

STORAGE SOLUTIONS +

windows that wow • tools, tips & techniques
great garages • inspiring ideas...& more!

practical ideas
for your home

workbench

JUNE 2008

8 *diy* Secrets You Must Know!

+ **No-Fuss
Maintenance-Free
Materials
For Your Home!**

**SIMPLE
WEEKEND
PROJECT!**
*Multi-Purpose
Serving Center
& Potting Bench*

3 easy
**Outdoor
Projects** Page 32

STRONGER
THAN COMPOSITE

STRONGER
THAN WOOD

ENGINEERED
FOR *Life*

Genovations

Decking

THE APPEARANCE OF NATURAL WOOD
THE PERFORMANCE OF SOLID PVC

SIMPLIFY
YOUR *Life*

SIMPLE TO INSTALL
SIMPLE TO MAINTAIN
SIMPLE TO ENJOY

Lifetime
WARRANTY

**TONGUE & GROOVE
INSTALLATION**

NO EXPENSIVE FASTENERS | NO TEDIOUS SPACERS

UP TO 24" JOIST CENTERS

AUTOMATIC BOARD SPACING

HIDDEN SCREWS

Visit genovaproducts.com for your decking project needs

Product Information Number 270

Proudly
MADE IN
USA
800.521.7485

practical ideas
for your home

workbench

VOLUME 65, No.3, ISSUE #313

EDITOR'S NOTES

With spring in full swing and summer coming soon, it's time to get the yard spruced up for living life outdoors. Whether your outdoor activities include planting flowers, entertaining friends, or just kicking back on the deck or patio, this issue of *Workbench* offers ideas that will make your yard look and work great all summer long. Best of all, they're all easy to build, which means you can spend your time using them instead of building them.

These great ideas start with the dual-purpose bench on page 32. It's designed to work equally well as a place for potting plants and a serving center for outdoor entertaining. Whether you need to use it for one activity or both, this great-looking bench has you covered.

Of course, you'll need a place to put those plants, and the planters on page 38 offer the perfect solution. You definitely won't find anything like these one-of-a-kind stackable planters in any garden center. But they're so simple that you can build a set in one weekend.

When you want a place to sit and relax on your patio or deck, you'll love the outdoor seating project on page 42. They're actually more than just comfortable seats. They offer built-in storage space to help keep your outdoor gear organized.

Get More Outdoor Living Ideas — If you're looking for even more great ideas for improving your outdoor spaces, be sure to check out our latest book: *Workbench Ultimate Outdoor Living*. This 100-page book features 25 great projects that will turn your yard into an outdoor oasis.

Plus, *Ultimate Outdoor Living* is packed full of helpful tips from top outdoor and gardening experts. You can order a copy today at WorkbenchMagazine.com. It's just \$9.95, and shipping is free.

DAVE



GREAT IDEAS FOR OUTDOOR LIVING IN ONE 100-PAGE BOOK!

—FOR JUST \$9.95 (FREE SHIPPING)

ORDER NOW AT WorkbenchMagazine.com

PUBLISHER

Donald B. Peschke

EDITORIAL

MANAGING EDITOR David Stone

SENIOR EDITOR Wyatt Myers

ASSISTANT EDITORS Louise Ritchhart, Alyssa Schmitt

EDITORIAL INTERN Katie Selser

ART

ART DIRECTOR Kim Downing

ASSISTANT ART DIRECTORS Kurt Schultz, Doug Appleby

SENIOR ILLUSTRATOR Erich Lage

SENIOR WEB DESIGNER/ILLUSTRATOR Matt Scott

PROJECT DESIGN

CREATIVE DIRECTOR Ted Kralceck

SENIOR PROJECT DESIGNERS James R. Downing, Ken Munkel, Kent Welsh, Chris Fitch, Mike Donovan

PROJECT DESIGNER/BUILDER John Doyle

SHOP CRAFTSMEN Steve Curtis, Steve Johnson

ADVERTISING

ADVERTISING SALES MANAGERS George A. Clark, Mary K. Day

ADVERTISING PRODUCTION COORDINATOR Minnette Johnson

AUGUST HOME PUBLISHING

EDITORIAL MEDIA DIRECTOR Terry J. Strohm

EXECUTIVE ART DIRECTOR Todd Lambirth

SENIOR PHOTOGRAPHERS Crayola England, Dennis Kennedy

SENIOR ELECTRONIC IMAGE SPECIALIST Allan Ruhnke

ASSOCIATE STYLE DIRECTOR Rebecca Cunningham



WORKBENCH (ISSN 0043-8057) is published bimonthly (Feb., April, June, Aug., Oct., Dec.) by August Home Publishing Company, 2200 Grand Ave., Des Moines, IA 50312. Workbench is a trademark of August Home Publishing. Copyright ©2009 August Home Publishing Company. All rights reserved.

Subscription rates: Single copy, \$4.99. One-year subscription (6 issues), \$32; two-year subscription, \$53; three-year subscription, \$44. Canadian/Intl., add \$10 per year. Periodicals postage paid at Des Moines, Iowa, and at additional offices. Postmaster: Send address changes to Workbench, PO Box 37272, Boone, IA 50037-0272. Canadian Subscriptions: Canada Post Agreement No. 40018101. Send change of address information to: PO Box 881, Station Main, Markham, ON L3P 8M6. Canada RN 94597 5473 RT Printed in U.S.A.

WorkbenchCustomerService.com

CUSTOMER SERVICE: ONLINE

- **VIEW** your account information
- **RENEW** your subscription
- **CHECK** on a subscription payment
- **PAY** your bill
- **CHANGE** your mailing or email address
- **VIEW/RENEW** your gift subscription
- **TELL** us if you've missed an issue



CUSTOMER SERVICE: PHONE (800) 311-3991

SUBSCRIPTIONS

Workbench Customer Service
P.O. Box 842
Des Moines, IA 50304-9961
Subscriptions@AugustHome.com

EDITORIAL

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

ON THE COVER



Ready to get outside? In this issue, we have three great projects that will make your time outdoors even more enjoyable: a dual-purpose bench, one-of-a-kind planters, and seating with storage.

— page 32

easy weekend projects



Simple, Stackable Planters

It's time to think outside the box when it comes to building planters. This unique set is made from galvanized duct pipes and cedar boards.

38

Seating with Storage

At first glance, these benches are a great place to sit back and relax outdoors. But open the tops, and you'll find loads of storage space inside.

42

Cabinet Lighting

Make your kitchen look better and work harder with cabinet lighting. We'll show you the options and offer some handy installation tips right here.

76

home storage solutions



DIY Tips: Mobile Tool Storage

Make it easy to store big tools in the garage by adding this \$20 mobile base. Plus, 9 more great readers' tips.

20

Dual-Purpose Bench

Whether you're socializing on the deck or digging in the garden, this bench will help you make the most of your outdoor endeavors.

32

Portable Workstations

You can get extra storage and workspace in your garage or basement shop with a portable workstation. There are more great options than ever before.

62

ONLINE

WorkbenchMagazine.com

Get even more information about the projects and articles in this issue:

- **Builder's Plans:** Dual-Purpose Bench, Outdoor Seating with Storage
- **Slide Shows:** Finishing Secrets of the Pros, Modern Building Materials
- **Bonus Articles:** Building Laminate Counters, Working with PVC Lumber



Cedar Naturaltone
DP-533

I hadn't gotten a compliment on my deck for years...



Now that's all I get.

BEHR Premium Weatherproofer rejuvenated my deck like some kind of magic. The NanoGuard technology makes all the difference—and the protection lasts. Now I'm spending less time maintaining my deck and more time enjoying it. And the best part is, everybody who comes over tells me how great it looks.

BEHR
GOOD. BETTER. BEHR.™

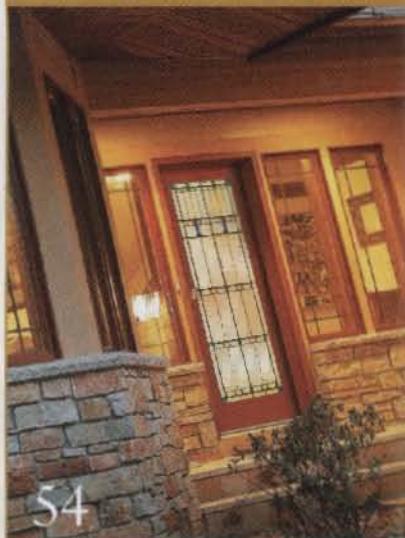
Exclusively at



BEHR and NanoGuard are registered trademarks of BEHR Process Corporation.
©2009 BEHR Process Corporation.

www.behr.com

stylish home **makeovers**



54

Modern Building Materials

Make your home maintenance-free with materials that are impervious to wear, resistant to rot, and built to last for the long haul.

54

**Paint Power:
3 Specialty Paints**

Add a coat of fun to any space in your home with chalkboard, magnetic, or glow-in-the-dark paint.

60

**Instant Makeovers:
Sporty Window Treatments**

Celebrate a loved one's special interests with a unique window treatment. Here are four easy ways to do it.

80

tool & product **close-ups**



66

DIY Gear: Clamps

Get a grip on your next project by choosing the right kind of clamps.

28

Garage Gear

Give your garage a blast from the past with vintage metal signs. Plus, cool new offerings from Gladiator.

30

Making Connections

Specialty fasteners can make a complicated project really easy, really fast. Here's a rundown of many of the useful options.

66

Tool & Product Showcase

A quick look at new products from Black & Decker, Hyde, and Zircon.

70

around the **house how-to**



48

Close to Home

Plant a tree, support the troops, save money on your taxes, and more.

6

Ask Workbench

Built-in furniture advice, plus other answers to reader questions.

12

Finishing Touches

Take your next finishing job from good to great with tips from the pros.

26

Build It or Buy It?

Should you do it yourself or hire a contractor? It's the eternal question, and we have the answers here.

48



From the company that invented versatility,
here's some more.



Cut
wood, drywall, metal

Remove
grout, caulk, paint

Grind
thinset, cement, mortar

Scrape
adhesive, paint, vinyl

Sand
wood, metal, chipboard

The all-new Multi-Max™ Oscillating Tool System.

Its fast side-to-side motion and compact design make it the perfect tool for even your most demanding remodeling projects. From cutting a door jamb to removing grout—and every job in between. It's exactly the kind of versatility you've come to expect from a Dremel tool. Call 1-800-437-3635 today for a free DVD. Or visit dremel.com to view project videos.

DREMEL®
MULTI-MAX™
Repair. Remodel. Restore.®



Metal roofing and Energy Star windows are among the home improvements that qualify for tax credit.

GIVE YOURSELF SOME CREDIT FOR

Saving Energy

Federal tax credits make this a great time to consider home improvement projects that maximize energy efficiency.

Most homeowners would love to save money by installing energy-efficient air conditioners, furnaces, appliances, or other home fixtures. The only problem is that these improvements are costly. Many people are hesitant to make the initial investment.

Luckily, a number of federal tax credits are available for energy efficient improvements, so it won't take quite as long to make your money back. Here are some of the categories that qualify, along with your potential savings.

Central Air Conditioning — Some energy-efficient central air conditioning units qualify for a tax credit of up to 30% of the cost, with a cap of \$1,500. Not all Energy Star models are eligible for this credit, however.

Heating — You can also get a tax credit for select air source heat pumps, geothermal heat pumps, furnaces, and boilers. Energy Star geothermal heat pumps qualify for a tax credit of 30 percent, but the \$1,500 cap does not apply to them. Geothermal units must be put into use by the end of 2016.

Insulation — To be eligible for a tax credit of 30 percent of the cost, qualified insulation products must have a five-year life expectancy or a two-year warranty. Siding is not eligible.

Roofing — You're eligible for a 30 percent tax credit (up to \$1,500) if you get an Energy Star metal or asphalt roof. The roof must have a life expectancy of at least five years or come with a two-year warranty.

Solar Energy — Installing a photovoltaic solar energy system can make you eligible for a tax credit of up to 30 percent of the cost. If you install a solar water heating system, you are also eligible for a tax credit of 30 percent of the cost. There are several restrictions for solar water heating credits, though. Among these are that the "qualifying property" must generate at least half of its energy from the sun.

Water Heaters — All Energy Star gas tankless water heaters qualify for a tax credit. However, some Energy Star gas storage and gas condensing water heaters will not qualify.

Windows — Windows that meet specific energy efficiency requirements qualify for a tax credit. You can receive 30 percent of the cost of the windows, up to \$1,500. (This doesn't include the cost of installation). You'll need to save your receipts and the Energy Star labels from all the windows.

It's important to note that some of the improvements are subject to a combined maximum of \$1,500 per household for 2009 and 2010. You should always do your research before you buy to find out which products are eligible. Visit EnergyStar.gov to find more information about limitations and specific qualifying products.

By the Numbers:

50% Percentage of energy costs that go toward heating and cooling.

70% Percentage of programmable thermostat owners who keep them constantly on the "hold" mode.

SOURCE: ENERGY STAR AND OTHER HOMEOWNERS STUDY



Homes for Our Troops is a nonprofit organization that raises donations to build housing for seriously injured veterans at no cost to them.

SHOW SUPPORT FOR TROOPS

On The Home Front

It's gratifying to help others, especially men and women who have served or are currently serving our country in the military. Here are a few of the organizations that offer you the chance to help make life better for military personnel and their families at home.

GreenCare for Troops — GreenCare for Troops (ProjectEvergreen.com/GCFT) is a program that helps families maintain their lawns and landscaping while their loved ones are serving in the military. Both green industry professionals and private citizens can volunteer to help out with local projects.

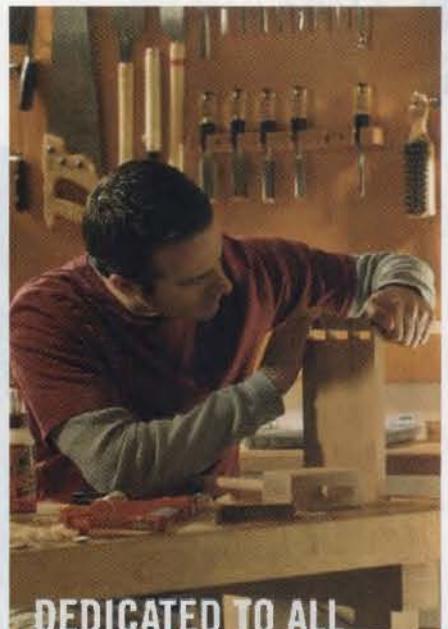
Homes for Our Troops — The nonprofit organization Homes for Our Troops builds new homes and renovates existing ones for severely injured military personnel who are coming home from Iraq and Afghanistan.

Homes for Our Troops built a new handicap-accessible home for Staff Sergeant John Bennett, who was wounded in Iraq, and his family.



If you're interested in helping, you can donate to the organization. Or, if you have experience in home construction, you can register with the organization through its Web site (HomesforOurTroops.org) to offer help on projects in your area.

Rebuilding Together's Veterans Housing Initiative — Rebuilding Together (RebuildingTogether.org) has veterans housing programs that provide safe, accessible places to live. The programs repair and modify homes for veterans, military widows and widowers, and active-duty personnel and their families. You can help by donating to Rebuilding Together or by volunteering with your local affiliate.



DEDICATED TO ALL THE PERFECTIONISTS WHO CONTINUE TO INSIST ON DOING THINGS RIGHT.



FOR THE TOUGHEST JOBS ON PLANET EARTH.®
1-800-966-3458 gorillatough.com Made in U.S.A.



Weeping Willow at Graceland

WHEN YOU PLANT THESE TREES, History Takes Root

It's no secret that adding trees to your property can add a lot of value. But thanks to the American Forests Famous & Historic Trees Program, you can add a lot of historical value with your trees, too. The conservation organization grows trees that are descendants of trees with an important place in American history or that are tied to famous Americans.

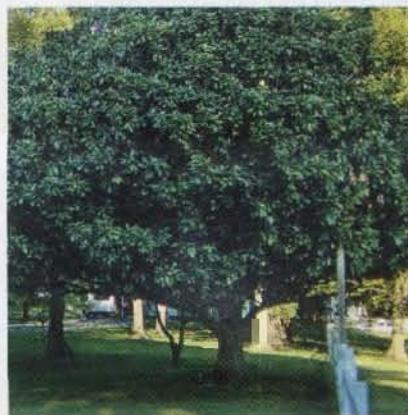
The trees are available for purchase through the organization's Web site, HistoricTrees.org. There, you can browse through the American Forests collection of trees based on your interests. The American presidents section, for example, boasts the descendants of the southern magnolia tree that Andrew Jackson planted at the White House. That tree started the tree-planting tradition followed by every president since. You can also purchase descendants of a white oak tree that grows near Abraham Lincoln's tomb.

If you're interested in popular music, you might want to consider the descendants of a tree from the late Elvis Presley's mansion, Graceland, such as a weeping willow (*above*) or a southern magnolia (*right*). Or if you're a fan of famous American authors, you

can purchase a descendant of the live oak tree that grows in the Enchanted Garden at the Edgar Allan Poe Museum in Richmond, Virginia.

The program's Web site includes maps for each tree to show where they will grow. The tree will be sent right to your home, and most of the them are 1 to 3 feet tall when they are shipped.

American Forests has been researching and documenting historic trees since 1917. The organization catalogs these trees on the National Register of Historic Trees, which now includes about 2,000 entries. You can nominate a tree for inclusion in the register on the organization's Web site.



Best of the Web:

FLASH

(Flash.org)

The Federal Alliance for Safe Homes has created a Web site that can help you prepare for threats to your home and safety, such as earthquakes, floods, and hurricanes.

Home Energy Saver

(HES.lbl.gov)

There are a lot of ways to save energy around the house, but the Home Energy Saver offers suggestions that are tailored to your home. The site also features a handy calculator that estimates your savings.

House Blogs

(HouseBlogs.net)

If you're tackling a particularly challenging home improvement project, you might feel like you're on your own. HouseBlogs.net can help dispel that feeling by providing access to home improvement blogs written by DIYers. You can even post your own profile and blog to update readers on your progress.

How Can I Recycle This?

(RecycleThis.co.uk)

We're all a little more conscious of the fact that reusing items can reduce the strain on our environment—and our wallets. This site allows readers to submit their own ideas about how to reuse a staggering variety of items, from wooden pallets to old sports trophies.

Toiletology

(Toiletology.com)

When something goes wrong with your toilet, it doesn't exactly make for a humorous situation. Fortunately, Toiletology lightens the mood by providing funny yet useful lessons to help conquer toilet troubles.



MASTER OF ALL THINGS HARDWARIAN™

Tools, products and expert advice for all your project needs.

True Value
START RIGHT. START HERE.®

startrightstarthere.com



A 94-foot-long root, which Roto-Rooter contractor Bart Mathis removed from a pipe, is one of the longest that the company has ever been called to extract.

HOME WORDS:
Air Conditioning

BLOWER: The component that moves air for distribution.

BTU (British Thermal Units): The amount of energy needed to raise the temperature of one pound of water by one degree. The higher the BTU rating is, the more powerful the air conditioner is.

COMPRESSOR: The pump that transports refrigerant between the evaporator and condenser.

CONDENSER: A component that moves heat to a heat-absorbing medium such as water or air.

EVAPORATOR: A device that draws heat from the air to cool it for the house.

HEAT PUMP: A unit with a valve that allows it to switch between heating and cooling functions.

REFRIGERANT: A substance, such as Freon, that absorbs heat and creates a cooling effect.

THE TOP FIVE STRANGEST

Drain Discoveries

Plumbing problems are enough to make any homeowner panic. When something goes drastically wrong, you'll need to call in the professionals. But you can take comfort in the fact that your problem probably isn't nearly as bizarre as some of the ones that Roto-Rooter Plumbing and Drain Service technicians encounter.

Each year, the company compiles a list of the five strangest things that its employees have found in drains and toilets. In the past, employees have reported finding items as diverse as toupees, tools, and even a Civil War era cannon shell. Whether the items themselves are unusual, or they just had to be removed in unusual ways, here are last year's picks.

1] 4-Carat Diamond — When a homeowner in Anderson Township, Ohio, finished cleaning her 4-carat diamond anniversary ring, she wrapped it in a tissue to dry. Later, she grabbed the tissue and flushed it down the toilet — with the ring inside. With the help

of a sewer inspection video camera, plumber Gary Morford located the ring in a pipe. He was then able to drill a hole in the basement to get to the pipe and retrieve the ring.

2] A Very Stuck Cat — When a cat in Harrisburg, Pennsylvania, went missing, its owners had nearly given up hope — until noises starting coming from a downspout pipe. The downspout extended into the woods nearby, and Dave Jones from Roto-Rooter used an inspection camera to spot the trapped cat about 120 feet into the pipe. A crew was able to cut the pipe, and the cat was finally free after being stuck for four days.

3] Vacuum-Removed Kitten — Another cat was rescued when workers at an auto shop in Columbus, Ohio heard it in a pipe. Using a vacuum hose from his septic tank pump truck, Kevin Adkins was able to apply mild suction to the kitten's back and pull it from the pipe unharmed. One of the shop's employees decided to adopt the kitten.

4] 94-foot Root — An office building in Manatee County, Florida had a clogged drain in its courtyard, which made the building flood during heavy rain. Contractor Bart Mathis cut an underground pipe and discovered a huge root filling it. He couldn't get the root out, so he hooked the end of it up to his truck and dragged it out. When he discovered how big the root really was, four lanes of traffic had to be closed as the 94-foot-long root (*Photo, above left*) was pulled out across a nearby roadway.

5] Toy Collection — A family in Indiana was baffled by a clog that kept their toilet, bathtub, and washing machine from draining. Upon opening the sewer system's cleanout port, a Roto-Rooter service technician discovered a collection of small toys. The port was near a patio, and the family's children had been opening it and throwing toys inside. After removing the items, the technician used silicone to seal the port.

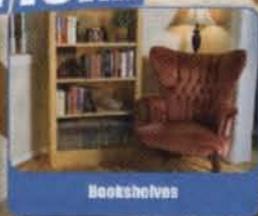
Wood Projects Made Easy!

Thanks to a tool called the Kreg Jig®, just about anyone can build quality woodworking projects in less time – and with less effort – than ever before. The Kreg Jig® simplifies woodworking, and helps make your projects more fun to build!

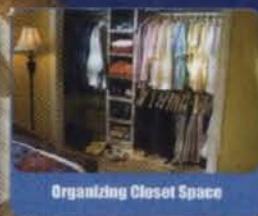
Ideal for...



Cabinets



Bookshelves



Organizing Closet Space



Official Sponsor of
Woodsmith
SHOP

To learn more about the Kreg Jig®, and to see videos, plans, testimonials, and FAQ's, visit us on the web at www.kregjig.com.



ALSO AVAILABLE...

Klamp Table™

THE HELPING HAND
You've Been Waiting For.

You don't need an army of clamps to get the job done; you just need the right ones. Our Klamp Table™ is the ultimate "helping hand" around the workshop and the easiest way to get perfectly flush Kreg Joints™, one after another.

Visit kregtool.com/precision
for more information.



**Popular
Mechanics**
PM
EDITOR'S
CHOICE
AWARDS
08

Precision Router Table

PRECISION ROUTING.
Tablesaw Fundamentals.

Whether you're routing a simple dado, putting the finishing touch on a countertop, or building an entire set of raised panel doors from scratch, the Kreg Precision Router Table – through a series of innovative new features – helps woodworkers of all levels finish projects faster, easier, and with greater precision than ever before.

Visit kregtool.com/precision
for more information.



Kreg®

www.kregtool.com | 800.447.8638



HOW TO HANDLE CARPET WHEN

Installing a Built-in

Q: I'm working on a built-in bookcase and will be putting it in a carpeted room. Should I leave the carpet in place or remove it? If I have to remove it, can I do it myself?

Marcus Perlin
San Diego, CA

A: If the built-in will be permanent, it's probably a good idea to remove the carpet underneath it. There are two big reasons. First, removing the padding, carpet, and tack strips that hold the carpet in place will make it easier to get the built-in sitting flat, plumb, and level. Second, it will eliminate any complications if you decide to replace the carpet in the room later.

If you'll just be cutting away a small section of carpet, you can definitely do it yourself. If you'll be removing carpet

along an entire wall, you may want to have a professional do it to ensure that the carpet gets restretched properly.

If you're doing it yourself, follow the steps here and in the *Illustrations* above:

1. Carefully lay out the location of the built-in on the floor. If possible, use the actual base of the unit, or make a template from cardboard.
2. Mark the area to be cut.
3. Peel the carpet back from the wall by grabbing it at the edge (you can use pliers) and pulling the carpet off the tack strips.
4. Pry up the tack strips that held the carpet down in that area.
5. Cut out the carpet and pad in the area. Make the opening slightly under-size to ensure that you don't remove too much carpet. You'll trim it to final size later.

6. Lay new tack strips about $\frac{3}{8}$ " to $\frac{1}{2}$ " outside where the base of the built-in will be located. Make sure the tacks that stick up from the strip to grab the carpet are angled toward the wall or the base of the built-in.

7. Cut back the carpet padding, so that it lies against the edge of these new tack strips and flat on the floor.

8. Reattach the carpet pad with adhesive or with staples placed every three to five inches along the tack strips.

9. Now install the built-in, and then lay the carpet up against it. Use a knee kicker (which you can rent) to stretch the carpet and press it down against the tack strips. Then trim the carpet to its final size. Be sure to leave about $\frac{1}{2}$ " of extra carpet, so that you can tuck it between the base of the built-in and the tack strip for a finished look.



GOT QUESTIONS? WE HAVE ANSWERS!

Include your full name, address, and daytime phone number. You'll receive a free one-year subscription to **Workbench** (or a one-year extension to your current subscription) if we publish your question.

HOW TO SEND YOUR QUESTIONS:

Email: Ask@workbenchmag.com
Forums: forums.woodnet.net
Mail: Ask Workbench, 2200 Grand Ave.,
 Des Moines, IA 50312

POST ANCHORS MAKE FOR

Painless Fence Posts

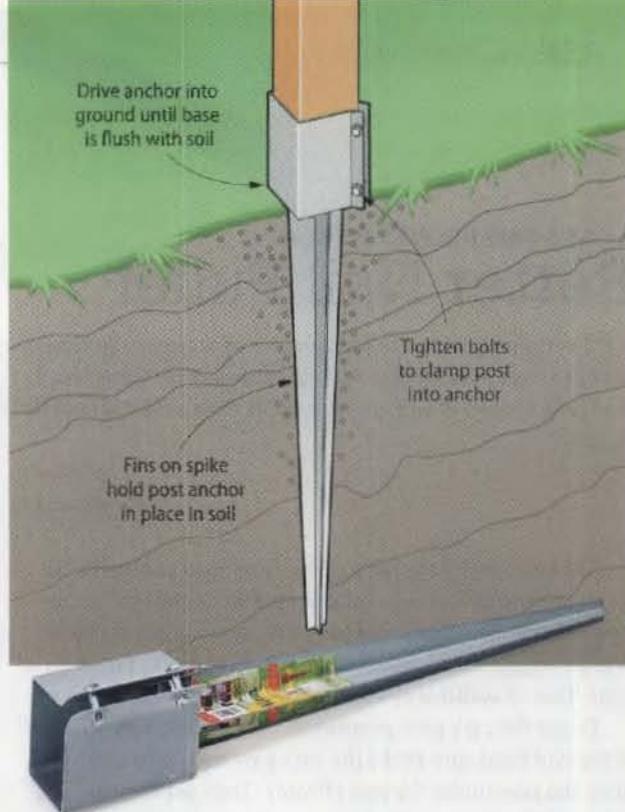
Q: I want to put up a low picket fence around my garden. It's purely decorative, so I hate to go through all the work of digging holes and then setting the fence posts in concrete. Is there an easier way to do it?

Jamie Clark
Indianapolis, IN

A: For a low fence like this, a great alternative is a pound-in post anchor (Photo). You can get one at any home center. The anchor features a spike that simply gets pounded into the ground, and a collar that sits flush with the ground surface. Then you just cut the post to length and secure it into the collar.

To install the anchor, cut a short section of scrap post, and secure it in the collar. Then use a sledgehammer to drive the anchor into the ground (Illustration). Make sure it stays plumb. Simply pull out the scrap piece, and you can insert your post.

Of course, before you drive in the anchors and put up the fence, check with your utility company to make sure there are no wires or pipes buried in the area.



A post anchor makes it easy to mount a 4x4 post without digging holes or pouring concrete. You'll find short and long versions. Choose according to the sturdiness you need.

