

# The Family Handyman

Tons of projects, tips & tools

SIMPLE KNIFE SHARPENING

February 2001

## SMALL BATH REMODEL

Space-saving  
fixtures and  
easy-to-clean  
surfaces you'll  
LOVE



PLUS

BIG BASEMENT WINDOW  
From dungeon to daylight

STEEL STUD BASICS  
GARAGE DOOR TUNE-UP  
Smoother, quieter, safer

# The Family Handyman

FEBRUARY 2001

VOLUME 51, NO. 2, 415TH EDITION

## CONTENTS

### COVER

## 48 Remodel a small bathroom

Turn a ho-hum bathroom into a blockbuster—with glass block, marble tile and state-of-the-art fixtures.

### FEATURES

#### 39 Sharpening knives and scissors

Great gizmos and techniques for sharpening everyday tools.

#### 64 Pickup truck Handy Hints®

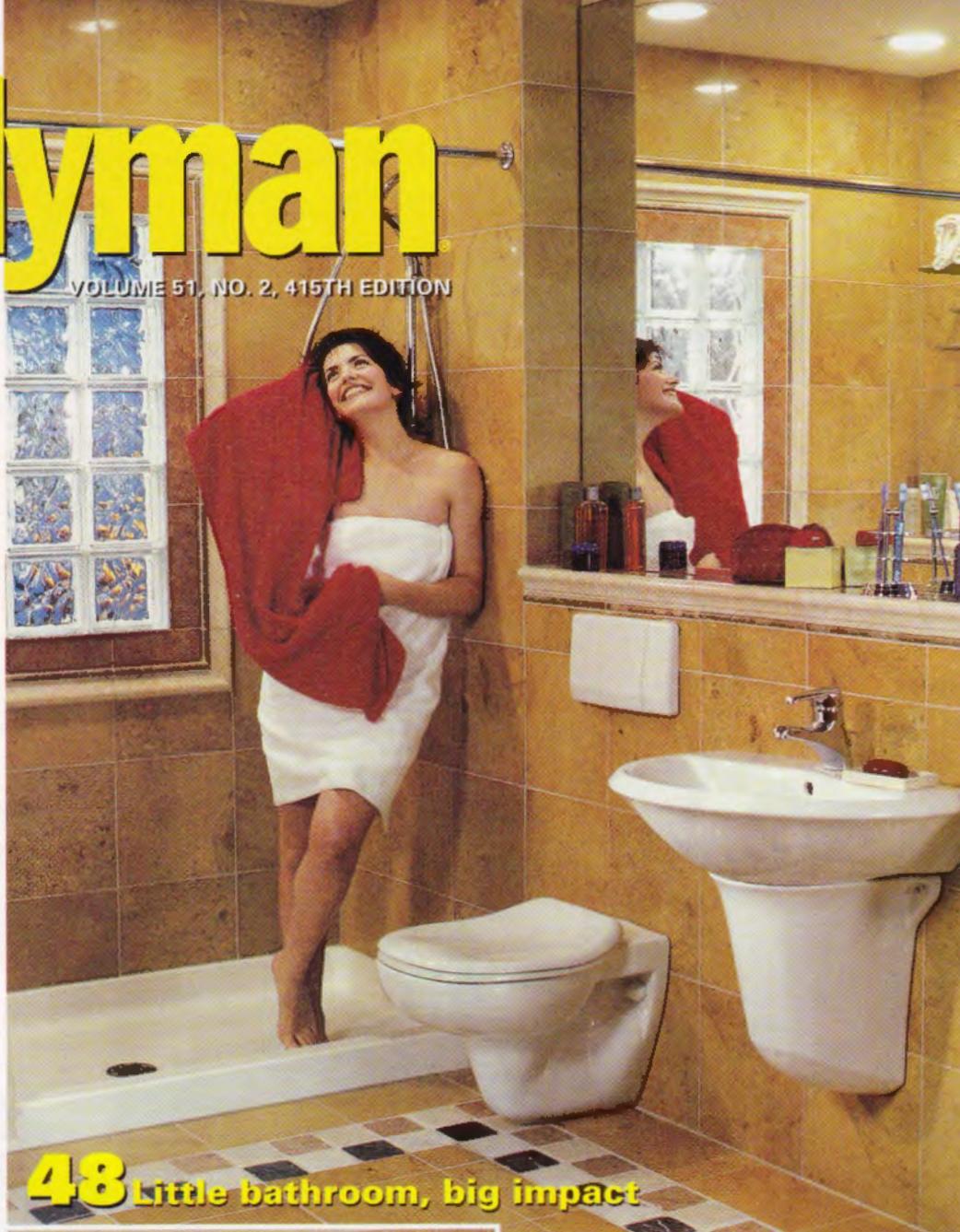
Reader tips for hauling more lumber and storing more stuff.

#### 66 Basement egress window

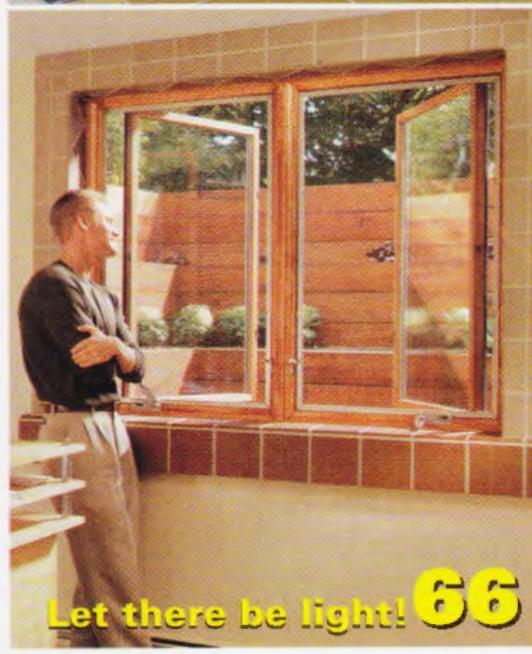
Transform a dingy basement into a light-filled (and safer) bedroom or family room.

#### 80 Garage door tune-up

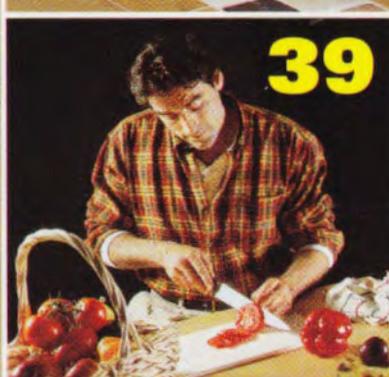
Ten minute tune-ups for a quieter, safer, smoother-operating door.



## 48 Little bathroom, big impact



## Let there be light! 66

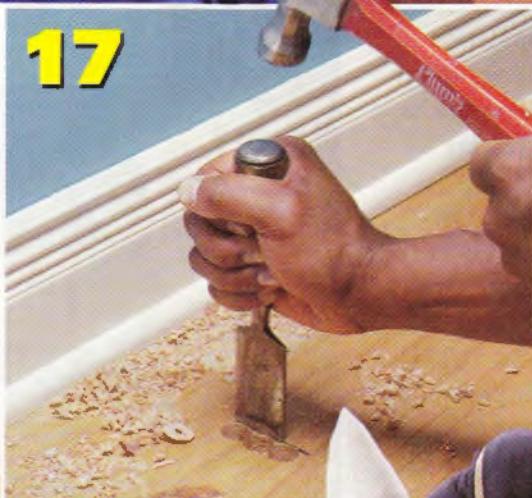


**More ➤**

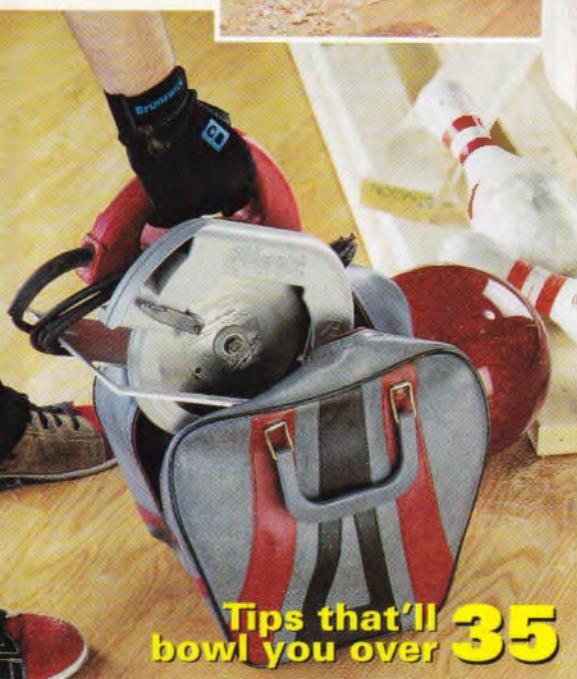
# The Family Handyman



**24** Steel studs—  
lighter, cheaper,  
straighter



**17**



Tips that'll  
bowl you over **35**



**94** Got stuff?

## DEPARTMENTS

**8** Ask Handyman™  
Installing stone facing,  
choosing extension  
cords and more.

**17** You Can Fix It™  
Repairs for damaged  
wood floors, drippy  
refrigerators and split  
trim.

**24** Using Tools™  
Steel stud basics.

**35** Workshop Tips™  
Put a bowling ball bag,  
seat belt and mouse pad  
to work!

**86** Handy Hints®

**88** New Products

**98** Reader Services

**105** Wordless  
Workshop™  
A cure for those  
on-vacation mailbox  
blues.

**107** Great Goofs™

How a House Works™ is scheduled  
to return next month.

Art Direction • JANIS McKAY BABCOCK  
Cover Photo • BILL ZUEHLKE

# Ask Handyman

by Travis Larson

## How do I install stone facing on the front of my house?

I want to improve the curb appeal of my house by installing a stone facing on the front. However, I've been told that I can't do it because my house doesn't have a "brick ledge" to rest the bricks on. Can a brick ledge be installed on an existing home, or is there another approach that would be easier?

Roy Duoos, Brooklyn Center, MN

Real bricks and stone are heavy and need solid support. When a house is under construction and a natural stone or brick facing is planned, the builder usually builds the brick ledge into the foundation by extending the foundation past the house framing. Adding a brick ledge to an existing house is hard to do and very expensive.

The do-it-yourself alternative is to apply artificial stone products that don't need brick ledges. Artificial stone used to look pretty bogus, but the new generation of thin, faux stone is nearly impossible to distinguish from real stone. New faux stone is composed of conventional cement with soft, lightweight, pumice-like fillers, making it easy to cut with a circular

saw or a 4-1/2 in. angle grinder fitted with masonry blades.

Because faux stone is so light, it can be adhered to a specially prepared wall surface with conventional mortar. It's easy to apply, and though you won't save anything in material costs, you'll save big in labor.

Some products, like imitation fieldstone, require grouting mortar joints between the stones or bricks. Others, like the one shown, are designed to be laid with tight-fitting, mortar-free joints to give the wall a "dry-stacked" look. Other materials can be done either way. Go to a local supplier (look under "Brick" and "Stone" in the Yellow Pages) and look at the display walls.

Depending on the stone or brick style, you may be able to get matching L-shaped corners, keystones for arches and sills to finish off the project with style. All the products you'll need to prepare the surface and finish the project are available from your supplier.

