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June 2011

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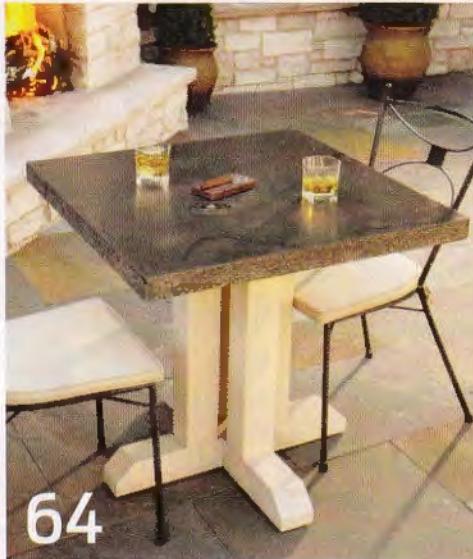
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Cover Photo TOM FENEGA

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# THE STUFF WE LOVE

Tools & Gear, DIY and Beyond

## Deck & Patio Edition

editors@thefamilyhandyman.com

### Fast footings with a Dingo

We hate digging deck footings by hand. That's why we love to rent a Dingo to help us. The Toro Dingo is powerful, easy to control and narrow enough to fit through a 3-ft. gate. Depending on what your local rental store has available, you can install up to a 30-in.-diameter auger bit—plenty big enough to dig those monstrous deck footings the building inspector asks for.



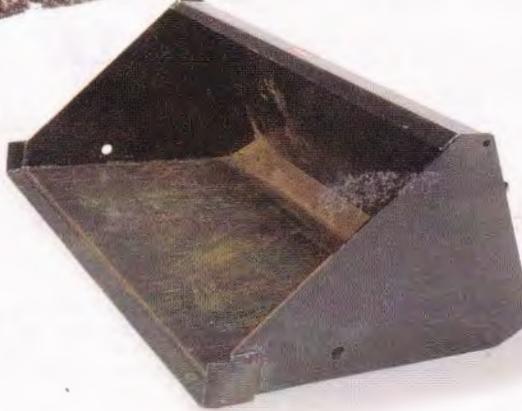
The Toro Co. ([toro.com](http://toro.com)) lists 34 attachments available for the Dingo, including augers, a backhoe, buckets, trenchers and ground preparation equipment.

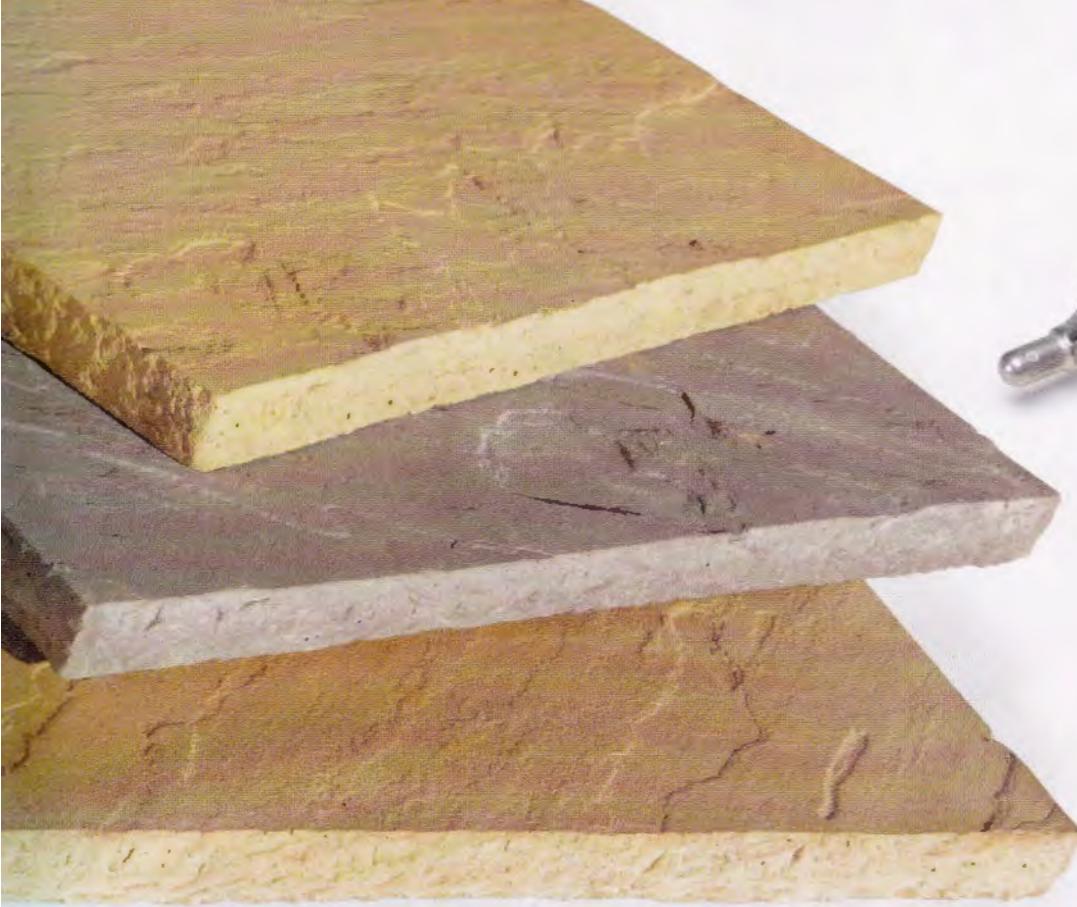
The hydraulic breaker (for busting up concrete) and bucket attachments are handy for slab tear-outs.

You'll find Dingos or some other brand of walk-

behind loader at most larger rental stores. Expect to pay about \$200 per day for the loader, auger and a trailer. Most rental stores have two-hour or half-day

rates, which might just be enough time because these loaders can dig a hole faster than a badger. You'll need a truck to pull the trailer and the loader.





## Wet-cast concrete looks like stone

Silver Creek makes molds from actual stones to produce paving products that are almost indistinguishable from the real thing. Using this "wet-cast" method, Silver Creek makes slate, limestone and travertine landscape tiles in several colors and three sizes. These stone look-alikes are less expensive than the real thing, and since they're all a uniform thickness, are also easier to install. Expect to pay about \$6 to \$7 per sq. ft. For inspirational photos and product and dealer information, go to [silvercreeksw.com](http://silvercreeksw.com).



## Screws that are bolts!

That's right. Now you can bolt your handrail posts to joists and rims without predrilling. Plus you don't need to search for your wrench. These FastenMaster ThruLOK screw bolts only require a strong cordless drill and hex head driver bit to install. Fasteners are available in 6-1/4-in., 7-in. and 8-in. lengths for some of the most common combinations of joists and posts. They cost \$3 to \$4.50 each, depending on the length and the quantity you buy. For product and dealer information, go to [fastenmaster.com](http://fastenmaster.com).



## Outdoor fireplace for DIYers

It looks like you'd have to be a skilled stone mason to build an outdoor fireplace like this, but Eldorado has done the hard part by providing a concrete framework. All you have to do is put it together and cover it with a stone veneer. OK, I may have oversimplified it a bit, but you get the idea. The precast fireplace unit with the hearth and chimney extension costs about \$5,300. The veneer to cover it ranges from \$6 to \$9 per sq. ft. To see more design ideas and other styles and find out where to buy Eldorado products, visit [eldoradostone.com](http://eldoradostone.com).



## Composite decking with a real-wood look

These boards look fantastic and won't fade, stain or discolor, unlike first-generation composite decking.

Three of the leading brands of this new type of capped composite decking are TimberTech Earthwood

Evolutions (timbertech.com), Guardian Guarddeck Prestige (guarddeck.com) and Trex Transcend

(trex.com). While the exact formula varies, this composite decking is basically coated with a thin veneer

of durable, plastic-like material. As you can see, the results are impressive. Prices range from about \$2.50 to

\$3.50 per foot. The boards are available in lengths to 20 ft. with grooved or ungrooved edges.

## Box beam level does double duty

We love sturdy 6-ft. box beam levels for deck and patio work. They stay straight and true, and the enclosed design allows it to double as a screed. Need to spread a bed of sand with a 1/4-bubble pitch? Just keep your eye on the bubble as you sweep the level across the sand. When you're not installing pavers, a box beam level works great for hanging doors, too. You can buy this 6-ft. Stanley box beam level (No. 43-772) or a similar one for about \$60 at Amazon and other retailers.



**Math-free spindle spacing**

Metal deck spindles are an attractive, maintenance-free alternative to wood. But you still have to do the math and lay out the spacing—or do you? Not with this Ancorail system. The top and bottom metal rails are predrilled with 4-1/2-in. on-center holes. Installation is simple. The rail system is available in several colors in both round and square versions. You can even buy spindles with precut angled ends for use on stairs. The system costs about \$20 per ft. To get more installation and purchasing information, go to [decksolutionsllc.com](http://decksolutionsllc.com).

**Big saw for tough cuts**

When your patio project calls for cutting tough stuff, this big cut-off saw is just what you need and what's in every pro landscaper's truck. It's basically a gas-powered chain saw body with a 14-in.-diameter diamond blade mounted to it. You wouldn't guess by looking at it, but it's perfect for cutting paver bricks and it's way faster than most other methods. The trick is to make a simple wooden form to hold the brick secure on the ground. Then you just rev up the saw and slice the brick as if it were a pound of butter. The hose fitting on the saw douses the blade with water while you're cutting to keep the blade cool and reduce dust. You can also use the saw to cut stone, retaining wall block or any other concrete or stone product. Cut-off saws like this Stihl model are available to rent for about \$65 per day.

**Tip:**

Lay all your full-size pavers at once and leave off the perimeter ones that need cutting. Rent the saw and hog them all off at once. Then get that saw back to save cash.



### Grippy gloves

Dip a pair of woven cotton gloves into latex and what do you get? Gloves that grip just about any building material, even slippery rocks. No more raw fingers from rough surfaces, and these gloves last much longer than the all-cotton ones. The stretchy fabric helps them fit tighter than regular rubber gloves, and since they breathe at the back, your hands don't get all sweaty. At a few bucks a pair, they're cheap, too! You'll find some version of them at any home center or gardening store.

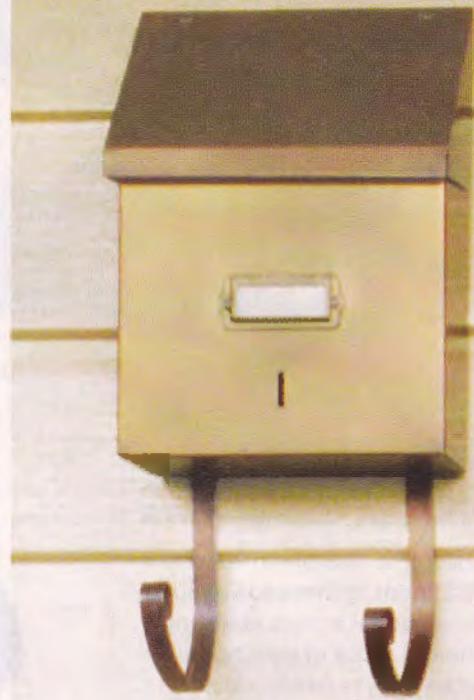
### In-deck storage

We came across Azek's soon-to-be-released In-Deck Storage Kit at the Builders Show in Orlando in January and were intrigued. It's a 6-ft.-long, 26-in.-wide by 22-in.-deep storage locker with 18 cu. ft. of space that's completely hidden under the decking. You frame in an opening as you build the floor and pretty much just drop in the unit. The top is covered with the decking you use for the rest of the deck. Gas struts (like the ones on your minivan hatchback) do the heavy lifting. Then you just toss in your chair cushions, charcoal and umbrellas, and everything will stay dry and out of sight. This system is a whole lot prettier than those giant plastic bins, and even better, you won't lose any valuable deck space! The In-Deck Storage Kit should be

available for \$1,000 to \$1,200 about the time you get this magazine. Check it out and locate a dealer at azek.com.



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SCREWS  
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## No more ugly screws

Forget about nails or screws or fussy hidden fastener systems. These fasteners are fast, easy and nearly

invisible. The grooved decking that's the key to this system hasn't caught on at the home centers yet,

but it will soon. All the major deck board manufacturers are making grooved decking for hidden fastener

installation. The fasteners (clips) vary slightly among brands, but they're similar and install the same.

After fastening one edge of the first board, you slip the clip into the groove on the exposed edge and screw

it to the joist. The next board slides into the clip. You'll need to learn a few tricks to make the system work, but it's worth the trouble to avoid rows of fasteners on the face of your new deck. Order clips with your decking or go to [deckfastener.com](http://deckfastener.com) for technical and buying information. The clips cost from 50¢ to \$1 per sq. ft. of decking.



## Hidden toe-screws

The Camo Marksman is a screw alignment jig that allows you to drive special screws at an angle into the edges of deck boards where they're barely visible. It'll work with any deck board, grooved or not. And you can replace a board in the middle of the deck without removing any of the surrounding boards—something you can't do with most hidden fastener systems.

There are two versions of the Camo tool. The less expensive one costs \$20 and has only one screw guide and no spring clamping feature. The pro version shown here will set you back about \$50, but we think it's worth the extra 30 bucks. Screws cost about 30¢ per sq. ft. of decking. For more information or to find a dealer, go to [camofasteners.com](http://camofasteners.com). One online source is [fastoolnow.com](http://fastoolnow.com).



# HANDY HINTS®

from our readers  
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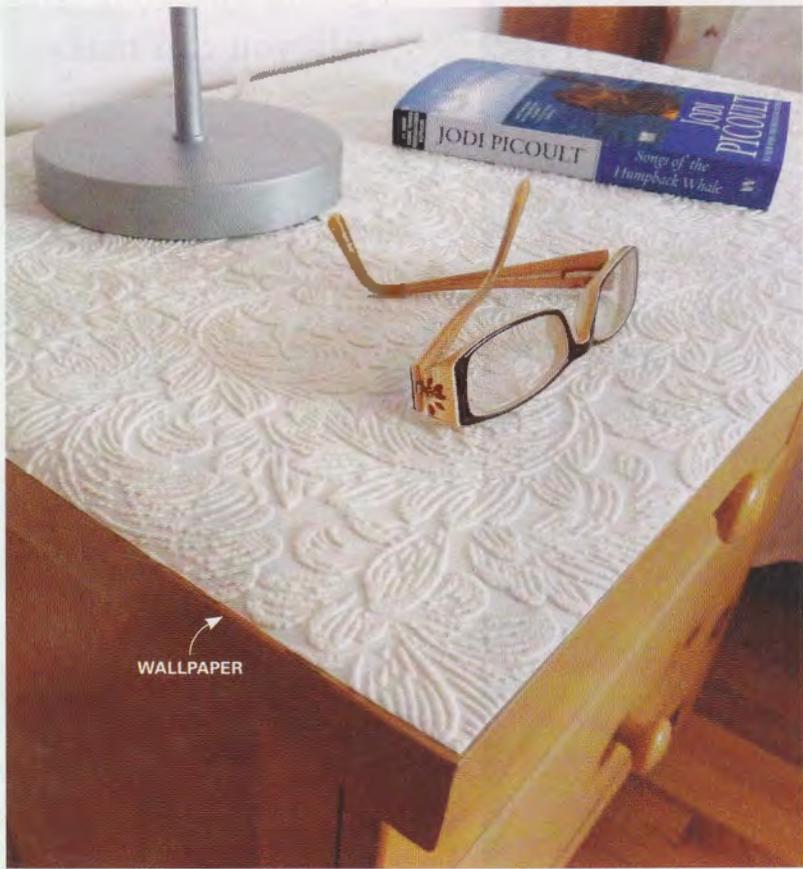
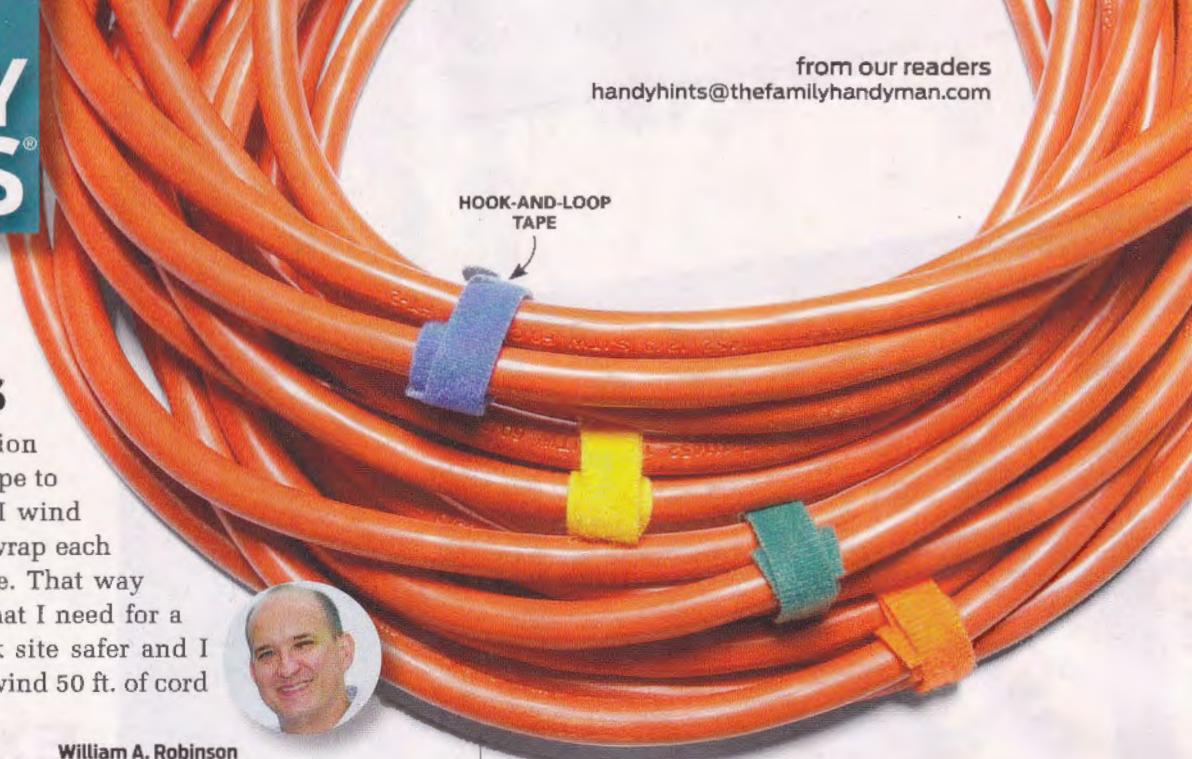
## Extension cord smarts

To prevent tangled extension cords, I use hook-and-loop tape to keep long cords organized. I wind the cord in 10-ft. loops and wrap each coil with hook-and-loop tape. That way I can easily unwrap only what I need for a given job. It keeps the work site safer and I don't have to unwind and rewind 50 ft. of cord when I only need 11.

William A. Robinson



HOOK-AND-LOOP TAPE



HSP

## New life for dinged-up nightstands

The tops of my nightstands aren't in the best shape, so I covered them with textured wallpaper (that I got at a garage sale!). I cut the wallpaper to the exact size of the table and just set it on top. My lamp and nighttime reading keep the wallpaper in place. When it gets dirty, I cut a new piece from the roll and replace it. You could also cover the wallpaper with a piece of glass. It's an elegant solution for side tables and buffets too.

Lucy Pfluger

## Handy branch hauler

Need a way to haul branches over to your fire pit? Carrying them in your arms is dirty work, and trying to stuff them into a plastic bag is awkward. Try using a sturdy plastic shopping bag with handles. Slit the sides, lay it flat, and fill it with branches and small logs. It loads easily and lets you carry wood without getting your clothes full of sap or mud.

Dan Reidy





## Precision hole drilling

When you're drilling into ceramic tile to install a towel rack or toilet paper holder, your drill bit has a tendency to "wander" on the slippery tile while starting the hole. Keep your drill bit in place by overlapping a couple of pieces of painter's tape over the spot you want to drill. Then mark the tape for the hole and slowly drill into the tape (I like to drill a pilot hole first) until the bit "bites" into the tile. Works like a charm.

Walter Ahel



## See-through paint storage

When I only have a little bit of paint left in the can, I pour it into a clear water bottle. I label each bottle with the name of the paint, the manufacturer and the location it was used. This makes it very easy to find what I need, the paint stays fresher than it would in the can and it sure saves on storage space.

