

**SPACE
SAVING
TOOL STORAGE**

EXCLUSIVE!

Top 3 Redwood Decks In America

WORKBENCH™

WOODWORKING TO IMPROVE YOUR HOME JUNE 2002

Casual & Elegant
**Cottage
Dresser**

**Red Hot
Router Kits**

3 NEW IDEAS!
For a Dynamite Deck





EDITOR'S NOTES

The centerpiece of my first home was a massive rock fireplace. My neighbors called it "moss" rock, but the stones were actually covered with patches of orange, red, and blue-green lichens.

As much as I liked that fireplace, there was something missing — a stone hearth. So I decided to build one to match the fireplace.

Now, I'd never attempted a masonry project before. But it was just stones and mortar, right? How hard could it be? I soon found out.

First of all, I had to find the rocks. That took weeks of scouring the countryside, looking for the right stones.

My next challenge was getting the stones to fit. No matter how I arranged them, it never seemed quite right. I even tried scoring a few of the rocks and breaking them on the line for a better fit, but this only resulted in a jagged, uneven edge.

As the rocks got smaller (and my patience began to wear out), I finally ended up with a hearth that was more functional than attractive. I wish it had turned out better, but there is one consolation. If I had it to do over again, I'm sure I'd be able to build a

great-looking hearth. Why? Because now I've found an easier way — *manufactured stone*.

MANUFACTURED STONE. These "stones" are actually made of concrete, but they have the texture and color of the real thing. They're lighter in weight, less expensive, and easier to install than real stones. Plus, they're available in dozens of styles, shapes, and colors.

GAS FIREPIT. That's the reason we decided to use manufactured stone as a "surround" on the gas firepit project in this issue. It's one of three deck projects in Part 2 of our Rustic Retreat. (Part 1 appeared in the April 2002 issue of *Workbench*).

If you turn to page 19, I'm sure you'll appreciate how the stone complements the rustic look of the deck.

For ideas on using manufactured stone in your home improvement projects, check out the article on page 36. We've also included a step-by-step article on page 38 that provides tips and techniques for working with this unique building material.

Tim

Subscription Questions?

Workbench Customer Service
P.O. Box 842
Des Moines, IA 50304-9961
Phone: (800) 311-3991
Online: www.WorkbenchMagazine.com

Editorial Questions?

Workbench Magazine
2200 Grand Ave.
Des Moines, IA 50312
email: Editor@Workbenchmag.com

WORKBENCH™

VOLUME 58 NUMBER 3

EDITOR Tim Robertson

SENIOR DESIGN EDITOR Jim Downing

ASSOCIATE EDITORS:

Bill Link, Kevin Shoesmith, Erich Lage

ART DIRECTOR Robert L. Foss

SR. ILLUSTRATOR/SPECIAL PROJECTS Kim Downing

SENIOR ILLUSTRATORS:

Susan R. Jessen, Mark S. Graves

ILLUSTRATOR/GRAPHIC DESIGNER

Robert McCammon

PROJECT COORDINATOR/TOOL TESTER

Mike Donovan

CREATIVE DIRECTOR Ted Kralicek

SENIOR PHOTOGRAPHER Crayola England

PROJECT DEVELOPER Ken Munkel

SR. PROJECT DESIGNER Kent Welsh

PROJECT DESIGNERS Chris Fitch, Ryan Mimick

SHOP CRAFTSMEN Steve Curtis & Steve Johnson

WEB DESIGNER Kara Blessing

ELEC. PUB. DIRECTOR Douglas M. Lidster

PRE-PRESS IMAGE SPECS. Troy Clark

Minniette Johnson

PRESIDENT & PUBLISHER Donald B. Peschke

GROUP DIRECTOR - MARKETING AND SALES

Fritz Craiger (515) 875-7300

ADVERTISING SALES MANAGERS

Mary K. Day (515) 875-7200

George A. Clark (515) 875-7100

ADVERTISING COORDINATOR

Nicolle Carter (515) 875-7135



WORKBENCH (ISSN 0043-8057) is published bimonthly (Jan., Mar., May, July, Sept., Nov.) by August Home Publishing Company, 2200 Grand Ave., Des Moines, IA 50312. Workbench is a trademark of August Home Publishing. Copyright ©2002 August Home Publishing Company. All rights reserved.

Subscription rates: Single copy, \$4.99. One-year subscription (6 issues), \$22; two-year sub., \$33; three-year sub., \$44. Canadian/Int'l., add \$10 per year. Periodicals postage paid at Des Moines, Iowa, and at additional offices.

"USPS/Perry-Judd's Heartland Division automatable poly."

Postmaster: Send address changes to Workbench,

PO Box 37272, Boone, IA 50037-0272.

Printed in U.S.A.

AUGUST HOME PUBLISHING COMPANY

Corporate Services:
Corporate Vice Presidents:
Douglas L. Hicks, Mary R.

Scheve, Controller: Robin K. Hutchinson, Senior Accountant: Laura J. Thomas, Accounts Payable: Mary J. Schultz, Accounts Receivable: Margo Petrus, Production Director: George Chmelarz, System Administrator: Cris Schwanebeck, PC Maintenance Technician: Robert D. Cook, New Media Manager: Gordon C. Gaippe, Web Site Art Director: Eugene Pedersen, Web Server Administrator: Carol Schoeppler, Web Site Content Managers: David Briggs, Sue M. Moe, Professional Development Director: Michal Sigel, Human Resources Assistant: Kirsten Koelke, Office Manager: Noelle M. Carroll, Receptionist: Jeanne Johnson, Mail/Delivery Clerk: Lou Webber • Circulation: Subscriber Services Director: Sandy Baum, New Business Director: Wayde J. Klingbeil, Multi-Media Promotions Manager: Rick Junkins, Renewal Manager: Paige Rogers, Billing & Collections Manager: Rebecca Cunningham, Circulation Marketing Analyst: Kris Schlemmer, Associate Circulation Marketing Analyst: Paula M. DeMattaie, Promotions Analyst: Patrick A. Walsh • Creative Resources: Associate Editor: Craig Rueggeger, Assistant Editor: Joseph E. Irwin, Joel Hess, Art Director: Douglas A. Flint, Senior Graphic Designer: Chris Glowacki, Mark Hayes, Robin Friend, Graphic Designer: Vu Nguyen • Products Group: Operations Director: Bob Baker, Customer Service Manager: Jennie Enos, Warehouse Supervisor: Nancy Johnson, Buyer: Linda Jones, Administrative Assistant: Nancy Downey, Technical Service Representative: Johnny Audette, Customer Service Team Leader: Tammy Truckenbrod, Senior Customer Service Representatives: Anna Cox, April Revell, Customer Service Representatives: Deborah Rich, Valerie Jo Riley, Eddie Arthur, Warehouse Staff: Sylvia Carey, Sheryl Knox • Woodsmith Store: Manager: Dave Larson, Assistant Manager: Tim Thelen, Sales Staff: Wendell Stone, Jim Barnett, Mark Johnson, Gregory Kautzlarich, Shipping and Receiving: Larry Morrison, Office Manager: Vicki Edwards

Contents

WORKBENCH™

June 2002

FEATURES



19

3 Custom-Built Deck Projects

Great outdoor projects you can customize to fit your deck, patio, or yard.

19



30

Combination Router Kits

Buying a fixed-base or a plunge-base router? Now you can get both tools in one.

30



36/38

Manufactured Stone: Close-up Look

Get the rich look of stone in your next home improvement project with this man-made product.

36

38

Installing Man-made Stone

You don't need to be a stone mason to install manufactured stone. Learn how in 6 easy steps.

42

Build a Cottage-Style Dresser

Beadboard panels, applied moldings, and an "antique" finish give this dresser lots of character.

42

52

Tool Storage Bins

Slide-out bins under your workbench — a smart way to keep tools and supplies in reach.

56

2001 Redwood Deck Contest

Check out the WINNERS in the Workbench and California Redwood Association deck contest.



52



56

DEPARTMENTS

Questions & Answers	6
Tips & Techniques	10
Workbench Interactive	14
In the Shop	64
Tools & Products	68
Craftsmanship	80



80

Questions & Answers



▲ Popular for outdoor home improvement projects for years, CCA pressure-treated lumber will soon be unavailable.

CCA Pressure-Treated Lumber Packs Its Bags

Q I've heard that the home centers and lumberyards are no longer going to sell CCA pressure-treated lumber. Does this mean I have to tear down the playground set in my yard that's built with pressure-treated lumber? If so, what can I use to replace it?

George Hall
via the Internet

A My kids have a playground set made from pressure-treated lumber, too, and I'd heard the same thing recently. So I made a trip to my local home center to find out what was up.

Sure enough, the home center (along with some other lumberyards) are indeed phasing out the sale of CCA pressure-treated lumber because of the arsenic

that's used to treat and preserve the wood. Once their current supply is gone, you won't see much — if any — CCA pressure-treated lumber for sale. This actually came about as a result of the Environmental Protection Agency announcing a ban on the use of CCA pressure-treated lumber for all residential purposes beginning Jan. 1, 2004.

There's some good news in all of this, however. You don't have to replace your existing playset. In fact, tearing it down and dumping it in a landfill may actually release more of the arsenic into the soil. It makes more sense to seal the wood regularly (every year or two) with a clear finish. I'd recommend a water repellent or water repellent preservative. This locks in the toxins and prolongs the life of the wood.

I also found out that other types of pressure-treated lumber that don't use arsenic-based treatments are already available. In fact, some lumber companies have been selling them for years. The main replacement treatments are ammoniacal copper quaternary (ACQ) and copper citrate, neither of which contain arsenic.

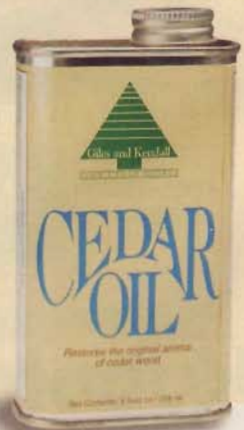
One drawback to these types of pressure-treated lumber is that they cost more. You can expect to pay as much as 25 percent more for these products.

Restoring Cedar Scent

Q My cedar-lined chest is losing its cedar aroma. Will sealing it help retain what smell remains?
Pam Gillotto
Gainesville, FL

A Whatever you do, *don't* seal it. This will only trap the natural oils inside the cedar strips and you won't smell anything. Instead, *lightly* sand the inside of the chest with 100-grit sandpaper to release the oils.

Another quick way to restore the scent is with a few drops of natural cedar oil applied to one of the strips. You can buy cedar oil at woodworking supply stores such as Woodcraft (1-800-225-1153). An 8 oz. can costs about \$12.

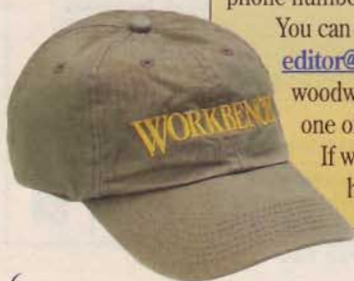


You Have QUESTIONS... We Have ANSWERS!

If you have a question about woodworking or home improvement, write it down and mail it to us at: Workbench Q&A, 2200 Grand Ave., Des Moines, IA 50312. Please include your name, address, and daytime phone number (in case we need to contact you).

You can also reach us online at either: editor@workbenchmag.com or by sending your woodworking or home improvement questions to one of our forums: www.woodnet.forums.net.

If we publish your question, we'll send you a handsome and fashionable Workbench cap.



THE NEW CRAFTSMAN® 7HP MOWER



Our most powerful
Briggs & Stratton engine

BRIGGS & STRATTON

3-in-1 design
(mulch, rear bag, or
side discharge)

21-inch deck

Large-mouth bag for easy
dumping

Fully assembled

2-year warranty

Item #37890

Available at Sears and
Sears Hardware stores

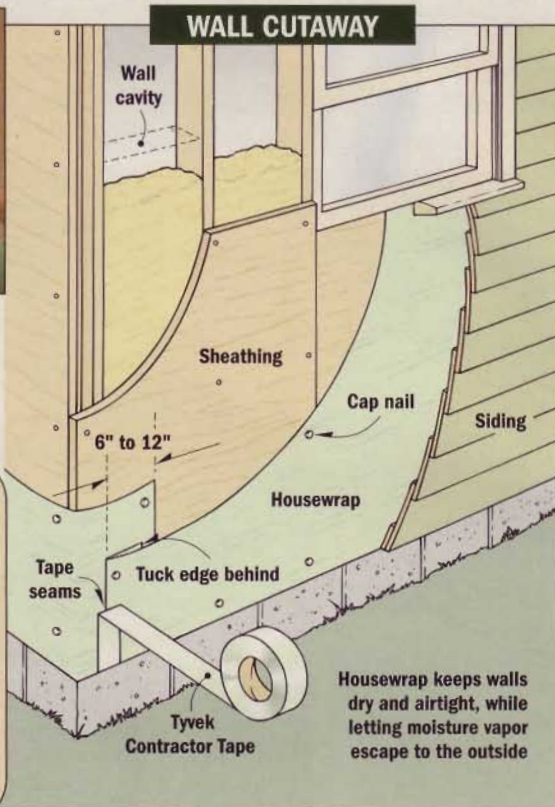
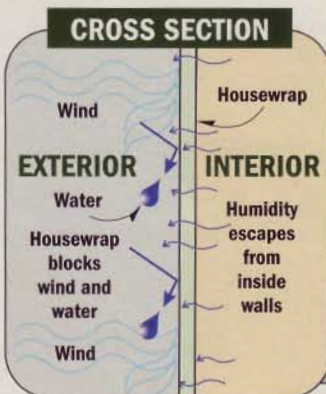
To order, visit
www.sears.com/craftsman

SEARS
Where else?™

© 2002 Sears, Roebuck and Co.



▲ Housewrap installation should start at an outside corner, where the wrap can be overlapped.



To Wrap or Not to Wrap?

Q I'm having new siding installed on my 1978 ranch-style home. Is it worth the extra effort and cost to use some type of housewrap before applying the new siding?

Robert Seas
Northwest Illinois

A Many people make the mistake of thinking that siding alone — wood, vinyl, even stucco — is all they need to block out wind and heavy rain and snow. The truth is sooner or later, wind, rain, and snow will find their way behind, around, or through siding. So you need a second line of defense against moisture — either builder's felt or housewrap.

WRAP IT UP. Stripping off the old siding should give you an idea of the various layers used to protect your house (*Wall Cutaway*). You're likely to find builder's felt (tar-impregnated paper) underneath the old siding. And it will probably get damaged as you strip the walls in preparation for the new siding.

Begin the residing process by wrapping the wall sheathing again. Builder's felt is the old standby, but specially

designed housewraps (up to 9 ft. wide) such as Tyvek, Typar, or Pink Wrap have nearly replaced it. Either way, wrapping the sheathing is the best defense if water gets by the siding.

Housewrap also serves another less noticeable role in protecting your home. It's designed to not only stop wind and water from penetrating into the wall from the outside, but it also lets humidity *inside* the wall cavity to escape (*see Cross Section*). This allows your walls to "breathe," avoiding many of the costly problems — mold, mildew, and rot — created by high moisture environments. A tighter home is also more energy-efficient.

APPLY HOUSEWRAP. Engineered materials often require some special installation techniques, so make it a point to follow the manufacturer's guidelines when applying housewrap.

Start near an outside corner so the housewrap can be overlapped, as shown in the photo above. Then pull the housewrap taut around the corner and keep fastening with cap nails (plastic washer head nails) every 12"-18" along the stud lines. Be sure to tape the joints, too.

Tips & Techniques

FEATURED TIP

Planing Short Boards

I can never bring myself to throw away the short pieces left over from a project. They're ideal for small projects, but they often

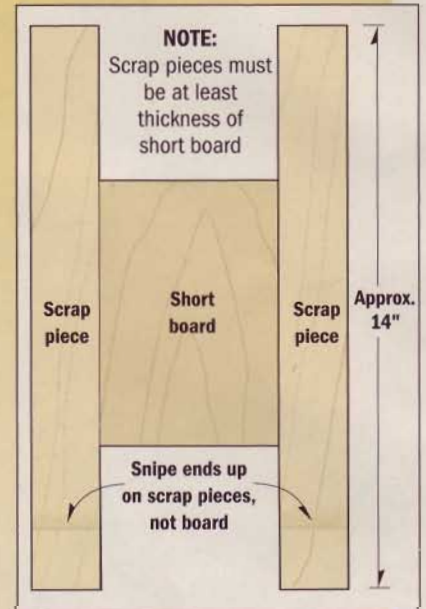
have to be planed to thickness before I can use them.

The problem is running a board that is less than 12" long through a planer is definitely *not* recommended. It can get caught between the infeed and outfeed rollers, causing it to lift off the planer bed. At best, this causes severe snipe (a deeper cut near the end of a board.) At worst, the board can get chewed up, damaging the cutterhead in the process.

To prevent this, I glue long, narrow scrap pieces to both edges of the short board, see drawing at right. These scrap pieces span across both feed rollers, so the board stays flat on the bed of the planer (*Planer Cutterhead Detail*).

The result is a planed surface that's mirror smooth. If there's any snipe, it ends up on the scrap pieces, not the board. Once the board is planed to the desired thickness, just cut off the narrow scrap pieces.

Roland Romito
Broadview Hts., OH

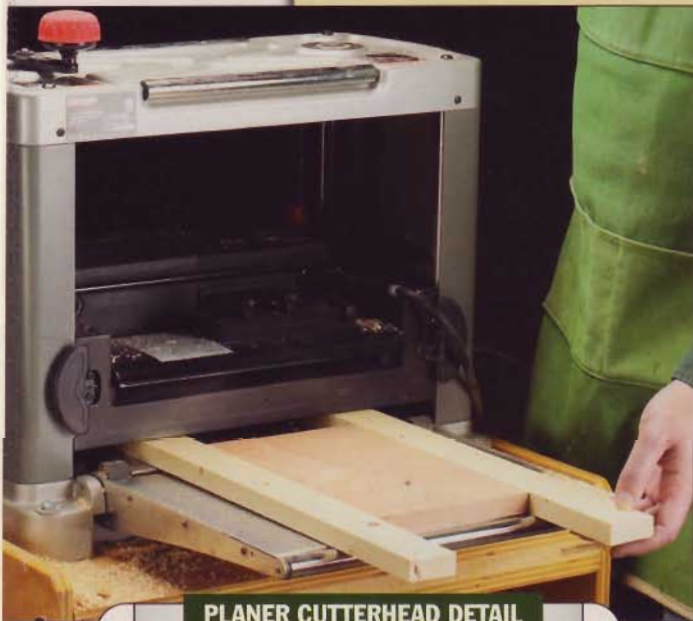


This Featured Tip was submitted by Roland Romito of Broadview Hts., OH.

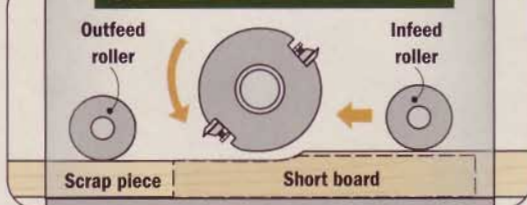
He earns \$250 worth of tools from THE STANLEY WORKS

STANLEY

Send *Workbench* tips. You could be the next Winner!



PLANER CUTTERHEAD DETAIL

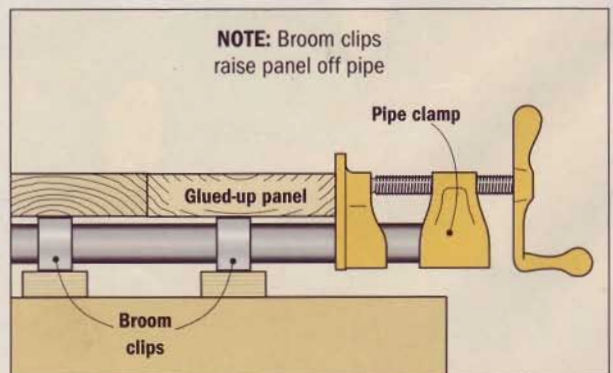


Pipe Clamp Cradles

Pipe clamps have a frustrating tendency to tip over when gluing up a solid-wood panel. Also, moisture in the glue reacts with the iron pipes, which creates an ugly black stain on the wood.

To steady the clamps, I make "cradles" from metal broom clips and plywood blocks (*photo at left*). The cradles have the added benefit of raising the panel off the clamps, so there's no stain (*art at right*).

H. L. Davis
Wood River, IL



Fool-proof Fit for Exterior Doors

When hanging an exterior, solid-wood door, the bottom edge has to be cut at a slight bevel. This way, when the door is closed, it will seal against the rubber gasket on the threshold.

To accomplish that, I used to measure the height of the opening on both door jambs, transfer the measurements to the door, and then trim it to length.

But that technique wasn't always accurate. Sometimes I had to cut a door twice to get a snug fit. Even worse was when I cut a door *too* short, and it didn't seal against the threshold at all.

POSITIONING BLOCK. My solution is to use a *positioning block*. It's a block of wood with an angled end that makes it easy to determine the exact amount that needs to be trimmed off the door (Figs. 1 and 1a). Note: To match the desired bevel on the door, I trimmed about 1/8" off the "high" point of the block.

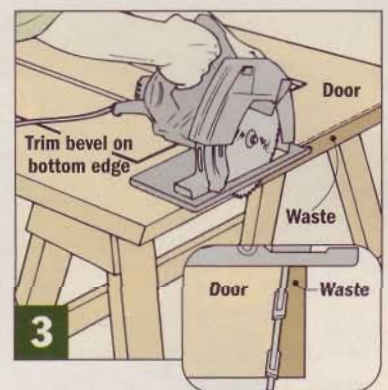
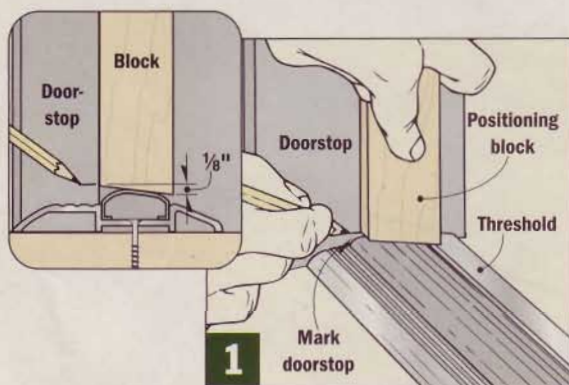
USING THE BLOCK. To use the block, set it against the doorstop, compressing the rubber gasket on the threshold (Fig. 1). Then make a mark on the doorstop that aligns with the high point of the block. (Do this on both doorstops.)

Next, temporarily remove the gasket, and hang the door in the opening. This allows you to accurately transfer the marks to the door, as shown in Figure 2.

TRIM DOOR. Now simply remove the door, extend the line, and cut the bevel on the bottom edge. (Figs. 3 and 3a). Remember, the layout line indicates the high point of the bevel, which is on the *outside* face of the door.

After reinstalling the gasket and hanging the door, it should fit just right — the first time.

Robert Eckstein
Mazomanie, WI



Paint in a Pail

Sometimes it's hard to grip a quart-sized paint can, especially if there's paint on the outside of the can.

To make it easy to carry, I stick the can in a pail and stuff rags around it. The rags catch drips and keep the can from tipping.

William J. Glisson
Syracuse, NY



Plastic Guard Prevents Marring



Using a stop collar on a drill bit can mar the surface of a workpiece.

To prevent this, I use a plastic guard with a notch that fits around the bit. A piece of plastic laminate (shown here) or even a piece of an old milk container works fine.

Benjamin Farbaniec
Elizabeth, NJ

SHARE YOUR TIPS, JIGS, AND IDEAS

Do you have a unique way of doing something? Just write down your tip and mail it to:

Workbench Tips & Techniques
2200 Grand Ave.
Des Moines, IA 50312

Please include your name, address, and daytime phone number.

If you prefer, e-mail us at:
Editor@Workbenchmag.com

You'll receive \$75-\$200 and a *Workbench* hat if we publish your tip. For a free woodworking tip every week via e-mail, go to woodworkingtips.com

Fireplace Design Solutions Software

I've never been able to choose a paint color by looking at paint chips. So imagine the trouble I had choosing manufactured stone for my fireplace by looking at pictures in a catalog.

What made my decision a whole lot easier was the timely release of *Fireplace Design Solutions*,

a new piece of software from Cultured Stone — a division of Owen's Corning.

This program allows you to consider several designs and then finish them in any of Cultured Stone's products. It also has several options for hearth shapes, mantel styles, and ceiling heights.

The software can also help you design grilling stations, chimneys, and outdoor fireplaces.

Once your project is designed, the program will let you print construction details and an inventory list that includes everything you'll need to build the project, from staples to stones. It even tells you which package sizes to order from Cultured Stone to get exactly the quantity you need.

Fireplace Design Solutions is available on CD (Mac or PC compatible) for \$24.99. The software is being distributed through Cultured Stone dealers. To find a dealer in your area, visit the Web site at www.CulturedStone.com, or call 800-255-1727.



If you like the articles in this issue of *Workbench*, be sure to check out these related project plans, woodworking tips and techniques, tool reviews, and product information at:

www.WorkbenchMagazine.com

Just look for the **ONLINE Extras** "button" in each article.

PROJECT PLANS

- Utility Workbench: A Companion Project to Tool Storage Bins
- Rustic Retreat (Parts 1 and 2)
- 3 Shop-Made Router Tables
- Router Storage Cabinet
BONUS: Router Bit Basics
- 5 Must-Have Router Jigs

TOOLS, PRODUCTS & INFORMATION

- Plunge Router Review
- Router Bits & Accessories
- Cutting Diagrams for Tool Storage Bins and Cottage-Style Dresser



◀ **Cultured Stone now offers software to help you design the fireplace you've always wanted.**



▶ **Fireplace Design Solutions lets you customize your design with choices like a vaulted ceiling, raised hearth, and various mantels.**

Free Software at SherriBell.com

Software doesn't have to be complicated to be useful. The free software available at SherriBell.com are a good example.

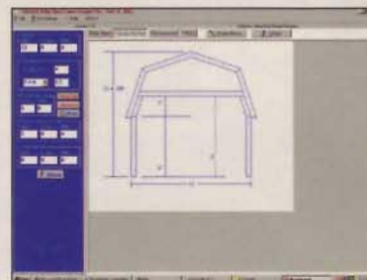
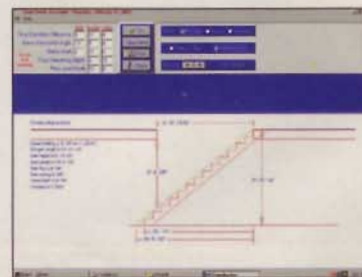
Baby Barn Frames, for instance, is a free program that's used to design walls and trusses for a simple barn-style storage shed or child's playhouse based on dimensions you provide.

The program gives you a cross section of the truss, a detailed set of plans, and a component list with cut lengths and angles for making the truss pieces.

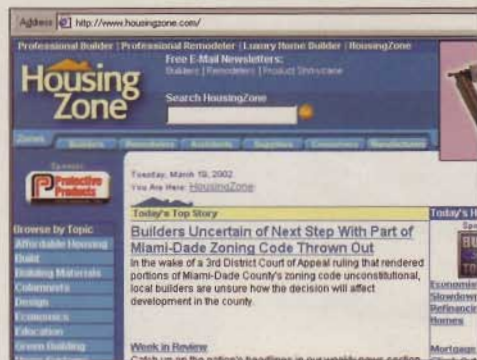
Other programs on the site include a picnic table designer, a sawhorse designer, and a stair checker. This last one helps simplify laying out stair stringers. It will even tell you if the stairs you're designing violate building codes.

There's also a good list of links to other useful Web sites.

Visit the site to download these and other free programs www.SherriBell.com.



Programs for designing stairs and barns are two examples of freeware offered on this site.



Stay "In the Know" with HousingZone.com

Home improvement has changed quite a bit in the past few years. There used to be a time when, if you were planning a room addition or a basement remodel, you drove to the local lumberyard, loaded up a bundle of 2x4 studs, a stack of drywall, and a box of nails and headed home to start building walls.

Today, however, choosing the best material for a home improvement project is a bit more involved.

For instance, should you use traditional lumber to frame your walls, or engineered lumber? Or maybe steel studs would be a better choice. And don't even get me started on the choices we now have for flooring materials and wallboard.

How is a busy DIY'er supposed to keep all those choices straight?

Well, a good place to start is by visiting www.HousingZone.com.