In the photo, you'll see the layers of "behind-the-scenes" materials that are necessary for a long-lasting, trouble-free wall.

### Buyer's guide

To contact manufacturers, see below:

- Coronado Stone Products: (800) 847-8663.  
[www.coronado.com](http://www.coronado.com)
- Owens Corning Corp: (800) 438-7465.  
[www.culturedstone.com](http://www.culturedstone.com)
- StoneCraft Industries: (760) 736-3232.  
[www.stonecraft.com](http://www.stonecraft.com)

**More ASK HANDYMAN >>**





**1** Wall Sheathing:  
Plywood, wafer-board, foam and composition board are all suitable bases as long as they're flat, rot-free and securely fastened.

**2** Water-Resistant Paper: This special vapor-permeable two-layer paper is designed for masonry exteriors to protect wall sheathing.

**3** Lath: Galvanized expanded metal lath is nailed to the wall studs every 6 in. with roofing nails to hold everything solidly to the wall.

**4** Scratch Coat: This layer of mortar is forced into the lath with a trowel and then "scratched" with a "scarifier" tool.

**5** Mortar: This layer of conventional masonry mortar is the "glue" that holds the veneer to the wall.

**6** Facing: In our example, we chose to install an artificial stone without mortar joints.

**7** Corners: Special L-shaped stones that alternate to finish off the corners.

## Do I have to replace the rotted floor under the toilet?

*While replacing my toilet wax ring, I noticed that the floor directly under the toilet flange was rotted out. Do I need to rip out all the flooring and replace it, or is there a less painful solution? Help—we're down to one toilet!*

Bruce Lewis, Kansas City, MO

If only the area directly below the flange is rotted, you can install a two-piece steel closet flange support. It goes under the flange and transfers the load of the flange and toilet (and you) out onto more solid surrounding wood. But if your floor is severely rotted, say more than an inch beyond the flange, you're stuck replacing the flooring around the toilet. Order a flange support for about \$18 from Prairie Home Products Inc. (800-367-1568). The company offers one type for cast iron flanges and one for plastic or brass.



## Why does mold grow on the inside corners of my walls?

*We have mold or mildew growing on the inside corners of our house wherever two exterior walls meet. The house was built in 1992. One of these corners is in a closet, but the others are in open rooms with good air circulation. The 2x6 walls have fiberglass insulation and a vapor barrier. Do you have any solutions?*

Dianne Gross, Grafton, OH

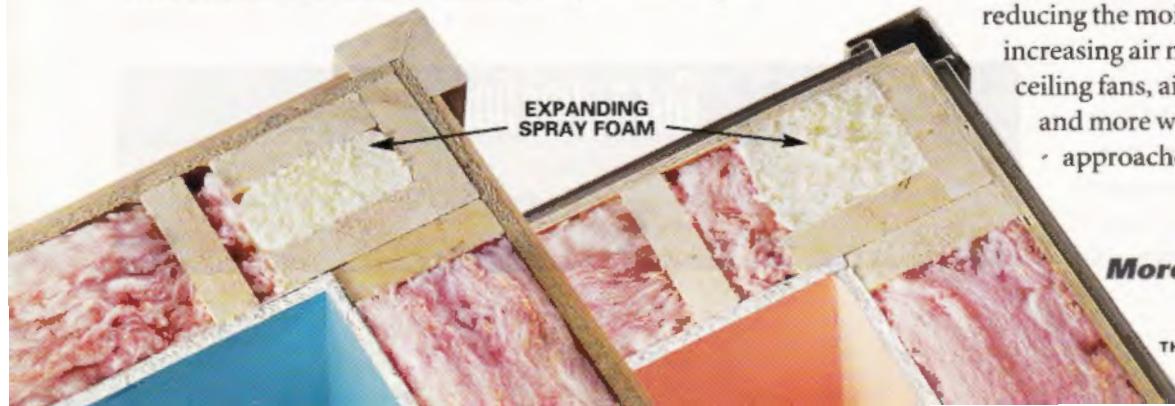
Two possibilities come to mind. The first is poor air circulation, which you've ruled out for most of your house. But to explain anyway, warm air registers are normally located in front of windows so they can blow warm, dry air over the glass to cut down on condensation. Corners that are located away from this moving air, like those in closets, become cool and allow moisture to condense. The moisture is what mold and mildew thrive on.

The problem could be uninsulated framing cavities at the corners or where interior walls meet exterior ones. When a house is being built, carpenters are supposed to insulate cavities that are only accessible when they're framing the walls. Sometimes they get careless or lazy or there's no insulation on the site and the job doesn't get

done. The insulators can't tuck insulation in those spots later, so they never get filled. Then during cold weather, the inside wall surface cools, moisture condenses, and mildew sets up shop.

Here's the fix: Use a 3/8-in. spade drill bit to bore holes at 30-in. intervals up from the floor. Angle the holes toward the middle of the corner. (If there's already insulation in the cavity, it'll get wrapped around the drill bit on the first hole, indicating you don't need this fix.) Spray a whole can of expanding foam into the first hole and let it sit overnight to finish expanding. The next day, fill the next hole with another whole can of foam and let it sit overnight. Finally, spray about half of a third can into the last hole. If the hole is plugged the next day, you're done. If not, spray in the rest, then patch the holes and repaint.

If the corners are already insulated, try reducing the moisture in the air and/or increasing air movement. Dehumidifiers, ceiling fans, air-to-air heat exchangers and more warm air vents are a few approaches that will help.



**More ASK HANDYMAN >>**

## Extension cords for power tools

In our Oct. '00 issue, p. 66, we featured a Handy Hint® about using an extension cord while it's coiled in a 5-gallon bucket. Several readers expressed concerns that the cord could overheat if it's drawing a heavy load. They are right. You can melt the insulation on the cord and create a hazardous situation if you overload the cord.

All UL-approved cords have an electrical current limit that's based on the size of the wire inside and the cord length. (**NOTE:** The bigger the gauge number, the thinner the cord.) A thin cord or a long cord that's feeding a power-hungry tool will heat up, especially if it's coiled, because the heat stays contained within the coils rather than dissipating in the air. The thinner the wire and the

longer the cord, the bigger the electrical draw and the more heat generated.

Typical cord limits are shown in the chart. Cord sizes are imprinted on the surface of the cord sheathing (see photo). The most common construction cord sizes are 12-3, 14-3 and 16-3. The first digits denote the gauge of the cord while the second number denotes the number of wires it contains. Two wires carry the current; the third wire is a ground wire. Sixteen-gauge cords are only heavy enough for work lights and small power tools such as drills. If you work with portable table saws, circular saws or other larger tools that draw 10 to 15 amps, get to the hardware store and purchase a 50-ft., 12-3 extension cord. Almost every power tool has a nameplate attached to the motor housing that lists the amperage requirements of the tool (see photo).

Just remember: Always uncoil extension cords before using them and always use an extension cord that's big enough for the job. A heavy cord not only is safer but also will add years to the life of your tools.

### Current Limits on Extension Cords (AMPS)

Cord Size	Cord Length		
	25 ft.	50 ft.	100 ft.
18-gauge	7 amps	5 amps	2 amps
16-gauge	12 amps	7 amps	3.4 amps
14-gauge	16 amps	12 amps	5 amps
12-gauge	20 amps	16 amps	7 amps



## Radial arm saw recall

Emerson Tool Co. is recalling about 3.7 million Craftsman radial arm saws, because the lower blade guard does not completely cover the blade. About 300 people have been injured on these saws, either when their fingers touched the blade or by pieces of wood being kicked back.

Consumers should stop using their Craftsman radial arm saws immediately and call Emerson Tool Co. to determine if their saw is recalled and to receive safety instructions. Have your model and serial numbers available when you call. The recalled saws have a model number beginning with 113, range in size from 8 to 10 in., and were sold

from 1958 to 1995. Emerson is providing a free repair kit with a new and improved guard. For older saws that cannot accept the new guard, Emerson is offering \$100 for the return of the saw carriage.

Call Emerson at (800) 511-2628 or visit [www.radialarmsawrecall.com](http://www.radialarmsawrecall.com). Do not return your saw to Sears.

## Correction

In our story on defective water heater dip tubes in Dec./Jan. '00 "Ask Handyman," we implied that you could be reimbursed for expenses incurred until Dec. 31, 2000. This is incorrect. That deadline was for claims for defective dip tubes not yet fixed. We apologize for any inconvenience.

Art Direction • BOB UNGAR & JANIS MCKAY BABCOCK  
Photography • BILL ZUEHLKE, RAMON MORENO & MIKE KRIVIT

## Got a question?

Submit your questions to Ask Handyman, 2915 Commers Drive, Suite 700, Eagan, MN 55121. Because of the volume of mail received, we can't reply individually to questions.

# You can fix it

replace a plank  
hardwood flooring  
stop drips  
refrigerator  
repair split trim  
molding  
glue loose flaps  
plastic laminate

by Bruce Clark

## patch a hardwood floor

Replacing damaged or hole-filled hardwood tongue-and-groove floor boards takes a couple of hours, sharp tools and an understanding of how to break the interlocking tongue-and-groove board edges.

When removing old flooring, create a new butt joint on just the side of the plank that's closest to the hole or where the damage ends. Using the technique shown in **Photos 1 – 4** and a carbide-tipped flooring blade that can cut through nails, remove the old hardwood flooring and install a perfect replacement piece.

New flooring usually stands "proud" next to older, worn flooring. Also, matching the color of aged flooring is difficult. For these reasons, the best time to repair flooring planks is when the entire floor needs to be sanded and refinished. Otherwise, using belt and orbital sanders, you'll have to level and then finish the new plank so it blends into the existing flooring—a tough job.