2 BALL IN
THE SIDE POCKET...
...2-PART ON THE
GARAGE FLOOR.



BEHR made it easier than I thought. Everything I needed to prep and coat my floor was included in its new 2-Part Epoxy Kit. I rolled the coating on right from the built-in paint tray. Plus, I got a choice of 38 custom colors. The garage floor looked so terrific, I decided to park my car outside and the guys and I got a new place to hang out. It's amazing what a great-looking floor can do.

BEHR is a registered trademark of BEHR Process Corporation.
©2009 BEHR Process Corporation.

www.behr.com



BEHR
GOOD. BETTER. BEHR.™

Exclusively at



A CAT'S PAW PROVES TO BE A Better Nail Puller

Q: I'm replacing my patio door, and I need to remove the trim. I can't pry it out from the edge without tearing up the siding, but I can't get the nails out with my hammer. Is there a tool that will do the job?

Bob Mason
Arlington, VA

A: The best tool for the job is a "cat's paw" nail puller. It has sturdy, curved jaws at one end, oriented 90° to the handle. The jaws come to a fine point and have a V-shaped notch that grips firmly onto the shank of the nail. You can see one in the *Photo* at right. They're available in several different sizes.

To use the cat's paw, position the jaws as close as possible to the nail head, and strike the cat's paw with a hammer to drive the jaws under the nail (*Photo*). Then pry the nail out, either all the way or at least far enough to get a hammer claw under it.

Chances are good that you'll gouge the trim around the nail heads, so you'll probably need to cut new trim.



A cat's paw is the perfect tool for prying out embedded trim nails. The curved jaws reach under the nail head, and the handle provides leverage to pry the nail out.

By the way, after you pull the nails, be sure to cut through the caulk between the trim and the siding. That way, the caulk won't pull off any trim or wood when you pull the trim away from the wall.

HUNDREDS OF TOP QUALITY ROUTER BITS AND SAW BLADES AT AFFORDABLE PRICES



TRS-260

SALE PRICE
\$99⁹⁵*
List Price \$161.45

MANY STYLES AVAILABLE!

BROWSE OUR NEW
CATALOG ONLINE!



Timberline
PROFESSIONAL QUALITY TOOLS
by **Amana Tool**

For A Dealer Nearest You Call 1-800-445-0077

Visit Our Website www.timberline-amana.com

*Price at Participating Dealers

A Nail Doubleheader

Q: While I was looking for nails at the home center, I noticed a nail with two heads. What the heck is the purpose of that?

*Kurt Statton
West Des Moines, IA*

A: We'll assume the nail had two "heads" one above the other on one end. After all, a nail with a head on each end wouldn't be of much use!

In all seriousness, you can buy what looks like a "two-headed" nail. It's called a duplex nail and is used for assembling temporary structures or bracing that will need to be disassembled later.

A duplex nail has a regular head plus a shoulder below it that gives it the two-headed look. That shoulder bottoms out when you drive the nail into something for good holding power. The protruding head sticks up above the surface, making it easy to get a hammer claw on the nail to pull it when the time comes (*Photo, top right*).



DOES WOOD GLUE GO BAD?

All glue has a shelf life. With wood glue, it's generally one to two years. So if you suspect that the glue is older than this, even if it's never been opened, you should discard it. After all, glue is inexpensive. Why risk ruining a project that you've invested lots of time and money in by trying to save a couple dollars using old glue?

To ensure that I don't let glue get too old, I write the date on the bottle when I bring it home. Or you can write a "use by" date on it instead.

By the way, that shelf life assumes that the glue has been kept in the right environmental conditions. If it's been frozen and thawed, don't rely on it. And be sure to keep your glue in a place where it can't freeze.

Bring to Life Each Treasured Story

Each piece of wood has its own story. From its unique lines and contours to the admiring attributes of color and form unfolds a story to be brought to life.

For over 50 years, Old Masters craftsman quality stains and finishes are produced to accentuate wood's natural beauty and provide durability for life's treasured pieces.



Old Masters
Since 1953

Call 800-747-3436 for a FREE product guide or visit www.oldmasters.biz to locate a dealer near you.

Proud Sponsor of:
Woodsmith
SHOP 
Shown weekly on PBS.

LAY DOWN FRESH LAMINATE FOR A Countertop Update

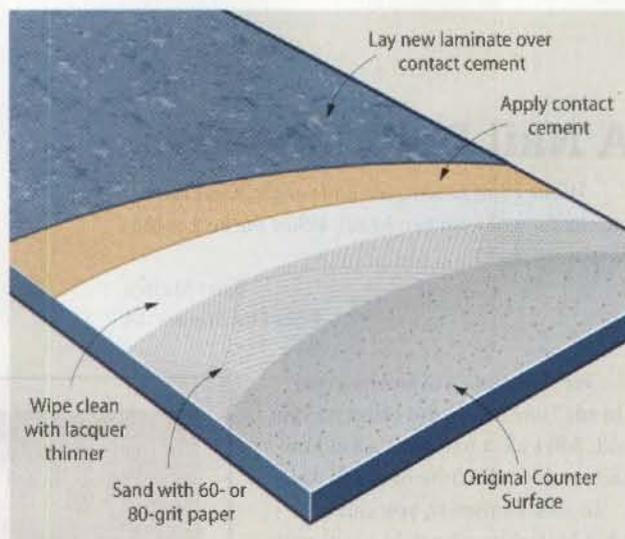
Q: Can I apply new plastic laminate over the top of existing laminate to update my countertops?

Carrie Thielsen
Corning, KY

A: You can apply new laminate over the old stuff as long as the countertop is flat. If you have "post-formed" counters with a built-in backsplash and radiused front edge, you're out of luck. That laminate is applied with heat and pressure that you simply can't reproduce.

Also, you need to make sure that the old laminate is adhered well. If the old laminate has bubbled or is loose, the new laminate will be exactly the same, so you'll just compound the problem.

As long as these things are okay, go for it. Start by thoroughly cleaning the old countertop to remove dirt and grease. Then sand the surface to rough it up — use 60- or 80-grit paper (*Illustration*). Now vacuum or brush off all the dust, and wipe down the surface with lacquer thinner. Then you



You can save yourself the hassle of tearing out old laminate countertops if they're in good shape. Just cover them with new laminate to get a fresh look fast.

can apply the new laminate just as you would if starting with a fresh substrate: Apply contact cement to both surfaces, adhere the new laminate, and trim it flush. For more about applying laminates, see the article at WorkbenchMagazine.com.

Two-Part Glue Solution

Q: I need to glue a metal accent onto a wood piece. What's the best glue to choose?

Mark Harrold
Boston, MA

A: There are a lot of high-tech glues out there these days, but my favorite for tasks like this is still good old epoxy. It's easy to use when you understand it and is excellent at joining dissimilar materials like wood and metal.

Epoxy is a two-part adhesive made up of a polymer and a catalyzing agent or hardener. Separately they do nothing, but together they form a very strong adhesive. When the two parts are brought together, they set up quickly. That's why epoxy is sold in two parts — usually a twin-tube syringe.

To use epoxy, just dispense equal amounts of both components (just enough for what you need), mix them, and then apply the adhesive to one of the two parts to be joined. Then hold or clamp the parts together until the glue sets.

When buying epoxy, the most important thing is to get one that allows enough "set time" to get it mixed and applied. This term refers to how much time you have between mixing the two parts and when they harden. You'll find set times ranging from five minutes to 60 minutes. If joining the two pieces may be challenging, choose an epoxy with a longer set time.

WHAT'S THE DIFFERENCE? THINSET & MASTIC

Both mastic and thinset are used for laying tile, but they work in slightly different ways. Mastic, which is often just called tile adhesive, is usually sold pre-mixed and is used for adhering tile in dry, non-stressed applications. It's great for setting wall tiles because it's quick and easy to use. Plus, it sets up quickly and has high initial tack/bond for holding wall tiles in place. What mastic lacks is compressive strength and the ability to build thickness.

Thinset is a mortar made from portland cement and additives. It's usually sold as a powder that gets mixed with water or a latex additive, though pre-mixed thinset is becoming more common. Thinset is ideal for adhering floor tiles because it has great compressive strength, meaning the bond won't break under the rigors of walking or heavy furniture. Thinset also offers superior water resistance, making it better suited for wet applications such as shower surrounds.



Bonus Offer
\$50 Gift Card



"We have had the Sleep Number bed for a few years now and can say it is the very best investment we have ever made. Back pain was a fact of life for me for years. After sleeping on the Sleep Number bed, I have improved significantly. It is amazing to go to bed in pain and wake up refreshed and pain free."

Janet D., Mt. Vernon, WA

Take Control Of Your SleepSM

Are You Frustrated by the Quality of Your Sleep?

Do you toss and turn at night? Can't seem to find a comfortable position? Does your back ache when you awake? These are signs that your mattress may not be supporting you properly, robbing you of the sleep you need. SUFFER NO MORE!

You Customize the Firmness

The Sleep Number Bed by Select ComfortTM is unlike any other. It's the bed you adjust to your exact comfort and firmness preference, your SLEEP NUMBER[®] setting. Our easy-to-use handheld remote and advanced air-chamber technology allow you to quickly adjust the firmness from extra firm to feather soft at the touch of a button.

Each Side of the Bed Adjusts Independently

Best of all, each side of the SLEEP NUMBER[®] bed adjusts independently, making it the perfect bed for couples.

Get Relief from Back Pain

93% Experienced back-pain relief

89% Reported improved sleep quality

77% Discovered increased energy

It's the bed clinically proven to relieve back pain and improve sleep quality. Clinical studies show an amazing 93% of participants reported back-pain relief while 90% said other aches and pains were reduced.*

*For a summary of independent clinical studies, call 1-800-831-1211.
†If not satisfied after 30 nights, call within 45 days of delivery to arrange return. We'll reimburse the purchase price less your initial shipping or Home Delivery and Setup fees. You pay return shipping. No returns or exchanges on Precision Comfort[™] Adjustable Foundation, closeout or demo bed models.
‡Restrictions apply. See gift card for details and expiration date.
©2008 Select Comfort



The Sleep Number[®] Bed Makes Innersprings Obsolete

A traditional innerspring mattress offers only hard metal coils for support. By contrast, the Sleep Number bed's revolutionary design features air-chamber technology that adjusts to your ideal level of firmness and support.

Traditional mattress



Metal coil mattresses can create uncomfortable pressure points and uneven support over time.



Sleep Number[®] bed

A Sleep Number bed adjusts to your body to more properly support your back and spine, and helps reduce uncomfortable pressure points.

30
NIGHT TRIAL

TRY IT FOR 30 NIGHTS, RISK FREE![†]

We're so sure you'll sleep better, you can take up to one month to decide, or your money back![†] You've got to sleep on it to believe it.

\$50
GIFT CARD

Receive a Special Thank You Gift!

For a limited time, inquire about our revolutionary bed and we'll send you a special **\$50 Gift Card** to use toward the purchase of any Sleep Number[®] bed or accessory item of \$100 or more.[‡]

For better sleep, CALL NOW!

1-800-831-1211 ext. 38202



YES! Please send me a FREE Brochure, DVD and Pricing.

Limited-Time Bonus!
\$50 Thank You Gift Card![‡]

Name _____ Phone _____

Address _____

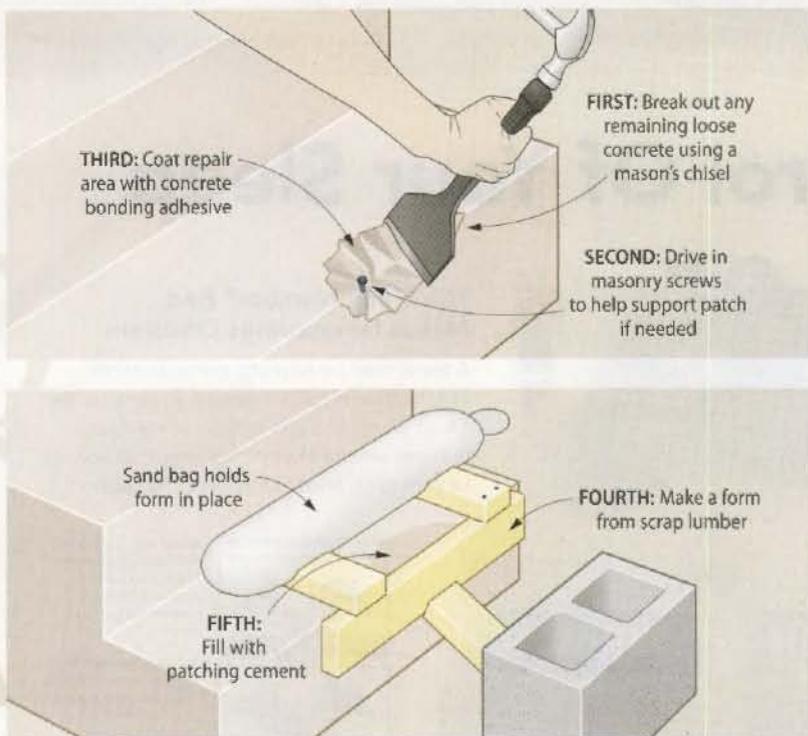
City _____ State _____ Zip _____

Daytime Phone _____ Email _____

ext. 38202

sleep  number
by SELECT COMFORT

Mail to: Select Comfort, 9800 59th Avenue N., Minneapolis, MN 55442-9971



To patch concrete effectively, you need to make sure all the loose material gets removed first. Then you can use patching cement to make a repair that looks good and lasts for a long time.

SIMPLE PATCH PROVIDES EASY Concrete Stair Repair

Q: The edge broke off one of my concrete steps, and I don't have the piece to glue back on. Can I repair this area and make it last?

*Gene Orlanes
Ankeny, IA*

A: It's certainly possible to patch the step in a way that will last. It's unlikely that you'll be able to make the repair unnoticeable, but even a noticeable patch beats the heck out of a broken edge. You'll need several items: a cold chisel, concrete bonding adhesive, patching cement, scraps to make a form, and possibly a few masonry screws.

Start by chiseling away any loose material around the repair area, and, if necessary, deepen the indentation around the edges. That way, the patch will be thicker at the edges, which will make it stronger. Then use a wire brush to clean out loose debris, and scrub the area with clean water. If the patch is deep or large, you may want to reinforce it by driving a few masonry screws into the broken area. Just make sure that the heads of the screws are buried at least 1/2" below the finished top surface (*Illustration, above*).

Then make a form using 1x boards cut to the right sizes. You may need to improvise here, screwing boards together as necessary and using "stringers" or sand bags to hold the form in place (*Illustration*). Once the form is in, coat the area with concrete bonding adhesive, mix the patching cement, and make the patch. Be sure to let the concrete set before removing the form.



HOW DO I BEST CUT PLEXIGLAS?

Plexiglas (generically known as acrylic) can be cut, drilled, and even routed. Cutting it can be a challenge, though, because ordinary saw blades tend to chip and splinter the material.

For straight cuts, I cut acrylic using a 200-tooth blade made for cutting plywood. The good news is that this type of blade isn't expensive. In fact, it's one of the least expensive types of saw blades around. You'll find them in sizes for both circular saws and table saws.

For curved cuts, you can find jigsaw blades that are made for cutting acrylic. They cut without melting the material.

SHARPEN DISPOSAL BLADES?

Nobody wants to deal with a malfunctioning garbage disposal. That may be why there are so many theories about how to care for one. A common theory is that you can sharpen the disposal blades using ice cubes or broken glass.

In reality, disposals don't have blades. They have impellers that push the waste against a shredding ring. These don't really need to be sharpened.

To help your disposal perform well, always use cold water when using it, and let the water run for ten seconds or so after shutting the disposal off. That will flush everything out. And try running some lemon or orange peels through it to keep it smelling fresh.



CG Utility



CG Padded Palm



CG Impact Pro

TECHNOLOGY

COMFORT

PERFORMANCE

INNOVATION

CRAFTSMANSHIP

STYLE

ENGINEERING

SAFETY

CONTROL

Use your tools wisely.



Whatever your next project is, Mechanix Wear Commercial Grade Series and Hardware Series gloves will help you achieve it. Mechanix Gloves. The Tool That Fits Like a Glove.®

800.222.4296 Canada: 504.542.7055 mechanix.com

Product Information Number 215



A SIMPLE, INEXPENSIVE

Mobile Saw Base

Making power tools easy to move around is a great way to save space in a garage. But outfitting big tools with mobile bases can be pricey. For example, most aftermarket bases for table saws are \$100 or more.

This mobile base from Todd Miller of Scottsdale, Arizona, goes together easily with materials that only cost about \$20. All it takes to make it is a 2x6 and four 4" fixed-wheel casters (#38707-6VGA; HarborFreight.com). It allows the saw to sit sturdily on its base when in use. Then, to move the saw, you just raise it slightly on either the front or the side to roll the saw around like a wheelbarrow (Photo).

The base is simple to build. To start, just cut the 2x6 to length to make rails that fit around two sides of the saw base. Clamp the rails temporarily in place, and then position the casters just a hair above the garage floor. Next, lay out holes for mounting the casters, drill the holes, and bolt the casters in place.

Now all that's left is mounting the rails to the saw base itself. Clamp the rails in position again. Then from beneath the saw, drill holes through the metal base of the saw and into the rails. Install heavy-duty lag screws and washers in these holes to secure the rails. For added stability, also connect the two rails to one another with lag screws. Your inexpensive mobile base should be ready to roll!



BEST TIP PRIZE WINNER!

For this issue's award-winning tip, Todd Miller will receive a Milwaukee 12" Sliding Compound Miter Saw (item #6955-20) valued at over \$700!

SEND US YOUR TIPS

Mail:
Workbench DIY Tips
2200 Grand Ave.
Des Moines, IA
50312

Online:
WorkbenchMagazine.com



FREE TIPS

via EMAIL

Want more great tips like these sent directly to your email inbox?

Just go to:
WorkbenchMagazine.com

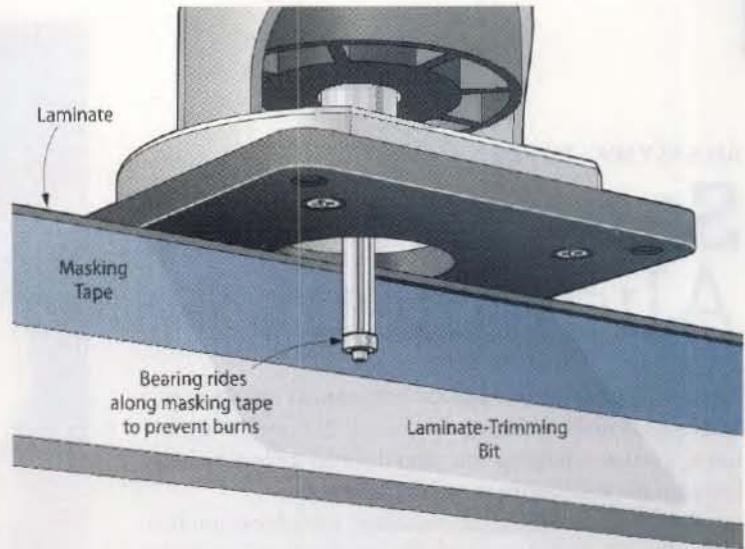
and click on:

"Free eTips Sign-Up"

You'll receive a new tip by email each week!

GET A GRIP ON STUCK Oil Filters

If you've ever changed your own oil, you know how stubborn the filter can sometimes be. Dave Zanoni of Coconut Creek, Florida, came up with a simple solution. Just stick a couple of pieces of rough-grit self-adhesive sandpaper to the filter to make it easier to get a grip.



DON'T GET BURNED WHEN TRIMMING LAMINATE

When trimming the edge of laminate, such as for a countertop, the bearing on the laminate-trimming router bit can sometimes stop spinning and cause burn marks on the laminate. That's why Robbie Cox of Washington, North Carolina, relies on this tried-and-true trick: Before trimming laminate, place a strip of masking tape along the edge that the bearing will run against. The tape will protect the laminate from any potential marks or burns.

Plumbing & Heating Supplies

www.pexsupply.com

Online
Ordering

LOWEST
GUARANTEED
PRICE



Large Selection

Fast Shipping

PexSupply.com

Real People. Real Service.

888.757.4774

AN EASY WAY TO PEG

Sanding Disc Alignment

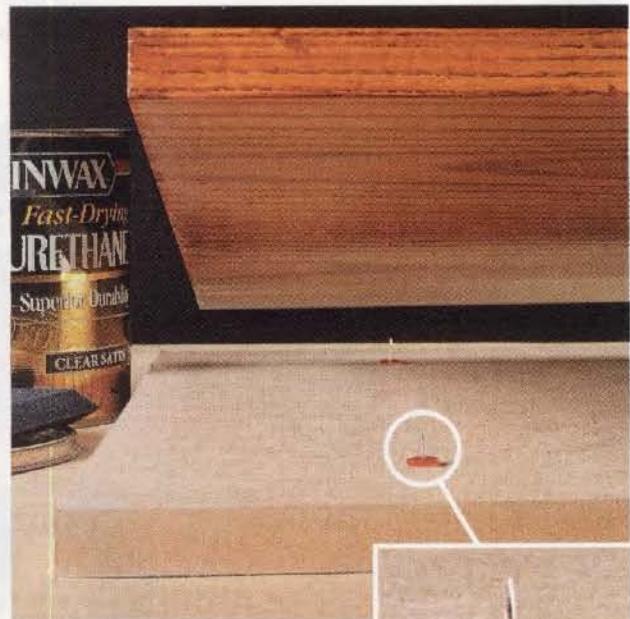
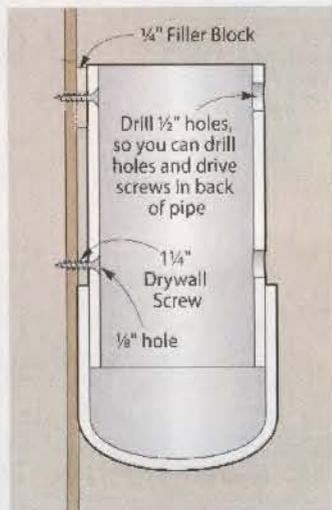
Anyone who has used a random-orbit sander can attest to what a great tool it is for sanding wood. But one thing it's not so great at is helping you align the dust-collection holes between the sanding discs and the sander pad.

Mike Feher of McCaskill, Arkansas, solved the problem with a few $\frac{3}{8}$ "-diameter dowels. By sticking them into holes on opposite edges of the sanding pad, he created an automatic alignment guide for putting on sanding discs. Just store the dowels with your sanding discs for the next time you have to switch discs.



TOPPLE-FREE PROPANE TORCH STORAGE

Propane torches are "tippy" and not very easy to store around the shop. Bobby Hay of El Dorado, Arkansas, solved that problem with a length of 3" PVC and a cap. To install it, just cut the PVC to length and drive a few holes in it for screws (below). Add the cap, and attach it to pegboard or the wall with short drywall screws.



FINISHING TACK TRICK

Oneil Long of Mound City, Missouri, got tired of waiting for one side of a shelf panel to dry before he could apply varnish to the other side. So he came up with a simple way to finish both sides without waiting.

Oneil took a scrap panel, drilled small holes in it, and inserted four push pins near each corner. Then, after brushing finish on one side of his shelf panel, he simply flips the panel over, rests it on the push pins, and finishes the other side.



MAKE YOUR OWN

Metal Rulers

Rather than spending his hard-earned dollars on steel rulers, Jason Carolla of Vaudreuil, Quebec, used an old beat-up tape measure to make his own. Not only are these a simple way to get accurate measurements, but they're also flexible.

To make your own, simply run out a few feet or so of tape from the tape measure, lock it, and carefully cut the tape with heavy-duty scissors where each foot begins. Also, clip the corners to soften the sharp edges.

Make sure to use a tape measure that has inch marks that reset for each foot at zero. That way, you can create as many 12" rulers as you need.

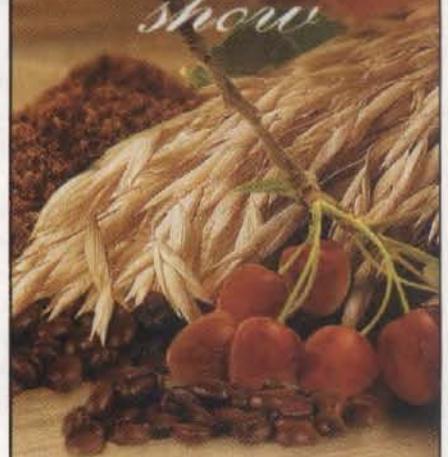


NEW LIFE FOR AN OLD BELT

If your old belts become outdated (or outgrown), they can still serve a useful purpose in the shop. Miles Parkonnen of Negaunee, Michigan, uses them as soft jaws to protect delicate wood or soft metal parts in a machinist's vise. He simply cuts the belt to the lengths he needs and places them on both jaws of the vise before securing the item.

ZAR® ULTRA MAX WOOD STAIN

*Let your
good taste
show*



ZAR® ULTRA MAX OIL MODIFIED WOOD STAIN interior formula applies easily and penetrates evenly to achieve a rich, uniform color. It is ideal for furniture, hardwood floors, woodwork and wood, metal or fiberglass doors.

Core/Shell Technology provides the deep tones of an oil-based stain with the low odor, fast drying and easy clean-up of a water-based stain.

In addition, the **Advanced Green Phase Resin Dispersion Technology** utilizes environmentally friendly resins that result in a VOC compliant product.

With its delicious new colors, Ultra Max Wood Stain gives you a great look that is also good for the environment.



For more information
or a dealer near you
visit www.ugl.com or
call 1-800-272-3235.

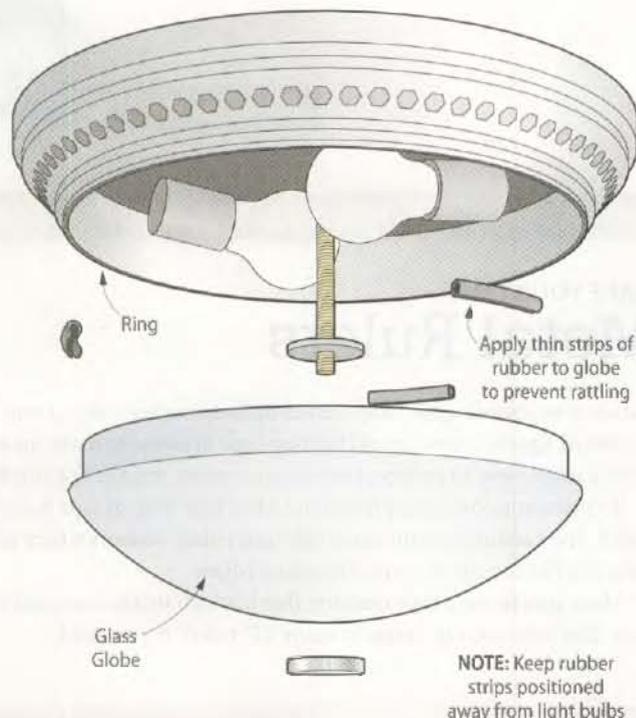


Product Information Number 246

BATTLE THE RATTLE OF A Bathroom Fan

A combination exhaust fan and light fixture is a convenient feature in many bathrooms. But if the fan makes the light rattle when you turn it on — as many older models do — you know just how annoying it can be.

Luckily, Joshua Flannery of Batesville, Indiana, came up with a simple solution to stop the rattle. He cut up some small strips of rubber from an old inner tube, and he used them as shock absorbers between the globe of the light fixture and the ring it attaches to. The rubber absorbs the vibrations caused by the fan, preventing the annoying rattle.



ALL THE PARTS YOUR CAR WILL EVER NEED

"RockAuto is an excellent company to order from. Prices are lower than competitors, they offer OEM parts and a wide variety of others. The best part is the quick shipping! I can get parts to my door faster than the parts stores can get them from a warehouse."

"Great company with terrific parts and pricing. I had a terrific online and experience and everything went smoothly. I saved over \$100 on the purchase. Thanks RockAuto!"

Customer testimonials from an independent, third-party survey.

Price Comparison 2005 Ford F-150 Radiator

Parts Store	Part Brand	Price
RockAuto	SPI	\$172.79
Checker, Schucks, Kragen, Murrays, & O'Reilly	SPI	\$256.99
Autozone	SPI	\$266.99
NAPA	NAPA	\$299.00
Advance	Ready-Rad	\$319.99

(as of 3/6/2009) RockAuto price is regular price, NOT a special sale price created for this comparison.