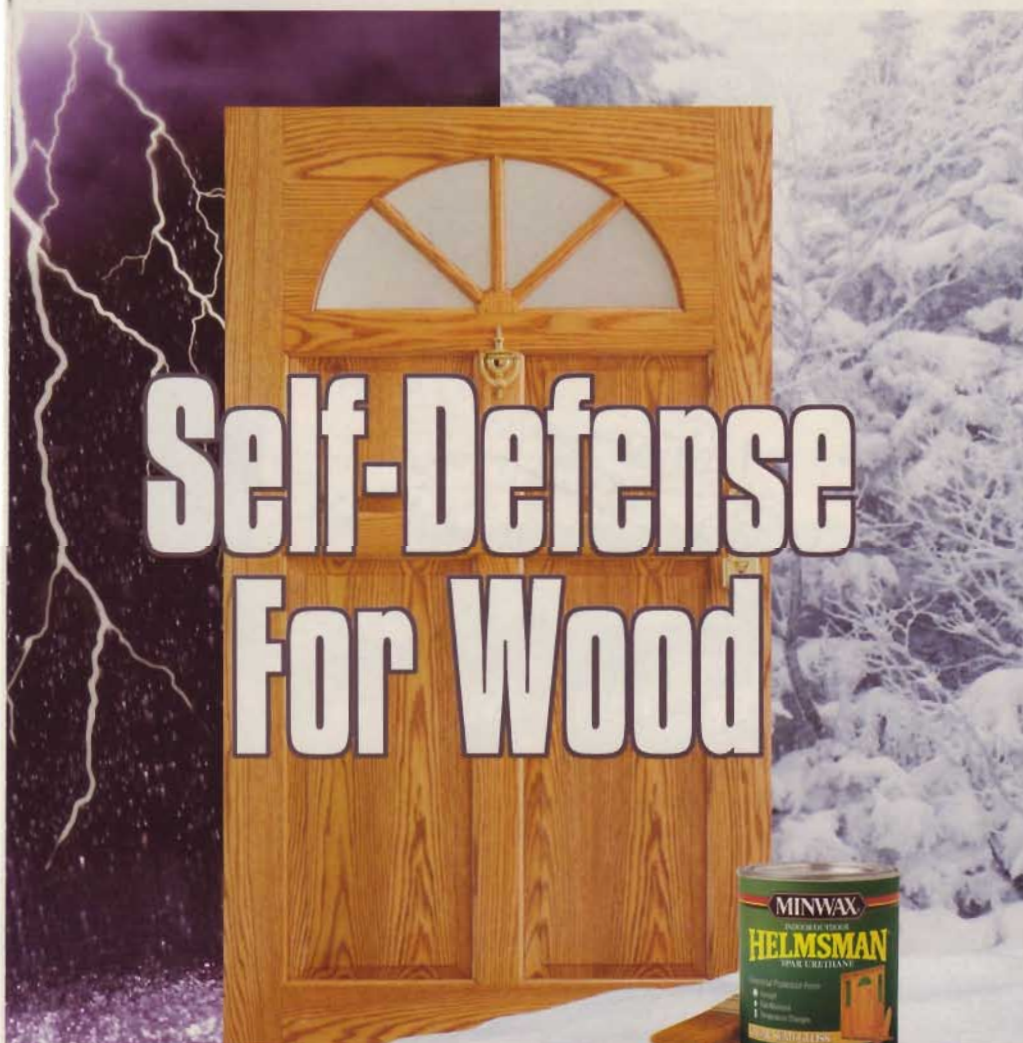
This Web site is aimed mostly at construction industry professionals, but there's a ton of good information here for the DIY'er, too.

The logical place to start exploring this site is in the *Consumers* section. (You'll see a link to this section near the top of the home page.) In here, you'll find a large collection of articles and reports of particular interest to homeowners. The articles are timely, so visit the site often to *keep up on what's going on*. This is where I found the most comprehensive news on the phase-out of lumber treated with chromated copper arsenate (CCA, also known as pressure-treated lumber).

Of course, for anyone not as engrossed by the future of CCA as I am, there are plenty of other practical articles, as well. A couple excellent articles that I read during my most recent visit are *Remodeling's Hidden Hazards* and a question-and-answer piece on detecting shower pan leaks.

Don't spend all your time in the *Consumers* section, though. Be sure to visit the *Builders* and *Renovators* zones. These are great places to find out what techniques and materials the pros are using in their projects.

And when you really have some time to investigate the site, start clicking on the long list of links on the left-hand side of the page. There's a wealth of information under these 25 headings.



Self-Defense For Wood



For long-lasting protection against the elements, use Helmsman® Spar Urethane.

Harsh weather conditions are always on the attack. So arm your wood with the superior protection of Minwax® Helmsman® Spar Urethane. It's a tough, clear finish formulated to beautify and protect wood. Special ultraviolet absorbers defend against fading. And special oils allow Helmsman® to expand and contract to avoid cracking and chipping that occurs with seasonal temperature changes. From winter blizzards to torrential downpours to scorching summer sun, make sure your wood fights back—with the protection of Helmsman® Spar Urethane.



Makes And Keeps Wood Beautiful®

minwax.com

©2001 Minwax Company. All rights reserved.

Product Information Number 192

Rustic Retreat 3 Great Deck Projects



It's hard to beat spending time outside, which is one of the things I like best about this Rustic Retreat. It's a stand-alone, two-level deck that's ideal for entertaining, grilling, or just plain relaxing with friends.

We featured Part 1 of this deck in the previous issue of *Workbench* (April 2002). It has all the information you need to build the basic structure of the deck as it's shown here. Or, you can modify it to suit your needs.

THREE GREAT DECK PROJECTS

This part of the Rustic Retreat features *three* great deck projects — projects you can add on to this deck, an existing structure, or build as separate units.

CEDAR-CLAD PLANTER. The first project is a cedar-shingled planter. As you can see in the photo above, we attached this planter to our deck. But we've also included three other ideas for using the planter in the yard. (For more on this, see page 22.)



BUILT-IN BENCHES. Another project that's definitely worth a closer look is the built-in benches (*inset photo*). With their simple, straightforward design, you can build and install these benches in a weekend.

FIREPIT. Finally, there's a gas-fired, UL-approved firepit with ceramic logs — perfect for toasting hot dogs and marshmallows on a summer evening.

The firepit is surrounded with what *appears* to be stone. Actually though, it's not real stone. It's *manufactured* stone, which is less expensive, lighter in weight, and easier to install. We've included a separate article on working with manufactured stone on page 38.

CEDAR PLANTER

This cedar-clad planter offers plenty of possibilities for your deck, yard, or even the front of your home.



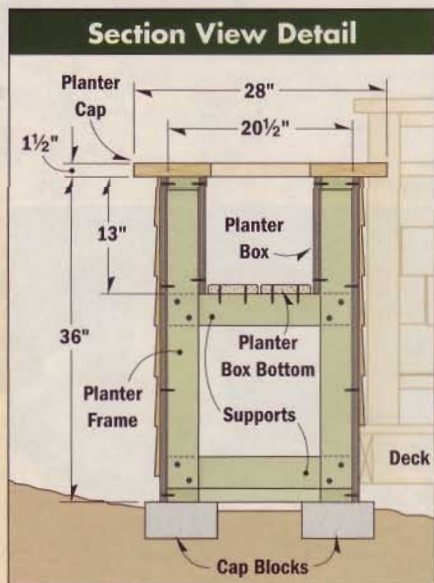
There's more to this cedar planter than good looks. It's also an incredibly *versatile* project. The planter can be added to the deck, as shown. Or, you can use it as a stand-alone planter in your yard (refer to page 22). Finally, the planter is designed to hold either potted plants or soil.

ON THE LEVEL. The first step is to make a solid foundation for the planter. I used concrete cap blocks (*Planter Construction View*), leveling them, as shown on page 21.

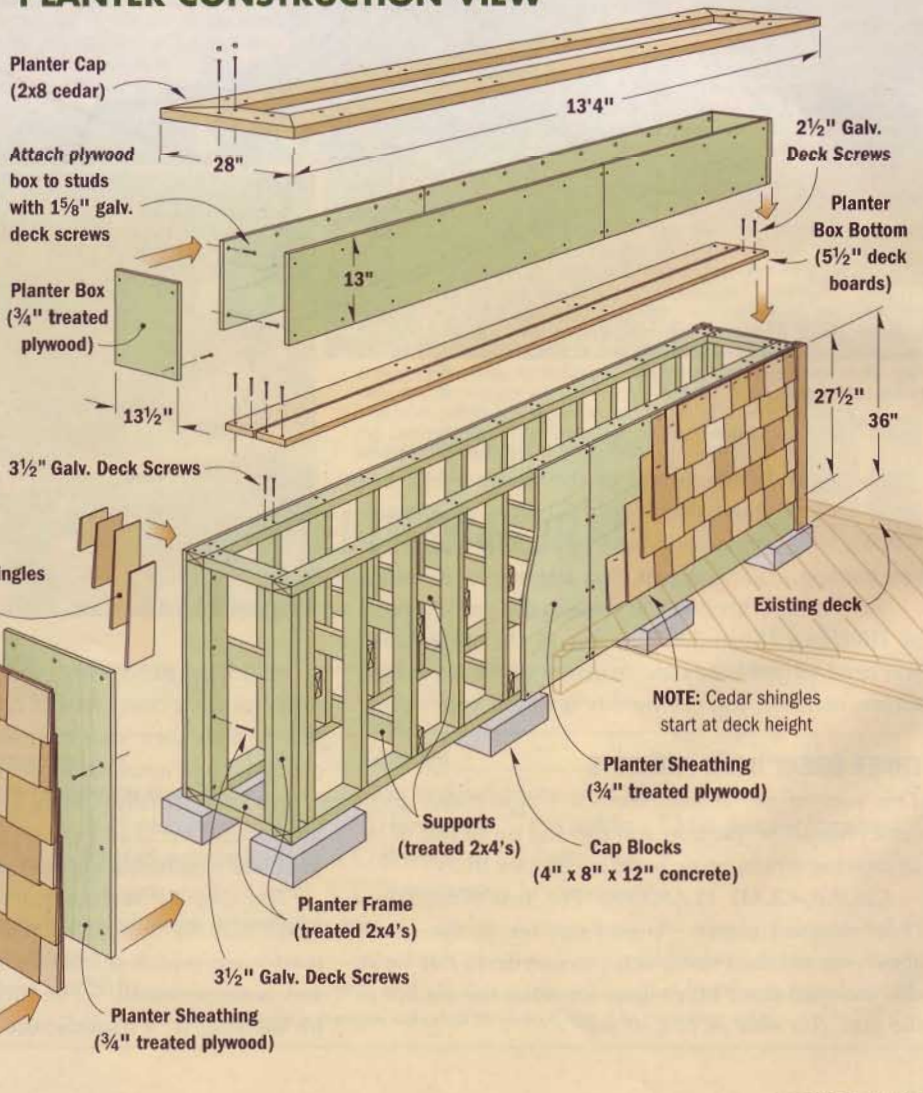
FRAME. Sitting on top of the blocks is the frame of the planter — a pair of narrow end units and two long sides, all made from pressure-treated 2x4's (*Frame Assembly*).

Depending on the size of your planter, the frame may be quite heavy. If so, it's best to assemble it on the concrete blocks. To do this, set the ends between the sides and screw the frame units together.

SUPPORTS. To add rigidity, the sides are "tied" together with short 2x4 supports that span across the bottom and the middle of the



PLANTER CONSTRUCTION VIEW



ONLINE Extras
Rustic Retreat (Part 1)
 WorkbenchMagazine.com

planter. The upper 2x4's do double duty as supports for the planter box.

ADD SHEATHING. After the supports are screwed to the frame, the next step is to cover the outside of the frame with sheathing. It's made from $\frac{3}{4}$ " pressure-treated plywood. I ripped the sheathing for the sides first and screwed it to the frame. (Be sure to center the plywood joint lines on a stud). Then cover the ends with sheathing.

PLANTER BOX. Now you're ready to add the planter box. The sides of the box are strips of $\frac{3}{4}$ " pressure-treated plywood that are screwed to the frame (*Planter Construction View*). For the bottom, I used pressure-treated deck boards, spaced $\frac{1}{4}$ " apart for drainage.

Adding the Shingles

With most projects, you reach a point where it really starts looking great. For this planter, that happens when you install the cedar shingles.

CORNER TRIM. Before the first shingle went on though, I added two $\frac{3}{4}$ "-thick cedar trim boards to each corner of the planter, as shown in the *Shingles, Trim & Cap* illustration. Note that these boards are

different widths. This way, when the boards are nailed in place, both faces of each corner appear to be the same width.

Speaking of appearance, I wanted the exposure on each row of shingles to match the shingles on my deck railing ($5\frac{1}{2}$ "). So to establish the location of each row, I laid out lines spaced $5\frac{1}{2}$ " apart on the trim boards.

One way to save material is to make the shingles for the upper row first by cutting $5\frac{1}{2}$ " off the thick ends of a couple dozen shingles. Then set the short cutoffs aside for now, and use the longer, thin pieces as the starter row.

On the side of the planter next to the deck, start the shingles at deck level. The other sides of the planter are shingled all the way down. Either way, space the shingles about $\frac{1}{8}$ " apart and fasten with an air stapler or 3d galvanized nails.

For the next row, use full-length shingles placed directly over the starter row. Make sure to offset the gaps between shingles.

To align the next row, snap a chalkline, using the layout lines on the trim boards as a guide. As with



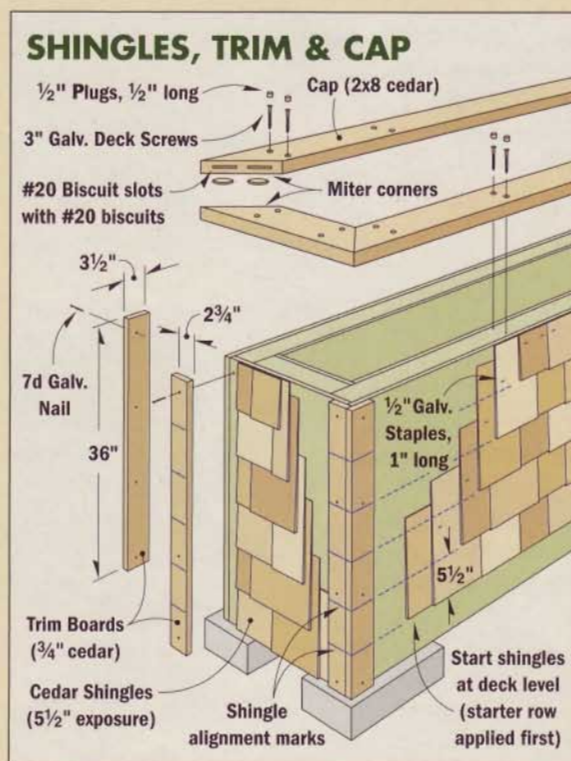
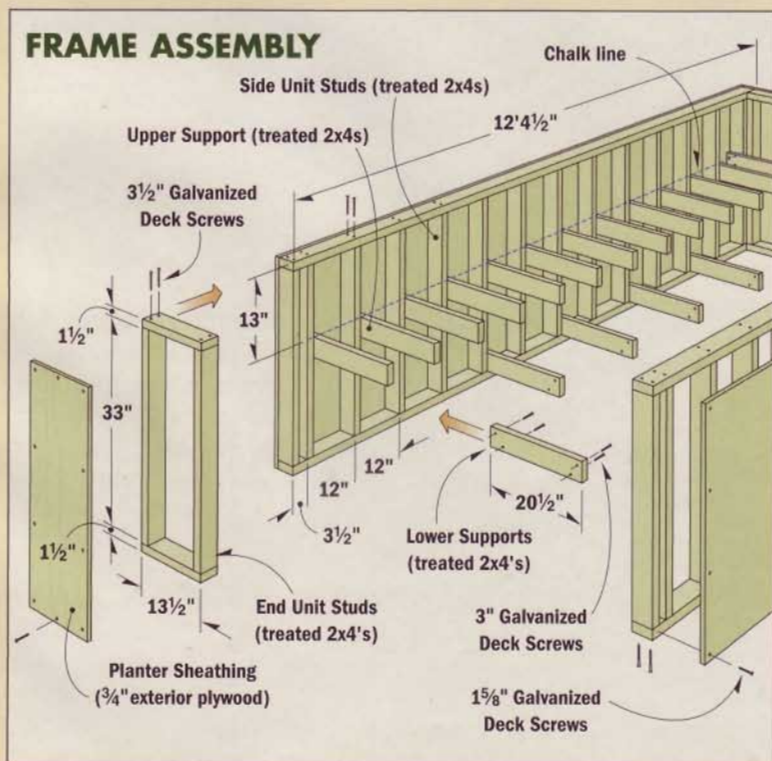
◀ Concrete cap blocks provide a quick, easy way to build a foundation. Plus, they allow water to drain freely away from the planter.

the deck railing, I wanted the shingles to have a staggered appearance. So I offset them vertically, placing one shingle $\frac{1}{8}$ " above the line, the next $\frac{1}{8}$ " below, and so on.

Repeat the process for each row, trimming the top ends as needed. For the top row, use the thick cut-offs from the starter row, removing $\frac{1}{4}$ " off every other shingle to continue the staggered look.

Capping It Off

Finally, I added a cap to the top of the planter. It's made of 2x8 cedar boards that are mitered to length. After assembling the mitered ends with glue and biscuits, attach the cap with screws and wood plugs.



how does your garden grow?

A Planting Primer

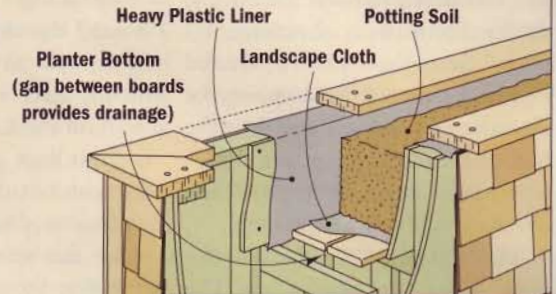
There are several different ways to go about growing flowers and plants in this cedar planter.

POTTED PLANTS. One of the simplest is to set potted plants directly on the bottom of the planter box (*Potted Plant Detail*). This lets you arrange plants like you want. And if you're like me, and don't have much of a green thumb, it lets you replace plants as needed.

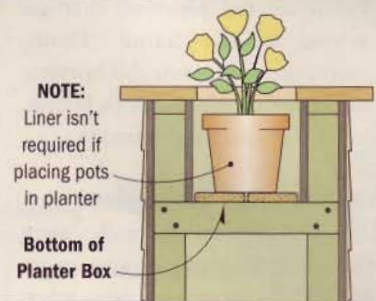
SOIL. Another option is to fill the planter box with potting soil. To prevent damage from water, cover the sides of the planter box with a plastic lining (*Planter Box Lining*). Also, put landscape cloth on the bottom to keep soil from falling through, yet still allow water to drain. (Landscape cloth is available at many nurseries.)

SHORT PLANTERS. Finally, for shorter planters (18" or less), you may want to fill the *entire* planter with soil. Here, there's no bottom to the planter box at all — the potting soil is in direct contact with the ground, so drainage is improved. Just be sure to cover the sides of the box with plywood and plastic from top to bottom.

PLANTER BOX LINING



Potted Plant Detail



multi-purpose planter

► Deck Railing

The planter makes a great deck railing. Just be sure the cap is 36" above the deck. You can even install low-voltage lighting in the planter.



ILLUSTRATIONS BY CARLIE HAMILTON, GARDEN GATE MAGAZINE

► Select a Spot

This short planter helps define the walkway leading to the steps.

Note: Refer to *A Planting Primer* above for more on short planters.



▲ A Grand Entrance

The two planters flanking these front entry steps cover the relatively unattractive sides of the steps, giving this home more curb appeal.

BUILT-IN BENCHES

A simple design makes building these benches an easy weekend project — with time left over to sit a spell.

Basic benches. That's the best way to describe this deck project. As you can see, I built benches around the sides of the lower octagonal deck. But they could just as easily be added to any existing deck.

Each bench unit is made entirely of 2x cedar lumber. It starts out as a simple frame made up of two long stretchers that are connected by four short support rails (*Bench Assembly*). Just add a pair of legs, seat boards, and some screws and you'll be in business.

FRAME. If you're building the benches for the octagonal deck, it can be a bit tricky determining the exact lengths of the frame pieces. So rather than use a tape measure, I

found a much easier and more accurate way to do it.

It involves snapping chalklines on the deck, cutting the stretchers to fit between the lines, and then building the frame right on the deck. The *Frame Layout* illustration below shows this process in detail.

One thing to note is that the beveled ends of the stretchers extend $\frac{3}{4}$ " past the support rail on the end of each frame (*Bevel & Mounting Detail*). The combined offset creates a $1\frac{1}{2}$ " opening — just enough for the 2x4 leg that supports the front of the bench. Note: If there's no adjoining bench, cut the stretchers so they fit flush at the end.

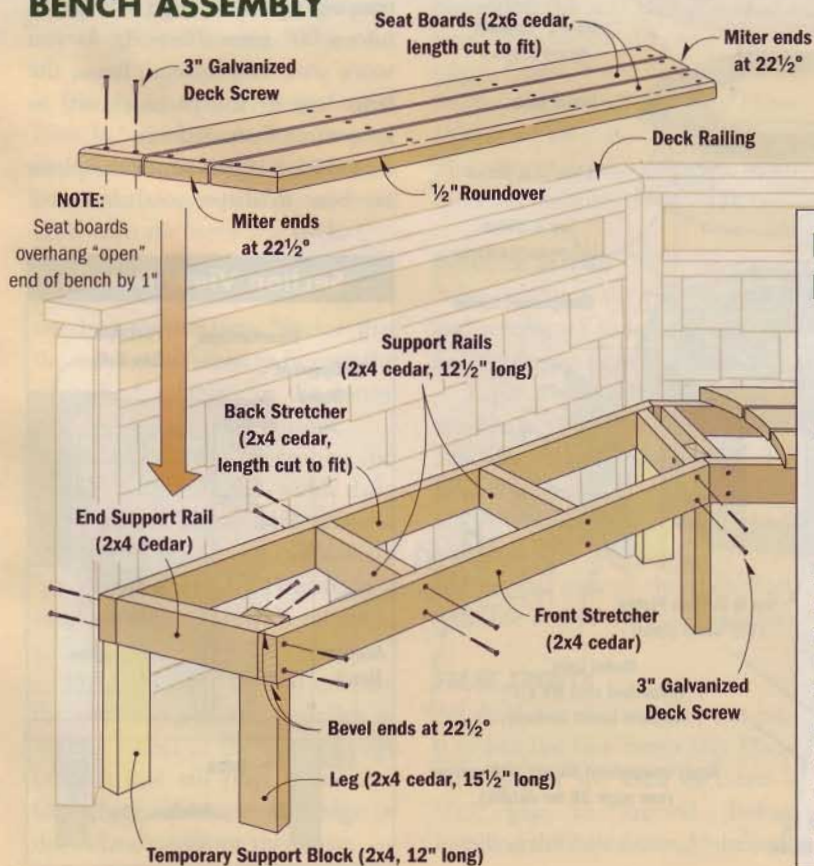
MOUNT THE FRAME. With the frame complete, it's just a mat-



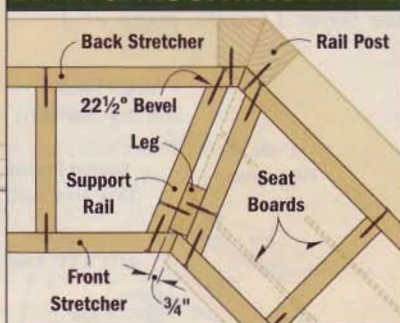
ter of mounting it securely to the deck's rail posts. I used 2x4 blocks to temporarily prop it at the right height and then screwed it in place.

SIMPLE SEATING. Now it's time to add the seat boards. They're mitered to length, spaced $\frac{1}{4}$ " apart, and screwed to the support rails. Finally, for comfort, I routed a $\frac{1}{2}$ " roundover on the top edge of the seat boards.

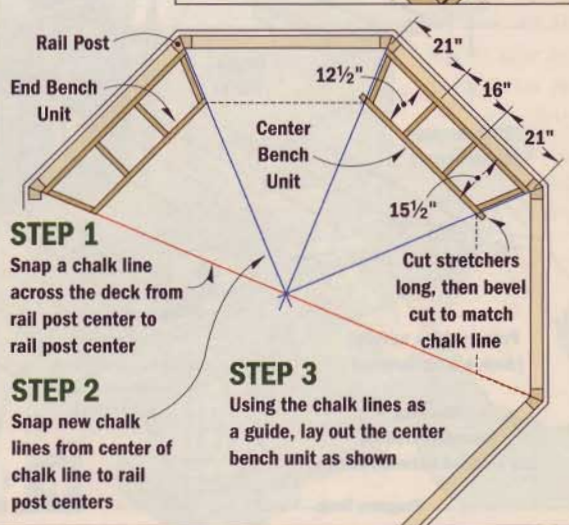
BENCH ASSEMBLY



BEVEL & MOUNTING DETAIL



FRAME LAYOUT



CUSTOM FIREPIT

Want a "hot" project for your deck or patio? Build a firepit made of metal and manufactured stone.

There's a fire burning in the stone firepit — pushing back the night chill, keeping you cozy and content. A scene like this is easy to create by building a firepit around a portable gas grill like the one shown in the margin.

ANATOMY OF A FIREPIT. The firepit is made entirely of non-com-

combustible materials: steel framing, cement board, metal lath, and two types of manufactured (concrete) stones (*Firepit Construction View*).

Build the Frame

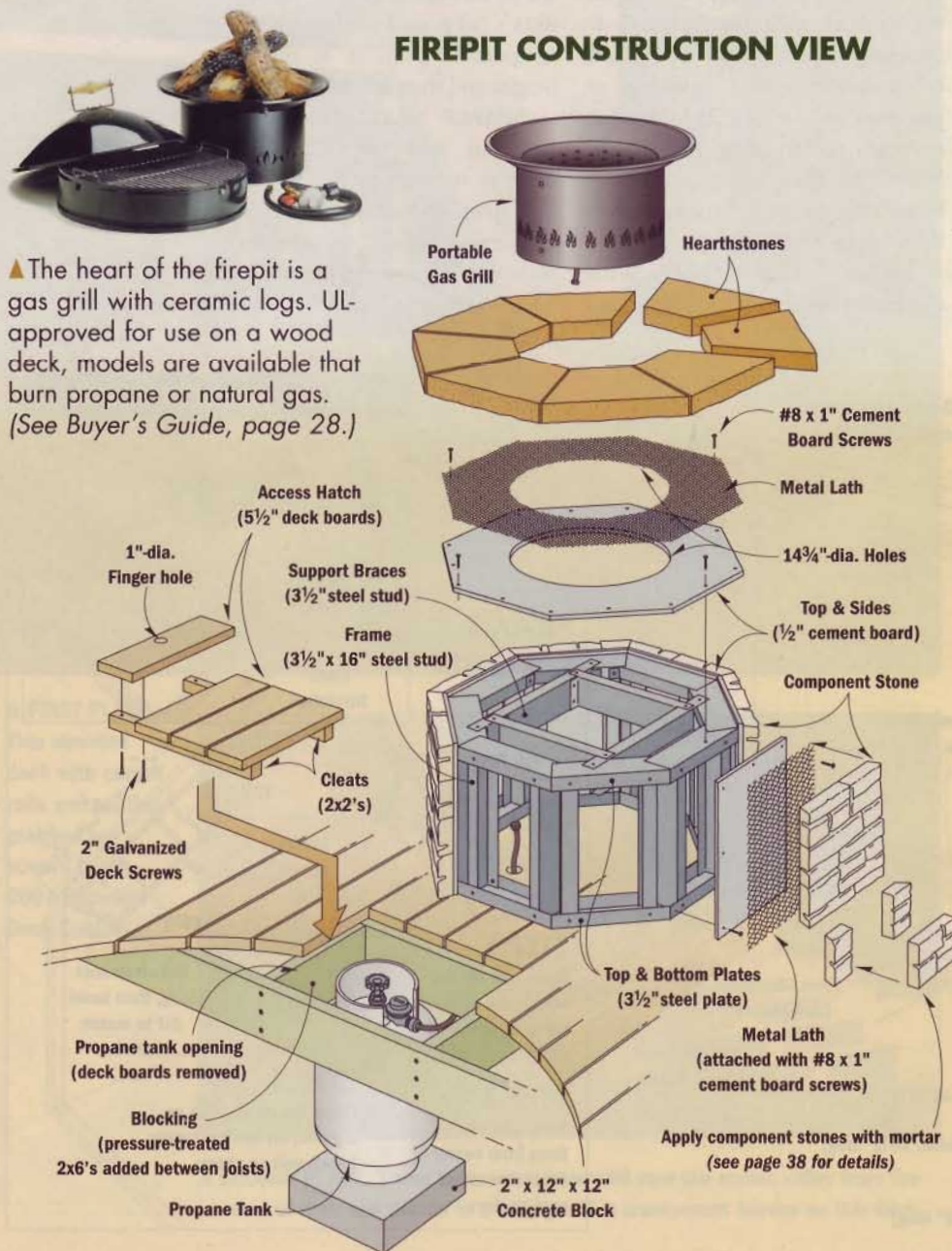
To make the frame for the firepit, I used two types of U-shaped, metal framing material: *steel plates* for the octagonal top and bottom plates and *steel studs* for the vertical supports (*Frame Assembly*, page 27). The studs are sized to fit into the plates.

