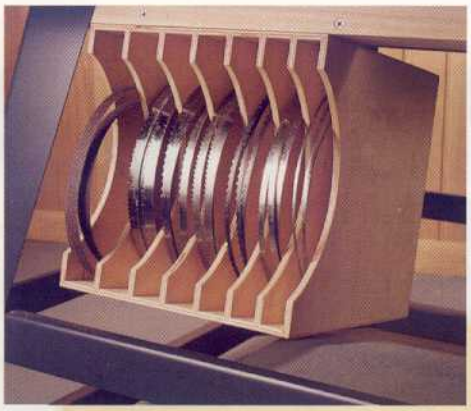
a handy hangout for your flexible-shaft rotary tool

Keep the motor end of your rotary tool up and out of the way and the flexible-shaft and business end close at hand with this convenient swing-arm support. We centered ours over one of our workshop workbenches where we plan to do a lot of carving.

After using the tool, just loop the end of the flexible shaft through one of the holes in the swing-arm support, then swing the arm to one side until you need it again.

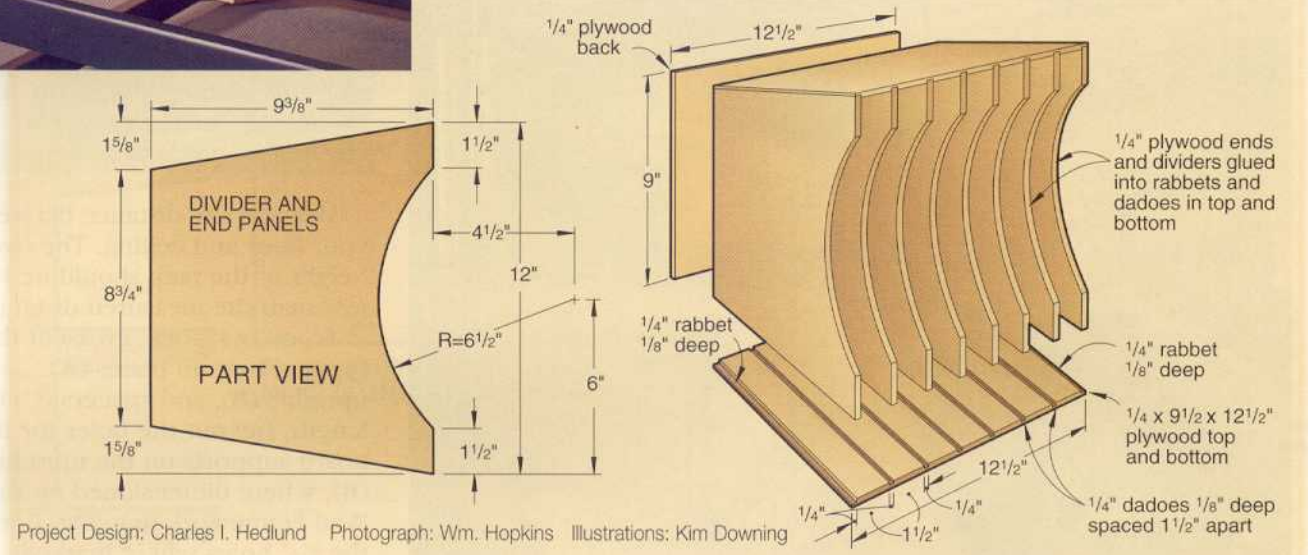


Project Design: James R. Downing
Photograph: Wm. Hopkins
Illustrations: Kim Downing



the all-business bandsaw
blade holder

Protect and store your blades with this handy organizer made from ¼" birch plywood. After cutting the parts and gluing them together, we mounted the holder to our bandsaw base. Or, if you prefer, you can fasten the organizer to a wall or cabinet side, keeping your blades close at hand for when you're ready to work.

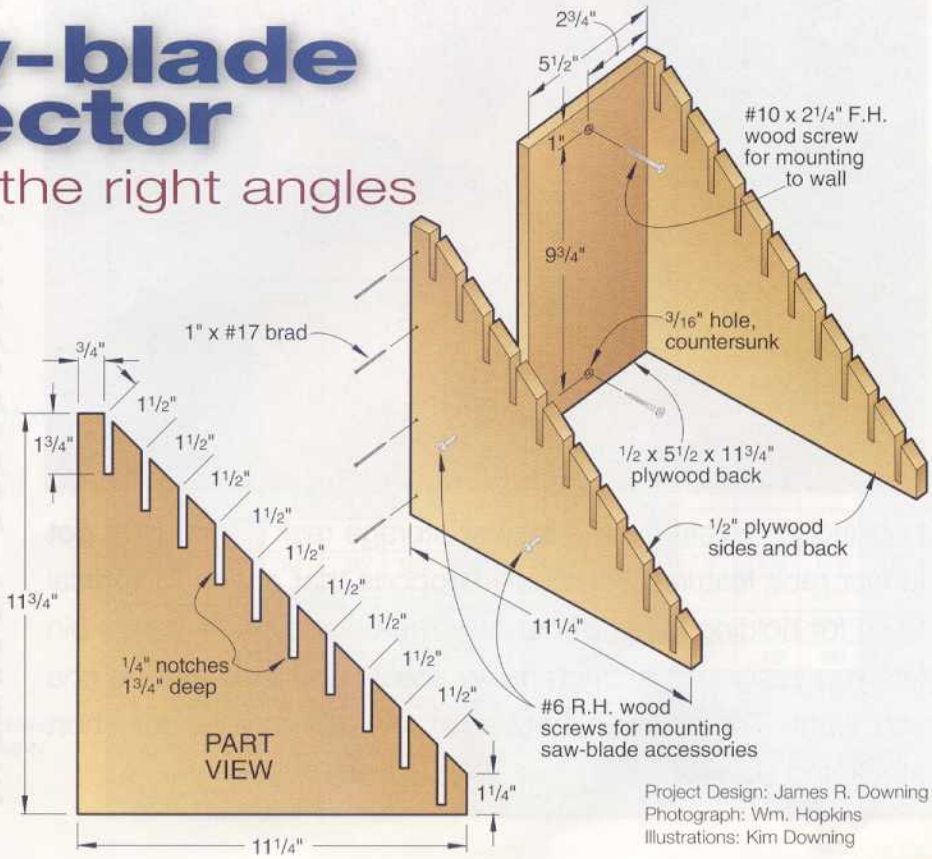


Project Design: Charles I. Hedlund Photograph: Wm. Hopkins Illustrations: Kim Downing

saw-blade selector
with all the right angles

Wall-mount this handy holder near the stationary saws in your shop, or, if you like, place it on a convenient benchtop. You'll find it the ideal storage project for organizing an assortment of saw blades and a dado-blade set.

To make the notches, cut the side pieces to shape, and mark the notch locations. Then, mount a ¼" dado blade to your tablesaw; tilt the blade 40° from center; and, using your miter gauge with an attached auxiliary wood fence for support, make the cuts.



Project Design: James R. Downing
Photograph: Wm. Hopkins
Illustrations: Kim Downing

space-saving lumber

Looking for versatility in a lumber storage rack? This one's got it! Our rack features adjustable supports that attach to vertical 2x4s for holding loads of boards. The unique sheet-goods bin lets you easily sort through heavy sheets and slide out the one you want. There's even between-the-studs storage for short stock and dowels.

Start with the wall framework

Note: *We built our rack to fit against an existing drywalled wall. If you have an exposed stud wall and would like to use it, skip this section and build only the storage rack components covered in the later sections.*

1 Measure the distance between your floor and ceiling. The overall height of the rack should be ¼" less than the measured distance.

2 From 2×4 stock, crosscut the top and bottom plates (A), uprights (B), and spacers (C) to length. Lay out the holes for the board supports on the uprights (B), where dimensioned on the Wall Framework drawing. Bore the 9/16" holes where marked.

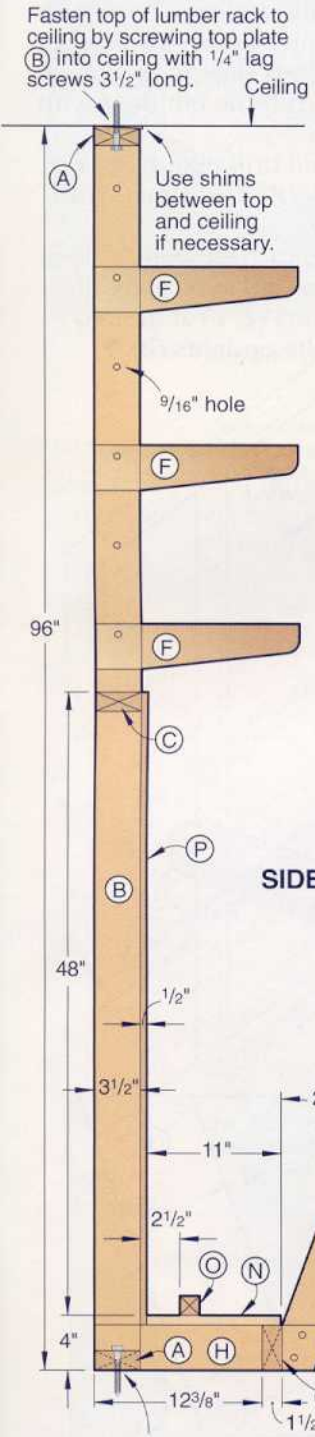
3 Position the pieces on the floor, and screw the framework together in the configuration shown on the Wall Framework drawing. Square the uprights with the bottom plate.

Caution: *Considering the amount of weight that this unit can hold, you must securely anchor the framework to wall studs and ceiling joists. If the joists run perpendicular to the top plate, screw through the top plate and directly into them. If the joists are parallel to the top plate, install 2×4 blocking between the joists, and screw the top plate to the blocking.*

4 With a helper, lift the wall framework into position. Shim the top plate against the ceiling, and firmly secure the top plate to the joists in your shop's ceiling. (We used ¼" lag screws 3½" long.) If you can hit wall studs, drill 2" deep counterbored holes through

Continued

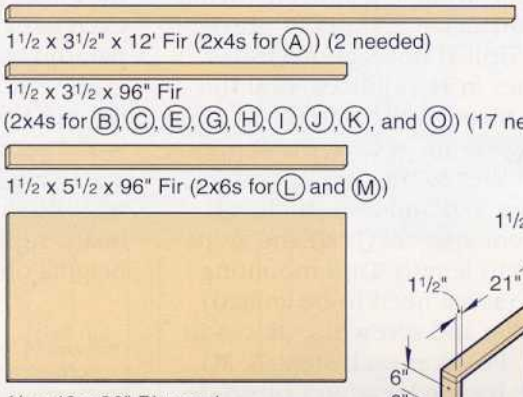
storage rack

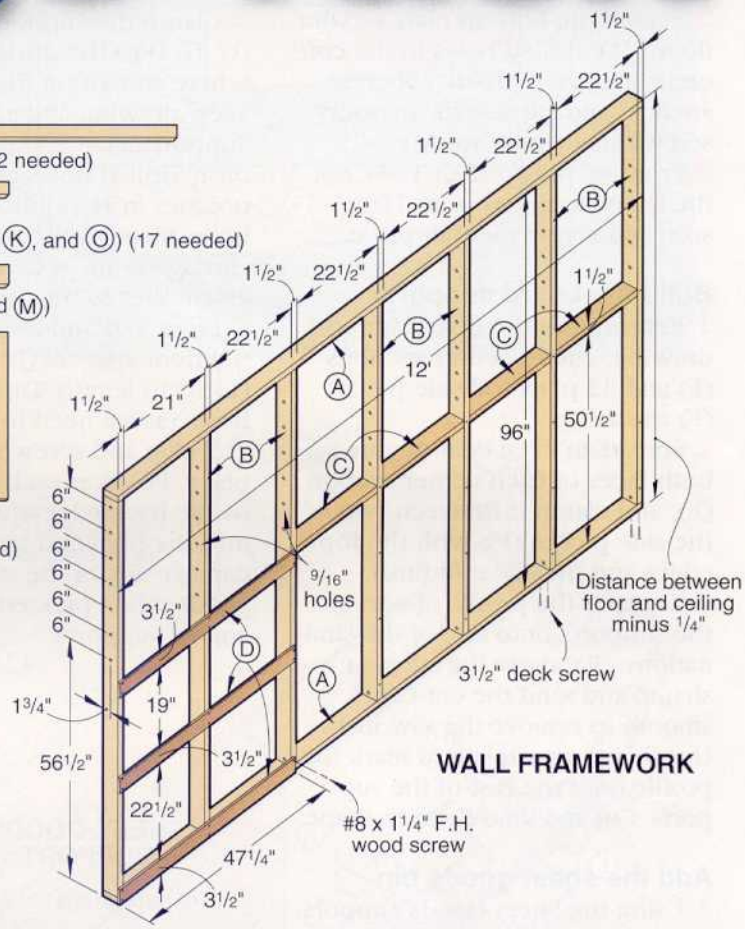


SIDE VIEW

Secure bottom of lumber rack to floor by screwing bottom plate (A) to floor with masonry screws or concrete anchors and lag screws.