Ralph P. DeVitto



## Utility knife blade I.D.

It's not always easy to tell which side of your utility knife blade has already been used. Skip the guesswork with this simple tip. Before you refill the spare blades in your utility knife, mark the sides of each blade with a "1" and a "2." When it's time to replace the blade, use the No. 1 side first. When the blade becomes dull, flip it to the No. 2 side. When that gets dull, toss out the blade and start over.

Greg Fry



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## Easy-to-remove garbage bags

Getting a full garbage bag out of the can is always a bear because of the vacuum seal that forms between the bag and the can. I solved the problem by drilling holes in the side of the garbage can near the bottom. The air in the bottom of the can escapes through the holes, and the trash bag slides out with ease.

Kirk A. Pokrinchak



**Editor's Note:** Veteran DIYers may know this tip, but there's a new DIYer every day.



## Ladder padding

I spend a lot of time on my ladder, and leaning against the rungs all day was taking a toll on my shins and thighs. Then I got smart and slit pieces of my kids' swim noodles lengthwise and wrapped them around the front of the rungs. Instant relief! The cushions are easy to move as you work. Just make sure you never stand on them, and always place them higher than you'll step since they can create an uneven step or fall off if you step on them.

Dave Switzer



## Tidier wall drilling

I hate having to drag out the vacuum to clean up a small pile of drywall or plaster dust after a minor wall repair. A cone-style coffee filter makes a great dust catcher. Tape the seam side to the wall beneath your repair and the filter will automatically hang wide open and catch the dust. Then just toss the filter when you're done.

Ryan Pickett



## Double-duty shower rods

It seems like you never have enough wall space to put hooks or towel bars in your bathroom, so why not make your shower walls do double duty? Hang two shower curtain rods instead of one. Hang your shower curtain on the inside rod and use the second rod to hang towels. Plus, you can towel off in the shower—no more dripping your way to the towel bar.

Sean Kirchman

**Get \$100 for your Handy Hint!**

See p. 2 for details.

# HOME CARE & REPAIR

by Rick Muscoplat  
editors@thefamilyhandyman.com

## Replace a laminate floor plank

You can fix minor chips and scratches in a laminate floor with filler products from the home center. But if the damage is severe, you have to replace the plank (you did save a few from the installation, right?). It's a job you can do yourself in about two hours. In addition to a spare plank, you'll need a circular saw, hammer and chisel, router or table saw, drill and wood glue.

Some flooring experts recommend removing the base molding and unsnapping and numbering every plank until you get to the damaged portion. That works if the damaged plank is close to the wall. But trust us, if the damaged section is more than a few rows out from the wall, it's actually faster to just cut it out. If your laminate floor is glued together, the unsnapping routine won't work at all. See "Removing Glued Planks," p. 24.

Start by drawing a cutting line 1-1/2 in. in from all four edges of the plank. Drill a 3/8-in. relief hole at each corner of the cutting line and again 1/4 in. in from each corner of the plank.

Cut out the center section with a circular saw, cutting from hole to hole (**Photo 1**). Next, cut from the center section into each corner, stopping at the drilled hole (**Photo 2**). Finally, cut a relief cut from the center section out toward the seam of each plank. Tap a chisel into each relief cut to break out the uncut portion. Then remove all the cut pieces.

The new plank has a groove at one end and one side, as well as a tongue



Art Direction MARCIA ROEPEK • Photography TOM FENENG

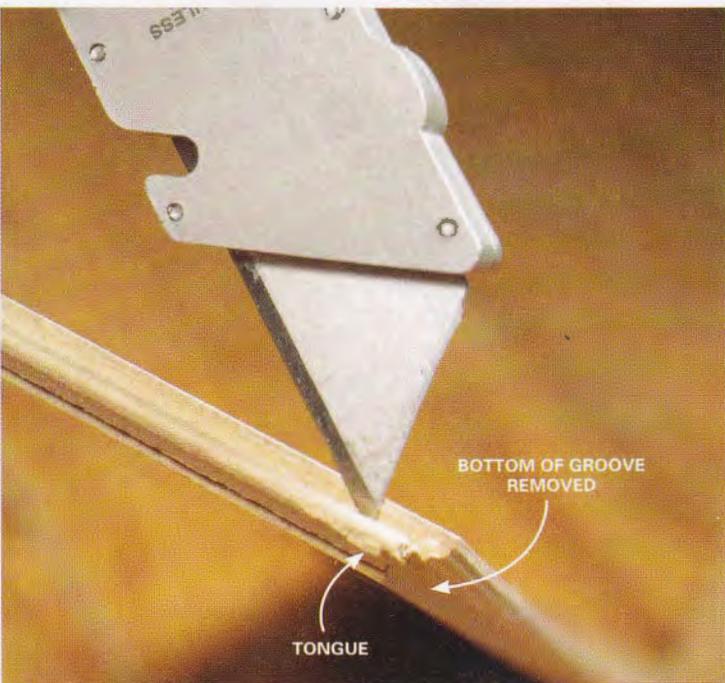


### 1 REMOVE THE CENTER SECTION

Set the depth of your circular saw a tad deeper than the floor thickness. Then lift the blade guard and dip the blade into the cutting line.

### 2 CUT TO THE CORNERS

Cut from the center section to the drilled hole in each corner—but no farther! Break out the remainder with a chisel.



### 3 REMOVE THE BOTTOM LIP

Score the tongue several times with a utility knife. Then snap it off with pliers. Shave off any remaining scraps with your knife.

at the opposite end and side. But you can't install it until you cut off the bottom lip of both grooves and the side tongue. Use a utility knife to remove them (Photo 3). Here's a tip for cutting the groove. Stick the blade inside the groove and cut off the bottom from the inside (or use a table saw).

Apply a bead of wood glue to all four edges of the new plank. Insert the glued tongue of the new plank into the groove on the existing flooring and drop the plank into place. Wipe off any excess glue and load books on the plank until it's dry.

## Heard on the forum



Forum member "lbarron" was checking out digital thermostats and ran across some models labeled "multistage heating and cooling." He asked what that meant. Another forum member explained that a multi-stage thermostat is used when you have two different fuel sources for heat. That's not the most accurate description.

Use a multistage thermostat for multistage heating or cooling equipment. A multistage gas furnace, for example, runs a single set of burners most of the time. If the multistage thermostat determines that the furnace isn't keeping up, it switches on the second set of burners. Installing a multistage thermostat on single-stage heating (or cooling) equipment won't harm it. But it is a waste of money.

### GOT A HOME REPAIR QUESTION?

Post it on [community.familyhandyman.com](http://community.familyhandyman.com). You'll get answers from other *The Family Handyman* readers and Field Editors.

## Removing glued planks

Most of the early laminate floors were fastened with glue. But that doesn't mean you can't do an "in-place" patch on those floors too. Follow all the cutting directions shown for a snap-together floor. Then use pliers to break the glue bond (Photo 1). Clean off the old glue (Photo 2) and lay in the new plank.



### 1 RAISE THE FLOOR TO GAIN LEVERAGE

Slip a dowel or scrap piece of flooring under the seam. Grab the section with pliers and tilt it down until the glued seam cracks apart. Then snap it upward to break any remaining glue.



### 2 THE OLD GLUE HAS TO GO

Use a flat-blade screwdriver or small chisel to chip out the old glue. Get the surfaces as smooth as possible for a flush fit and a good glue bond.

## Garbage disposer splash guard

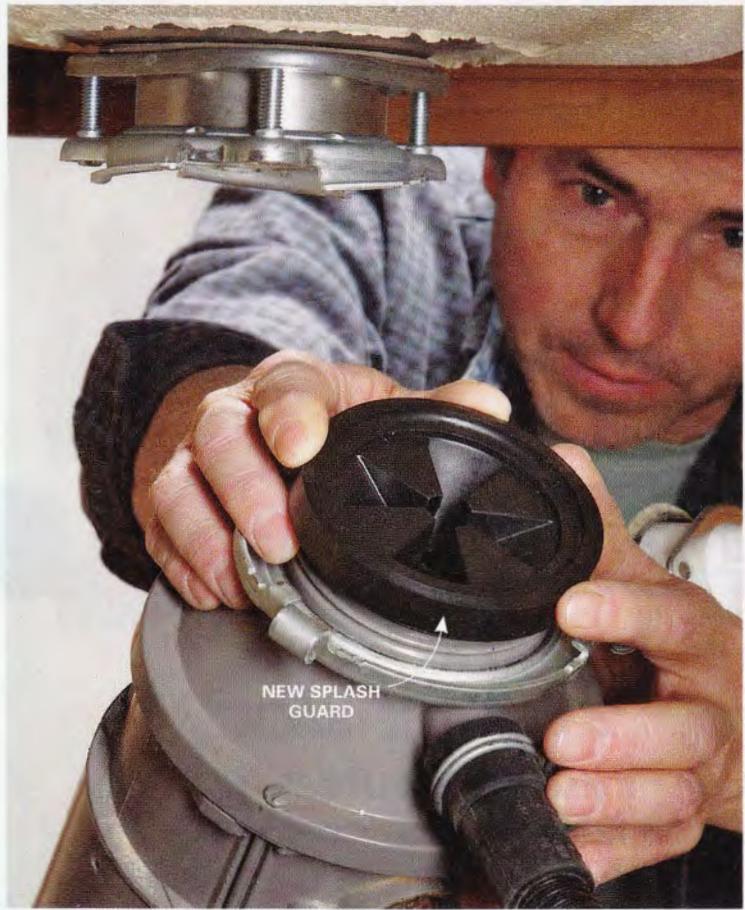
Got a garbage disposer that spits, um, garbage at you? Forget about replacing the entire unit. You can install a new splash guard (about \$10 at a home center) in about 20 minutes. You don't need any special tools.

If your garbage disposer is hard-wired, start by flipping off the circuit breaker. If it plugs in, unplug it. Stack up books or lumber to support the disposer. Then remove the drainpipe and disconnect the quick-connect fitting (**Photo 1**). Replace the old splash guard with a new one (**Photo 2**).

The hardest part of reinstallation is hoisting the disposer up and into place with one hand while you try to engage the locking ring with the other. Forget about that. Use our tip in **Photo 3**.

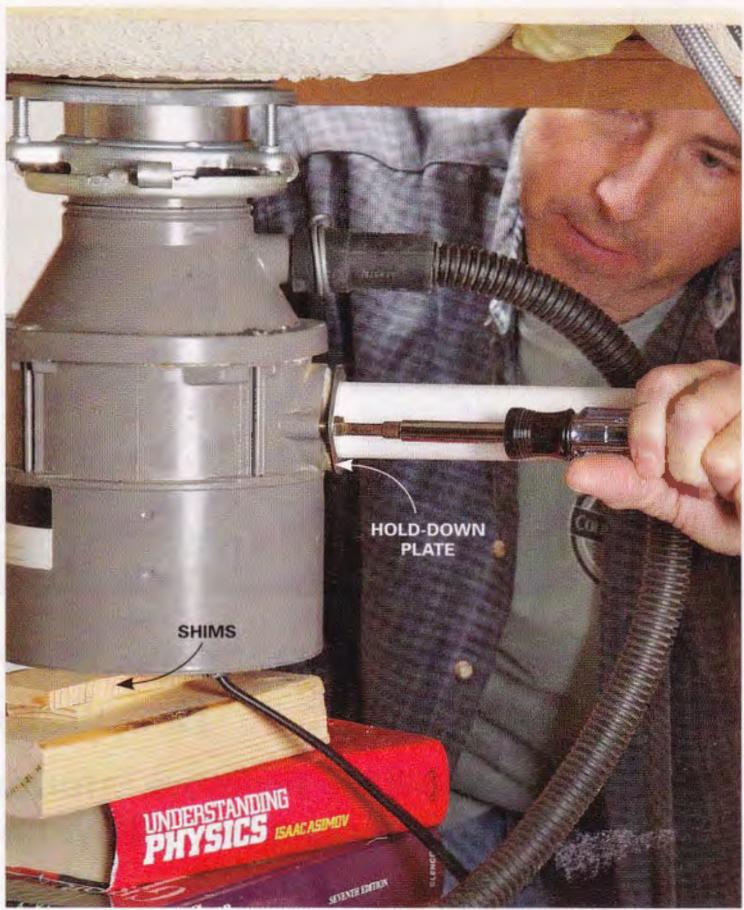
### 1 DISCONNECT THE DISPOSER

Jam a screwdriver into the locking ring and rotate it away from you. The disposer will drop onto the books. Support it with one hand so it doesn't tip over.



### 2 REPLACE THE SPLASH GUARD

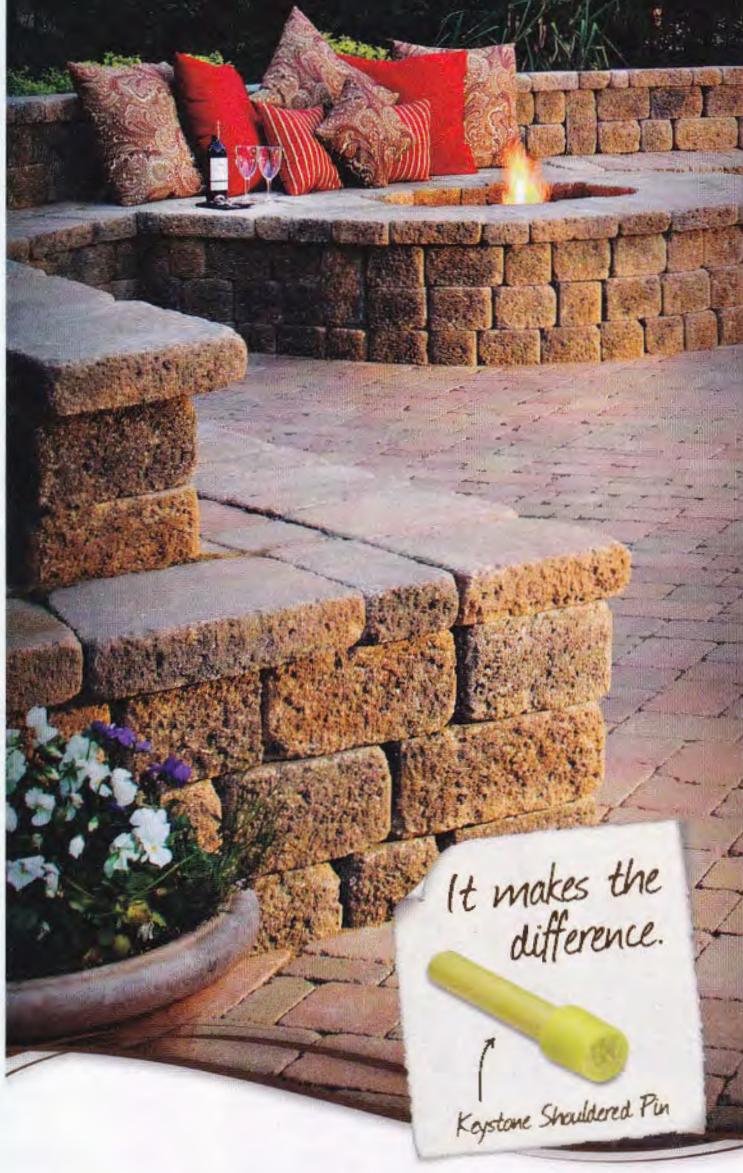
Grab the lower edge of the old rubber guard and peel it up and off. Then slip the new one on and push it down until it seats.



### 3 RECONNECT THE DISPOSER

Shove several shims between the books and the bottom of the disposer until the locking ring just touches the sink flange. Then just rotate the ring to lock it in place. Reinstall the drain line, do a leak test and grind away.

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## Add a shower shelf

On new tile walls, the correct way to install a ceramic corner shelf is to set it directly into the thin-set mortar during tile installation. But you can add a corner shelf (or another soap dish) on existing tile.

Stop by a tile shop and pick up a "flat-back" corner shelf unit (about \$20). Then buy soap scum remover, double-face foam tape and a tube of silicone caulk. Clean off *all* the soap scum or the bond might fail.

Apply a strip of foam tape on each mounting flange, stopping 1 in. short of the ends. Test-fit the shelf before you remove the wax liner paper from the tape. Shim any gaps with additional layers of foam tape. Once the shelf fits squarely into the corner, apply the silicone caulk (**Photo 1**).

Locate a spot in the middle of a row of tiles (no horizontal grout lines running through the caulk). Then remove the liner, square up the shelf and press it against the tile (**Photo 2**). Once the tape grabs, let go, wipe off the excess caulk and then tool the joint with a damp fingertip. If you blow the placement, you'll have to muscle off the shelf, completely clean off the back and reapply fresh tape, so be careful.



### 1 TAPE, SHIM AND CAULK

Add extra layers of foam tape to compensate for an "out-of-square" corner. Then lay a thick bead of caulk around the entire perimeter.



### 2 DOUBLE-CHECK BEFORE YOU STICK

Make final adjustments before driving it home—you only get one shot at placement. Once the foam tape touches the wall, you're done.

# Moving? Buying a new home?

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- » Fresh painting ideas
- » How to hang wall decor, drapes and shades
- » Creating storage spaces and organizing before you move in
- » Cleaning tips before the big move
- » Tips for budgeting



## Replace a well pump pressure switch

Your well pump gets its marching orders from the switch mounted on the pressure tank. When the switch acts up (and they all do eventually), you'll see all kinds of strange behavior (pump won't turn on, turns on erratically or won't shut off). Replacing the pressure switch is cheap and takes only about an hour.

Diagnose a cranky switch by rapping on it with a screwdriver handle. If the pump runs (you'll hear it click) or quits, you've nailed the problem. But even if it doesn't respond, it's still worth replacing the switch. Replace it with a new one (about \$24 at rural home centers and amazon.com).

Switches come in three pressure ranges: 20 to 40, 30 to 50 and 40 to

60 psi. Always replace your switch with one of the same rating (usually printed inside the plastic cover of your old switch). Also buy a new pressure gauge (less than \$10) and a 1/4-in. x 6-in. galvanized nipple (about \$1.50).

Flip the breaker to the pump switch and check it with a voltage sniffer to make sure it's off. Then disconnect the wiring (**Photo 1**).

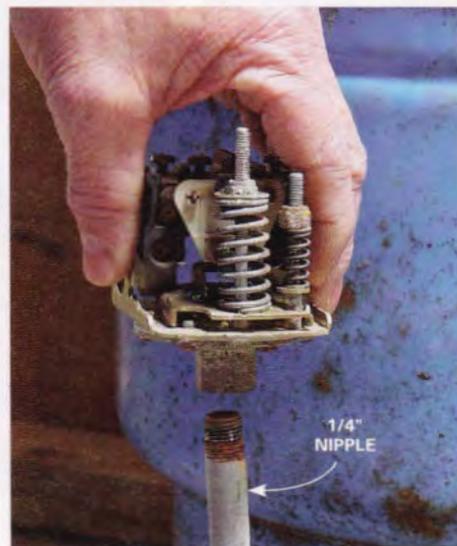
Close the valve from the pressure tank to the house. Then drain the pressure tank. Next, remove the old switch (**Photo 2**) and gauge (**Photo 3**).

Wrap the pipe threads with Teflon tape and reassemble. Install the wiring, close the faucet and repower the pump.



### 1 SHUT OFF THE POWER, THEN DISASSEMBLE

Label each wire with tape. Then unscrew the conduit locking ring and pull the wires and conduit out of the switch.



### 2 SWAP THE SWITCH

Unscrew the old switch and nipple. Replace with new parts.



### 3 REPLACE THE PRESSURE GAUGE

Slap your adjustable wrench around the flats on the gauge and unscrew it. Then screw in a new one and tighten it down.

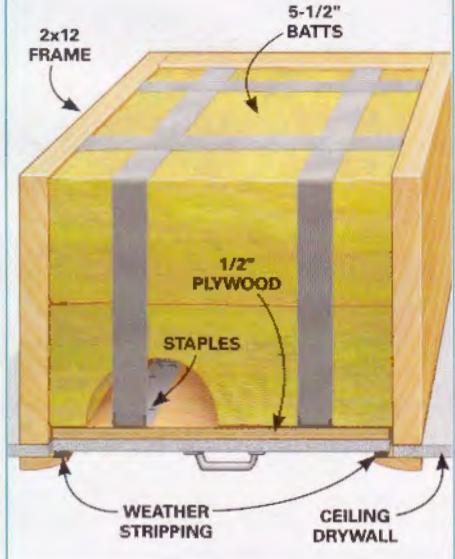


BILL ZUEHLKE

#### BUILD AN ATTIC INSULATION PILLOW

Stack insulation batts on top of the duct tape so they extend about 1 in. on each side. Then secure the "pillow" with the duct tape.