✓ Huge Selection
✓ Everyday Low Prices



✓ Fast Shipping
✓ Easy to use Website



SIMPLE SAW BLADE STORAGE

Table saw blades are awkward to store, and the sharp teeth can cut you if you try to grab one off a stack of blades. That's why Roy Cook of Tucson, Arizona, stores a strong magnet in the drawer right next to his blades. Then he can use the magnet to sort through the blades and find the one he wants without touching the teeth.

**HIGH
PERFORMANCE
ABRASIVES**

**THAT MEET HIGH
EXPECTATIONS**





Build your own murphy bed

Mechanism kit includes
construction plans and
step-by-step DVD

Create-A-Bed®

Toll Free 877-966-3852
www.wallbed.com



Product Information Number 258

**Saw Lumber
Make Money!**



Cook's Saw Mfg., LLC

Cut lumber for:
Homes
Barns
Fencing
Furniture
Stables
Decks
and more!

**FREE
Catalog!**

1-800-473-4804
www.cookssaw.com

Product Information Number 262

We manufacture the highest quality products including Norton 3X sheets, belts, discs and sponges as well as bench wheels, waterstones and sharpening systems for all your woodworking needs. Ask your supplier about Norton high performance abrasives.



**THE MUSCLE
BEHIND THE MACHINE™**

www.nortonconsumer.com

Product Information Number 353

Finishing Secrets

FROM THE PROS

What's the difference between a good-looking finish and a great-looking finish? Taking a little extra time on the finer details. These nine easy tips will ensure that your project's finish lives up to its potential.



For many people, the scariest part of building a wood project is the finishing process. After all, if you make a mistake while you're building, you can usually just cut a new piece. But once you've carefully completed the project and you're brushing on a finish coat, there's no turning back.

Fortunately, whether you're a beginning DIYer or an avid woodworker, you can achieve a beautiful, professional-looking finish. The secret is understanding that traditional wood finishing is a step-by-step process that requires a common-sense approach. You won't get away with skipping any steps, but we'll explain why you shouldn't want to.

Your success will be determined by the care you take in preparing the wood surface to accept a finish, by troubleshooting before you begin staining, and by mastering a handful of basic techniques. The following tips will guide you through the classic two-step (stain/varnish) process.



TIP #1: Don't Skimp on Sanding

A good finish starts with sanding. Begin with a grit no coarser than needed — usually 120 for surfaced boards and 150 for plywood. Then work your way through each grit (120, 150, 180, 220) without skipping any grits. Also, always sand in line with the grain, and if the board ends will show, sand them 1-2 grits finer. This prevents the porous ends from absorbing more stain and looking darker.



TIP #2: Finish a Test Piece

Wood finishing is unpredictable. Different species of wood vary in hardness and porosity and accept stain differently. You can prevent unpleasant surprises by taking a few small test boards through all of the same sanding stages as your workpieces. Then you can test stains, conditioners, or finishes on the test boards first. That way, when it's time to finish the actual project, you can take comfort in knowing that your project will look the same.



TIP #3: Condition When Needed

Soft woods often absorb stain unevenly. Pine can “reverse out,” making light grain look dark and dark grain look light. Maple may appear blotchy. For these and other problematic woods, applying a pre-stain wood conditioner will help stain penetrate more evenly. Wood conditioner works by partially sealing the wood’s pores to prevent over-absorption of stain.



TIP #5: Don’t Overload Finish

When it comes to applying protective finish, the key to avoiding drips and runs is simple: Don’t apply too much. Choose a high-quality natural-bristle brush, and just dip the tips into the finish. Brush off any excess on the lip of your container each time you load the brush. Apply several thin coats, lightly sanding in between, rather than 1-2 heavy coats.

TIP #4: Give the Stain Time

After applying stain to a piece, your first instinct might be to immediately wipe it off. But if you allow the stain to soak in for a few minutes, it will enhance the luster and look of the wood. If it still doesn’t have the desired appearance after you wipe off the first coat, wait a few hours, and apply a second coat.



TIP #6: Always “Tip Off” Each Section

One secret to laying down smooth coats of finish is to brush with the grain. But there’s a little more to it than that. You’ll want to hold the brush at about a 45-degree angle with the surface of the wood, so it brushes the finish smooth as you apply it. Then lightly run the bristles over the length of the just-finished section to remove all evidence of brush strokes and break any bubbles that might have appeared. This technique is called “tipping off,” and it’s your best approach to a glass-like finish. Apply finish this way until your brush runs dry, and then reload it with fresh finish.



TIP #7: Sand between Coats

Many people ignore this advice, but it’s important for a couple of reasons. One, it removes any dust particles that have settled on the finish. Two, it creates tiny scratches that allow the second coat of finish to adhere better. Just use 220-grit sandpaper or a Scotch-Brite pad.



TIP #8: Go for Three

Most cans of finish say to apply at least two coats, but we recommend taking the time to put on three. Not only does this give your project extra protection, but there is a real difference in the richness and look of the finish between two and three coats. It’s well worth the additional effort.



TIP #9: Try Wet Sanding

After the third coat, add one extra step — wet sanding — for the ultimate glass-smooth surface. Just put 600-grit wet/dry sandpaper on a sanding block. Then lubricate it with mineral oil, and pass it lightly with the grain over the finish. Wipe the surface when you’re done.



THE RIGHT COLLECTION OF CLAMPS HELPS YOU

Hold On Tight

Whether you have to hold parts together during assembly or just need an extra hand, there's a clamp designed to do the job. Here are a few that you'll want to have around.

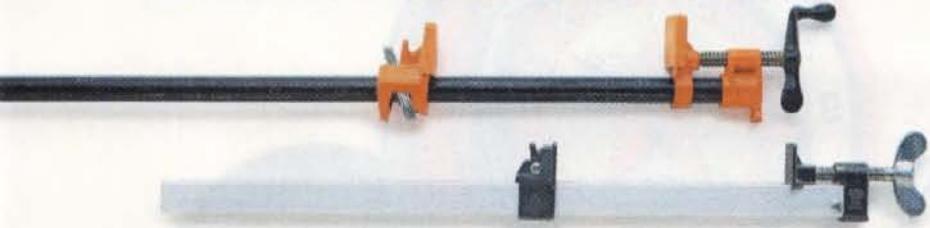
Watch Norm Abram build anything, and you'll quickly see why carpenters always say you can't have too many clamps. That guy has more clamps than some of us have tools. And there's good reason. Clamps are often the only way to hold two parts together while the glue dries or the nails and screws get driven in.

You'll find quickly, though, that there are more types and sizes of clamps available than you might have ever imagined. It's easy to see how some of them work and what you'd use them for, but others seem hopelessly complicated and highly specialized.

Here, we'll show you the common types of clamps that we use all the time. We're sure you'll find them just as useful as we do, and that you'll end up with at least a few of each in your DIY tool kit. You don't need to run out and buy them all now, but you can at least get prepared to tackle projects by arming yourself with a few. And then you can always buy more as you need them later. After all, you can never have too many clamps.

POWERFUL PIPE CLAMPS

A piece of plumbing pipe and an inexpensive set of clamp heads are all you need to make a clamp long enough to span any tabletop or box. Versions with an aluminum bar offer heavy-duty clamping in a lightweight package.



QUICK TRIGGER CLAMP

Rapid-action clamps are a great solution when you don't have a free hand. Just pull the trigger, and the same hand that holds the clamp can bring the jaws closed with ease. Newer models offer lots of clamping power. You'll find them in sizes from miniscule to monstrous.



BRAWNY BAND CLAMP

Odd shapes, chair legs, and picture frames aren't easy to grab with conventional clamps, but a band clamp grips them securely and ratchets shut to give you great holding power. Since one size fits all, a pair of these should wrap up your band clamping needs.

BURLY BAR CLAMP

Often called an "F" clamp because of its shape, the bar clamp is an essential workhorse for almost every wood gluing task. This clamp will exert a lot of force thanks to the rigid bar and cast jaws. Plus, those jaws have depth to give the clamp good reach. You'll find bar clamps with capacity ranging from a few inches to several feet. You can't have enough of 'em.



SUPER SPRING CLAMP

These clamps spring into action any time you need an extra hand to hold something in place. You'll find them made from metal and plastic and in a wide range of sizes that will ensure you can have all hands on deck.



HANDY HAND SCREW

Clamps may have evolved, but the hand screw — one of the original types — remains as versatile as ever. It's great for assembly but also for holding small parts while you drill or cut them. Grab a few sizes, and you'll be amazed by what they can do.



CAN-DO "C" CLAMP

When you need to hold Part A to Part B, there's no simpler way than with a "C" clamp. Metal workers would be lost without them, but these clamps are handy with a lot of other materials, too. "C" clamp sizes start tiny and grow large, but the mid-size 4" to 6" varieties are sure to be favorites.

GIVE GARAGE WALLS A

Blast from the Past

Whether you're a woodworker or a gearhead, we all want our garages to have some personality. One unique way to give them exactly that is with vintage garage signs and memorabilia.

In the golden age of the automobile, these great-looking signs peppered the roadsides on service stations and dealerships. Though times have changed, they still have a home as a conversation piece in your own body shop.

A wide range of signs are available, from the humorous reproductions at Busted Knuckle Garage to the genuine articles from OilSign.com. Signs aren't

the only slice of Americana available, either.

You can get everything from antique trash cans to towel dispensers to gas pumps on Web sites like Retro Planet and Hot Rod Alley (see the "Buyer's Guide" on page 31).

Outfitting your garage with these items doesn't have to break the bank. You can find reproduction signs and other items for as low as \$20 at Garage Art. If you're interested in investing in a real antique, though, you can expect to pay \$1,000 or more for the originals.



Signs aren't the only vintage gear you can get for your garage. Oil cans, towel dispensers, and gas pumps are just a few of the other reproductions available.

At Garage Art, you'll find reproductions of original signs at much lower prices. Busted Knuckle Garage has antique-looking signs with a touch of humor.



GREAT NEW OFFERINGS FROM Gladiator GarageWorks

Gladiator GarageWorks has consistently stayed ahead of the curve with its garage storage options and accessories, and its newest offerings are no exception.

A Firm Grip on Bikes— People have been trying to unravel the riddle of efficient bike storage for years, and the “Claw” might finally be the answer. This compact unit mounts to the wall or ceiling with screws. To store a bike, you just use one of the bike’s tires to engage the large “push-lock,” and two soft-grip arms swing down to hold the wheel. When it’s time to ride, hit the push-lock again to release it (*Photos, right*).

The Claw was made for the garage, but its clean, simple design would also make it a great solution for a small living space like a studio apartment. It’s available for \$60 at Amazon.com.

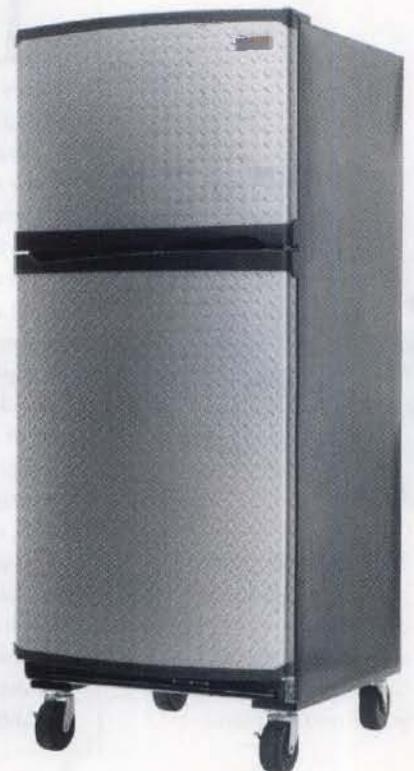
Keeping It Cool— The average refrigerator wasn’t meant to withstand the extremes of hot or cold that many garages experience. And the result can often be frozen food, or worse, a busted fridge.

That’s why Gladiator came up with the Chillerator, an attractive fridge



Bike storage doesn’t get much more simple than the Claw. The push-lock both engages and releases the arms, so you don’t have to fuss with awkward hooks.

designed specifically for the garage (*Photo, below right*). It has both a built-in heater and a more powerful cooling system, so it keeps food at the right temperature regardless of what it’s doing outside. Plus, it’s an Energy Star appliance, so we’re guessing it’s probably more efficient than your current garage refrigerator. The Chillerator retails for just over \$1,000.



That Figures ...
16%
of men would choose a night without their significant other over a night without their car. (What pigs.)



However ...
22%
of women would also choose the car. Take that, men. (Source: Chrysler Media Services)

Not only is Gladiator’s Chillerator efficient (it’s Energy Star rated), but its bold diamond-plated finish and heavy-duty casters also give it style and function that are well-suited to the garage.

Hot Links

Busted Knuckle Garage
928-708-0897
BustedKnuckleGarage.com

Garage Art
800-708-5051
GarageArt.com

OilSign
740-774-6446
OilSign.com

Gladiator GarageWorks
866-342-4089
GladiatorGW.com

Hot Rod Alley
918-355-6549
HotRodAlleyGifts.com

Retro Planet
888-242-6633
RetroPlanet.com



an Outdoor Bench

with a split personality

The increasing popularity of outdoor living areas is causing homeowners to spend more time outside, whether they're entertaining or working to improve their yards and landscaping. Since the spaces are used for both work and play, you need hard-working outdoor surfaces that can serve both functions.

This combination serving station and potting bench rises to the occasion on both counts — and looks great doing it. It's rare to find a project that can completely switch functions, but this one does just that.

As an outdoor serving station, the bench offers just about everything you need to take your party or family meal outdoors. It has a wide work surface for preparing drinks or appetizers. The lower shelf and the smaller upper shelf provide additional storage space to keep plates and supplies out of the way.

The bench works just as hard when you're using it for potting plants. Its top provides plenty of work space, and the lower shelf keeps other gardening supplies organized.

This project strikes a perfect balance between style and function thanks to its practical building materials. The bench's frame pieces are made of cedar, which works great for outdoor projects because of its resistance to rot. And many of the other components are made from PVC lumber, which is durable and can take a beating from the sun.

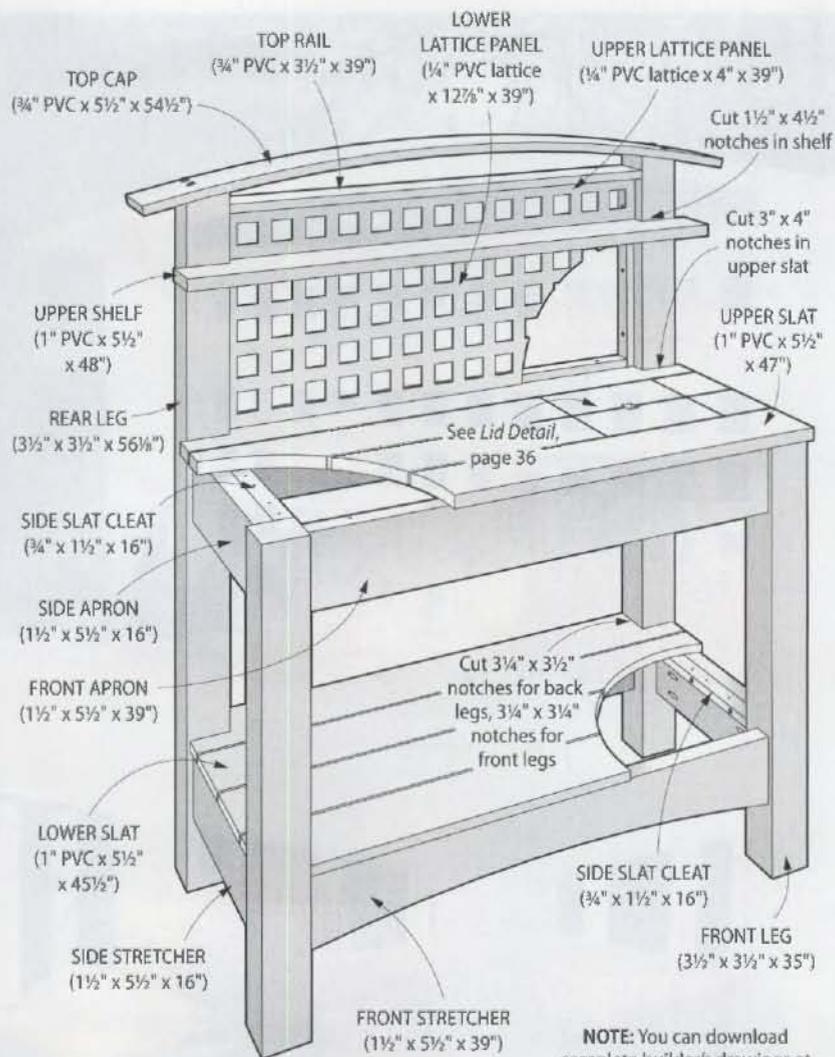
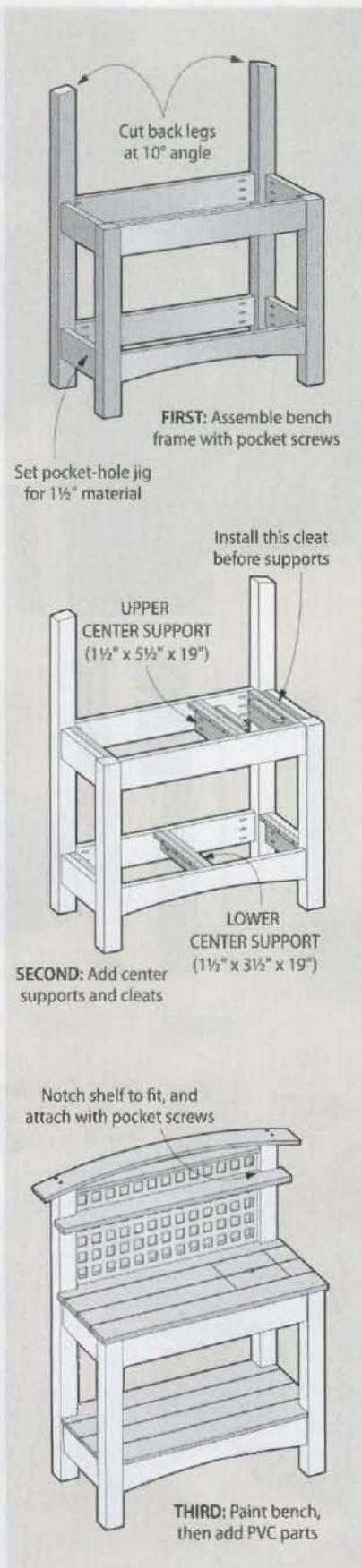
It won't be hard to find uses for this charming, dual-purpose outdoor bench. It's attractive enough to be a serving station for outdoor entertaining, but the durable construction makes it tough enough to work well as a potting bench. Plus, its simple design means you can build the bench in a weekend.



The bench can hold a plastic storage container of your choice, which you can use to hold ice to chill beverages or soil when you're potting plants.



The clever bench offers a great way to dress up your deck. It provides the perfect place to prepare and serve drinks when you're entertaining outdoors. That way, you'll make fewer trips to the kitchen and have more time to relax.



NOTE: You can download complete builder's drawings at WorkbenchMagazine.com

Although this project may look sophisticated, its construction is really not that complex. The frame is just made from four cedar legs with aprons and stretchers attached in between with pocket screws (*Illustrations, left*). It should come together quickly. We used Kreg Blue-Kote screws for the frame construction. The screws are weather-resistant, so they're perfect for this outdoor project. After that, it's just a matter of making sure you have the appropriate cleats in place to hold the PVC slats and decorative elements.

If you've never worked with PVC lumber before, you're in for a pleasant surprise. This durable material is actually quite easy to work with, thanks to its consistency and flexibility. The charming curved cap takes advantage of

this flexibility to form a smooth, easy-to-make arch. You'll simply screw the board to one of the legs, bend it over to the other leg, and screw it in place there, too. And the attractive pre-made lattice that makes up the upper back portion of the bench is actually made of PVC, as well. All of these durable PVC components and surfaces make the bench simple to clean, so you can easily switch from using it as a potting bench to using it as a serving station.

One thing you need to remember when working with PVC is that the cut ends may be slightly discolored. We painted these ends, so they would match the rest of the bench. To get more tips for working with PVC lumber, visit WorkbenchMagazine.com and download a free bonus article.

The aprons and stretchers are inset $\frac{1}{2}$ " from the faces of the legs. It helps to create a spacer to position all of the pieces evenly. Clamp the spacer in position, then drill pocket holes and drive screws to attach the pieces.



Buy a Storage Container — Before you begin constructing the bench, you'll need to purchase the storage container that will rest on cleats under the bench's work surface. It's important to get this container first, because it will dictate the dimensions of the hole in the benchtop. We used a 3-gallon Roughneck storage box from Rubbermaid (Rubbermaid.com).

Cut the Bench Legs — Once you've purchased your container, you can start constructing the bench. First, cut the legs from 4x4 cedar posts. You should be able to make these cuts in one pass with a 10" or 12" miter saw. Cut off the tops of the back legs at a 10° angle. Later, you'll attach a PVC board to these angled pieces to give it a gentle curve that caps the bench.

Cut the Stretchers and Aprons — Now you're ready to cut the aprons and stretchers that make up a large portion of the bench's frame. Cut all of these

pieces from cedar. Note that there's a decorative curve cut into the front stretcher, which echoes the curve of the PVC top cap. To create this, lay out the curve on the piece. Then cut it with a jigsaw, and sand it smooth.

Build the Frame — Next, you'll attach the aprons and stretchers to the legs with pocket screws. Be sure to set the pocket-hole jig for 1½" material before you begin. Then clamp the legs in position with the stretchers and aprons in place between them. The stretchers and aprons should be offset $\frac{1}{2}$ " from the outside faces of the legs. It may help to use a spacer to position the components (*Photo, above*). Drill the holes, and then drive pocket screws into the holes to connect the bench frame pieces.

Create the Slat Cleats — After the aprons and stretchers are in place, it's time to make the cleats that will hold the PVC slats of the lower shelf and

work surface. These cleats allow you to screw the slats on from underneath, so the screws won't show. Cut the cleats to size, and then glue and screw them to the stretchers. Then set aside the two cleats that will get attached to the center supports.

Add Center Supports — The next step is to cut the bench's center supports. You'll need three of these for the bench: one to hold the lower shelf, and two above to hold the benchtop and provide a place to attach cleats for the storage box.

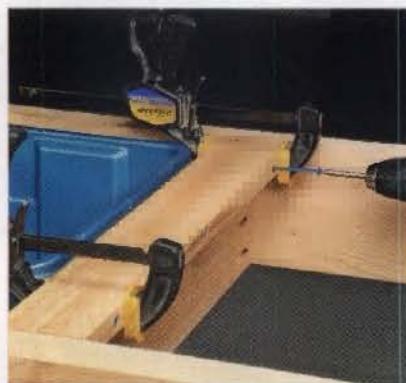
The lower support is attached directly in the center, but you'll need to use your storage container to determine the spacing between the upper supports. To do this, screw one of the upper supports alongside the right-hand slat cleat first, as shown in the *Illustrations* on page 34.

Then you'll need to make the cleats that hold up the storage container. Screw one to the upper support that you just attached, and the other to the unattached upper support. Slide this upper support between the aprons, and use the storage container to determine where you should attach it (*Photo, far left*). Screw the support in place, and then glue and screw the final slat cleats to the center supports as shown in the *Photo* at left.

Paint the Frame — Before you attach the PVC pieces in the upcoming steps, paint the cedar frame to match the PVC. Be sure to choose a good-quality exterior paint that can withstand the wear and tear that this piece will be subjected to outdoors.

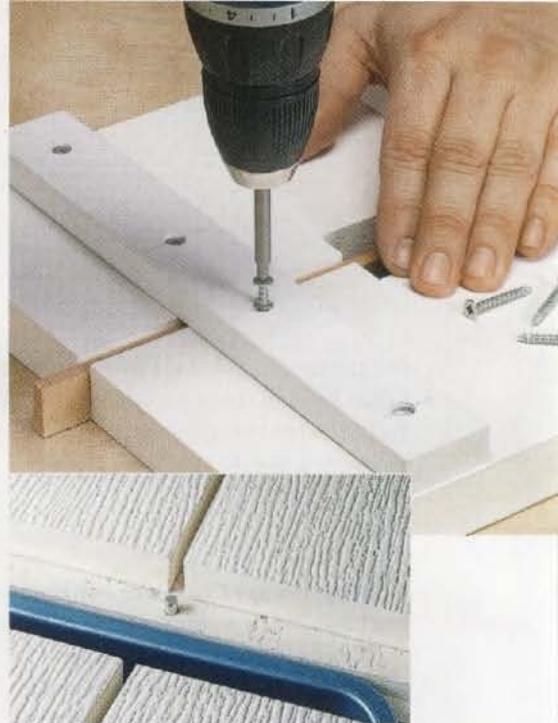


The gap between the upper supports will vary based on your container's size. Attach lid cleats to the supports, then use the container to find the spacing.



Cleats get attached to the center supports to hold the PVC slats in place. That way, you can screw the slats into the cleats from underneath the bench.

Once the lid cleats are cut, just screw through the cleats and into the slats to attach them. We used this simple spacer to keep the gap consistent.



Cut the PVC Slats — Now you're ready to cut the PVC slats, starting with the ones that make up the bench's work surface. Cut the front and back slats to the same length, and then cut two notches in the corners of the back slat with a jigsaw, so it will fit around the bench's back legs. The surface's middle slats are made up of smaller PVC lumber pieces to accommodate the hole for the storage container, as shown in the *Construction View* on page 34. You can find the slat dimensions at WorkbenchMagazine.com, but remember that the lengths of your center slats may vary from ours.

Next, cut the slats for the lower shelf. These slats are all the same length, but the front and back slats are notched to allow them to fit around the legs (*Lower Corner Detail*).

Attach the Slats — Once all of the slats are cut, lay them out on the bench with $\frac{1}{4}$ " spaces between them,

as shown in the *Illustration* below. You may want to use spacers between the boards to make sure they're evenly spaced. When you're getting ready to screw the slats to the cleats, be careful not to drill holes that interfere with the screws holding the cleats in place. Drive $1\frac{1}{2}$ " stainless steel deck screws through the cleats and into the bottom of the PVC slats.

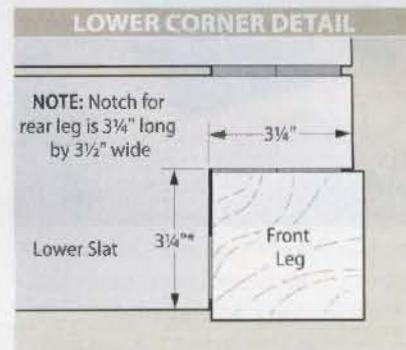
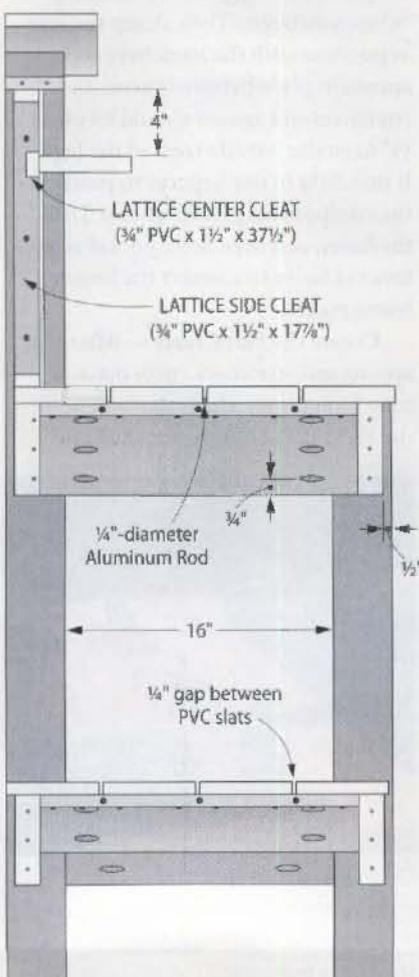
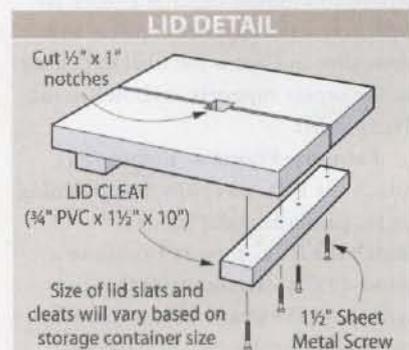
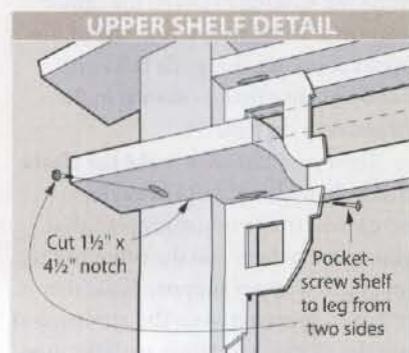
Assemble the Lid — The lid that covers the storage container is made up of two PVC slats, with a notch cut into the side of each one.

to form a square, which allows you to lift the lid out. Once you've cut the lid slats, use a jigsaw to cut the notches.