STEEL PLATES. Start by cutting two 106"-long steel plates, one each for the top and bottom plates (*Making the Plates*). To form the octagons, cut a series of "bending points" (*Plate Cutting Detail*). A pair of tin snips makes this an easy job.

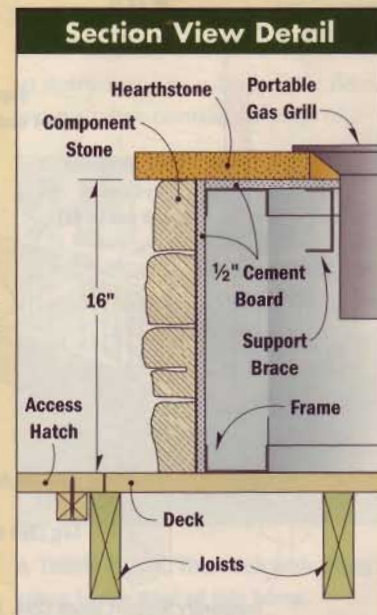
To bend the plate, I temporarily screwed one "leg" to a large piece of particleboard. Then I used a framing square to align two bends into a 90° turn (*Photo A*). As you work your way around, fasten the bent legs to the particleboard to keep them from shifting.

STEEL STUDS. Once the plates are bent to shape, you can install

FIREPIT CONSTRUCTION VIEW



▲ The heart of the firepit is a gas grill with ceramic logs. UL-approved for use on a wood deck, models are available that burn propane or natural gas. (See *Buyer's Guide*, page 28.)



the steel studs. To create flat surfaces for attaching the cement board, there are two studs at each corner. I used pop rivets to fasten the studs to the top and bottom plates. (For more on this, see page 66.)

BRACES. To add extra rigidity to the frame, I added four support braces (*Frame Assembly*). These are steel studs that span the opening at the top of the frame. To attach the braces, cut "tabs" at each end and then fasten them to the frame with pop rivets (*Photo B*).

Cement Board & Lath

The next step is to cover the sides and the top of the frame with cement board and metal lath. This produces a solid surface for attaching the manufactured stone.

SIDES. Start by cutting eight side pieces to size using a circular saw and abrasive blade. As long as you cut the sides square, they'll help "square up" the frame as you screw them into place.

TOP. An octagonal top with a circular opening for the gas grill is added next. An easy way to lay out the shape of the top is to set the frame on a piece of cement board and mark around it. Here again, make the straight cuts with a circular saw. Then cut the circle in the center with a jig saw and a wood-cutting blade.

METAL LATH. After screwing the top to the frame, it's time to install the metal lath. It provides some "tooth" that allows the mortar used for the stones to form a strong bond. (See page 39 for more on surface preparation.)

FASTEN THE FRAME. With the lath screwed in place, you're ready to secure the frame to the deck. It's simply fastened to the deck boards with #8 x 1" sheet metal screws.

Fuel for the Fire

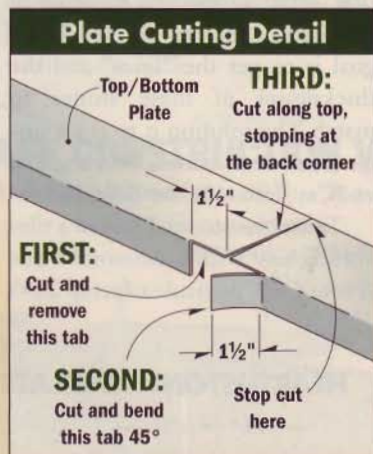
Now is a good time to install the fuel source for the gas grill. I set a propane tank under the deck and ran the flexible gas line into the firepit from under the deck boards (*Firepit Construction View*). A hatch made of 2x2's and deck boards provides easy access to the tank.



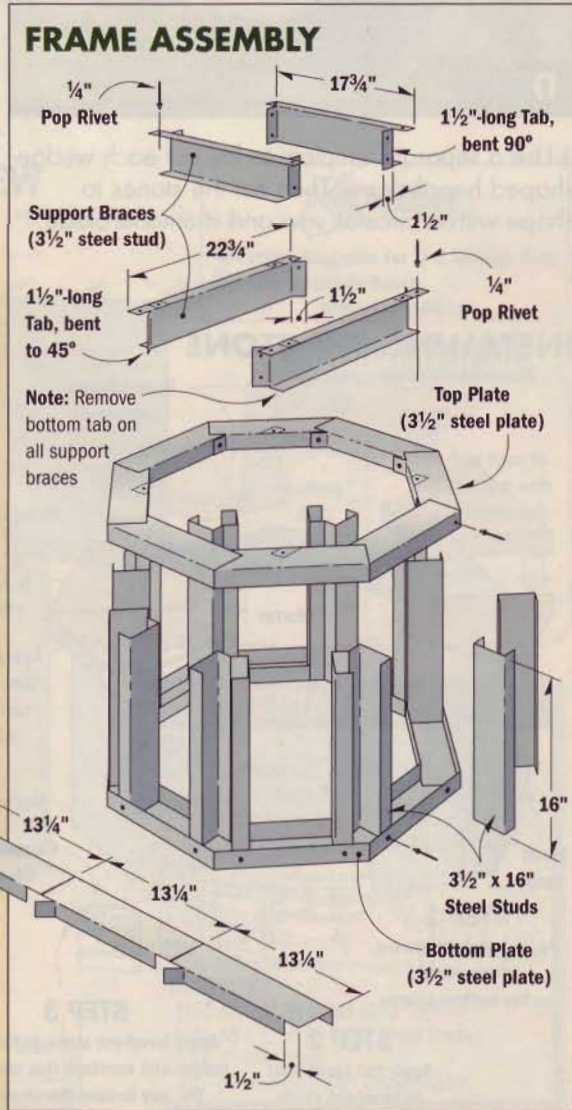
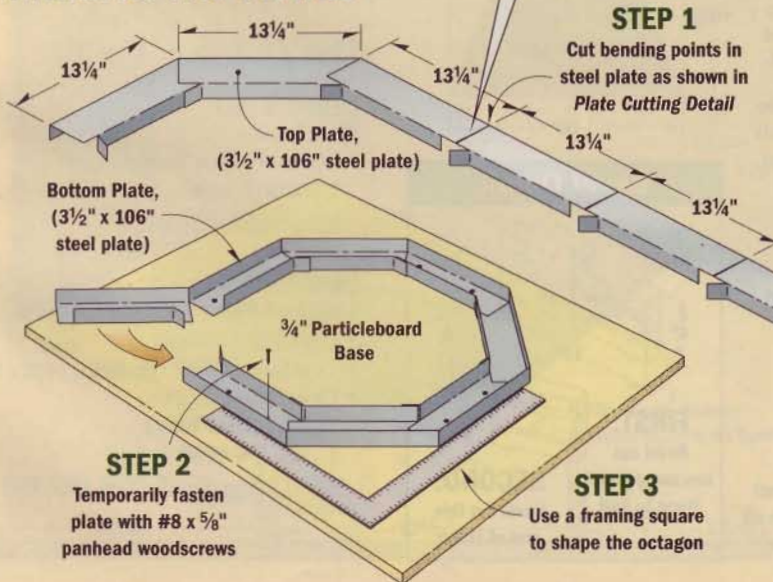
▶ To create a 90° turn, use a framing square as a guide when bending the top and bottom plates to shape.



▶ Steel studs that are pop-riveted to the frame provide support for a cement board top and the hearthstones.



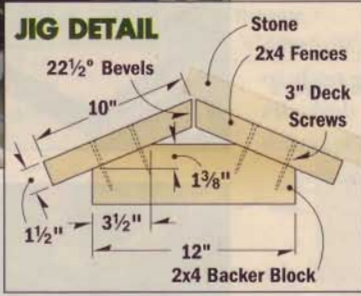
MAKING THE PLATES



cutting and applying stone



C I used a jig on a tile saw to bevel cut the stones for the corners of the firepit.



The Look of Real Stone

The firepit appears to be made of natural rock. But it's actually veneered with *manufactured stone* — concrete stones that are shaped and colored to look like the real thing. (For more information about manufactured stone and how to install it, refer to the articles on pages 36 and 38.)



D Use a separate template to lay out each wedge-shaped hearthstone. Then cut the stones to shape with a circular saw and diamond blade.

Cutting the Components

The sides of the firepit are covered with *component stones*. They're called this because each "component" actually looks like several stones.

Notice the two adjoining stones that "wrap" around each corner of the firepit (*Applying the Stone*). The goal is to get the "lines" and the thicknesses of these stones to match. The solution is to cut a single stone into halves, beveling the ends, as shown in the *Bevel Detail*.

To cut the stones, I rented a tile-cutting saw with a diamond blade (*Photo C*). A jig made of scrap 2x4's

that's clamped to the saw holds the stone at the proper angle (*Jig Detail*).

To install the stones, start with the bottom course and work your way around the firepit. Then repeat the process for each subsequent course.

Cap it with Hearthstones

To cap the firepit, I used flat, manufactured *hearthstones* that are cut into wedges to fit around the firepit.

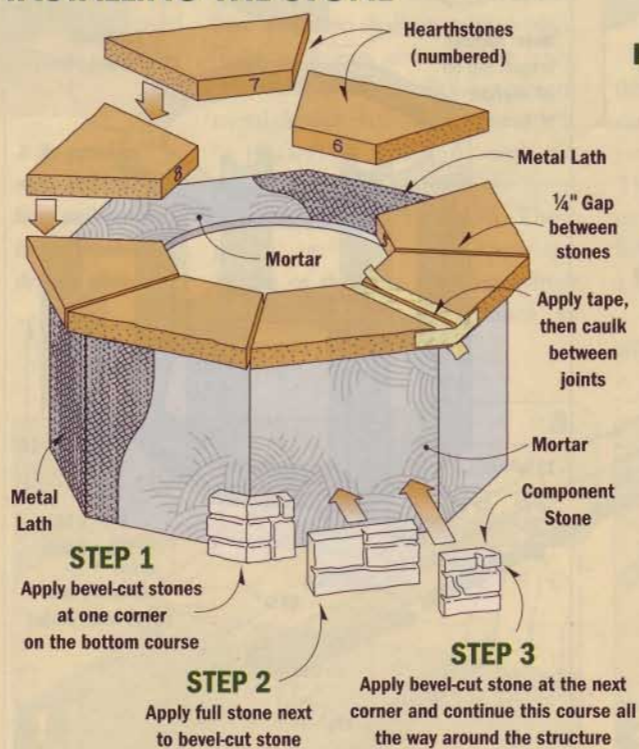
To ensure a good fit, make a template for each hearthstone, as shown below. (I left a 1/4" gap between each stone.) Then test fit the templates before cutting the hearthstones to shape (*Photo D*). Note: Label each template and its matching stone to avoid mixing them up.

Now set all the hearthstones on top of the firepit in a bed of mortar. Then run strips of tape along the joint, apply polyurethane caulk, and smooth it with a wet finger.

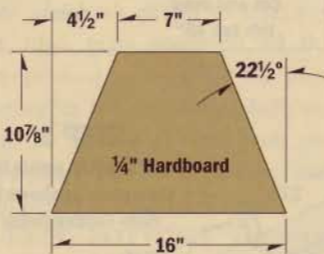
Fire it Up

The gas grill simply rests on top of the hearthstones. After setting it in place, attach the gas line, grab some marshmallows, and fire up the grill.

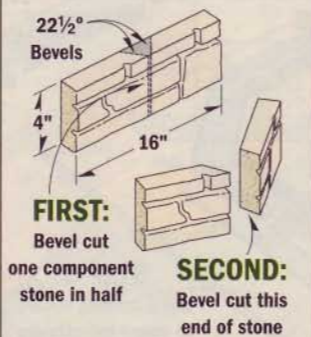
INSTALLING THE STONE



HEARTHSTONE TEMPLATE



Bevel Detail



WORKBENCH HOME™

buyer's guide

Firepit Insert

Heatilator

- Camp N' Cook Firepit Insert
1-800-843-2848
www.Heatilator.com

Firepit Stone

Cultured Stone — Owens Corning

- Pro-Fit LedgeStone
Southwest Blend (PF-8019)
- Hearthstones
Blond (CHS-3089)
1-800-255-1727
www.CulturedStone.com



Combination Router Kits



- 3 Shop-Made Router Tables
- Router Cabinet **PLUS: Bit Basics**
- 5 Router Jigs
- Plunge Router Review
- Router Bits & Accessories

WorkbenchMagazine.com

Never again will you have to ask, "Fixed-base or plunge-base router?"

Now you can get both tools in one complete kit.

Choosing a router is almost a woodworker's rite of passage. And every one of us has faced the age-old question, "Should I buy a fixed-base or a plunge-base router?"

I can't tell you how many times I've tried to answer that question for *Workbench* readers. There's no easy answer. That is, until now.

Thanks to Porter-Cable, Bosch, and Makita, whenever someone asks me if they should buy a fixed-base or a plunge-base router, I'll simply say, "Yes."

All of these tool manufacturers now offer combination router kits that include both a fixed and plunge base with a single motor that can be interchanged between the two.

Porter Cable has been doing this for years with their 693PK. And now that Makita and Bosch are in on the combo act, the question is no longer "fixed or plunge base," but rather, "which combination kit is right for me?"

Well, we've used them all. In the next three pages, we'll help you find the best kit to fit your shop.

PORTER CABLE 693LRPK

The real story of the Porter-Cable combination kit is the recent improvements that have been made to the time-tested 690 router — the router that's at the heart of this kit.

First, the 1½ hp motor has been beefed up to a 1¾ hp version. Also, the old toggle switch has been replaced by a dust-protected rocker switch, which Porter-Cable touts as a more reliable design.

FIXED BASE. Another big improvement on this router is specific to the fixed base. The wing nut that was used to lock the depth of cut is gone. It's been replaced by a lever lock. This makes depth adjustments and bit changing quicker and easier (*Photo A*).

On all other counts, this router is the same outstanding tool it has always been. The base is wide open, so visibility is excellent, and chips clear out quickly. And the new motor has enough power for all but the heaviest cuts.

PLUNGE BASE. An important measure of a combo router kit is how easily you can switch the motor between bases. This kit requires a hex wrench to secure the motor in the plunge base. It's a tedious process and harder than it needs to be.

In spite of that, the plunge base performed fabulously once the motor was mounted.

The depth stop system is simple and accurate. It has the most versatile turret going (*Photo B*). And the

► Recent improvements to Porter-Cable's 690 add even more value to Porter-Cable's popular combo kit.



plunge release lever is easy to reach without changing your grip.

TABLE MANNERS. Mounting the fixed base in a router table really gave the new lever release a chance to shine. No matter how the router is positioned in the table, releasing the lever is effortless.

Another table-friendly feature of this router is its compact design. This router is fairly short, so I was able to remove the motor from underneath the table. That let me change bits without moving the fence.

CONCLUSION. For the cost-conscious buyer who wants a capable, inexpensive router, the Porter-Cable combination kit is definitely the best choice.

► The 693LRPK includes both bases, two collets, the collet wrenches, and a hex wrench.



At a Glance:

Price:	\$199
Motor:	1¾ hp, 10 Amp
Speed:	27,000 RPM
Collets:	1/4", 1/2"
Plunge Stroke:	2½"
Accessories:	Plastic case
Warranty:	1 year

Virtues: Affordable; Easy-to-use depth adjustment; Six-position turret; Lever release on fixed base.

Vices: Changing motor between bases is difficult; Plunge action is a bit sticky; No soft start.

Verdict: The best value in routers you'll find. Perfect if you want to pay a little money and get a lot of router.

Porter-Cable 800-487-8665
www.Porter-Cable.com



▲ The new lever release on the fixed-base makes depth adjustments and motor changes quick and easy.



▲ The six-position turret is one small part of an excellent depth adjustment system on the plunge base.

BOSCH 1617EVSPK

► The overall quality of the Bosch 1617EVSPK impressed us as both a plunge-base and fixed-base router.



▲ Fixed base, plunge base, two collets and wrenches, a template guide adapter, and plastic carrying case comprise this kit.

At a Glance:

Price:	\$249
Motor:	2 hp, 12 Amp
Speed:	8,000 - 25,000 RPM
Collets:	1/4", 1/2"
Plunge Depth:	2 1/8"
Accessories:	Plastic case, template guide adapter
Warranty:	1 year

Virtues: Tool-less base changing; Smooth plunge; Variable speed; Soft Start; Lever Release.

Vices: Poor visibility & chip clearing characteristics.

Verdict: Top performer in almost all categories. The right choice for woodworkers who will only settle for the best.

Bosch 877-267-2499
www.BoschTools.com

Bosch built their combo kit around their 2 hp, 1617EVS router — a sure recipe for success.

FIXED BASE. First off, the large maple handles make controlling this router easy and natural. And when you flip the switch, the soft start brings the motor to life gently with very little vibration felt through the handles.

One of the best features on this router is the depth adjustment mechanism. Large adjustments are made by releasing a lever and sliding the motor up or down in the base. Fine adjustments are made with a knurled knob.

There is one small knock I have to give this router. The plastic dust

shield gets packed with dust and chips very quickly, making it difficult to see through it. With the shield removed, a great deal of the dust and debris is ejected right toward your face.

PLUNGE BASE. Switching this router from the fixed base to plunge base is passable. Both bases have a lever lock, so no tools are required. However, the motor fits tightly into both bases, so it does take some effort to get it mounted.

Setting up for plunge cuts is quick and accurate thanks to the excellent depth adjustment system. Gross adjustments are made by sliding the depth rod up and down. Fine adjustments are made by turning an extension on the bottom of the depth rod (*Photo A*).

The plunge lever is an easy reach with your fingers or thumb, and it takes only a slight pull (*Photo B*).

Plunging action on the router was smooth. I felt no binding on the plunge or on the return.

TABLE MANNERS. When mounted in a table, the micro-adjustment feature of this fixed-base router is a real asset. Once I had the gross adjustment made, I was able to reach under the table and fine tune the router using the knurled knob.

CONCLUSION. Good control, solid performance, and tolerable base changing make this the perfect choice for anyone who wants the absolute best for their router dollar.

— more on page 34



▲ Bosch's unique depth setting system has an extension at the bottom of the plunge rod for fine adjustments.



▲ Pistol-grip handles and an easy-to-reach plunge lever make this router comfortable and controllable.

MAKITA RF1101KIT

► The powerful 2¼ hp motor of the Makita kit makes it a natural for mounting in a router table.



▲ The Makita kit comes complete with both bases, a see-through dust collection port, two collets, fence, collet wrenches, and a sturdy plastic case.

At a Glance:

Price: \$259
Motor: 2¼ hp, 11 Amp
Speed: 8,000 - 24,000 RPM
Collets: 1/4", 1/2"
Plunge Depth: 2¹⁹/32"
Accessories: Sub-plate, fence, dust collector, case.
Warranty: 1 year

Virtues: Large motor; Variable speed; Soft Start; Lots of extras.
Vices: Hard-to-reach plunge lever; Three-position turret.
Verdict: This kit includes everything you need (minus bits) for most routing jobs. You won't find a better deal for an all-inclusive kit.

Makita 800-462-5482
www.Makita.com

The Makita combo router kit has it all — fixed base, plunge base, auxiliary base plate for large diameter bits, a fence, dust collector, two collets, and a plastic carrying case.

The real star of this cast, though is the 2¼ hp, 11-amp motor.

FIXED BASE. A soft start gets the big motor going gently so you can maintain control with one hand. Then the motor winds up to whatever you've dialed in on the electronic variable speed.

When you start routing, the see-through dust collector works great, clearing chips out of the way without obstructing the view (*Photo A*). The collector comes off quickly to accommodate bit changes.



▲ The see-through dust collection port does a nice job of removing chips without blocking your view.

PLUNGE BASE. Mounting the motor in the plunge base requires a screwdriver — not ideal, but still quick and effective.

One thing I really like on this router is the depth-setting system. The depth rod is threaded. To make large adjustments, there's a push button that releases the rod. Fine adjustments are made by twisting a knob on top of the depth rod. It's slightly different than other systems I've used, but I like the idea of making all depth adjustments with the same component.

One thing that could be improved is the three-position turret. Although all three positions are adjustable, it still seems a bit limited.

Another small complaint I have about this router is that the plunge release lever was just *out* of comfortable reach. I had to nearly let go of the knob in order to reach the lever (*Photo B*). And the lever has to be pulled quite a distance to *totally free up the base*.

TABLE MANNERS. Mounted in a router table, this router proved just as impressive as in a handheld position. Changing the bit depth is easily done by releasing the lever lock and twisting the motor to the desired setting.

CONCLUSION. This is the most comprehensive kit available. It's also the most powerful. No other router offers this much versatility and performance for this kind of money.



▲ The plunge release lever is just far enough away to make you change your grip in order to use it.

Designing with Manufactured Stone

Elegant, affordable, and do-able...



Photo courtesy of Owens Corning

The rich look of stone is no longer the exclusive domain of skilled masons. Man-made stones make it an easy do-it-yourself project.

Each morning on the way to work, I drive through a historic neighborhood filled with grand old homes. My favorite homes are those with stone facades. There's something about the beauty and permanence of stone that I've always admired. And I've always wanted to bring that

same enduring quality to my own home, even though it may be on a much smaller scale.

Historically, though, stonework required that you either be a skilled mason, or be able to afford to hire a skilled mason. Today, however, manufactured stone puts this elegance well within reach of most DIY'ers.

WHAT IS MANUFACTURED STONE?

Manufactured stone isn't stone at all. It's actually a cast concrete product. The concrete is carefully formulated to match the color and texture of natural stones. (See *Anatomy of Manufactured Stone*, page 37.)

Generally speaking, manufactured stone is lighter and thinner



Photo courtesy of Owens Corning

A ▲ A nice home becomes breathtaking when the entire house is covered with manufactured stone. Notice how trim stones were used to accent the windows.

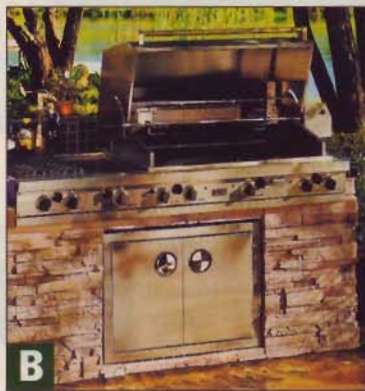


Photo courtesy of Owens Corning

B ▲ For serious backyard barbecuing, nothing says "King of the Grill" like a stone-veneered cooking center.



Photo courtesy of Owens Corning

C ▲ Why settle for an ordinary light post when manufactured stone makes for an elegant pier?

than real stone. But once it's installed, manufactured stone looks just like natural stone.

Of course, manufactured stone works well for large projects, such as the fireplace, at left, or the home shown in *Photo A* on page 36. But it also lends itself well to small-scale projects, such as the outdoor cooking center (*Photo B*) and the lantern pier (*Photo C*).

WHY MANUFACTURED STONE?

Manufactured stone has several advantages over the real thing.

The biggest advantage has to be that it's DIY friendly. With a few basic tools and a little bit of time, manufactured stone can be installed by anyone. (See the article on page 38 for the steps to a typical manufactured stone installation.)

Another benefit is that manufactured stone is relatively inexpensive. Besides the money you save by doing the work yourself, you'll also spend a lot less on materials than you would for real stone.

That's because *making* stone is much cheaper than *mining* the stone. And manufactured stone is much lighter than real stone, so shipping costs are less. The lighter weight also eliminates the additional expense of special footings, foundations, or wall ties.

Finally, manufactured stone is readily available in a wide variety of types and colors. With real

stone, you may be limited to whatever variety occurs naturally in your part of the country.

SELECTING STONE

The four photos at right represent the basic installation types for manufactured stone. Within each of these four categories there are literally dozens of stone types and colors to choose from.

NON-DIMENSIONAL. This shows a non-dimensional stone with grout joints. This is probably the most challenging type of installation for the DIY'er because there is no obvious pattern for stone placement. This type of installation is explained in the next few pages.

DIMENSIONAL, GROUTED. Slightly less complicated is dimensional stone with grout joints. The regular shapes of these stones make placement easier.

DIMENSIONAL, DRY-STACK. This is an example of dry-stacked dimensional stones. Eliminating the grout joints makes this a very simple installation.

COMPONENTS. The simplest installations use component stones — where each piece is cast to look as though it's actually several stones. These stones are always dry-stacked (no grout joints). We used component stones like these on our outdoor firepit. That project is in the *Workbench Home* section of this issue on page 26.



▲ Non-dimensional stone with grout joints.



▲ Dimensional stone with grout joints.

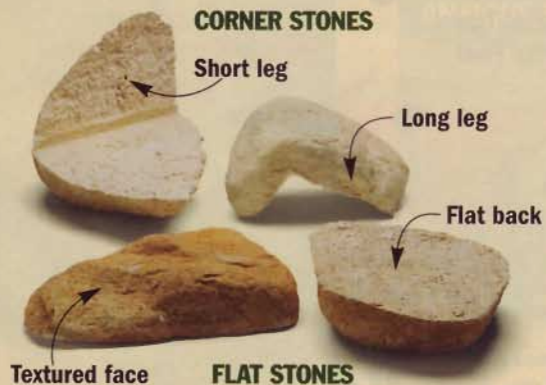


▲ Dimensional stone, drystacked.



▲ Component stones, drystack only.

ANATOMY OF MANUFACTURED STONE



Manufactured stone is designed to look like natural, full-thickness stone, but it's as easy to install as ceramic tile.

The stones are cast with colored concrete in molds taken from real stone, which gives them an authentic shape and texture.

The backs are left flat to make installation easy. Notice also that each corner stone has a long and short "leg." This makes it easy to create a random look by alternating the legs as they're installed.



STONE SOURCES

Cultured Stone
www.CulturedStone.com
 1-800-255-1727

Coronado Stone Products
www.Coronado.com
 1-800-847-8663

EIDorado Stone
www.EIDoradoStone.com
 1-800-925-1491

6 Steps to Installing Manufactured Stone

A little bit of homework and a few special tools are all you need for a quality stone veneer installation. If you can do tile, you can do this.

Unlike real stone, it doesn't take years to develop the skills necessary to install manufactured stone. In fact, the techniques for applying a manufactured stone veneer are very similar to those you'd use to install ceramic tile, which is well within the reach of most do-it-yourselfers.

Of course, as with any new project or technique, it pays to do your homework before you get started.

This article will show you the fundamentals of installing one type of manufactured stone. But you'll also find that there's a wealth of information available from the companies that make the stone, as well.

In particular, Cultured Stone (the company that made the stone we used) has an excellent installation guide as well as a video that

explains everything from selecting the right stone for your project all the way through to the "hands-on" steps of actually installing it. Both are available on the company's Web site or by calling their toll-free number (see page 37 for contact information).

TOOLS OF THE TASK

Another area where you might want to spend a little time is rounding up the tools that are required for this job. Unless you've done some masonry or concrete work in the past, these aren't tools that you're likely to have in your shop. Fortunately, they're all readily available at home centers, and with just a little practice, you'll quickly discover what they do and how to use them.

The photo below shows a complete collection of the tools and supplies you'll want to gather up before getting to work. Throughout the article, we'll show you how to use each of these tools in a typical manufactured stone installation.