**Figure A**  
**Attic scuttle**



#### Heard on the forum

A forum member asks for the best way to insulate an attic scuttle door:

**Q**

I recently moved into a 100-year-old house and insulated the attic. What's the best way to insulate the access panel?

**A**

Here's one good method. Staple long pieces of duct tape (sticky side up) onto the attic scuttle door. Then add insulation batting to form a pillow and wrap it up like a birthday present as shown. Add foam insulation tape around the edges to seal the perimeter where it rests in the access hole.



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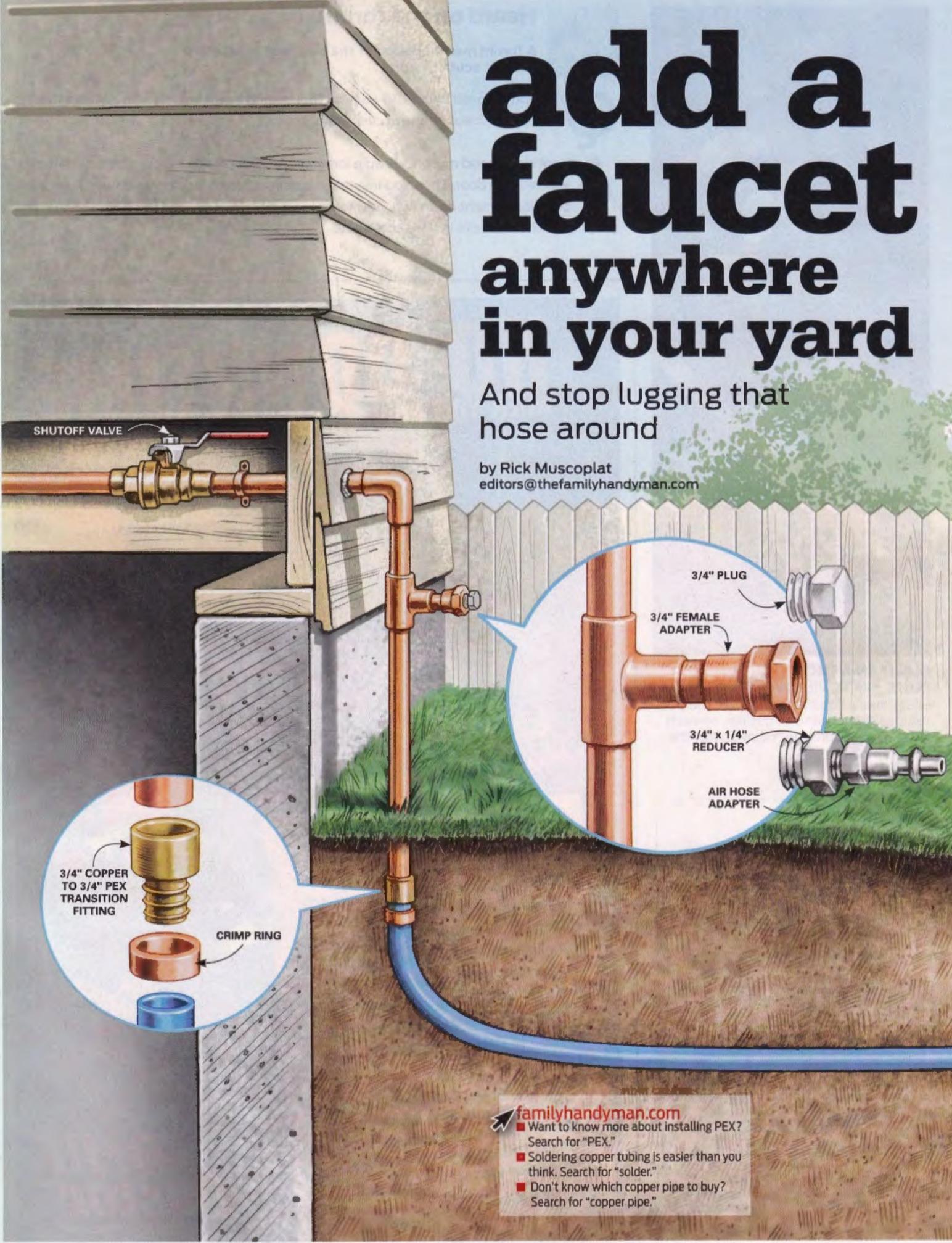


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# add a faucet anywhere in your yard

And stop lugging that hose around

by Rick Muscoplat  
[editors@thefamilyhandyman.com](mailto:editors@thefamilyhandyman.com)



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**if** dragging hoses around is a constant activity in your yard, install a remote faucet and eliminate that hassle forever. The job will take you a day or two (depending on how much trenching is required) and cost less than \$100. Everything you'll need is available at home centers.

## The inside connection

To get the best flow rate at the garden, tap into an interior 3/4-in. cold water line. If you can't find one that's convenient, tap into a 1/2-in. line instead (you'll just get a slightly lower flow rate). If you have a water softener, tap into a water line *before* the softener.

## The trench

Call 811 a few days before you dig so the utility companies can locate buried pipes and cables in your yard. You only have to bury the water line about 6 in. deep. If you're trenching in hard clay or rocky soil, that's about as deep as you'll want to go. If you're working in soft soil, it's smart to go at least 12 in. deep to reduce the risk of future damage. At any depth, you can easily protect the water line from shovel attacks: Cover the tubing with a couple of inches of soil, then pour in about 2 in. of dry concrete mix before backfilling the trench. Soil moisture will harden the concrete.

## The pipeline

Copper pipe is best for the exposed plumbing at the house, but PEX tubing is best for underground. It's a lot cheaper than copper and it's easier to install than CPVC plastic. With PEX, you can make a continuous run from your house and make turns without installing a single fitting. Plus, PEX tolerates mild freezing better than either CPVC or copper (in case you're late blowing out the line). However, you'll have to invest about \$50 in a 3/4-in. PEX crimping tool. If you don't want to shell out the cash, use CPVC.

## The blow-out system

If you live in a freeze zone, you'll have to blow out the system before the first

hard freeze. It's easy to do with a home air compressor, but you'll have to install the components now (instead of during a snowstorm).

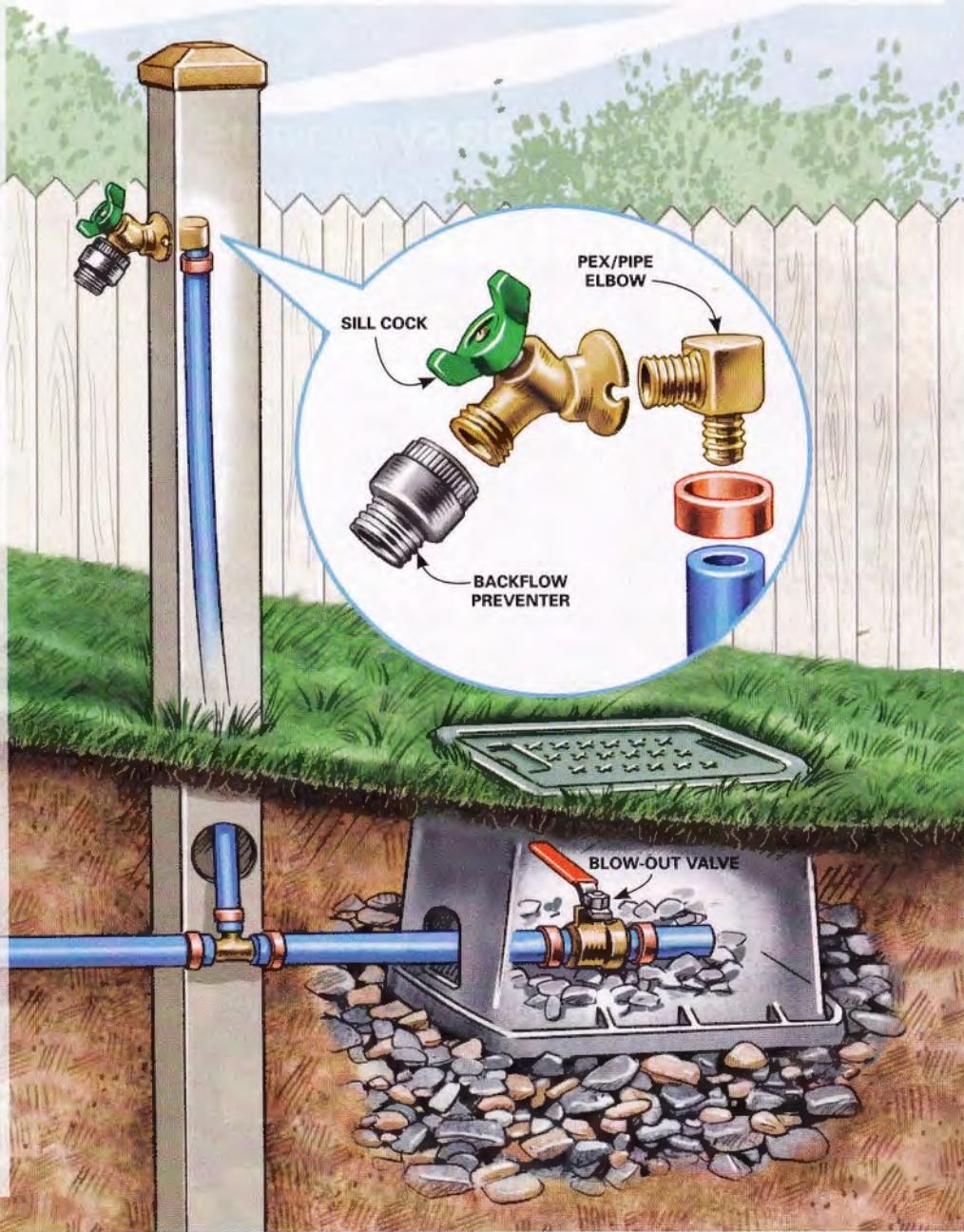
At the house, splice in a tee and a threaded female 3/4-in. adapter, and cap it with a plug. That's where you'll connect your compressed-air line.

At the garden, install a blow-out valve (a ball valve is best) below grade in a gravel pit. Use a sprinkler system valve box (about \$15) to cover it. Before the first freeze, close the shutoff valve and unscrew the plug. Next, screw in a standard air hose fitting and a reducer and connect your air hose. Out at the faucet, open both the faucet and the blow-out valve and let the water drain.

Then, close just the faucet and blow out any remaining water with your compressor. Finally, close the blow-out valve and replug the blow-out fitting back at the house.

## The post and faucet

We cut a length of hollow PVC fence post to mount the faucet, but you can build your own post out of any material. Make sure the PEX runs inside it to protect it from sunlight—UV rays reduce its life. Set the post at least 18 in. deep. Screw the sill cock flange to the post and install a screw-on backflow preventer. Note: Check with your local plumbing inspector for backflow prevention requirements in your area. 





Countertop  
renewal



Cabinet door  
inserts



Wallpaper  
backsplash



Stainless steel  
backsplash



"This turned out even better than I imagined—at a price I could actually live with!"  
Steve Johnson

## Four **fresh** and **easy** projects to transform an outdated kitchen into something **fabulous**—for \$600!

**H**ave a boring, outdated kitchen that's calling out for help? Here are four quick, inexpensive projects that will transform your kitchen into something truly special. A brand new countertop coating system turns tired laminate into a stunning and durable faux granite surface. Precut metal inserts add a high-style feature to cabinet doors. Splash-proof wallpaper makes a striking and bulletproof backsplash. And a stainless steel panel adds an exciting and easy-to-clean wall surface behind your range.

None of these projects is difficult, and of the four, only the cabinet inserts require power tools. It's helpful to have a partner for these projects, but even if you're working alone, once you have the materials in hand, you can finish one or all four of these projects in a weekend or two.

So if your tired kitchen is in need of a style infusion, these projects are a simple way to wake things up.

# Weekend Kitchen

Meet Steve and Kama, avid DIYers who turned their blah '90s kitchen into something worth bragging about.

"Our old kitchen had zero personality. Now I LOVE it! And we did it all ourselves."

Kama Johnson

# Makeover

# Countertop renewal \$250

"This was so much easier than we thought it would be, and it was actually fun to do. The instructions covered everything, and we're amazed at how good it looks!"

Kama Johnson, homeowner

Rust-Oleum's new Countertop Transformations coating system (\$250 for 50 sq. ft. of counter at Lowe's, Menards, Ace Hardware and other retailers) is a simple way to transform worn or damaged laminate countertops into a new countertop surface. The product is available in five colors ranging from light to very dark (our homeowners chose Charcoal).

The big pluses of this system are it's not smelly or difficult, you don't have to remove your countertops (!), the instructions are clear, and the kit comes with everything you need (except basic painting tools), plus it includes a very detailed DVD. This product can be applied to any laminate or hardwood countertop in reasonable condition. Burns and scratches are fine, but fill deep dents and chips before you use it.

After using this product, we can report that it's surprisingly easy to apply. In terms of durability, the manufacturer compares it to laminate. We can't speak to its long-term durability, but when we tried to scratch the newly resurfaced countertop with car keys, it was surprisingly tough—no marks at all. And you can reapply the system to renew the surface later if you want.

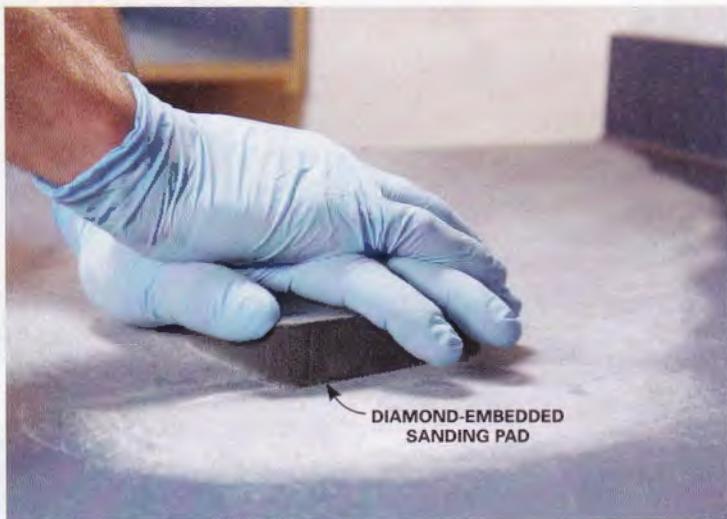
When we tried to scratch the newly resurfaced countertop with car keys, it was surprisingly tough.

## Sand and clean

The first step is to completely degloss the laminate surface using the sanding tools included in the kit (**Photo 1**). You can save on sanding time by using an orbital sander with 60- or 80-grit sandpaper on the flat areas (but you'll add cleaning time vacuuming up the dust). Use a light touch so you don't sand through any areas or create uneven surfaces. Vacuum up the dust and wipe all surfaces with a damp cloth until they're completely dust-free. Use painter's tape and plastic to mask off base cabinets, the sink, appliances, the walls above the backsplash and the floor. Cover the sink drains so nothing falls into them.

## Apply the base coat

This step is time-sensitive, so before you apply the base coat, have the decorative chips in the dispenser and ready to go. Once you've applied the base coat, you'll



### 1 ROUGH UP THE SURFACE

Degloss the countertop with the diamond-embedded sanding pad in the kit so the base coat will stick to it. You'll know it's deglossed when there are tiny scratches everywhere.



### 2 APPLY THE BASE COAT

This coat is the background color and a sticky bed for the chips. One person brushes it on the backsplash; the other rolls on the rest. Work fast; you have 20 minutes to complete this and the next step.

have a 20-minute window to apply the decorative chips before it dries. If you have a long countertop or several countertop areas, work in pairs (**Photo 2**) and complete one section (including the chip application) before moving on to the next.

Apply the base coat thickly using a brush on the backsplash and a microfiber roller (not included in the kit) on the flat surface and front edge. You really need to lay it on thickly and evenly, and maintain a wet edge on the entire surface for the best result. The kit includes a wetting agent you can spray on to keep the base coat moist and ready for the decorative chips.

## Apply the decorative chips

Moving quickly, use the dispenser to broadcast the decorative chips so they completely cover the backsplash, flat area and front edges of the counter. Don't skimp. The kit comes with a ton of chips, so use more than you need to cover every bit of the base coat. We found that it works best to get down on your knees and zing the chips hard by hand against the front edge for the best coverage (**Photo 3**). Inspect for any uncovered base coat, apply more chips and let dry undisturbed for a minimum of 12 hours, but no more than 24.

## Sand and smooth

After the base coat is dry, vacuum up the loose chips. Then use the chip scraper to knock down the rough chip edges. Use a light touch so you don't gouge the surface at the corners and edges. Vacuum again.

Sand the rough chip surfaces smooth to prepare them for the topcoat. The kit includes a sample of how smooth

the countertop should be. The challenge is to sand it smooth without sanding through the chips. Use the sanding block and a lighter touch on the backsplash and front edges since these areas are likely to have fewer chips on the surface (**Photo 4**). The sanding process will appear to lighten the chip surface, but the topcoat will darken it again. Vacuum and wipe clean with a damp cloth until all the sanding dust has been removed.

### tip

Make a very light last pass with 120-grit sandpaper for extra smoothness.

the countertop should be. The challenge is to sand it smooth without sanding through the chips. Use the sanding block and a lighter touch on the backsplash and front edges since these areas are likely to have fewer chips on the surface (**Photo 4**). The sanding process will appear to lighten the chip surface, but the topcoat will darken it again. Vacuum and wipe clean with a damp cloth until all the sanding dust has been removed.

## Apply the topcoat

The clear topcoat is a two-part formula that you mix and then apply to the countertop. Once you've mixed the formula, you must use it within four hours.

Just as you did with the base coat, use a paintbrush to apply a thick layer of topcoat to the backsplash and back few inches of the countertop. Use a 6-in. high-density roller (not included) to roll a thick, even layer of the topcoat onto the flat counter area and the front edge (**Photo 5**). Once every surface is covered, go back and roll a final pass of the topcoat in one direction to avoid lap and brush marks. Let dry to the touch (four to six hours) and remove the tape and plastic. The countertop will be ready for light use in 48 hours and completely cured within a week.



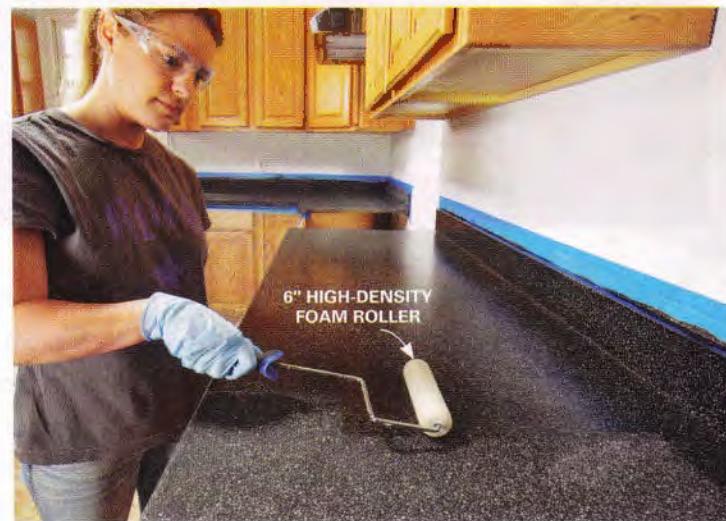
### 3 HEAP ON THE CHIPS

The multicolored chips hide brush marks and give the countertop a textured, speckled appearance. Move quickly to cover every bit of base coat before it dries.



### 4 SAND THE CHIPS SMOOTH

Sand hard on the flat surfaces but lightly along the front edge to avoid sanding completely through the chips and base coat. The goal is a smooth, lightly textured surface.



### 5 APPLY THE CLEAR TOPCOAT

Vacuum up every speck of sanding dust. Then brush a thick, even layer of topcoat on the backsplash and roll out the rest. Reroll a final pass in one direction and let it dry undisturbed for 48 hours.