The lid slats are held together with two cleats. Position the slats so they're $\frac{1}{4}$ " apart, and drive screws through the cleats and into the slats as shown in the *Lid Detail*. A spacer will help with this step, too (*Photo, above*).

Since there are $\frac{1}{4}$ " spaces between the slats, the lid may slide around a bit in its opening. To correct this, you can drill $\frac{1}{4}$ " holes in the tops of the bench's upper supports aligned with the space between the lid slats. Then, cut pieces of $\frac{1}{4}$ " aluminum rod, and install them in the holes (*Inset Photo, above*).

Install the Top Rail — The bench's top rail is cut from PVC. Position this rail between the back legs, and clamp it in place. Then drill pocket holes at each end, and drive in the pocket screws.



To make the square lattice openings line up as shown in the *Photo* on page 33, cut off and discard the narrow strip of lattice at the end of the sheet.

Create the Lattice Cleats — Now you can prepare the lattice cleats. These cleats get attached all the way around the back opening, so the lattice can be installed against them. Cut the cleats to size, and then you can screw them in place. Attach the lower cleat directly to the PVC slats, the side cleats to the cedar legs, and the upper cleat to the underside of the PVC top rail.

Attach the Upper Shelf — The bench has a small shelf that appears to be attached over the lattice. But the

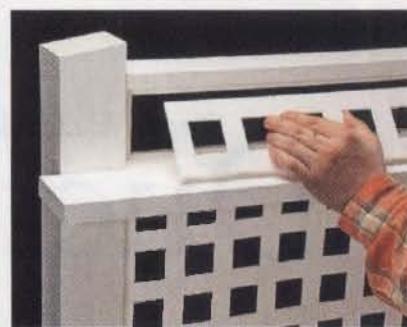


The upper shelf gets screwed to the back legs from two sides. Drill pocket holes through the front and inside faces, and drive screws to attach the shelf.

lattice is actually two separate panels that get attached above and below the shelf. And behind the shelf is another cleat that helps hold those panels in place. Cut the shelf to size, and then cut notches in the back corners so the shelf can fit around the back legs. The shelf will be attached to each of the back legs with pocket screws from two sides (*Photo, below left*). Drill the holes for the pocket screws, and then drive the screws in from under the shelf. Then cut the shelf's cleat, and screw it to the back edge of the shelf.

Install the Lattice — Once the shelf and cleats are in place, you're ready to cut and install the PVC lattice. Since there are two panels, you'll have to pay extra attention to the pattern of the lattice as you cut to make sure it lines up in the openings. (You can download a free cutting diagram at WorkbenchMagazine.com.) After you cut the panels to size, glue them to the cleats with construction adhesive as shown (*Photo, above right*).

Top Off the Bench — The final touch on this bench is to create the



After you've cut out the lattice, you're ready to attach it. The cleats provide a perfect place to glue in the two lattice panels with construction adhesive.

arched top cap. This is possible — and actually quite simple — thanks to the flexibility of PVC lumber. First, cut the top cap to length from PVC. Then pre-drill holes as shown in the builder's plans at WorkbenchMagazine.com. Position the cap on one of the back legs with $3\frac{3}{8}$ " hanging over the outer edge of the leg.

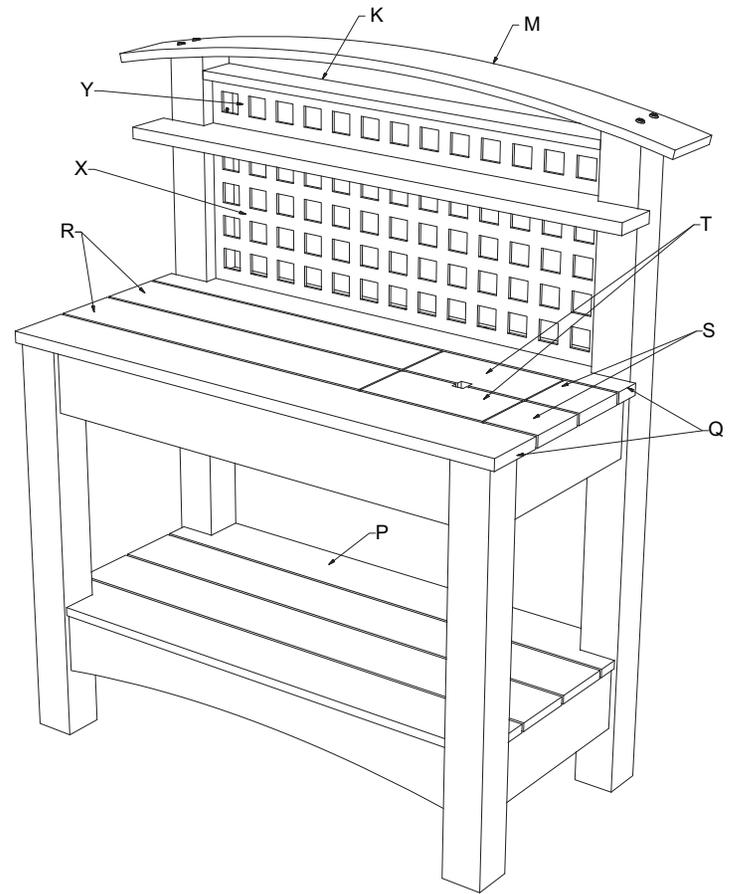
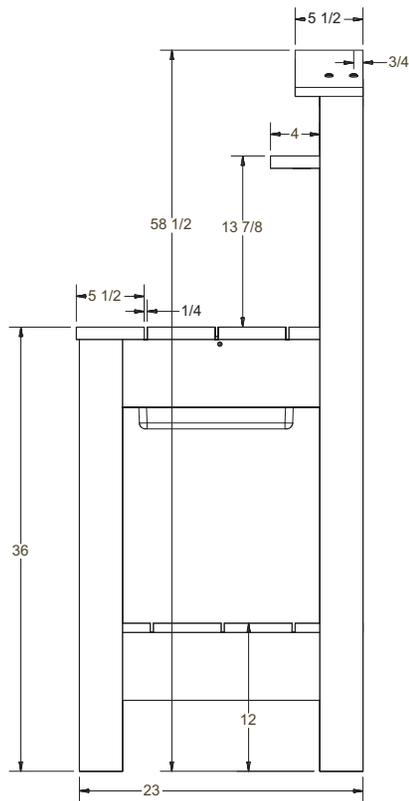
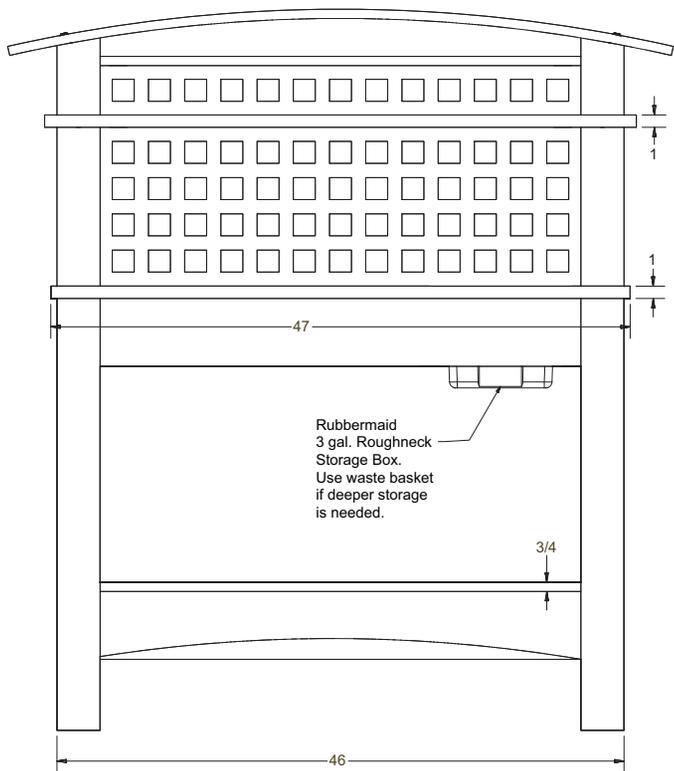
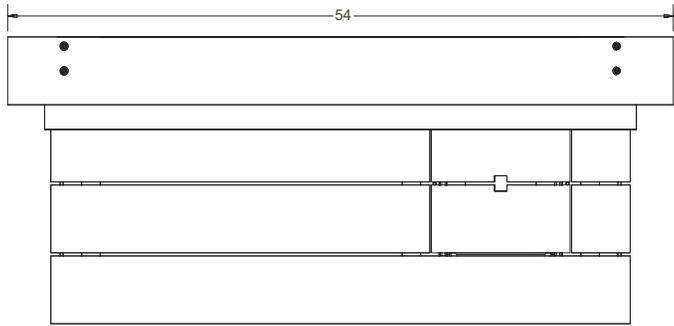
Once the cap is in position, slip finish washers around two 2" stainless steel deck screws, and drive them through the cap's holes and into the top of the leg. The board will be sticking straight out at an angle.

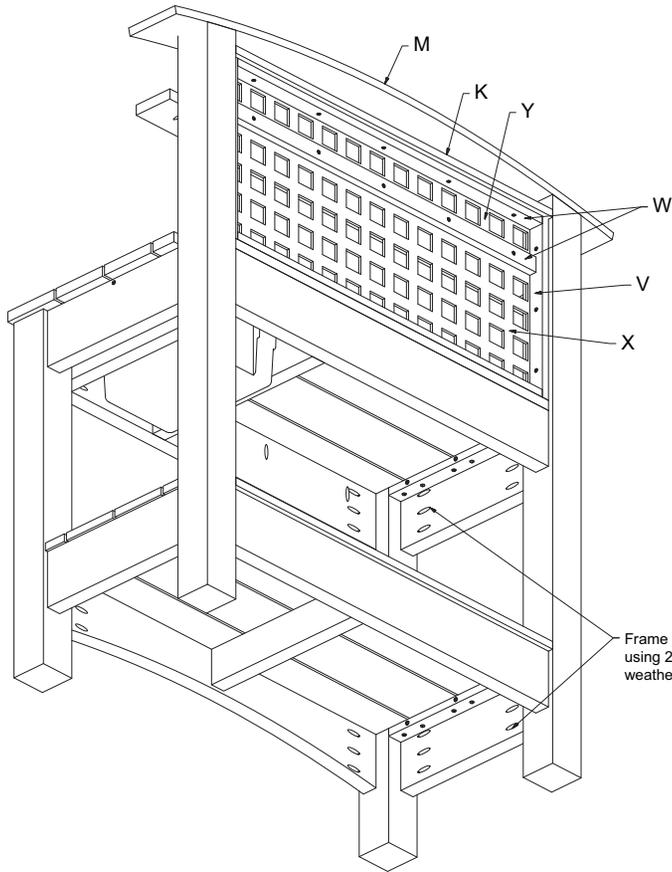
Next, place a scrap of 4x4 cedar on the top rail to help form the arch. Then just bend the board over to the other leg. Hold the end of the board as you drive in a second pair of deck screws with finish washers around them, as shown in the *Photo* at left. Finally, paint the exposed ends of the PVC lumber. Now you're ready to make use of your dual-purpose bench. 



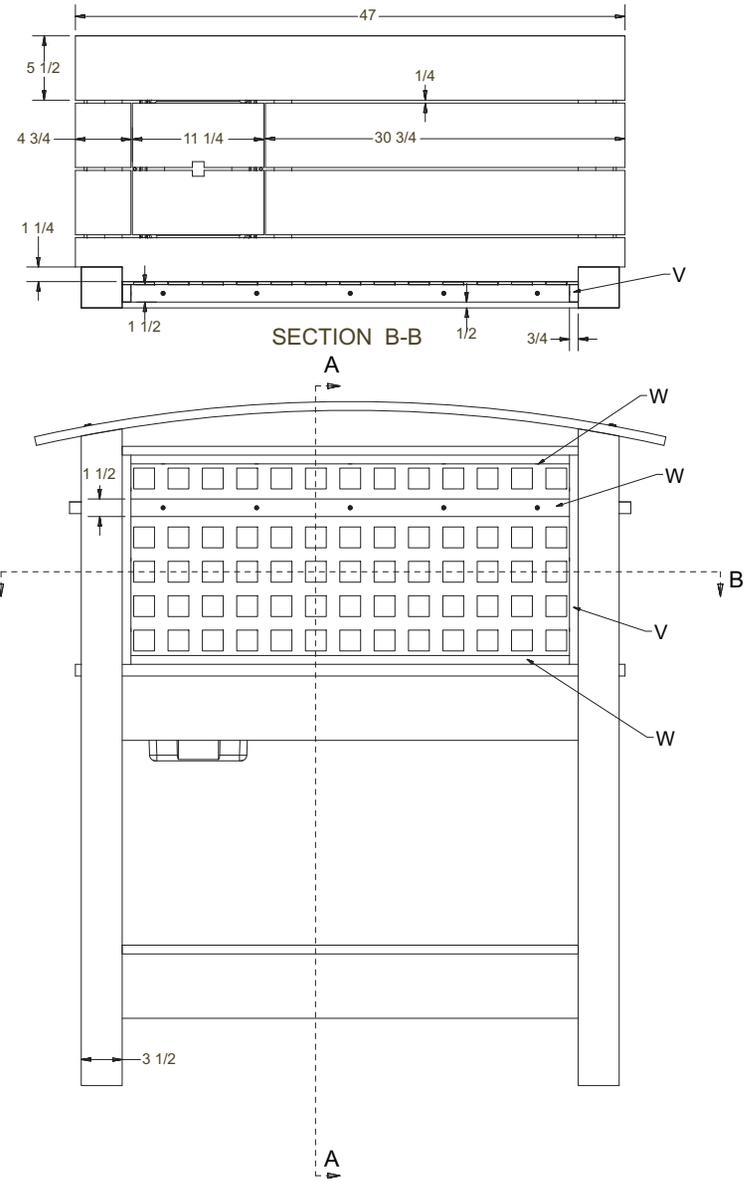
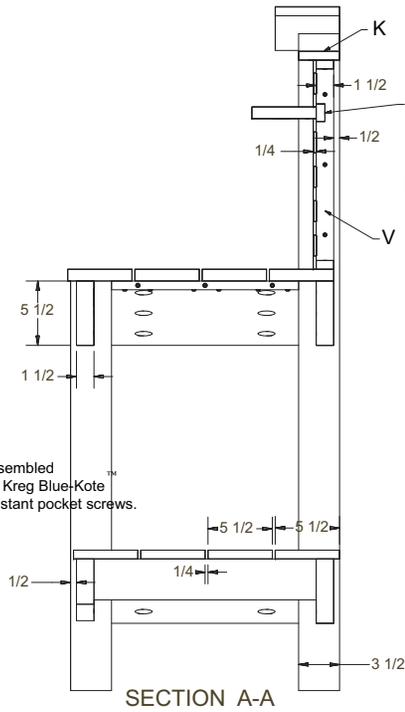
The curved top cap is easy to create, thanks to the flexible PVC lumber. Once the board has been attached to one of the legs with stainless steel deck screws, use a 4x4 cedar scrap to form the curve as you drive a second pair of screws.

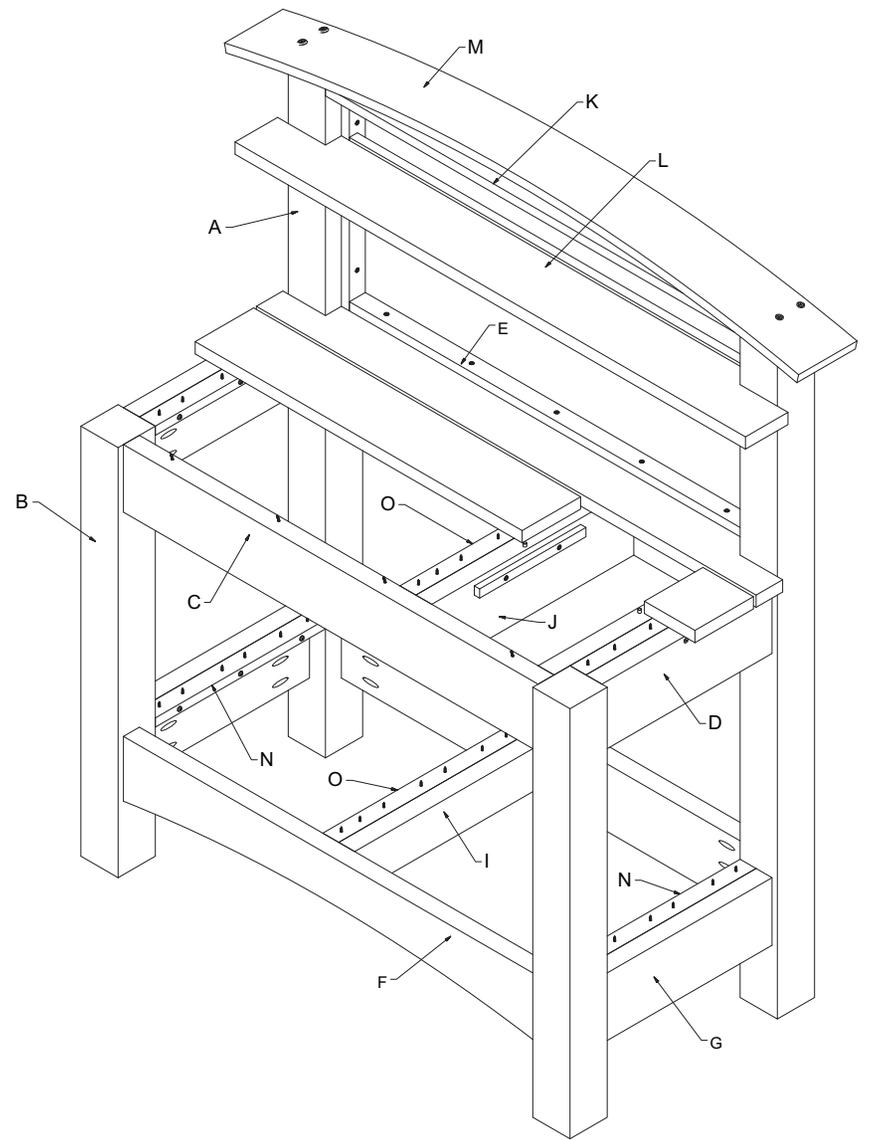
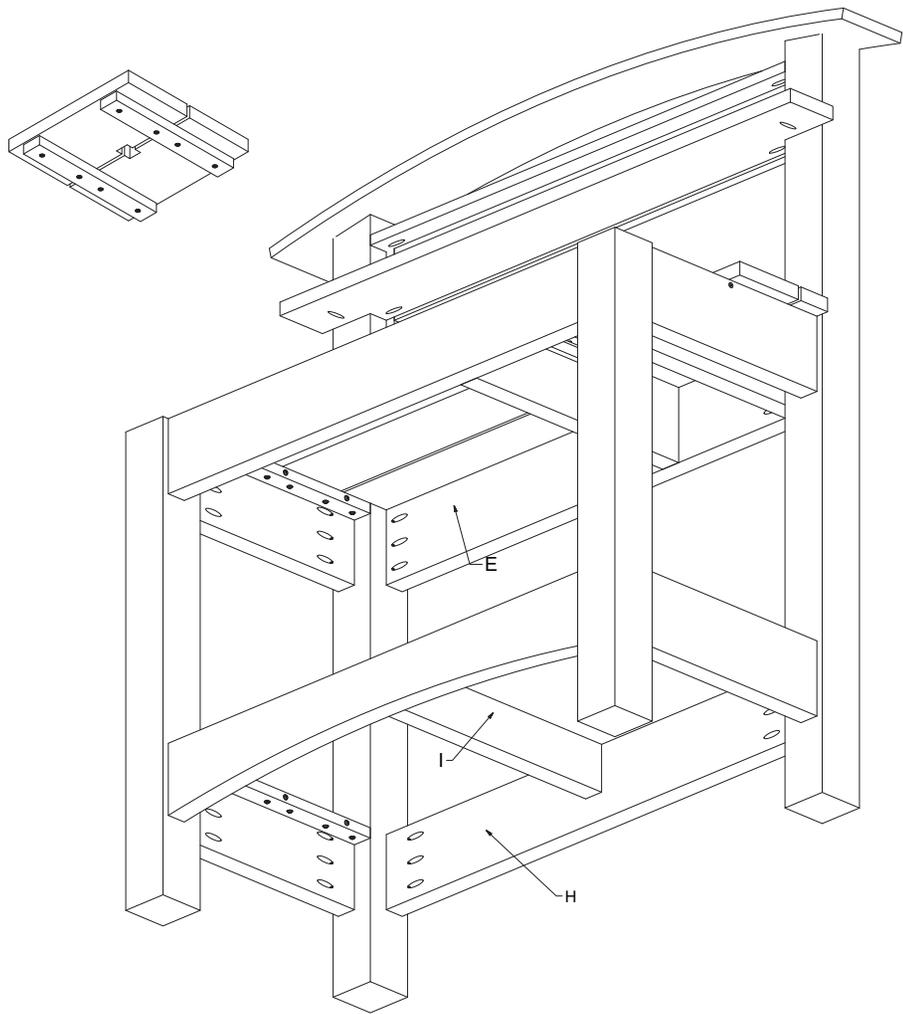
— Written by Alyssa Schmitt, illustrated by Matt Scott, project designed by James R. Downing

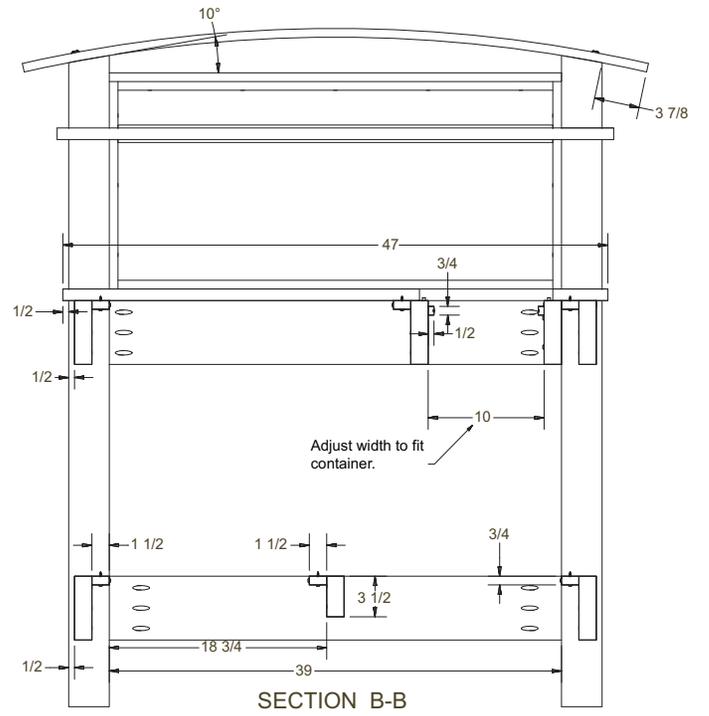
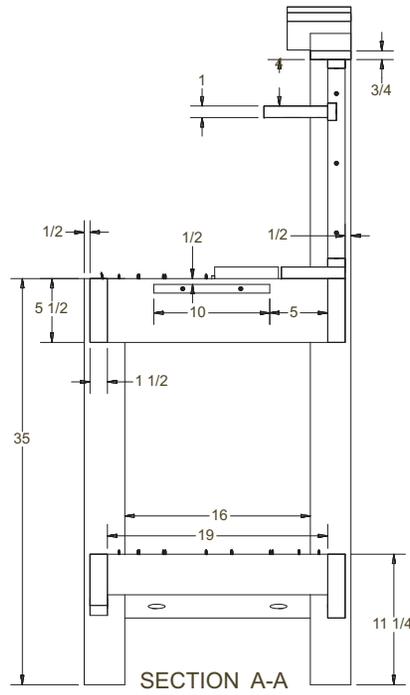
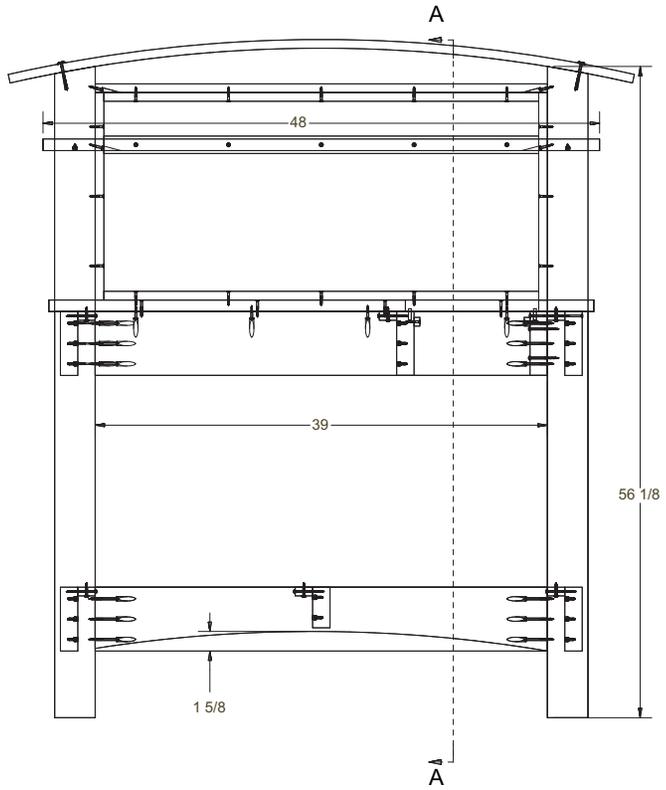
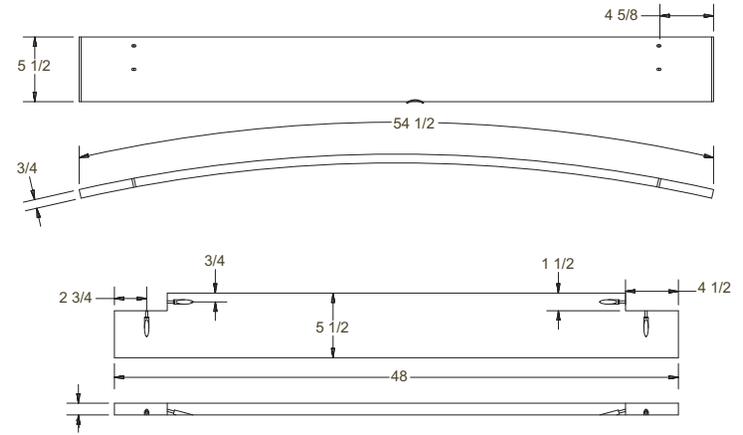
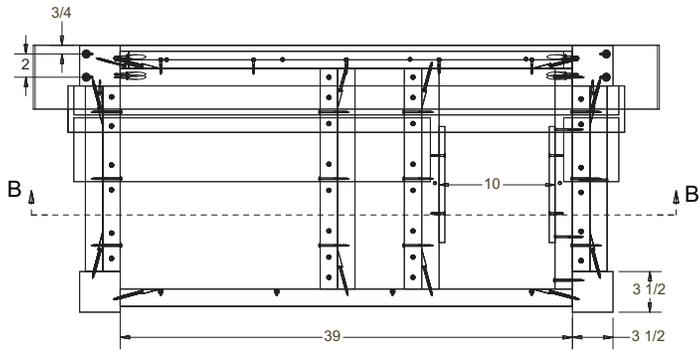


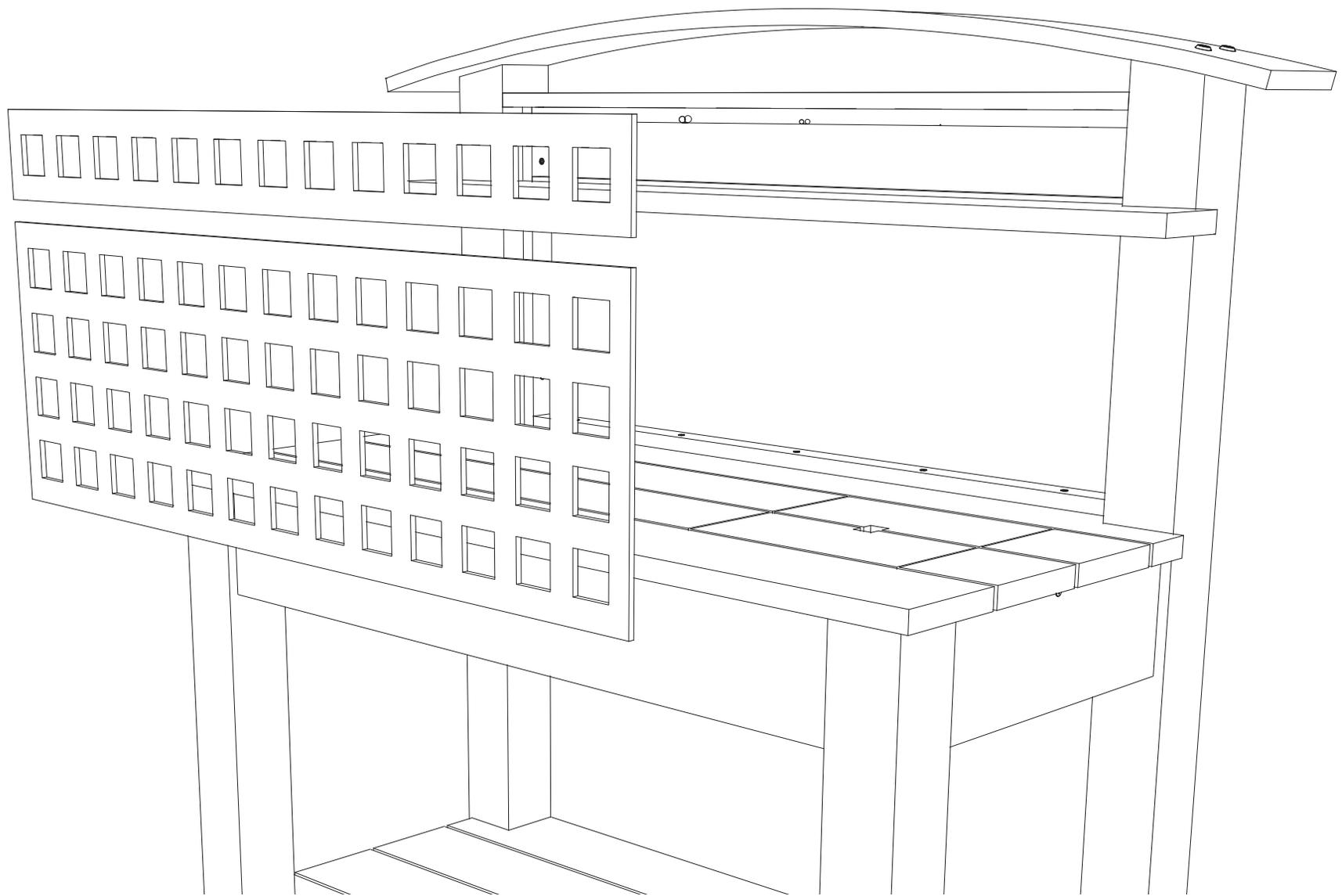


Frame is assembled using 2-1/2" Kreg Blue-Kote weather resistant pocket screws.