TOOLS OF THE TASK

- | | | |
|------------------|-------------------|-------------------|
| 1 Mason's Hammer | 7 Whisk Broom | 11 Grout Bag |
| 2 Margin Trowel | 8 Latex Bond | 12 5-gal. Bucket |
| 3 Jointer | 9 Type "N" Mortar | 13 Hawk |
| 4 Brick Trowel | 10 Masonry Sand | 14 Quart Bucket |
| 5 Notched Trowel | | 15 Builder's Felt |
| 6 Sponge Float | | 16 Mud Mixer |
| | | 17 Metal Lath |



1 Surface Preparation

One thing that makes manufactured stone such an attractive choice for do-it-yourselfers is that it can be installed over almost any surface with only moderate preparation.

In fact, if you're installing the stone over an unpainted masonry surface, such as a poured concrete wall or concrete block foundation, there really isn't any surface preparation necessary. Simply apply the thin-set mortar directly to the surface and start placing stones.

In all other cases, a weather-resistant barrier of builder's felt and a layer of metal lath needs to be applied to the surface.

FELT. For my job, I installed stone on a 2x4 wall sheathed with 3/4"-thick plywood. So my first step was to cover the plywood with 30-lb. builder's felt. This is a must, even on interior applications. (On interior applications the felt stops the moisture in the mortar from leaching into the wall. On exterior projects, it also serves as a weather-resistant barrier.)

There are a couple important rules to follow as you run the felt. First, start by installing the felt at the bottom of the wall and then work your way up. To seal out water, each subsequent course of felt overlaps

the previous one by 4". There also needs to be a 4" overlap wherever the felt meets end-to-end.

Finally, wherever the felt turns a corner, it must extend beyond the corner by at least 16".

To attach the felt, staple it about every 24" horizontally and every 12" vertically.

STARTER BOARD. On an exterior application, building code requires 4" of clearance between the ground and the manufactured stone to protect the stone from ground moisture. The easiest way to ensure this is to use a board to position the first course of stone. Make sure the board is level and then attach it to the wall with galvanized screws (Fig. 1).

LATH. Next comes the lath. The same overlap rules apply here as to the felt (16" past the corner, and 4" on each subsequent course and where the lath meets end-to-end).

The easiest way I found to install this was to attach it temporarily with staples (Fig. 2) then fasten it more securely with 2" galvanized deck screws and washers (Fig. 2a).

Drive the screws directly into wall studs whenever possible and space them no more than 6" on-center vertically.



◀ To prevent ground moisture from damaging the stone, use a 4"-wide board to create the necessary clearance.



◀ Use staples to hold the metal lath in place. Then secure the lath with screws and washers.

2 Sorting Stone

Before you begin mixing mortar, it's a good idea to sort through the stones and lay them out in an attractive arrangement. You won't have much time for stone selection once the "mud" is mixed.

The goal here is to lay the stones out so you have a random variety of sizes, shapes, and colors to choose from (Fig. 3).

Plan for some contrast in the overall design. And remember that the stones don't necessarily need to be arranged exactly as they will go on the wall. But by laying them out

in this manner, you'll be able to choose the "next" stone much easier as you're applying them.

Another good step is to lay out the corner stones, again blending the shapes, colors, and sizes. Also, arrange them so their long and short legs are alternating, just as they will when you attach them to the wall (Fig. 6 on page 40).

Use a tarp underneath the stones to keep them from picking up any dirt or debris that might weaken the mortar joint or interfere with them sitting flat against the wall.



◀ Sorting the stones before you begin placing them on the wall will make stone selection go much faster as you install them.

3 Mixing & Mortaring



► The mortar is ready when it just clings to the trowel. Apply the scratch coat with a sponge float.



► Hold the notched trowel at a steep angle to get the deepest mortar bed possible.



Now you're ready to apply a scratch coat. A scratch coat is a thin layer of mortar that covers the lath and creates a consistent surface for the stones to sit against.

Start by mixing the mortar. My mix consisted of one part Type "N" Mortar (the type recommended by the stone manufacturer) and three parts masonry sand mixed with a blend of liquid latex bond and water. This recipe is a pretty good rule of thumb, but you'll want to be sure to refer to the mixing instructions for the mortar you buy.

Start by mixing all the dry ingredients in a five-gallon bucket using a drill-driven mortar mixer. Once all the dry stuff is well blended, you can add the latex/water mix.

After a few minutes of mixing the wet and dry ingredients, your mortar should be the consistency of thick oatmeal. You'll know the

mortar is ready when it just clings to an upturned trowel (Fig. 4a).

To apply the scratch coat, scoop a couple trowels full of mortar onto a hawk. Then begin spreading the mortar on the wall with a sponge float (Fig. 4). As easy as that sounds, your first few attempts are likely to put as much mortar on the ground as on the wall. With a little practice you'll get the hang of it, though. It helps to put the hawk against the wall and then push the mud onto the lath.

When the entire surface is scratch coated, you're ready to apply the mortar bed. Load a hawk full of mud and use a 1/2" notched trowel to make your mortar bed a consistent depth (Fig. 5).

Start in a corner and cover about a 10-square foot area. Then, while the mortar is still wet, you can immediately begin applying stones.

4 Setting the Stones



► Corner stones are applied first. Some stones may need to be "buttered" to get a good mortar bond.



► Place the flat stones beginning with large stones first. Fill in the remaining spaces with smaller stones.



Now the fun begins. This is where you get to start placing stones on the wall. And this is also where all that time you spent laying stones out on a tarp will pay off.

Set the first stones at the corners, working up from the bottom (Fig. 6). Be sure to alternate the long and short legs of the corner stones as you work up the structure. This creates a more random look on the wall.

Press each stone into the mortar with enough pressure to squeeze a small amount of mortar out around the stone's edges. Give each stone a slight wiggle as you press it into the bed to ensure a good bond.

You may find that, despite all your hard work applying the perfect scratch coat and mortar bed, the stone still needs a bit more mud behind it to get good adhesion. In that case, simply use your brick trowel to "butter" some mortar

directly onto the back of the stone (Fig. 6a). Then press the stone in place with a slight wiggle.

Now begin setting the flat stones. Work outward from the corner (Fig. 7). Position the large stones first and then fill in with smaller pieces. Try to keep the joints between the stones as consistent as possible, even though some variation is unavoidable. Just be sure there's at least a 3/8" space between each stone for the grout.

The secret to this process is to take your time. True, if the mortar sits in the bucket too long it could set up beyond use. But you can always mix more.

So don't be afraid to pull a stone off the wall if it doesn't look as good as you'd hoped. Just try another stone until you get what you want. It may take a little longer, but the finished wall will be worth it.

5 Cutting & Shaping Stone

Occasionally, as you're arranging stones on the structure, you'll find that none of the stones you have to choose from fit quite right in a particular space. Fortunately, manufactured stone is easy to shape using a few basic tools.

Sometimes a stone requires a substantial amount of reshaping to fit into a spot. For instance, while placing the stones on my project, I wound up with a pie-shaped area on the wall that none of the stones would quite fit into.

In a case like this, the quickest way I've found to cut a stone to shape is with a circular saw and a masonry cutting blade. Masonry blades come in a couple of varieties, as shown in the margin above.

The most affordable is an abrasive blade. These are inexpensive (I spent \$12) and easy to find at most home centers. They do have a lim-

ited life expectancy, though. That's because the blade tends to "crumble" as it cuts.

For a longer-lasting blade, that also makes smoother, quicker cuts, a diamond blade is a good option. These blades are a bit more expensive, though. Expect to pay about \$40 or more for one of these.

When cutting with a circular saw, clamp the stone to a solid surface (Fig. 8). When the stone is cut close to size, use a mason's hammer to rough up the smooth edges of the cut. A mason's hammer is also a good way to do a small amount of shaping to make a stone fit (Fig. 9).

Whichever way you shape a stone, you'll probably notice that the "shaped" edge isn't exactly the same color as the rest of the stone. Wetting the "shaped" edge with a thin slurry of mortar will help bring out the stone's true color.



Diamond blade

◀ Clamp the stone to a sturdy, stable surface as you cut it with a circular saw.

◀ Manufactured stone can be easily shaped by chiseling it with a mason's hammer.

6 Grouting & Striking

With all the stones in place, you're ready to start grouting between them. Here is where you first start to see how the project will look when it's finished.

The first thing to do, of course, is mix a batch of grout. This is exactly the same recipe and technique as you used for the scratch coat and mortar bed. Only this time you'll be applying it with a grout bag, which is kind of like a huge pastry bag.

Fill the grout bag about $\frac{3}{4}$ full. Be sure to fold the tip of the bag over as you're scooping the grout into it or the grout will come out almost as fast as you put it in.

With the grout bag filled, twist the large opening closed all the way down to the grout inside.

Place the tip of the bag in between stones and squeeze the grout into the joints (Fig. 10). Don't skimp with the grout here. Each

joint should be filled to nearly overflowing. If a joint doesn't get completely filled on your first pass, you can always go back over it.

When all the joints are grouted, you'll most likely have to wait for the grout to get firm enough for the next step. Check the grout occasionally with a thumbprint test (Fig. 10a). When a firm push with your thumb leaves a clear print, the grout has set up enough for striking.

Strike the joints with a stick or a jointing tool (Fig. 11). The goal here is to compress the grout into the joints to create a tight seal. Pay close attention around the edges of the stones to make sure the grout gets pressed tightly against them.

Finally, let the grout set up completely. Then brush all the grout joints and stone faces with a whisk broom to clean off any loose grout (Fig. 11a).



◀ Use a grout bag to fill the joints. Let the grout set until it's firm to the touch.



◀ Press grout into the joints, then clean with a whisk broom.



Build an Elegant & Relaxed Cottage Dresser

Beadboard panels, applied moldings, and an “antique” finish give this casual dresser tons of character and charm.

Some things never go out of style. Take cottage furniture for example. It's as popular today as it was in the early 1900s when it was first introduced in New England homes. The painted dresser you see here is a good example of what makes this style of furniture so well-liked.

To create a casual look, it's designed with beadboard panels on the sides and doors (*right photo*), as well as more elegant details like applied moldings wrapped around the top and bottom (*top left photo*) — two hallmarks of the cottage style. That's why you're just as likely to find a dresser like this in a formal mansion as you are in an offbeat, ocean-front getaway.

But it's the relaxed, worn finish (*bottom left photo*) that says “cottage-style” more than anything. Furniture usually has to age gracefully before it looks like it has been around for generations. I simply hurried it along with a special finishing technique (*see page 51*).

Besides attractive styling, cottage furniture has another enduring quality — it's easy to build. Even though this dresser is a large project with plenty of woodworking challenges, it's still *very* buildable. The sides and doors are assembled with simple stub tenon and groove joinery. Easy-to-cut tongue and dado joints make for strong drawers, while the moldings are just glued on and nailed.

APPLIED MOLDINGS



▲ Simple applied moldings you can make in the shop add an elegant touch, yet still fit well with the more casual beadboard panels.

ANTIQUÉ FINISH



▲ Carefully sanding the beads of the panels to “knock off” the paint gives this dresser an old-fashioned antique look.

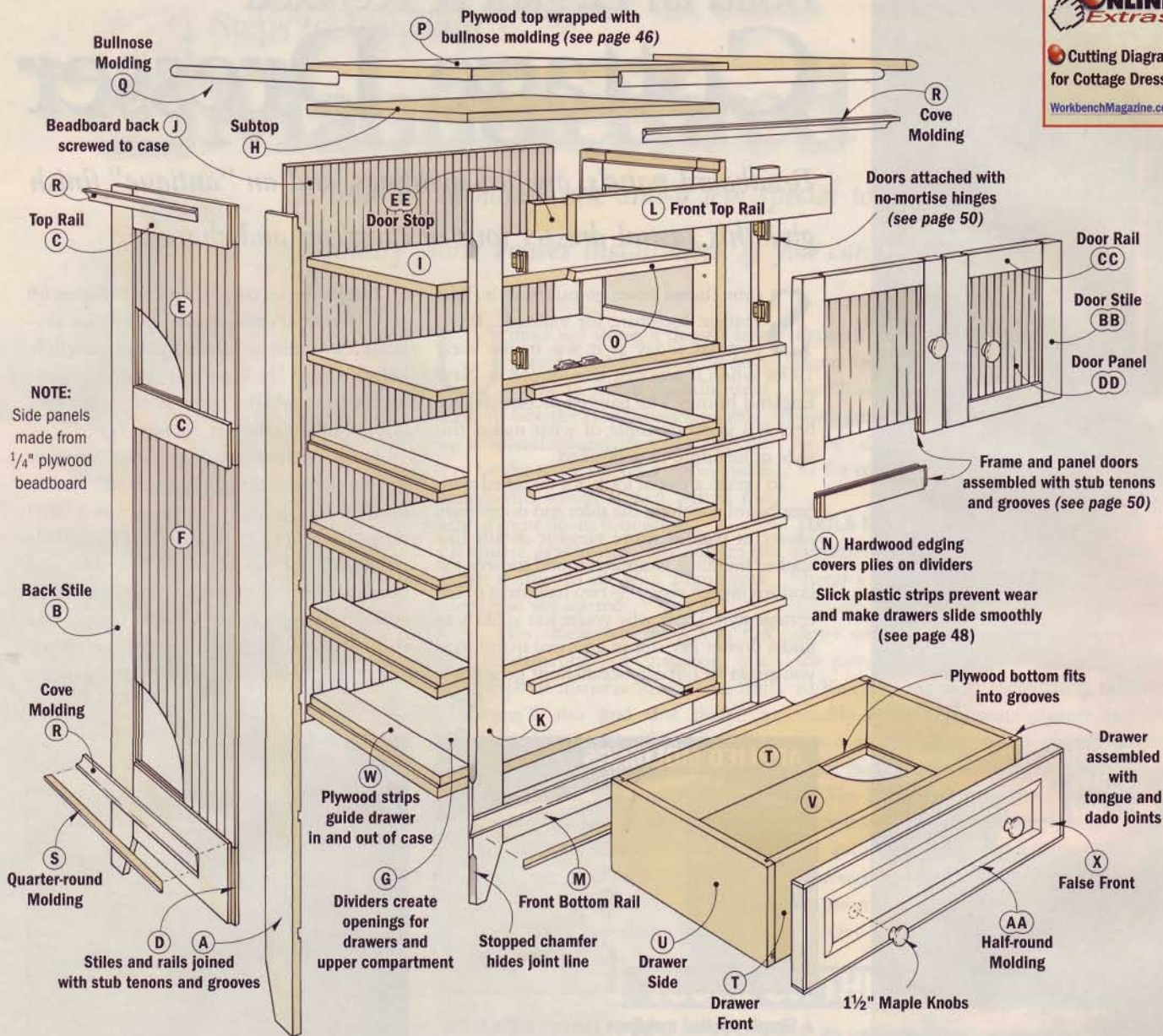


BEADBOARD PANELS

▲ The use of large beadboard panels makes assembling the frame and panel sides a lot easier and adds to the cottage charm.

COTTAGE DRESSER CONSTRUCTION VIEW

Overall Dimensions: 43"W x 21¹/₂"D x 61³/₄"H



NOTE:
Side panels made from 1/4" plywood beadboard

MATERIALS & HARDWARE

CASE

A (2) Side Front Stiles (birch)	3/4" x 3 1/4" x 61"
B (2) Side Back Stiles (birch)	3/4" x 3 1/2" x 61"
C (4) Side Top/Mdl. Rails (birch)	3/4" x 3 1/2" x 14"
F (2) Side Btm. Panel (beadbd.)	1/4" x 14" x 31 1/8"
E (2) Side Top Panel (beadbd.)	1/4" x 14" x 14 3/8"
H (1) Subtop (birch ply.)	3/4" x 19 1/16" x 39"
I (1) Adj. Shelf (birch ply.)	3/4" x 18" x 38 3/8"
J (1) Back Panel (beadbd.)	1/4" x 39 1/2" x 54"
K (2) Front Face Stiles (birch)	3/4" x 3 1/2" x 61"
L (1) Front Top Rail (birch)	3/4" x 2 3/4" x 33"
M (1) Front Bottom Rail (birch)	3/4" x 3 1/4" x 33"
N (5) Edging (birch)	3/4" x 3/4" x 33"
O (1) Adj. Shelf Edging (birch)	3/4" x 3/4" x 38 3/8"
P (1) Top (birch ply.)	3/4" x 20 3/4" x 41 1/2"

Q Bullnose Molding (birch)

Q Bullnose Molding (birch)	3/4" x 3/4" x 7 1/2 ft.
R Cove Molding (birch)	3/4" x 3/4" x 15 ft.
S Quarter-Round Molding (birch)	1/2" x 1/2" x 7 ft.

DRAWERS & DOORS

T (8) Fronts & Backs (birch)	1/2" x 7 5/8" x 32 5/8"
U (8) Sides (birch)	1/2" x 7 5/8" x 18 1/4"
V (4) Bottoms (birch ply)	1/4" x 17 3/4" x 32 5/8"
W (8) Drw. Guides (birch ply.)	3/4" x 2 7/8" x 19 1/16"
X (4) False Fronts (birch ply.)	3/4" x 7 5/8" x 32 5/8"
Y (8) Side Edgebanding (birch)	1/8" x 3/4" x 7 5/8"
Z (8) Top Edgebanding (birch)	1/8" x 3/4" x 32 1/8"
AA Half-round Molding (birch)	1/4" x 1/2" x 24 ft.
BB (4) Door Stiles (birch)	3/4" x 2" x 15 3/8"
CC (4) Door Rails (birch)	3/4" x 2" x 13 7/16"
DD (2) Door Panels (beadbd.)	1/4" x 13 7/16" x 12 3/8"
EE (1) Door Stop (birch)	3/4" x 2 1/4" x 38 1/2"

HARDWARE

- (10) 1 1/2" Maple Knobs
- (8) #8 x 2" Fh Woodscrews
- (44) #8 x 1" Fh Woodscrews
- (8) #8 x 1 1/4" Fh Woodscrews
- (2) #8 x 1/2" Fh Woodscrews
- (2) Magnetic Catches/Strike Plates w/Screws
- (4) 2" Brass No-mortise Hinges w/Screws
- (4) 1/4" Shelf Supports
- (8) 1/2" x 19 1/16" UHMW Drawer Glides
- (8) 1"-long Brads

BEGIN WITH THE SIDES

The case of this dresser starts out as two side panels. Each side consists of a hardwood frame that surrounds two beadboard panels.

FRAME. There's nothing complicated about the frame — two stiles and three rails joined with stub tenon and groove joints. I planned on painting the dresser from the start, so I wanted a smooth, dense wood that was relatively inexpensive. That's why I chose birch for the frame. Poplar or maple would be good choices, too.

An important thing to keep in mind as you're cutting the frame pieces is that the front (A) and back (B) side stiles are different widths (*Side Panel View*). The reason is that when you overlap the side panels with the face frame stiles later on, all four stiles will appear to be the same width.

GROOVES. Once the stiles are sized, the next step is to cut a centered groove in the inside edge of each piece. This groove is sized to fit the 1/4" plywood beadboard panels, as well as the stub tenons in the rails (*Stub Tenons & Grooves*).

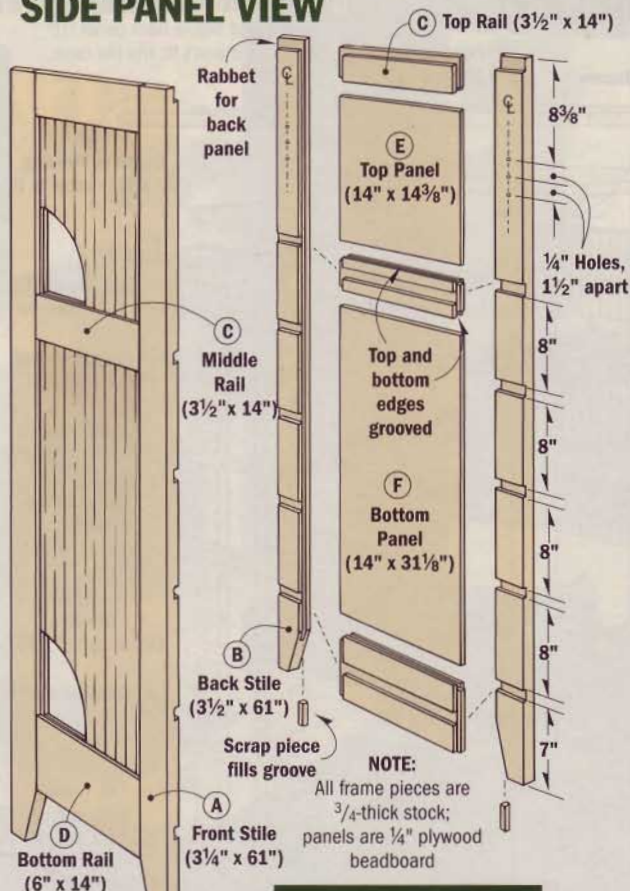
BACK RABBET. To hold the back panel, you'll also need to cut a rabbet in the long edge of the back stiles (*Top & Back Rabbets*).

LEG TAPERS. Then to complete the stiles, I tapered the bottom of the inside (grooved) edge with a band saw. Notice the "foot" of the front stile is narrower than the back stile (*Leg Taper Detail*). Again, this will produce a consistent look when the dresser is assembled. The taper also exposes a small part of the groove in the stile, which I filled with a scrap piece, then planed and sanded it flush.

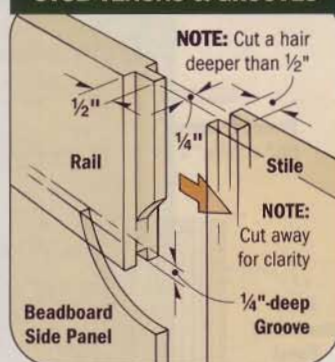
RAILS. The side panels are designed with narrow top and middle rails (C) and a wide bottom rail (D). Regardless of width, a stub tenon on both ends is cut to fit the grooves in the stiles (*Tenon & Groove Detail*).

BEADBOARD PANELS. With the frame done, it's time to add the beadboard panels. When cutting the panels (E and F) to size, the goal is to trim both edges so you end up with a symmetrical panel (*see Beadboard Detail*). The panels are then glued into the frame for strength.

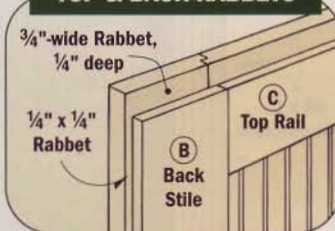
SIDE PANEL VIEW



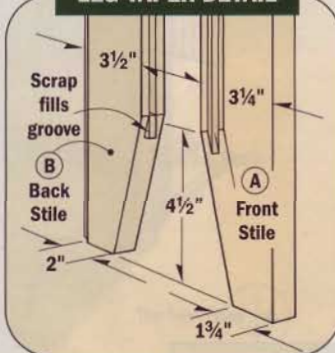
STUB TENONS & GROOVES



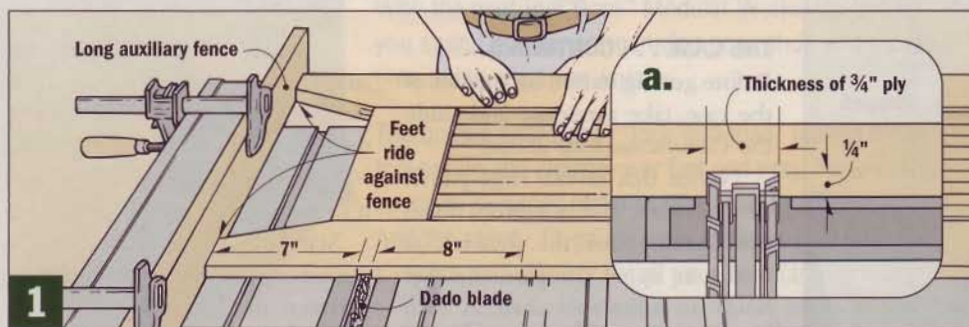
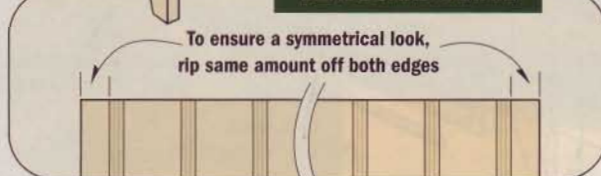
TOP & BACK RABBETS



LEG TAPER DETAIL



BEADBOARD DETAIL



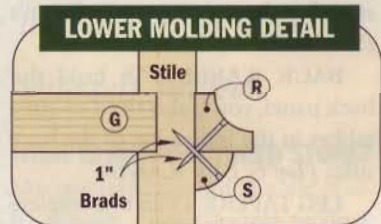
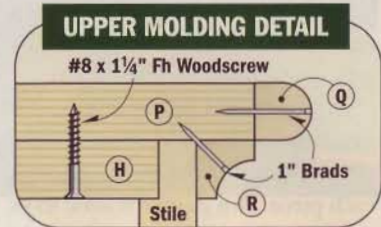
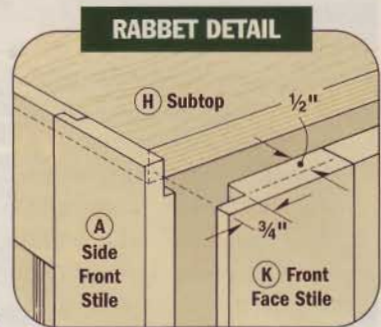
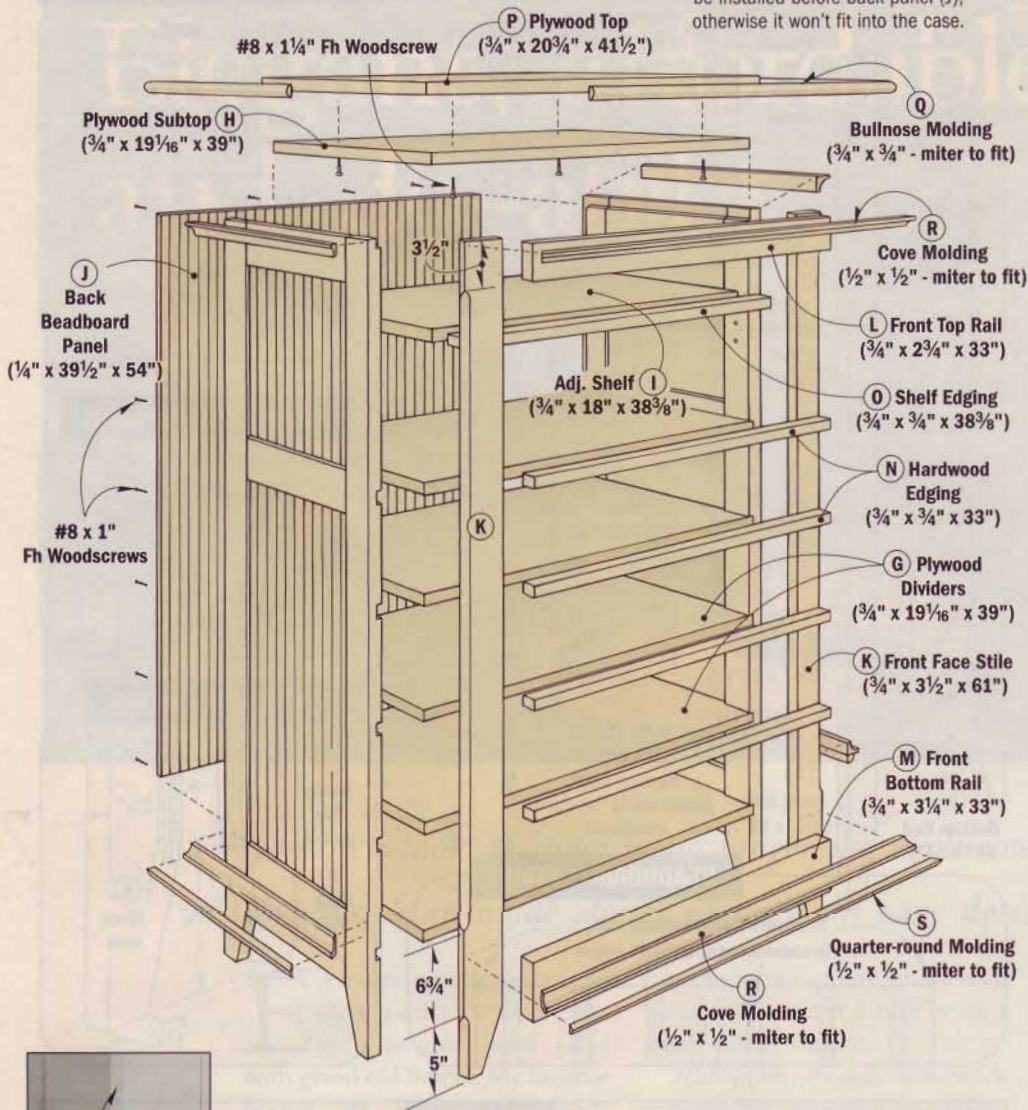
DADO CUTS. The next step is to cut dados across the inside faces of the sides. They support the plywood dividers that form openings for the drawers. You'll also need a rabbet along the top edge for a subtop (*Top & Back Rabbets*). To cut the rabbet and dados, install a stacked dado set in the table saw (shimmed to

match the thickness of 3/4" plywood), then raise it 1/4" (*Fig. 1a*). Next, attach a long auxiliary fence that extends past both ends of the rip fence. This provides a continuous surface for the legs to ride against all the way through the cut (*Fig. 1*).