# Wallpaper backsplash \$50

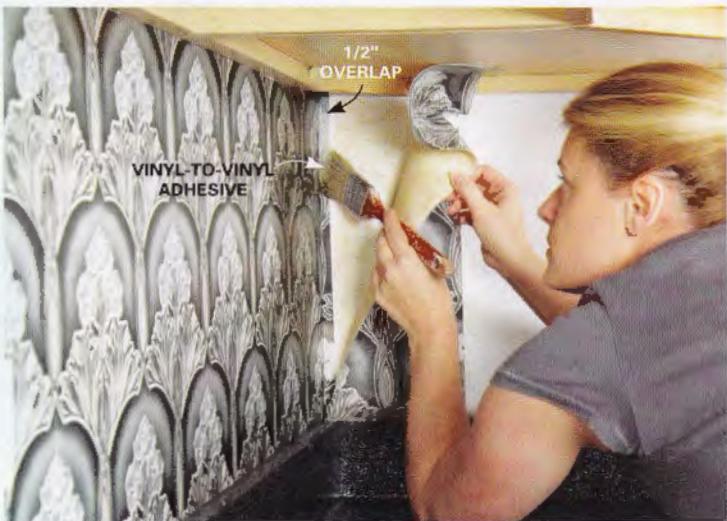
"We used tough-as-nails high-end wallpaper. Since we used so little, it was cheap and went up really fast. It definitely pulls the whole room together."

Kama Johnson, homeowner



## 1 CUT OUT WINDOWS WITH SCISSORS

Make "relief cuts" with a sharp scissors until the paper lies flat against the wall. Then use a razor to make the final cuts by following the contours of the molding.



## 2 GLUE CORNERS TIGHT

Vinyl won't stick to itself. To keep corner seams secure, overlap the corner by 1/2 in. and brush the overlapped section with vinyl-to-vinyl adhesive before pressing the next piece into place.

Wallpaper as a durable kitchen backsplash? You bet. We bought "splash-proof" vinyl wallpaper (in the "Wallis" pattern; \$50 per roll) from grahambrown.com, which offers a variety of wallpapers designed for kitchens and baths. Splash-proof wallpaper resists moisture and humidity, and stands up to scrubbing.

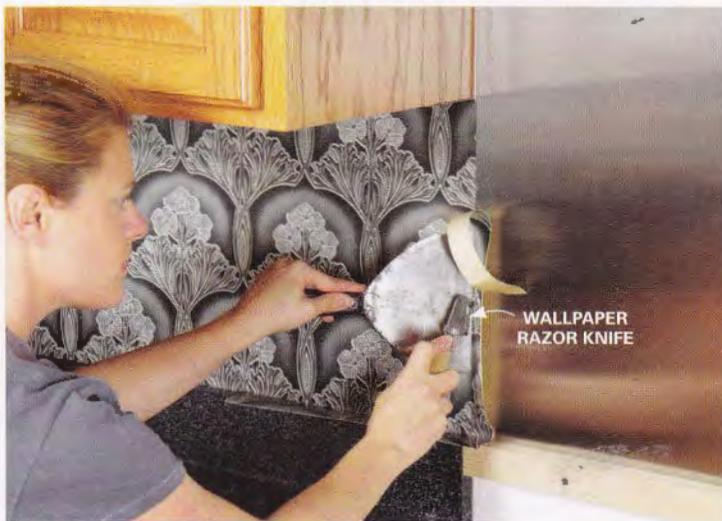
## Tough paper is easy to hang

We're not going to show you everything you need to know to hang wallpaper (for that, visit familyhandyman.com and search for "hanging wallpaper"). Instead, we're going to show you techniques that are unique to hanging vinyl.

The great news is that vinyl wallpaper goes up easier than other wallpapers because it's not as flimsy. Most vinyl wallpapers require a premixed vinyl paste (read the manufacturer's instructions). We used a heavy-duty clay-based paste available at any wallpaper store. Before starting, make sure your wall is primed with a primer/sealer for vinyl wallpapers (also available at wallpaper stores).

Set a plumb line with a level to start your first sheet. On small pieces, you can use a paintbrush to apply the paste to the back of the wallpaper. "Book" each piece for five minutes before hanging it (see our online story for more on this technique). Booking allows the paper to relax and return to its original width before it goes on the wall.

Photos 1–3 offer pro tips for making the job go smoothly.



## 3 A SHARP BLADE IS CRITICAL FOR TRIMMING

Vinyl wallpaper dulls razor blades quickly, so each blade is good for only one or two cuts. Wallpaper razor knives (\$6) give you more control than utility knives.



### 1 APPLY CONSTRUCTION ADHESIVE

Smooth the construction adhesive across the entire panel with a wide putty knife. Spread it evenly so you don't leave bumps that will show through the thin metal.



### 2 SUPPORT THE PANEL WITH A CLEAT

Screw a cleat to the wall so the backsplash will be supported while the adhesive cures. Carefully position the backsplash and press it firmly into place.

# Stainless steel backsplash \$50

"Stainless steel isn't cheap, but we wanted something to match the range and to protect the wall from heat and grease. Ordering and installing it ourselves kept the price low, and it really looks sharp."

Steve Johnson, homeowner

A stainless backsplash is a striking complement to stainless appliances. It's also durable, easy to clean and a cinch to install.

The edges will be sharp, so wear gloves and protect the surfaces in your kitchen. On the back side of the panel, use a caulk gun to apply a bead of heavy-duty construction adhesive (Loctite PL 400 is an example) across the entire panel surface. Use a wide putty knife to spread the adhesive evenly (**Photo 1**).

A cleat beneath the panel will support the backsplash as the adhesive cures (**Photo 2**). Position the panel carefully and then press it firmly against the wall. Starting at one end, use a clean, soft rag to smooth the backsplash into place and remove any air bubbles. When you're finished, remove the protective plastic coating.

### Buying sheet metal

You can order a stainless steel sheet online (one source is discountsteel.com) or from a local metal shop. You'll need to know the size, gauge and finish. A thickness of 20 or 22 gauge is best for this project. Handle it carefully to prevent denting it. To match your appliances, order a "304-#4" brushed (sometimes called satin or architectural) finish and ask to have the edges smoothed or deburred so the panel doesn't arrive razor sharp. Most shops will do this for free or for a nominal cost. The panel will arrive with a protective plastic coating. Don't remove this until you've installed the panel on the wall.

### Steel accessories top it all off

The Johnsons used IKEA's Grundtal stainless steel rails and accessories to add affordable and stylish off-the-counter storage to their new kitchen. The screw-in rails match the existing appliances and are available in three lengths, priced from \$7 to \$11. The Grundtal line also includes the spice rack shown (\$20) and much more. Visit [ikea.com](http://ikea.com).



# Cabinet door inserts

\$250  
for 12

"Perforated metal inserts kicked our 15-year-old cabinets into the 21st century. Once I got the hang of using the pattern bit, it was a cinch to remove the center door panels and replace them."

Steve Johnson, homeowner

**I**nstalling new panels in old cabinet doors can really dress up a kitchen (and new panels are *a lot* cheaper than new cabinets). Insert materials include glass, translucent plastic, copper, metal, fabric, wicker and many others. Adding "feature" inserts to just one or two of your cabinet doors can be striking and very inexpensive. Our homeowners decided to install perforated metal inserts in all of their upper cabinet doors. They initially wanted to use stainless steel to match their appliances, but went with aluminum after discovering that it costs a third of the price and has a similar look (see "Buying Metal Inserts," right, for tips on ordering).

## Remove the panels

To cut away the lips that secure the door panel (**Photo 1**), you'll need a "pattern bit"—a straight bit with a bearing that's the same diameter as the cutting diameter. You can buy a pattern bit for about \$25, but most are too long to use with a 3/4-in.-thick guide. You may have to shop online to find a shorter bit. One source is routerbits.com. (Search for "3001" to find a bit with a cutting depth of 1/2 in.)

If you're working with just one or two cabinet doors, the only guide you'll need is a straight board. If you have a stack of doors to rout, a more elaborate guide will save you time (**Photo 2**). The stops automatically position the guide



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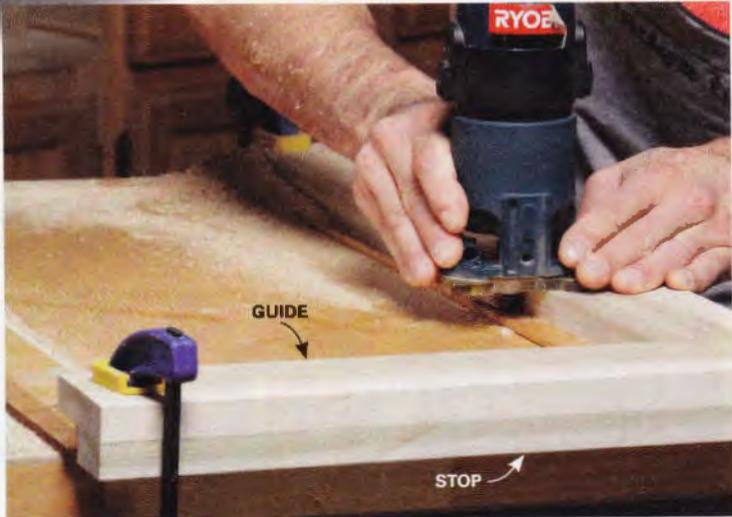
To see how to replace wood panels with glass, search for "glass cabinet doors."

PANEL

LIP

### 1 LOCATE THE LIPS

A door panel fits into grooves in the door's frame. To remove a panel, just cut away the lips on the back of the door.



### 2 ROUT AWAY THE LIPS

Run a pattern bit along a guide to remove the lips. Any straight board will work as a guide, but an L-shaped guide with stops speeds up the job.



### 3 INSTALL THE METAL

Frame the back of the insert with quarter-round molding to hold it in place. If you use a nail gun, aim carefully so you don't shoot through the face of the door.

without measuring, and you can rout two sides without repositioning.

Examine the back of the door before you rout. If you find any nails, pull them out so they don't chip your router bit. Before you start cutting, set your router depth so the bit just touches the panel. After you cut away the lips, simply lift out the door panel. The router bit will leave rounded corners at each corner of the door frame; square them off with a chisel or utility knife.

## Install the metal inserts

Prefinish 1/4-in. quarter-round molding and use it to secure the inserts (**Photo 3**). When you place the insert into the door frame, make sure the punched side is face up (the punched side will feel slightly raised around the holes). Fasten the quarter round with 5/8-in. nails or brads. If you don't have a brad nailer or pinner, you can use a hammer; just be careful not to dent the metal.

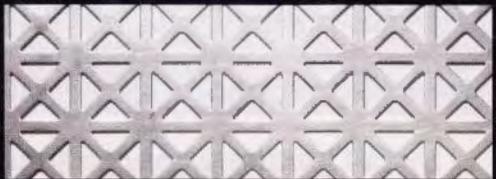
## Buying metal inserts

Some home centers carry sheets of metal (including perforated) and will cut them for you for a small fee. But you'll find a much bigger selection online. Look for metal in the 16- to 20-gauge range. We bought directly from McNichols Co. ([mcnichols.com](http://mcnichols.com)) and did all our ordering over the phone. Its Web site is full of information (and a bit confusing). Look at its "Products" drop-down menu and go from there.

Do your measuring after you remove the cabinet doors to get accurate insert measurements. Order inserts 1/8 in. shorter in both the length and the width so the inserts just fit in the opening. If stainless is out of your price range, consider aluminum or plain steel (called "mill finish"). You can spray-paint your metal any color you want. No matter what finish you order, wash the metal with paint thinner to rinse off the manufacturing oils. If you choose not to paint the steel, spray it with a clear lacquer to prevent it from rusting.



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Regular  
Duct Tape



# More ideas online

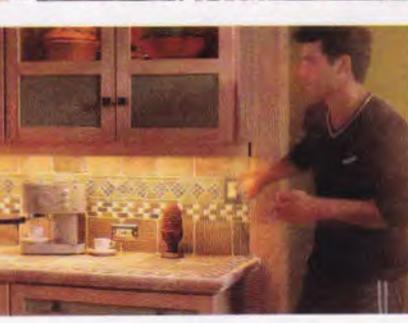
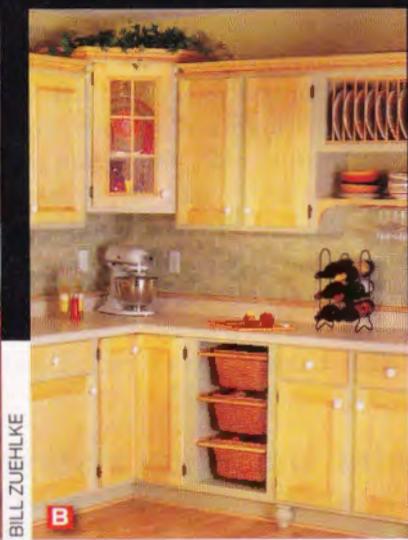
Need more inspiration for injecting new energy into your tired kitchen? We've got tons of ideas for you at [familyhandyman.com](http://familyhandyman.com). Here's a sampling of what you'll find online.



[familyhandyman.com](http://familyhandyman.com)

## A Install laminate countertops

There are tons of gorgeous new laminates available. Remove your old laminate counters and install new ones, then complete the transformation by installing a new sink and faucet. To learn how, visit [familyhandyman.com](http://familyhandyman.com) and search for "install laminate countertops."



## B Creative cabinet facelifts

Remodel your kitchen at a bargain cost with these cabinet upgrades, including new doors and drawer fronts, open shelving, improved storage and painted frames. Visit [familyhandyman.com](http://familyhandyman.com) and search for "cabinet facelift."

## C Lower cabinet rollouts

Vertical rollouts convert half-empty base cabinets into high-capacity food storage. Visit [familyhandyman.com](http://familyhandyman.com) and search for "kitchen rollouts."

## D Above-cabinet display shelves

Create an attractive display shelf in the empty space above your kitchen cabinets. This project requires only basic carpentry skills, and you can build it in a day! Visit [familyhandyman.com](http://familyhandyman.com) and search for "above cabinet shelving."

## E Tile backsplash & new range hood

Change boring to bold by installing a tile backsplash combined with a new range hood and a custom, over-the-oven shelf for spices and seasonings. Visit [familyhandyman.com](http://familyhandyman.com) and search for "tile backsplash."

## F Under-cabinet lighting

Add dramatic countertop lighting in a weekend without tearing up your walls to install the wiring. Visit [familyhandyman.com](http://familyhandyman.com) and search for "under cabinet lighting."

## G Stainless steel tile backsplash

Steel, aluminum and copper tiles make dramatic, high-impact kitchen backsplashes. They're also easy to install, last forever and don't require any grouting. Visit [familyhandyman.com](http://familyhandyman.com) and search for "stainless steel backsplash."

## H Granite tile countertops

Use granite tile to create the look of a stone slab or solid surface countertop for your kitchen or bathroom—for a fraction of the cost. Visit [familyhandyman.com](http://familyhandyman.com) and search for "granite tile countertops."

BILL ZUEHLKE

BILL ZUEHLKE

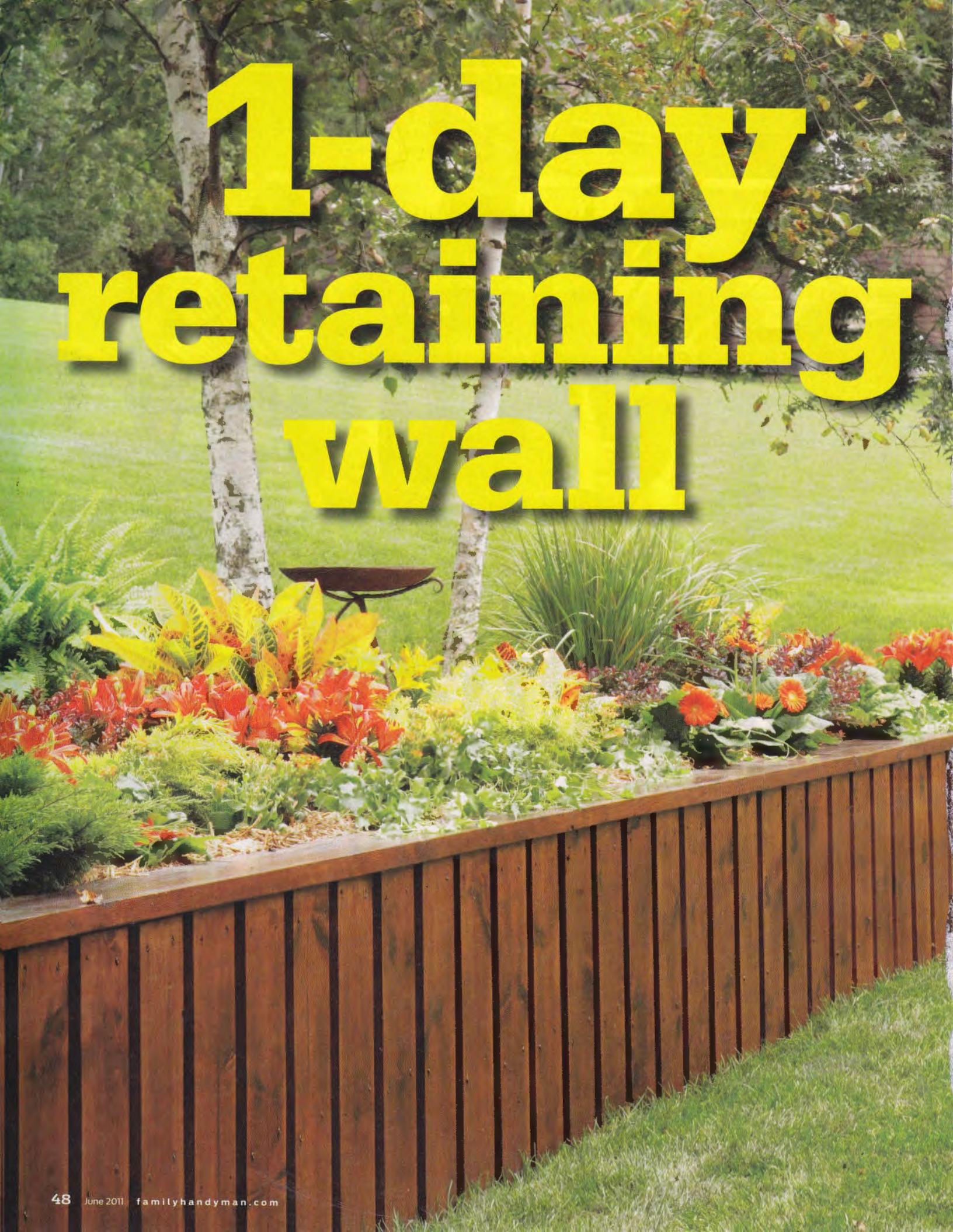
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Art Direction BECKY PFLUGER • Photography TOM FENEGA EXCEPT WHERE NOTED • Consultant BILL NUNN



# 1-day retaining wall

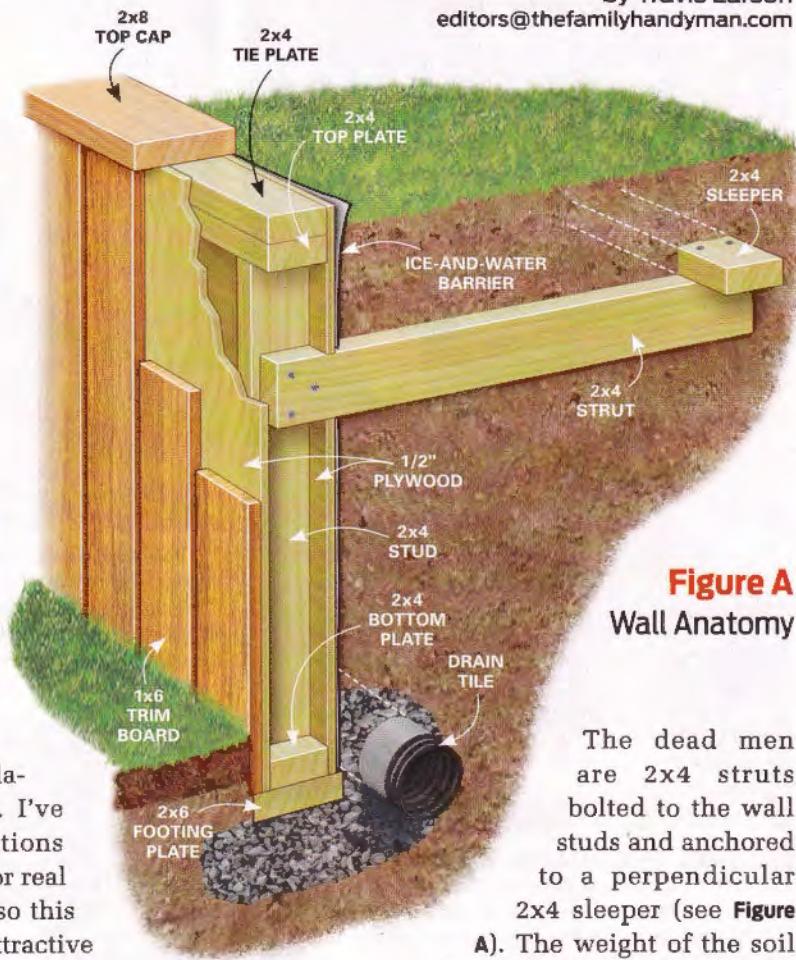
A photograph of a wooden retaining wall made of vertical slats. The wall is topped with a variety of colorful flowers, including red, orange, and yellow blooms. In the background, there are two birch trees with white bark and green leaves. A small black metal fire pit sits on the grass behind the wall. The scene is set in a lush, green garden.