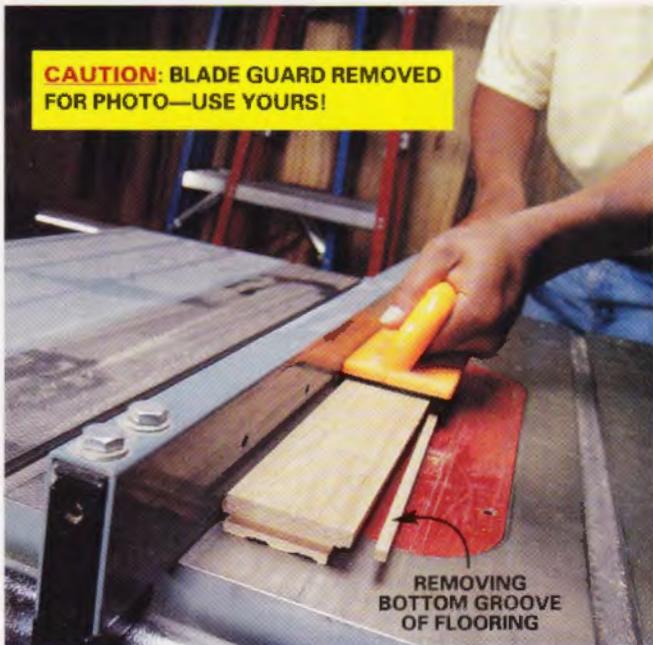
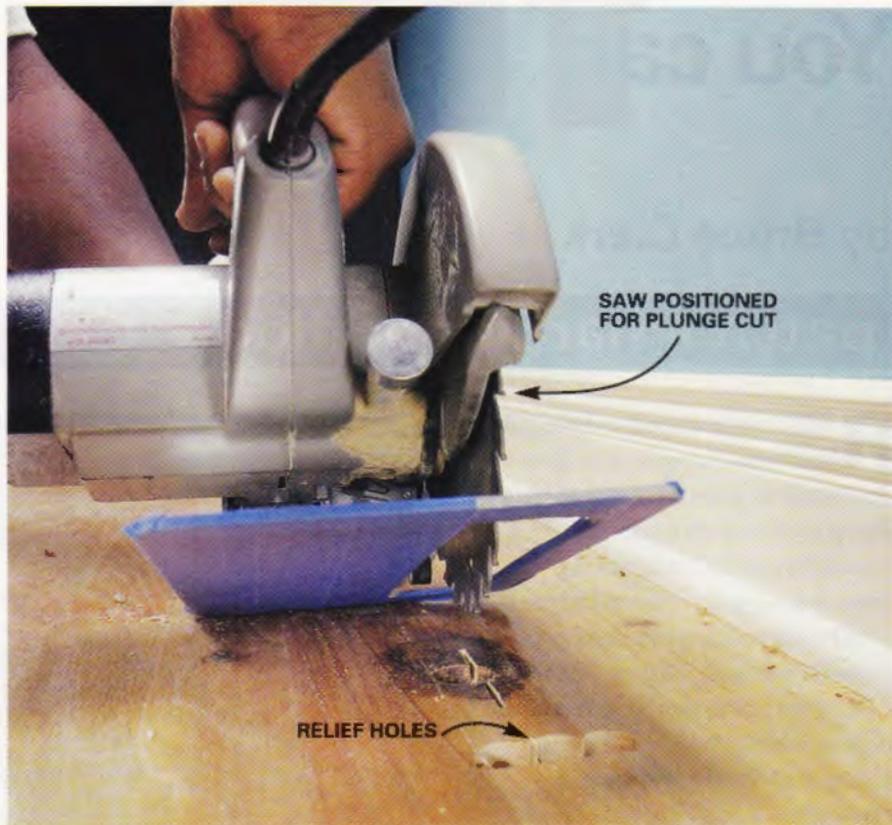
**1** **LOOK** at the damaged flooring plank and decide how much length to remove. You want the new butt joint to be staggered about 10 in. from the butt joints of any adjacent flooring courses. Draw a line for the cut, then use a sharp chisel (1 in. or wider) to carefully cut the line through the top 1/8 in. of the flooring to create a crisp edge that defines the new butt joint. With a spade bit, drill three relief holes next to the layout line to remove the bulk of the wood. Complete the cut by using the chisel to trim the full edge of the butt joint completely square and clean.

**More YOU CAN FIX IT»**

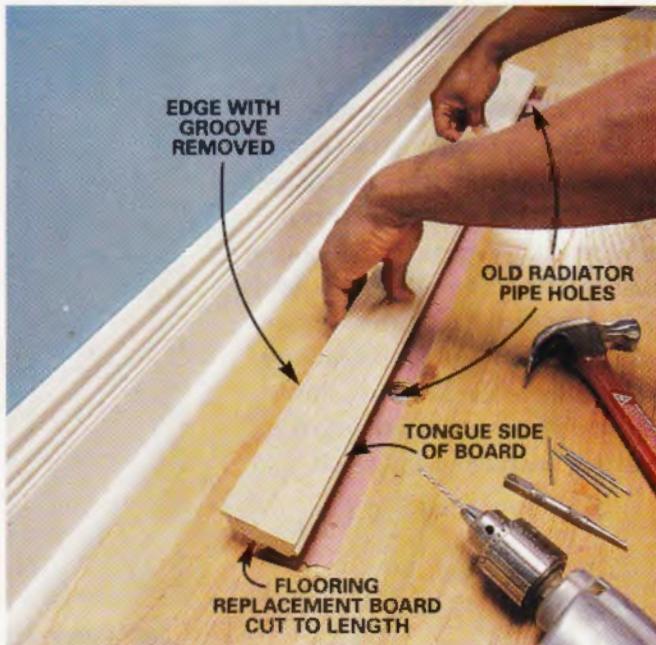
**SAW** two parallel relief cuts an inch apart down the center of the flooring plank to be removed. Set the saw blade depth  $1/16$  in. deeper than the thickness of the flooring. Position the circular saw in front of the newly created butt joint with the saw guard retracted, the blade clear of the flooring and the weight of the saw balanced on the front of the saw shoe. For safety, don't position any part of your body behind the blade.

Grip the saw firmly, turn it on, carefully lower the blade into the flooring, and make the first saw pass down the flooring to just before the other end of the board. Repeat the procedure with a second plunge cut.

Using the chisel and a pry bar, remove the strip of flooring between the relief cuts and pull the tongue-and-groove edges of the old flooring where they interlock with the adjacent flooring courses. Completely clean out the opened section of flooring.



**3 RIP-CUT** and remove the bottom groove from the replacement flooring piece using a table saw, circular saw, or sharp chisel and utility knife. Set the saw fence to cut  $5/16$  in. off the width of the plank and the saw blade depth to cut into it  $1/4$  in. deep. Once the bottom groove has been removed, measure the length required for the replacement piece and cut it. Pencil the location of floor joists on the new board.



**4 INSTALL** the replacement flooring board by inserting the tongue side into the groove of the adjacent flooring plank and dropping the board into position. If necessary, tap the new board flush into position using a rubber mallet. Drill pairs of  $1/8$ -in. nail holes near the ends of the new board and at each joist and fasten the flooring with  $8d$  finish nails. Set the nailheads.

**More YOU CAN FIX IT>>**

## stop refrigerator drips

**W**ater dripping from the ceiling of a frost-free refrigerator is a common problem. Food crumbs get into cracks in the freezer floor, drift toward a gutter and plug up a drain hole inside the freezer—causing frost melt to back up, refreeze, melt again and drip. You can clean out

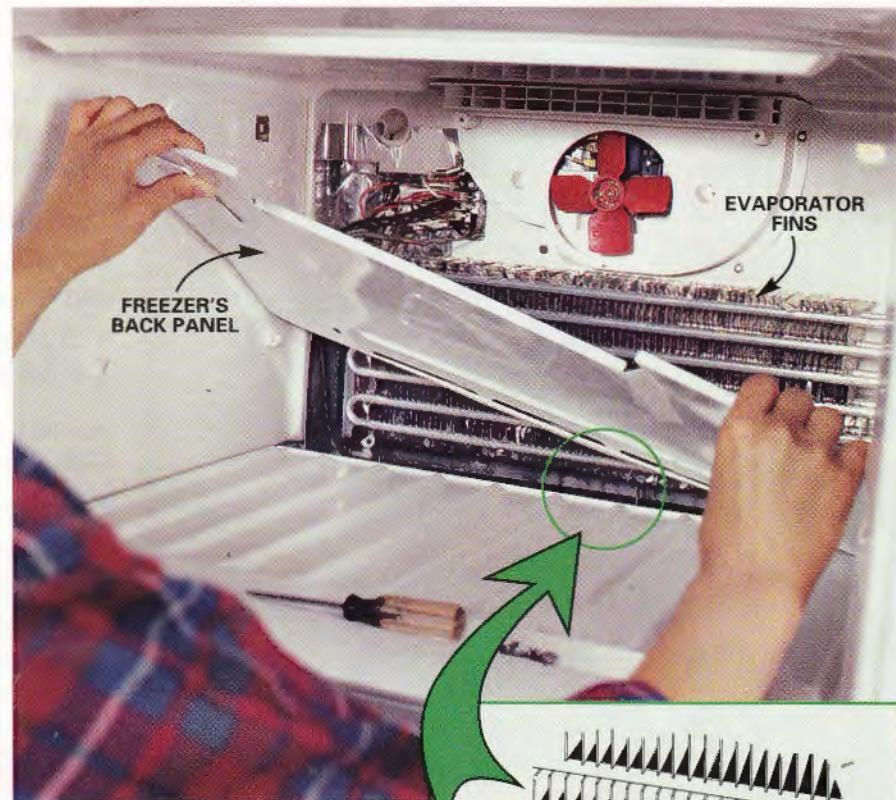
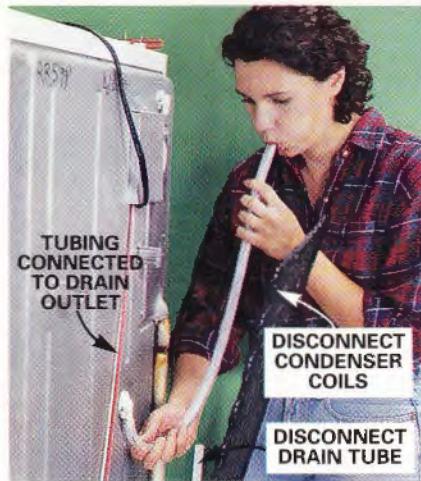
the clog yourself in about 1-1/2 hours, once you empty your freezer and allow it to defrost. You'll save yourself a \$100 service call.

Our refrigerator has a drain hole at the back of the freezer compartment and a drain tube running down the outside of the unit. The

drain tube can be accessed and cleaned. Other models have a drain hole near the center of the freezer floor and a drain tube running down the inside of the back wall. Because you can't access a drain tube like this to back-blow it clear, try using a turkey baster to draw the gunk out.

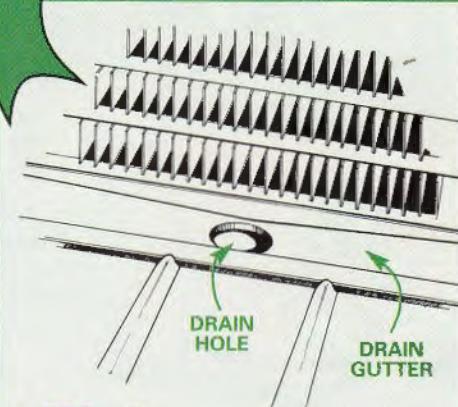


**1 ACCESS** the drain tube behind the refrigerator condenser coils by unplugging the refrigerator, unscrewing the top mounting brackets and gently tilting the coils away from the cabinet. **Caution:** Avoid damaging the coils. Don't attempt to lift them out of their bottom mounts, pry them away from the bottom of the cabinet or let them fall away.



**2 EMPTY AND DEFROST** the freezer, removing any shelving. Then unscrew the freezer's back panel. Avoid bending the evaporator fins when removing or reinstalling the back panel. If any fins get bent, gently straighten them before reinstalling the panel.

**3 BLAST** clogs back into the freezer compartment by disconnecting the main drain tube, attaching an extra length of tubing (of equal diameter) to the drain outlet and blowing until the line is clear.



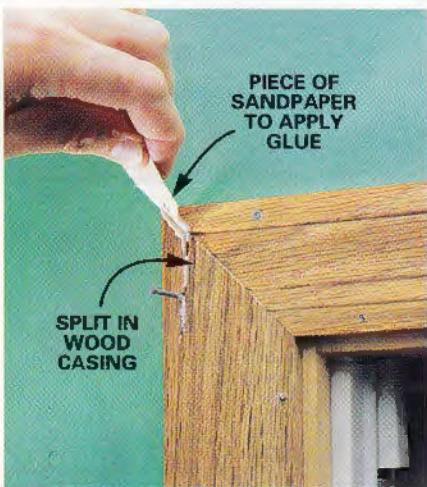
**FIG. A**

**CLEAN OUT** debris from the drain gutter and the drain hole. Try not to jam crud deeper into the drain tube by poking at it.