Now to complete the side panels, drill 1/4" holes in all four stiles for the shelf pins (*Side Panel View*).

CASE CONSTRUCTION VIEW

DESIGN NOTE: Adjustable shelf must be installed before back panel (J), otherwise it won't fit into the case.



▲ The stopped chamfers on the dresser highlight the corners. Plus, they conceal the joint line where the front and side stiles meet.

THE CASE . . . CONTINUED

Before getting started on the rest of the case, take a minute and study the *Construction View* above.

Notice that several large panels (five dividers and a subtop) form the openings for the drawers, as well as an upper compartment that holds an adjustable shelf. A face frame and decorative moldings are applied to the front and sides of the case. And a dresser top and beadboard back complete the basic unit.

DIVIDERS & SUBTOP. The first step is to cut the dividers (G) and subtop (H) from $\frac{3}{4}$ " plywood. All of these pieces are identical in size. While you're at it, cut the adjustable shelf (I) to size. Note: The shelf is smaller than the dividers and subtop.

ASSEMBLE CASE. As with any large project, assembling the case can get hectic. So to make it more manageable, I cut the back (J) from $\frac{1}{4}$ " plywood beadboard and used it to help square up the case.

Start by gluing and clamping the subtop and the bottom divider between the sides (Fig. 2). These pieces (and all the other dividers), are sized to create a $\frac{1}{2}$ " setback from the front edge of the sides (Fig. 2a). They'll be "built out" later to fit flush with the face frame.

After squaring up the case, you can add the remaining dividers. Brush a *thin* coat of glue into the dadoes in the sides. Then slide in the dividers and clamp across the case. Note: Be sure you don't accidentally rack the case out of square.

FACE FRAME. The next step is to add the face frame. It's made up of two long stiles (K), a narrow top rail (L), and a wider bottom rail (M) (Case Construction View).

The front stiles (K) are similar to those on the sides. But there's no groove on the inside edge. As for the *outside* edge, it's rabbeted to fit over the side stile (Rabbit Detail).

Once again, a short taper on the bottom of the stile forms a "foot." It's identical to the taper on the *back* stile of the side panels. (Refer to the *Leg Taper Detail* on page 45.)

ATTACH STILES. Now it's time to attach the stiles. They're simply glued to the front of the case. Next, cut a top (L) and bottom rail (M) to fit between the stiles and glue them in place, too.

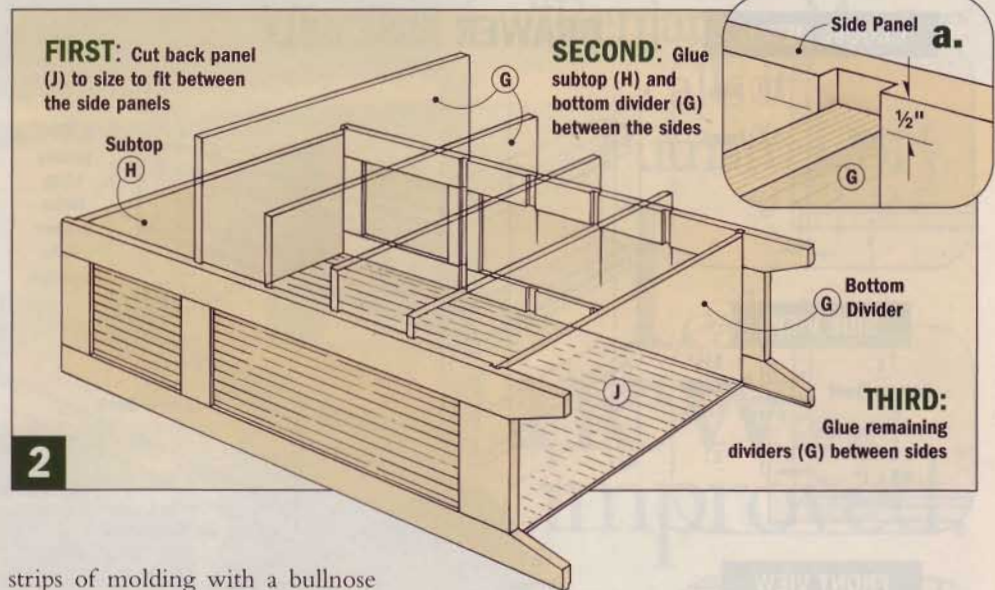
CHAMFERS. To complete the face frame, I routed two stopped chamfers (one long, and one short) on the outside edge of each stile. Besides adding a decorative touch, these chamfers help conceal the joint line where the front and side stiles meet (*margin photo, page 46*).

To accomplish that, mount a chamfer bit in a handheld router and set the depth of cut so the bit will just graze the joint line. After laying out the start and stop marks for each chamfer, set the base of the router on the stile and rout from left to right.

EDGING. With the face frame complete, the next step is to cover the exposed “plies” on the dividers with solid wood edging (N). The goal is to get the edging to fit flush with the front of the case (*Edging Detail*). For me, this meant ripping $\frac{3}{4}$ ”-wide strips from $\frac{3}{4}$ ”-thick stock, cutting the pieces to length to fit between the stiles, and then gluing them in place.

This is also a good time to rip a longer strip of edging (O) for the adjustable shelf and glue it on, too.

TOP. The top (P) of the dresser comes next. It’s nothing more than a $\frac{3}{4}$ ” plywood panel. Notice that



strips of molding with a bullnose profile (Q) are applied to front edge and sides of the dresser top. And strips of cove molding (R) underneath make for a decorative transition from the top to the case (*Upper Molding Detail*).

As for the bottom of the dresser, cove moldings with strips of quarter-round molding (S) below them help to create what appears to be a separate base for the dresser (*Lower Molding Detail*).

All of these moldings can be easily made in the shop with a router table, a few router bits, and a

table saw. (For more on this technique, turn to “In the Shop” on page 64.) Once the moldings are made, they’re mitered to fit.

ATTACH TOP. It’s easiest to install the bullnose moldings *before* attaching the top. You’ll find a simple trick for aligning the mitered corners in the sidebar below. Then, after centering the top from side to side and positioning it flush at the back, fasten it to the subtop with glue and screws.

With the top in place, attach the other moldings with glue and brads.

TIGHTER MITERS — THE LONG AND SHORT OF IT

When applying the decorative moldings to the dresser, I used a simple trick to ensure tight-fitting miter joints. The idea is to use a short mitered piece of molding as an alignment block for the adjoining piece (*Photo A, below*).

To position the block, cut an extra-long strip of side molding and fit the two pieces together. When the tips of the miters

are nice and tight, attach the block with tape. Then apply glue to the side molding (but not on the mitered end), fit it against the alignment block, and nail it in place.

After trimming the side molding flush (*Photo B*), use the alignment block again for the opposite side. Then miter the front molding to fit and attach it with glue and nails (*Photo C*).



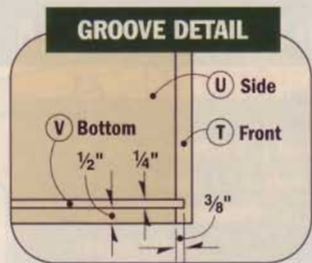
▲ A short alignment block that’s taped to the top of the dresser makes it easy to accurately position the side molding.



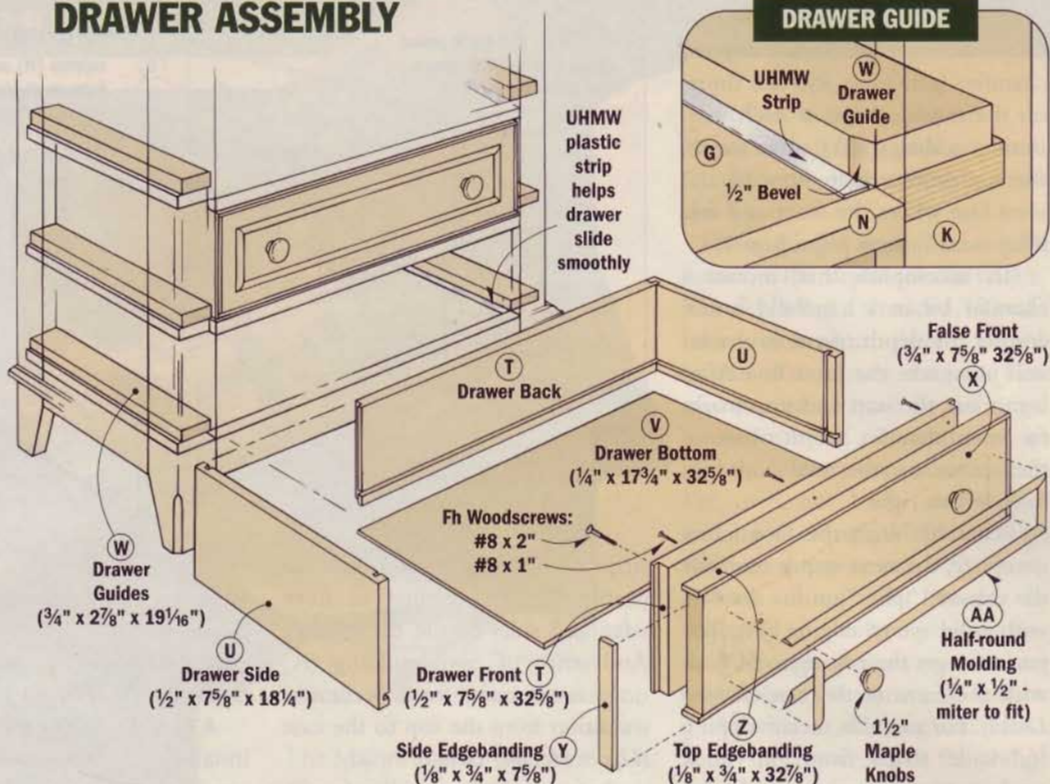
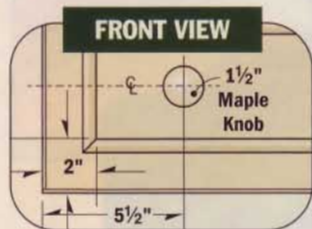
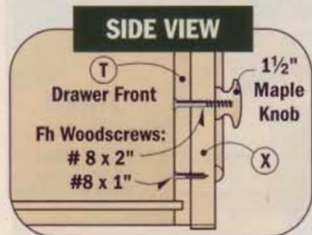
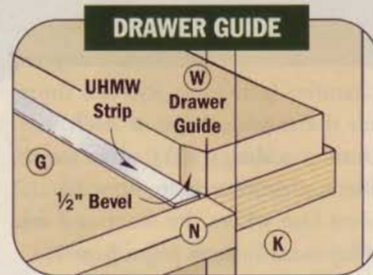
▲ After attaching the side molding, trim the long end flush with the back. Then repeat the process for the opposite side.



▲ With the front molding mitered to fit between the sides, apply glue to both ends (and the back) and nail it in place.



DRAWER ASSEMBLY



ADD THE DRAWERS

The four drawers of this dresser start out as basic boxes that are assembled with tongue and dado joints. Then banded false fronts with decorative moldings are attached to the front of each of the drawer boxes. One thing that simplifies the construction is that all

four drawers are identical in size, so you can cut all of the parts using the same table saw setups.

SIZING THE PARTS. For clearance, the drawer box is $\frac{1}{4}$ " shorter in height than the drawer opening. I also allowed for an $\frac{1}{8}$ " gap on each side of the drawer box. With that in mind, rip the fronts, backs

(T), and sides (U) to width from $\frac{1}{2}$ "-thick hardwood. Next, cross-cut them to length.

THE JOINERY. Now it's time to cut the tongue and dado joints that are used to assemble the drawer boxes. The sidebar below shows how you can accomplish this with two table saw setups.

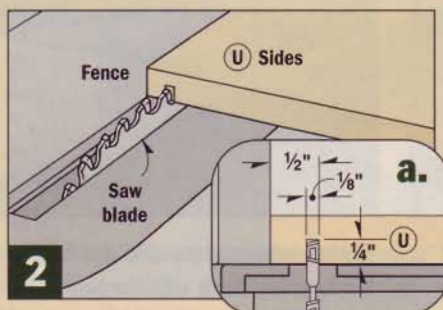
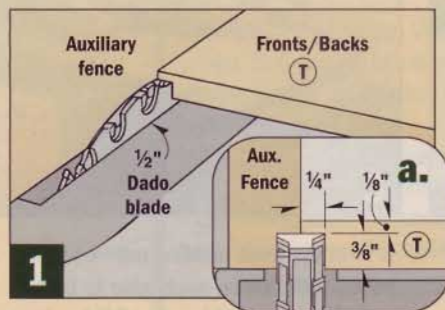
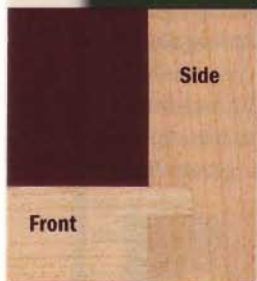
TONGUE & DADO: A STRONG DRAWER JOINT

A tongue and dado joint is a good choice when building drawers. The tongue on the drawer front (and back) fits into a dado in the side, so it provides good mechanical strength, as well as a large glue surface.

The key to a tight-fitting joint is to cut a *test dado* in a scrap piece and use it to check the fit of the tongue. The dado is only $\frac{1}{8}$ " wide (a saw kerf). So a single pass on the table saw is all that's needed.

TONGUES. Each tongue is formed by cutting a rabbet (Figs. 1 and 1a). To do this, mount a dado blade in the table saw and "bury" part of it in an auxiliary fence. Then make a trial cut in a test piece that matches the thickness of the drawers ($\frac{1}{2}$ "). The tongue should fit snug (not tight) in the test dado. Once you're satisfied with the fit, rabbet both ends of the front and back to form the tongues.

DADOES. Now you can cut the dados in the sides. There's no need to worry about the width of the dados — just switch to the same blade you used to cut the test dado. Of course, you will have to adjust the blade height and fence position (Figs. 2 and 2a). Once again, make trial cuts to test fit the joint, and then cut the dados in the sides.



MOLDING ALIGNMENT JIG

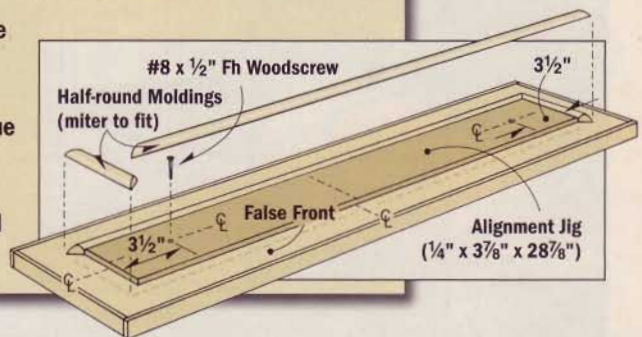
Four strips of half-round molding add a decorative touch to the dresser drawers. The challenge is positioning the strips on each false front so they align from one drawer to the next.

To accomplish that, I centered a hardboard alignment jig on each false front. This allowed me to wrap the molding strips around the jig so that they ended up the same distance from the edges of the false front on each drawer.

The jig is attached to the false front with screws (see drawing

below). I know, that means you'll have to drill holes in the false front. But that's not a big deal really. The key is to locate these holes (see *Front View*) so that they can also be used to attach the knobs to the drawers.

To avoid accidentally gluing the jig to the false front, it's a good idea to wax the edges first. Then, after screwing the jig in place, glue the moldings around it. Fit the mitered corners as you work your way around. Tape is all you'll need to hold the moldings in place.



CUT GROOVES. There's one more thing to do before assembling the drawers. That's to cut a groove in each drawer piece to accept a plywood bottom (*Groove Detail*).

Once you've cut the grooves, go ahead and dry assemble the drawers to measure for the size of the drawer bottom (V). Then glue up and clamp the drawers.

ADD GUIDES. While the glue dries, you can get to work on the drawer guides (W). These are pieces of $3/4$ " plywood that keep the drawers aligned as they open and close. A bevel on the inside corner of each guide makes it easy to install the drawer (*Drawer Guide*).

After gluing the guides in place, I added two strips of Ultra-High Molecular Weight plastic. This is a slick plastic that helps the drawers slide smoothly and reduces wear (see *margin photo at right*).

FALSE FRONTS. The next step is to attach the false fronts (X) to the drawer boxes. These are $3/4$ "-thick plywood pieces surrounded with $1/8$ "-thick strips of solid wood edgebanding (Y and Z). Once the banding is added, the overall size of the false front allows for a $1/16$ " gap all around the drawer opening.

HALF-ROUND MOLDINGS. To highlight the front of the dresser, I added four strips of half-round molding (AA) to the front of each

false drawer front. I made mine from $1/2$ "-thick solid birch and mitered the corners (see page 64).

The real trick is positioning the moldings on each false front so that they line up from drawer to drawer. To accomplish this, I attached an alignment jig to the false front and then wrapped the molding strips around it (see the sidebar above).

The final step before attaching the false fronts to the drawer boxes is to paint them. This is the only part of the drawer (except for the knobs) that gets painted. I used a clear finish on the drawer boxes themselves.

ATTACH FALSE FRONTS. The false fronts are attached to the drawer fronts with six 1"-long woodscrews (countersunk) from inside the drawer boxes.

You'll want the false front in position while you drill the holes for the screws. To ensure a consistent

gap around all four edges of the false front, I taped pennies to the case, as shown in *Figures 3 and 3a*.

Then I attached two strips of double-sided tape to the front of the drawer box and tipped the false front into place (see *Fig. 3*).

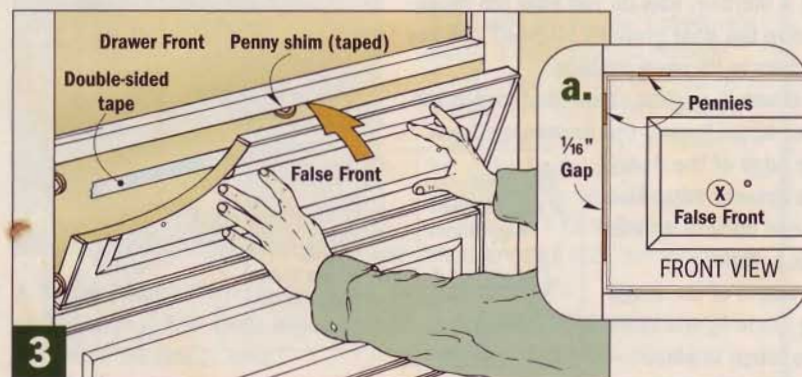
Now, carefully push out the drawer box from the back of the dresser. After removing the pennies, reposition the false front and secure it with screws.

ADD THE KNOBS. The drawers are nearly complete except for a pair of knobs for each drawer. These $1\frac{1}{2}$ " maple knobs are painted and also attached with woodscrews through both the drawer front and the false front (see *Side View*, page 48).

Driving the screws through both fronts lets you access the screws easily if they should ever loosen up, or if you want to replace the knobs.

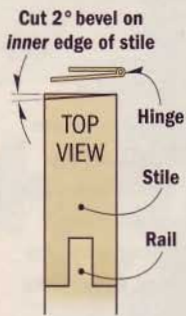
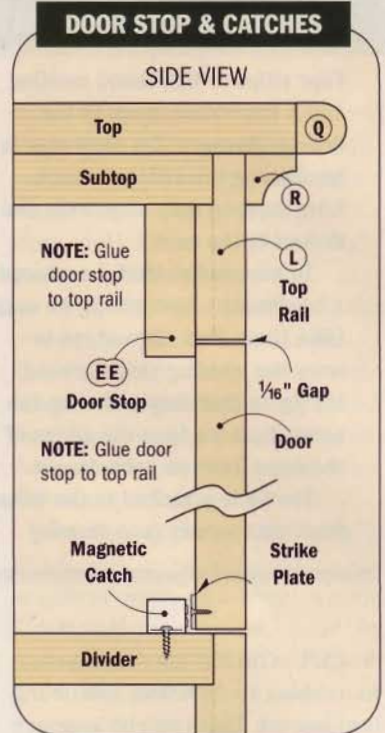
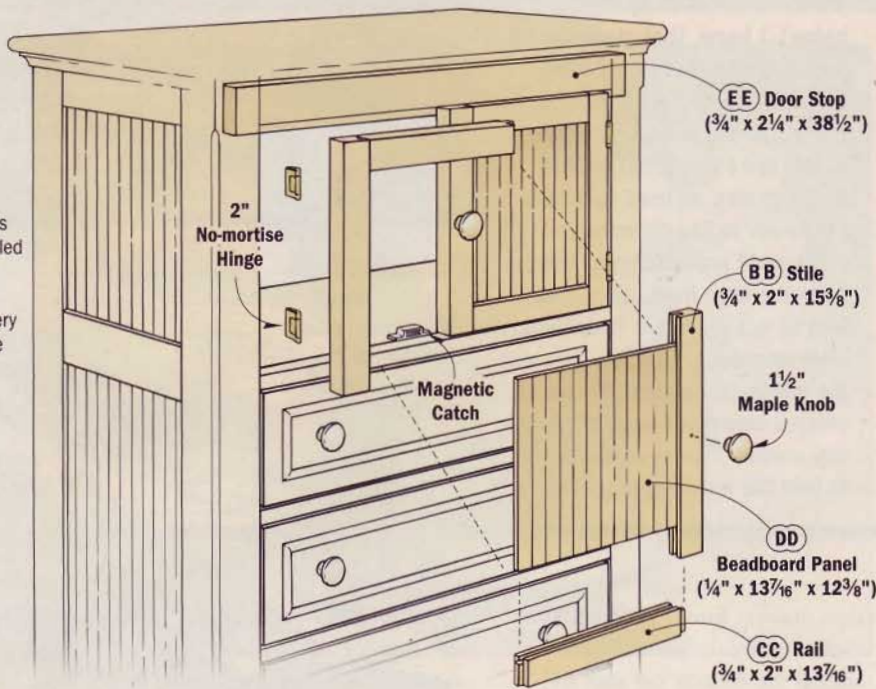


▲ Self-adhesive UHMW plastic tape makes for a smooth-sliding drawer with less wear. Order from Rockler at 1-800-279-4441.



DOOR ASSEMBLY AND INSTALLATION

NOTE: Doors are assembled with stub tenon and groove joinery like the side panels



ADD A PAIR OF DOORS

The shelving compartment at the top of this dresser provides ample storage for sweaters, books, or other small items. To enclose this compartment, I added a pair of inset doors.

Like the sides, the doors consist of a solid-wood frame surrounding a beadboard panel. Here again, stub tenon and groove joinery makes for a strong, easy-to-build door.

STILES, RAILS & PANELS. The doors are sized to leave a 1/16" gap all the way around. With that in

mind, and after taking the joinery into account, cut the stiles (BB) and rails (CC) to size.

To accept the beadboard panel (DD), you'll need to cut a groove in the inside edge of the stiles and rails. Then cut stub tenons in the rails to fit the grooves. Note: Size the grooves and tenons to match those on the side panels (see page 45).

ASSEMBLY. The next step is to glue and clamp the door. Be sure to run a bead of glue in

the beadboard panel. This will help give the door frame added strength. You can also add the door knobs now. They're centered on the inner stiles.

FITTING THE DOORS. With the doors assembled, it's time to hang them in the opening. I used no-mortise hinges to attach them. But they still need to fit flush in the opening with a consistent gap all around the edges. A look at the side-bar at left shows an easy way to accomplish this.

As added insurance against binding, I used the table saw to rip a slight bevel (about 2°) on the hinged side of the door (see drawing in left margin).

STOP AND CATCHES. After attaching the hinges, you'll need something to stop the doors as they swing shut — a door stop (EE) and a pair of magnetic catches.

The stop is just a piece of 3/4"-thick hardwood that extends below the top rail far enough for the doors to hit it (*Door Stop & Catches*). It's cut to length to fit between the side panels of the dresser and then glued in place. Finally, to complete the dresser, add the magnetic catches.

▲ To keep the door from binding, rip a slight bevel (2°) on the hinged edge of the stile.

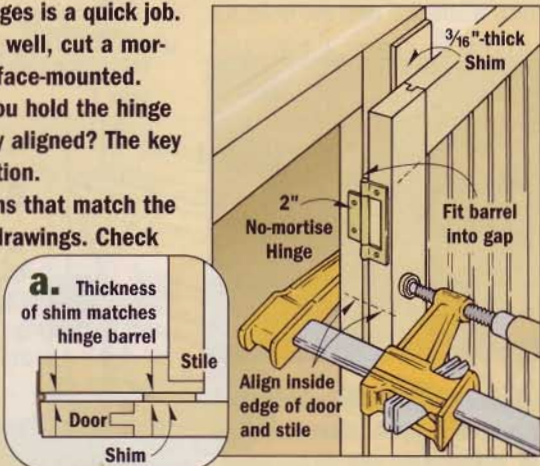
HINGE INSTALLATION TIP

Installing a door with no-mortise hinges is a quick job. That's because there's no need to, well, cut a mortise for the hinge. Instead, it's surface-mounted.

But without a mortise, how do you hold the hinge in place and keep the door properly aligned? The key is to "fix" the door in its open position.

To do that, clamp it against shims that match the thickness of the hinge barrel, see drawings. Check that the inside edge of the door aligns with the dresser stile. Also, be sure you'll end up with an even gap on top and bottom.

Now fit the barrel of the hinge in the opening made by the shims. Then screw the hinge in place.



CREATING AN "ANTIQUÉ" FINISH

To bring out this dresser's cottage charm, I wanted to make it look old. But I didn't want to wait for it to age on its own. So to speed things up, I used a painted finish that's "distressed" to make it look antique.

There's more to this finish than a coat of paint, however. The process involves applying three different finish products: stain, paint, and a topcoat.

START WITH STAIN. Okay, so why go to the trouble of staining a dresser that's going to be painted? Because in order to create an old-fashioned look, the idea is to sand through the paint to the stain underneath it.

To create a contrast with the white paint, I chose a dark-colored, oil-based stain (Minwax Colonial Maple). You don't have to be too particular about getting a nice, even stain. Remember, it's going to be covered with paint. So just brush on the stain (Photo A) and then wipe off the excess.

WAIT, THEN PAINT — After applying the stain, don't get in a hurry to

paint the dresser. The stain has to dry thoroughly — at least two days — before you paint it. Otherwise, the solvents in the stain could prevent the paint from bonding properly.

As for choosing a color, white is very popular for cottage-style furniture. I brushed on two coats of a satin, latex paint (American Accents Blossom White), as shown in Photo B.

DISTRESS FOR DISTINCTION. The next step is to "distress" the dresser by sanding through the paint to the stain (Photo C). The idea is to hit the areas that get the most wear. I also sanded the beads on the doors and side panels, see photos at right.

Just a note of caution here. A light touch is all that's needed. You don't want to remove too much paint, or accidentally sand through the stain to bare wood.

TOPCOAT. The final step is to apply a topcoat that "evens out" the dull spots caused by sanding (Photo D). I used a water-based polyurethane to prevent the paint from yellowing.



▲ Add 100 years to this dresser in a few hours. The secret is to "knock off" the paint on the beads and in areas of wear.



▲ To begin the "aging" process, start by applying a dark-colored stain with a foam brush. Don't worry about getting a nice, even stain. Just brush it on, then wipe off the excess with a rag.



▲ Then brush on two coats of a satin, latex paint. When each coat dries, remove any "nibs" with 400-grit wet/dry sandpaper. To avoid clogging the sandpaper, I used water as a lubricant.



▲ Use an abrasive pad to sand through areas that are likely to get the most wear — edges, corners, and around knobs. I also sanded the beads on the door and side panels (photos above).



▲ In addition to the extra protection it provides, the topcoat "evens out" the dull spots caused by sanding. I used a water-based polyurethane finish to prevent the paint from yellowing.