## The simplest, cheapest, back-friendliest retaining wall in history

I needed a retaining wall. But I didn't want to abuse my back by schlepping around landscape blocks. Plus, I didn't want to bust the bank buying good-looking blocks. So after accessing my internal carpentry database, I came up with a solution: a wood foundation built as a retaining wall. I've built dozens of wood foundations (yes, made from treated wood for real basements under new homes), so this was a no-brainer—super easy, attractive and cheap.

This 32-in.-high, 32-ft.-long wall was built in one fairly laid-back day by me, Brad and another friend of mine named Bob Cat (meet him in **Photo 7**). The materials cost \$500, plus another \$500 for Bob and his operator, who supplied gravel and some extra topsoil for fill. Having Bob involved meant there was very little shovel work. And Brad appreciated having Bob there almost as much as I did.

The skeleton of the wall is a treated wood, 2x4 stud wall clad on both sides with 1/2-in. treated plywood. It's held in place with 2x4 "dead men" assemblies buried in the backfill.



**Figure A**  
Wall Anatomy

The dead men are 2x4 struts bolted to the wall studs and anchored to a perpendicular 2x4 sleeper (see **Figure A**). The weight of the soil on the dead men anchors the wall against the backfill pressure. It's important to locate the bottom of the wall below grade a few inches so the earth in front of the wall will anchor the base in place.

### Get the right stuff

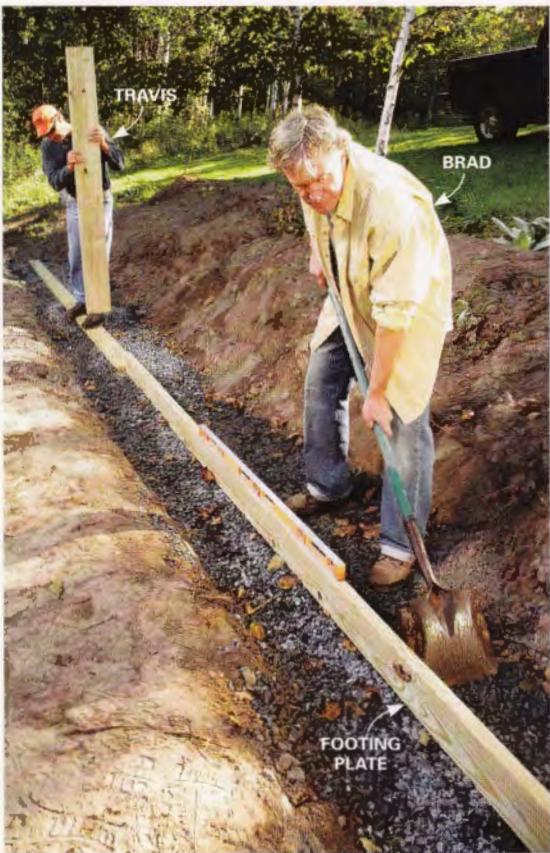
Ordinary treated wood will last a good long time depending on soil conditions, although wet sites with clay will shorten the wall's life somewhat. I used ordinary treated wood from the home center, and I figure the wall will last at least 20 years. To build a wall that'll last forever, use foundation-grade treated wood, the material used for basements. It's usually Southern yellow pine, a very strong softwood that accepts treatment better than most, and contains a higher concentration of preservatives. You may find it at lumberyards where contractors shop. Or you can special-order it from any home center or lumberyard, although you'll pay a premium.

Choose nails rated for treated wood: 16d for the framing and 8d for the sheathing. Use 3-in. construction screws for standoffs and dead men connections—again, ones that are rated for treated wood. You'll also need a box each of 2- and 3-in. deck screws for the trim boards. See the Materials List on p. 102.



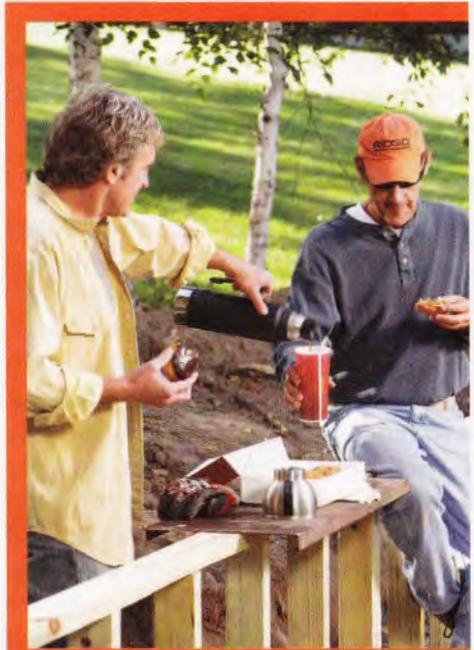
### Find a buddy

You'll need to find a guy like my friend Brad to help. He doesn't need tons of carpentry savvy, just the willingness to work for doughnuts, pizza and beer.



#### 1 LEVEL THE GRAVEL BASE

Lay the 2x6 footing plates on edge and use a 4-ft. level to level the gravel. Pack the gravel with the footing plate to drive it down until it's flat and level.



#### Morning break: Keep your help happy

Brad's favorite doughnuts are cream-filled and chocolate covered, so guess what just happened to be there.

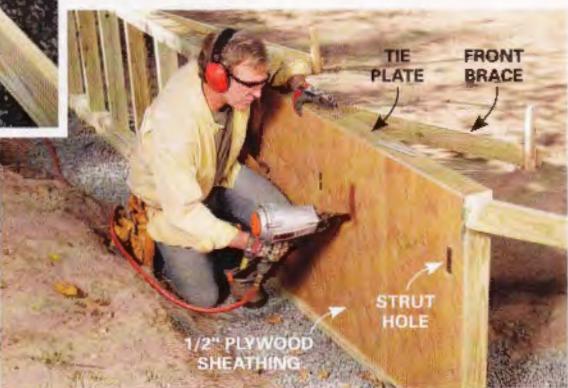
#### 4 WATERPROOF THE WALLS

Clad the back of the wall with ice-and-water barrier and cut out the strut holes with a utility knife.



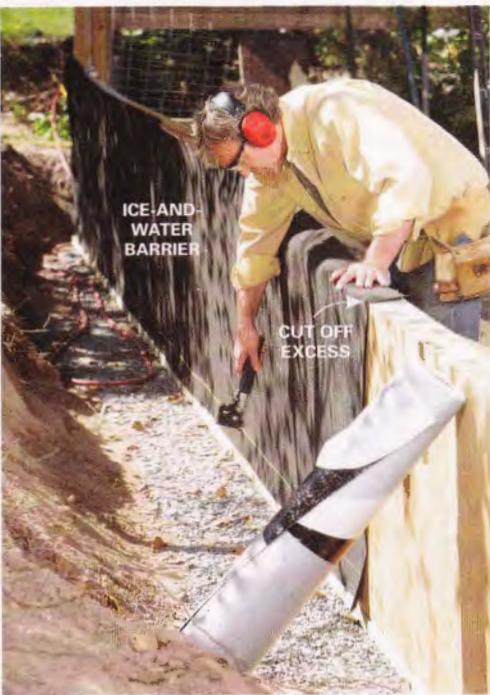
#### 2 FRAME AND SET THE WALLS

Frame the walls and stand them on top of the footing plates. Snap a chalk line on the footing plate 1 in. from the edge and then screw the bottom plates to the footing plate even with the line.



#### 3 BRACE AND SHEATH THE WALL

Plumb and brace the wall, then screw down the tie plate. Dry-fit the plywood to the back of the framing and mark the strut holes and cut out the holes. Then nail the plywood to the studs.



### Prepping the site

I had a gentle slope to retain, not a huge hill. This 32-in.-high wall is designed to hold back a gentle slope and is good for walls up to 40 in. For walls 40 to 48 in., place the studs on 12-in. centers and keep the rest of the wall the same. Don't build the wall more than 48 in. high—a taller wall requires special engineering.

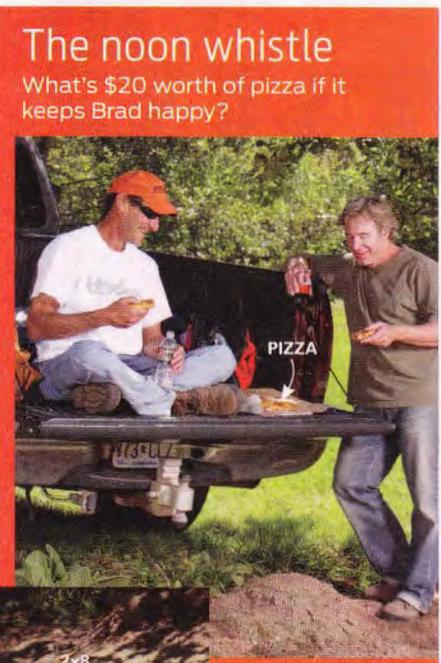
Do the digging with a shovel if you wish. The trick is to dig halfway into the hill and throw the soil on top of the hill. That way you'll have enough fill left for behind the wall. The downside is that if you hand-dig,

you'll also need to dig channels for the 2x4 struts and sleepers (see Photo 5).

It's much easier to hire a skid steer (Bob) and his operator to dig into the hill and then cut down a foot or so behind the wall to create a shelf for resting the dead men. Expect to pay a few hundred dollars for skid steer services. The operator can also scoop out the 12-in.-wide by 10-in.-deep trench for the gravel footing, and deliver and dump a 6-in. layer of gravel into the footing. Then you'll only need to do a bit of raking to level off the trench. A yard of gravel will take care of 50 linear feet of wall. If you have extra gravel, use it for backfill against the back of the wall for drainage. Have Bob and his operator return to fill against the back side of the wall and do some final grading.



**5 ASSEMBLE THE DEAD MEN**  
Poke the struts through the holes and screw them to each stud. Roughly prop up the struts and secure a continuous 2x4 sleeper to the end of each one with two 3-in. screws.



## The noon whistle

What's \$20 worth of pizza if it keeps Brad happy?

## Get the footings ready

Fill the trench with gravel. Any type will do, but pea gravel is the easiest to work with. Roughly rake it level, then tip one of the footing plates on edge and rest a level on top to grade the footing (**Photo 1**). Use the plate as a screed, as if you're leveling in concrete, and you'll get it really close, really fast. Try to get it within 1/4 in. or so of level. Offset any footing plate joints at least 2 ft. to either side of wall joints. To drive down the plate until it's level, stand on it as you pound it into the gravel with another board, occasionally checking it with a level. If you can't drive the board down to achieve level, scoop out shallow trenches on either side of the footing plate with your hand. Then there will be a place for gravel to flow as you drive down the plate.

## Frame and set the walls

Frame the walls in your driveway or on the garage floor. The walls are very light, so you can carry them a long way if you need to. Build them in sections, whatever length you like, and screw the end studs together at the site. Leave off the sheathing for now. Snap a chalk line 1 in. in from the outside of the footing plate to align the walls (**Photo 2**). Place them, screw the joining studs together with four 3-in. construction screws and screw the wall plates to the footing plates in every other stud space with 3-in. construction screws.

Plumb, straighten and brace the walls from the front side and then add the tie plate. Make sure to seam the tie plate joints at least 4 ft. away from the wall joints.



**6 ADD THE TRIM**  
Nail vertically oriented plywood to the top and bottom plates and to the front of the wall. Make sure to seam plywood over studs. Screw a 2x8 top cap to the top plate, hanging it over the front of the wall 1-1/2 in. Fasten vertical 1x6s to the sheathing with 1-1/2-in. spaces between boards.



Meet  
Bob!

## 7 TIME TO BACKFILL

Plumb and brace the wall from the back. Backfill, starting at the sleeper, to anchor the wall into place as you continue filling the space behind the wall.



## You've heard of Miller Time?

In Brad's world, when the apron gets unbuckled at the end of the day, it's Bud Time. And whatever makes Brad happy makes me happy.

2011

# Best in DIY

## The Family Handyman TOOL REVIEW

WE COMPARE  
FEATURES AND  
PERFORMANCE  
OF 10 BATTERY-POWERED  
TRIMMERS.

by Jeff Gorton  
[editors@thefamilyhandyman.com](mailto:editors@thefamilyhandyman.com)

# cordless string trimmers





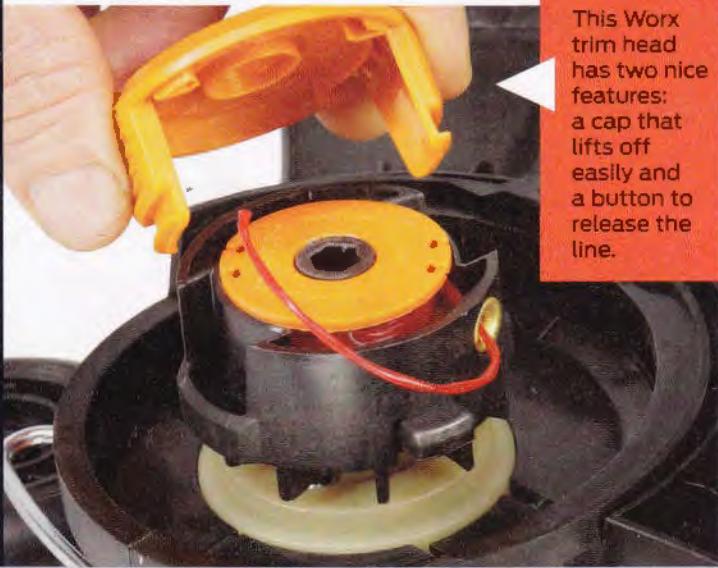
If you're still dragging around the cord for an electric trimmer or dealing with the hassles of a gas engine, it might be time to reconsider cordless models. They've come a long way in the past few years, and they're the best choice for many yards. For this review we rounded up some of the most popular battery-operated trimmers currently on the market. We gave all the trimmers a workout to compare features, ergonomics and run-time. Then we polled our Field Editors and factored in what we learned from online reviews. Read on to see what we discovered.

## CONVENIENCE VS. POWER

The advantages of a cordless trimmer are pretty obvious: no gas, no engine maintenance, no starting troubles, less noise. The price you pay for that convenience is a huge power cut. If you have a large lot or need to trim heavy weeds or dense grass, then stick with a gas-powered unit. But for most homeowners, a cordless trimmer is worth considering. If you live on a standard-size city or suburban lot and you choose the right trimmer and you don't expect it to cut thick-stalked weeds, then you'll probably be happy with a cordless trimmer.

## AUTO FEED IS A MIXED BLESSING

All these trimmers have an automatic line feed mechanism. Every time the trimmer stops and starts again, the line extends about 1/4 in. The good part: no more bumping against the ground to get more line. The bad: not much control over the line length. Luckily, most of the trimmers also allow you to extend the line by pushing a button near the cutting head while you pull on the line.



This Worx trim head has two nice features: a cap that lifts off easily and a button to release the line.



## SAFETY PAINS

To prevent accidental starts, all but one of the trimmers employs a lock-off button that you have to depress before you can squeeze the switch trigger. On some, like the Ryobi RY24201 and the Troy-Bilt, the button is on top and easy to release. Side buttons, like those found on the Craftsman and the Ryobi P2002, are harder to engage. We prefer the top-mounted lock-off buttons.

This Greenworks trimmer has a top-mounted lock-off button that's easy to push. The lock-offs on the Craftsman are a little harder to press.



## VARIABLE SPEED – NICE BUT NOT NECESSARY

The Ryobi RY24201 and the Troy-Bilt have variable-speed switches that allow you more precise control of the cutting line. This is nice when you're near a tree and want to be careful not to damage the bark. But be aware that these require a little more finger pressure to hold in, which can be tiring.

## DOUBLE UP FOR BATTERY SAVINGS

Many of the batteries, like those on the Craftsman, Ryobi, Troy-Bilt and Worx trimmers, can be used in other tools by the same manufacturer, including hedge trimmers, chain saws and leaf blowers. If you have other battery-powered tools or plan to buy some, keep this in mind. Using the same battery and charger for several tools not only is handy but also saves you money.

## RUN-TIME RANGES

When we gave the trimmers a workout, we found that most of the batteries lasted 15 to 25 minutes, running constantly under load. The Greenworks and Troy-Bilt batteries were the exception. These monsters pack a whopping 6 amp-hour rating, more than twice that of the closest competitors, and run more than 40 minutes under load before they quit. Of course, the bigger the battery, the more expensive it is to replace. Replacing the Troy-Bilt battery will set you back \$140—ouch!

In general, we recommend sticking to lithium-ion batteries. They're lighter, charge faster and hold their charge longer on the shelf than nickel cadmium batteries. They also provide more constant power. Don't pay too much attention to the voltage. The amp-hour rating of the battery is a better indicator of how long it will run—larger numbers mean longer run.



## CHARGE AHEAD WITH FAST CHARGERS

The other big variable is recharge time. One of the Black & Decker trimmers requires nine hours, while the Neuton and one of the Worx models list a 30-minute recharge time. Troy-Bilt offers the best combination, with a long-run battery and a relatively fast two-hour charge. The key is to match the battery and charger to your needs. If you can finish trimming in 15 minutes, you don't need a big battery or a fast charger.

## STRING THEORY

With the exception of the Troy-Bilt, which uses thicker .080 line, all these trimmers have a single .065 diameter line. You can buy line on prewound spools (\$3 to \$6 each) or save money by winding your own from bulk line (\$10 for 200 ft.). To replace the line, you remove the cutting head cap and lift out the spool. The cap is easiest to remove on the Neuton and Worx trimmers.

## IT'S NOT THE WEIGHT THAT MATTERS

Most of our reviewers didn't object to the weight of the heavier trimmers as long as they were well balanced, while others preferred the lighter units. We've listed the weights for you to compare. The position of the front handle affects the balance. All the trimmers have an adjustable front handle that swivels, slides along the shaft or both. Handles that slide offer the most versatile placement.

Most of the shafts are straight and adjustable for length, but if you're of average height, you'll probably just extend them fully and forget it. Only the Worx models seemed unusually short—if you're over 6 ft. tall, try these for size before committing. The Greenworks trimmer is the only one with a curved shaft. It may not be as good for getting under bushes but otherwise has a nice feel.

## DON'T RUN OUT OF POWER

One of our favorite features is the "fuel gauge" button that displays the percentage of battery charge remaining. No more running out of juice right after you start trimming. You'll find this on the Greenworks, Ryobi RY24201, Troy-Bilt and WeedEater batteries.

## NOT JUST FOR TRIMMING

All but the Troy-Bilt employ some method to make edging easier. Some have cutting heads that swivel 180 degrees and some swivel 90 degrees. The 90-degree swivel allows you to walk behind the trimmer, lawn mower style, for a clearer view of the edging path. The Greenworks, Ryobi RY24201 and the Worx trimmers also have wheels for rolling along the walk or driveway as you edge. The Ryobi is the only trimmer with a convenient foot-operated swivel. The rest require you to lean over and mess with the shaft, cutting head or both to convert to the edging mode.

Dual wheels keep this Worx trimmer steady for precise edging control.



The Worx (shown in photo) tools have dual wheels that provide extra stability for edging.

## OUR FEATURE-PACKED FAVORITE

Ryobi did its homework on this trimmer. It has almost every feature we like plus the only foot-operated edger conversion. Like the Troy-Bilt, it has a top-mounted lock-off and variable-speed trigger switch.