Simple, Stackable Duct Pipe Planters

Decorating your deck with plants and flowers adds a lot of visual interest. These planters add even more. The unique, easy-to-build design draws attention to itself, and at the same time, steps up to the task of showing off your plants.

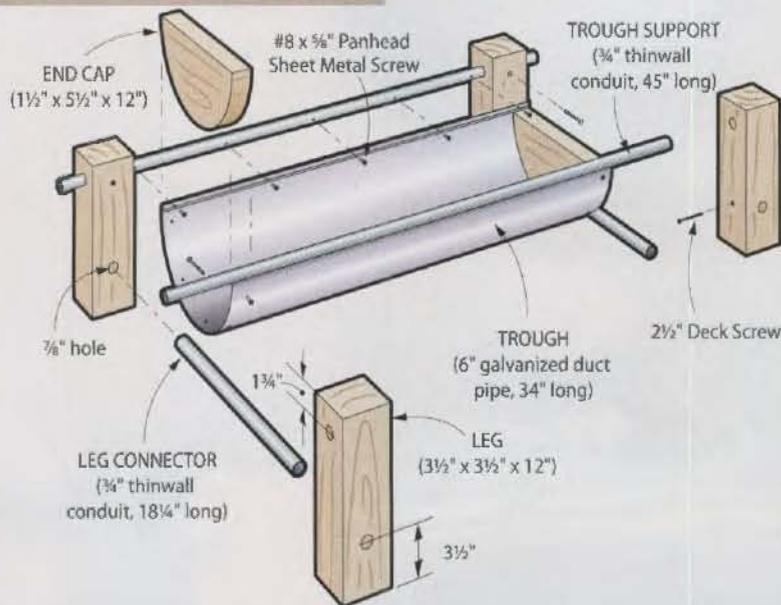
The intrigue of a planter is usually the array of plants and flowers it holds. But this project uses common materials in unconventional ways to make a planter that's appealing in and of itself. And it's a step above the rest at showcasing what's inside.

The concept is simple. Galvanized duct pipe comes open along its length, with a snap-together joint that allows it to be connected to form a cylinder. Instead closing up the pipe, though, we pulled it open into a half-round shape to create a "trough." The ends get capped with cedar semicircles so the soil doesn't spill out, and four legs provide support. Electrical conduit is used to hold the components together and provide stability. That makes assembling the planters as easy as it looks — even if you choose to make a couple of planters and stack them as a tiered display, like you see in the *Photo* at right.

You can get all the materials at your local home center. The colors and textures of the metal and wood contrast to add visual appeal to the planters and ultimately highlight the plants and flowers inside.



CONSTRUCTION VIEW



BUILD THE TROUGH

The key component of this planter is the trough made of duct pipe: a material that isn't typically used for this type of project. But by adding cedar end caps and conduit supports, like you see in the *Construction View*, you can easily transform it into a unique flowerbed.

To take on the transformation, you'll first need to cut the crimped end off a 3-ft. length of 6" galvanized duct pipe, as shown in the *Photo* below.

Of course, this trough with open ends won't hold soil, so you'll need two semicircle end caps — each with a 6" radius. You can use a compass to draw the layout lines on a cedar 2x6. (Because 2x6s are actually 5 1/2"-wide, you'll need to support the compass 1/2" off the side.) Then use a jigsaw to make the cuts.



You're just about ready to assemble the trough, but first you need to mark the peak of the curve on each of the end caps and the center of the duct pipe along its width. These marks will come in handy when it's time to attach the pieces.

Once that's done, arrange everything upside down on your workbench for assembly. The duct pipe has locking tabs that stick out past the end caps, which makes it tricky to align the edges. But a piece of scrap can be used to raise the caps to meet the pipe (*Photo, lower right*).

Make sure the center-marks you made earlier are aligned, and then punch holes through the duct pipe and into the cedar (*Photo, right*). Install sheet metal screws to join the caps to the ends of the pipe.

Next, cut two 45"-long pieces of 3/4" electrical conduit. These will trim the edges of the duct pipe and eventually be used to attach the trough to the legs. It's easy to get straight, burr-free cuts by cutting the conduit with a tubing cutter.

Mark the center points along the length of the duct pipe and the conduit, so you can properly line them up.



Follow a taped line with metal-cutting shears to trim off the crimped end of the duct pipe and prepare a 34"-long trough.

Line up the edges by setting the end caps on a scrap piece. Then poke holes with a nail, so it's easy to install screws.



The planters can be stacked with an easy alteration. All it takes is two additional legs and a couple extra pieces of conduit.

Then clamp the conduit to the outside edge of the duct pipe. Drill a series of $\frac{1}{8}$ " holes, and drive in sheet metal screws.

ADD THE LEGS

The trough is done, but you can't add soil and plants until you add legs. The legs are pieces of cedar 4x4s with holes drilled in them to hold the lengths of conduit that extend from the trough. Additional pieces of conduit on each side provide stability.

The first thing you need to do is cut four 12" legs to length with a miter saw. Then use a spade bit to drill $\frac{7}{8}$ " holes for the conduit to fit through. Also drill lower holes for conduit supports perpendicular to the upper ones.

The holes must be positioned in the same spot on each leg and drilled straight through. To do this, use a template to lay out the holes and a portable drill guide to make sure they're at a perfect 90° angle.

After drilling the holes, go ahead and slide the legs onto the conduit extending from the trough. For the holes lower on the legs, cut two 18 $\frac{1}{4}$ " pieces of conduit, and slide them into place, as well.

Now that everything is assembled, it's a good idea to pin the conduit in place. Drill holes through the cedar and into the conduit, and install 2 $\frac{1}{2}$ " deck screws. You'll want to position these screws so they're not visible from the front of the planter. This means you'll need to use a



A right-angle drill attachment makes it possible to pin the conduit from behind the front legs, which adds stability without adding a visible screw head.

right-angle drill attachment between the planter legs (Photo, above).

TWO-TIER PLANTER

Looking to one-up the single planter? You can build a second planter identical to the first and easily arrange the two in a stair-step fashion. The second planter is supported on the rear legs of the first planter and on two additional 12" legs (Back Leg Assembly).

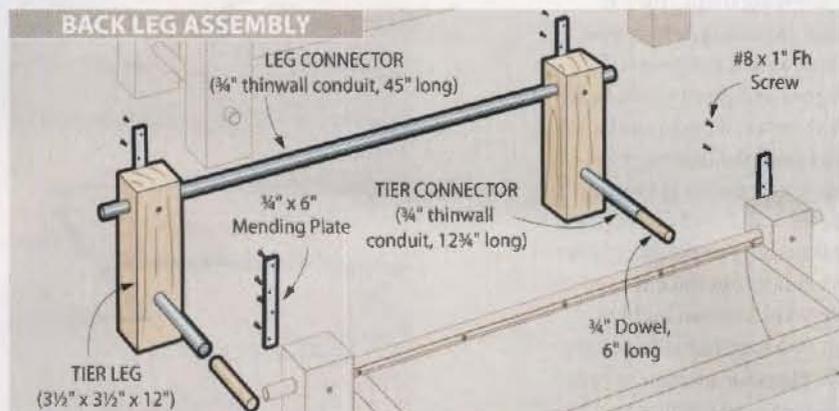
After cutting the extra legs to length, drill holes for the conduit connectors, just as you did in the other legs. You'll attach these legs by extending the conduit supports at the bottom of the front planter. Cut two pieces of conduit, then join them to the original conduit supports with pieces of $\frac{3}{4}$ " dowel. Slide the additional legs into place, and pin the conduit like before.

Position the second-tier planter as shown in the Photo, above left. Then join all four legs with mending plates.

FINISHING

To finish, drill a series of $\frac{1}{4}$ " drain holes in each trough. You can leave the cedar uncoated and let it weather, or add an outdoor oil. Then just lay crushed rock or landscape cloth at the bottom, and your planter is ready to be filled. 

— Written by Katie Seiser, illustrated by Erich Lage, project designed by James R. Downing



outdoor Seating & STORAGE

It can be tough to find adequate seating space on a deck or patio. But it's almost impossible to find space for storage. Here's a project that solves both problems. These handsome cubes provide seating and built-in storage.

These great-looking cubes hold a secret. The sturdy seat atop each one is actually a lid that conceals over two cubic feet of weather-resistant storage inside. That space is perfect for gardening supplies, hoses, outdoor toys, and many other types of outdoor gear.

We kept the cubes easy to build, so you can spend less time making them and more time enjoying them. They're basically boxes with sides made from car siding, which you can buy at any home center. Each side is made of two widths that lock together with pre-cut tongues and grooves. The ends of each side get beveled to create a seamless wraparound joint, and simple corner braces and screws hold the box together.

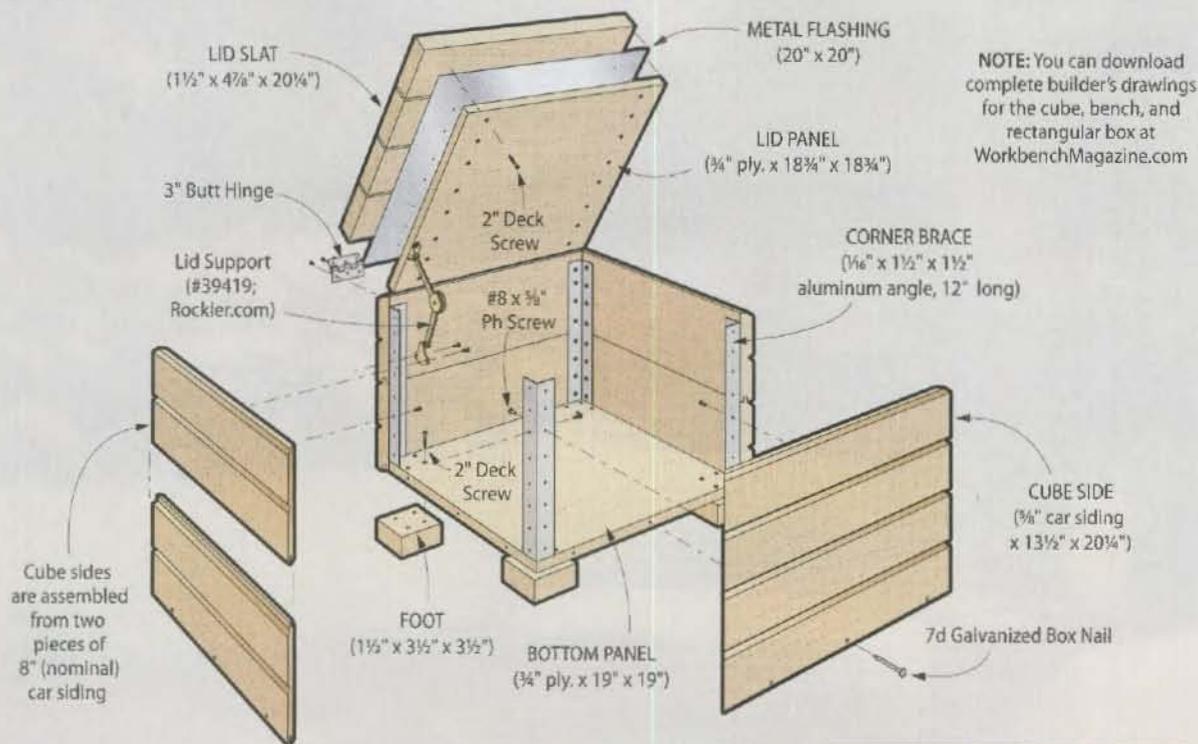
The cube bottom and lid are made of exterior plywood. On the bottom, simple feet elevate the cube, and up top there are slats that provide seating. Metal flashing under the planks helps the lid shed water, so it won't run inside the cube.

With these cubes you also get options. You can build a single cube, create multiples, or pair two together with planks to make a long bench. We even offer plans for a longer, rectangular version if you need a bit more storage space inside.





CONSTRUCTION VIEW



START BY BUILDING THE SIDES

You'll find all the dimensions for one cube in the *Construction View* above. For detailed views of every part, you can download free builder's plans at WorkbenchMagazine.com

The best place to start building, whether you're making one cube or many, is with the sides. Each side is made from two widths of 1x8 pine car siding. You can buy it in lengths at the home center. Car siding has "V" grooves that run lengthwise to dress it up and is designed to fit together with tongues and grooves on the edges.

We wanted the grooves in the car siding to run continuously around the sides of the cube, which meant corner blocks or simple butt joints just wouldn't do. Our solution was to join the corners with 45° beveled joints. Don't let that intimidate you, though. The process is easy.

To get started, cut two 22"-long pieces of car siding for each side of the cube (eight total). Tilt your table saw blade to 45°, and then mount a long

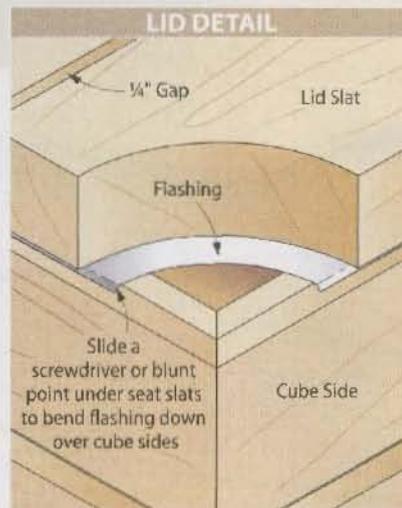
face to your saw's miter gauge. Then bevel one end of each piece.

Now you can cut the side pieces to final length. To ensure that they all get cut to exactly the same length, clamp a stop block to the extension on your miter gauge (*Photo, below right*).

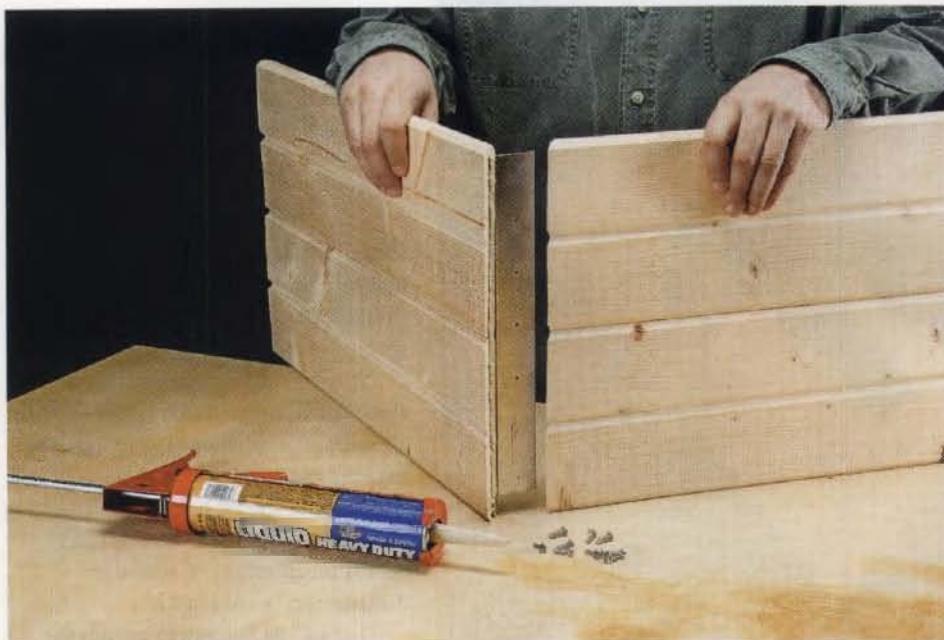
Next, glue the pieces together in pairs by laying a bead of construction adhesive in the groove on one, and slipping the tongue of the other piece in place. Make sure the ends are aligned.

That done, reset the blade to 0°, move the fence, and then rip off the exposed tongue on one edge of each cube side.

To join the sides, we wanted sturdy support along the whole joint in order to make sure that the long miter joint wouldn't pull apart over time. We didn't find a ready-made corner brace that seemed suitable, so we simply made our own from lightweight aluminum angle. You can get this at the home center, too. Just cut the corner braces to length, and then drill screw holes along the length of each side of the angle. The



A stop block ensures that you'll cut all the cube side pieces to the same length.



Screws and aluminum corner braces create a sturdy joint. Construction adhesive keeps the mitered corners tight because it's strong, weather-proof, and flexible.

soft aluminum is easy to drill, and exact positioning of the holes isn't critical. Just drill six to eight holes on each leg of the brace.

Now you can join the sides together. Start by mounting the aluminum braces to two of the cube sides. Then spread construction adhesive on the beveled ends and join the sides together, as shown in the *Photo* above.

By the way, if you have any gaps at the corners, you can fill them with paintable caulk after the adhesive dries.

With that done, you can prime and paint the sides. I recommend coating both the exterior and interior to protect the wood against moisture.

ADD THE BOTTOM

While the paint dries on the sides, cut a bottom panel to size. Double check the interior dimensions of the side assembly to ensure a tight fit.

Now you're ready to make the feet. They're just square blocks cut from a cedar 2x4. Cut them to length, and then sand the cut edges to soften them so they match the other edges.

If you plan to paint the feet, do that before installing them. You can paint all surfaces of the feet. Also paint the bottom panel — but leave the edges bare. That will provide a good surface for construction adhesive to adhere to



Each cube offers a surprise: Over two cubic feet of storage for outdoor gear. Accessing what you've stored is easy, and a lid support prevents the lid from slamming shut.

when you mount the bottom panel to the cube sides.

The feet overhang each corner of the bottom by $\frac{3}{4}$ ". That way, the box sides rest on the feet, so there's plenty of sturdy support when you sit on the bench. Align the feet, and drill four

holes at each corner of the bottom panel. Then you can attach the feet with 2" deck screws.

Now run a bead of construction adhesive around the edge of the bottom panel, slip the side assembly on, and drive box nails into the bottom panel.



Like the cubes, this large box makes great temporary storage for items you're using outdoors or permanent storage for weather-resistant gear.

CAP OFF THE CUBE

Next comes the lid. You can see that it's made up of three layers. The first is a plywood panel that fits down inside the box sides. That panel gets topped by a piece of metal flashing. The flashing overhangs the box sides to help prevent water from running into the box and getting the items stored inside wet (*Lid Detail, page 44*). You can buy 20"-wide metal flashing in rolls, and then cut it into squares.

The seating surface is made up of four cedar slats. They get screwed to the lid panel from underneath, so there are no fasteners that could spoil the clean look of the cubes or get caught on clothing when you sit down.

Start by cutting the plywood panel. It's slightly smaller than the opening in the box so that it will slip inside easily. Once you have it cut, drill countersunk holes from the underside for the slat-mounting screws. Then paint the top, bottom, and edges of the lid panel. Next, cut the flashing to size (20" x 20"). It's soft enough that you can easily cut it by hand using metal shears.

Now you can make the seat slats. They're cut from cedar 2x6s. You'll see that the slats are narrower (4 $\frac{7}{8}$ ") than a 2x6, which is 5 $\frac{1}{2}$ " wide. The reason for this is simple: 2x material often has grain and gouges in the edges that

would look bad on the finished bench. The *Sidebar* on page 47 shows how to clean them up.

Now you can prepare the lid for assembly. Just as you did with the feet, you should paint the seat slats before you attach them. Go ahead and paint all the surfaces of each slat.

Once the paint dries, lay the slats facedown on your bench. Align the ends and space them $\frac{1}{4}$ " apart, so they make a footprint that's 20 $\frac{1}{4}$ " square. You can place spacers between the

slats to make this easier. Then wrap masking tape around the perimeter of the assembly, so they'll maintain their spacing and alignment.

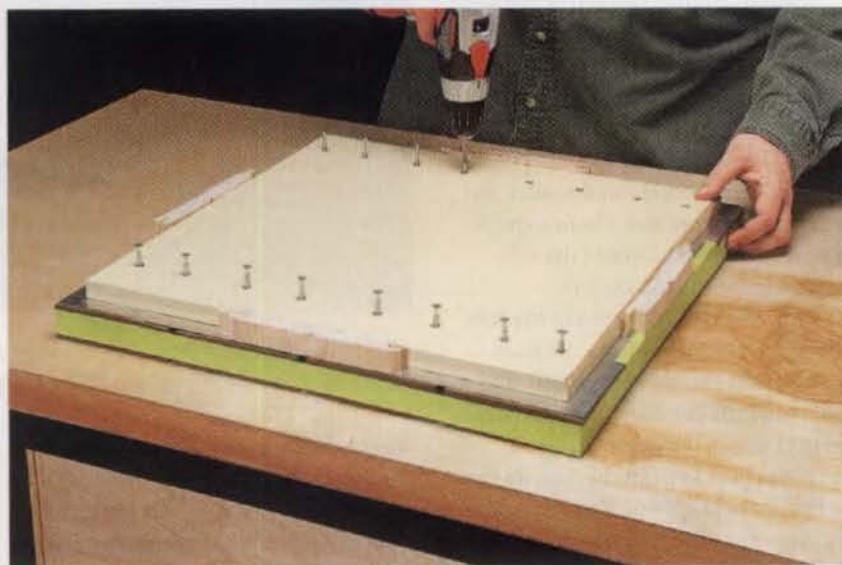
Now lay the flashing on the seat slats. You'll notice it's $\frac{1}{8}$ " undersize on all sides. Use masking tape to hold the flashing in place.

Next, lay the lid panel in position. The slat assembly should overhang evenly on all sides ($\frac{7}{8}$ " if all the measurements are exact).

Drive 2" deck screws through the holes and into the slats (*Photo, below*). The screws should have no problem pushing through the flashing, but if they do, use a nail or scratch awl to poke holes in it.

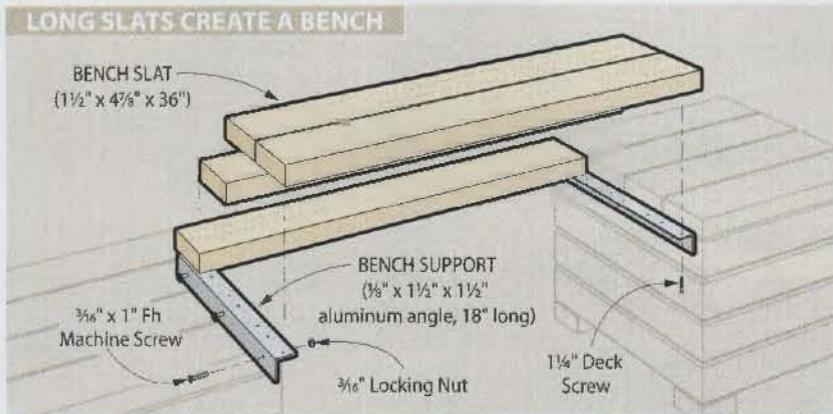
Finally, you can set the lid on the cube and mount the hinges. Be sure the hinges are rated for exterior use, so that they won't rust or corrode.

Now add a lid support to prevent the lid from slamming shut or swinging too far open. If the home center doesn't have one, you can order item #39419 from Rockler.com.



Use tape and spacers to hold the seat slats in position and to keep the flashing in place. Then attach the lid panel. Scraps of car siding help you center the panel.

LONG SLATS CREATE A BENCH



EXTEND THE BENCH

If you'd like to take this project one step further, you can make a long bench by building two storage cubes and then creating slats to span between them.

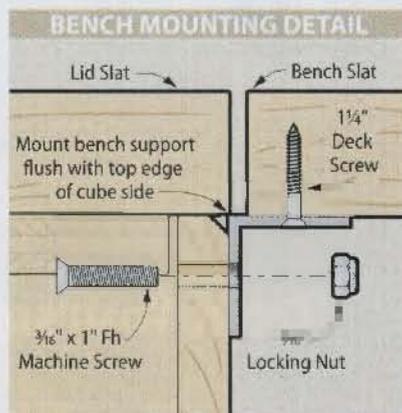
To start, cut slats to size using the methods described in the *Sidebar*.

The slats are mounted to the cubes using more aluminum angle. This time, it's $\frac{1}{8}$ " thick for added support, but it's just as easy to cut and drill.

Just cut the angle pieces to length, and then drill holes. There are three holes in one face for machine screws that mount the brackets to the cubes, and six in the other face for mounting the slats.

Now align the angle brackets on each cube by using a scrap of leftover slat material to set the height. Then drill holes in the cube sides for the machine screws (*Bench Mounting Detail*).

With that done, you can mount the slats. It's easiest to just position the cubes, set the slats in place, and align them with the seat slats on the cubes. Then drive in $1\frac{1}{4}$ " deck screws. To move the cubes and bench, just unbol



the brackets from the cubes, and move the slats as an assembly.

If you'd like a longer box, we also offer a rectangular version. It's the exact same depth and width and is made the same way. The lengths of a few parts just vary (*Illustration, below*). Plus, the rectangular box has two lid supports to accommodate the heavier lid.

—Written by David Stone, illustrated by Erich Lage, project designed by Mike Donovan

CREATE A LONGER BOX

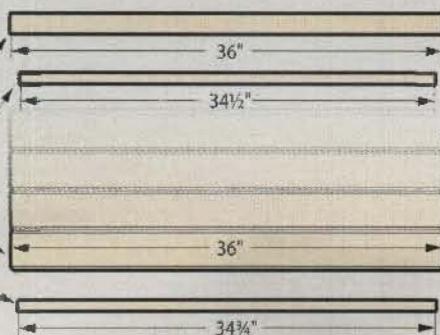
NOTE: You can easily create a larger box by changing the lengths of a few pieces

LONG BOX LID SLATS
($1\frac{1}{2}$ " x $4\frac{7}{8}$ " x 36")

LONG BOX LID PANEL
($\frac{3}{8}$ " ply. x $18\frac{3}{4}$ " x $34\frac{1}{2}$ ")

LONG BOX SIDE
($\frac{3}{4}$ " car siding x $13\frac{1}{2}$ " x 36")

LONG BOX BOTTOM
($\frac{3}{4}$ " ply. x 19" x $34\frac{3}{4}$ ")



EASY SQUARE EDGES

Most of the time, 2x stock gets dinged up on the store racks. That can really spoil the look of a project.