MATERIALS LIST



CASE

- A (2) Side Front Stiles (birch) $\frac{3}{4}$ " x $3\frac{1}{4}$ " x 61"
- B (2) Side Back Stiles (birch) $\frac{3}{4}$ " x $3\frac{1}{2}$ " x 61"
- C (4) Side Top/Mdl. Rails (birch) $\frac{3}{4}$ " x $3\frac{1}{2}$ " x 14"
- D (2) Side Bottom Rails (birch) $\frac{3}{4}$ " x 6" x 14"
- E (2) Side Top Panel (beadbd.) $\frac{1}{4}$ " x 14" x $14\frac{3}{8}$ "
- F (2) Side Btm. Panel (beadbd.) $\frac{1}{4}$ " x 14" x $31\frac{1}{8}$ "
- G (5) Dividers (birch ply.) $\frac{3}{4}$ " x $19\frac{1}{16}$ " x 39"
- H (1) Subtop (birch ply.) $\frac{3}{4}$ " x $19\frac{1}{16}$ " x 39"
- I (1) Adj. Shelf (birch ply.) $\frac{3}{4}$ " x 18" x $38\frac{3}{8}$ "
- J (1) Back Panel (beadbd.) $\frac{1}{4}$ " x $39\frac{1}{2}$ " x 54"
- K (2) Front Face Stiles (birch) $\frac{3}{4}$ " x $3\frac{1}{2}$ " x 61"
- L (1) Front Top Rail (birch) $\frac{3}{4}$ " x $2\frac{3}{4}$ " x 33"
- M (1) Front Bottom Rail (birch) $\frac{3}{4}$ " x $3\frac{1}{4}$ " x 33"
- N (5) Edging (birch) $\frac{3}{4}$ " x $\frac{3}{4}$ " x 33"
- O (1) Adj. Shelf Edging (birch) $\frac{3}{4}$ " x $\frac{3}{4}$ " x $38\frac{3}{8}$ "
- P (1) Top (birch ply.) $\frac{3}{4}$ " x $20\frac{3}{4}$ " x $41\frac{1}{2}$ "
- Q Bullnose Molding (birch) $\frac{3}{4}$ " x $\frac{3}{4}$ " x 7 $\frac{1}{2}$ ft.
- R Cove Molding (birch) $\frac{3}{4}$ " x $\frac{3}{4}$ " x 15ft.
- S Quarter-Round Molding (birch) $\frac{1}{2}$ " x $1\frac{1}{2}$ " x 7ft.

- V (4) Bottoms (birch ply) $\frac{1}{4}$ " x $17\frac{3}{4}$ " x $32\frac{5}{8}$ "
- W (8) Drw. Guides (birch ply.) $\frac{3}{4}$ " x $2\frac{7}{8}$ " x $19\frac{1}{16}$ "
- X (4) False Fronts (birch ply.) $\frac{3}{4}$ " x $7\frac{5}{8}$ " x $32\frac{5}{8}$ "
- Y (8) Side Edgebanding (birch) $\frac{1}{8}$ " x $\frac{3}{4}$ " x $7\frac{5}{8}$ "
- Z (8) Top Edgebanding (birch) $\frac{1}{8}$ " x $\frac{3}{4}$ " x $32\frac{7}{8}$ "
- AA Half-round Molding (birch) $\frac{1}{4}$ " x $1\frac{1}{2}$ " x 24ft.
- BB (4) Door Stiles (birch) $\frac{3}{4}$ " x 2" x $15\frac{3}{8}$ "
- CC (4) Door Rails (birch) $\frac{3}{4}$ " x 2" x $13\frac{7}{16}$ "
- DD (2) Door Panels (beadbd.) $\frac{1}{4}$ " x $13\frac{7}{16}$ " x $12\frac{3}{8}$ "
- EE (1) Door Stop (birch) $\frac{3}{4}$ " x $2\frac{1}{4}$ " x $38\frac{1}{2}$ "

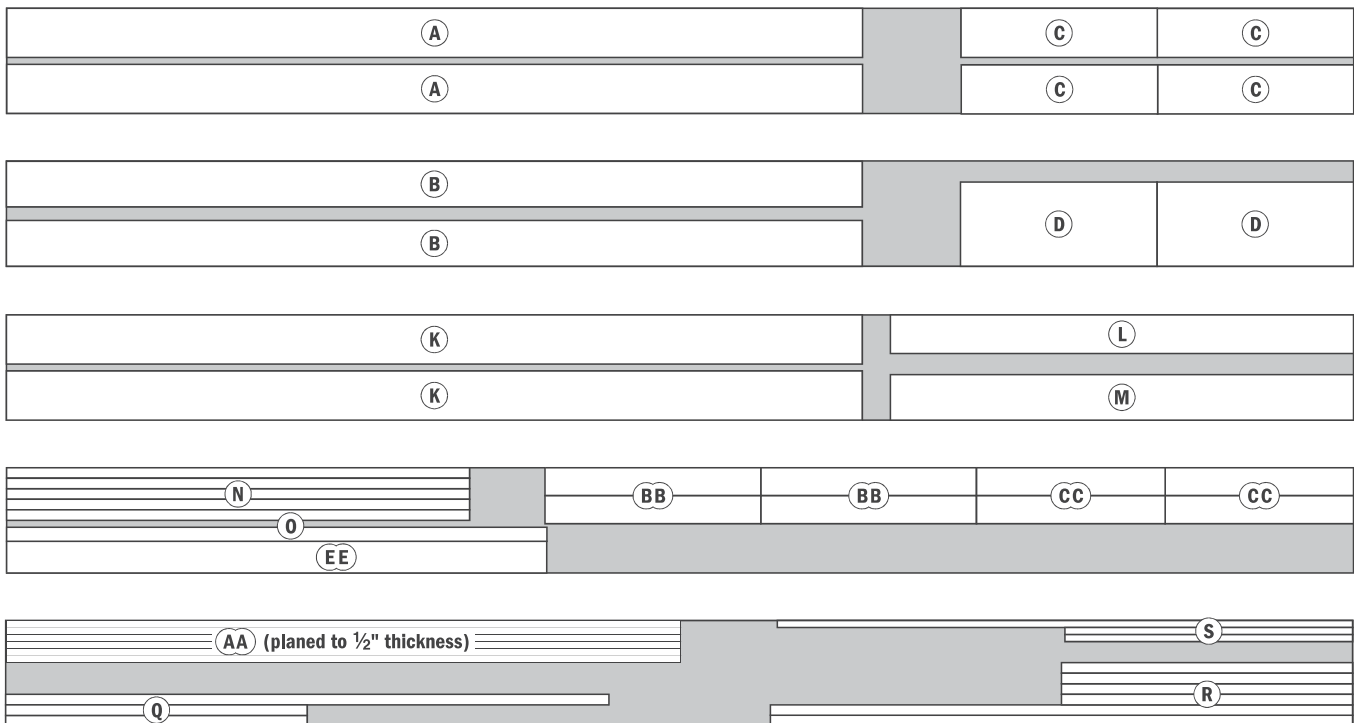
DRAWERS & DOORS

- T (8) Fronts & Backs (birch) $\frac{1}{2}$ " x $7\frac{5}{8}$ " x $32\frac{5}{8}$ "
- U (8) Sides (birch) $\frac{1}{2}$ " x $7\frac{5}{8}$ " x $18\frac{1}{4}$ "

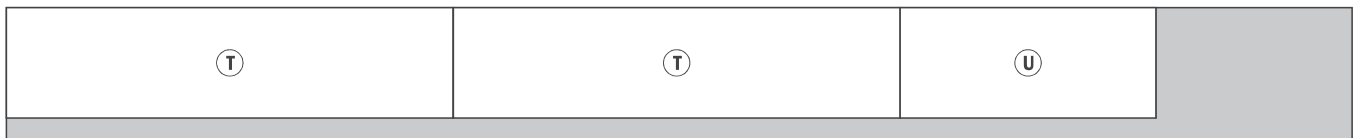
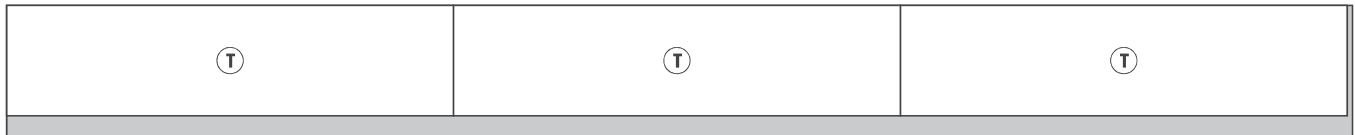
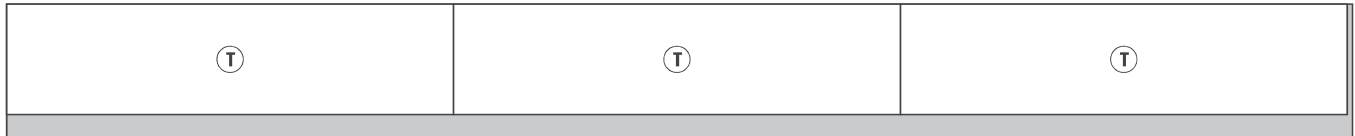
HARDWARE

- (10) $1\frac{1}{2}$ " Maple Knobs
- (8) #8 x 2" Fh Woodscrews
- (44) #8 x 1" Fh Woodscrews
- (8) #8 x $1\frac{1}{4}$ " Fh Woodscrews
- (2) #8 x $\frac{1}{2}$ " Fh Woodscrews
- (2) Magnetic Catches/Strike Plates w/Screws
- (4) 2" Brass No-mortise Hinges w/Screws
- (4) $\frac{1}{4}$ " Shelf Supports
- (8) $\frac{1}{2}$ " x $19\frac{1}{16}$ " UHMW Drawer Glides
- (8) 1"-long Brads

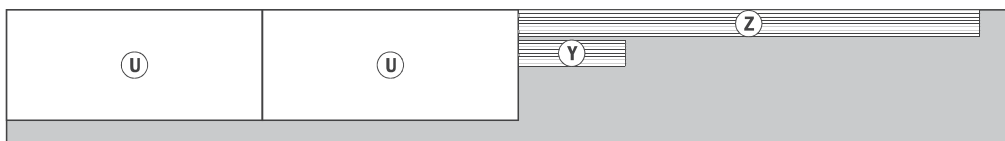
CUTTING DIAGRAM



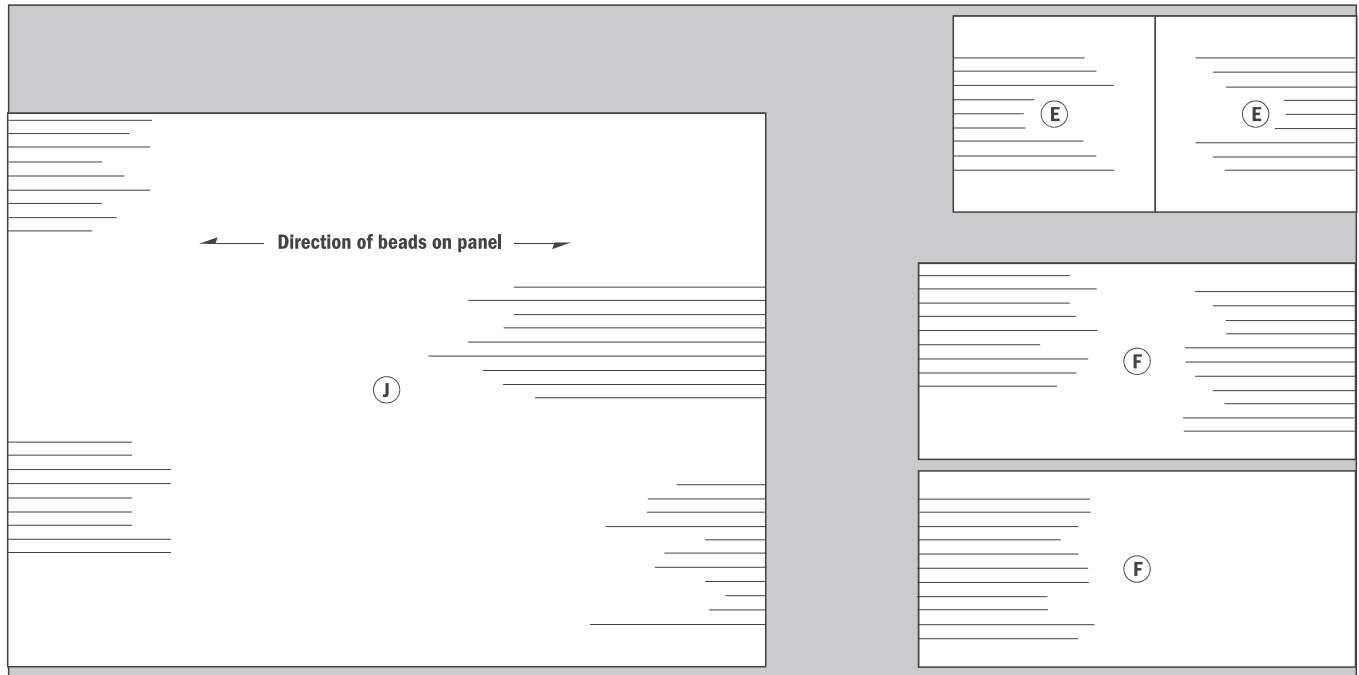
Birch $\frac{3}{4}$ " x $7\frac{1}{2}$ " x 96" (Qty: 5)



Birch $\frac{3}{4}$ " x $9\frac{1}{2}$ " x 96" (Qty: 4)

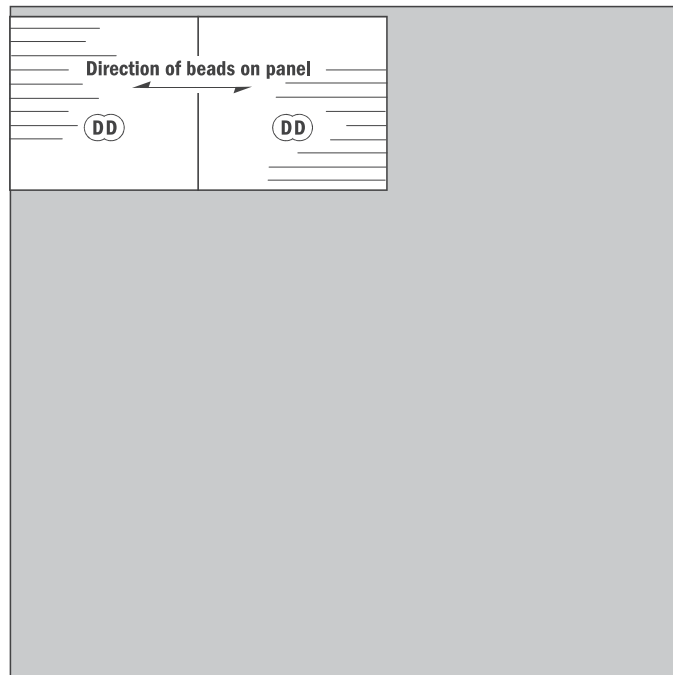


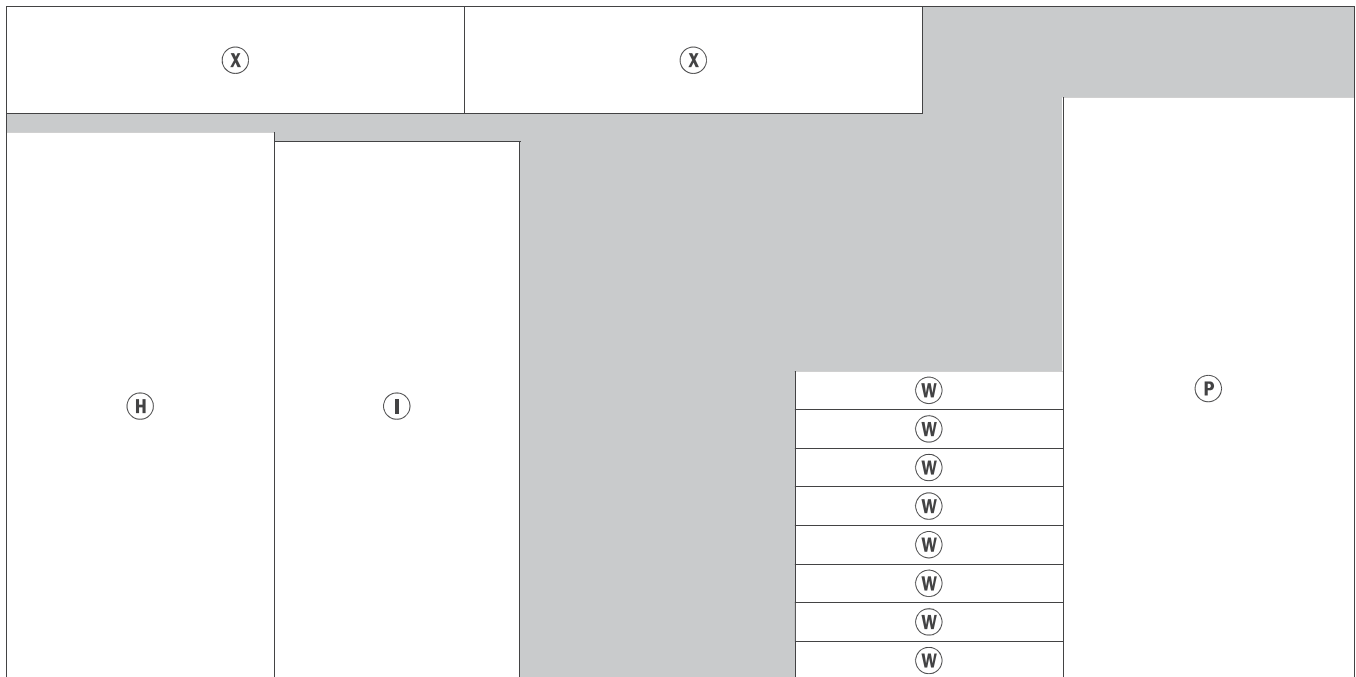
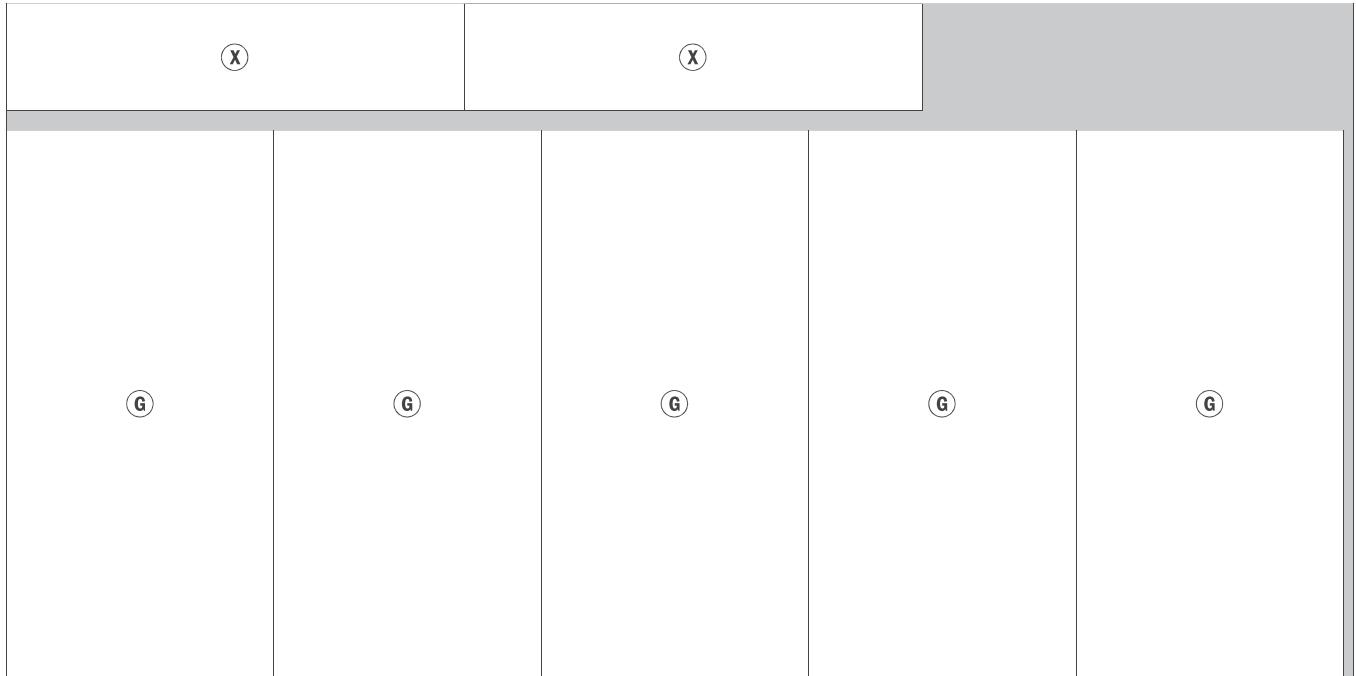
Birch $\frac{3}{4}$ " x $9\frac{1}{2}$ " x 72" (Qty: 1)



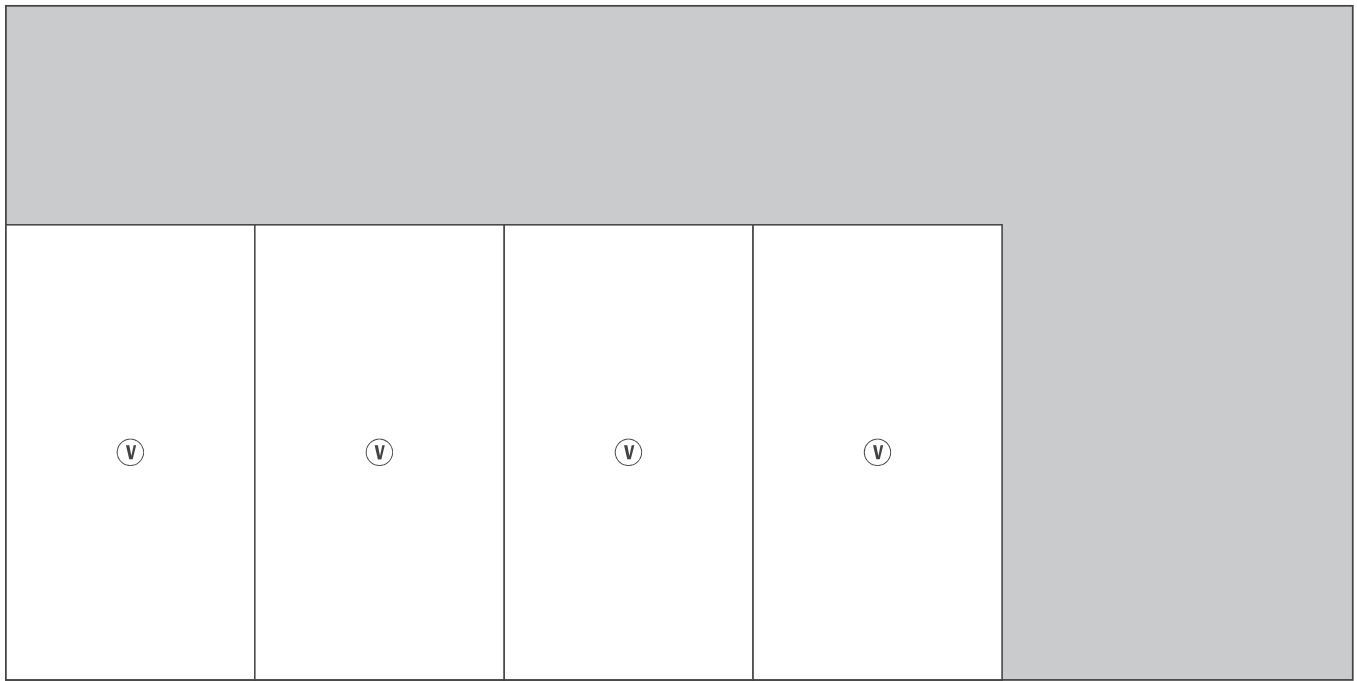
Birch Beadboard $\frac{1}{4}$ " x 48" x 96" (Qty: 1)

Birch Beadboard $\frac{1}{4}$ " x 48" x 48" (Qty: 1)





Birch Plywood $\frac{3}{4}$ " x 48" x 96" (Qty: 2)



Birch Plywood 1/4" x 48" x 96" (Qty: 1)

Tool Storage Bins

Don't spend time rounding up your power tools. Keep them all in easy reach with these under-bench, slide-out storage bins.

Wouldn't it be great to have a convenient place close to your bench to hold the tools you use most often? Better yet, how about a place right *under* your bench?

Well, that's the idea of the slide-out storage bins shown below. You just pull out a bin to get the tool

you need, then slide the bin back in. In short, your tools, bits, and blades are only an arms' reach away.

As you can see in the inset photo below, the tool bins are designed to fit in a case that tucks into the opening under a workbench. The Utility Bench shown here was featured in the Nov./Dec.

2001 issue of *Workbench*. If you'd like to build this bench as a companion project to these tool storage bins, you can purchase plans at www.WorkbenchMagazine.com.

If you're building the tool bins for a different bench, be sure to check out the information on how to size the case on the next page.



BUILD THE CASE

The first step is to build the case that holds the tool bins. It's a large, open-front box with two dividers that form the openings for the bins (*Case Construction View*).

SIZE. When determining the size of the case, be sure to take its height into consideration, as explained in the sidebar at right.

As for depth, it's not critical. My case is 20½" deep, so it sits flush with the front rails (*Installation Detail*).

Finally, the width of the case matches the distance between the legs minus ⅛". This provides ⅛" clearance on each side of the case.

MATERIALS. Most of the materials for the case are ¾" medium-density fiberboard, or MDF. (The only exception is a ¼" hardboard back.) MDF is an inexpensive source of large, flat panels. It cuts and routs easily. Plus it's quite heavy, which adds considerable mass and stability to the bench.

CONSTRUCTION. The case is assembled with rabbet and dado joints. Two rabbets in the sides (A) hold the top and bottom (B) panels (*Rabbet Detail*). And there's a rabbet in the back edge of each side for the ¼" hardboard back (C). Finally, two dados in the top and bottom hold the dividers (D).

Be sure to lay out the dados to create equal-size openings. This way, the bins will all be the same size, which will simplify the construction.

ASSEMBLY. After completing the joinery, dry-assemble the case to check the fit. Then predrill holes for the screws to prevent the MDF from splitting. Using sheet metal screws also helps prevent splitting because the shanks are straight, not tapered like a woodscrew.

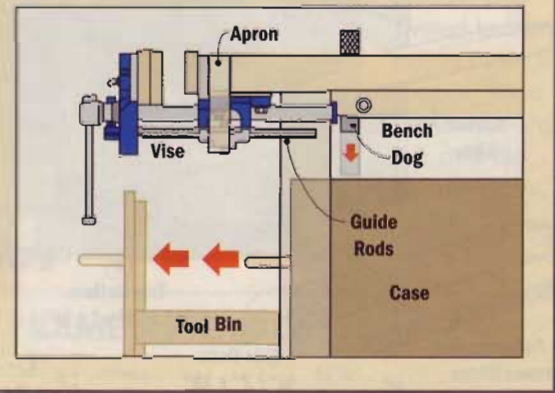
When gluing and screwing the case together, use the back to help square it up. But don't attach it yet. It will be easier to install the bins without the back.

HEIGHT CONSIDERATIONS

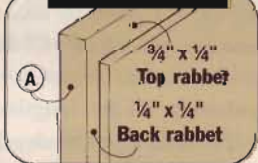
When determining the height of the case that holds the tool bins, it's important to consider any workbench accessories that could interfere with the operation of the bins (see drawing below).

For example, if the vise hardware, bench dogs, or even a wide (tall) apron extend too far below the benchtop, it could prevent the bins from opening and closing. So be sure to make the case short enough that the bins will clear any obstacles.

If you have to make the case shorter, you can use the top as a shelf for small items.