CUTTING DIAGRAM





WALL FRAMEWORK

bill of materials

Part	Finished Size T	W	L	Matl.	Qty.
WALL FRAMEWORK					
A top & btm plates	1½"	3½"	12'	C	2
B* uprights	1½"	3½"	93"	C	7
C spacers	1½"	3½"	22½"	C	4
D stops	½"	3½"	47¼"	PLY	3
BOARD SUPPORTS					
E center	1½"	3½"	12"	C	21
F sides	½"	3½"	15½"	PLY	42

Part	Finished Size T	W	L	Matl.	Qty.
SHEET-GOODS BIN					
G angled supports	1½"	3½"	32"	C	5
H floor supports	1½"	3½"	18"	C	5
I cleats	¾"	1½"	4¼"	C	8
J spacers	1½"	3½"	22½"	C	3
K spacer	1½"	3½"	19½"	C	1
L steps	1½"	5½"	22½"	C	3
M step	1½"	5½"	19½"	C	1
N floor	½"	11"	94½"	PLY	1
O cleat	1½"	1½"	94½"	C	1
P back	½"	48"	96"	PLY	1

Supplies: 3½" deck screws, #8×1¼" flathead wood screws, #8×1½" flathead wood screws, #8×2½" flathead wood screws, #8×3" flathead wood screws, ¼" lag screws 3½" long with flat washers and nuts, ½" carriage bolts 2" long with flat washers and nuts, ½" carriage bolts 3" long with flat washers and nuts, ½" carriage bolts 3½" long with flat washers and nuts, paraffin wax, masonry screws.

*Length will depend on distance from floor to ceiling at chosen rack location.

Materials Key: C–choice (fir, pine, spruce), PLY–plywood.

the uprights (B) or spacers (C), and use 3"-long screws to further secure the framework.

5 Secure the bottom plate to your floor. (We drilled holes in the concrete, and used plastic concrete anchors and lag screws; masonry screws also would work.)

6 From ¾" plywood or 1×4s, cut the short-stock bin stops (D) to size, and screw them in place.

Build the board supports

1 Referring to the Board Support drawing, cut 21 center sections (E) and 42 plywood side pieces (F) to size.

2 Spread an even coat of glue on both faces of each center section (E), and clamp it between two of the side pieces (F), with the top edges and outside end flush.

3 Transfer the profile of one of the supports onto one of the laminations. Bandsaw the support to shape, and sand the cut edges smooth to remove the saw marks. Use this as a template to mark the profile onto the rest of the supports. Cut and sand them to shape.

Add the sheet-goods bin

1 Using the Sheet-Goods Support drawing and accompanying details, cut the angled supports (G), floor supports (H), and cleats (I) to size. Cut 20° half-lap joints in the H and I pieces, where shown on the drawing. Referring to the Cleat detail, miter the ends of the step cleats (I) at 20°.

2 Cut a 1½×3½" notch in the back of each floor support (H), where shown on the drawing.

3 Glue and clamp the supports together. After the glue dries, cut off the waste areas, where shown on the Hole detail.

4 Mark the centerpoints, and drill a pair of ½" holes in each glued half lap and a single ½" hole above each notch. To strengthen the joints, add a pair of carriage bolts with flat washers and nuts to each of the half-lap joints.

5 Drill the mounting holes, and glue and screw the stop cleats to the angled supports (G).

6 Clamp the support assemblies (G, H, I) to the uprights (B), where shown on the Exploded View drawing and accompanying Support detail. Using the previously drilled holes above the notches in H as guides, drill the holes through the uprights. Using carriage bolts, secure the support assemblies to the 2×4 uprights.

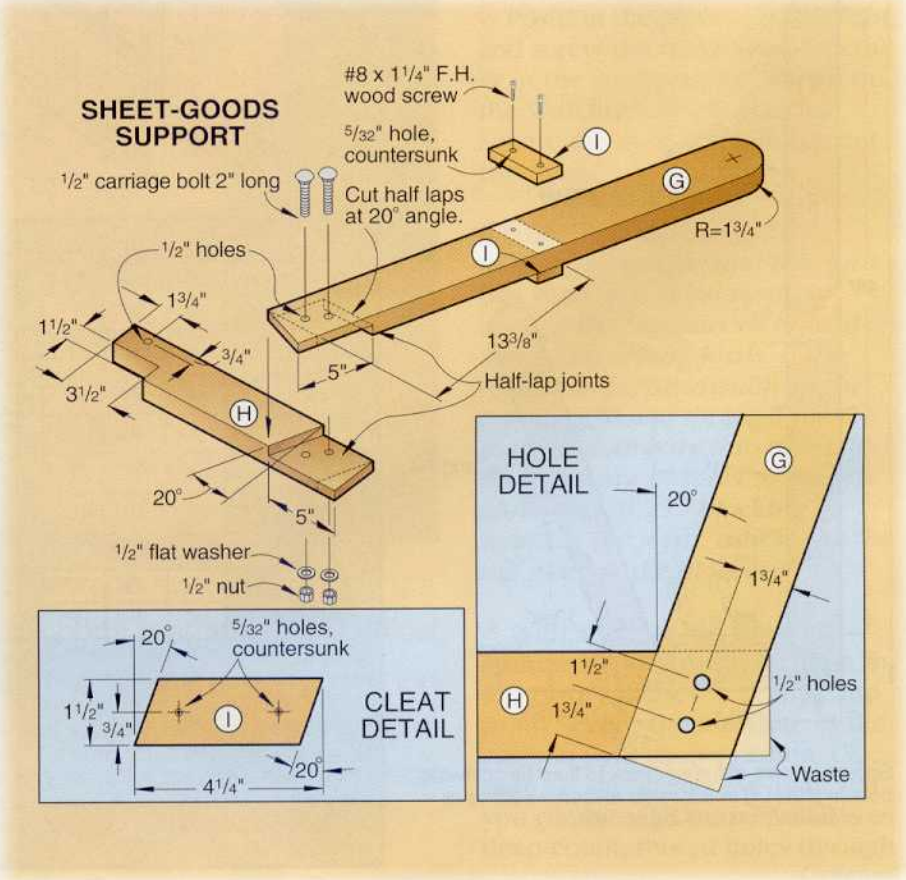
7 From 2×4 and 2×6 stock, cut the floor spacers (J, K) and steps (L, M) to length. Drill mounting holes (some need to be angled), and glue and screw the pieces in place. Position each step (L, M), so the back edge won't protrude into the plywood bin and possibly damage any of the stored sheet goods when pressed against the angled supports.

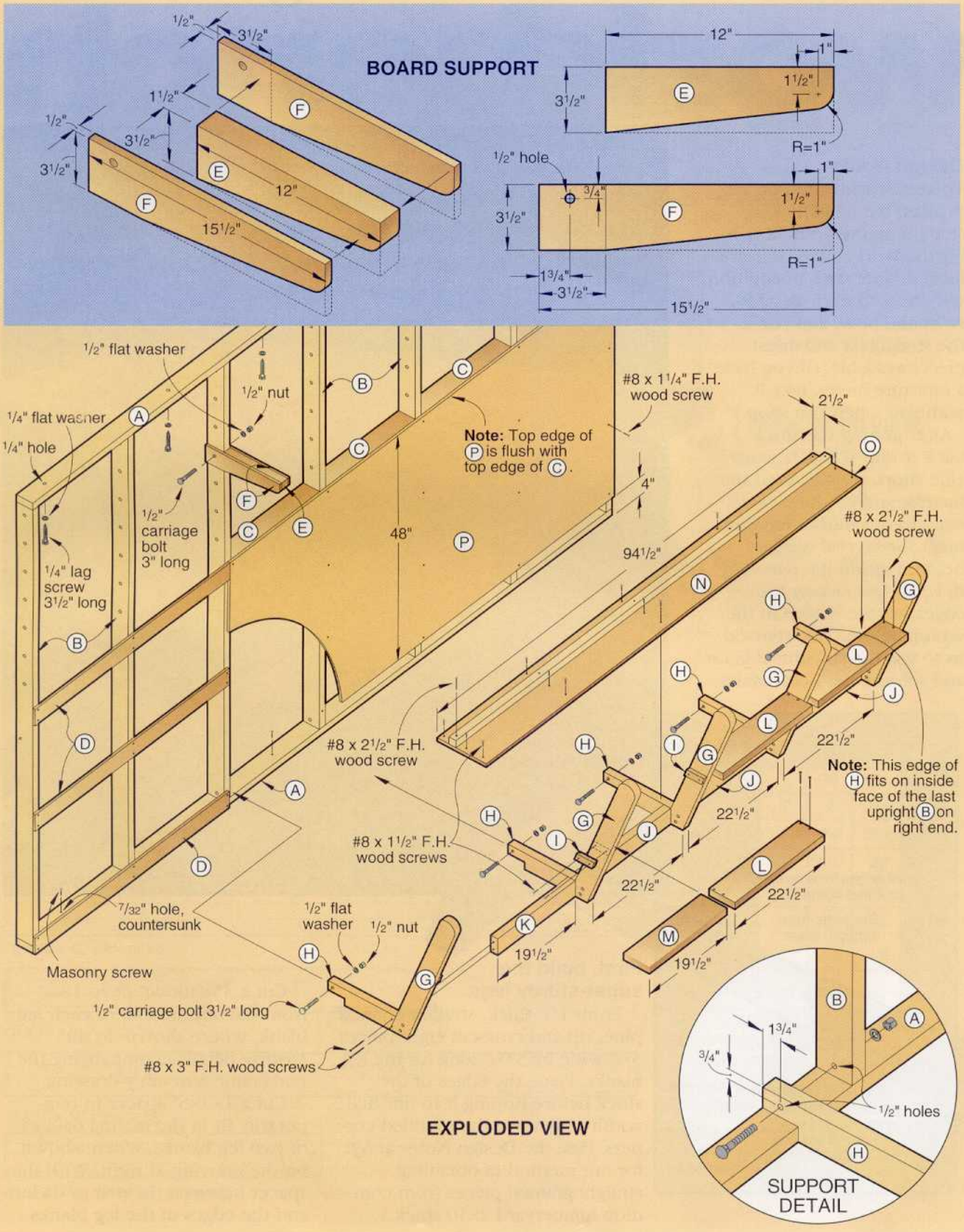
8 Cut the bin floor (N) and the floor cleat (O) to size. Position the pieces, drill mounting holes where shown on the Exploded View drawing, and attach them to the floor supports (H). To make the sheet goods slide in and out even easier, rub the bin floor with paraffin wax.

9 Lay out and drill pilot holes on the bin back (P), and attach with wood screws.

10 Using ½" carriage bolts 3" long with washers and nuts, hang the board supports (E, F) at desired heights on the uprights (B).