Thankfully, there's an easy way to clean up those edges and ensure that they're straight and square. All it takes is two passes at the table saw. The results are well worth the effort, as you can see in the *Photo* at top.

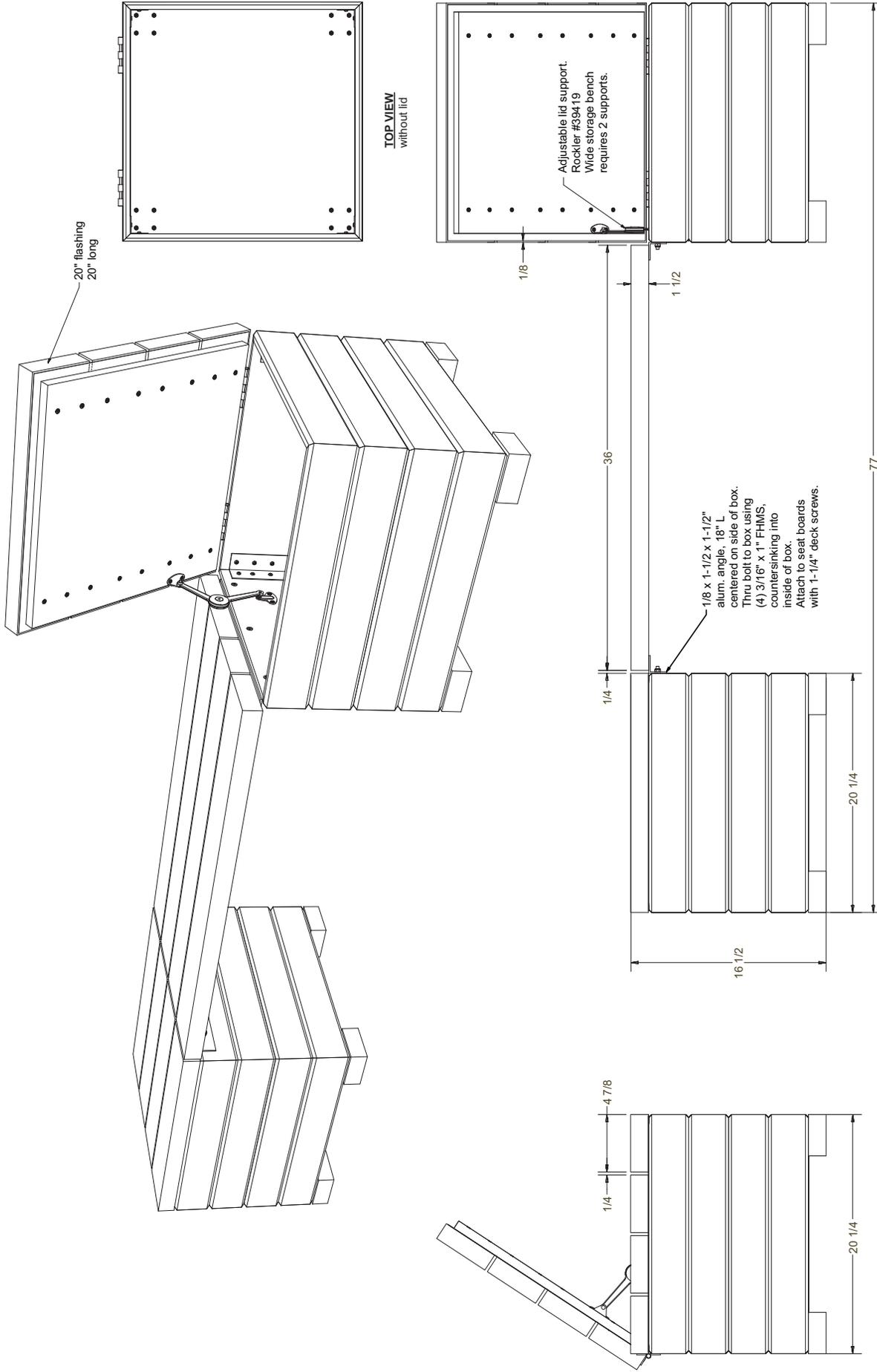
First, cut your workpieces to approximate length, leaving them about 1" extra-long.

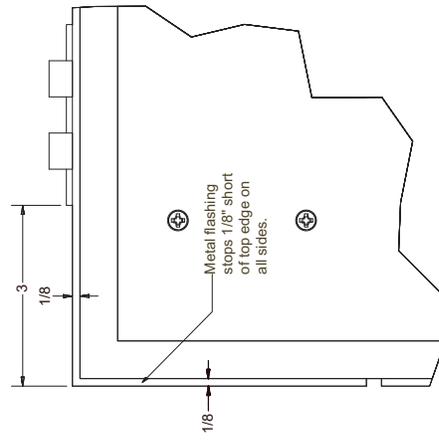
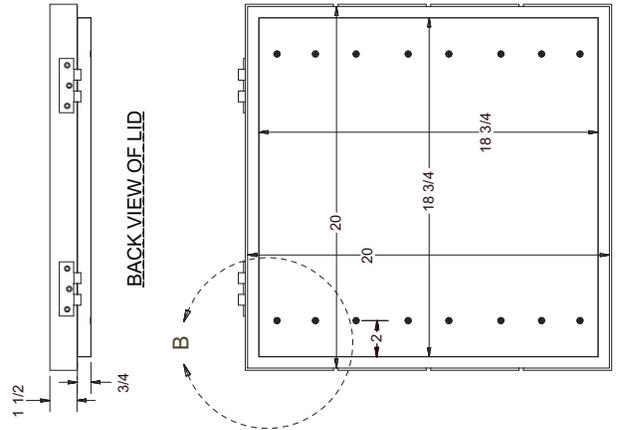
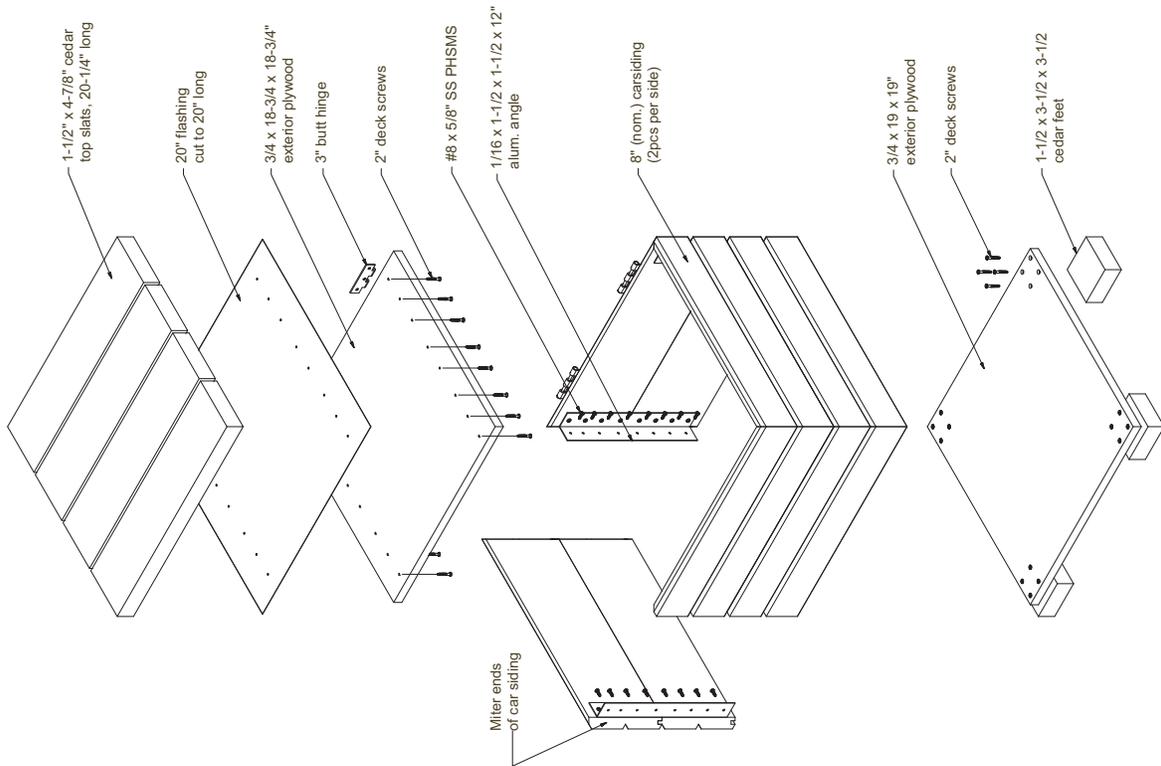
Now adjust your table saw rip fence so that you can trim one edge of the board. In the case of the slats, I set it $5\frac{1}{4}$ " from the blade.

Now check your workpiece, and place the straightest, truest edge against the rip fence. Make the first pass (*Fig. 1*). Do this with all of the pieces you need to trim.

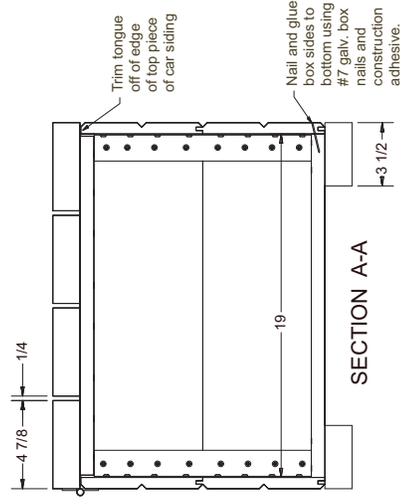
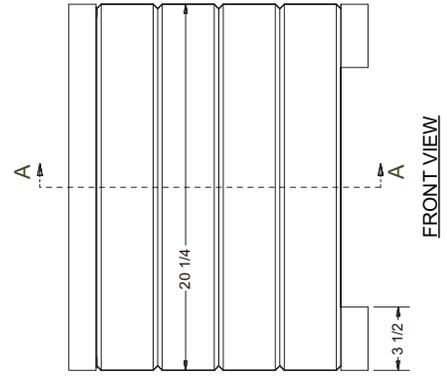
That done, readjust the fence to trim your pieces to final width ($4\frac{7}{8}$ " in the case of the seat slats). Place the edge you ripped on the first pass against the fence, and then rip each board to width (*Fig. 2*).

Once all the boards are ripped down, crosscut them to final length to create great-looking lumber.





BOTTOM VIEW OF LID





Pick up the hammer — or the phone? Here's what you need to know before you do either.

[Do It Yourself]

DIY

DIY

[Buy It Yourself]

When it comes to our homes, DIYers can be like teenagers — we think we can do anything and get away with it. Unfortunately, anyone who has tackled a project without the necessary experience knows that confidence can quickly turn to confusion if you don't know what you're doing.

Of course, many of us feel comfortable rolling up our sleeves and taking on a job ourselves because we know we'll save money in the process. But before you do, it's worth making a few phone calls first. Oftentimes, bringing in the pros will cost less and create fewer headaches than you might have imagined.

To help you make that ultimate decision — should you build or should you buy? — we've come up with a list of seven questions you should ask yourself before beginning any home improvement project. How you answer these questions will help you decide whether to call on your DIY skills — or call a skilled contractor.



[Q]

What kind of experience do you have?



[A]

This is probably the most critical question, and it seems pretty straightforward on the surface. After all, if you don't know the difference between an A-valve and a J-bend, then you probably shouldn't try to tackle the plumbing for an entire kitchen or bathroom remodel. In some cases, such as electrical work, a lack of knowledge of the subject can be downright dangerous.

Common sense should dictate your course of action here. Even if you have all the tools necessary to

frame walls for a home addition, for example, it doesn't necessarily mean that you should. If you helped your uncle frame walls all through high school, though, then perhaps it's time to roll up your sleeves and take it on for yourself.

Also, it's important to keep in mind that lack of experience shouldn't stop you if you have the enthusiasm to learn more about the project. Just because you haven't plumbed before doesn't mean that you shouldn't. (You have to learn somehow, right?) It just means that you should exercise caution, proceed slowly, and seek advice (*see Question #2, below*) when treading in uncharted waters. If you have the time, patience, and wherewithal to learn how to do it and do it right, then by all means proceed.

IF YOU CAN DO THIS...	THEN YOU CAN DO THIS...
Handle a paint brush and roller.	Change the look of a room with paint.
Operate basic woodworking tools.	Build a piece of heirloom furniture.
Dig and handle lifting heavy objects.	Build a path or take on another landscaping project.
Lay flooring and hang cabinets.	Remodel a kitchen.
Take on carpentry, drywall, plumbing, and electrical work.	Build a home addition.

[Q]

How much are your friends or family with experience willing to help you?

[A]

The fallback to having firsthand experience, of course, is relying heavily on the secondhand experience offered by a family member, friend, or coworker. But we know from past projects that you should proceed with caution

here. We've had many a well-meaning "helper" promise they'd be there through thick and thin, only to disappear when the going got tough.

To avoid that project-busting scenario, be clear with your helpers about what you will need from them before you begin. If you're going to need them to help you for three hours every Saturday for two months, then make sure they know that going into the project. It might scare them off, but

it's better to do that now than when you're halfway into the renovation and there's a gaping hole in the master bedroom wall.

Also, make sure that your helpers can really do what they say they can do. We're not saying that you need to vet them like the Secretary of State, but you should have some tangible proof that your cousin has done some landscaping in his days and not just take him at his word.

[Q]

Do you own the tools for the job? If not, can you get them at a reasonable price?

[A]

Most DIYers love to brag about their tool arsenals. We keep them meticulously organized (or not) in the back of our garages, so they'll always be ready to go when the next project presents itself.

Of course, no one can have every tool for every job, and specialized jobs call for specific tools. And when you don't have the tools you need, cost becomes an issue.

One good example of this is a landscaping project. If you have to move serious amounts of dirt and rock, then you'll probably need a skid

loader. If you plan to build a pathway or patio, you'll need a plate compactor. Virtually every big landscaping job calls for some sort of big tool that would make the price of the project go up astronomically. And that's when you start to wonder if it would be better to just pay a landscaper than to take on the costs involved.

This scenario is where tool rental can be a huge help. Most Home Depot stores have tool rental centers, and your community might have other options, as well. But you'll still want to crunch the numbers to make sure it's worth the expense. Some common tools and their rental costs are shown, below left.

Also, don't rule out Craigslist.org, eBay.com, the Habitat for Humanity ReStore, or other online or community sources for used tools. These can cut the cost of buying tools significantly. If you can, just make sure the tools are in good working order before you buy.

Of course, it's also important to make sure you feel comfortable actually using the tool. After all, just because you *can* rent a skid loader doesn't necessarily mean that you *should*. Before you rent or buy, you should have a solid working knowledge of the tool and be confident that you can operate it safely and effectively. If you rent, a rental center associate should be able to walk you clearly through the steps to operating the tool safely.

Tools: Rent It or Buy It?

TOOL	RENTAL PRICE	PURCHASE PRICE
Pressure Washer	\$75/day	\$400
Tiller	\$50/day	\$400
Two-Man Auger	\$70/day	\$700
Tile Saw	\$50/day	\$600
Floor Nailer	\$30/day	\$400
Floor Sander	\$90/day	\$2,000

WHAT TO LOOK FOR IN A CONTRACTOR

Most contractors are trustworthy, but we've all heard horror stories from people who have hired the wrong one. Before you bring someone in to work on your home, it's best to do your homework. Just follow these tips from the National Association of the Remodeling Industry. You can find more at NARI.org.

- 1] Make sure the contractor has business ties in the community and past customers who you can contact to check references.
- 2] Make sure the contractor is licensed and listed with local trade associations, such as the Better Business Bureau or NARI.
- 3] Make sure the contractor is insured.
- 4] The contractor should provide you with a detailed contract that includes plans, material lists, costs, and approximate start and stop dates. If you do not receive all these details, feel free to request them.
- 5] A reliable contractor should provide a warranty that covers his material and workmanship for at least one year.
- 6] The contractor should inform you of your right to cancel the contract within three days. Notification of your "right of rescission" is required by law. This allows you to change or declare the contract null and void without penalty.
- 7] Make sure that you are provided with an estimate and a payment schedule that you are comfortable with. Be wary of contractors who ask for payment up front or payment in cash only.

[Q]

WHAT'S THE DIFFERENCE IN COST BETWEEN BUILDING IT AND BUYING IT?

What's the difference in cost between building it and buying it?

Project Costs: Build It or Buy It?

PROJECT	AVG. COST OF BUILDING IT	AVG. COST OF BUYING IT
Custom Bookcases	\$700	\$1,000
Installing Post-Formed Laminate Counters	\$1,200	\$1,800
Installing Fiber-Cement Siding	\$3,000	\$10,400
Bathroom Remodel	\$5,000	\$10,500
Midrange Kitchen Remodel	\$10-12,000	\$30,000

[A]

As DIYers, it's our natural assumption that it's always cheaper to take on a project ourselves. And a lot of the time, it is. But if cost is your primary reason for deciding to take on a project rather than hire it done, it's worth taking the time up-front to make sure that there's really a cost advantage.

Thankfully, it's not difficult to come up with a cost comparison before you start a project. Chances are, you plan to make a list of all the tools and materials you're going to need anyway. After that, it's a relatively small task to head to the hardware store and home center with a calculator and crunch the numbers.

Determining the cost of hiring it done is even easier. Any contractor worth his or her salt will provide a free estimate of what the cost of doing the

job will be. And be sure to take the time to get a few bids. Prices can vary widely from contractor to contractor, so make sure these varying bids call for comparable materials.

Once you're armed with these numbers, you can make a more solid determination of how to handle the project based on the facts at hand. If the savings are substantial and you feel comfortable with the project, then it's time to get started. If there's not a significant difference between doing it yourself and hiring the contractor, however, then it might be best to turn it over to the professionals.

One final note on cost: For a smaller home project such as shelving or furniture, you may be surprised to find that the pre-made options available at the store might actually be less expensive than the material and tools required to make it. So if it's the satisfaction and pleasure of making the furniture that you're after, then do it yourself. But if it's the end result that's most important, go buy it.

[Q]

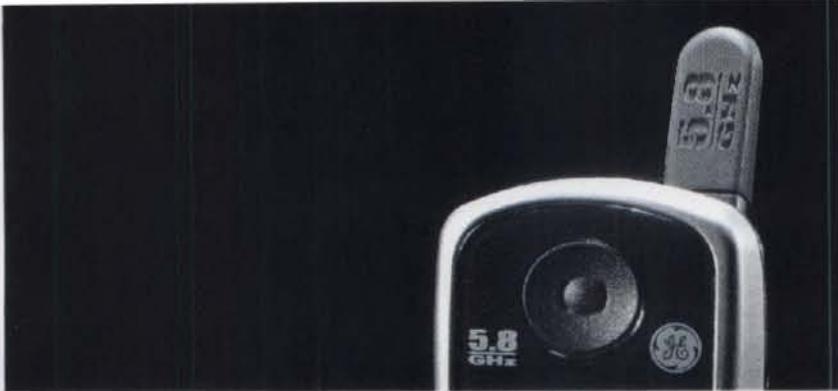
What permits will you need, and what codes will you have to adhere to?

[A]

Starting a major home renovation isn't as simple as swinging a sledgehammer. Most additions or remodels require a building permit. Communities vary widely on this, so the best approach is to call your city office and ask to speak with the permit officer.

Usually, the permitting process involves filling out an application, seeking the city's approval, and then submitting to appropriate inspections when required. Naturally, you should feel comfortable enough with the project's details to meet the requirements of the city, the permit officer, and the inspector.

The other important aspect of any project is abiding by the appropriate building codes. These also vary by community, and again, your city's permit officer can probably help you find the appropriate building codes for your project in your area. If you're concerned that you won't be able to adhere to the codes while building your project, then it might be best to leave matters to the professionals.



[Q]

What are the implications if you screw it up?

[Q]

How much time are you willing to spend on the project?

[A]

Of course, there are more costs involved with home improvement projects than just money. A big project takes time. And if you have a number of other work, family, and social commitments, they tend to take even more time.

Even the most skilled DIYer is still a DIYer, and that means you probably have 40 or more hours a week devoted to your job, plus more hours tied up in errands, the family, the kids, and any

other activities you're involved with. And all those commitments mean it's going to take even longer to finish your home projects. The bottom line is this: You may have the skills and ability to build your own deck or add on to the living room, but do you really want to spend the few remaining free hours that you have left working on it?

For many of us, improving the home is our passion and our hobby, so the answer is "yes." Just don't be surprised if the weeks stretch into months for some larger home improvement tasks. Of course, if you'd rather be fishing or golfing on Saturday than be on your hands and knees installing joist hangers, call a contractor.

[A]

This question may sound funny at first, but it might be the most important of all. After all, there's nothing funny about an electrical job gone wrong or a structural member that fails because it wasn't built correctly.

If you're unsure of your ability to carry out a certain project, you could put your home, your family, and even your own safety at risk. That's why it's critically important that you have a solid understanding of what will be involved with a project and an acceptance of the risks before you begin.

Closing Thoughts — It should be noted that home improvement isn't an all-or-nothing proposition. For example, there's nothing wrong with framing the walls and then having the pros handle the plumbing and electrical work. Most contractors will be more than happy to accommodate your wishes. In the end, it's all about getting your project completed in the best way possible for you and your family.

— Written by Wyatt Myers

How Long Will It Take?

PROJECT	TIME IT WILL TAKE AVERAGE DIYer
Paving a Pathway	1 to 2 days
Painting a Room	2 days
Built-in Bookcases	2 to 3 weekends
Bathroom Remodel	3 to 5 weekends
New Deck	4 to 8 weekends
Room Addition	8 to 12 weeks



Authentic VS. Synthetic

As DIYers, it's only natural for us to choose the highest quality materials possible for our home improvement projects. Traditionally, that has meant going with the genuine article—real wood, real stone, and real brick.

But as manufacturing processes and technologies improve, we're discovering that the "real deal" is no longer always the best material for the job. Synthetic materials are nearly impervious to wear, resistant to rot, and are built to last a long time. Plus, a growing number of them are available in the aisles of your local home center.

What's most important, though, is that many of them are now made so well that you'd be hard pressed to tell them apart from the real McCoy. The floor boards shown on this page are just one example. And a number of these materials will help you save money, to boot.

If you have a big home improvement project on the horizon, here's a list of synthetic materials that you might want

Engineered and laminate floors use materials like plywood and fiberboard as the backing material (substrate). That means they save resources and can also save you money over solid wood. On the surface, though, they look just as good.

ENGINEERED & LAMINATE FLOORING



Pros

Offers the look of solid wood without the high cost and without using as much wood; more stable and less prone to expansion and contraction.

Cons

Laminates can't be sanded and refinished like hardwood. Some laminates lack the authentic look and feel of wood.

Cost

Between \$5 and \$15 per square foot installed. (Laminate typically costs less than engineered flooring.)

Sources

Armstrong (Armstrong.com); DuPont (DuPont.com); Legend (LegendFlooring.com); Pergo (Pergo.com); Shaw (ShawFloors.com); Thomasville (ThomasvilleFlooring.com); Wilsonart (Wilsonart.com)

to consider for the job. In the long run, you'll be glad you did.

Faux Flooring — It's been a few decades since people began tearing up carpet to reveal their hardwood floors, but hardwood flooring remains a popular option even today. And with its warm, classic good looks, it's easy to see why. The only difference today is that your hardwood floors don't necessarily need to be "hardwood." Let me explain.

One alternative to hardwood is engineered flooring. Engineered floor boards are essentially the same as plywood, with a thin layer of solid wood on top. This makes them more stable than solid wood, as they are less prone to expansion and contraction. They can also be sanded and refinished because of the top layer of solid wood.

Engineered floors usually offer a slight cost savings over solid wood. If you have a concrete subfloor, though, that's where their advantage really comes into play. The plywood substrate means you can install the engineered



flooring as a "floating" floor right over the concrete. This offers a significant savings over solid wood.

The other alternative to solid wood, laminate flooring, often features an image of wood attached to a fiberboard substrate. Laminates are less expensive than solid wood, but they still look great.

If people have any complaints about laminate, it's usually that the look isn't completely authentic. But the newest offerings are looking more like the real thing all the time. Laminates can't be

sanded and refinished like a hardwood floor can, though.

Today's Trim & Moldings — When it comes to your home's baseboards, quarter-round, crown molding, and even exterior trim, wood was always the material of choice. But now you'll find options made from cellular PVC, polyurethane foam, and vinyl alongside the wood moldings at the home center.

Now, I know they're not wood, but if you take a closer look at these moldings and trim boards, the advantages are



PHOTO COURTESY OF AZEK BUILDING PRODUCTS

PVC & FOAM MOLDINGS & TRIM BOARDS

Pros

Less expensive, more stable, and more weather- and moisture-resistant than wood trim and moldings.

Cons

Some wood-grain options lack the authentic look of wood.

Cost

\$2 to \$5 per linear foot.

Sources

Azek (Azek.com); Chemcrest (Chemcrest.com); Fypon (Fypon.com); Koma (www.KomaTrimboards.com); Royal Mouldings (www.RoyalMouldings.com); Vitek (VitekMoldings.com)

clear. First, the cost savings are substantial. The materials are also impervious to wear and rot, which is critical on the home's exterior. And when you consider that most of these materials are available prefinished, it's easy to understand why they are gradually taking wood's place. The only knock I've heard about synthetic moldings is that some wood-grain options don't look as authentic as real wood.

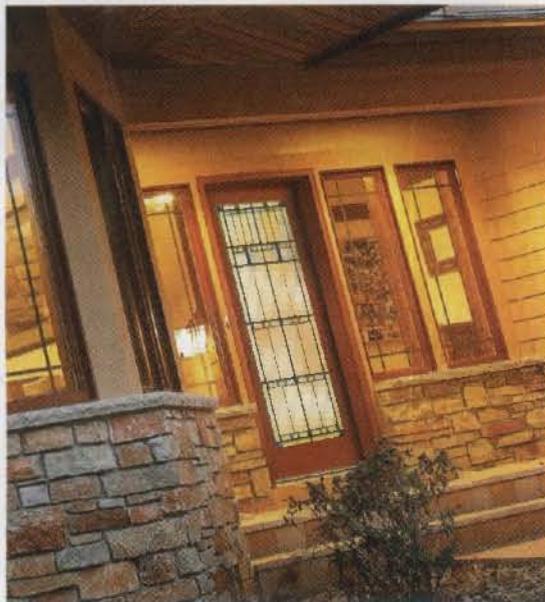
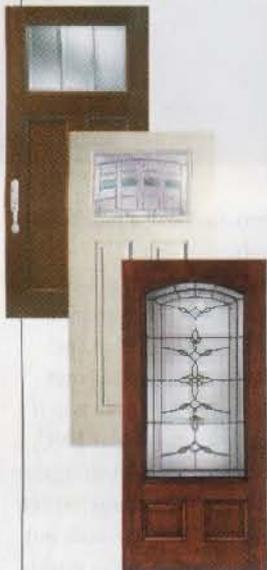
A Different Take on Doors — If your number one priority when choosing a front door is finding one that looks good, then I really can't fault anyone who chooses a traditional solid-wood door. But if you take into account stability, energy efficiency, security,

and cost, fiberglass is quickly becoming the material of choice. Fiberglass doors are insulated within, so they are five times more efficient than the average wood door. Many of them are even Energy Star rated. And as far as looks go, frankly, they are even making up ground on solid wood in that area. As you can see below, today's fiberglass

options accept stain, finish, or paint to look every bit as good as your average solid-wood door.

Lightweight Panels — When I first received and opened a shipment of paneling samples sent by Faux Panels, I could hardly believe my eyes. Here was a large box of authentic-looking stone and brick that I could lift with

FIBERGLASS ENTRY DOORS



PHOTOS COURTESY OF PEACHTREE DOORS & THERMA-TRU DOORS

Pros

Five times more energy-efficient than solid-wood doors; have a look that rivals wood.

Cons

Custom fiberglass doors are not as readily available as they are with wood, though there are a few manufacturers who will make them.

Cost

\$300 to \$2,000.