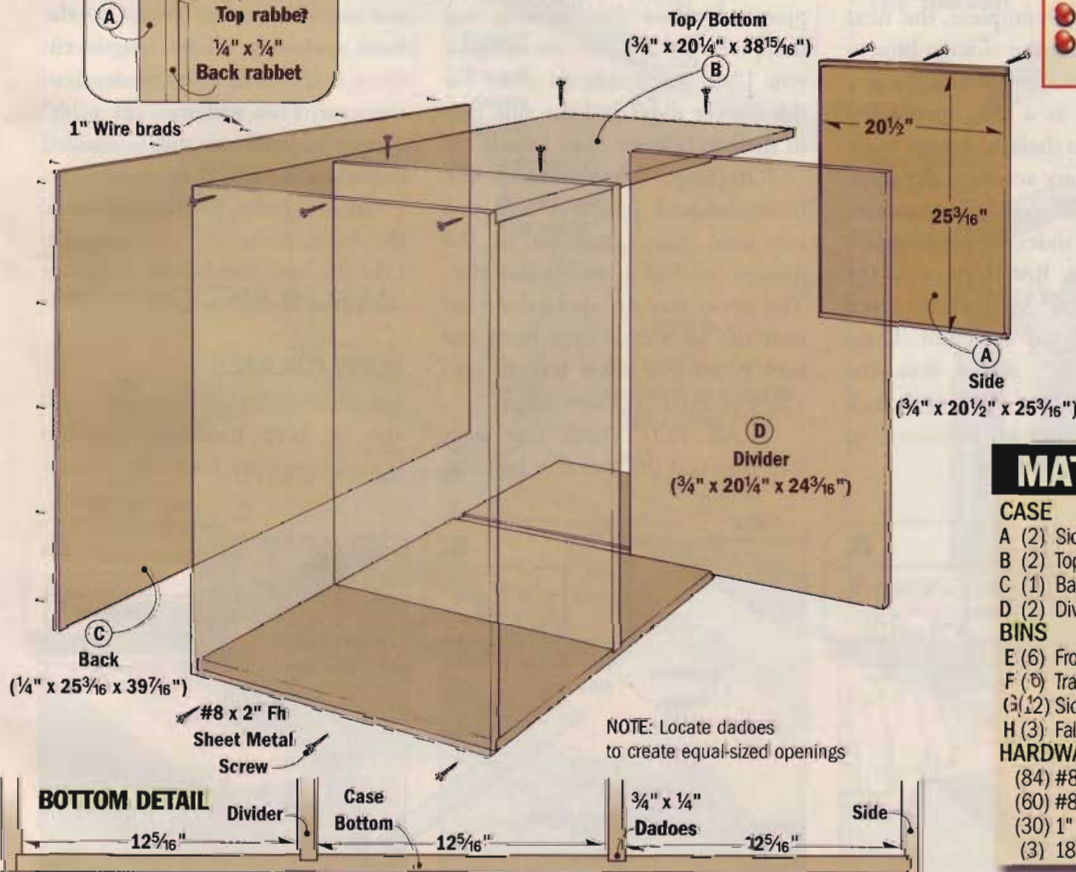


RABBET DETAIL



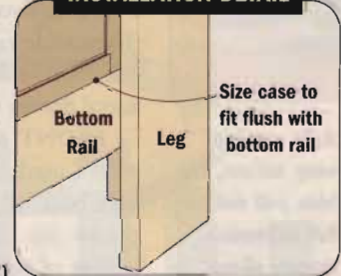
CASE CONSTRUCTION VIEW

Overall Case Dimensions: 39½" W x 20½" D x 25⅜" H



ONLINE Extras
 Cutting Diagrams for Tool Storage Bins
 Plans for Utility Bench
WorkbenchMagazine.com

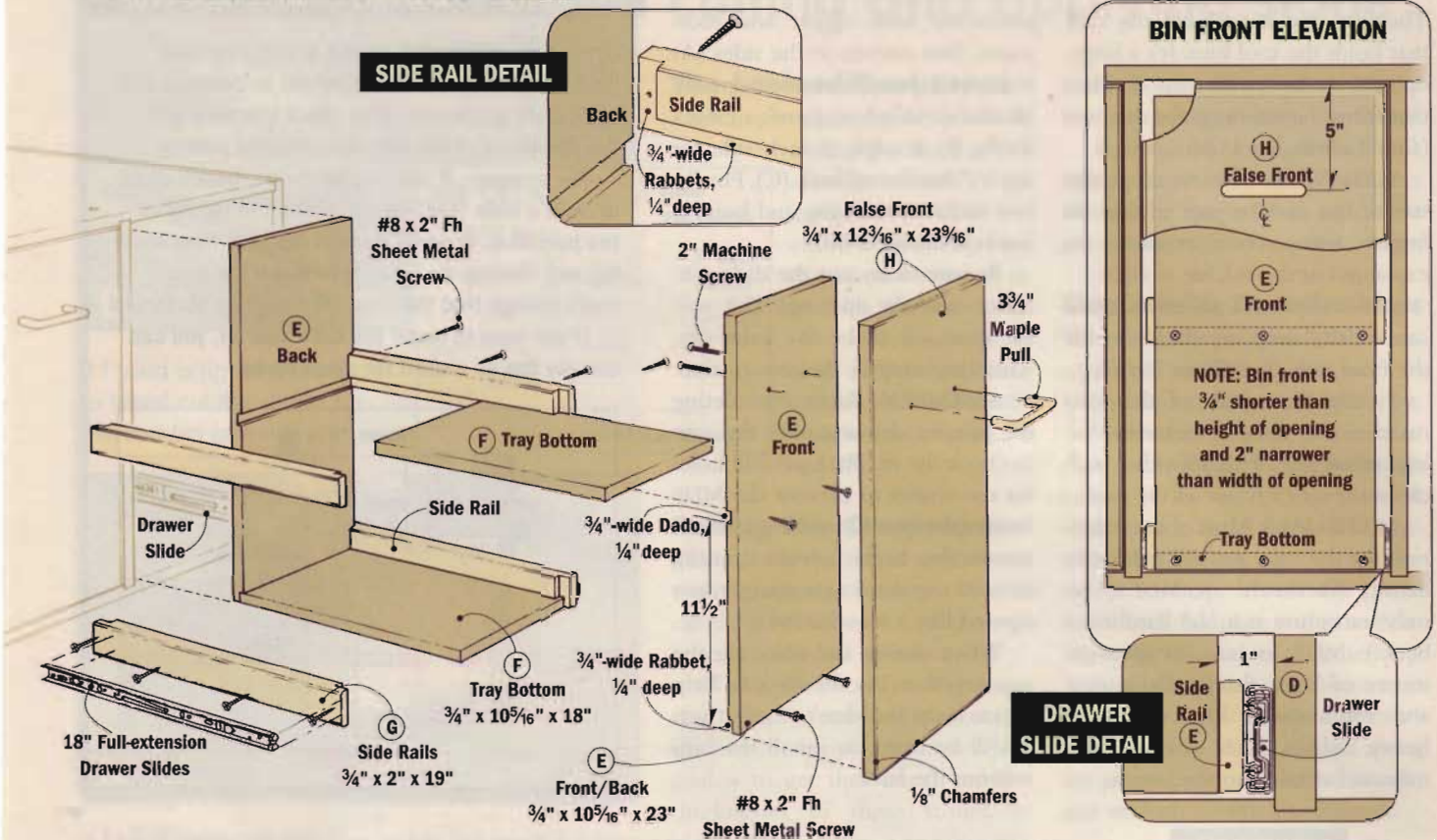
INSTALLATION DETAIL



MATERIALS LIST

- CASE**
- A (2) Sides (MDF) ¾" x 20½" x 25⅜"
 - B (2) Top/Bottom (MDF) ¾" x 20¼" x 38⅓"
 - C (1) Back (hardboard) ¼" x 25⅜" x 39⅞"
 - D (2) Dividers (MDF) ¾" x 20¼" x 24⅜"
- BINS**
- E (6) Fronts/Backs (MDF) ¾" x 10⅝" x 23"
 - F (6) Tray Bottoms (MDF) ¾" x 10⅝" x 18"
 - G (12) Side Rails (MDF) ¾" x 2" x 19"
 - H (3) False Fronts (MDF) ¾" x 12⅜" x 23⅝"
- HARDWARE**
- (84) #8 x 2" Fh Sheet Metal Screws
 - (60) #8 x 1¼" Fh Sheet Metal Screws
 - (30) 1" Wire Brads
 - (3) 18" Full-Extension Drawer Slides

BIN CONSTRUCTION VIEW



▲ To provide easy access, the bins pull out on full-extension drawer slides.

BRING ON THE BINS

With the case complete, the next step is to build the storage bins to fit inside (*Bin Construction View*).

Each bin is a tall, open-sided box with two shallow storage trays. To provide easy access to the trays, the bins ride on full-extension, metal drawer slides, see photo at left.

FRONT & BACK. As with the case, I used 3/4" MDF for the front and back (E) of each bin. These pieces are 3/4" shorter than the height of the case opening, which provides plenty of clearance to open and close the bin.

To determine the *width* of these pieces, measure the opening and then subtract 2". This should give you 1" on each side to allow for the drawer slides and the side rails of the bin (*Drawer Slide Detail*).

JOINERY. After cutting the front and back panels to size, you can turn your attention to the joinery used to assemble the bins. The upper tray fits into a dado cut near the middle of each front and back panel. The lower tray fits into a rabbet in the bottom edge.

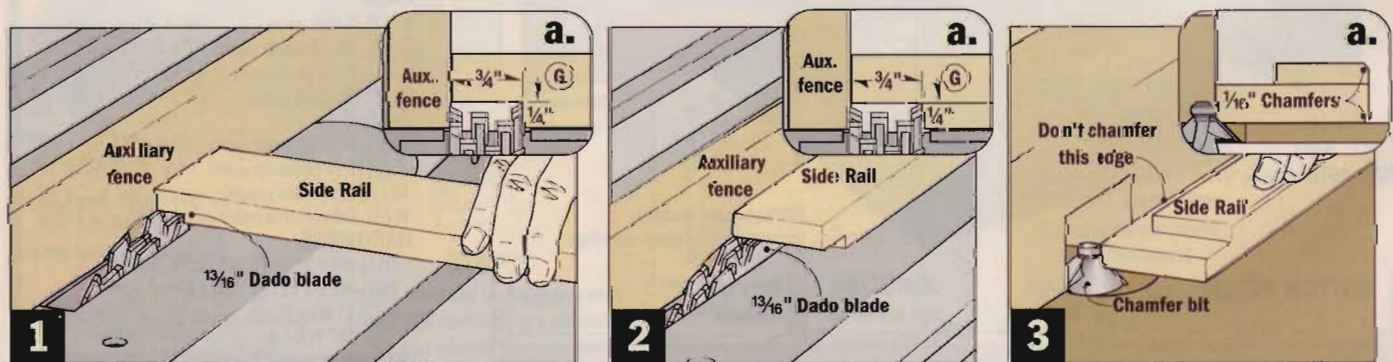
TRAY BOTTOMS. The next step is to add the two tray bottoms

(F). These are pieces of 3/4" MDF that are identical in width to the front and back. As for length, cut them 2 1/4" shorter than the depth of the case. This will provide a 1/2" clearance between the assembled bin and the back of the case.

At this point, you can assemble the front, back, and tray bottoms. Like the case, they're held together with glue and screws.

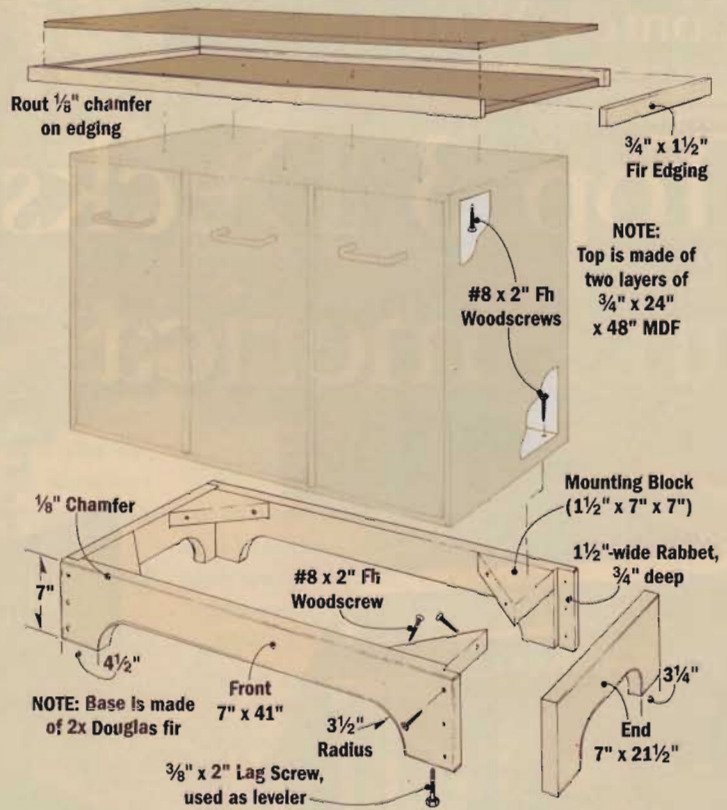
READY FOR RAILS

To add rigidity to the bins (and also to keep tools and supplies from falling out), I added four nar-





FROM BINS TO BENCH



It's easy to convert the case that holds the tool bins into a bench — just add a base and a top.

BASE. The base consists of a front, back, and two sides, all made from Douglas fir 2x8's ripped 7" wide. These pieces are assembled with rabbet joints and screws. A long notch creates a toe-kick. And triangular mounting blocks, glued and screwed into the corners, provide a way to secure the case with screws.

BENCHTOP. To create a solid work surface, the benchtop is made up of two layers of $\frac{3}{4}$ " MDF that are glued face to face and then wrapped with $\frac{3}{4}$ "-thick fir edging. Secure the top with screws from inside the case.

row side rails (*Bin Construction View*). The lower side rails also provide a solid mounting surface for the metal drawer slides.

The side rails (G) are made from $\frac{3}{4}$ "-thick hardwood (maple). Rip the rails to width on the table saw, and then crosscut them to fit flush with the front and back.

A look at the *Side Rail Detail* on page 54 shows how the rails are attached to the bins. Notice that the ends are rabbeted to fit over the sides. And a rabbet in the bottom edge fits over the tray bottom.

END RABBETS. To cut the end rabbets, I set up a full-width dado blade ($1\frac{3}{16}$ ") in the table saw and "buried" part of it in an auxiliary fence (*Figs. 1 and 1a*). This made it easy to cut the $\frac{3}{4}$ "-wide rabbet in a single pass.

EDGE RABBETS. You can use the same setup on the table saw to cut the rabbet in the bottom edge of each side rail (*Figs. 2 and 2a*). Only here, of course, the edge of the rail rides against the fence.

CHAMFER EDGES. Before mounting the side rails, I routed a small chamfer on three of the long edges, *Figures 3 and 3a*. (The lower inside edge is left square.) These chamfers ease the sharp edges. Plus, they minimize chipping when tools get knocked against the rails.

DRAWER SLIDES

After attaching the rails with glue and screws, it's time to mount the full-extension drawer slides.

Each drawer slide can be separated into two parts. The part that attaches to the case is set back $\frac{5}{8}$ " from the front of the case. This way, the false front (added next) will end up $\frac{1}{8}$ " "proud." Mount the second part of the slide flush with the end of the lower side rail.

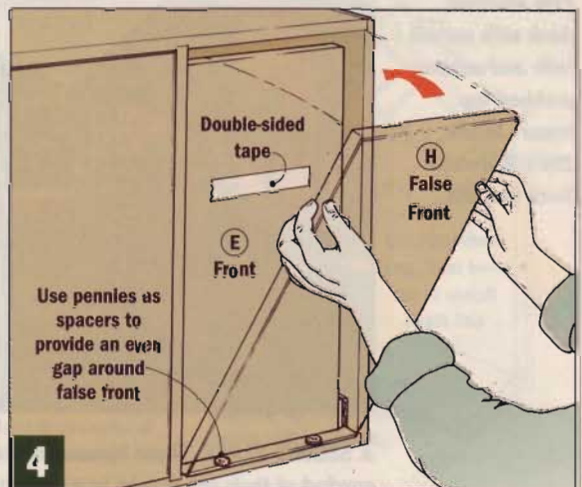
FALSE FRONTS

All that's left to complete the bins is to add the false fronts (H). These MDF panels are sized to create a $\frac{1}{16}$ " gap all around. Before installing the false fronts, I "dressed"

them up a bit by routing an $\frac{1}{8}$ " chamfer on the outer edges.

To ensure even spacing around the false fronts, start by sticking a piece of double-sided tape to the bin (*Fig. 4*). Then use pennies as spacers, and tip the false front into position. After pushing the bins out from the back of the case, screw the false front in place.

Finally, add a pull to each bin and attach the case back.



MATERIALS LIST



CASE

- A (2) Sides (MDF) $\frac{3}{4}$ " x $20\frac{1}{2}$ " x $25\frac{3}{16}$ "
- B (2) Top/Bottom (MDF) $\frac{3}{4}$ " x $20\frac{1}{4}$ " x $38\frac{15}{16}$ "
- C (1) Back (hardboard) $\frac{1}{4}$ " x $25\frac{3}{16}$ " x $39\frac{7}{16}$ "
- D (2) Dividers (MDF) $\frac{3}{4}$ " x $20\frac{1}{4}$ " x $24\frac{3}{16}$ "

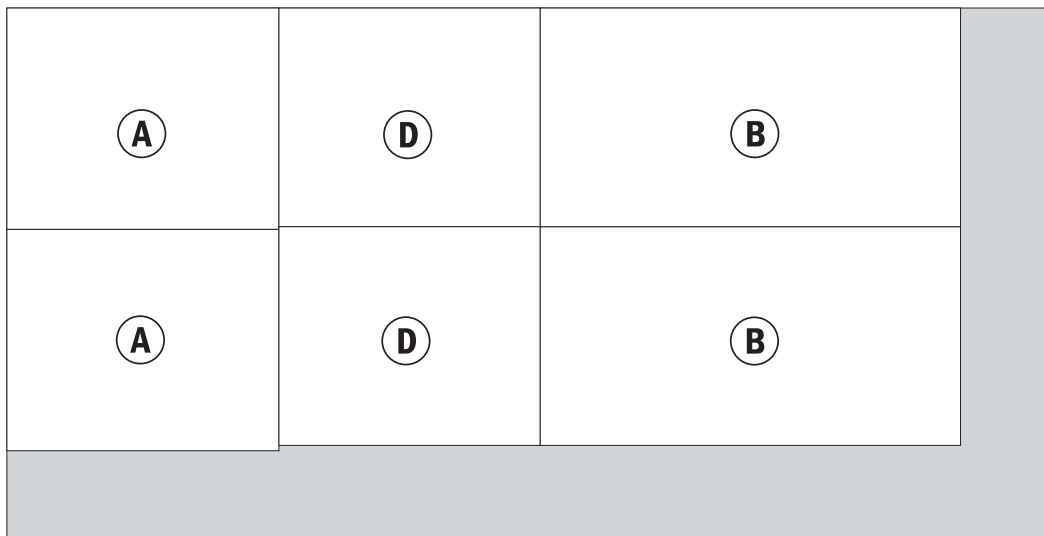
BINS

- E (6) Fronts/Backs (MDF) $\frac{3}{4}$ " x $10\frac{5}{16}$ " x 23"
- F (6) Tray Bottoms (MDF) $\frac{3}{4}$ " x $10\frac{5}{16}$ " x 18"
- G(12) Side Rails (maple) $\frac{3}{4}$ " x 2" x 19"
- H (3) False Fronts (MDF) $\frac{3}{4}$ " x $12\frac{3}{16}$ " x $23\frac{9}{16}$ "

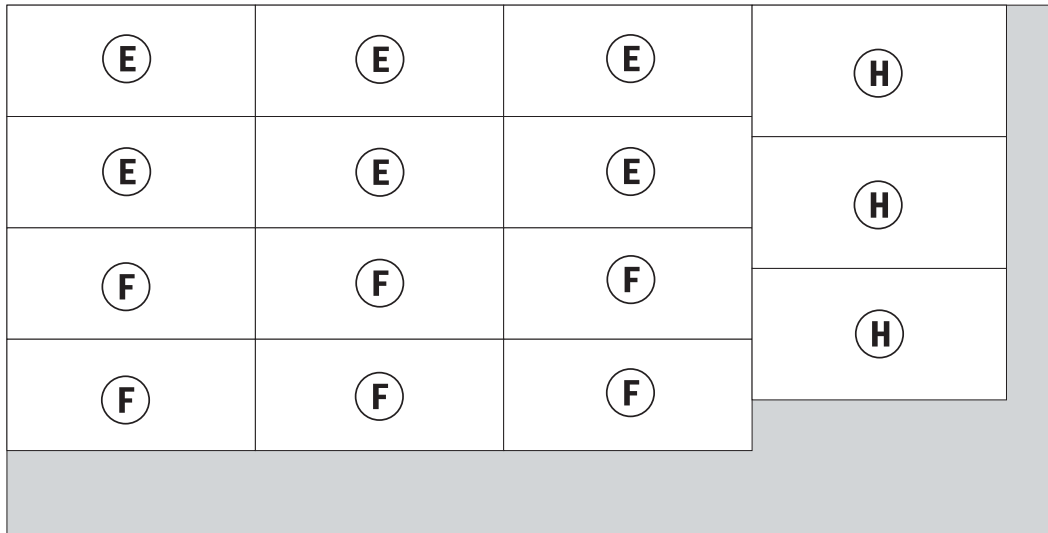
HARDWARE

- (84) #8 x 2" Fh Sheet Metal Screws
- (60) #8 x $1\frac{1}{4}$ " Fh Sheet Metal Screws
- (30) 1" Wire Brads
- (3) 18" Full-Extension Drawer Slides

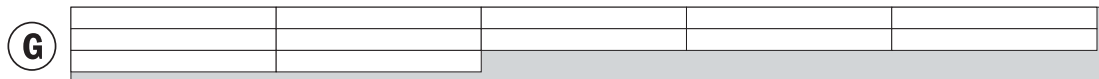
CUTTING DIAGRAM



$\frac{3}{4}$ x 49 - 97" MDF



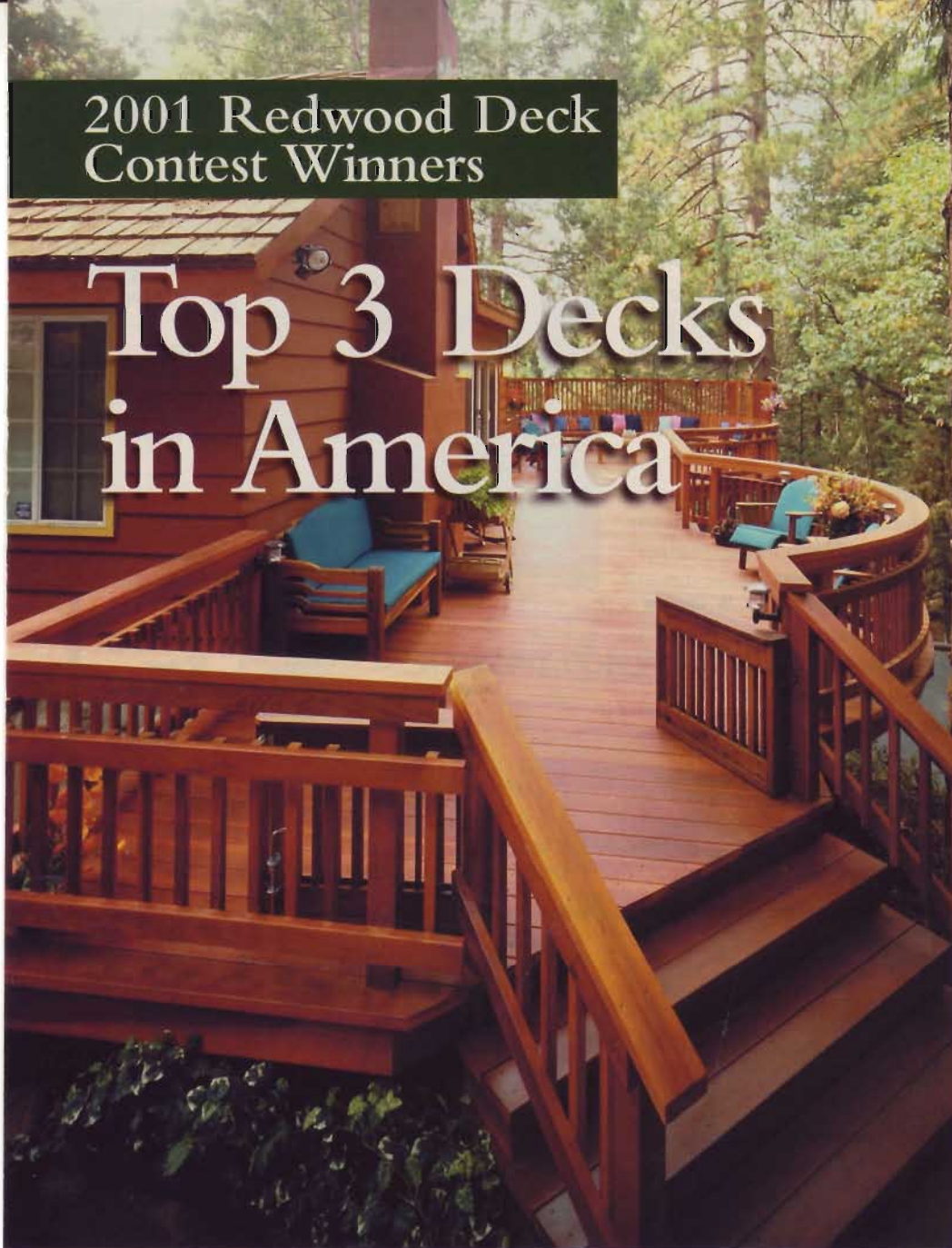
$\frac{3}{4}$ x 49 - 97" MDF



$\frac{3}{4}$ x 7 - 96" Hard Maple

2001 Redwood Deck Contest Winners

Top 3 Decks in America



Workbench & the California Redwood Association present the award-winning decks of 2001.

If a family's home is their castle, then the deck is surely their keep — their final point of retreat from the workaday world. That philosophy was evident among the entries for the 2001 Redwood Deck Contest.

The decks that were entered in the contest range from simple to spectacular. But what they all have in common is that, more than just a platform off the back door, these are outdoor living spaces. They're as warm and inviting as the homes' interiors. And they are tailored to complement the homes to which they are attached, as well as the tastes and lifestyles of the homeowners.

The three award-winning decks reflect a broad range of design elements. And from each one, we've highlighted features that you can use to invent your own open-air retreat. You'll find details of those elements on the following pages.

Finally, after you've been inspired by the cream of last year's contest, you'll find the complete rules and an entry form to submit your deck for this year's contest on page 62.

▲ **FIRST PLACE.** This elevated deck with curved rails and seating grabbed top honors in the 2001 Redwood Deck Contest.



▲ **SECOND PLACE.** These homeowners can still view the scenic valley from the comfort of their spa thanks to a railing with a transparent barrier on this deck.



▲ **THIRD PLACE.** This deck adds living space to the front of this home.



Curves & Safety Are Built In

Professional builder Scott Padgett was given two driving principles for the design of this elevated deck. First, it had to reflect the design of the new addition, which included a second-story turret, which included a second-story turret. Second, because the deck is elevated, it had to be safeguarded for young climbers who might tumble over the rail.

To relate the deck to the addition, Scott mirrored the round turret with a large circular area at one end of the deck. This section of the deck has a diameter of 20-ft. and makes nearly a complete circle that

projects out over the scenic wooded lot. This area of the deck also features a curved bench with a reclined back rest.

Directly behind this section of curved seating, Scott added a tall safety/privacy partition. This was done to keep the homeowner's children from going over the rail by way of the circular bench.