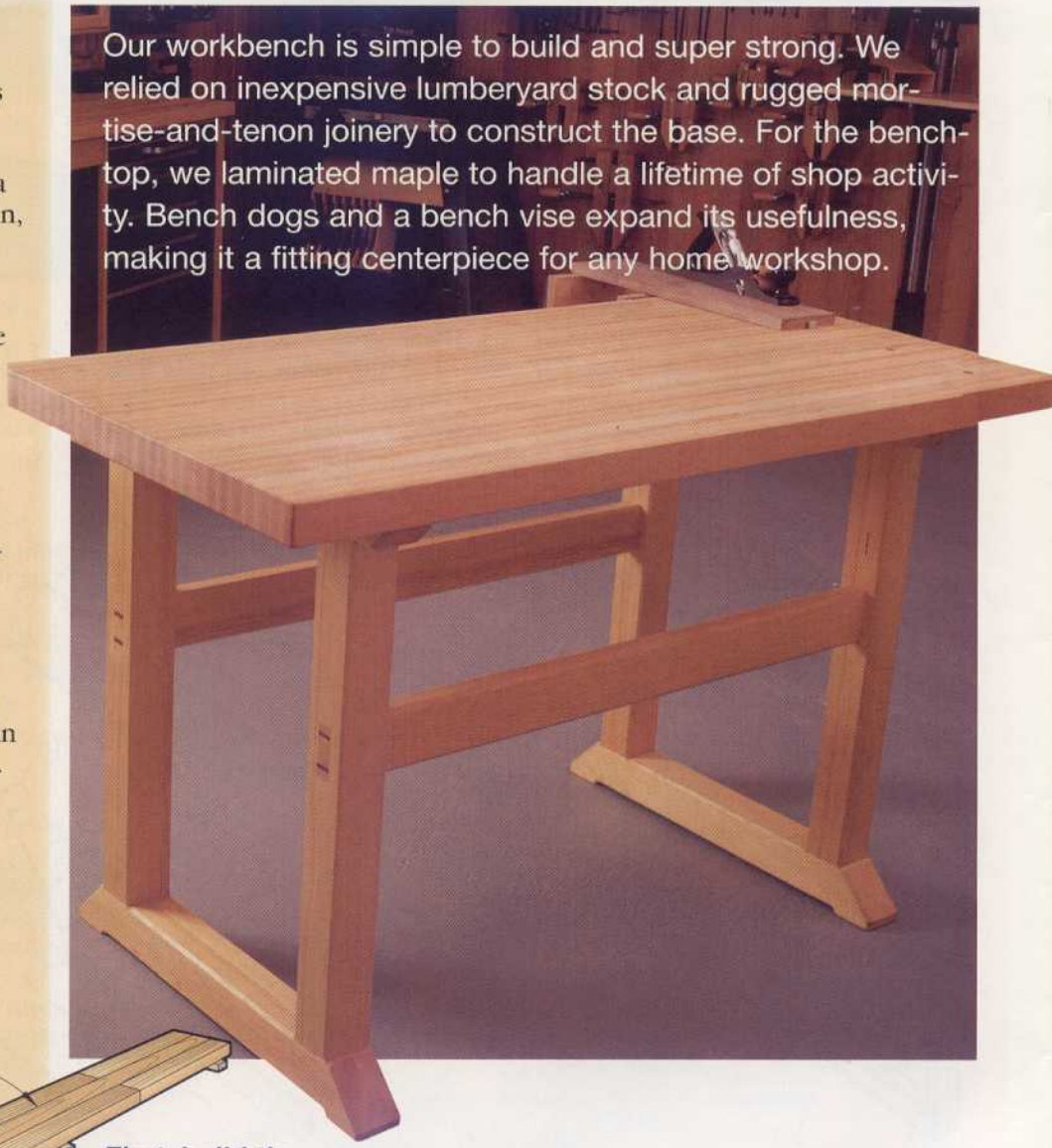
Produced by Marlen Kemmet
Project Design: James R. Downing
Photograph: Wm. Hopkins
Illustrations: Kim Downing





EXPLODED VIEW

build a hard-working workbench

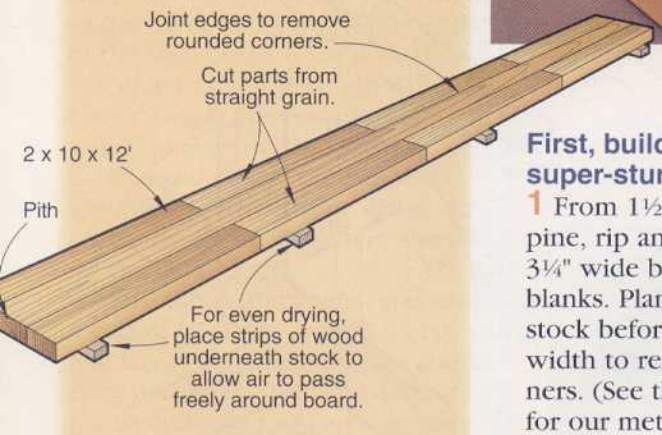


Our workbench is simple to build and super strong. We relied on inexpensive lumberyard stock and rugged mortise-and-tenon joinery to construct the base. For the benchtop, we laminated maple to handle a lifetime of shop activity. Bench dogs and a bench vise expand its usefulness, making it a fitting centerpiece for any home workshop.

Design Notes

To keep costs down on this project, we hand-picked straight-grained pine 2×10s for the workbench base at a local lumberyard. In addition, we checked each 2×10 for twist and bow, and chose the straightest and driest pieces available. (If you have a moisture meter, take it with you when you shop.)

After getting the stock back to the *WOOD®* magazine shop, we stickered the boards, and let them acclimate to our indoor environment for several weeks before cutting the parts (A, B, C, D) from along the edges, where shown in the sketch below. This allowed us to use the straightest grain and achieve the best results.



First, build the super-sturdy legs

1 From 1½"-thick, straight-grained pine, rip and crosscut eight pieces 3¼" wide by 33¼" long for the leg blanks. Plane the edges of the stock before ripping it to finished width to remove the rounded corners. (See the Design Notes at *left* for our method of obtaining straight-grained pieces from common lumberyard 2×10 stock.)

2 Cut a 3" dado ½" deep 18¾" from the bottom end of each leg blank, where shown on the Mortise detail accompanying the End-Frame Assembly drawing.

3 Cut a 1×3×6" spacer to temporarily fit in the mating dadoes of two leg blanks, where shown on the drawing at *right*. With the spacer between the pair of dadoes and the edges of the leg blanks

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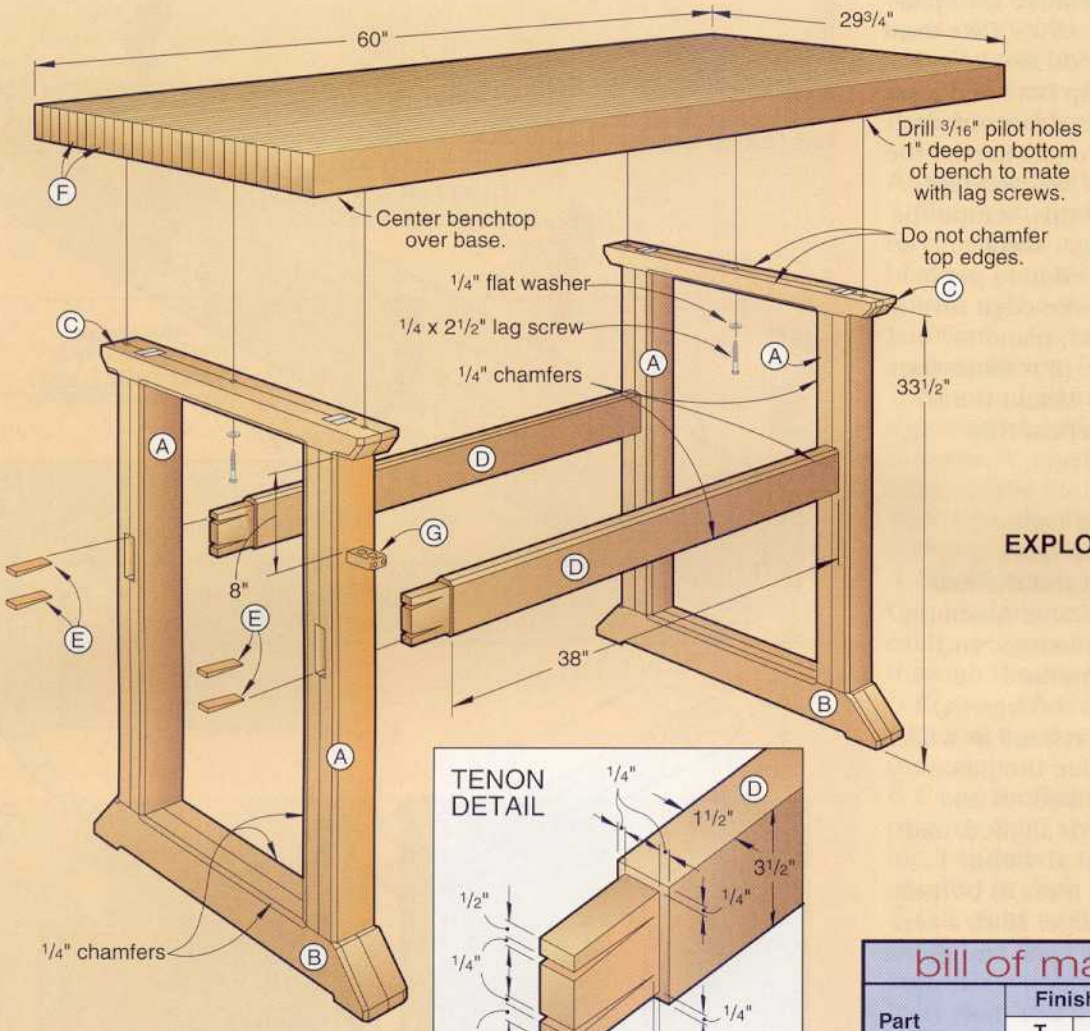
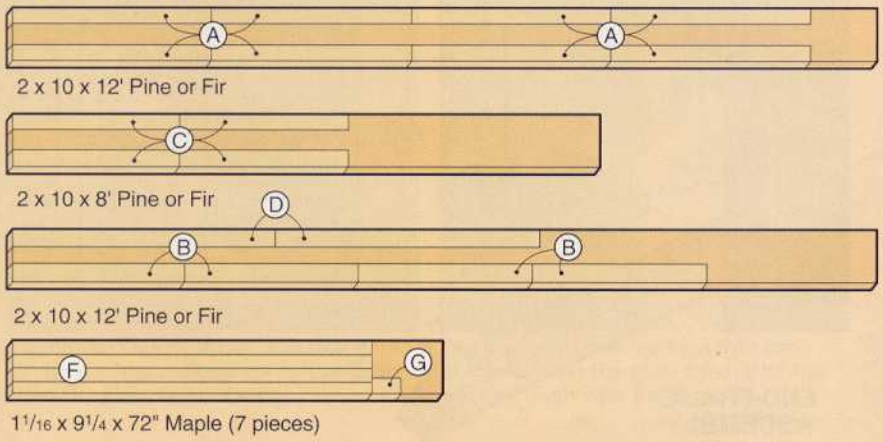


EXPLODED VIEW

CUTTING DIAGRAM



bill of materials

Part	Finished Size T	W	L	Matl.	Qty.
A* legs	3"	3"	33¼"	LP	4
B* feet	3"	3¼"	29½"	LP	2
C* rails	3"	1½"	28"	LP	2
D stretchers	1½"	3½"	44"	P	2
E* wedges	⅜"	1"	3¼"	DH	8
F* top pieces	1 1/16"	2¼"	60"	M	28
G dog holder	1 1/16"	1¾"	2⅝"	M	1

*Initially cut parts marked with * oversized in width. Trim to finished size according to the how-to instructions.

Materials Key: LP–laminated pine, P–pine, DH–dark hardwood, M–maple.

Supplies: 3–½" all-thread rods 27¼" long, 6–½" nuts, 6–½" flat washers, 6–¼ x 2½" lag screws, ¼" flat washers, clear finish.

flush, glue and clamp the pieces together. Then, remove the spacer before the glue dries. (We used pieces of scrapwood stock between the clamp jaws and legs to prevent the metal jaws from denting the softwood.) Repeat the clamping process for each leg.

4 Remove the clamps, scrape the glue from one edge, and plane ⅛" from the scraped edge to get it flat. Rip the opposite edge for a 3 1/16" width. Next, plane 1/16" from the cut edge to remove the saw marks and to obtain the 3" finished width. Repeat this process for each leg.