The battery charges in one hour and has a "fuel gauge" button.



**RYOBI**  
RY24201

Cost: \$159  
(suggested retail)  
Battery: 24V lithium,  
2.4 Ah  
Charge time: 1 hour  
Weight: 8.25 lbs.

## NO-FRILLS POWERHOUSE

The Troy-Bilt trimmer is a no-frills unit with a fantastic battery and charger. From the solid shaft clamp to the smooth variable-speed trigger and top-mounted lock-off, this tool oozes quality. Our one gripe: It doesn't have an edging feature. Argh.



**TROY-BILT**  
TB57

Cost: \$149  
Battery: 20V lithium,  
6 Ah  
Charge time: 2 hours  
Weight: 8 lbs.

## ECONOMICAL AND POWERFUL

This WeedEater string trimmer includes a better-than-average 2.6-amp-hour battery, an adjustable cutting head angle and a fully adjustable shaft handle. It's the only trimmer without a safety lock-off.



**WEDEATER**  
LT 20V

Cost: \$96  
Battery: 20V lithium,  
2.6 Ah  
Charge time: 1.5 hours  
Weight: 6.5 lbs.

## GREAT BATTERY

The Greenworks trimmer has the same huge 6-amp-hour battery as the Troy-Bilt. If you're looking for a trimmer with all of the features and long run-time, this is it. Just be sure you're comfortable with the curved shaft.



**GREENWORKS**

Cost: \$160  
Battery: 20V lithium,  
6 Ah  
Charge time: 4.5 hours  
Weight: 8.75 lbs.

## INTERCHANGEABLE BATTERY

The CR 2000's battery is compatible with all Craftsman C3 tools. The cutting head pivots for easier trimming on slopes, and it swivels 180 degrees for edging. The side-mounted lock-off button is a little more difficult to engage than the side-mounted buttons on some other trimmers. This is one of two trimmers in our review with a nickel cadmium battery.



**CRAFTSMAN**  
CR 2000

Cost: \$110  
Battery: 19.2V  
nickel cadmium  
Charge time: 1 hour  
Weight: 7.5 lbs.

## ECONOMICAL, LIGHTWEIGHT, LOADED WITH FEATURES

The Worx trimmer sports dual wheels for better control while edging. It's also one of the few trimmers with a fast 30-minute charge time and a line cap that's super easy to remove. The battery fits other compatible Worx tools.



**WORX**  
GT WG151.5  
(WG165)

Cost: \$125  
Battery: 18V lithium,  
1.5 Ah  
Charge time: 30  
minutes  
Weight: 5.3 lbs.

## SAME TRIMMER— DIFFERENT BATTERY

Depending on where you shop, you may also find the Worx 165. It's almost identical and costs just a bit more, but it includes a 24V battery with a three- to five-hour charger. We found that the larger battery ran about five minutes longer.



## TWO BATTERIES INCLUDED

A second battery means you can finish the job if you run out of juice. Both Black & Decker have a transmission that the manufacturer claims gives you increased power at the cutting head. We can't verify this. As for the run-time, our test yielded average results—about 20 minutes per battery.



**BLACK &  
DECKER**  
LST220

Cost: \$118  
Battery: 20V lithium  
(2), 1.5 Ah  
Charge time: 8 hours  
Weight: 5.2 lbs.

## COMPATIBLE BATTERY

This Ryobi trimmer includes a battery that's compatible with Ryobi's huge line of ONE+ tools. It's missing some features we like, but if you have other ONE+ tools, it's worth considering.



**RYOBI**  
P2002

Cost: \$119  
Battery: 18V lithium,  
2.6 Ah  
Charge time: 1 hour  
Weight: 6.8 lbs.

## POWER BOOST TRANSMISSION

An extra-long shaft makes this trimmer good for tall people. We like the adjustable handle and power boost mode that revs it up to 9,000 rpm for tough jobs. But we're not crazy about the NiCad battery and long charge time.



**BLACK &  
DECKER**  
NST1024

Cost: \$133  
Battery: 24V nickel  
cadmium, 1.7 Ah  
Charge time:  
9 hours  
Weight: 8.8 lbs.

## SUPER LIGHTWEIGHT

The Neutron trimmer has a handle that swivels and slides on the shaft for maximum adjustability. The line cap is easy to remove and the trigger is comfortable. There's no wheel for trimming, and taller users thought the trimmer felt short.



**NEUTRON**  
29317

Cost: \$149  
Battery: 18V lithium,  
2.5 Ah  
Charge time: 30  
minutes  
Weight: 5.3 lbs.

# Faux stone patio table

The beauty and toughness of stone at a fraction of the cost



by Gary Wentz  
[editors@thefamilyhandyman.com](mailto:editors@thefamilyhandyman.com)

**L**ike a lot of my other projects, this one was inspired by sticker shock. While I was wandering through a garden center, a stone table caught my eye. It was beautiful and low-maintenance and would last a lifetime. The only trouble was the price: \$650 (on sale!). As usual, my solution was to build one myself.

My version isn't real stone, but it fools most people and has all the durability of stone. My total materials cost was just under \$150; about \$110 for the top and \$40 for the pedestal.

Everything you'll need is available at most home centers.

## A different kind of grout

Construction grout is used mostly for heavy construction projects like anchoring steel columns. But it's also perfect for casting projects because it has a creamy consistency that takes on the shape and texture of the form almost perfectly. Use a smooth form and you're guaranteed a smooth, uniform tabletop. Most home centers carry construction grout in 50-lb. bags, which cost about \$13. (Quikrete Precision Grout and Sakrete Construction Grout are two brands.) If yours doesn't, go to quikrete.com or sakrete.com to find a dealer. I darkened the grout by adding cement colorant to the water (see Photo 2).

## Build the form

Plastic-coated particleboard (called "melamine") is perfect for form work because it's inexpensive and smooth. Cut the form base to 31-1/2 x 31-1/2 in. and then cut 2 x 32-in. strips for the form sides. Attach the sides to the base as shown in Photo 1. The overhanging sides make dismantling the form easier; you can just whack them loose with a hammer. Coat the form with spray lubricant (Photo 1). Important: Use a lubricant that dries instead of leaving an oily coating. The label will say something like "leaves a dry film." Liquid Wrench Dry Lubricant is one brand.

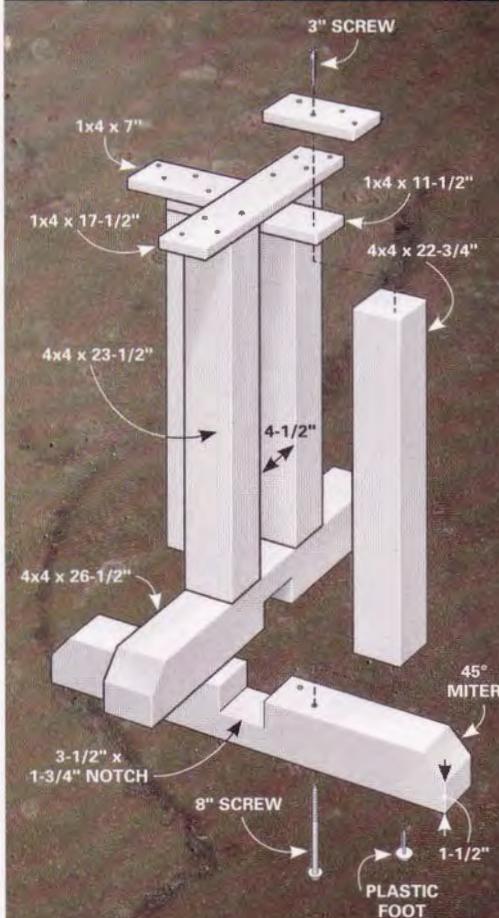
Next, grab a pencil and sketch a random pattern on the form outlining the areas you'll cover with grout first (Photo 3). The pencil lines will determine where the dark veins appear in the finished top. Set the form on a sturdy work surface and level the



The top is made from construction grout tinted with colorant. Tile grout creates the dark veins.

## Figure A Pedestal

The tabletop height is 30 in. The top itself is 30 x 30 in. and 2 in. thick.



- To cut the half-lap joints, set the cutting depth on your circular saw to 1-3/4 in. Cut a series of kerfs no more than 1/8 in. apart. Break out the slices with a hammer and chisel.
- Fasten the top to the pedestal with eight concrete screws. Construction grout is easy to drill; you don't need a hammer drill. Wrap tape around the drill bit to mark the depth, and be super-duper careful not to poke through the top.

### Pedestal materials

- 2 4x4 x 8' cedar
- 1 1x4 x 8' pressure-treated
- 8" construction or lag screws, 1-3/4" concrete screws, 3" screws, furniture feet, exterior stain.

## Forming a crinkled edge

Smooth edges on the tabletop are fine, but a crinkled edge will give it a more natural look.

To start, cut four strips of aluminum foil tape about an inch longer than the form sides. Then...



Scrub it up.



Straighten it out.



Stick it on the form sides.

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\*Average annual savings of \$3.25 for water and \$12.00 for electricity (hot water production).



### 1 BUILD AN UPSIDE-DOWN FORM

Assemble the form, spray on lubricant and wipe off the excess. Cast upside down, the tabletop's surface face will turn out as smooth and flat as the melamine form.

form with shims. Construction grout is slushy and will overflow if the form tilts. Spilled grout will leave stains, so cover the floor with plastic drop cloths.

### Get ready to mix

Mixing and pouring the construction grout is a three-phase process: You'll use most or all of the first bag to pour a pattern (**Photo 3**), the second to fill in the pattern (**Photo 6**) and the third to completely fill the form.

Turning a bucket into a giant measuring cup (see **Photo 2**) will let you add equal amounts of water and cement colorant to each of the three bags without measuring each time. First, measure the correct amount of water into the bucket (I use 4.5 liters per bag) and mark the water level on the bucket. Measure in more water to locate the other two marks (at 9 and 13.5 liters).

Next, empty the bucket and dump in the cement colorant. Much of it will remain in the bottle. To wash it out, pour in a little water, shake hard and pour again. Repeat until all the colorant is washed out. Refill the bucket with water and you'll have tinted water, premeasured into three equal amounts. The colorant tends to settle to the bottom, so stir the colored water before each use.

Construction grout hardens fast. In warm weather, it will become stiff and difficult to work with in just 15 minutes. Minutes wasted cutting the wire mesh or searching for a tool can ruin the project. So have *absolutely everything* ready to go before you start mixing. It's best to have a helper, too. To slow down the hardening, use cold water only.

### Buy one, get one cheap

You can cast a second tabletop using mostly leftover materials. The only thing you'll need to buy is more construction grout (\$40).

Mix the construction grout in a plastic cement tub (\$6). Don't pour the water directly from the bucket into the mixing tub; it's too hard to control the flow. Instead, ladle the water into the tub with a smaller container. Dump in about half the bag and mix it thoroughly. Gradually add the rest of the bag as you mix. If the mixed grout stiffens before you can use it, stir it to restore the slushy consistency. If it becomes too stiff to stir, toss it. The tabletop only requires about 2-1/2 bags, so you can afford to waste some.



#### **2 MIX ONE BAG AT A TIME**

Add grout to water mixed with colorant. Turn a bucket into a giant measuring cup so you can easily use the correct amount of colored water with each bag.



#### **3 POUR A PATTERN**

Sketch a pattern on the form and fill the outlined areas with mounds of construction grout. This pattern will show up on the top of the table.



#### **4 CREATE THE VEINS**

Sprinkle dry tile grout along the edges of the mounds. The colored powder will form dark lines in the finished top.



#### **5 BLOW THE GROUT**

Turn down the pressure on your compressor and blow the tile grout against the edges of the mounds.

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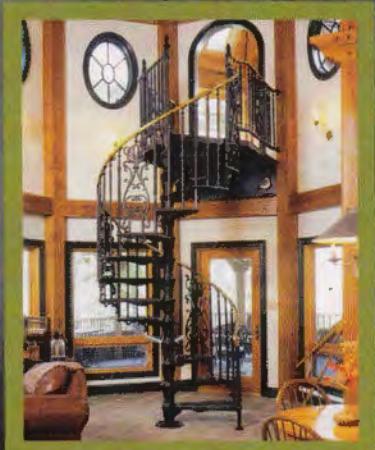


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# FAQs

## Can I make it bigger?

Yes, but remember the weight factor. I once made a 3 x 5-ft. tabletop from construction grout. Moving it was like a scene from "The Ten Commandments."

## What about other colors?

Home centers typically carry three or four colors of liquid colorant, and you'll find a huge range of powdered colors online (search for "cement colorant"). I've done dozens of color experiments and have learned one big lesson: Coloring cement-based products is tricky. The results I got were sometimes good, sometimes bad, but always a surprise.

## Why not use standard concrete mix?

You can. But don't expect to get the same look you'll get from construction grout. With concrete, you're likely to get a rougher surface with more air bubbles and craters. That's not necessarily bad, just different.

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### 6 FILL IN THE BLANK SPOTS

Cover the bare areas of the form. Pour between the areas you covered first, not on top of them. Jiggle the form to spread and level the mix.



### 7 ADD THE MESH

With the form about half full, lay in the welded wire mesh for reinforcement. Then completely fill the form.



#### 8 SCREED IT OFF

Scrape off the excess using a straight board and a sawing motion. Cover the wet grout with plastic. The longer it stays wet, the stronger it will cure.



#### 9 SEAL THE TABLETOP

Bring out the color with sealer. Before you apply the sealer, ease the tabletop's sharp edges with 80-grit sandpaper.

### Pour, wait patiently and seal

**Photos 3 – 9** show how to complete the top. Don't forget to turn down your compressor's pressure to about 5 psi before you blow the tile grout (**Photo 5**). Cut the 2 x 2-ft. section of mesh (**Photo 7**) using bolt cutters. Wire cutters won't do the job.

Resist the temptation to tear off the form as soon as the grout is hard. The longer the grout stays wet, the stronger it will get. Give it at least three days. A week is even better. To remove the form, get a helper and flip the form upside down. (Don't let the top tip out of the form!) Then knock the form sides loose with a hammer and lift the form off the top. Don't despair when you unveil the bland, gray top. The sealer will deepen the color and accentuate the black veins (**Photo 9**). Most sealers can't be applied until the grout has cured for at least 28 days. Before you apply sealer to the top, try it on the underside to make sure you like the look. I used a glossy "stone and tile" sealer to bring out the most color. A sealer with a matte finish will have a subtler look. 

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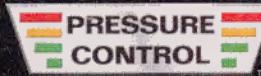
- If this table doesn't suit you, search for "patio table" to see other designs.
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## Free up stuck bolts

I learned long ago to expect at least one stuck bolt on every repair job. But it took many more years to understand that anger and brute force weren't the best bolt removal techniques. Now I use a systematic approach that rarely fails. In the next few pages, I'll show you how you can remove the most stubborn fasteners without even breaking a sweat.



### Start with a rust penetrant

Rust penetrants contain a solvent to dissolve rust, a lubricant to reduce friction and a surface tension reducer to get deep penetration. "Home brews" like Coca-Cola, kerosene and mineral spirits don't have all those ingredients. Neither does WD-40 (it's a great lubricant, but it's not formulated as a rust penetrant). Those products simply don't work as well or as fast as actual rust penetrants (find penetrants like Liquid Wrench Penetrating Oil, Royal Purple Maxfilm and PB Blaster at home centers and auto parts stores).

Start by soaking all the bolts for at least 15 minutes before you attempt removal (**Photo 1**). If they still won't budge, move on to the "shocking" phase (**Photo 2**). You can smack the bolt heads with a hammer. But I get the best results with an air chisel

### 1 GIVE THEM A SHOT OF RUST PENETRANT

Soak the bolts for at least 15 minutes before attempting to loosen.



### 2 IF THAT FAILS, HIT IT WITH A HAMMER

Create micro cracks in the rust with blows from a hammer, or even better, an air chisel and hammer bit. Then apply more rust penetrant and "reshock" the bolt head. Repeat until you can turn the bolt.



### 3 TRY A SOCKET ON YOUR AIR CHISEL

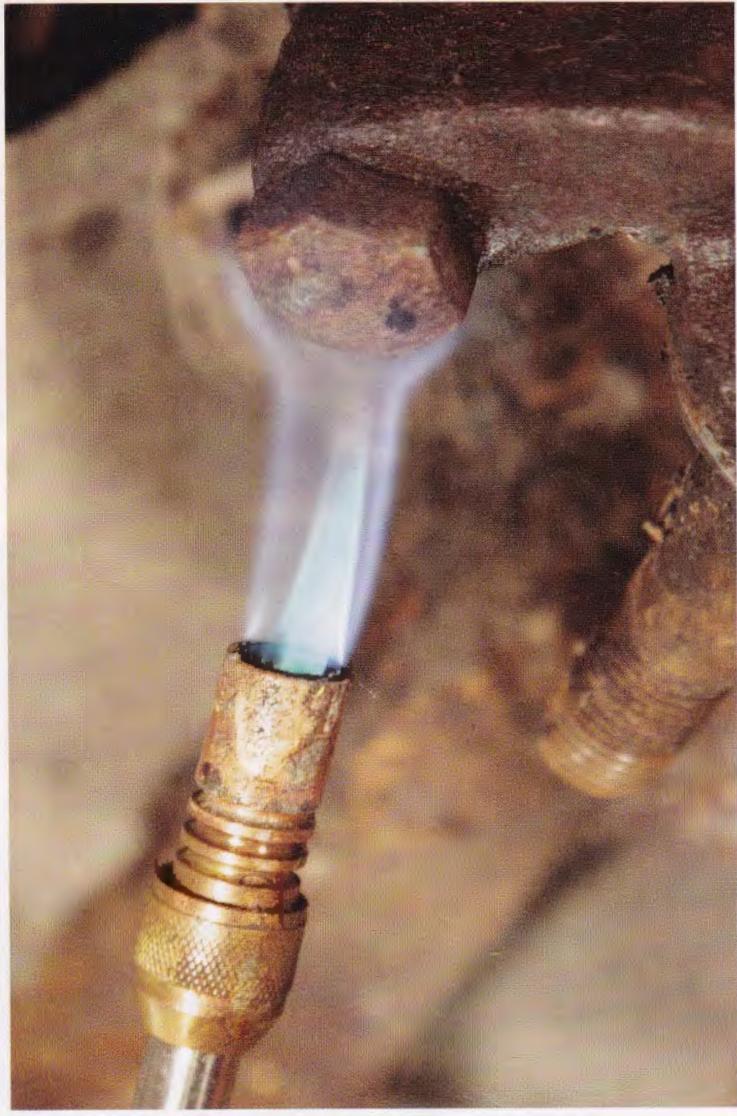
Slip a wrench onto the adapter flats and crank away while you apply air hammer blows. The dual forces break the bolt loose.



and hammer bit (GRY No. CH117 hammer bit; \$7 from [tooldiscounter.com](http://tooldiscounter.com)).

I've also had good luck with an air chisel socket adapter (No. PH1050; \$40 from [snapon.com](http://snapon.com)). Slip an impact socket onto the adapter and pull the trigger (**Photo 3**).

If neither of those tricks works, heat and cool the bolt. The expansion and contraction will open cracks in the rust and allow the penetrant to work its magic. But before you apply heat, wash off all the rust penetrant (most penetrants are flammable). Next, remove any rubber or plastic parts that may be damaged by heat. Then heat the bolt head with a propane torch (**Photo 4**). Immediately shock the bolt with water spray (**Photo 5**). Once the bolt cools, reapply rust penetrant and try removing it.



### 4 IF ALL ELSE FAILS, HEAT IT UP

Aim the flame at the bolt head, not the surrounding metal. Heat for about 15 seconds, but do NOT get it cherry red (overheating damages the bolt's temper, and you'll have to replace the bolt).



### 5 THEN COOL IT DOWN QUICKLY

Spray the hot bolt with water to cool it quickly. Continue spraying until it no longer steams.



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## Small engines start faster with iridium spark plugs

It's a fact. A spark always jumps from the sharpest edge of the center electrode. But the edges of copper center electrodes round off quickly, increasing the number of starter rope pulls. Iridium-enhanced spark plugs, long standard on late-model cars and trucks, are now available for lawn and garden

equipment and motorsports applications. Iridium has the highest melting point of all the precious metals (4,229 degrees F), so it holds its sharp edge longer. Iridium plugs cost a few bucks more, but they provide faster starts and last much longer than conventional copper plugs.