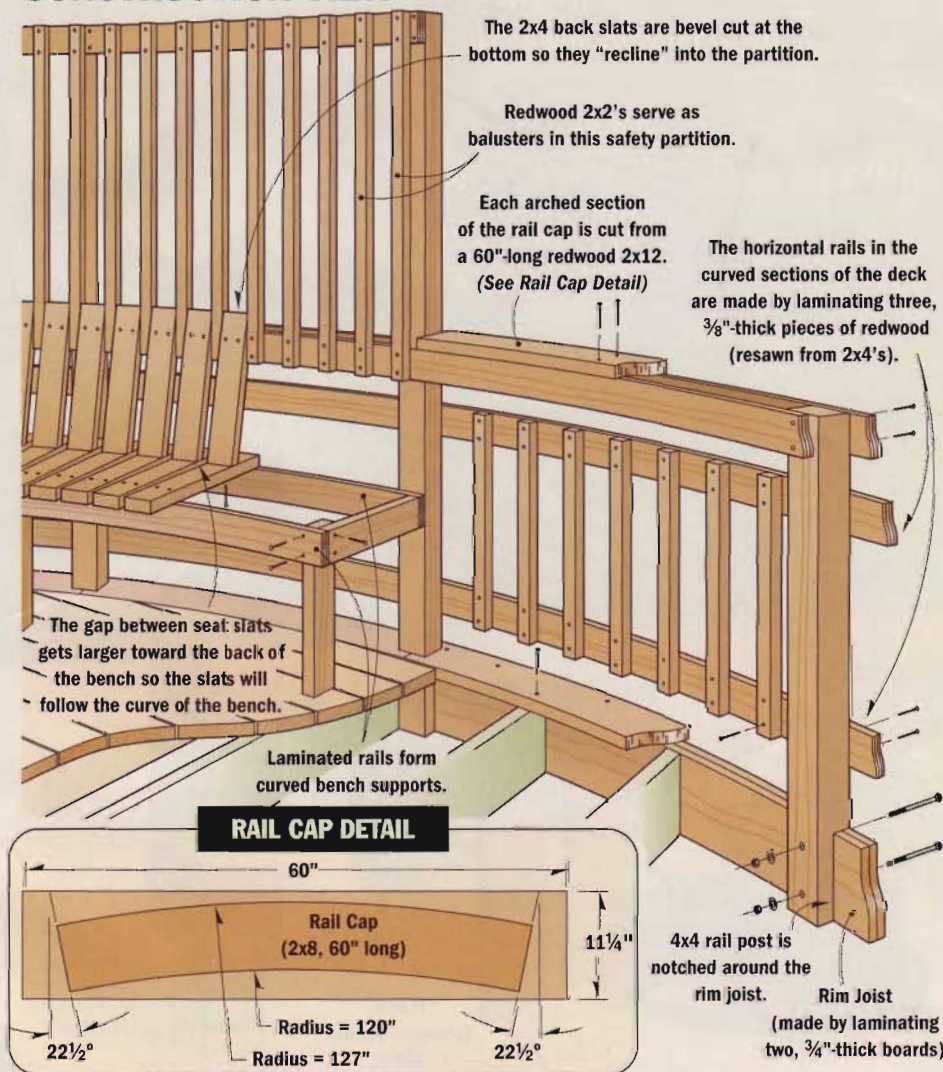
To balance this large curved area, Scott added a semi-circular extension at the other end of the deck. The homeowners took advantage of this space with some deck furniture.

The details of Scott's curved rail and bench, as well as the privacy and safety partition are shown in the illustrations below.

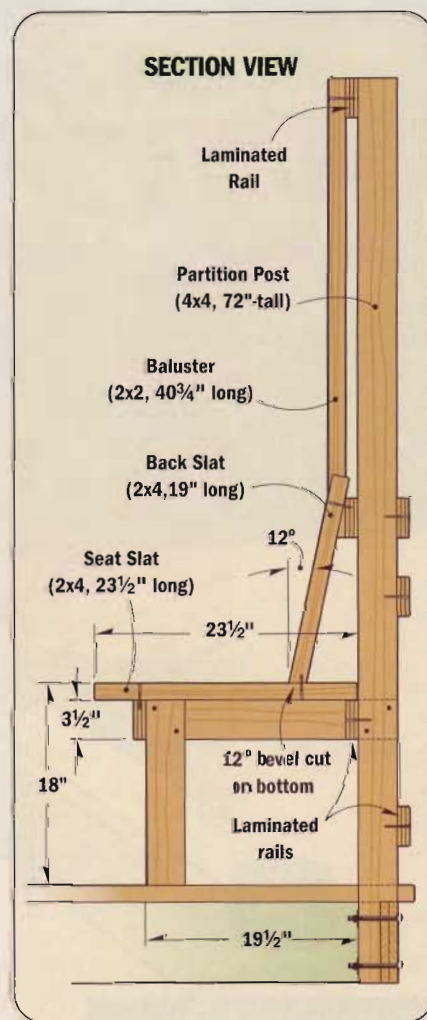
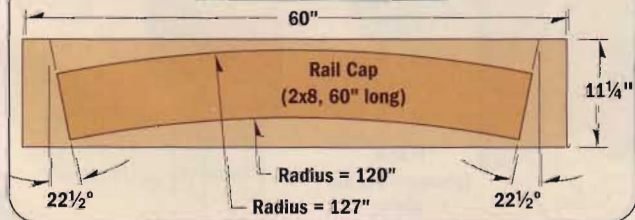


▲ A second-story turret provided the inspiration for the curved sections of this award-winning, elevated deck.

CONSTRUCTION VIEW



RAIL CAP DETAIL





Tame The Wind

As Jeff and Christine Mai planned their backyard retreat, they knew they wanted a barrier between the wind and the portable spa that would sit near one edge of the deck. However, they didn't want the barrier to obstruct their breathtaking view of the surrounding valley and horizon.

Their solution was to build a transparent windblock out of

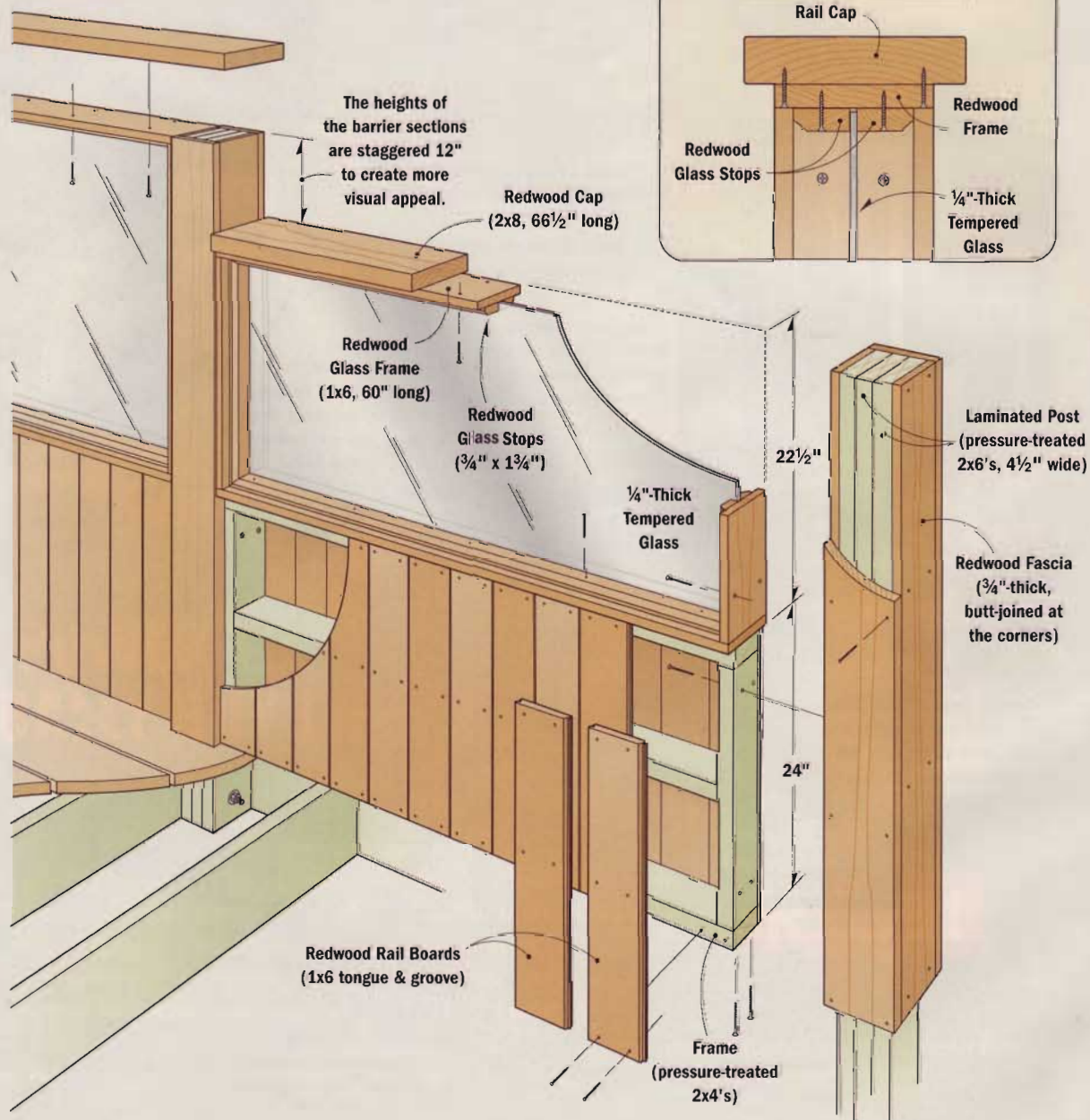
tempered glass surrounded by frames made of redwood.

Another important goal for the Mai's was to relate the deck to the design of the house. To accomplish that, they skirted the deck with a veneer of manufactured stone that matched the stone accents on the house. (Read more about installing manufactured stone on page 38.)

The drawings below show the construction details of the glass windblock and the deck posts that support them.

▲ A glass barrier keeps the wind at bay on this deck. And the manufactured stone skirt ties the deck to the home visually.

CONSTRUCTION VIEW





Great First Impression

The challenge facing Richard Lapiezo was to design a deck for the *front* of his house that would be an inviting gathering place — without having it eclipse the house itself.

His solution was to construct a traditional deck with a couple of details that make it special.

First, he built a mitered stairway that works nicely to connect the front door to the deck and make

both areas equally inviting and accessible to visitors.

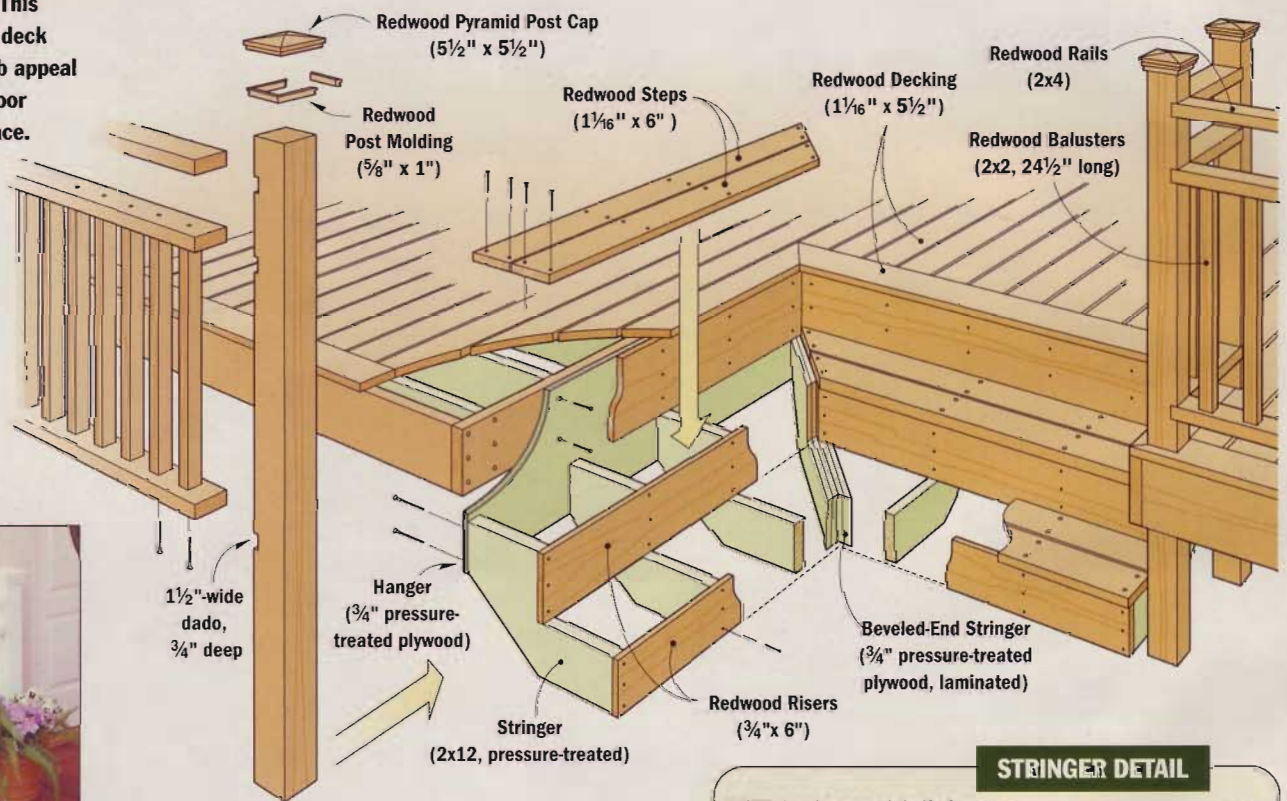
Then, because the deck would become a focal point of the house, Richard built the rail with balusters captured between the horizontal members. The result is a rail with much cleaner lines than the conventional face-nailed variety.

Also notice how the painted rail highlights the rich color of the redwood decking.

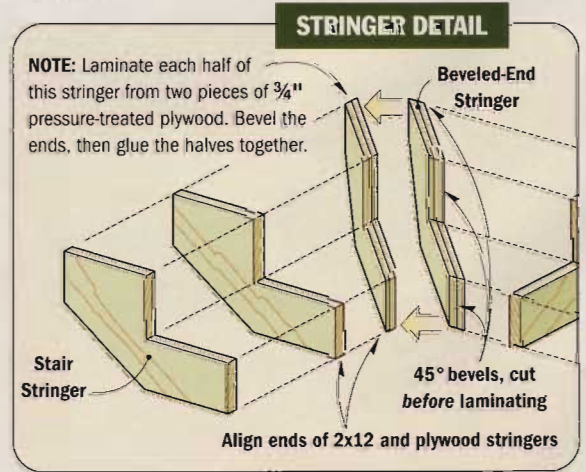
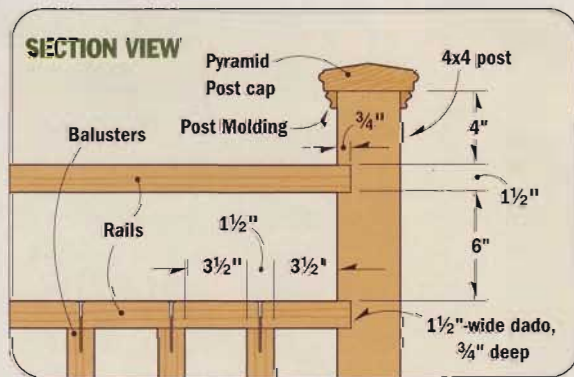
Richard's rail and stair designs are illustrated below.

▲ A deck on the front of a house? You bet. This redwood deck adds curb appeal and outdoor living space.

CONSTRUCTION VIEW



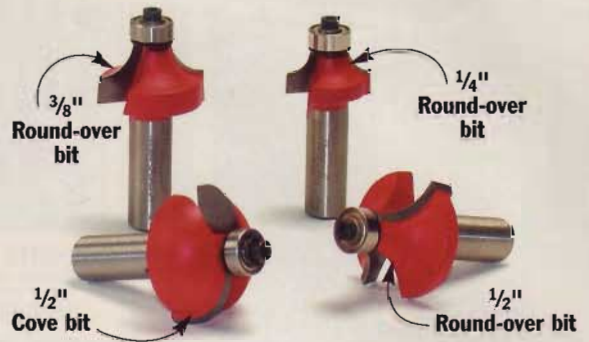
▲ The white deck railing contrasts dramatically with the redwood decking, highlighting its clean, simple lines.



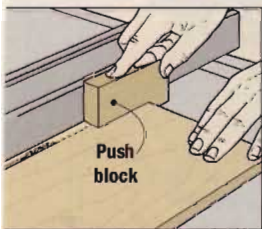
In the Shop



▼ All you need to make your own moldings is a router table, some common router bits, and a table saw.



SHOP TIP



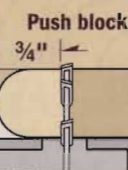
▲ Use a 2x4 block with a "heel" to push the board through the saw blade.

BULLNOSE MOLDING

ROUTING



RIPPING

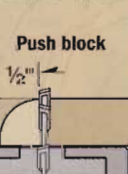


QUARTER-ROUND MOLDING

ROUTING

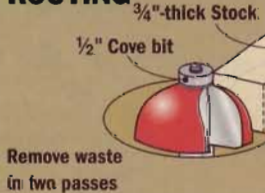


RIPPING

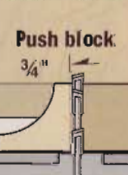


COVE MOLDING

ROUTING



RIPPING

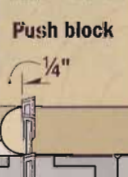


HALF-ROUND MOLDING

ROUTING



RIPPING



Shop-made Moldings

Adding decorative moldings to a project such as the Cottage-style Dresser (page 42) is a great way to dress up furniture. The problem is sometimes it's hard to find moldings with the profile you're after. And when you're using a natural finish on your projects, finding stock moldings to match the type of wood you're using can be difficult.

When this happens, an easy solution is to make your own moldings. To do this, all you need is a router table, some common router bits (see photos above), and a table saw.

To make the moldings for the Cottage-style Dresser, I used a two-step process (see drawings at left). The first step is to rout a profile on the edge of a wide board on the router table. Then the profiled edge is ripped off the board on the table saw.

STEP 1: ROUTING. When routing the profile, the workpiece is guided by a bearing on top of the bit. This means there's no need for a fence, which makes the setup quick. And with an extra-wide board, your hands are well away from the spinning bit as you push the workpiece past the bit. For safety, always make it a point to rout profiles on boards that are at least 2" wide.

Routing most of these moldings can be done in a single pass. However, when making the cove molding, you'll need to remove quite a bit of material. So it's best to rout the profile in two or more passes. Start with a shallow cut, then raise the bit to finish the cove profile (see *Cove Molding*).

STEP 2: RIPPING. To ensure your finished moldings are consistent when ripping the profiled edge, position the workpiece with the profiled edge to the inside of the blade against the fence.

Then use a heeled push block (2x4 works well) to guide the workpiece through the cut and on past the blade (see *Shop Tip*).



Fastening Metal: Rivets to the Rescue

Pop rivets are a quick, easy way to securely fasten pieces of thin metal. That's why we used them to connect the steel studs, plates, and braces of the firepit on our Rustic Retreat (see page 26). You'll notice in the drawing below that the idea behind pop rivets is pretty simple.

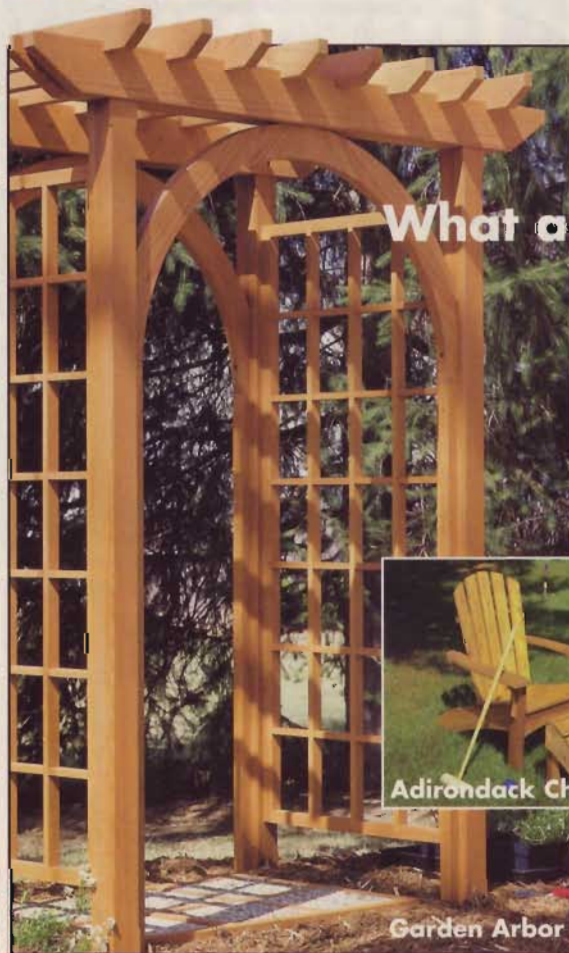
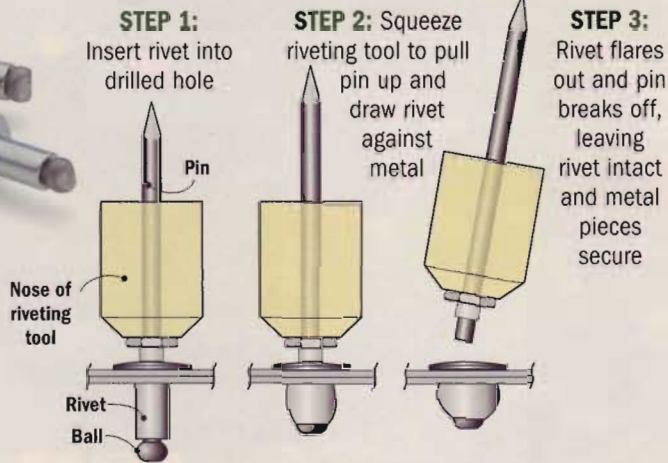
A nail-like pin with a mushroom-shaped ball on one end passes through a metal rivet. To use the pop rivet, you'll first need a riveting tool, as shown in the photo at left. Start by drilling a hole through both pieces of metal to fit whatever size rivets you're using. (Pop rivets are available in different sizes to fasten different thicknesses of metal.)

Next, put the pop rivet into the riveting tool, then insert the rivet into the predrilled hole. As you squeeze the handles of the riveting tool repeatedly, the pin is pulled upward. This compresses the rivet, causing it to flare out and draw the metal surfaces together.

Once the pieces of metal are tightly together and the rivet is flared, the pin will break off, or "pop" — leaving the rivet intact.



▲ Pop rivets are a quick, easy way to securely fasten pieces of thin metal.



Garden Arbor

Plans NOW

Woodworking Plans on the Web

What are you building this summer?

You'll find over 140 complete, step-by-step plans from America's favorite do-it-yourself magazines; *Workbench*, *Woodsmith* and *ShopNotes*, including lots of great outdoor and home improvement projects.

Get started now by downloading your plans from www.PlansNOW.com — and save \$2*.



Adirondack Chair



Tool Storage Shed



Trestle Picnic Table

*Save \$2 off your next order!
Enter this word in the coupon code field on the order form: workbench

www.PlansNOW.com

\$2 OFF
YOUR NEXT ORDER!*

Tools and Products



Here at *Workbench*, we have lots of opportunities to try out all sorts of new products and tools. Some of them make woodworking and home improvement projects easier, quicker, or better. Others are just handy to have around the house. To help you make informed decisions when buying new products, all of these items have been carefully selected and approved by the *Workbench* staff.

The Evolution of the Skil 3400

Skil recently revamped its 3400 benchtop table saw to include several worthwhile features. Standard equipment on the saw includes a 15-amp, 3HP motor, solid die-cast aluminum table with integral carrying handles, on-board cord wrap and tool storage, and an oversized power switch.



Our test saw also had some handy accessories, including a metal extension wing, a metal stand, and a sliding outfeed support.

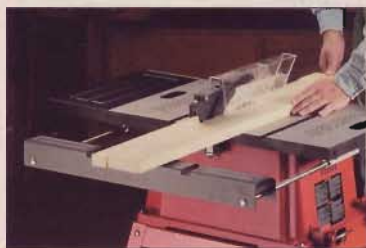
In use, the saw delivered ample power for ripping and crosscutting 2"-thick hardwood. One problem I did find, though, is that the saw starts very abruptly, actually lurching forward a bit when I first flipped the switch. Hopefully, Skil will address this in future models with a soft-start motor.

On the upside, the lighter weight of this saw and the built-in handles make it easy to move around the shop or job site, even with the stand, extension, and outfeed support in place.

The Skil 3400 retails for between \$149 to \$199, depending on accessories. Visit www.Skil.com or call 877-754-5999 to find a retailer in your area.



▲ The saw has on-board storage for a blade, wrenches, and miter gauge.



▲ An optional sliding outfeed support fence is available for the 3400.



▲ Handles cut into the aluminum table let you take the saw to the work.



Bucket Boss Rear Guard

Pockets have long served as makeshift tool caddies. Now Bucket Boss has gone the pocket one better with its Rear Guard tool pouch.

The Rear Guard has a padded flap that fits inside a back pocket and a snap loop that hooks to a belt (see photo at right). There are four pockets for stowing tools and a clip loop to hold tape or keys.

The Rear Guard retails for around \$13.

Visit the company's Web site, www.BucketBoss.com, for more information or call 800-289-8288.



▲ The Rear Guard is a pocket-size tool pouch.

WeatherBest Gets Better

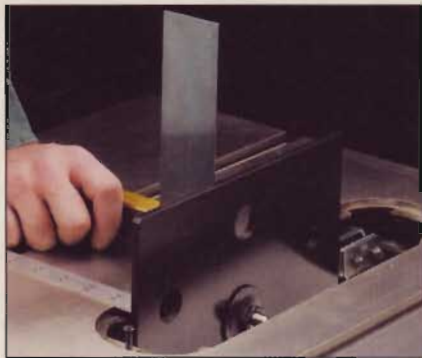
We've been sold on the quality and durability of WeatherBest composite decking from the very beginning. Which is why we used it in the first part of our Rustic Retreat deck project, featured in the April issue. Since we built the deck, though, WeatherBest has gotten even better.

In addition to the Basic line we used, WeatherBest now offers all of its composite products in Select and Premium lines. These lines include colors and surface textures not previously available (see photo at right).

Visit their Web site WeatherBest.com or call 800-521-4316 for more information.



▲ WeatherBest's Premium line offers three new color choices.



MasterPlate Makes "Tune-Ups" More Accurate

A lot goes into "tuning up" a table saw. A well-tuned saw is one where the blade and the rip fence are perfectly parallel to the miter gauge slot, and the blade is square to the top of the table.

While adjusting the fence is easy enough, aligning the blade can get pretty involved. It's certainly something you

want to be able to do as accurately as possible on the first try.

One of the variables that makes this whole process so dicey is the blade itself. A typical 10" saw blade only offers about a 3"-long surface to measure against, so it isn't the ideal way to check for parallel.

Fortunately, I came across a much more reliable and easier method of checking blade alignment. It's called the MasterPlate from MasterGage.

The MasterPlate is an aluminum plate, machined to guarantee that the faces are parallel to each other and the entire plate is perfectly flat, to within "thousandths of an inch" (see the photo below).

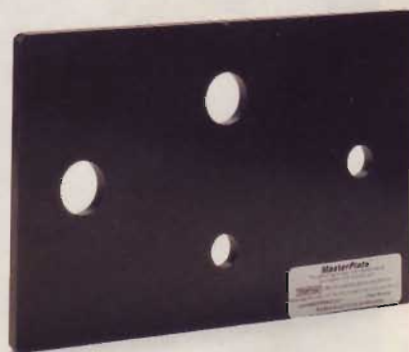
When mounted horizontally in a table saw, the MasterPlate offers a full 10" of flat surface for measurement. When mounted vertically, the MasterPlate has almost 7" of flat surface for checking square.

These large surface areas make it much easier to get accurate measurements between the blade and the fence or miter slot. They also provides substantial surface for squaring the blade to the table or checking the angle of the blade (see the photo above).

A standard MasterPlate is drilled to fit both $\frac{5}{8}$ " and 1" arbors, though a 30mm version is also available.

The plate can also be used for other tools that accept 10" blades, such as radial arm saws and miter saws.

The MasterPlate sells for \$49 and can be found along with other MasterGage products at www.MasterGage.com. Order by phone at 888-893-8300.



▲ The MasterPlate is machined to ensure that the faces are parallel to each other and the plate is dead flat.

ARROW
 Select the right tool
 ... get the job done right



Build a Picture Frame



Upholster a Chair



Install Insulation



Shoots 6 different size staples & 5/8" brad nails, too.



There are so many jobs the versatile
ARROW T50® PBN Staple+Nail Gun can do.

It shoots 6 different size staples and also drives a 5/8" brad nail. Thanks to its "Easy Squeeze Double Leverage Mechanism" and cushioned grip, this tool is a breeze to use.

And, because of its all-steel construction with carbon hardened steel working parts, the rugged T50® PBN will be a reliable member of your tool box for many years to come.

ARROW tools and supplies are available at home centers, lumberyards and hardware stores.



U.S.A.: Arrow Fastener Company, Inc., 271 Mayhill Street, Saddle Brook, N.J. 07663
 United Kingdom: Arrow Fastener (U.K.) Ltd., 14 Barclay Road, Croydon, Surrey CR0 1JN
 Canada: Jardel Distributors, Inc., 6505 Metropolitan Blvd. East, Montreal, Quebec H1P 1X9
www.arrowfastener.com

© 2001 ARROW FASTENER CO., INC.