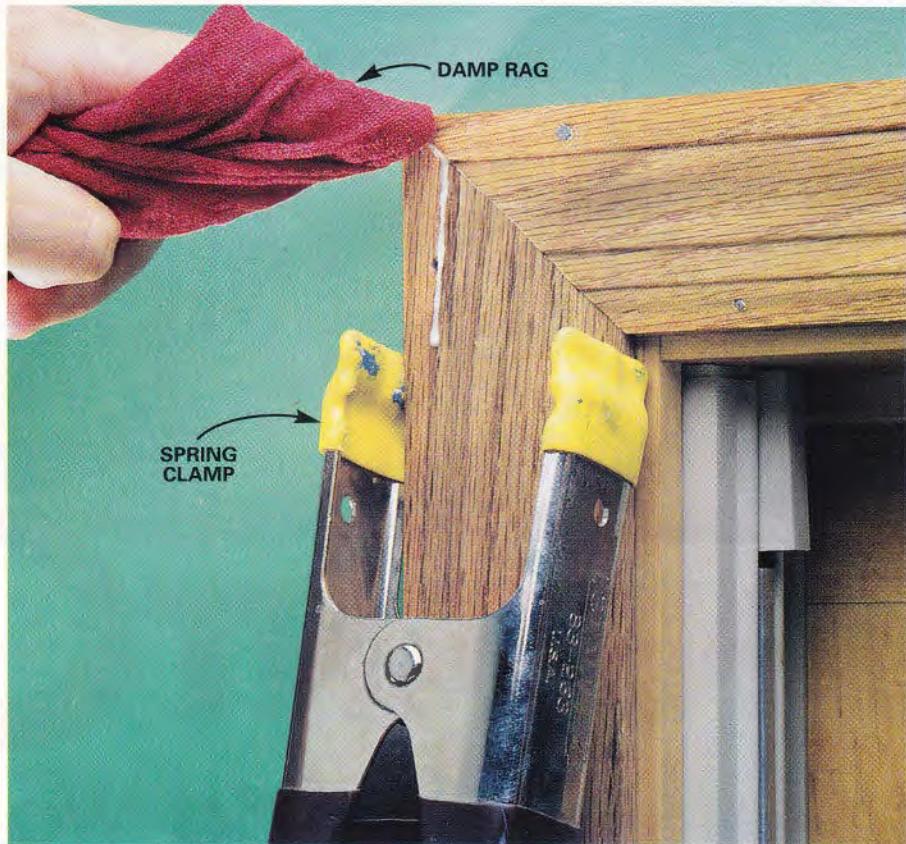
**More YOU CAN FIX IT >>**

## repair split trim

If you neglect to predrill the nail holes in wood moldings or if you nail too near their ends, you could split them. Rather than replacing the trim or taking it down for repair, use the fix shown in **Photos 1 and 2** to repair it in place. To ensure a proper glue bond, leave the spring clamp on the molding overnight.



**1** **INSERT** a thin applicator (like sandpaper) smeared with wood glue deep into the wood crack. Don't move the nail that caused the split. Instead, use it to wedge the crack open so you can apply glue deep inside the crack.



**2** **APPLY** a spring clamp across the top of the molding once the nail is pulled. Using a damp cloth, wipe off all excess wet glue. Once the glue has dried, drill a 3/32-in. hole next to the original nail hole, install an 8d finish nail and set the nailhead. If a gap remains in the tip of the split molding (at the top of the miter joint), drill a 1/16-in. hole on the side of that molding and carefully drive a 1-in. long brad-size nail to close the gap.

## reglue plastic laminate

Over time, the laminate on a corner of my kitchen countertop loosened and began to peel back from the particleboard base. I knew the laminate would eventually crack off and require a repair to the whole surface if I didn't fix the corner soon, so I took 30 minutes to reglue it. Here's the technique I used:

Carefully lift the loose laminate flap so it doesn't crack off. Using an old 1-in. paint brush, liberally spread contact cement to only the

particleboard substrate. Transfer glue to the laminate by first pressing the laminate into the contact cement on the substrate and then quickly lifting it off. Take some short sections of toothpicks and prop up the laminate in several places to allow the contact cement to set up until it's

almost dry (the color becomes clear). When the cement is ready, press the laminate down onto the countertop. Use a rolling pin and work from the middle to the edges to squeeze out air bubbles and flatten and secure the laminate. Success! It's as good as new.



# Using tools

by Bruce Clark



## steel studs

**Tools & techniques  
for building  
straight,  
sturdy  
walls.**

**A**s the supply of quality lumber diminishes, steel studs will replace their wood cousins more and more in home construction. You'll like steel framing for the many advantages it has over wood: Steel studs are perfectly straight. They don't shrink or split. They're light and easy to store, plus they resist fire, insects and rot. And you'll really like the fact that steel studs are about 30 percent cheaper than wood.

At first, you'll find framing with steel to be slower than with wood, because you'll be working with unfamiliar materials, techniques and tools. But once you get the hang of working with steel, it's very user friendly. If you make a mistake, you can simply unscrew the steel parts and quickly get back on track. To get you started, we'll show you how

**More USING TOOLS >>**

# Using tools

to build a small, non-weight-bearing wall.

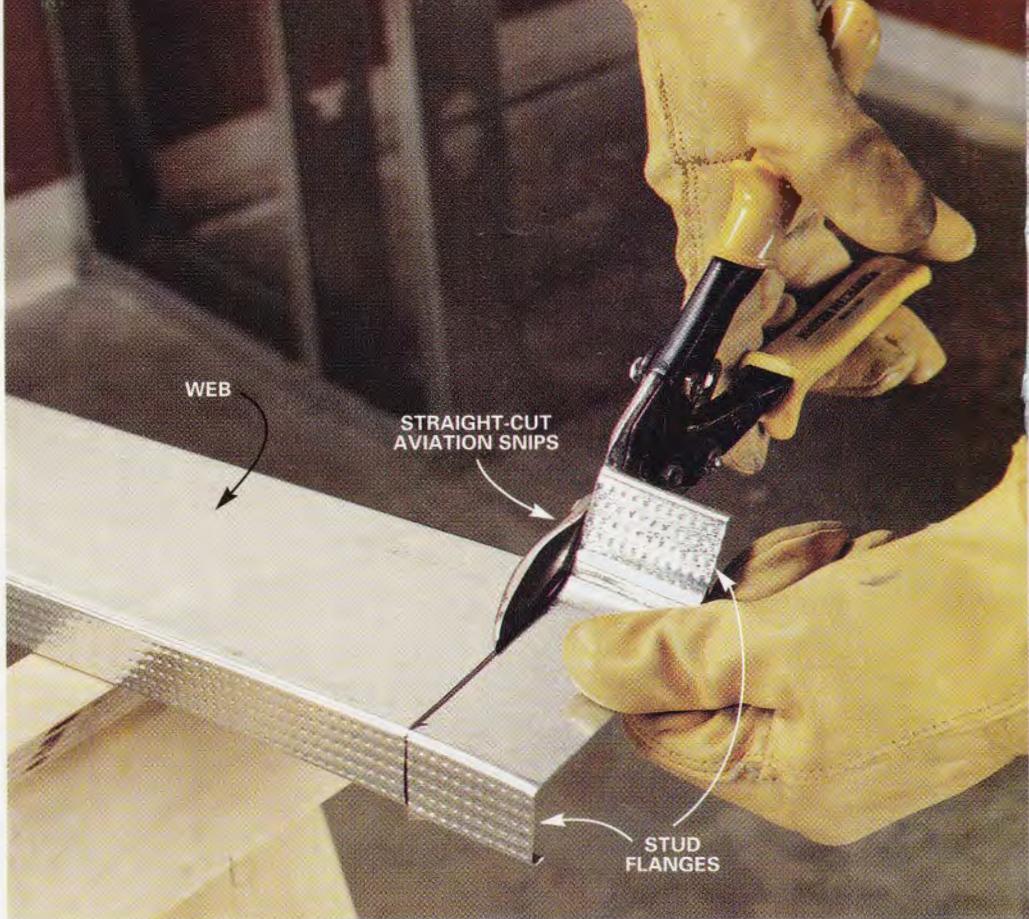
## Tooling up

You probably already own most of the tools needed for framing with steel. These include a tape measure, a straight-cut aviation metal snips, a plumb bob or 4-ft. level and a drill (preferably cordless with variable speeds and multiple clutch settings) with a 2-in. extension bit holder.

Spend \$30 more for these additional "must-have" tools: a C-clamp locking pliers (**Photo 3**) for temporarily clamping studs to tracks, and a sheet-metal locking pliers (also called a "duckbill pliers," **Inset**, **Photo 4**) for forming tight bends in steel track.

## Basic cutting tips

To cut individual studs and tracks, use straight-cut aviation snips (**Photo 1**). If you need to cut dozens of studs and tracks quickly, use a



**1 CUT** both side flanges of a steel stud, using straight-cut aviation snips. Then bend one flange up—clear of the snips' jaws—and cut across the stud's web. For easier electrical and plumbing installations later on, keep all the keyhole knockouts aligned by cutting all studs to length from the same end. Protect your hands with heavy-duty gloves.



**2 FASTEN** steel tracks to concrete using 1-1/4 in. hex-head concrete screws. Lay out the position of the track, strike chalk lines, and drill a hole through the metal and into the concrete the full length of the screw. Use a hammer drill fitted with a carbide-tipped masonry bit. Set screws first at each end of the track and then every 3 ft. along the track. Overlap track corners by notching the first track's flange so the overlapping track can slide into place. On long, straight runs, overlap adjoining tracks 6 in. and secure the overlap to the floor with a concrete screw.