Add the feet and rails for a wobble-free base

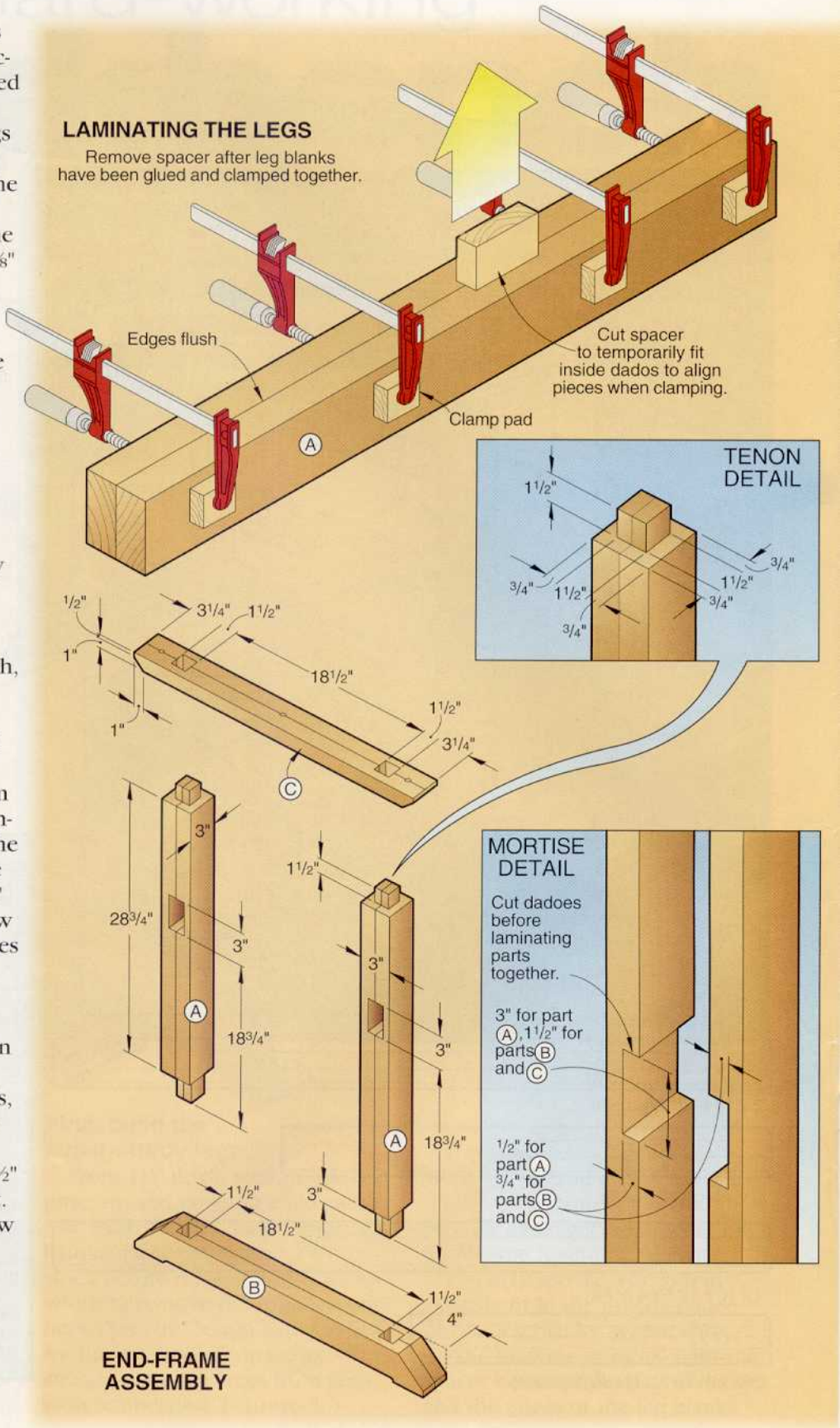
1 For the feet (B) and the rails (C), see the End-Frame Assembly and Parts View drawings, and follow the same method described to form the legs (A). Cut the pieces oversized in width, cut the dadoes, glue the pieces together with the dadoes and edges of the boards aligned, and then trim to finished width.

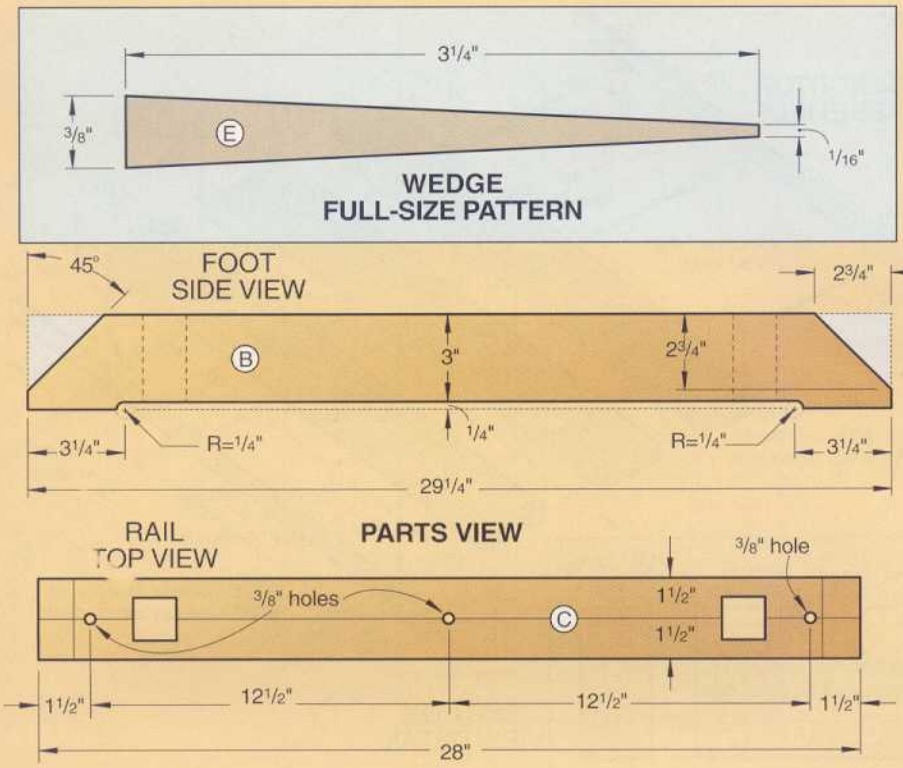
2 Clamp the two feet (B) bottom edge to bottom edge. Mark a centerpoint 3¼" from each end of the clamped-together feet. Now, use a compass to mark a ½" hole (¼" radius) at each centerpoint. Draw straight lines to connect the edges of each circle, where shown in **Photo A** on the *opposite page*.

3 Mark a 45° cutline across the end of each leg, where shown on the Parts View drawing. Do the same thing to the end of the rails, where shown on the End-Frame Assembly drawing.

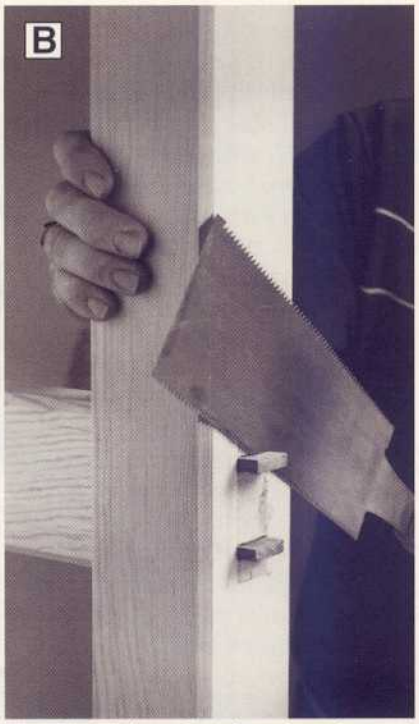
4 As shown in **Photo A**, drill a ½" hole at each marked centerpoint. Remove the clamps, and bandsaw between the holes along the inside edge of the marked line. Sand to the line to remove the saw marks.

5 Using the dimensions on the End-Frame Assembly and Parts View drawings, miter-cut (we





Clamp the feet together, and drill a ½" hole at the marked centerpoints to form the radiused bottoms.



Tap the hardwood wedges into the notches. After the glue dries, trim the wedges flush with the legs.

used a bandsaw) both ends of each foot (B) and both ends of each rail (C). Sand smooth.

6 Drill a trio of 3/8" holes in each rail (C), where shown on the Parts View drawing.

Assemble the base

1 Mount an auxiliary wood fence to your miter gauge and a dado blade to your tablesaw. Cut tenons to the sizes shown on the End-Frame Assembly drawing and accompanying Tenon detail.

2 Glue and clamp each end frame together, checking for square.

3 Route ¼" chamfers along the edges of the end frames, where shown on the Exploded View drawing.

4 Cut the stretchers (D) to size. Cut a 3"-long tenon at each end of each stretcher to fit snugly through the leg mortises.

5 Route a ¼" chamfer along the edges of the stretchers between the tenons.

6 Using the Tenon detail accompanying the Exploded View drawing, bandsaw a pair of V-shaped notches in each tenon.

7 Cut eight wedges (E) to the size shown on the Parts View drawing. (For contrast against the light pine, use a dark-colored hardwood for the wedges; we choose genuine mahogany.)

8 Glue and clamp the stretchers in place between the end frame assemblies. Inject a bit of glue in each notch, and using a mallet, tap the wedges into the notches, and check for square.

9 Being careful not to mar the surface of the leg, trim the wedges flush, as shown in **Photo B**.

Build a top that can take a pounding

Note: *You either can laminate your own maple top as described below or substitute a solid-core door from a local lumberyard or homecenter. Ask to find out if the company has any doors that cus-*

Continued

tomers have rejected because of mistakes in staining or cutting. You can purchase these for a fraction of their retail cost. Avoid doors rejected because of warpage.

1 Cut 28 pieces of 1 1/16"-thick maple (F) to 2 1/4×61" for the laminated top. For reference when drilling and laminating later, mark an × on the best (defect-free) edge (not face) of each strip.

2 Using the drawing at *right, below* for reference, construct and attach a long fence to your drill press to ensure consistently spaced holes. Add a support to each end. Mark the reference marks on the fence, where shown on the drawing.

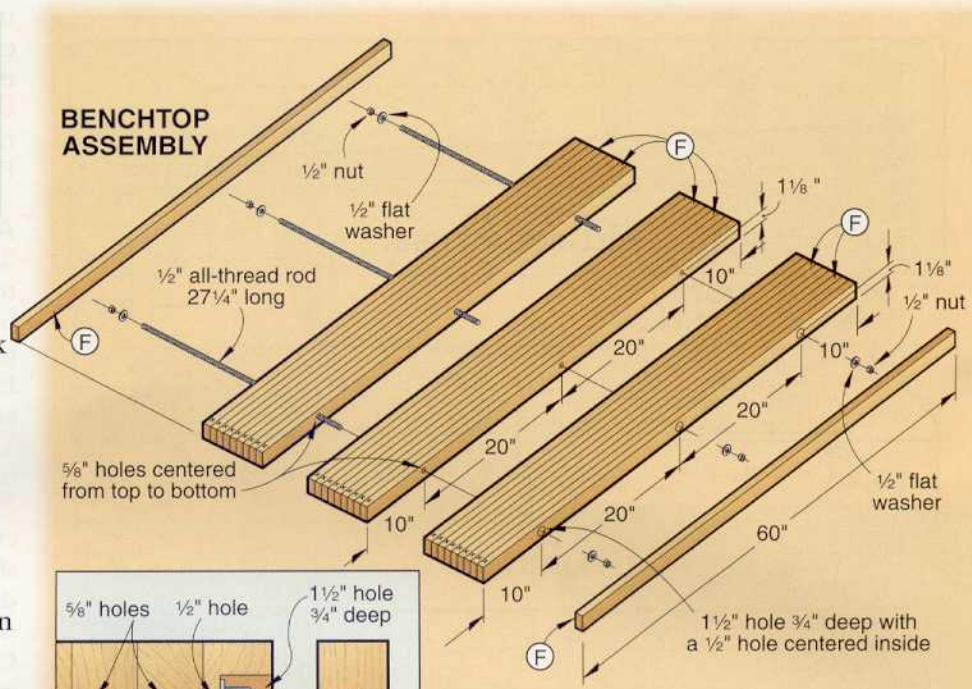
3 With the marked edge facing out, align the ends with the reference marks on the fence, and drill three 5/8" holes in 24 of the 28 benchtop pieces (F).