Sources

Jeld-Wen (Jeld-Wen.com); Masonite (Masonite.com); Peachtree (PeachtreeDoor.com); Therma-Tru (ThermaTru.com)

FAUX PANELING

Pros

Lighter, less expensive, and easier to install than real stone, brick, or wood; available with jagged edges to hide joint lines when installing the panels.

Cons

Panels are still fairly costly; the material is not as versatile as the real thing.

Cost

Around \$10 per square foot.

Sources

AIC Millworks (AICMillworks.com); Faux Panels (FauxPanels.com); Texture Plus (TexturePlus.com)



one hand. That's because the panels are made from high-density polyurethane, which makes them incredibly lightweight. But the look is authentic enough to fool anyone.

Of course, you wouldn't want to use these panels to support weight like you could with stone or brick. But if it's the look that you're after, these panels can certainly fill the bill, whether it's a fireplace surround or a decorative exterior column. The panels also have irregular edges, so you won't see any seams once they're installed.

Clever Counters — Stone countertops may be all the rage in the kitchen these days, but it'll cost you an arm and

a leg to get them. And you can achieve an equally attractive look with a more environmentally friendly option by using a recycled-material countertop.

Just like granite and soapstone, these counters are "solid surface," so they have a high-end, seamless look. Unlike stone counters, though, they are made from recycled materials such as paper and glass. So these counters look great in your home and can make you feel good about your choice, too.

Unstoppable Siding — Fibercement siding is hardly a new synthetic product — it's been around in one form or another for almost a century. And one thing that hasn't

RECYCLED-MATERIAL COUNTERTOPS

Pros

Provide an elegant look while reusing a material such as paper, glass, or metal that would otherwise end up in a landfill.

Cons

Some options don't look like real stone, if that's what you're after; can still be quite expensive.

Cost

\$50 to \$100-plus per square foot.

Sources

Alkemi (RenewedMaterials.com); Enviroslab (EnviroglasProducts.com); PaperStone (PaperStoneProducts.com); Vetrazzo (Vetrazzo.com)



PHOTO COURTESY OF PAPERSTONE

FIBER-CEMENT SIDING

Pros

Virtually impervious to weather, moisture, and insects; many options now come prefinished.

Cons

Can be difficult to cut without special tools; appearance is not exactly like wood, though it's close.

Cost

Around \$3 to \$5 per square foot installed.

Sources

James Hardie (JamesHardie.com); CertainTeed (CertainTeed.com)



PHOTO COURTESY OF CERTAINTEED

changed is its almost impervious nature when it comes to the weather, moisture, or insects.

What has changed recently is the great variety of styles and colors you can get from fiber-cement siding. Whether you're looking for conventional lap siding or cedar shakes, there's a siding that will work for you. The

newest innovations include fiber-cement panels made to look like stucco and other exterior materials. Many siding options now come with a baked-on finish, so you don't have to worry about painting them, either.

Shake Up Your Shingles — Few things exude a feeling of luxury on the exterior of the home quite like a slate

or cedar shake roof. And while slate lasts a long time, it can be quite costly and difficult to repair. Cedar shakes are equally difficult to repair and may even be restricted in some areas due to fire codes.

Now you can get the same look without the headaches thanks to a number of faux slate and cedar shake shingles on the market. These are actually made from recycled rubber, so they hold up to the elements much better. They also cost less, and once they're installed on your roof, you'll have a hard time telling them apart from the genuine article.

Simpler Stone — Whether you're working on a fireplace surround or an exterior wall, it's tough to beat the classic good looks of stone or brick. Of course, anyone who has tried to take on their own masonry job knows that getting that look requires a lot of time and effort.

One way to simplify the job is with stone or brick "veneers." These pieces are actually made from concrete that's cast in molds, and they interlock to mimic real stone or brick. This makes them perfect for both landscaping projects and

FAUX SLATE & CEDAR SHAKE SHINGLES



PHOTO COURTESY OF TAMKO

Pros

More durable, lighter, less expensive, and easier to maintain than real slate or cedar shakes.

Cons

Look like "faux" shingles up close; still more expensive than standard asphalt shingles.

Cost

\$500 per "square" (10-ft. x 10-ft. area).

Sources

DaVinci Roofscapes (DaVinciRoofscapes.com); Lamarite (Lamarite.com)



wherever you want the look of stone or brick inside the home.

Your Dream Deck — Our tour of synthetic materials for your home ends out on the deck, where composites have been gaining ground on cedar and pressure-treated options for years. Typically made from a mixture of plastic and sawdust, composite decking products offer low maintenance and a longer lifespan than the average deck materials.

Today, composite manufacturers continue to innovate. A company called Fiberon, for example, has taken a composite board and added a durable “cap stock” to it with their Horizon decking. The result is a composite that’s even more impervious to stains and wear than the average board.

If you’re interested in composite decking, you can get a lot more than just deck boards. Virtually every deck component, from the rails to the fascia boards, is also available in a composite.

— Written by Wyatt Myers

STONE & BRICK VENEERS

PHOTO COURTESY OF CULTURED STONE

Pros

Almost a dead ringer for real stone or brick; available in a variety of styles and colors; pieces notch together to hide joint lines.

Cons

The trained eye can distinguish between real stone or brick and the veneers.

Cost

Between \$8 and \$14 per square foot.

Sources

Cultured Stone (CulturedStone.com); Eldorado Stone (EldoradoStone.com); Performance Brick (PerformanceBuildingProducts.net)



PHOTOS COURTESY OF PERFORMANCE BRICK



COMPOSITE DECKING

PHOTOS COURTESY OF TREX



PHOTO COURTESY OF FIBERON



PHOTO COURTESY OF TIMBERTECH

PHOTO COURTESY OF TREX

Pros

More durable and requires less maintenance than conventional wood decking; some models are even stain-resistant and don’t require finishing.

Cons

Lacks the character of woods like cedar, redwood, or teak; more expensive than most other decking options.

Cost

\$1.50 to \$3 per linear foot.

Sources

ChoiceDek (ChoiceDek.com); CorrectDeck (CorrectDeck.com); EverGrain (EverGrain.com); GeoDeck (GeoDeck.com); Fiberon (FiberonDecking.com); Trex (Trex.com); TimberTech (TimberTech.com)

have some
fun with

specialty PAINTS

Most paints change a surface from one color to another. But others have more ambitious goals, like creating chalkboards, magnetic surfaces, and glow-in-the-dark effects. We'll tell you how to get great results with three of the most popular specialty paints.



PHOTO COURTESY OF BUNZELIUM CORPORATION



PHOTO COURTESY OF GEMINS BY ALISE LEWISTON, IL



PHOTO COURTESY OF CHRISTOPHER WALL, MIRAAL DESIGN.COM

Specialty paints accomplish very different goals from traditional paints. Chalkboard paint can transform virtually any surface into a durable chalkboard that erases cleanly. Get it in traditional black or green or in a tintable base, so you can match the chalkboard to your decor. For a versatile surface that accepts both chalk and magnets, try chalkboard/magnetic paint in black.

Functional and fun magnetic paint creates surfaces that attract magnets, so you can hang notes, photos, or artwork almost anywhere. You can purchase basic black magnetic

paint, magnetic primer for use under magnetic paint or other finishes, and a dry, concentrated, magnetic additive that can be mixed with any oil- or latex-based paint.

Glow-in-the-dark paint can be used to enhance nighttime safety and for cool artistic effects. There are many glow-in-the-dark paints, from higher-end paints that glow for up to 24 hours to others that glow from just 20 minutes to two hours. In addition, some glow-in-the-dark paints can be used outdoors, while others are for interior use only. Be sure you read the label carefully to get the best paint for your needs.



CHALKBOARD PAINT

Where to Use It: Almost any smooth surface can become a chalkboard, including drywall, plaster, wood, metal, glass, terra cotta, and hardboard. Turn a wall in a child's bedroom or playroom into a large-scale scribble board, or convert a wood tabletop into an ever-ready surface for tic-tac-toe. Refrigerator and kitchen cabinet doors can make handy surfaces for shopping lists or recipe references (Photo, page 60). In a family room or home office, paint a chalkboard above the phone for to-do lists and messages.

Tips for Use: First, clean the surface and let it dry. Prime bare metal or bare wood with a good-quality latex primer. For best results, apply a minimum of two coats of chalkboard paint with a 1/4" roller. Wait four hours between coats, and allow a three-day cure time after the final coat. Before use, condition the entire surface by rubbing it with the side of a piece of chalk. Chalkboard surfaces can be washed with soapy water as necessary. For wall chalkboards, consider fastening a piece of molding at the bottom to hold chalk and an eraser.



MAGNETIC PAINT

Where to Use It: If your kids love to play with magnets on the refrigerator door, imagine the fun they'll have with a large magnetic board in their room (Photo, page 60). Magnetic paint works well on drywall, plaster, wood, metal, and even masonry. In fact, if a surface can be painted, chances are it can be magnetized. A half-gallon of magnetic paint covers 80 to 100 square feet, so it's easy to magnetize an entire wall.

Tips for Use: Magnetic paint products are prone to heavy settling, so have the paint shaken at the store or stir the paint for at least 10 minutes. For best magnetic attraction, apply two or three coats of magnetic primer and two coats of magnetic top coat. Apply magnetic paint with a foam brush, a foam roller, or a painting pad. When it's partly dry, sweep the surface with a putty knife-like tool called a burnishing knife to smooth it out. MagnaMagic offers painting kits with all of the supplies that you'll need to create a magnetic board. Flexible rubber sheet magnets or rare-earth magnets work the best on painted magnetic surfaces.



GLOW-IN-THE-DARK PAINT

Where to Use It: Glow-in-the-dark paint can be applied to previously painted surfaces and to wood, metal, plaster, plastic, wrought iron, and unglazed ceramic. It's often used for decorating walls and ceilings in children's rooms, and glow-in-the-dark paint enthusiasts create captivating murals that transport the viewer into outer space (Photo, page 60). This paint adds visibility when used on light switch plates, steps, and railings. The waterproof varieties are popular for use on bikes, fishing lures, sporting equipment, and camping gear.

Tips for Use: Dull surfaces before application, and brush on one or more coats over white or light-colored surfaces. Allow paint to dry for at least three hours. For the brightest effects, check out the niche suppliers like GloNation and Glow Inc., who offer products as small as a 1/2 fluid ounce. These formulas are potent, so follow the manufacturer's directions carefully.

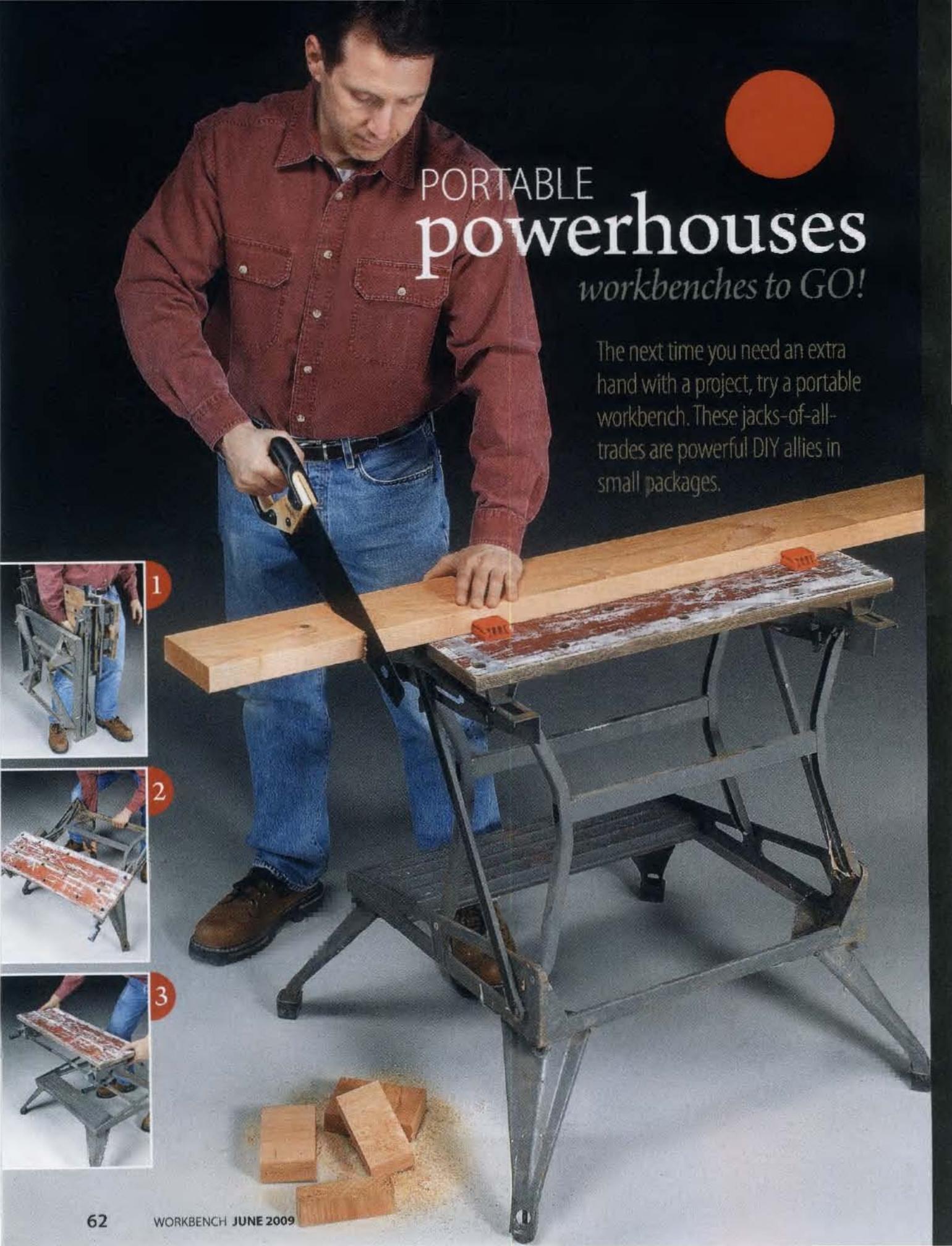


A
B
C



BUYER'S Guide

Rust-Oleum RustOleum.com 800-323-3384	GloNation GloNation.com 888-431-2111	Glow Inc. GlowInc.com 410-551-4874	MagnaMagic MagnaMagic.com 508-473-4240
Krylon Krylon.com 800-247-3268	Benjamin Moore BenjaminMoore.com 800-344-0400	FolkArt Paints FolkArtOnline.com 800-842-4197	Kling Magnetics Inc. Kling.com 518-392-4000



PORTABLE powerhouses

workbenches to GO!

The next time you need an extra hand with a project, try a portable workbench. These jacks-of-all-trades are powerful DIY allies in small packages.



Part sawhorse, part vise, and part workbench, the original Black & Decker Workmate sparked a DIY revolution when it hit the market over 30 years ago. This portable workbench made it possible to take a work surface to your projects rather than having to bring your projects into the shop.

I still have a Workmate that my father bought in the early 1970s. It's been in my possession for close to 20 years. This Workmate may be time-worn, but it's still going strong and remains in regular use today, as the *Photo* at left proves. My Workmate is one tool I'd hate to be without, and many other DIYers agree. The Workmate has been so successful, in fact, that the name has become synonymous with any portable workbench.

Of course, there are other portable workbenches, and some offer truly unique variations on the theme. So I thought I'd gather a few of the more interesting versions — a new version of the classic Black & Decker Workmate



On some portable workbench models, the table halves can be separated to make more room between the jaws.

(BlackandDecker.com), a FatMax Mobile Project Center by Stanley (Stanley.com), and a unique one from Wolfcraft (Wolfcraft.com) — to show you just what this venerable and versatile tool can do for you.

Read on, and you'll learn what makes the portable workbench a tool every DIYer should have. Then check out the sidebars to learn about the unique features of each of the three models we chose.

Defining the Breed — The original Workmate became so successful because it offered features that hadn't been seen before. Portability came from the collapsible base. As the *Photos* on page 62 show, this base makes it



• Black & Decker Workmate WM225

The WM225 is the smallest in the Workmate line, but it's still a very capable bench. Opt for the WM225SB model, and you'll get a handy tool storage bag (*above*) that keeps all your tools and project supplies close at hand.



Versatility is what makes a portable workbench so indispensable for a DIYer. The tables are designed to hold about anything you can think of, even plumbing pipe (*left*). Parts that don't have parallel edges aren't problematic either, thanks to jaws that can be closed at an angle (*right*).





• FatMax Mobile Project Center

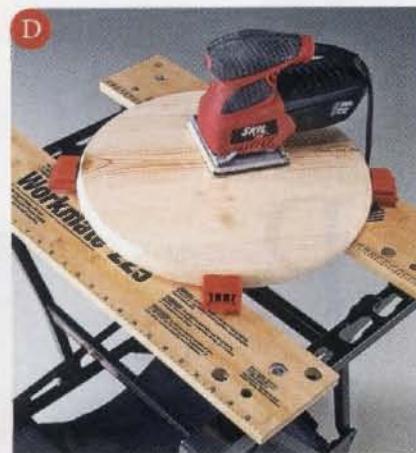
The Mobile Project Center solves two problems. First, it has an outlet, so you can power three tools with one extension cord. Second, it folds down to work as a hand truck that can haul up to 220 pounds of your gear.

Clamp “dogs” make it easy to hold oddly shaped or oversized objects in a portable workbench.

easy to carry the bench from place to place. When you reach your destination, just fold out the legs, raise the base, and then you’re ready to work.

What really makes this tool function, though, is the tabletop. It consists of two flat table sections. Some models even have a third section that can be inserted in between to expand the size of the table. At its most basic level, a portable workbench makes a great stable work surface.

Jaws Add Life — These tools really shine when you separate the table halves by turning the handles that are connected to two long screws. They move one of the two table halves. Turn the handles one way, and the table halves separate. Turn the handles the other way, and the two halves close tight to clamp a workpiece in place. It’s an ingeniously simple idea, but it’s what makes these tools work so well. There’s more



to how the top works than just that, though.

The design of a portable bench top allows you to easily clamp narrow objects with parallel edges, such as a 2x4, even if it’s longer than the table. And some portable benches allow you to reposition one half of the table. This makes the vise opening larger, allowing you to clamp bigger pieces (*Photo A, page 63*).

On most portable workbenches, the mating edges of the table also have “V” grooves running lengthwise. They make it possible to securely hold tubular items, such as conduit, table legs, or pipes (*Photo B, page 63*).



Some things are just too big to clamp in any portable workbench. But that doesn’t have to stop you. The design allows you to rest large items, such as this door, on the ground and hold them in place with the clamping jaws. You can clamp tall items by letting them hang down inside the base.

But the tables aren't restricted to clamping items with parallel edges. The handles and screws work independently. That means you can crank one end of the table closed farther than the other. This lets you clamp wedge-shaped objects (Photo C, page 63).

Gone to the Dogs — But what if you have an item that won't fit into the jaws? Portable workbenches accommodate those, too. The tables have holes that accept clamping "dogs." These can be positioned where you need them, so that you can clamp pieces that are too wide to fit in the jaws or get a grip on an oddly shaped piece (Photo D, page 64). This

opens up a range of clamping possibilities.

Learn New Tricks — Once you have a portable workbench, you'll discover a lot of other tricks that they can do, too. For example, the tables are wider than the base, so you can take advantage of the overhang. That's handy when you need to stand a door on edge and install hinges (Photo E, page 64).

Of course, these are just the basics of what a portable workbench can do. With a little imagination, you'll find even more great uses for one of these portable powerhouses. 

— Written by David Stone



Even if the items you need to work on are long, a portable workbench can be a great work center. The Wolfcraft bench makes this especially easy with its extendable outriggers.



• Wolfcraft 6895 Bench & Tool Stand

This Wolfcraft bench combines a portable workbench with a tool stand. It has adjustable extension wings that each have a workpiece support on top and a sturdy leg below. Mount your miter saw on the table, and you can cut long boards easily (above). Or you can work with long pieces (Photo F, left).



Sometimes the most difficult step of building a project is connecting the parts, but that doesn't have to be the case. When your project calls for joinery methods that are stronger or look nicer than the usual methods, you can turn to specialty fasteners. These connectors also can create joints that simple screws, nails, or glue can't.

You'll be amazed by how many versatile or project-specific options you can find. Some of the best sources are home centers and retailers like Lee Valley (LeeValley.com), McFeely's (McFeelys.com), and Rockler Woodworking and Hardware (Rockler.com).

We found that specialty fasteners fall into a few basic categories. Some can help you make "knock-down" furniture that can be disassembled. You can find specialized screws that connect pieces when others won't work. Another category helps you bolt pieces together. Others work great for attaching pieces to form corners. And some connectors create surfaces that are flat and flush.

On the next few pages, we'll show you some of your connector options, and explain the types of projects that you can use them for.

making

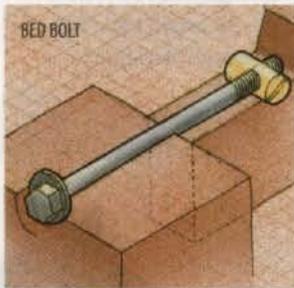
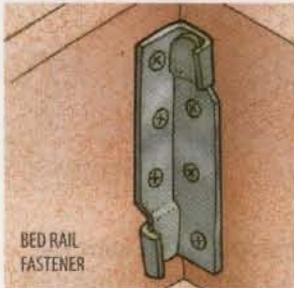
CONNECTIONS

When you need to connect your project pieces, you have more options than the usual nails, screws, or glue. Choose a specialty fastener to make your connections stronger, more convenient, and more attractive.



KNOCK IT DOWN

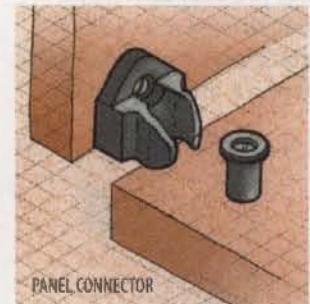
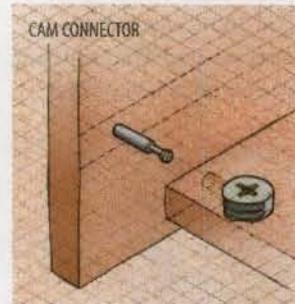
Projects like lofts, beds, and shelving sometimes need to be disassembled and reassembled easily. When you're working on this type of project, knock-down fasteners can make the process much easier. These connectors allow you to take projects apart without damaging the pieces, but they can also form strong joints when used for long-term connections.



Bed Rail Fasteners — A bed is an example of a project that requires simple, secure joints, and bed rail fasteners (A) are one solution. The fasteners come in pairs that get screwed to separate pieces of the bed frame and then interlock to make a strong connection.

Bed Bolts — For an even stronger bed frame connection, you can use bed bolts (B). Although they're a bit more elaborate than bed rail fasteners, they still accommodate the need for both a sturdy connection and one that can easily be taken apart. You'll need to drill a long hole and pocket in the rail, and a hole in the headboard for the bolt.

Cam Connectors — If you've ever built flat-pack or ready-to-assemble furniture, you probably already know how handy cam connectors (C) can be. You can build with cams, too, since they can be purchased online or in home center hardware aisles. The cam gets set into one workpiece and inter-



locks with the post installed in a second piece.

Panel Connectors — Knock-down panel connectors (D), which you can purchase from Lee Valley, offer a similar but simpler approach. They come in two pieces, so you can just screw

the cylindrical part to one workpiece and the clip to a second workpiece. Then snap the cylindrical piece into the clip for a temporary connection. The thermo-plastic resin connectors are strong enough to serve as pivot hinges, too.



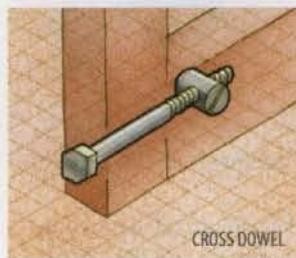
SUPER SCREWS

Woodscrews may be convenient, but there are a lot of other screws that may be better suited to your project. Sheet metal screws (E), for example, are perfect for working with thin material or composites like MDF. Brass connecting screws (F) add a decorative touch, so you won't have to conceal them. Dowel screws (G) work great for attaching workpieces with blind holes. And knock-down screws (H) are the perfect choice when you need a screw that grips firmly but can be removed easily.

BOLT IT UP

Bolts are popular because they are often the strongest solution. The problem is that some DIY project materials can't just be threaded like a nut to hold a bolt. This hardware makes it possible to use bolts even when you're faced with tough connections.

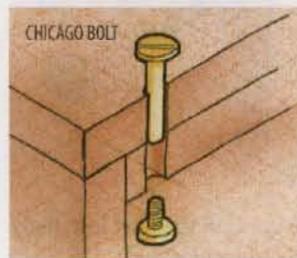
Cross Dowels — Cross dowels (I) are very useful when you're building furniture. Tables, for example, have stretchers and aprons that span between the legs, but you can't drive a bolt into the end of a stretcher and expect it to hold. A cross dowel is threaded and fits



into a hole, giving the bolt something sturdy to grab.

Chicago Bolts — Chicago bolts (J), which are available through Lee Valley, consist of a small bolt and a hollow, threaded rod that fit together. They're useful when you want to connect storage cubes or boxes because they look better than a typical nut and bolt.

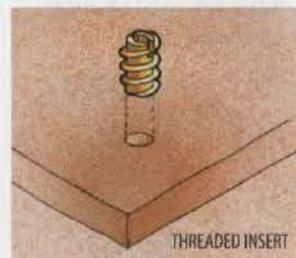
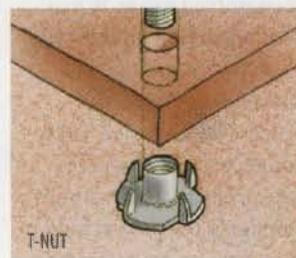
T-nuts — T-nuts (K) offer another way to add a "nut" to make bolting project parts easier. In the April 2009 issue of *Workbench*, we used T-nuts for our classic workbench project.



The T-nuts accepted bolts to attach the stretchers to the ends of the bench. You can find T-nuts with barbs or holes for brads to keep them from turning when you're tightening a bolt.

Threaded Inserts — Threaded inserts (L) are similar to T-nuts but will work in a blind hole. They are threaded inside, and their outsides have threads or barbs, so they can be screwed or hammered in.

Hanger Bolts — One half of a hanger bolt (M) is covered with machine



threads, and the other half is a woodscrew. When used with leg braces (V), they can help attach table legs to aprons and stretchers.



QUICKER CORNERS

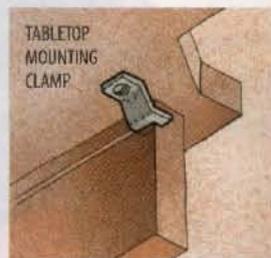
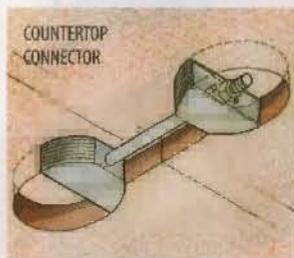
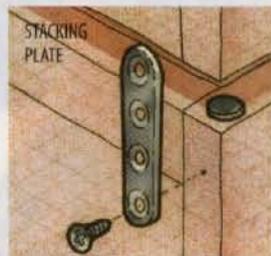
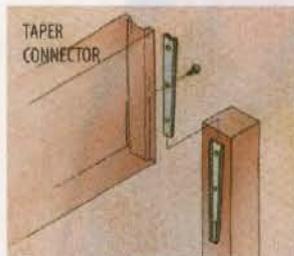
When you need to join two project pieces to form an angle, you may find that connecting them isn't as easy as it seems. In some cases, traditional joinery may be enough to make the connection. But in other situations,

you need some hardware that will help you keep the pieces locked together to form rigid, sturdy, and accurate angles. Here are a few angle joiners, braces, and brackets that can make a big difference.

Steel Corner Braces — They may seem simple, but corner braces (T) come in handy for a variety of applications. When you're working on a project that's just a simple box, for example, you can attach



FLAT AND FLUSH



This group of connectors can help you get your project pieces flat and flush — and keep them that way. Whether you want to create a seamless connection between two countertop pieces, attach a tabletop, or flush-mount a project piece, these connectors provide clever solutions.

Taper Connectors —

These taper connectors (N) join together in pairs to allow you to flush-mount your project or connect two project pieces. The fasteners form connections without visible hardware.

Countertop Connectors — When counters wrap around corners, you need a way to hold the joint tight, so there won't be a gap between the pieces. Countertop connectors (O, P) fit into recesses on the underside of the countertops and cinch them tight.

Stacking Plates —

Stacking plates (Q), which you can purchase from Lee

Valley, are a great choice when you need to connect parts with their backs flush. For example, you can use them to attach a hutch to a cabinet. When you purchase the plates, they come with all the screws you'll need, plus felt pads that slide between the project parts to protect them.