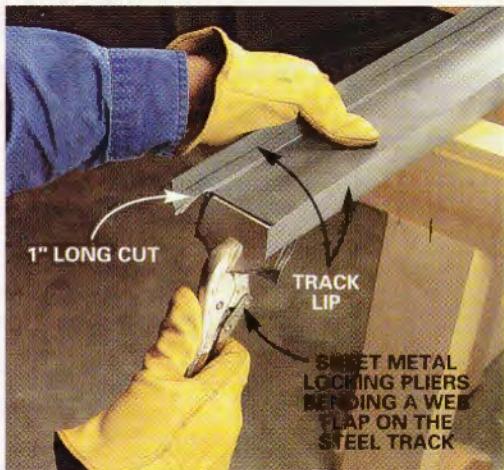
circular saw fitted with a toothless (Carborundum) metal-cutting blade (\$7). When cutting individual studs or tracks with a circular saw, cut on the closed (or "web") side and support the piece tightly on sawhorses. Protect yourself from the showering sparks, acrid smoke and

**More USING TOOLS >>**

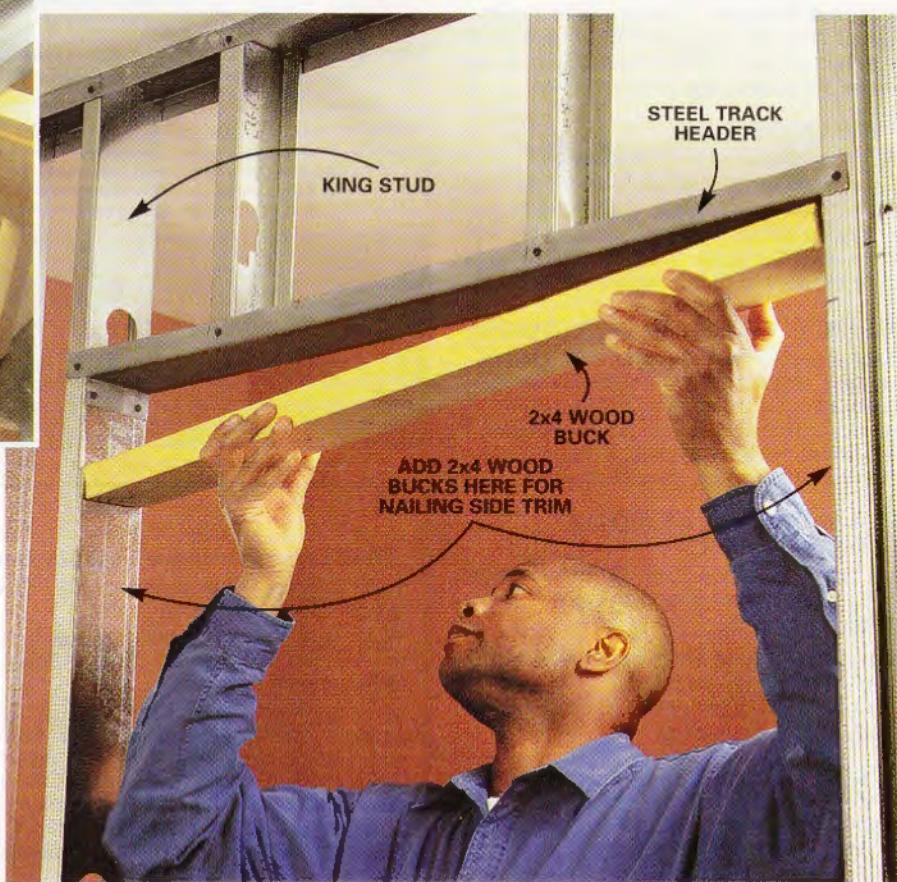
# Using tools



**3 JOIN** studs to tracks by clamping the two members tightly with a C-clamp locking pliers and driving a 1/2-in. No. 8 pan-head screw in the middle where they meet. Drive the screws at medium speed. Choose a clutch setting strong enough to drive the screw home but not so strong that it strips the screw hole and weakens the joint.



**4 CONSTRUCT** a doorway in a non-weight-bearing wall using steel and wood. Fabricate the metal header by cutting the track 2 in. longer than the rough opening width. Cut each flange of the track (on both ends) 1 in. lengthwise and bend the web down 90 degrees using sheet metal locking pliers (as shown in inset photo). At the rough opening height specified, fasten the header by driving two pan-head screws through each web flap (drawing the header tight to the king stud) and then driving a screw through each flange of the track.



deafening noise by wearing safety glasses, a dust mask, long sleeves and hearing protection.

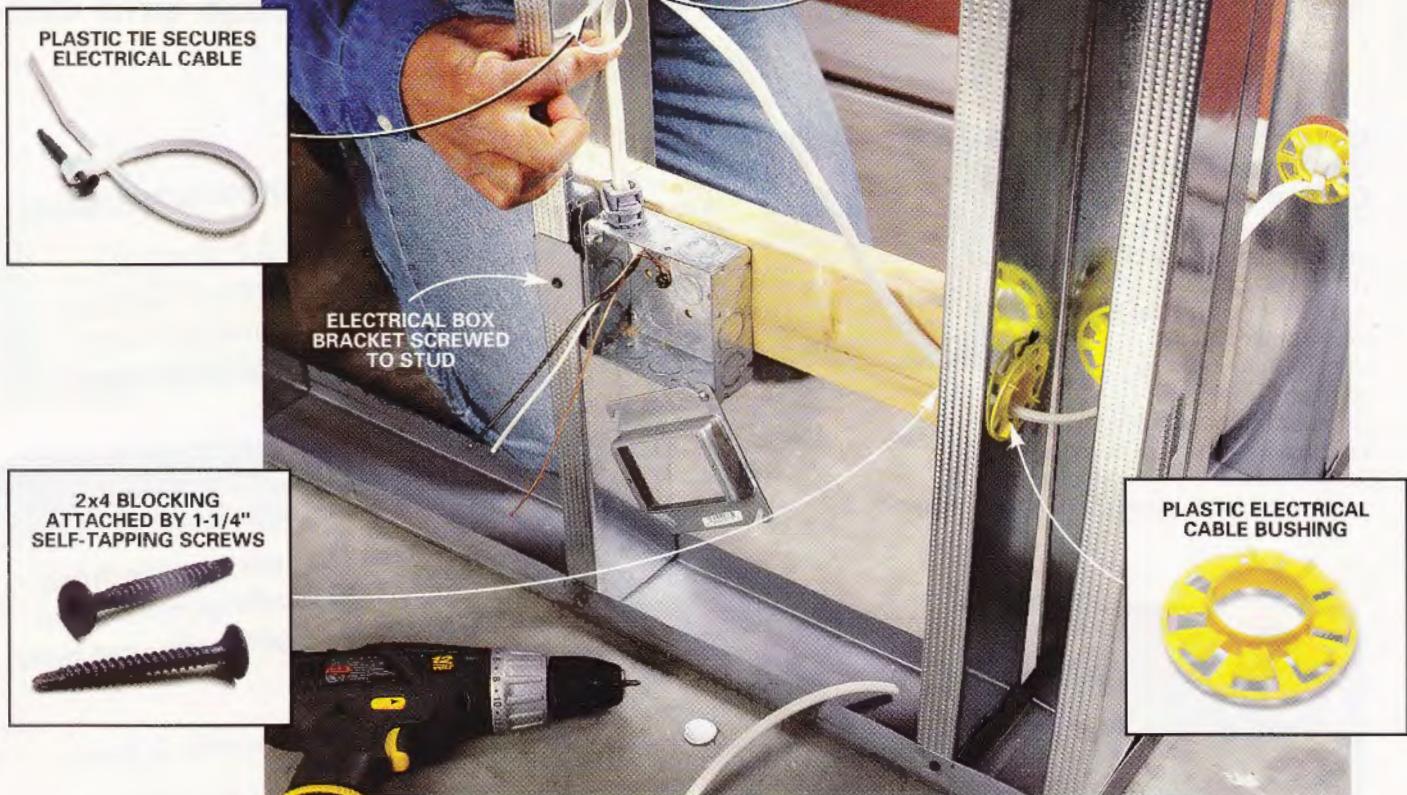
## Wall-building techniques

The best technique for framing steel walls is to first fasten the floor and ceiling tracks and then install the studs one at a time.

On the floor, lay out and mark the location of the wall, fasten the steel track (**Photo 2**), and then locate the position of the ceiling track using a plumb bob or a level held against a steel stud. On a finished ceiling where the track runs perpendicular to the joists, fasten the track to the underlying joists with 1-1/2 in. self-tapping drywall screws. If the track runs parallel to the joists, fasten the track to the ceiling with drywall anchors.

**More USING TOOLS >>**

# Using tools



## Buying steel studs

**Steel studs** are sold in a variety of widths (comparable to dimensional lumber sizes), lengths and gauges (the lower the gauge number, the thicker the steel). You anchor them top and bottom to **steel track** (of matching width), which only comes in 10-ft. lengths. Use 1/2-in. No. 8 pan-head screws.

Most home centers and lumberyards carry only the most popular 3-5/8 in. wide (comparable to 2x4 lumber) 25-gauge steel studs in 8-, 9-, 10- and 12-ft. lengths, along with all the fasteners. These light-weight studs are designed for framing interior, *non-weight-bearing* walls (walls that don't support floors or the roof). If you can't find steel studs at your home center or lumberyard, check with suppliers that cater to builders (look in the Yellow Pages under "Dry Wall Equipment and Supplies"). These suppliers will have a wide range of widths and gauges for framing everything from non-weight-bearing perimeter walls in existing basements (1-5/8 in. wide) to load-bearing exterior walls (up to 5-1/2 in. wide).

**5 SECURE** electrical cable along the center line of each stud with plastic ties screwed to the studs. Pop a plastic "bushing" (25¢ each) into each knockout to keep the cable from rubbing against the sharp edges.

### Other wall-framing tips

- After marking the positions of all studs on the ceiling and floor tracks, carefully measure the exact height for each stud. This ensures a proper fit by compensating for a sloping ceiling or floor.
- Cut the studs to a height that provides a tight contact to both the top and the bottom of the tracks. Gaps larger than 1/16 in. at either end are too great because they transfer the bearing weight of a wall onto the screws.
- When you're marking the height and width of door openings, allow an extra 1-1/2 in. for the height and 3 in. for the width to accommodate the 2x4 wood bucks you'll add for nailing the door frame and wood trim (**Photo 4**). Connect the wood buck to the metal framing by turning the solid webs of the king studs toward the rough opening and fastening the wood to the metal with 1-1/4 in. drywall screws.