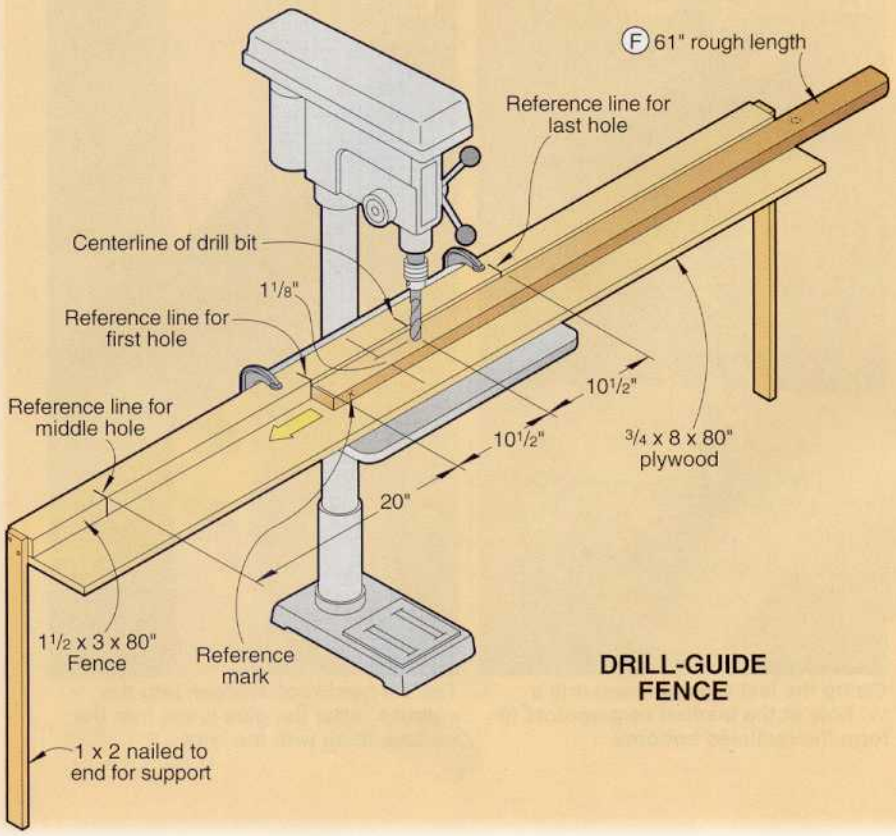
4 Still using the fence and your marks, drill three 1 1/2" holes 3/4" deep with a 1/2" hole centered inside each 1 1/2" hole in two of the remaining four pieces.

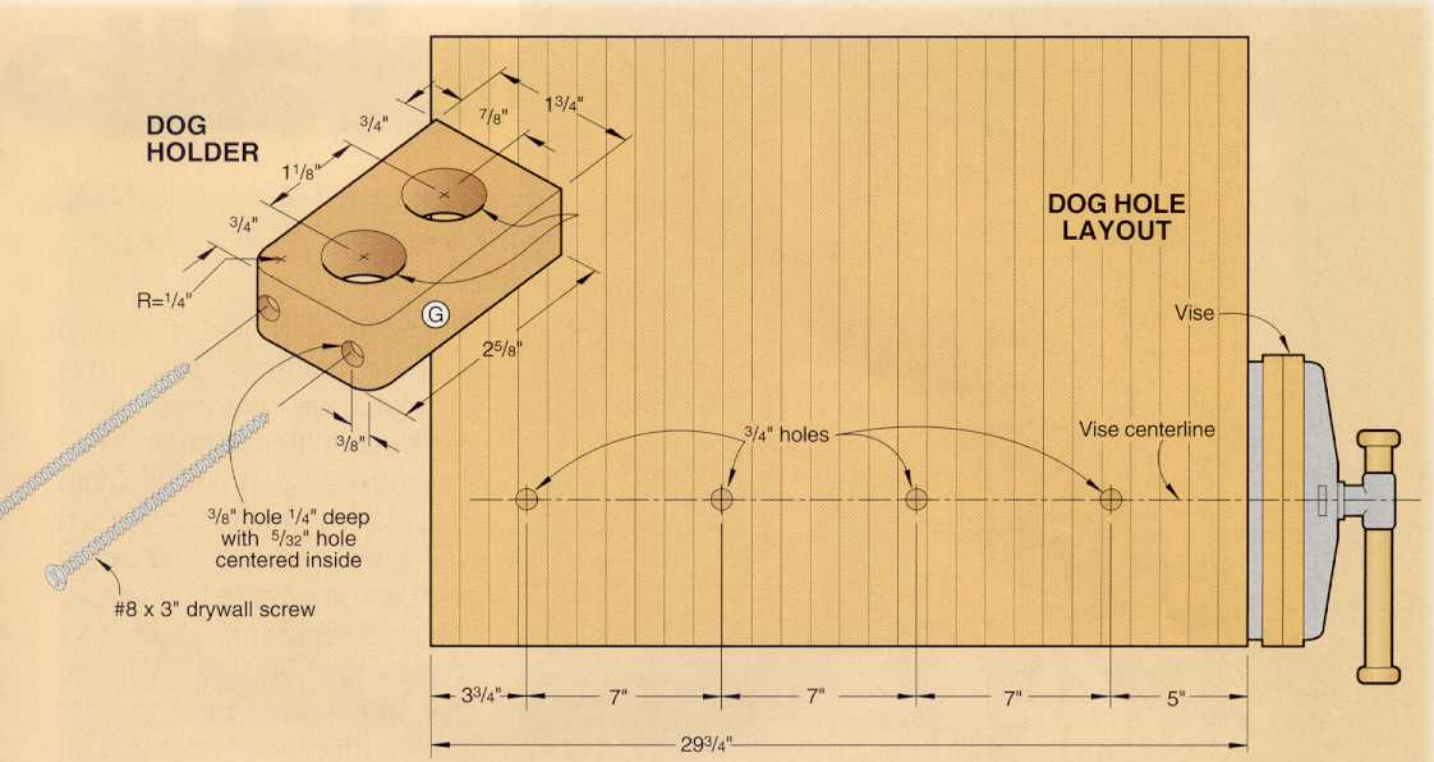
5 Glue and clamp eight of the predrilled pieces (F) face-to-face, with the edges and ends flush, the 5/8" holes aligned, and the ×s facing up. Next, glue and clamp two nine-piece sections together in the same manner. Each of the nine-piece sections should have a strip with the 1 1/2" holes on one outside edge. See the Top Assembly drawing for reference. (We found it easier to laminate three sections, then glue and clamp the three sections together to form the top.) You should still have two maple strips (F) with no holes in them.

6 Using a hacksaw, cut three pieces of 1/2"-diameter all-thread rod to 27 1/4" long.

7 Spread glue on the mating edges, and clamp the three sections edge-to-edge using pipe clamps and the all-thread rod with







nuts and flat washers attached. Check that the top surfaces are flush. (We used a ratchet to tighten the ½" nuts on the all-thread rod.) Alternate back and forth between the clamps and the nuts on the threaded rods for even clamping pressure.

8 Glue the remaining two top pieces (F) to the edges of the top assembly to hide the holes and threaded rods.

9 Scrape off the excess glue, and then belt-sand both surfaces of the benchtop flat.

10 Fit your portable circular saw with a carbide-tipped blade. Clamp a straightedge to the benchtop, and trim ½" off one end of the benchtop. Repeat at the other end.

Finishing up

1 Finish-sand the base and top.

2 Center the benchtop assembly on the base. Clamp the top to the base. Using the previously drilled holes in the rails (C) as guides, drill six 3/16" pilot holes 1" deep into the bottom side of the benchtop assembly. The holes in the rail are slightly oversized to allow the lag screws to move with the expansion and contraction of the benchtop. Using ¼" lag screws and flat washers, fasten the base to the top.

3 Add the finish to all surfaces. (We applied three coats of Watco Natural Danish Oil Finish.)

4 Drill the mounting holes, and add a vise using the instructions provided with the vise.

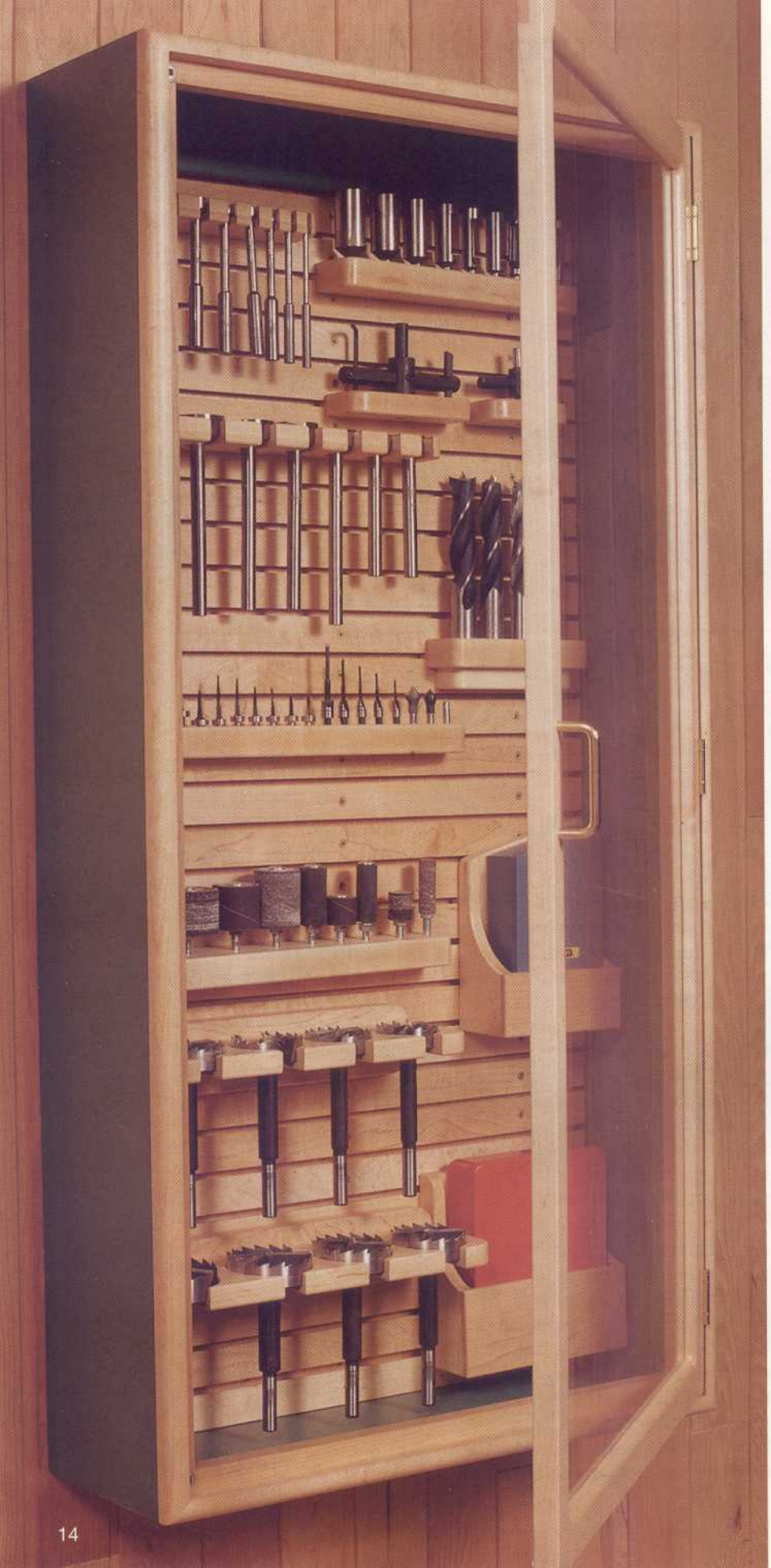
5 Mark and drill ¾" dog holes through the benchtop, where shown in the drawing above.

6 If you use the same type of round bench dogs we did, mark the layout for the dog holder (G) on a piece of 1 1/16" maple. Mark the centerpoints for the dogs and the mounting screws. Bore the holes for the dogs, then cut the dog holder to shape. Next, drill the mounting holes, sand smooth, and apply the finish. Finally, screw the dog holder to the leg nearest the vise.

Buying Guide

Round bench dogs. Two, with wire springs allowing for height adjustment. Catalog no. 911-194. Woodworker's Supply, Inc., 5604 Alameda Place NE, Albuquerque, NM 87113. Call 800/645-9292 for prices and to order.

Produced by Marlen Kemmet
Project Design: James R. Downing
Photographs: Wm. Hopkins
Illustrations: Kim Downing



universal wall-

cure shop clutter once and for all

When we built the workshop projects featured within this booklet, we wanted every component to be fresh, new, and, above all, practical. With that in mind, we designed a wall-cabinet system that works great for organizing hand tools, safety equipment, power-tool accessories, and much more. The cabinets go together quickly, they won't cost you an arm and a leg, and the acrylic inserts in the doors allow you to spot your well-organized tools instantly and keep dust away as well.