Tabletop Mounting Clamps —

If you need to connect a tabletop and base, use tabletop mounting clamps (R). They allow the top to expand and contract naturally, which prevents it from cracking after you've completed the table. The clamps slide into a groove cut in the table's base, and then get screwed to the underside of the tabletop.

Figure-8 Connectors —

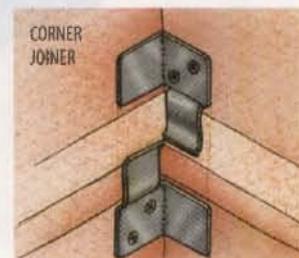
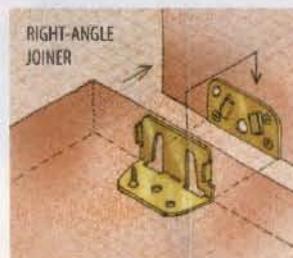
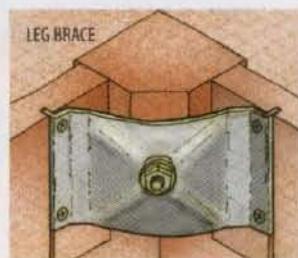
When you want another option for attaching a surface to its base, use figure-8 connectors (S). Recess them with a Forstner bit, and then screw them to both the base and the tabletop.

these fasteners with screws. Their installation is fast and easy enough for quick projects, but at the same time they look nice enough to use on complex projects.

Chair Braces and Leg Braces — Chair braces (U) and leg braces (V) are attached in a way that's similar to steel corner braces. But some large leg braces feature holes through their centers. When you're building a table, these holes accommodate hanger bolts (M), which get capped by nuts to secure the legs.

Right-Angle Joiners —

Right-angle joiners (W), which are available from Lee Valley, also work in sets to join your project pieces. One component has tabs that slide into the slots on the adjoining component.



You can also use right-angle joiners to support shelves.

Corner Joiners — When you need an extra-sturdy corner joint but want the pieces to detach quickly if needed, these corner joiners (X) are the answer. The fasteners consist of two halves that interlock to join

the project pieces. Corner joiners work very well when you want to secure stacked project parts. Just be sure the joiners are properly aligned before you attach them to your project.

— Written by Alyssa Schmitt, illustrated by Erich Lage

A Smarter Jigsaw

Trying to decide which cutting setting to select on your jigsaw can be frustrating. Choose wrong, and you can ruin your material. That's why Black & Decker developed a jigsaw featuring easy-to-read cutting icons that eliminate trial-and-error cutting. The SmartSelect Jigsaw offers a range of settings for optimal cutting in different types of wood, as well as plastic and metal.

PRICE: \$40
 LEARN MORE: BlackandDecker.com
 or 800-544-6986



Turn Any Shop Vacuum into a Cyclonic Super Vacuum!

"This thing is amazing!"

- J.S. Brock



Retrofits to Any Shop Vacuum.

\$59.00 D.I.Y.

OR

\$99.00 Complete Conversion Kit
(As Shown Above)

Our new plastic Dust Deputy is an economical way to eliminate shop vacuum filter clogging!



Made in the USA



Solving Your Dust Problems Since 1993

Order Online!

www.oneida-air.com

Call Today for FREE Catalog!

1.800.732.4065

Product Information Number 296



Metal Spiral



Victorian One Spiral

Spiral Stair Kits

Add beauty & space saving functionality to any room.



Oak Spiral

You'll find the spiral stair kit that's right for your home.

THE IRON SHOP

The Leading Manufacturer of Spiral Stair Kits

Call for the **FREE** color Catalog
1-800-523-7427 Ask for Ext. WB
or visit our Web Site at
www.TheIronShop.com/WB

THERE IS NO BETTER BRUSH MOWER.

Find out for yourself. I'll send you a DR® FIELD and BRUSH MOWER to try for 6 months.

Built with unstoppable power, the DR® FIELD and BRUSH MOWER promises no-nonsense performance and bulletproof reliability. Mow down head-high field grass, tough brush, and saplings 3 thick.

If you're looking for the solution to your overgrown land, turn to the DR® FIELD and BRUSH MOWER. There's nothing in the field like it. And it's yours to try for 6 months risk-free.

- SELF-PROPELLED
- UP TO 17 HP
- TOW-BEHIND MODELS, TOO



Tom Parent, Sales Manager
DR® POWER EQUIPMENT



Get a **FREE DVD & Catalog.**

Online DRfieldbrush.com Toll-Free **1-888-213-1226**

ES158X © 2009 CHP, Inc.

All-Occasion Glue Pack

If you've ever searched through a utility drawer full of glue tubes and bottles but still couldn't find the right glue for that unexpected repair, this kit is for you. The Liquid Nails Adhesive Variety Pack contains three glues that handle a wide spectrum of the most common household gluing needs. Included are adhesives for metal and ceramic repairs and an all-surface adhesive that works on a variety of home projects. The re-sealable storage case makes the pack easy to grab when your next gluing need arises.

PRICE: \$8
LEARN MORE: LiquidNails.com
or 800-634-0015



Don't Call It a Putty Knife

Everyone working on home repairs or renovations needs easy access to the tools they're using. But who wants to carry a lot of heavy tools in a tool belt? Hyde's innovative new offering is perfect for homeowners who need a lightweight yet durable multi-tool. The Pro Quality 10-in-1 slides easily into pockets or tool belts and features a thick scraping blade that also works as a chisel and a pointed grout remover and crack opener. It also has a curved edge for cleaning paint rollers, Phillips and slotted screwdrivers, a nail driver, and more.

PRICE: \$10
LEARN MORE: HydeTools.com
or 800-872-4933



practical ideas
for your home

workbench

Resource & Product Directory

Circle # Advertiser (Page #)

- 172 Amana Tools (14)
- Arrow Fasteners (Cover 3)
- Behr (3, 13)
- 262 Cook's Saw (25)
- Country Home Products (71, 75)
- 258 Create-A-Bed (25)
- Dremel (5)
- 270 Genova Products (Cover 2)
- 228 Gorilla Glue (7)
- Iron Shop (71)
- 220 Kreg Tool (11)
- 215 Mechanix Wear (19)

Circle # Advertiser (Page #)

- 353 Norton Abrasives (25)
- 202 Old Master's (15)
- 296 Oneida (71)
- 244 PexSupply.com (21)
- 196 RockAuto (24)
- Select Comfort (17)
- Sherwin Williams (Cover 4)
- True Value (9)
- 246 UGL/ZAR (23)
- 260 Waterproof (75)
- 235 Woodsmith Shop (75)

FREE PRODUCT GIVEAWAY!

We will select one product information request card from those postmarked by May 1, 2009. If we pick yours, you'll win this **Kreg Jig®** — the perfect choice for DIY'ers and anyone new to Pocket-Screw Joinery. Whether you're building your first set of garage storage shelves or making simple repairs around the house, the Kreg Jig® can help you finish the job in less time, and with far less effort than you ever thought possible. Its simple design gives you the confidence to start the project, and with joints as easy as "Drill. Drive. Done!" — you'll actually want to finish it.



No purchase necessary to participate, but you must answer (on the card above) ALL survey questions below.

To enter the FREE Giveaway, you must answer ALL questions in the survey below.

SURVEY INSTRUCTIONS: Circle the number on the Product Information Request Card (above) that reflects your answer to the questions below. Then detach the card and mail.

- 1) What is your level of experience in home improvement?
 (301) Beginner (302) Intermediate (303) Advanced (304) Semi-Pro (305) Pro
- 2) How much do you plan on spending on home improvement projects in the next 12 months?
 (306) None (307) Under \$100 (308) \$100-\$499 (309) \$500-\$999 (310) \$1,000-\$1,999
 (311) \$2,000-\$2,999 (312) \$3,000-\$3,999 (313) \$4,000-\$9,999 (314) \$10,000 or more
- 3) Which of the following types of power tools do you plan to purchase in the next 12 months?
 (315) Stationary power tool (316) Portable power tool (corded) (317) Portable power tool (cordless) (318) None
- 4) How much in total do you plan on spending over the next 12 months on the following:
Stationary power tools: (319) less than \$500 (320) \$500-999 (321) \$1000-plus
Portable power tools: (322) less than \$100 (323) \$100-200 (324) \$200-plus
- 5) Have you ever purchased a product from a Workbench advertiser after the advertiser provided information via the following?
The phone: (325) yes (326) No
The internet: (327) yes (328) No
The Workbench Reader Response Program: (329) yes (330) No (331) I've never made such a purchase.
- 6) Which of the following best describes how you received this issue of Workbench?
 (332) I bought it on the newsstand (333) I am an active subscriber
 (334) It was given to me by a friend, family member, or acquaintance (335) I requested a free trial issue from Workbench



Leading Edge Stud Finder

Stud sensors have been around for years, but they don't always show you the exact edge of the stud you're searching for. The redesigned StudSensor Edge by Zircon features a visual and audio alert that clearly identifies the edge of wood or metal studs up to 3/4" deep behind drywall. It also addresses a common user error by indicating if scanning begins directly over a stud. The new ergonomic design allows the Edge to fit comfortably in the palm of your hand.

PRICE: \$10
LEARN MORE: Zircon.com
or 800-245-9265

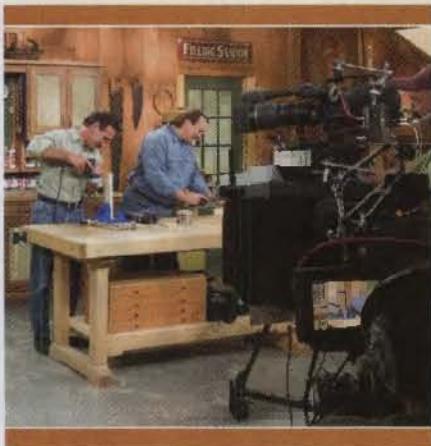
Kit Helps You Go Green

Want to "go green" but don't know where to begin? The Eco Starter Kit contains energy-saving tools, sustainable products, and step-by-step techniques that will make it easy to embark on a greener lifestyle. The kit includes an A to Z resource guide on recycling, a water quality test kit, an energy monitor, and a number of sample products like outlet sealers, toilet leak detectors, and faucet aerators. Users can create a personalized "eco roadmap" online and then track reduction of their carbon footprints.

PRICE: \$98
LEARN MORE: EcoHatchery.com
or 414-332-8347



Woodsmith SHOP TV SERIES



See the pages of
Woodsmith
magazine come
alive on your TV.

The editors of *Woodsmith* are producing a new show for public television that gets to the heart of wood-working — the techniques, the shop tips, and the skills you need to build beautiful furniture and must-have shop projects.

For More Information, go to:

WoodsmithShop.com

Our Underwriters:



Product Information Number 235

Basement Waterproofing!



SquidGee
Dry System

Do-It-Yourself Its Easy!



Installer
Business
Opportunity
Available.

waterproof.com

Average cost...
\$6.™ per ft. Delivered/
Based on a 100ft.



For Fast Delivery, Order online...

www.waterproof.com
1253 Hallmark Ct.
Oakdale, MN 55128
Ph 651 644-2000

UnderGround DownSpout Kit

Drain roof water 8ft away from your foundation to prevent water problems.

Proper water management around the foundation of your home can be very effective at keeping the water from reaching your basement.



Order your kit today!
Only \$19.85

Hydrostatic pressure forces water up through the joint where your floor and walls meet. *SquidGee system* collects the seeping water and quietly drains it to your floor drain or sump pump. The only skill needed for installation is the ability to follow directions. Just seal the pre-molded corners and easy to handle main sections to the floor using the *SquidGee SealOnce™ Adhesive*. With the *SquidGee Dry™* system in place, wallscan easily be paneled or finished.

SealOnce
Adhesive.



4'6" Main
Section.



Inside
Corner



Outside
Corner



End Cap



Product Information Number 260

HAULS LIKE A DUMP TRUCK

YET IT HANDLES WITH EASE!



Try a DR® POWERWAGON – the heavy-duty, self-propelled hauler for your yard, barn, woodlot or garden – for 6 months RISK-FREE!

HAUL up to 800 lbs...up or down hills, over rough, even soft, wet ground!

UNLOAD it like a dump truck without tedious hand labor (optional *powered dumping* available).

ENJOY the easy handling of 4 speeds, Power Reverse, Electric-Starting, and Zero-Radius-Turning!

6157X © 2009 DRP, Inc.



Get a **FREE DVD and Catalog**

with full details including prices, specs and your 6-Month Risk-Free Trial.

TOLL FREE **1-888-213-1226**
www.DRpowerwagon.com



There are lots of reasons to add lighting in a kitchen. Whether you're chopping onions or rolling out cookie dough, the task will be easier if your work surface is well lit by under-cabinet fixtures (Photo, below). Lighting can be a great beautifier, too. Over-cabinet lighting casts a warm glow over the entire room (Photo, right). When placed inside kitchen cabinets, lighting makes the contents attractive and easy to locate (Photo, lower right).

For many years, the standard choice for supplemental lighting in the kitchen has been linear fluorescent fixtures (smaller versions of the fluorescent tube fixtures commonly used on ceilings). However, some people don't like the "cool" bluish light that fluorescent



PHOTO BY BRUCE SHIFFER

chose to feature LED fixtures in this article because they're bright, easy to install, linkable, and offer an 85 percent energy savings compared to halogen or xenon. LED fixtures have a low profile, making them easy to conceal inside or outside of cabinets. They operate at low temperatures, so they're cool to the touch. LED products also have exceptionally long lives — up to 100,000 hours — so you may not have to replace them for the life of your kitchen.

Plenty of Choices — If you peruse the lighting aisle at your home center, you'll find LED options in an array of sizes and styles (Photo, page 76). There are LED puck lights, accent lights, strip lights of various lengths, light panels, and even flexible rope lights. Some LED fixtures can be aimed in specific directions, which makes them particularly well suited to the kitchen. And most LED sets can be linked together, so you can configure a system that works in your kitchen's layout.

One of the nicest things about LED fixtures is how easy they are to install. Most can just be plugged in, rather than having to be hard-wired, so they don't require the help of an electrician. But it's not quite as simple as "plug and play." You still need to figure out where to place the lights and how to keep all the wiring tidy. On the next pages we'll

show you how to tame those cords, switches, and transformers.

Lighting 101 — Rather than using a single bulb with a filament or gas, LED products use light-emitting diodes. Fixtures have multiple LEDs arranged in various ways, from single rows to concentric circles. Also, not all LEDs are the same color: They vary considerably in how "warm" or "cool" they appear. Check out the color of light the fixtures cast, if possible, and then stick with one manufacturer to help reduce color variations.

In addition to fixture style, you can choose from two types of voltage: line



PHOTO BY LAWRENCE SAUTZ/DA

lights often cast, and many fluorescents also have limited dimming capability.

More recently, halogen and xenon lights came on the market. They offer excellent color rendition and light output but relatively low energy efficiency. Plus, these fixtures — especially halogen — give off a lot of heat, and heat is already a problem in most kitchens.

Appealing New Option — LED (light-emitting diode) products now provide an interesting alternative in supplemental kitchen lighting. We



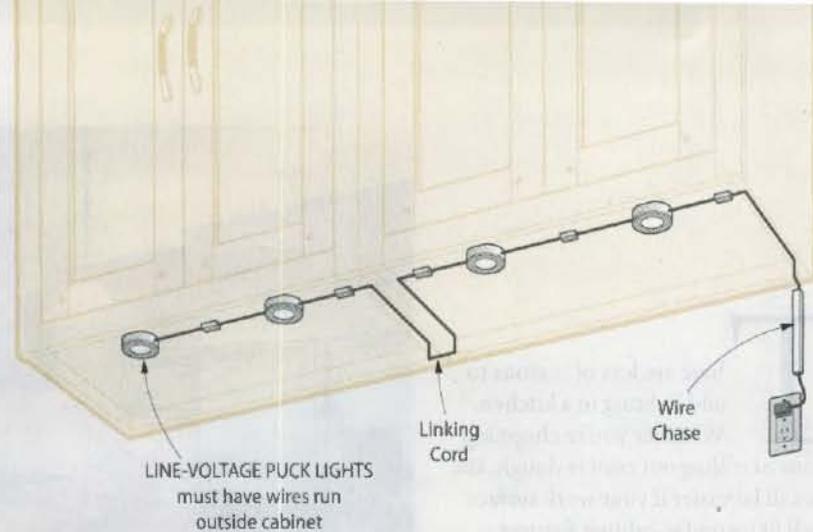
PHOTO BY ELLIEN BLESSING

voltage (standard 120-volt household current) or low voltage (usually 12 or 24 volts). The packaging that the fixture comes in indicates the voltage. There's not a big difference in light output or basic installation between the two types — both just get plugged in.

But there are other differences. Low-voltage sets use a transformer (a small box) to step 120-volt current down to a lower voltage. According to electrical codes, the transformer must be mounted outside the cabinet. The wires that run between the transformer and the light fixtures, though, can be inside cabinets.

In short, with a low-voltage system, you'll need to find space for the transformer but can easily hide the wiring. That means low-voltage sets can go under, over, or inside cabinets.

Line-voltage fixtures run on standard 120-volt current, but we focused on ones that simply plug in, rather than ones that get hard-wired. Line-voltage sets don't have a transformer to conceal. But code dictates that they can't have wires running



inside cabinets, so they're best suited to under- and over-cabinet lighting.

In most cases, both line- and low-voltage sets can be linked with short cords (*Photo A, page 79*). Enough cords are included with each set to link all of the individual lights it contains. Additional linking cords are available in the lighting department to connect different sets. The number of sets that can be linked varies, so you'll have to check the manufacturer's guidelines. And since both line- and low-voltage types get plugged in, you'll need outlets in the right locations and will have to deal with some exposed wires.

Speaking of exposed wires, with plug-in sets, some exposed wires are inevitable. Appliances and windows break up banks of cabinets in kitchens, so you can't link multiple banks of

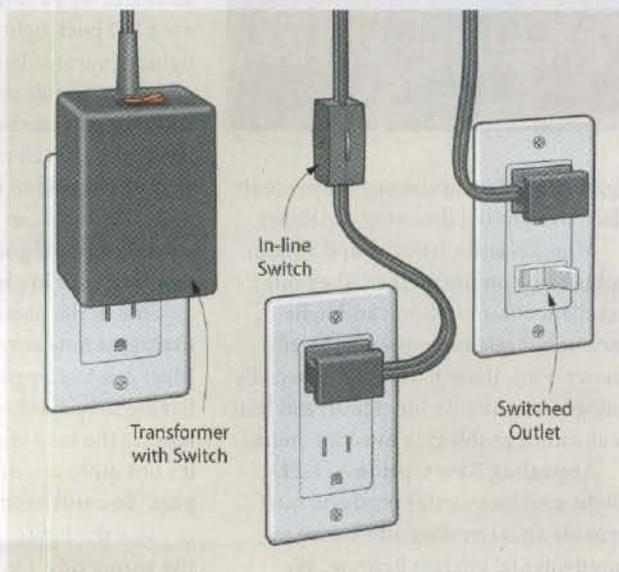
cabinets without exposed wires. That means you'll need separate sets of lights for each bank of cabinets. We'll tell you how to deal with the wires later.

Plot Your Course — Before you get into wires and outlets, you'll need to figure out where you want or need extra lighting. We have a few scenarios that might help. Underneath cabinets, pucks work great (*Illustration, above*). Strip lights are fantastic inside cabinets — you can hide them behind face frames and illuminate all the shelves (*Illustration, near right*). Rope lights are easy to add up top (*Illustration, far right*). Take a look at your kitchen's lighting needs, and decide which types will work best.

When you're shopping, pay attention to whether the lights are intended for surface, recessed, or directional mounting, and how many sets can be

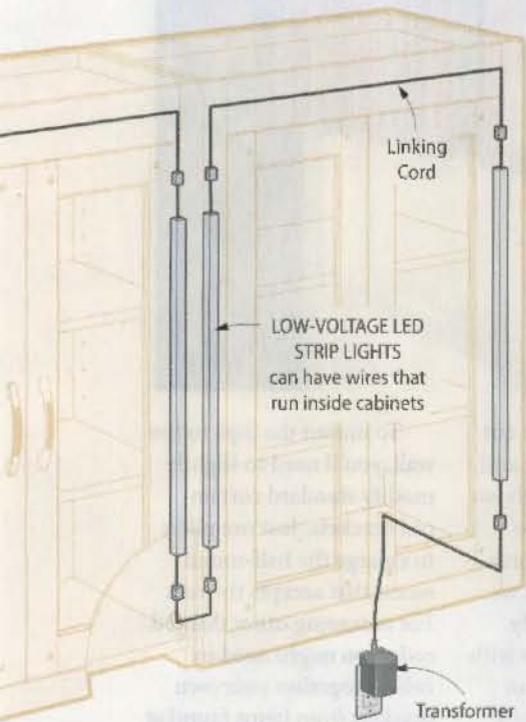
OUTLETS AND SWITCHES

The kinds of switches found on LED light sets vary between products. Some low-voltage versions have the switch mounted right on the transformer. You will need to plug these into an outlet that's easily accessible. Some sets have the switch located on the light fixture or on the first light in the chain if more than one set is linked. Others use an in-line switch. In-line switches are also simple to add to the cord of any light set to place the switch where it will be most convenient to operate. Another way to deal with switching is to have an electrician add switched outlets. With these, the switch controls the outlets. That means you can just plug the fixtures in, leave any built-in switches on, and control everything with the wall switch.





Linking cords are included with LED light sets to connect one fixture to another. Cable ties slipped through adhesive-backed anchors can help secure wires and cords. Replacement plugs and switches allow you to further customize light sets to meet your specific needs.



linked. Then decide how many of your desired type to purchase.

You might need to call a professional if there aren't enough outlets in your kitchen, or if they aren't located where you need them. Exposed wires can be minimized by having an outlet that services each bank of cabinets.

Cord Management — Even with properly placed outlets, cord management is a big issue with plug-in lights. With under-cabinet lights, it's easy to hide cords in the recess below the cabinets. Cable ties (B) can help keep the wires tidy. If you're using low-voltage

lights and you need to jump wires from cabinet to cabinet, drill small holes just big enough for the plugs on the linking cords to pass through.

Line-voltage cords can be tougher to manage. Since electrical codes won't allow these inside cabinets, you'll need to run them outside. Wire chases are a simple but efficient way to help conceal wires (*Illustration, page 78*). Chases are plastic, adhesive-backed channels that encase wiring. You can even paint them the same color as your kitchen walls.

Anchors (C) are also great for securing linking cords and the cords that run between the outlet and the cabinet, which you'll have with all plug-in sets, regardless of voltage. Another way to handle the cabinet-to-outlet cord is to cut it to the exact length you'll need — just enough to reach the outlet. Then you can easily install an add-on replacement plug (D).

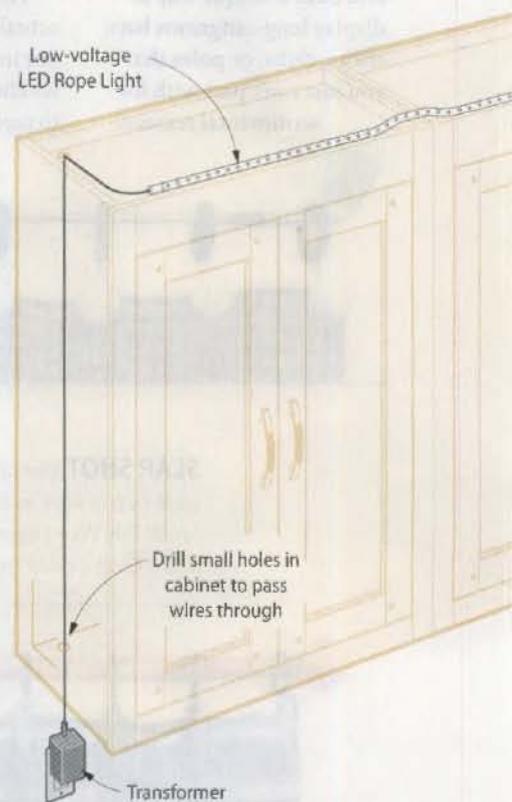
Switching Solutions — You'll also need to deal with switching, which varies depending on the type of light (*see Sidebar, page 78*). Switches might be located on the fixture or on the first light in a multi-light chain. Many LED lights come with in-line switches (E).

Some people choose to install a three-step touch switch for aesthetic reasons. This type of switch lets you use the lowest light level in the evening

for ambience or as a night-light. When meals are being prepared, the lights can easily be switched to full power.

Illuminating the dim spots in your kitchen can make a big difference in how much you enjoy working there. With the wide range of low-cost, easy-to-install LED lighting options that are now available, adding brightness to this room has never been easier.

— Written by Louise Ritchhart, illustrated by Matt Scott





Hot Rods

It's easy to make customized curtain rods with fun finials and clever curtain rings to celebrate your loved ones' special interests.

Everybody has a passion, whether it's striving for that hole-in-one or stalking the biggest bass in the lake. Themed curtain rods can pay homage to that special pastime and add a fun touch to a bedroom or rec room. They're very simple to make and offer a unique way to display long-outgrown bats, sticks, clubs, or poles that you just can't part with for sentimental reasons.

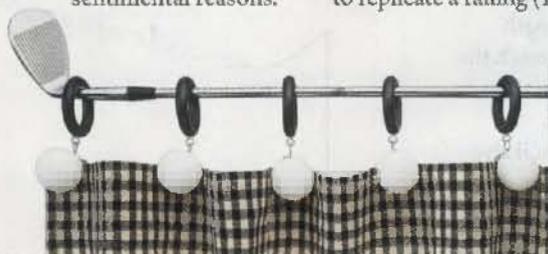
You can adapt this concept to all kinds of sports paraphernalia, from skis and bows to pool cues. If you don't already have the items, check out stores that sell used sporting goods. Just make sure that the potential rod is small enough in diameter to accept tabbed curtains or curtain rings with clips.

And you don't have to use actual sports equipment: For our inline skate-themed rod, we chose 1/2" galvanized pipe to replicate a railing (Photo,



above). We had the pipe cut to length and threaded, and then added 90-degree elbows at the ends to accept the wheels. The wheels (which are replacement wheels we found online) are simply mounted on the elbows with hot glue. To give them an authentic look, we glued a 1/2" hex nut on each wheel.

To mount the pipe to the wall, you'll need to slightly modify standard curtain rod brackets. Just use pliers to enlarge the half-round recess that accepts the rod. For mounting other themed rods, you might need to cobble together your own brackets from items found at any hardware store. 



HOLE IN ONE New or old golf clubs are a snap to turn into functional curtain rods. To enhance the theme, use a glue gun to fasten lightweight practice golf balls to the front of each curtain clip.

SLAP SHOT The fan who dreams of face-offs and goal nets is sure to love a hockey stick curtain rod. Small Pee Wee League sticks work as well as larger ones. Glue a puck on each blade for the big score.



FISH TALE If your little fisherman has graduated to a rod and reel, that bamboo pole can still serve a purpose. Glue a bobber at each end and lures on each clip. Snip the barbs off the hooks for safety.

With a Project like This, Rely on Tools like These. Arrow has them All.



If your projects need to be fastened with a nail, staple, rivet or glue - Arrow™ has the solution. Single function or multi purpose tools, manual to electrical, since 1929, Arrow has been manufacturing high quality fastening tools like the T50PBN® Heavy Duty Staple and Nail Gun.

For woodworking, trim and remodeling jobs to wiring, riveting, and flooring, whatever the home repair or do-it-yourself project - ARROW has over 60 tools and accessories to get the job done. To find the right tool for your project, visit us at arrowfastener.com to see our full line of fastening tools and supplies.

Available where fine tools are sold.



Arrow Fastener Company, Inc.

USA Tel: 800.843.6900

Canada Tel: 800.321.3983

UK Tel: 44.208.686.9180

www.arrowfastener.com

© 2009 Arrow Fastener Company, Inc.
Arrow™ is a Registered Trademark of Arrow
Fastener Co, Inc.

ASK SHERWIN-WILLIAMS IF YOUR BREATH SMELLS.

We don't smell anything funny, and we're pretty picky about that kind of thing. That's why we developed our Harmony® paint to be low-odor and zero-VOCs. So you can paint all you want without worrying about fumes or funny smells, even in small spaces like your bathroom. And hey, while you're in there, try some mouthwash. Just in case. Got a question? There's nothing you can't ask Sherwin-Williams.



swgreensure.com

SW 6712