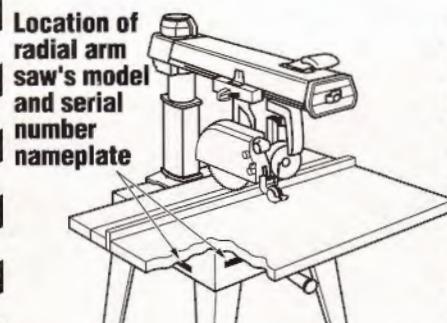
**More USING TOOLS >>**

# IMPORTANT SAFETY NOTICE

## Craftsman® Radial Arm Saws Model Nos. beginning with 113

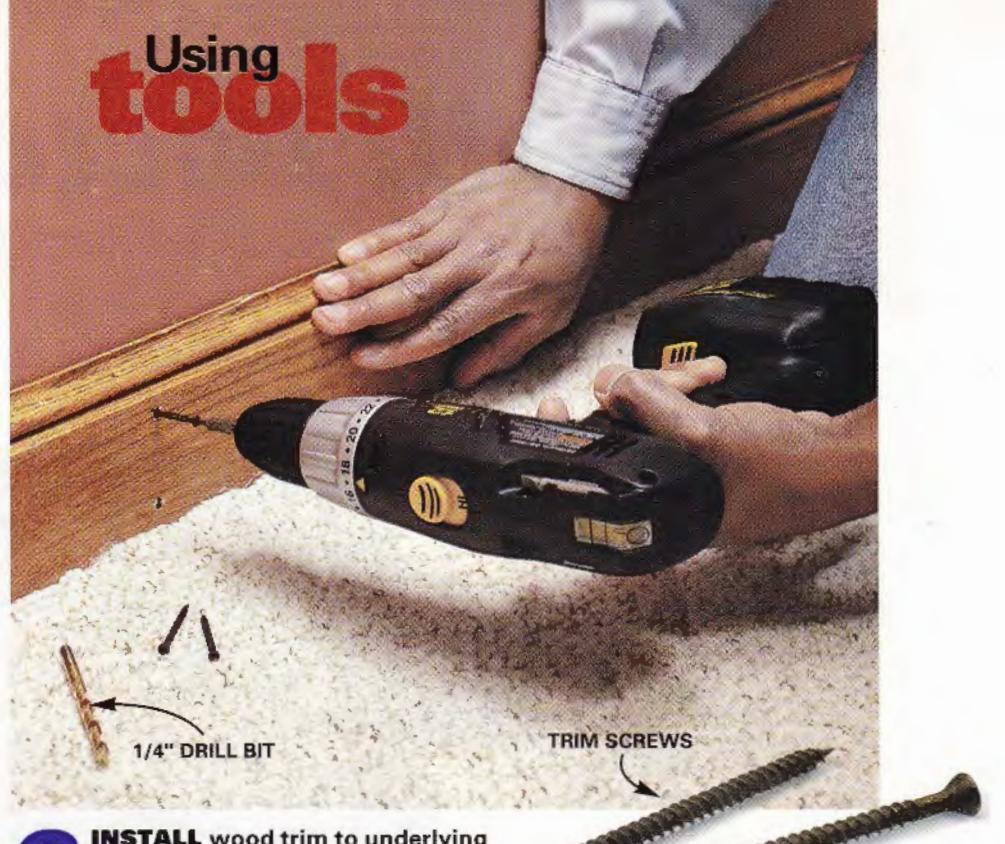
Emerson Tool Company has announced the voluntary recall of certain 8, 8-1/4, 9 and 10 inch Craftsman radial arm saws manufactured from 1958 through 1992 (the 8-1/4 inch through 1995) in order to provide a retrofit guarding kit. If the saw is not retrofittable, Emerson Tool will pay \$100 for the return of the carriage/motor assembly. The saws were sold without a guard that covered the entire blade. Consumers have come into contact with the blade resulting in severe injuries.

Consumers should call Emerson Tool at 1-800-511-2628 or visit [www.radialarmsawrecall.com](http://www.radialarmsawrecall.com) to determine if their saw is subject to the recall and to ensure that they have proper safety and use instructions.



# IMPORTANT SAFETY NOTICE

# Using tools



**6** **INSTALL** wood trim to underlying steel wall framing with self-tapping trim screws. Use a stud finder to locate the wall studs, and mark their position on the trim piece. To avoid splitting the trim, countersink the screwhead with a 1/4-in. bit. Then predrill the hole with a 1/8-in. bit. Set the drill clutch "light" so that the screw doesn't strip out. Drive the screw home and fill the screw hole with putty.

### Running electrical lines

Home centers and electrical suppliers carry the special electrical boxes and parts used with steel framing. Because electrical boxes attached to steel studs can flex when electrical cords are plugged and unplugged, electricians attach the boxes to wood blocking with 1-1/2 in. self-tapping drywall screws.

### Installing drywall and wood trim

If your steel stud wall seems flimsy, keep in mind that it gains full rigidity once drywall or sheathing is applied. Hang drywall or sheathing using 1-1/4 in. self-tapping drywall screws spaced every 8 in. along edges (where two sheets

meet on a stud) and 12 in. on center elsewhere.

The flange on a steel stud is flexible and may deflect when you're trying to pierce it with a drywall screw, especially when two panel edges meet on a single stud. To prevent this, secure the first panel to the open side of the stud (the one that's opposite the web)—to give it rigidity—and then hang the second panel. Grip the back of the stud flange near the screw connection point with your fingers (to give it support) and then drive the screw.

Don't try nailing trim into steel studs. It *will not hold*. Instead, use specially designed trim screws for the job (**Photo 6**). When countersunk, their small heads are easy to conceal with putty.

# Workshop tips

by Bruce Wiebe

SALVAGED  
SEAT BELT

ADJUSTS TO  
ANY WAIST

VERY  
SAVVY  
DIYers

SQUARE  
KNOT

40"  
BUNGEE  
CORD

## Buckle up for...nailing

*Two savvy ways to wear your tools!*

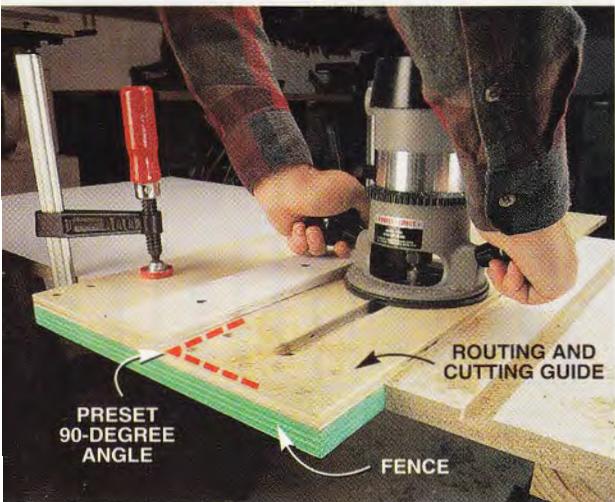
Dave (left) is modeling the current trend in high-fashion home framing and finish carpentry attire. To look like Dave, get both sections of an old seat belt from an auto salvage yard. (Belts from the back seats of wrecked vans are stunningly easy to cut out with a sharp utility knife.) After they're washed and dried, glue the two cut ends together with Gorilla Glue or two-part epoxy, then slide your tool bag onto the belt. It's a snap to put on and take off, and if your bag gets saggy—a real no-no on the job site—just cinch up the strap to restore a chic appearance.

Jean (right) is wearing the latest accessory for emergency nailing tasks. Simply tie a square knot ("right over left, left over right") in a Bungee cord to make a loop for your hammer. (Choose a color that makes a fashion statement!) Hook the cord around your waist, slip the hammer in the loop and repair those sagging soffits while enjoying envious gazes from the neighbors. Home centers will provide the perfect size cord for your figure, but the 40-in. long cord is just right for 30- to 36-in. waists. Thanks to readers Rich Gould and John Hagerman for sharing their on-the-job fashion savvy.

**More WORKSHOP TIPS >>**

## Circular saw luggage

Alert reader John Hagerman rolled us a striking tip: An old bowling ball bag makes a great portable home for your circular saw. The saw easily slides in and out of the zippered opening, so there's no more coaxing it into that molded plastic case and fumbling with those stubborn plastic snaps. And there's plenty of room for spare blades, a rip guide and the blade-changing wrench. So, if you're spending more time building frames than bowling them, nab a secondhand bag for a couple of bucks at a yard sale or secondhand store.



## Improved dadoing/cutoff guide

If you built our router and circular saw guide featured in July/Aug. '99, p. 24, you can easily customize it so it automatically positions the cutting line at a right angle to the workpiece. (To order a copy of the article, see p. 98.)

Using a framing square, align the cutting guide on your workpiece at a right angle, then clamp the guide down, leaving a 3-in. end hanging over the edge. Clamp a 3-in. wide plywood strip with straight edges under the overhanging edge, making sure it's flush against the edge of the workpiece. Screw the plywood to the cutting guide, and you're ready to cut dadoes a lot faster, since the cutting guide now works like a T-square to instantly line up the cut. Plus, you'll probably need only one clamp to hold it on the workpiece, because the T-square fence keeps it from sliding off the line while you rout and saw. Thanks to inventive reader Bruce Gist for this straight tip.

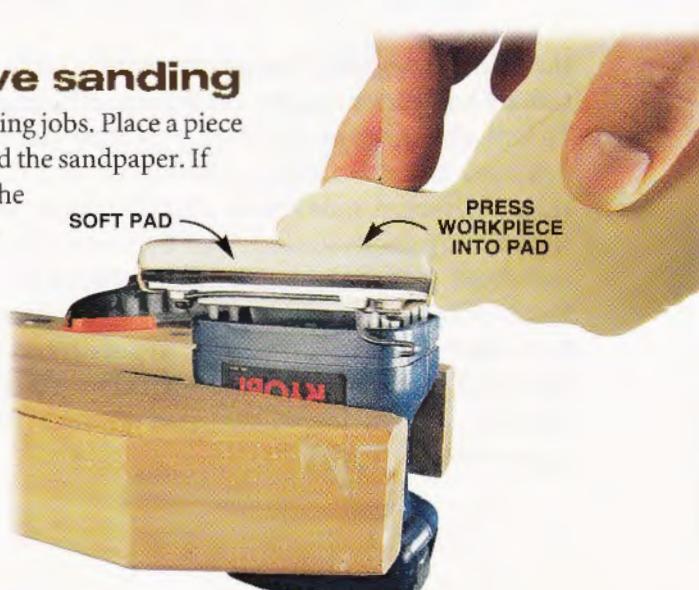
## Soft-touch curve sanding

Jazz up your vibrating sander for professional results on curvy sanding jobs. Place a piece of carpet pad or computer mouse pad between the sander's base and the sandpaper. If

you like, use double-faced carpet tape to hold the cushion on the sander's base. Now secure the sandpaper using the clamps on the ends of the sander. When you sand a curvy edge, the soft base conforms to the curve's contour. You can use the sander freehand on

larger jobs, or, if your sander has parallel sides, gently secure it upside down in a shop vise or hand screw. This stationary sander will give you better control on smaller projects.

**More WORKSHOP TIPS >>**



## PATIENT SUMMARY OF INFORMATION ABOUT

**VIAGRA®**  
(sildenafil citrate) tablets**This summary contains important information about VIAGRA®.**

It is not meant to take the place of your doctor's instructions. Read this information carefully before you start taking VIAGRA. Ask your doctor or pharmacist if you do not understand any of this information or if you want to know more about VIAGRA.

This medicine can help many men when it is used as prescribed by their doctors. However, VIAGRA is not for everyone. It is intended for use only by men who have a condition called erectile dysfunction.

**VIAGRA must never be used by men who are taking medicines that contain nitrates of any kind, at any time. This includes nitroglycerin. If you take VIAGRA with any nitrate medicine your blood pressure could suddenly drop to an unsafe or life threatening level.**

**What is VIAGRA?**

VIAGRA is a pill used to treat erectile dysfunction (impotence) in men. It can help many men who have erectile dysfunction get and keep an erection when they become sexually excited (stimulated). You will not get an erection just by taking this medicine. VIAGRA helps a man with erectile dysfunction get an erection only when he is sexually excited.

**How Sex Affects the Body**

When a man is sexually excited, the penis rapidly fills with more blood than usual. The penis then expands and hardens. This is called an erection. After the man is done having sex, this extra blood flows out of the penis back into the body. The erection goes away. If an erection lasts for a long time (more than 6 hours), it can permanently damage your penis. You should call a doctor immediately if you ever have a prolonged erection that lasts more than 4 hours.

Some conditions and medicines interfere with this natural erection process. The penis cannot fill with enough blood. The man cannot have an erection. This is called erectile dysfunction if it becomes a frequent problem.

During sex, your heart works harder. Therefore sexual activity may not be advisable for people who have heart problems. Before you start any treatment for erectile dysfunction, ask your doctor if your heart is healthy enough to handle the extra strain of having sex. If you have chest pains, dizziness or nausea during sex, stop having sex and immediately tell your doctor you have had this problem.

**How VIAGRA Works**

VIAGRA enables many men with erectile dysfunction to respond to sexual stimulation. When a man is sexually excited, VIAGRA helps the penis fill with enough blood to cause an erection. After sex is over, the erection goes away.