On the following pages, we'll show you how to build a 2×4' cabinet. (For cabinets with different dimensions, see the sizing guidelines at *right*.) On *pages 18* and *19*, we'll explain how we designed the tool holders in our cabinets. Turn to *page 20* for plans to build the Forstner bit holders.

Start with the back and the mounting strips

1 From ½" plywood, cut the cabinet back (A) to the size listed in the Bill of Materials.

2 Using the drawing on *page 15*, bevel-rip the 29 mounting strips (B) to size from ½"-thick stock. Crosscut the strips to length.

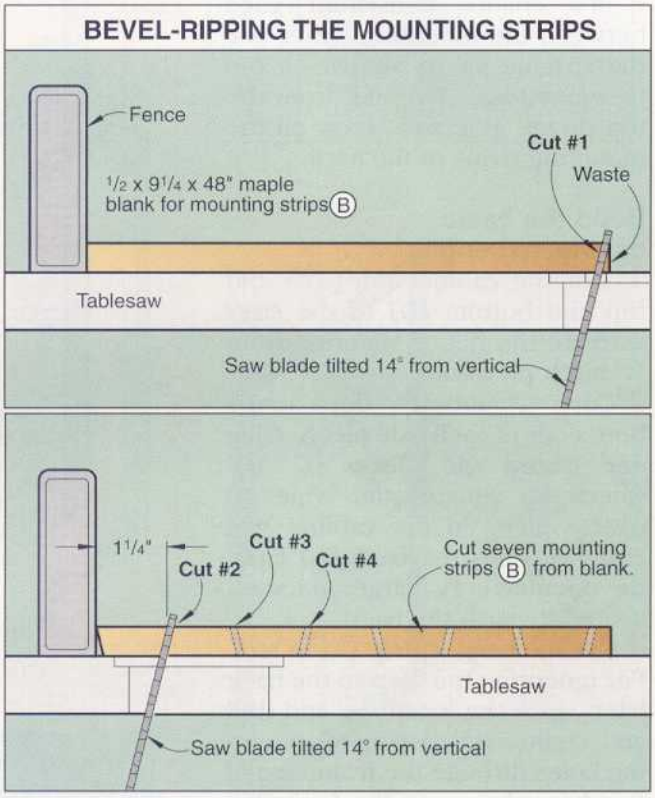
3 Mark the screw-hole center-

cabinet system

How to size cabinets to suit your needs

The cabinet we show on the *opposite page* measures 2×4'. But we've built various-sized cabinets for such things as our measuring and marking tools, lathe tools, air-powered tools, and hand planes, to name a few. To help size your custom cabinets, follow these planning guidelines:

- Gather together the tools or other items you want to store in a special-purpose cabinet. Then, lay out the items on a large piece of plywood. This will give you a rough idea of how large to make the cabinet's back.
- If making your cabinet shorter or longer than the model shown, do so in 1½" increments to allow for each mounting strip and a ¼" gap added or subtracted.
- Also, if you widen a cabinet and the door becomes wider than it is tall, we recommend using two doors.
- Finally, make the depth of the cabinet equal to the width of the widest tool to be stored in the cabinet plus 1½".

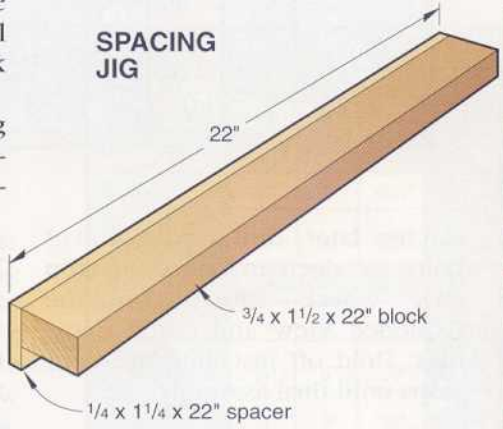


points, where dimensioned on the Exploded View drawing, then drill and countersink a trio of shank holes in each strip.

4 To ensure consistent spacing between the strips and smooth-sliding components, build a spacing jig like that shown at *right*.

5 Clamp the back (A) to your workbench. Cut a piece of scrap measuring 2¼×22". With the top edges flush, clamp the scrap piece to the top of the back, where shown in **Photo A.**

6 Starting flush with the bottom edge of the scrap strip (2¼" from the top edge of the back), glue and screw the first mounting strip (B) to the back, where shown in the photo. See the Mounting detail accompanying the Exploded View drawing for reference. Check that the ends of the mounting strip are flush with the outside edges of the back. Use only a small amount of glue to avoid squeeze-out. Immediately wipe off excess glue with a damp cloth.



Glue and screw the maple mounting strips to the plywood back, using the spacing jig for consistent gaps.

Continued

Caution: *Glue left between the mounting strips can prevent the tool holders from sliding easily in the dovetail grooves later.*

7 To ensure consistent gaps between the mounting strips, use the spacing jig, as shown on the *previous page*. Working from the top down, glue and screw all the mounting strips to the back.

Build the basic cabinet assembly

1 Cut the cabinet sides (C) and top and bottom (D) to the sizes listed in the Bill of Materials from ¾" birch plywood.

2 Cut a ¾" rabbet ½" deep across both ends of each side piece. Glue and clamp the pieces (C, D). Check for square, and wipe off excess glue. So the cabinet will easily fit onto the back (A) later, the opening is 1/16" larger in length and width than the back.

3 Cut the hanger strip (E) to size. For mounting the strip to the back later, mark the locations, and drill and countersink a pair of mounting holes through the front face of E, where shown on the Exploded View drawing.

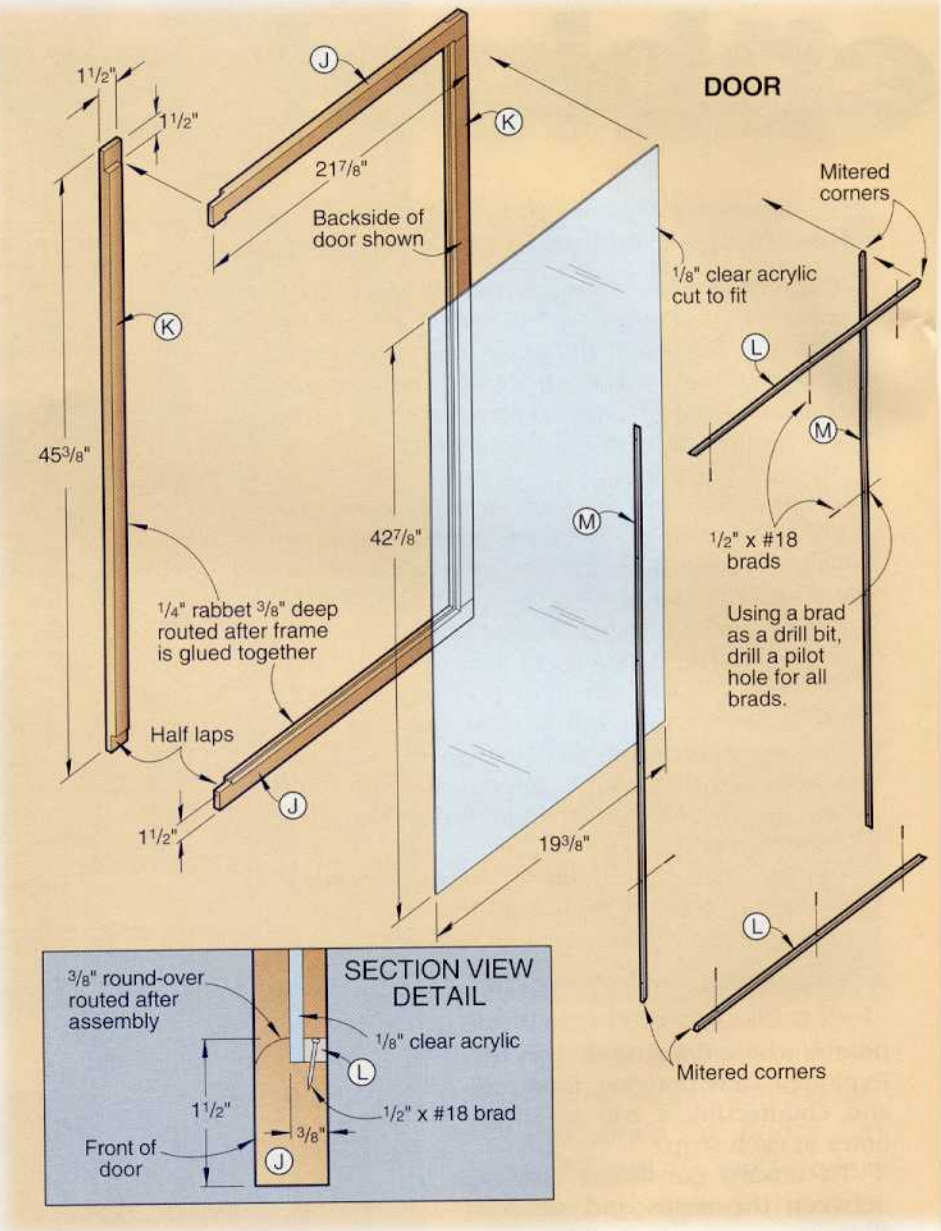
4 Glue and clamp the hanger strip to the bottom of the cabinet top (D), ½" in from the back edge. See the Mounting detail accompanying the Exploded View drawing for reference. Drill three mounting holes through the cabinet top, centered into the top edge of the hanger strip (E). Drive a #8×1¼" wood screw through each hole just drilled.

5 Rip and miter-cut the face-frame strips (F, G) to size. Glue and clamp them to the front of the cabinet. Sand the strips flush with the cabinet frame.

6 Rout a ⅜" round-over along the outside front edge of the cabinet assembly (parts F and G).

7 Cut the door stops (H, I) to size.

8 For mounting the magnetic catches later, drill a pair of 11/32" holes ⅝" deep in one door stop (H), where shown on the Exploded View and Catch drawings. Hold off installing the door stops until final assembly.



Add the door

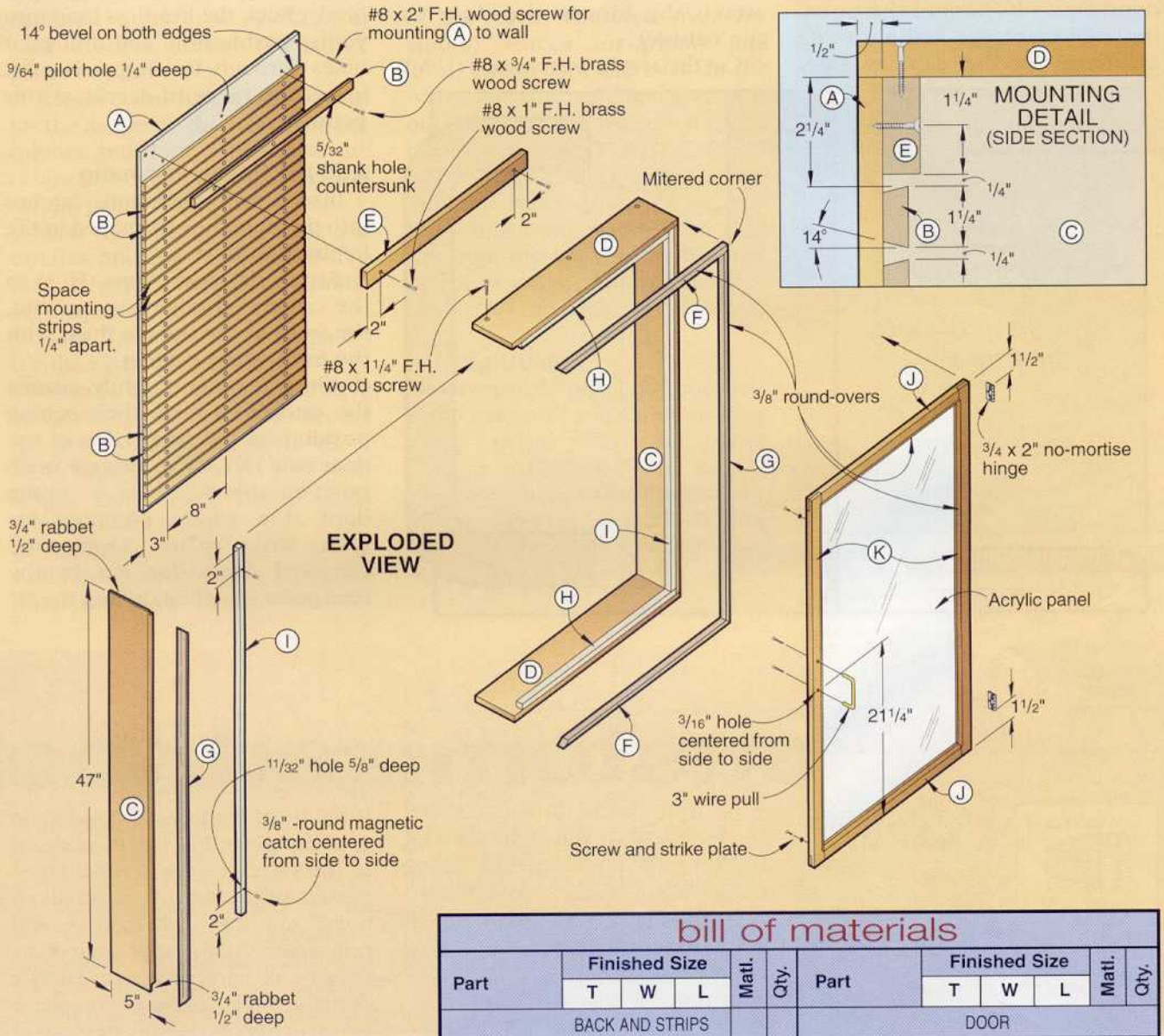
1 Cut the maple door rails (J) and stiles (K) to size.