### SHARPER EDGE, SMALLER-DIAMETER ELECTRODE

Look at the difference between an iridium-enhanced spark plug and a conventional copper plug. The iridium-enhanced center electrode is much smaller (.6 mm vs. 2.5 mm) to concentrate the spark. Plus, it holds a sharp edge longer.

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### ASK THE MECHANIC

#### Passenger car tires on a trailer? Nope

**Q** I moved two decent tires from my car onto my trailer. Should I just inflate them to the maximum psi shown on the tire?

**A** Passenger car tires with a "P" designation (on the sidewall) should never be *installed* on a trailer. When passenger tires are installed on a trailer, especially a tall one with a high center of gravity, the weak sidewalls can actually cause trailer sway and a complete loss of control. Use only special trailer (ST)-rated tires. ST tires have much stiffer sidewalls to handle the sideways forces and dampen the trailer's natural tendency to sway.

Buy trailer tires to match the weight of your trailer and its load. If you don't know the weight, take it to a public scale. Then inflate the tires to the maximum pressure shown on the sidewall.

## 2011 Nissan Pathfinder fills the bill for DIYers

While many SUVs are switching over to lighter-duty unibody construction, Nissan has maintained its boxed steel frame design for the 2011 Pathfinder. So you get a more solid feel, softened a bit by Nissan's independent double wishbone

suspension and coil springs on all four wheels.

The Nissan 4.0-liter V-6 (266 hp) engine delivers 15/22 mpg (2WD), carries a payload of 1,047 lbs. and tows up to 6,000 lbs. But if you need more power (310 hp), more payload

(1,276 lbs.) and more towing capacity (7,000 lbs.), opt for the 5.6-liter V-8 engine with the 4x4 drive train (13/18 mpg).

The Pathfinder makes DIY hauling easy with six floor-mount, two side-mount and four ceiling-mount tie-down points.

The 2011 Pathfinder is available in five models from \$27,860 to \$42,620. Go to [nissan-global.com/EN/NISSAN/PATHFINDER/](http://nissan-global.com/EN/NISSAN/PATHFINDER/) for more information.



NISSAN

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## Upgrade the handlebars on your vintage bike

If you're still riding around with those "ape hanger" handlebars from the '70s, face it, you're no longer cool. I'll show you how to change out your handlebars yourself and save about \$200.

I chose a '70s-vintage Honda because it was one of the more popular bikes back then. On this bike, the wiring harness runs through the middle of the handlebars. The new bar won't have holes for the harness. So you've got two options. You can either drill out the new bar or modify the bracket for the controls and run the harness along the outside of the bar.

Start the project by measuring the diameter of your handlebars (**Photo 1**). Pick the bar style you like, but check with either the bar manufacturer or your dealer to make sure the new bar provides enough turning clearance to avoid hitting the gas tank.

You'll also need shorter brake, clutch and throttle cables and a shorter brake line. Your local dealer can send your old cables out for professional modification (about \$30 each), or you can buy new cables (\$60 to \$80 depending on the brand).

Remove the headlight to access the harness splice area. Then disconnect the wires from the handlebar harness (**Photo 2**). Next, drain the brake fluid reservoir and disconnect and remove the brake line, switches, levers and throttle. Then remove the left hand grip (**Photo 3**). Unbolt the handlebar and move it to the workbench.

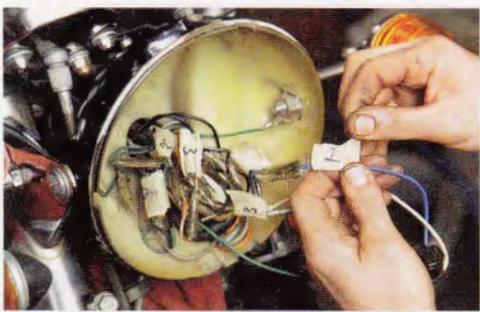
Remove the harness from the bar by pulling and feeding at the same time. If the harness binds, squirt in a generous dollop of wire-pulling lube (available in the electrical department at home centers). Once it's out of the old bar, clean off the lubricant and rewrap the harness with new electrical tape.

To run the harness on the outside of the new bar, modify the control brackets (**Photo 4**). Reconnect the wiring harness, controls and levers, and install the shorter cables and brake hose. Secure the wiring harness with zip ties. Then top off the brake fluid reservoir (**Photo 5**). Test all the electrical connections and the brake operation before you take it out for a spin.



### 1 MEASURE BEFORE YOU BUY

Pick any spot along the handlebar to measure its diameter. Then buy the correct bar for your bike.



**2 DISCONNECT WIRES, THEN LABEL**  
Find the wires from the handlebar harness and disconnect them one at a time. Apply masking tape to each connector and mark them for reassembly. Don't disconnect any other wires.



**3 BLOW AND TWIST THE GRIP OFF**  
Insert a compressed air gun into the grip and squeeze the trigger. That'll inflate the grip enough so you can twist it and break the adhesive.



### 4 MAKE ROOM FOR THE HARNESS

Grind out a section of the control mounting bracket with a high-speed rotary tool and a cutting or grinding wheel. Then smooth the edges so it won't cut into the harness.

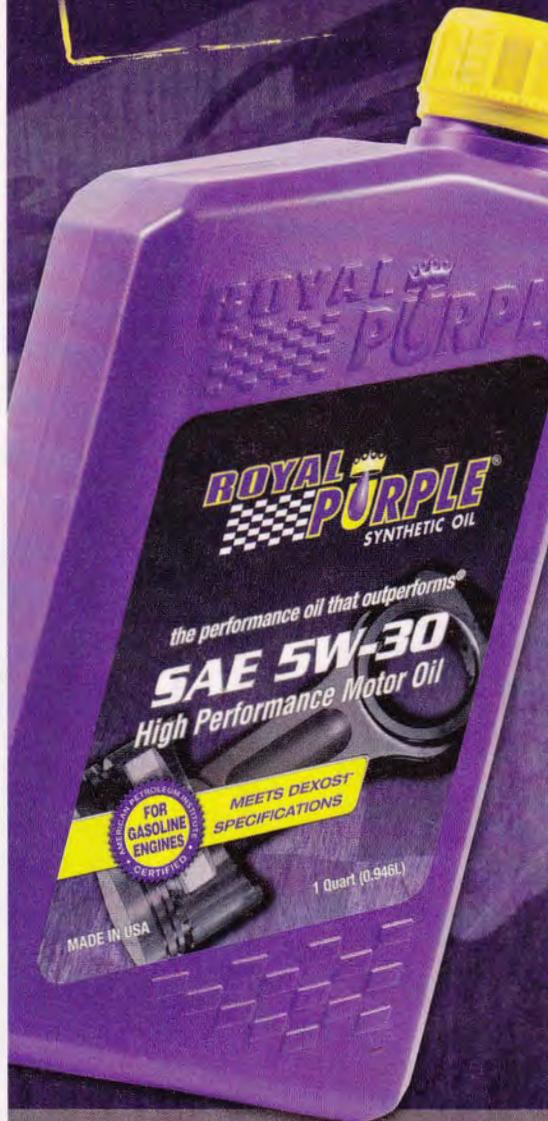


### 5 FILL AND BLEED

Add fresh brake fluid. Then follow the brake bleeding procedure for your bike.

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## Should I use high-mileage oil and filters?

**Q** I see high-mileage oil for "vehicles over 75,000 miles." Is that stuff any good, and should I use it in my old wreck?

**A** Actually your "old wreck" would benefit more from high-mileage oil than a newer model. Combustion

gases always leak past the piston rings and into the oil (even in new engines). The gases then condense to form corrosive acids. New engine oil contains enough acid neutralizers, anti-corrosion agents, detergents and foam inhibitors to counteract the effects of normal blow-by. But the extra blow-by in older engines causes the additives to wear

out sooner. That's where high-mileage (HM) oil comes in handy.

HM oils (about 75¢ more per quart) are formulated to handle the extra load and are well worth the money. To get even greater protection, add a high-mileage oil filter, too (the Fram HM filter is one choice; about \$8 from amazon.com). High-mileage filters contain a capsule of additive gel that dissolves slowly over a 3,000-mile period. So it continually feeds new additives into the oil. Together, HM oil and an HM filter add less than \$7 to the cost of an oil change. It's a good investment to keep your old wreck running longer.

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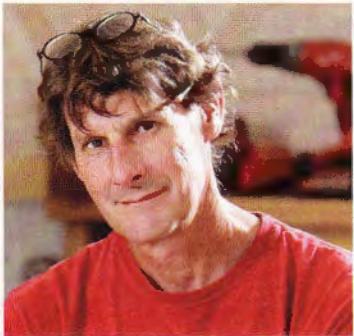


### SPECIAL FILTER JUICES UP YOUR OIL

Install a high-mileage oil filter to boost the effectiveness of HM oil.

# SHOP RAT

by Travis Larson  
shoprat@thefamilyhandyman.com



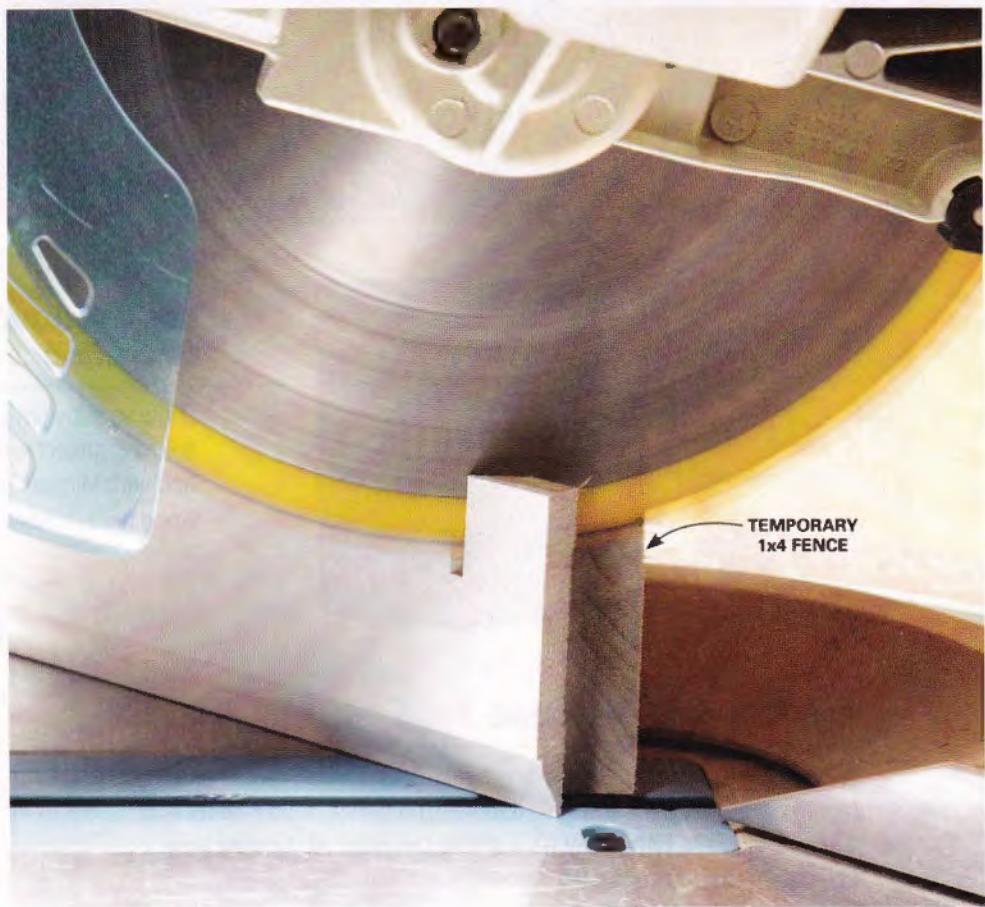
## Power coping

The usual way to get tight inside corners on trim is to "cope" them—to cut a profile on one part that will fit over the adjoining part. That means lots of slow, fussy work with a coping saw. Next time you have some inside corners to cope on standard 3-1/4-in. baseboards, try this method for doing the whole process on your miter saw. It works for ranch and Princeton styles. It takes a bit of practice to master the trick, but once you do, you'll be able to achieve a perfect cope in less than 60 seconds and never grab for the coping saw again.

If you have a low fence on your miter saw, add a 1x4 (**Photo 1**) to fully support the baseboard. Your saw has to be adjusted so it cuts perfectly square in the vertical direction. There will be wood shrapnel and your saw will be running for long periods, so wear vision and hearing protection.

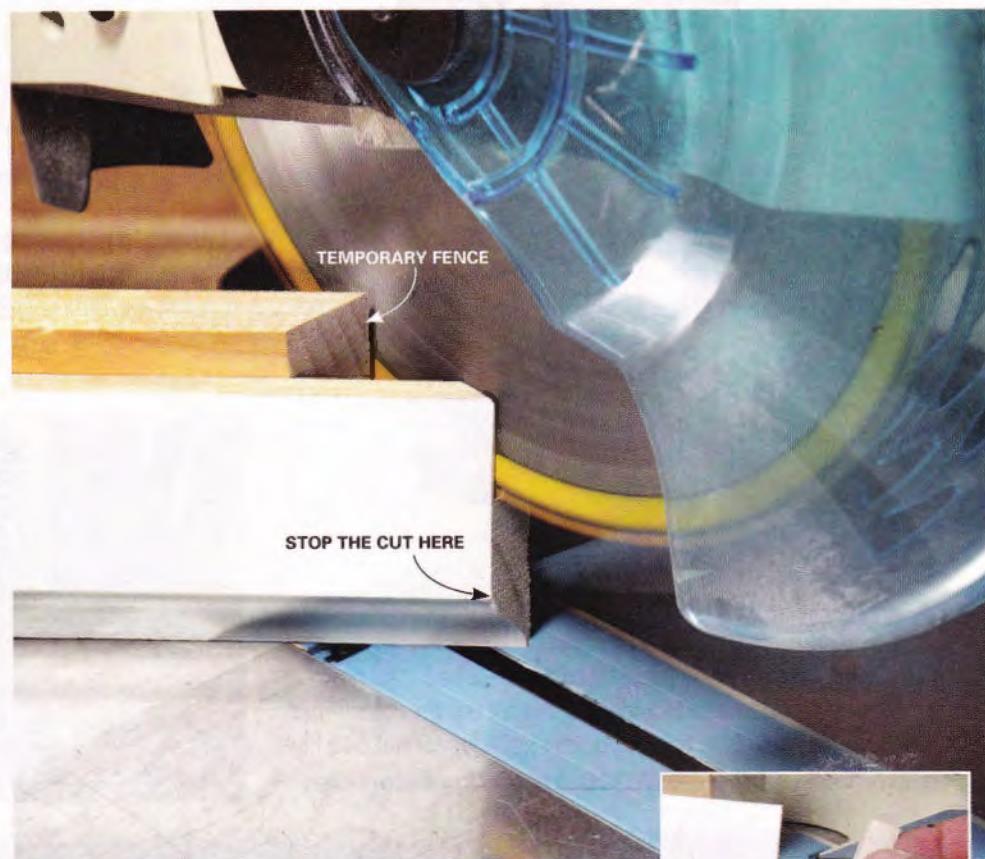
Install base in the clockwise direction around a room if you're right-handed and counterclockwise if you're a lefty. That'll be playing to your strong hand, and you'll always be coping the same way joint after joint—no confusion.

Rest your elbow on the table or the saw miter adjustment arm for stability. Don't try to get a perfect cope with the saw alone; you'll be able to quickly



### 1 EXPOSE THE PROFILE

Make a reverse 45-degree cut to expose the profile.



### 2 CUT OFF THE STRAIGHT PART

Swing the saw around to the other 45-degree setting and cut the vertical part of the cope, stopping just before the profile starts, and snap off the waste.



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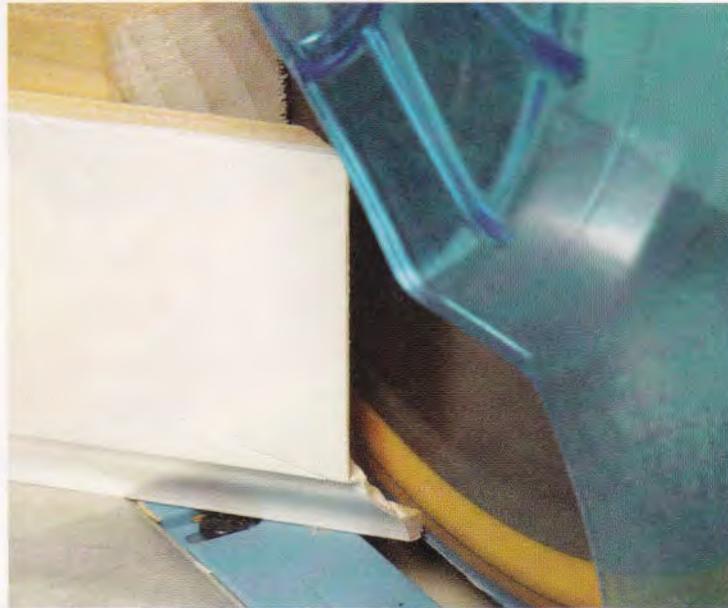
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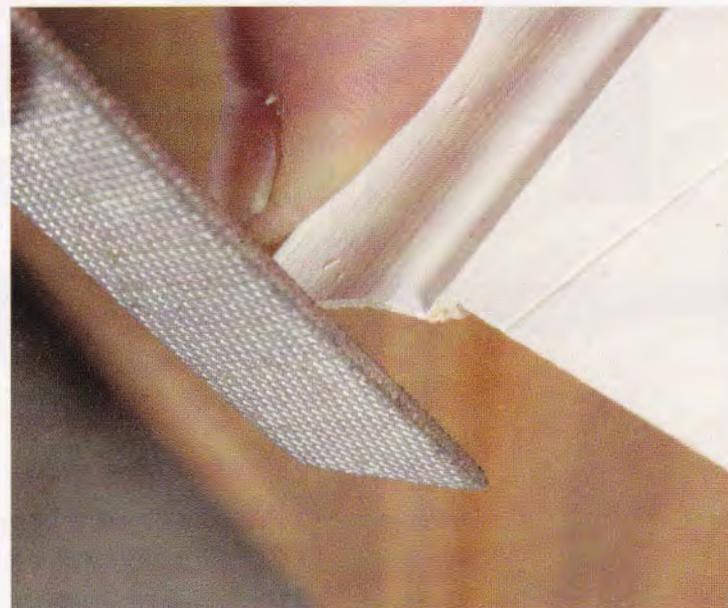
One Tough Animal™

clean it up with a file. And lastly, don't take your finger off the trigger until you're clear of the cut. The blade will plunge the instant you shut off the power and you'd wreck the cope.



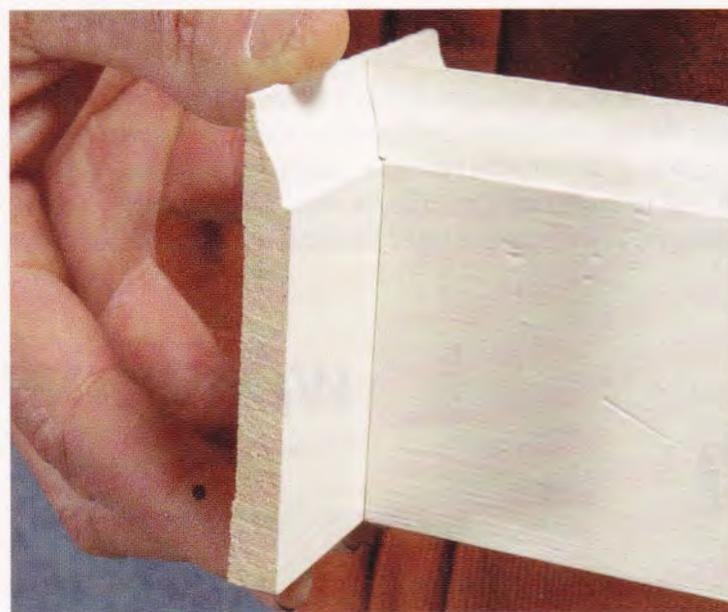
## 3 WHITTLE AWAY THE WASTE

Nibble away most of the waste above the profile, then fine-tune the profile, stopping about 1/32 in. above the finished cut. Once you get used to the process, you can work even faster by dragging the base sideways while lowering the blade at the same time.