**VIAGRA Is Not for Everyone**

As noted above (*How Sex Affects the Body*), ask your doctor if your heart is healthy enough for sexual activity.

**If you take any medicines that contain nitrates—either regularly or as needed—you should never take VIAGRA.**

If you take VIAGRA with any nitrate medicine or recreational drug containing nitrates, your blood pressure could suddenly drop to an unsafe level. You could get dizzy, faint, or even have a heart attack or stroke. Nitrates are found in many prescription medicines that are used to treat angina (chest pain due to heart disease) such as:

- nitroglycerin (sprays, ointments, skin patches or pastes, and tablets that are swallowed or dissolved in the mouth)
- isosorbide mononitrate and isosorbide dinitrate (tablets that are swallowed, chewed, or dissolved in the mouth)

Nitrates are also found in recreational drugs such as amyl nitrate or nitrite ("poppers"). If you are not sure if any of your medicines contain nitrates, or if you do not understand what nitrates are, ask your doctor or pharmacist.

VIAGRA is only for patients with erectile dysfunction. VIAGRA is not for newborns, children, or women. Do not let anyone else take your VIAGRA. VIAGRA must be used only under a doctor's supervision.

**What VIAGRA Does Not Do**

- VIAGRA does not cure erectile dysfunction. It is a treatment for erectile dysfunction.
- VIAGRA does not protect you or your partner from getting sexually transmitted diseases, including HIV—the virus that causes AIDS.
- VIAGRA is not a hormone or an aphrodisiac.

**What To Tell Your Doctor Before You Begin VIAGRA**

Only your doctor can decide if VIAGRA is right for you. VIAGRA can cause mild, temporary lowering of your blood pressure. You will need to have a thorough medical exam to diagnose your erectile dysfunction and to find out if you can safely take VIAGRA alone or with your other medicines. Your doctor should determine if your heart is healthy enough to handle the extra strain of having sex. Be sure to tell your doctor if you:

- have ever had any heart problems (e.g., angina, chest pain, heart failure, irregular heart beats, or heart attack)

- have ever had a stroke
- have low or high blood pressure
- have a rare inherited eye disease called retinitis pigmentosa
- have ever had any kidney problems
- have ever had any liver problems
- have ever had any blood problems, including sickle cell anemia or leukemia
- are allergic to sildenafil or any of the other ingredients of VIAGRA tablets
- have a deformed penis, Peyronie's disease, or ever had an erection that lasted more than 4 hours
- have stomach ulcers or any types of bleeding problems
- are taking any other medicines

**VIAGRA and Other Medicines**

Some medicines can change the way VIAGRA works. Tell your doctor about **any medicines** you are taking. Do not start or stop taking any medicines before checking with your doctor or pharmacist. This includes prescription and nonprescription medicines or remedies. Remember, VIAGRA should never be used with medicines that contain nitrates (see *VIAGRA Is Not for Everyone*). If you are taking a protease inhibitor, your dose may be adjusted (please see *Finding the Right Dose for You*). VIAGRA should not be used with any other medical treatments that cause erections. These treatments include pills, medicines that are injected or inserted into the penis, implants or vacuum pumps.

**Finding the Right Dose for You**

VIAGRA comes in different doses (25 mg, 50 mg and 100 mg). If you do not get the results you expect, talk with your doctor. You and your doctor can determine the dose that works best for you.

- Do not take more VIAGRA than your doctor prescribes.
- If you think you need a larger dose of VIAGRA, check with your doctor.
- VIAGRA should not be taken more than once a day.

If you are older than age 65, or have serious liver or kidney problems, your doctor may start you at the lowest dose (25 mg) of VIAGRA. If you are taking protease inhibitors, such as for the treatment of HIV, your doctor may recommend a 25 mg dose and may limit you to a maximum single dose of 25 mg of VIAGRA in a 48 hour period.

**How To Take VIAGRA**

Take VIAGRA about one hour before you plan to have sex. Beginning in about 30 minutes and for up to 4 hours, VIAGRA can help you get an erection if you are sexually excited. If you take VIAGRA after a high-fat meal (such as a cheeseburger and french fries), the medicine may take a little longer to start working. VIAGRA can help you get an erection when you are sexually excited. You will not get an erection just by taking the pill.

**Possible Side Effects**

Like all medicines, VIAGRA can cause some side effects. These effects are usually mild to moderate and usually don't last longer than a few hours. Some of these side effects are more likely to occur with higher doses. The most common side effects of VIAGRA are headache, flushing of the face, and upset stomach. Less common side effects that may occur are temporary changes in color vision (such as trouble telling the difference between blue and green objects or having a blue color tinge to them), eyes being more sensitive to light, or blurred vision.

In rare instances, men have reported an erection that lasts many hours. You should call a doctor immediately if you ever have an erection that lasts more than 4 hours. If not treated right away, permanent damage to your penis could occur (see *How Sex Affects the Body*).

Heart attack, stroke, irregular heart beats, and death have been reported rarely in men taking VIAGRA. Most, but not all, of these men had heart problems before taking this medicine. It is not possible to determine whether these events were directly related to VIAGRA.

VIAGRA may cause other side effects besides those listed on this sheet. If you want more information or develop any side effects or symptoms you are concerned about, call your doctor.

**Accidental Overdose**

In case of accidental overdose, call your doctor right away.

**Storing VIAGRA**

Keep VIAGRA out of the reach of children. Keep VIAGRA in its original container. Store at room temperature, 59°–86°F (15°–30°C).

**For More Information on VIAGRA**

VIAGRA is a prescription medicine used to treat erectile dysfunction. Only your doctor can decide if it is right for you. This sheet is only a summary. If you have any questions or want more information about VIAGRA, talk with your doctor or pharmacist, visit [www.viagra.com](http://www.viagra.com), or call 1-888-4VIAGRA.

23-5515-00-4

**VIAGRA®**  
(sildenafil citrate) tablets



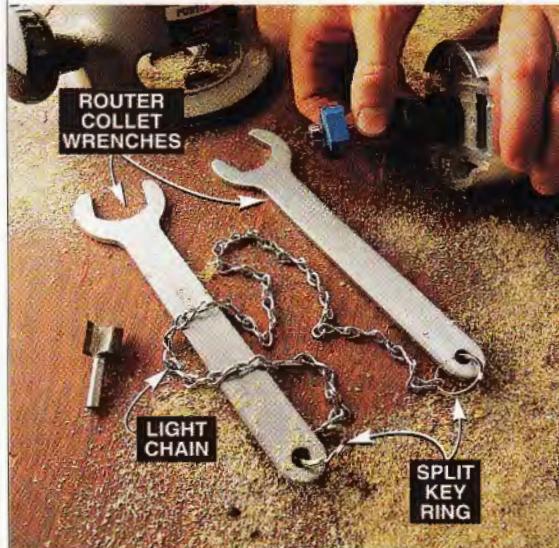
U.S. Pharmaceuticals

# Workshop tips

## A chain gang of router wrenches

Ever been here, done this? A Saturday afternoon's worth of woodworking creates a pile of tools, bottles, boards, clamps and chips on your workbench. You need a new bit in the router, but a search produces only one collet wrench. Thirty minutes later, sweaty but unbowed, you unbury the second wrench.

To avoid bit-changing rage, use this simple tip from furniture maker Mike Lenarz. Buy a pair of small split key rings and a short length of small-gauge chain, and shackle the wandering wrenches into a single, easy-to-hang, hard-to-lose unit. You'll enjoy bit-changing serenity forever.



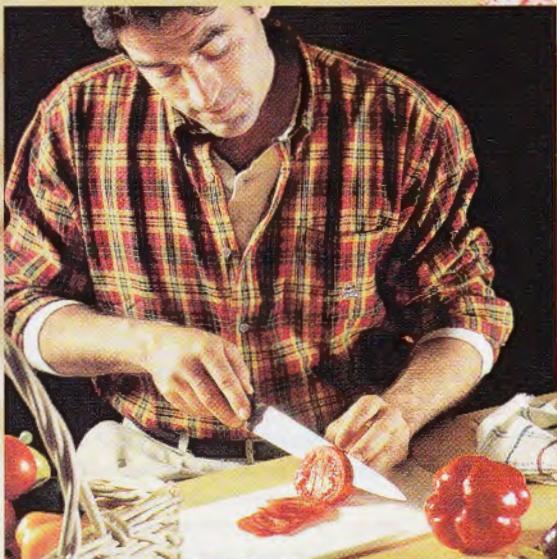
If you have a shop tip you'd like to share, send it to Workshop Tips, The Family Handyman, 2915 Commers Drive, Suite 700, Eagan, MN 55121.

**We pay \$100 for tips we print.** Original contributions become our property upon acceptance and payment. We're sorry, but tips can't be returned.

Art Direction • DAVID FARR  
Photography • MIKE KRIVIT

# Sharpening knives and scissors

Super-sharp results in less than 5 minutes.



## Remember

the last time you sliced a tomato and it looked like it had been cut with a spoon? Well, say goodbye to dull knives and scissors and make your everyday kitchen and office chores a breeze.

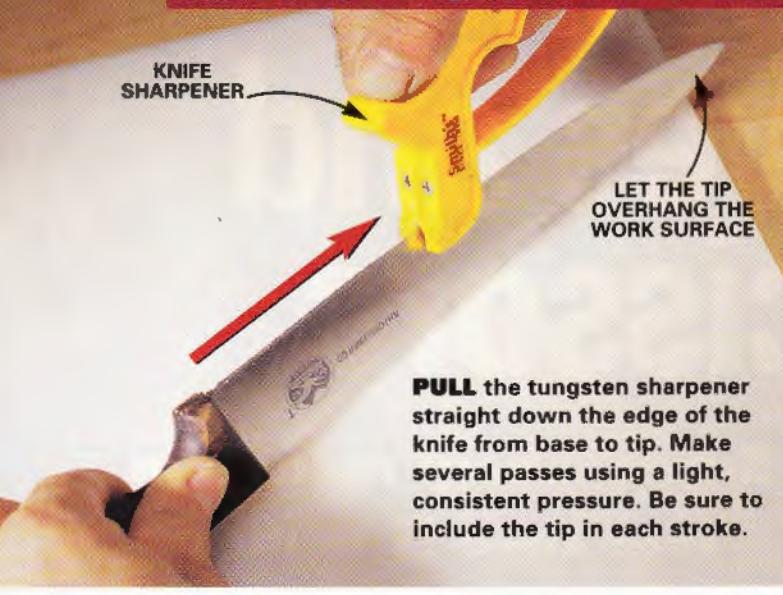
In this article, we'll show you several sharpening jigs and stones you can buy and how to use them to get razor-sharp results even if you've never sharpened a knife in your life. There's a whole discipline of sharpening knives, but we've distilled this information to just the essentials so you can get back to thinly sliced tomatoes and on to dinner.

**More SHARPENING >>**

**CAUTION:** YOUR FINGERS ARE  
EVERY BIT AS DELICATE AS THE MEAT  
AND VEGETABLES YOU'RE CUTTING—  
BE CAREFUL WHEN SHARPENING!

## Sharpening knives and scissors

# Sharp edges from an inexpensive tungsten sharpener



The first time I tried one of these little sharpening tools, I couldn't believe how well it sharpened dull kitchen knives. They're designed for knives that still have their factory edge intact without nicks or irregularities—knives gradually dulled from everyday use.