2 Cut 1½"-long half-lap joints on the ends of each rail and stile.

3 Glue and clamp the door frame together, checking for square and making sure the frame clamps flat. Later, remove the clamps, and sand the door smooth.

4 Rout a ¼" rabbet ⅜" deep along the back inside edge of the door frame for the acrylic panel and stops. Using a chisel, square the curved corners left by the router.

5 Fit your router with a ⅜" round-over bit, and rout along the front inside edge of the door frame. See the Section View detail accompanying the Door drawing for reference.



bill of materials

Part	Finished Size T	W	L	Matl.	Qty.
BACK AND STRIPS					
A back	½"	22"	45½"	BP	1
B mounting strips	½"	1¼"	22"	M	29
CABINET FRAME					
C sides	¾"	5"	47"	BP	2
D top/bottom	¾"	5"	23"	BP	2
E hanger strip	¾"	2"	22"	M	1
F face strips	¾"	¾"	23½"	M	2
G face strips	¾"	¾"	47"	M	2
H door stops	¾"	¾"	22"	M	2
I door stops	¾"	¾"	44"	M	2

Part	Finished Size T	W	L	Matl.	Qty.
DOOR					
J rails	¾"	1½"	21⅞"	M	2
K stiles	¾"	1½"	45⅜"	M	2
L stops	¼"	¼"	19⅜"	M	2
M stops	¼"	¼"	42⅞"	M	2

Materials Key: BP–birch plywood, M–maple.

Supplies: #8×1¼" flathead wood screws, #8×2" flathead wood screws, #8×¾" brass flathead wood screws, #8×1" brass flathead wood screws, ⅛" clear acrylic, ½"× #18 brads, paint, clear finish.

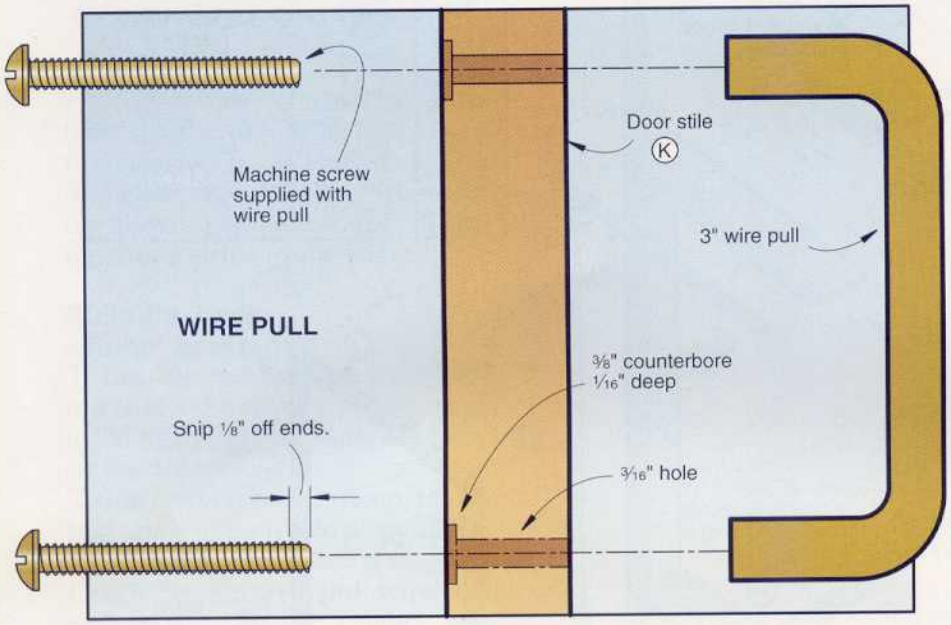
6 Using the Wire Pull drawing for dimensions, drill the mounting holes in the left-hand stile for the pull. (For a flush-closing door, we drilled ⅜" holes 1 1⁄16" deep on the back of the door for the screw heads. Then, we used a combination bolt cutter/wire stripper to snip ⅛" off the end of each screw so the wire pull would draw tight to the door front.) See the Buying Guide for our hardware source.

7 Drill the pilot holes, and fasten a pair of no-mortise hinges to the

Continued

right-hand door stile. Center the door top to bottom in the opening, and mark the mating hinge locations on the cabinet side. Drill mounting holes, and attach the hinges and door to the cabinet.

8 Cut the acrylic-panel stops (L, M) to size. Snip the head off a ½"×#18 brad, chuck the headless brad into your portable drill, and drill pilot holes through the stops. Do not install the piece of acrylic at this point.



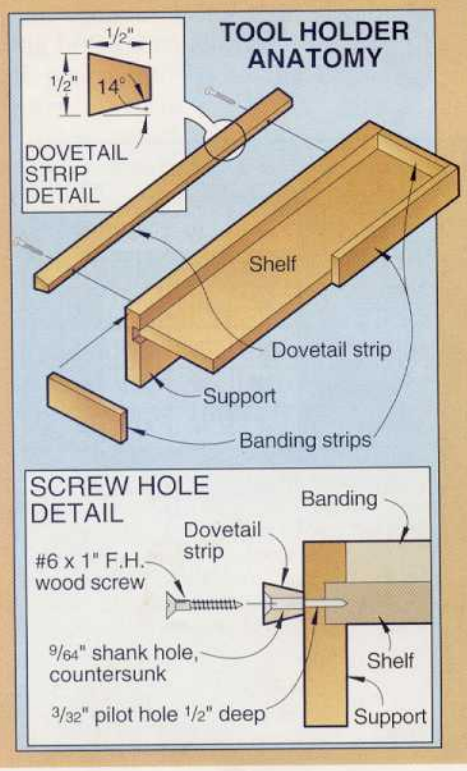
Add the finish, and hang

1 Inset a pair of magnetic catches into the holes now provided in the left-hand door stop.

2 Fasten the door stops (H, I) to the cabinet so when swung shut, the front of the door is flush with the front of the cabinet.

3 Close the door tightly against the catches to mark their mating position on the back edge of the door stile (K). Next, using a brad-point bit, drill a ½" hole 1/16" in the door stile where indented for each strike plate. Using the cen-tered depression left by the brad-point bit when drilling the ⅝"

how to design and make your own customized tool



Now that you've built a cabinet or two using our wall-cabinet design, it's time to add some customized holders. But before you begin, familiarize yourself with a holder's parts.

Anatomy of a tool holder

As shown at *left*, we call the horizontal part that supports the tool the ***shelf***. For heavier items, the shelf fits into a groove in the ***support***. The ***dovetail strip*** attaches to the back of the shelf or support and slides between the mounting strips. The ***banding strips*** protect the tools from falling off the front or ends of the shelf

Make your holders to fit

To make the shelf, start by laying the item you want to store on a piece of stock. (We used ½"- and ¾"- thick maple for most shelves.) If the bottom of the tool is square or rectangular, cut the shelf about ⅛" oversize. Or, for screwdrivers, router bits, and other shanked items, cut the shelf to size, and drill holes for the tool shanks, as shown on the Screwdriver Holder drawing. The distance between holes depends on the items you intend to store.

Add the banding strips

These should extend high enough above the shelf (usually about ¼") to keep the tool from being bumped off. We used banded shelves for planes, sharpening stones, drill bit index boxes, and other flat-bottomed items. If the tool's outline is irregular like that of the caliper holder on the *opposite page*, mark a portion of the tool's outline on ¾" stock. Then, cut the outline to shape.

hole, drill a 3/32" pilot hole 3/8" deep centered inside the 5/8"-diameter counterbore. Screw the strike plates in place.

4 Remove the hardware (except for the magnetic catches) from the cabinet and door. Finish-sand the cabinet assembly, back, door, and acrylic panel stops.

5 Mask the surrounding areas and catches, and apply a clear finish to the face strips, door stops, mounting strips, and door.

6 Mask the maple face strips (F, G), then paint the cabinet.

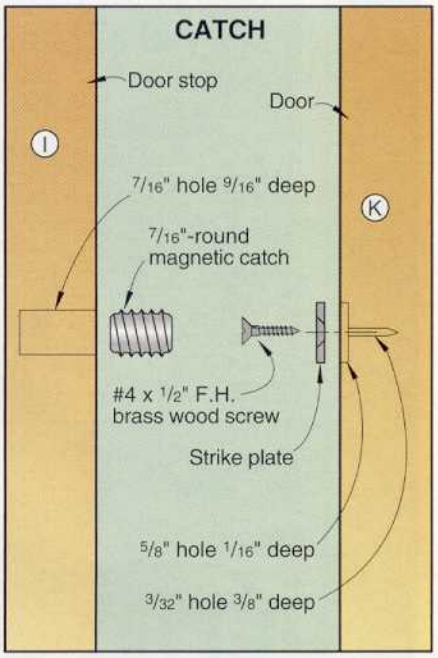
7 Measure the openings, and have an acrylic panel cut to fit. Secure the panel with the stops (L, M).

8 Reattach the wire pull and hinges to the door. Reattach the door to the cabinet.

9 To mount the back (A) to the wall, locate the stud(s), and position the back. Drill mounting holes through the top and bottom of the back, centered over the stud(s). Check for plumb and level, and secure the back to the wall. Fit the cabinet assembly onto the back, and secure it to the back by driving a set of screws through the hanger strip (E) and into the back. After you've built your organizers, remove the cabinet from the back, slide the organizers in place, and reattach the cabinet to the back.

Buying Guide

Hardware. 3" polished-brass wire pull, cat. no. 26682, four magnetic catches with strike plates, cat. no. 29280, and one pair of 11/16×2½" no-mortise hinges no. 90434. Rockler, 4365 Willow Drive, Medina, MN 55340. Or, call 800/279-4441 to order.