## 4 TUNE UP THE COPE

Follow the finished wood surface with a "4-in-hand" file to finish up the cope. With any luck, you'll still have a line of raw wood to follow with the file to get a perfect cope. Be careful even with base that's made from hardwood—the file carves away wood very quickly.



## 5 CHECK YOUR WORK

Test the cope with a scrap of base.

- If the base is going to be painted, don't be a perfectionist—a small gap is easy to fill with caulk.
- If it will be stained or varnished, take your time to achieve a perfect cope.
- If you completely blow it, who cares? You can recut another one in seconds.

# BRAG BOARD

from our readers  
editors@thefamilyhandyman.com

You can pay someone to build just about anything. But you can't buy the satisfaction that comes from doing it yourself—the moment when you stand back and say, "I built that." That moment is also a good time to snap a few photos—and then send them to us. See p. 92 for details.



"Hundreds and hundreds of miter cuts—I'm glad I did it, but I don't think I would do it again."

Lou Minna



## Magnificent moldings

Ten years ago, Lou Minna and his wife bought a new house—nice enough, but "kind of plain and cold." Ever since then, Lou has been adding character, one room at a time. This living room is the grand finale: Brazilian cherry floors with maple

inlay, half-walls with composite columns and a majestic 14-ft.-tall fireplace mantel. It's all topped off with stunning "built-up" crown molding, made from a six-layer combination of MDF, polymer and pine moldings. With such a high ceiling, Lou needed

scaffolding to install the crown.

You can install built-up crown moldings even if you have lower ceilings (and lower ambition) than Lou. Go to [familyhandyman.com](http://familyhandyman.com) and search for "crown molding" to find ideas and instructions.



**Got a DIY triumph to share?**  
See p. 92 for details.



## Backseat drivers wanted

Greg Gerwitz runs an old-fashioned, family-owned auto repair shop. And here's one of his family projects. With help from his son, Dave, and daughter, Christine, he cut two Dodge Caravans in half and seamlessly joined the front halves. The result is a driveable vehicle; the false "front end" has taillights instead of headlights, unsteerable wheels and a gas tank instead of an engine under the hood.

"We built it,  
I guess, just  
because we could."

Dave Gerwitz

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## Better than new

After 20 years of wear and tear, some people would have considered it scrap metal. Not Bruce Blaney. He stripped the pontoon down to the bare deck and built a "hut" of plywood walls with a 2x6-and-metal roof. Then he loaded the boat with features: a propane grill, a 1,000-watt generator and a retractable ramp. There's even a water slide that fits on the back of the upper deck.



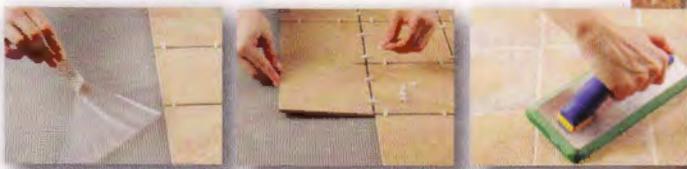
"When people see it, they want one. But this one isn't for sale."

Bruce Blaney



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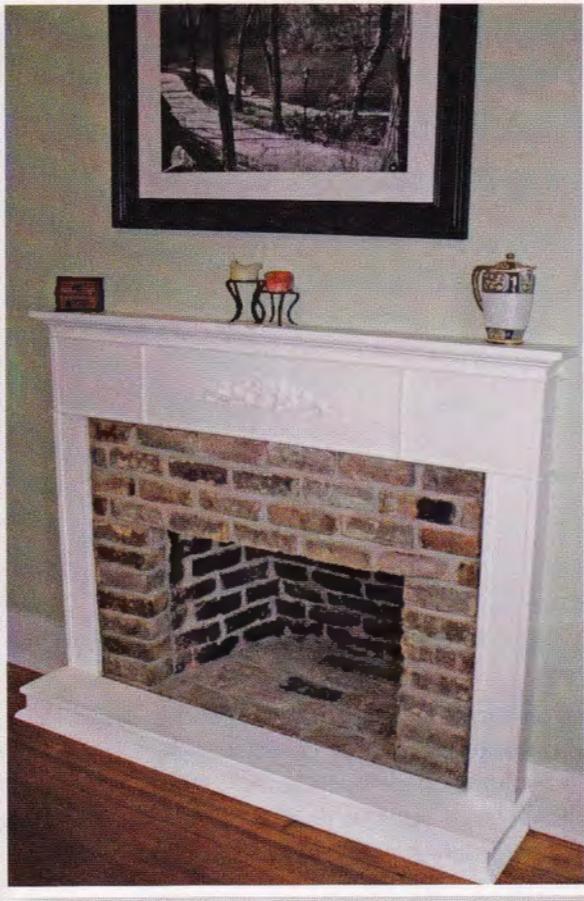
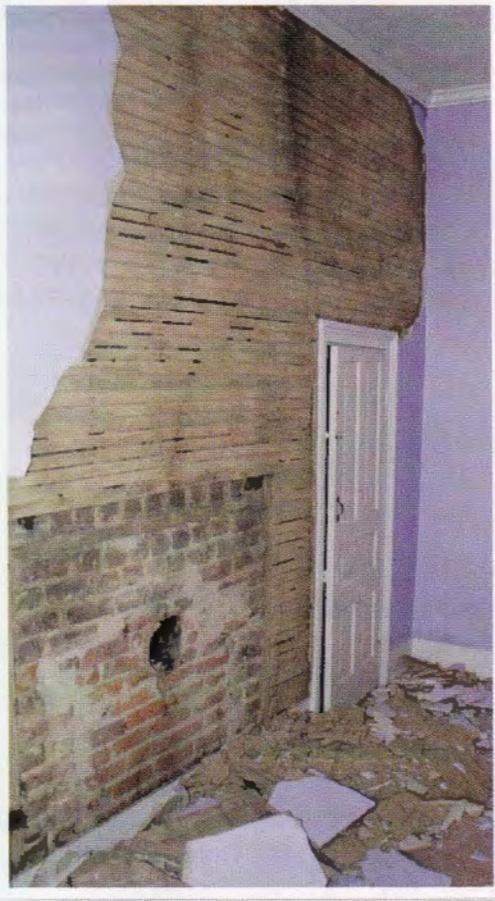
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## Buried treasure

When Gary Grant tore out the cracked plaster walls in his old house, he discovered a fireplace, bricked up and long forgotten. The fireplace wasn't usable—the exterior portion of the chimney was gone—but Gary decided to restore it anyway. He salvaged brick from the chimney section in the attic, taught himself to lay brick and built a new surround.



"I still have a few more walls to tear out—hoping to find bags of money next time."

Gary Grant

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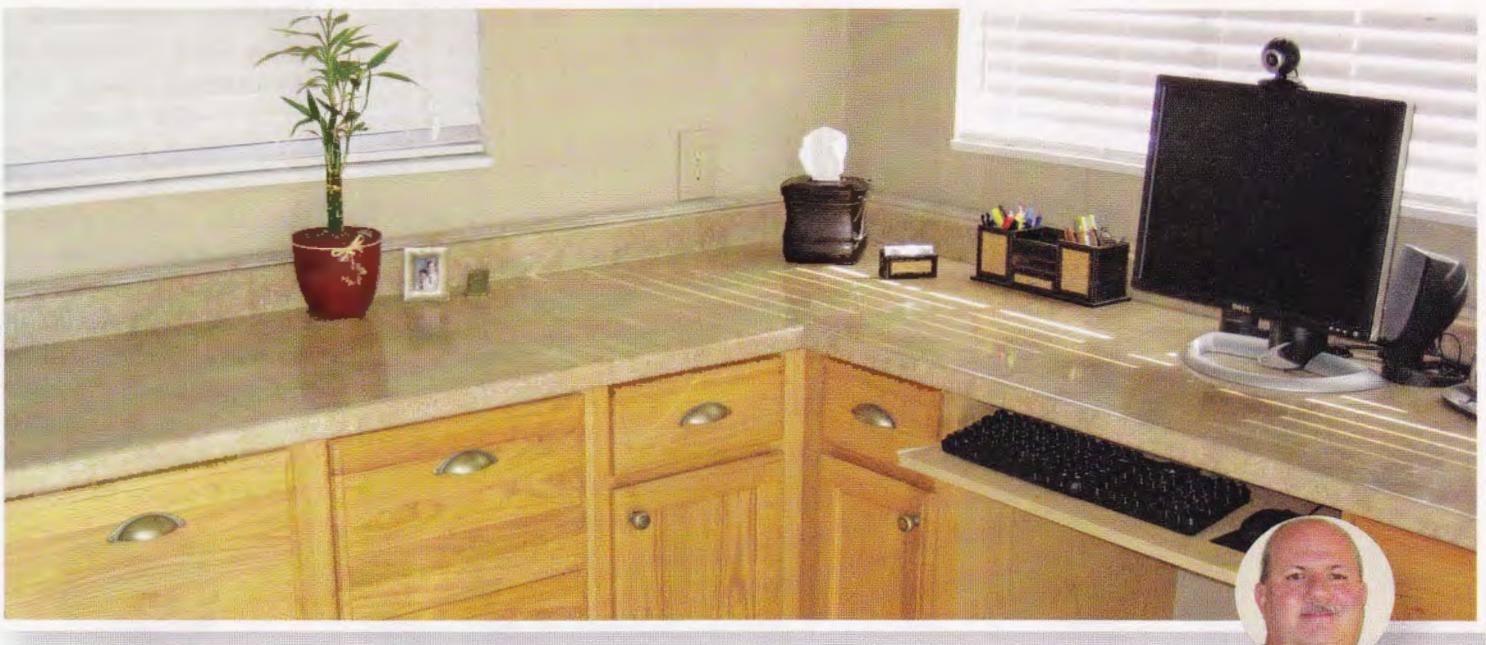
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## Home office cabinetry

Leo Paquin has a great suggestion for any home office remodel: build it like a kitchen. Most kitchen cabinet manufacturers make "office cabinets"—just like kitchen cabinets, but built to desk height. Some include office options like file drawers or bookshelves. Add countertops, and you've got a large built-in desk with plenty of storage. Leo spent about \$2,000 for 15 linear feet of cabinets and countertops. Any home center or kitchen showroom can special-order desk-height cabinetry.

"We started out shopping for office furniture. Cabinetry gave us a better office for less money."

Leo Paquin

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Continued from p. 53

## Sheathe and waterproof the walls

Set the plywood panels in place one at a time. Draw and cut 1-5/8-in. x 3-5/8-in. openings spaced 6 in. down from the underside of the top plate and directly next to every other stud. Nail each panel into place with 8d nails spaced every 8 in. before moving on to the next one. Cover the outside with ice-and-water barrier (**Photo 4**). The adhesive won't hold the barrier in place, so staple it as needed. Cut off the excess at the top and cut out the strut openings with a utility knife.

## Add the struts and sleepers

Slip the struts through each hole. Prop them up so they're close to level, either by piling up dirt or supporting them on chunks of scrap wood. Screw each one to a stud with three 3-in. construction screws. (Predrill the holes to prevent splitting since it's so near the end.) Screw the sleeper to the other end of each strut with two more screws.

## Skin and finish the front

Before you can finish the front of the wall and backfill behind it, you'll have to remove the front braces. So prop up the dead men to keep the wall near plumb while you finish the front. Cut the plywood and nail it on, orienting it vertically to the front so the exposed grain will match the 1x6 boards applied over them. Add the 2x8 cap, keeping a 1-1/2-in. overhang at the front. Screw it to the tie plate with 3-in. deck screws. Screw the 1x6 treated boards to the sheathing with 2-in. deck screws. We spaced our boards every 1-1/2 in. using a scrap 2x4 as a spacer. Don't trust the spacer for more than a few boards at a time. Occasionally check a board with a level and make any necessary adjustments.

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For a whole boatload of alternative retaining wall ideas, plans and tips, go to our Web site and search for "retaining wall." You'll even find a different version of this wall, also made from treated wood.



## Backfill and finish

Plumb and brace the wall from the back by nailing braces to the top cap and stake them on the hill. Prop up every other strut and the sleepers with scraps of wood or the fill falling on the struts and sleepers will force the wall out of plumb. Backfill first against the front of the wall over the footing to lock the wall base into place, then fill behind it. Then fill over the sleeper, working your way toward the wall itself. The object is to lock in the sleeper before the fill pushes against the wall. Once the backfill is in place, it's a good idea to run a sprinkler over the fill for several hours to make it settle before you remove the braces.

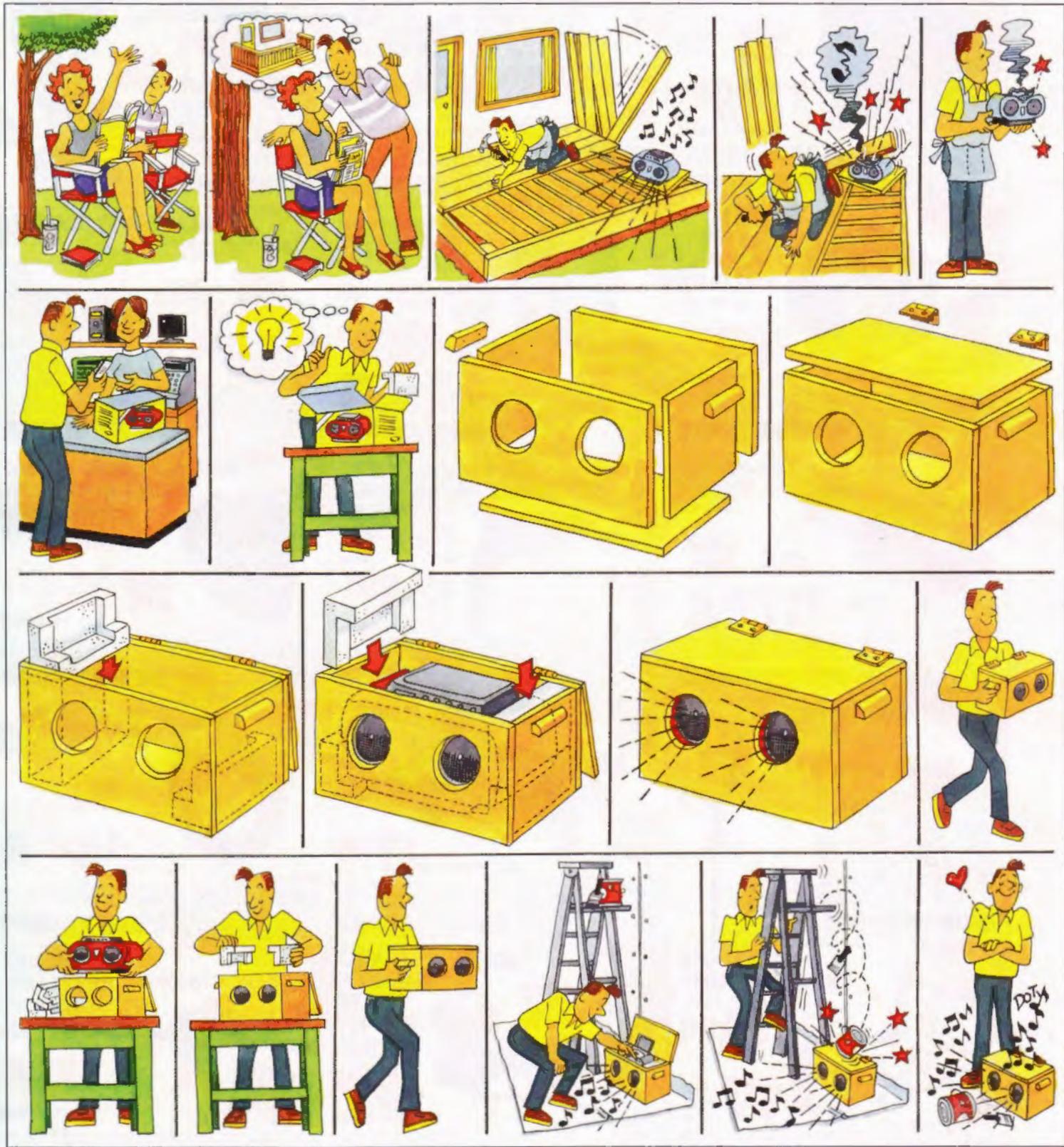
If you like the look of your wall, you're good to go—no finish required. The treated wood will weather from green to gray in a year or two. We applied two coats of Sikkens Log & Siding in the Butternut color. □

## Materials list

This 32-ft.-long wall required the materials listed below. If you're building a shorter or longer wall, just figure a percentage of these quantities and you'll get close. For the longer boards, choose them so combinations of whatever lengths will handle the length of your wall.

- 1 Roll of ice-and-water barrier
- 1 50' roll of 4" drain tile
- 8 Sheets of 1/2" plywood (sheathing)
- 2 2x6 x 16' (footing plates)
- 20 2x4 x 8' (studs and struts)
- 8 2x4 x 16' (sleeper and wall plates)
- 2 2x8 x 16' (top cap)
- 20 1x6 x 8' (trim boards)

## Boom box protector



Our thanks go to Mitch Kreye, Cedar Rapids, IA, for this idea.

Get \$100 for your Wordless Workshop idea!

See Contributor Guidelines on p. 2.

## Flying colors

My neighbor collects baseball caps, and she decided to run them through the dishwasher to get them clean. To prevent them from shrinking, she stopped the dishwasher before the drying cycle. She was worried that they would shrink in the clothes dryer too, so she came up with the brilliant idea of air-drying the caps by strapping each one to a blade on her ceiling fan. Genius! She turned on the fan, made sure the caps were secure and left to go shopping. When she got back, the caps were definitely dry. But there were crazy stripes of color all over the room. As the caps were spinning around, the dye had bled out and shot color all over her living room walls!

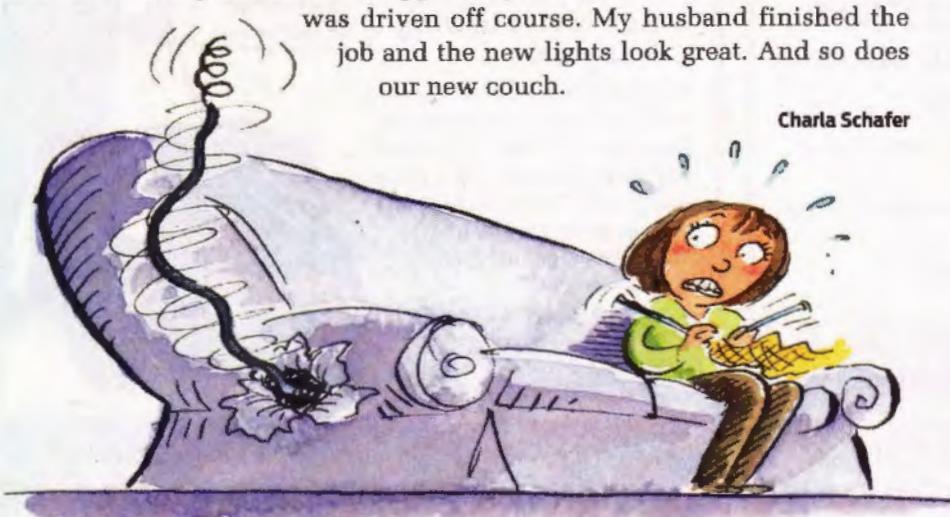
Leigh Nelson

## A bit of a problem

I was on the couch knitting while my husband was downstairs working on our basement. He was using a 6-ft. flexible drill bit to drill holes through the floor joists in the finished ceiling so he could fish wire through them and install new recessed lights. All of a sudden, I felt the couch vibrate. This went on for about 10 seconds and then stopped. I was totally confused until my husband ran into the room, looked at the couch and in a very quiet voice said, "Oooops, there's the problem." I peeked over the side of the couch and saw that the drill bit had come up through the floor, through the wall-to-wall carpeting, through the bottom corner of our leather couch and was sticking out the side. Apparently the drill bit had hit a vent and

was driven off course. My husband finished the job and the new lights look great. And so does our new couch.

Charla Schafer



## Low flow or no flow?

Several months ago, my best friend installed a low-flow faucet in her master bathroom all by herself. Her husband had offered to do it, but she decided to tackle it alone and was very proud of her handy work. Her husband immediately complained about the weak trickle of water, and after a few months even she couldn't stand it. She decided her attempts to be "green" weren't worth it, and she went out and bought a different faucet. When she started to uninstall the low-flow faucet, she immediately discovered the problem. She'd never opened the valves under the sink all the way! She was telling me this, but she was definitely NOT telling her husband!

Lori Okimoto

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