Project Design: James R. Downing; Jim Boelling; Marlen Kemmet
Photographs: Wm. Hopkins; Hetherington Photography
Illustrations: Kim Downing

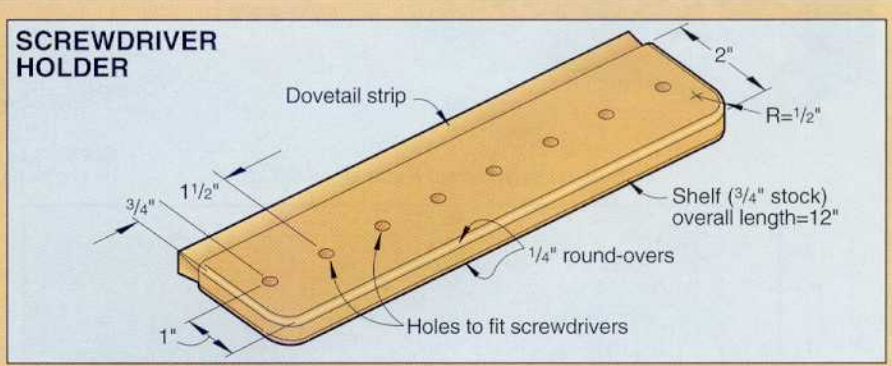
holders

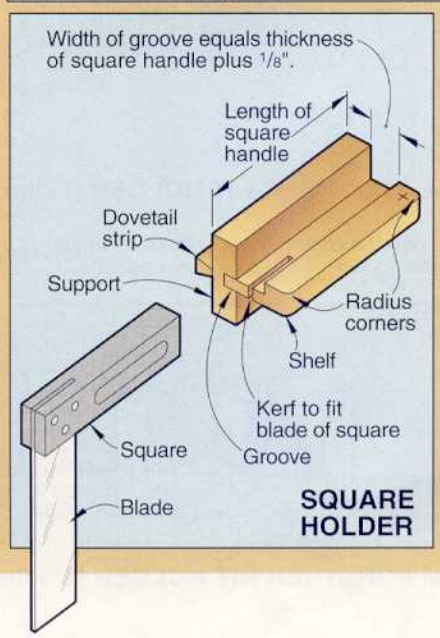
Add the dovetail strips

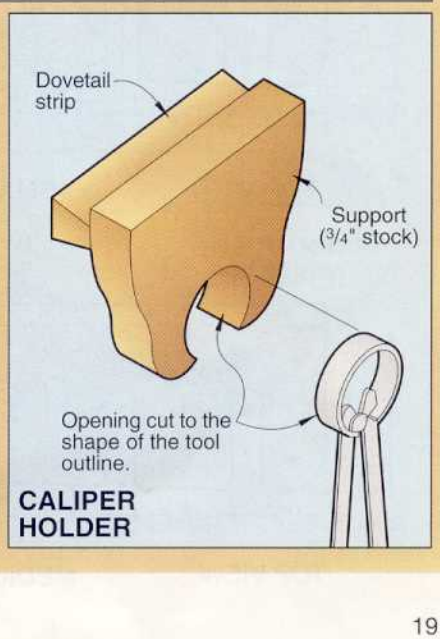
Bevel-rip long lengths of dovetail-strip stock at 14°. See the Dovetail Strip detail accompanying the drawing at *left* for reference. Crosscut the dovetail strips to length. Drill and countersink mounting holes in the back edge of the strip. Glue and screw the dovetail strip to the back edge of the shelf, support, or holder.

Slide the dovetail strip of the holder between the mounting strips in the cabinet back. If the dovetail strip fits too tightly between the mounting strips, sand it slightly for a smooth sliding action. Remove and finish holders.

Once dry, slide your holders between the mounting strips in the cabinet back (attached to the wall at this point). Arrange the holders as needed, then secure the cabinet back to the wall.



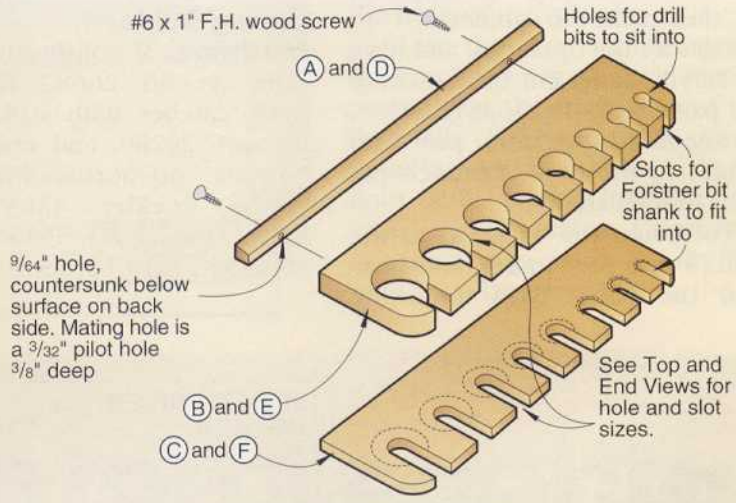


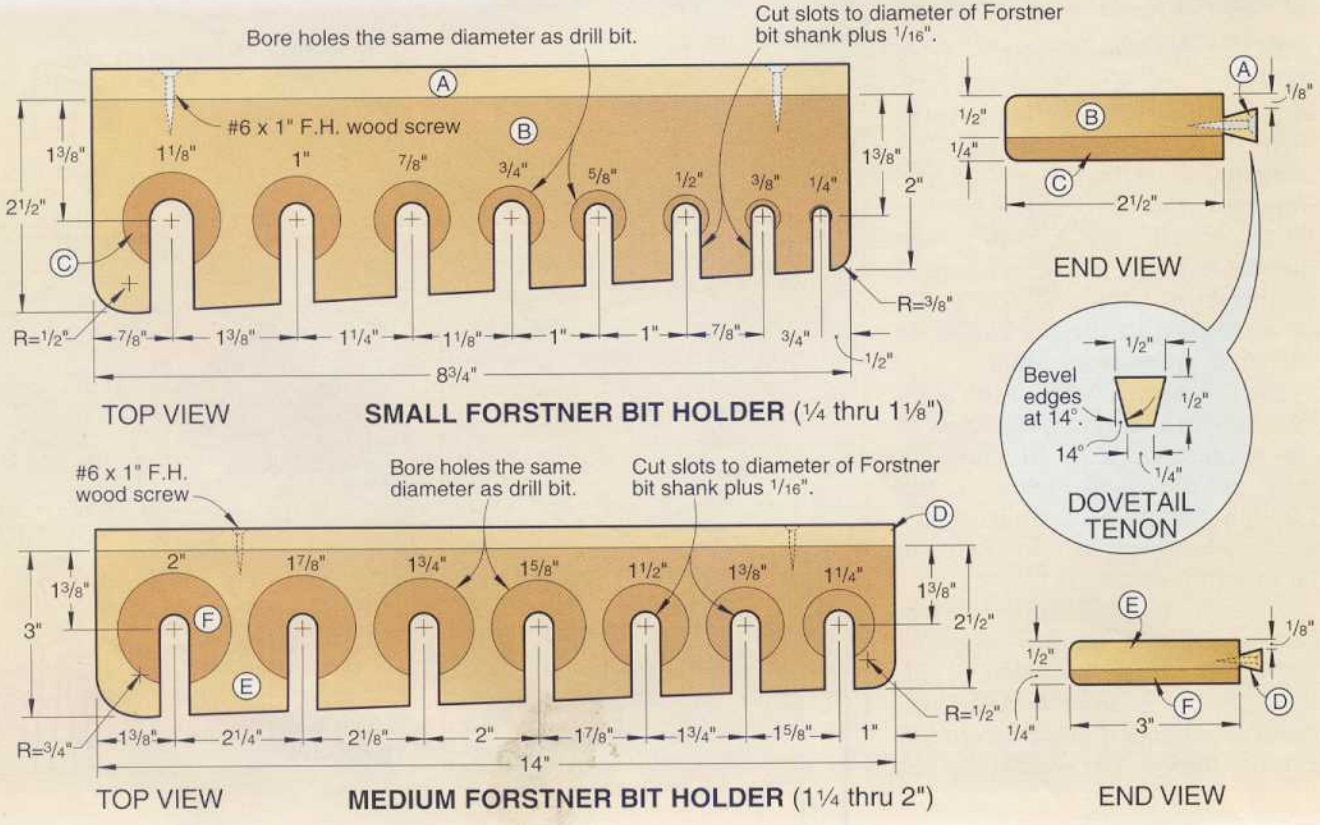


Forstner bit holders

for the wall cabinet system

Here's a handy pair of holders to fit inside our universal wall-cabinet system shown on *page 14*. To make each holder, bevel-rip the dovetail strips (A, D) to size. Next, cut the top and bottom shelf pieces (B, C and E, F) to size and shape for each holder. Bore the holes in each top piece (B and E). Laminate the mating pieces together for each holder. Cut the slots for the bit shank with a bandsaw or scrollsaw. Drill the mounting holes through the dovetail strips, and glue and screw them to the back edge of each laminated shelf.



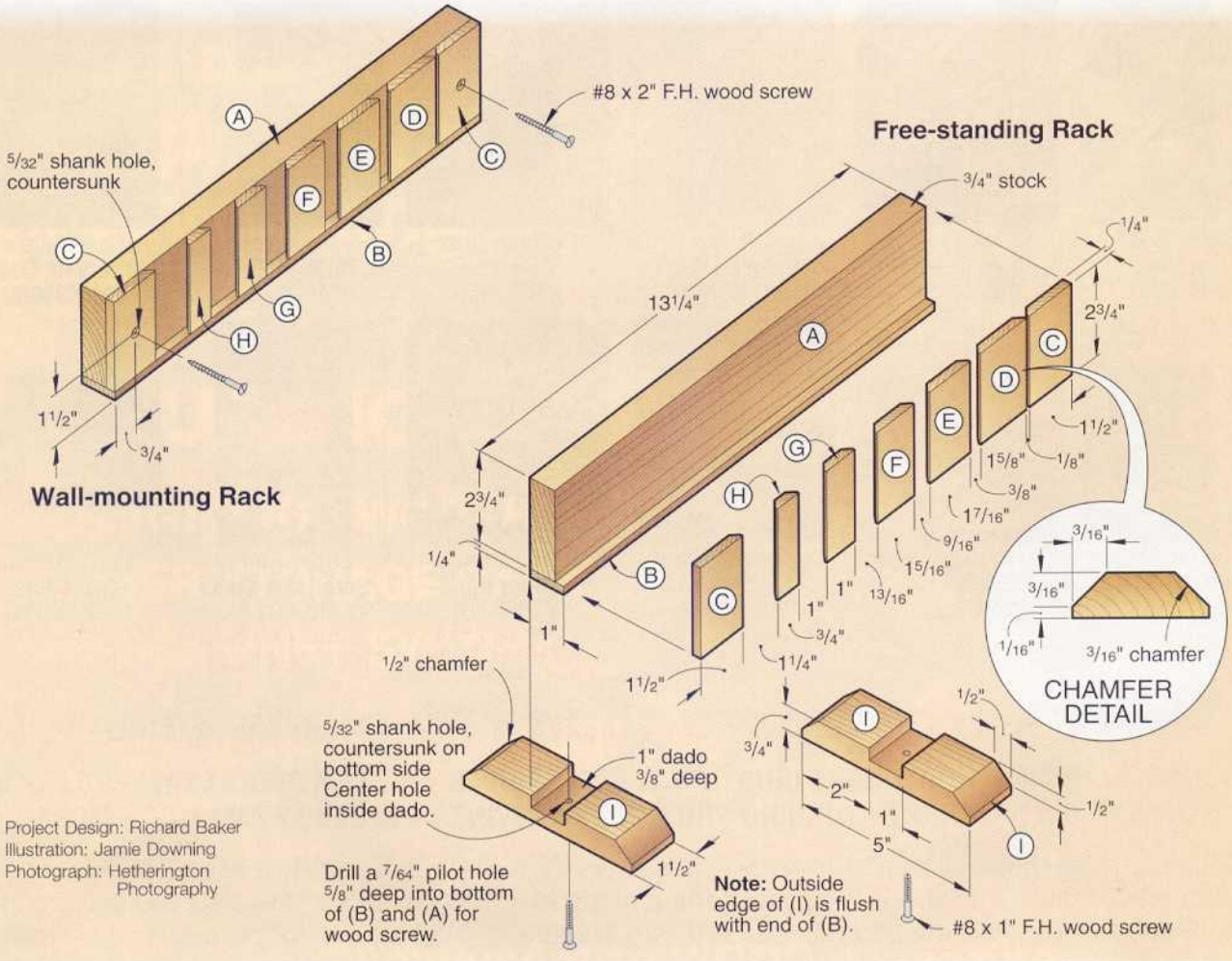


safe-and-sound customized

chisel rack

When *WOOD*® magazine reader Richard Baker sent in this design, we liked it so much we included it in our shop. But it's a device you can use in any work space. Build it as a free-standing unit, or remove the feet and fasten it to your workshop wall. Either way, this nifty project displays your chisels proudly and protects their finely honed ends.

Note: *We built our rack for a set of Stanley no. 60 chisels. The dimensions might vary slightly for your chisel set.*



Project Design: Richard Baker
Illustration: Jamie Downing
Photograph: Hetherington Photography