The tool has two opposing tungsten steel sharpeners at fixed angles to remove metal and sharpen the edge as you pull it from the base of the blade to the tip (**left**). You can buy one for less than \$10 (see Buyer's Guide) and it'll do a respectable job of sharpening most kitchen knives. But the small, preset angle of these sharpeners makes them less effective on more blunt edges, like those on butcher knives. These knives have a fatter blade and wider angle. For this type of job, you'll need to use a stone like that shown on p. 42.

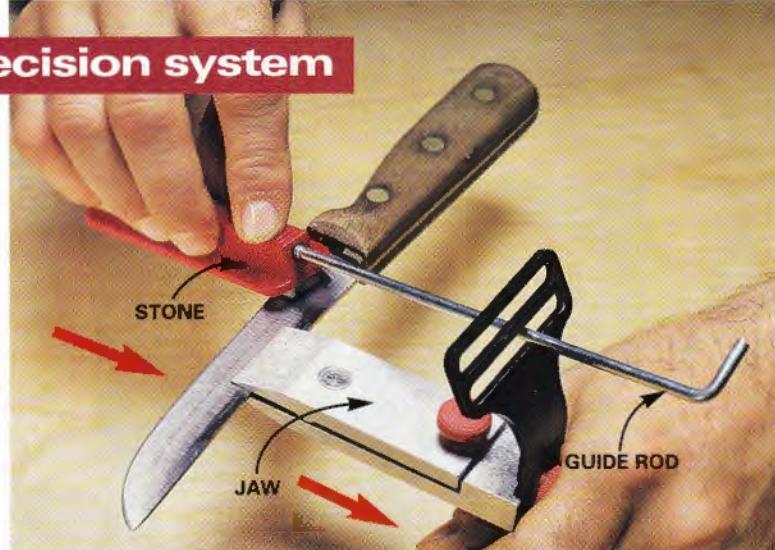
## Restore an edge with a precision system

The precision blade-sharpening system shown here is great for restoring an edge because it's nearly impossible to make a mistake. In fact, to ruin a knife you have to try to use the system incorrectly. The system (\$30) comes with three stones: a coarse synthetic stone for restoring an edge, a medium triangle blade for serrated knives, and a fine Arkansas stone for finishing and fine sharpening. Variations of this sharpener with even more angle and stone options are available from other manufacturers (see Buyer's Guide, p. 46).

To use this system, just clamp your knife blade into the jig's jaw with the edge facing out. The guide rod (**right**) keeps the attached stone at the proper angle as you push it across the blade (lower guide slot for kitchen knives and upper slot for hunting knives). The first time you sharpen a knife with this jig, use the coarse stone to restore the angle and then use the fine stone. On subsequent sharpenings, you'll most likely only need to use the fine stone.

Serrated knives are tough to sharpen and require a great deal of patience and attention to detail. To use the triangular stone in this kit, clamp the knife into position and move the stone up and down across each serration of the blade. Don't try to grind the whole semi-circle of each serration; just move the stone across the center of the trough several times. Work your way from one serration to the next. Most serrated knives only need to be sharpened on one side, since the back of the blade is usually flat.

**More SHARPENING >>**



**PUSH** the sharpening stone across the blade, making sure the guide rod is in the correct slot for your knife. Work the whole edge, making several passes and keeping the stone moving along the entire blade. A zigzag motion works best. When you're finished with one side, flip the jig and knife over and use the slot on the other side to sharpen the other edge of the blade. For really dull knives, use the coarse stone first, followed



by the fine stone. If your knife is just a bit dull, use only the fine stone.

# Match the exact angle with a sharpening stone



You can't always match blade angles with jigs, so if you want an exact match, use the traditional sharpening technique with a sharpening stone. Once you get the hang of it, the initial anxiety of using this method quickly fades. Practice on a knife that you're not particularly fond of. You can buy individual stones for \$5 to \$20, or you can get

an inexpensive (\$8) synthetic stone with a medium grit on one side and a fine grit on the other that'll handle most sharpening jobs. Our stone sharpening device (**Photos 1 and 2**) had three stones built in (coarse, medium and fine) and will handle any type of knife. The coarse stone is only needed for serious edge restoration.

**1** **PUSH** the knife away from you at about a 15-degree angle or until the angle of the cutting edge is aligned with the stone. Hold the blade firmly by locking your wrist and moving only your arm. The motion should feel like you're cutting a thin slice off the top of the stone.

## Keeping your sharpening stones in good shape

After several sharpenings, your stone will start to clog or get dished even if you've tried to use the whole surface of the stone while sharpening. The best way to unclog your stone is to put it into a bucket of soapy water and scrub it with a stiff nylon brush. To resurface the stone to its original flatness, wet it down and scrub it on top of a concrete block. After several passes, sight down the top and check it for flatness.

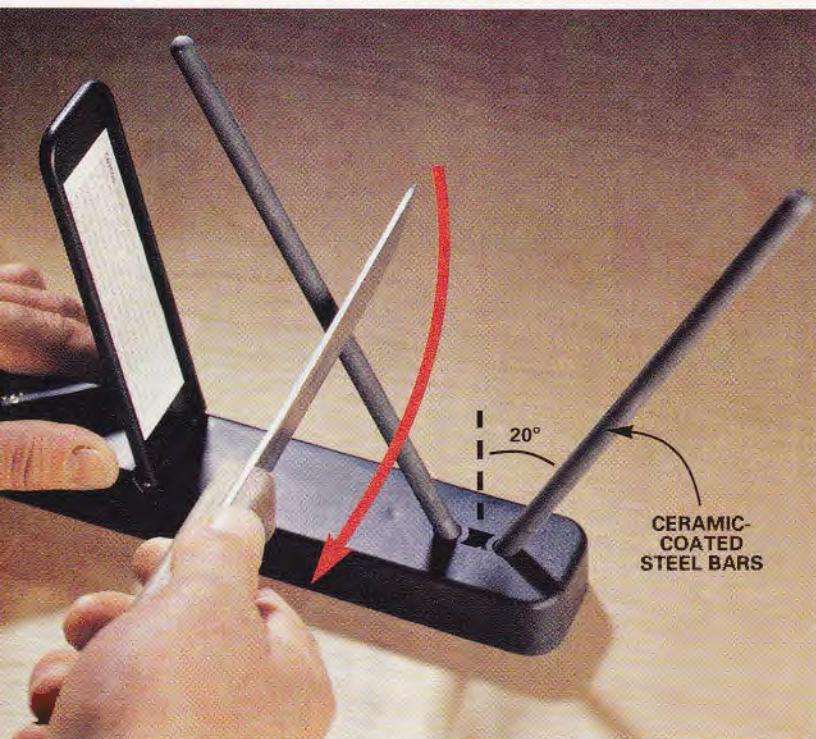
Another method is to tape a silicon carbide sanding belt to the underside of a thick piece of glass and push the sanding belt back and forth across the stone until it's flat. With either method, it will take longer with synthetic stones than with natural stones.

The condition of the knife's edge will determine what grit of stone you should use. If you have nicks or irregularities previous other bad sharpening jobs, start with a coarse grit and move to medium and then to fine grit. If your knife is just dull from use, you'll only need the fine stone.

**More SHARPENING >>**



## Ceramic sharpening rods are fast and accurate



This system is a great, 20-second method for sharpening knives that are in relatively good shape. The ceramic-coated steel bars (**left**) are tipped at a 20-degree angle so all you need to do is hold your blade steady at a 90-degree angle to the base of the sharpener. Several passes on each rod to do both sides of the blade will renew a keen edge. No lubricant is required for this sharpener, since most of the residue from the blade falls to the work surface. Occasional cleaning with a nylon brush and soapy water will keep the ceramic grit from clogging. This model costs about \$16 and folds flat for easy storage. See the Buyer's Guide, p. 46.

**PULL** the knife down the ceramic sharpening rods, holding the knife exactly perpendicular to the base. Use a light, consistent pass with each side of the blade—once on the left rod and then again on the right rod. No lubrication is necessary. Several passes will give you a very sharp knife.

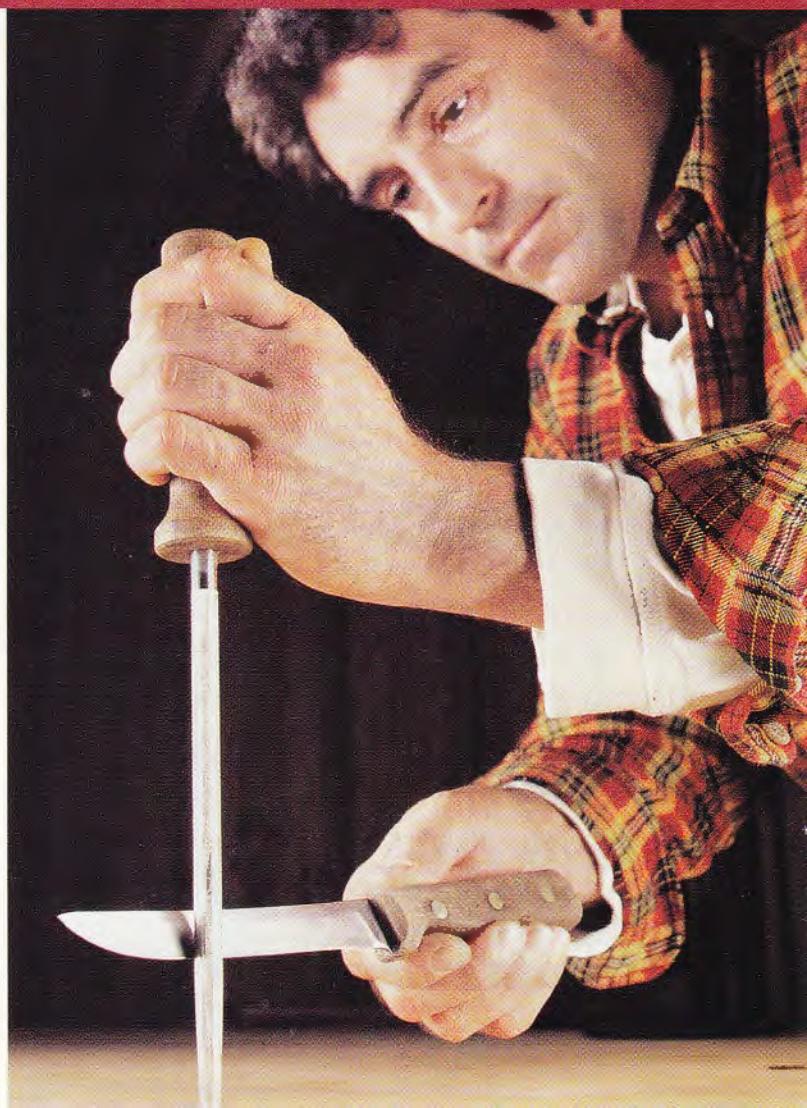
## Keep your sharp knives sharp with a chef's steel

No doubt you've seen these used in old cartoons depicting a wolf sharpening his cutlery as he contemplates his rabbit stew. These tools help keep a sharp knife sharp by holding the fine edge straight and removing any tiny imperfections in an edge. A chef's steel will reduce the need for sharpening, but you'll eventually have to hone a new edge with one of the other sharpening devices we've shown you.

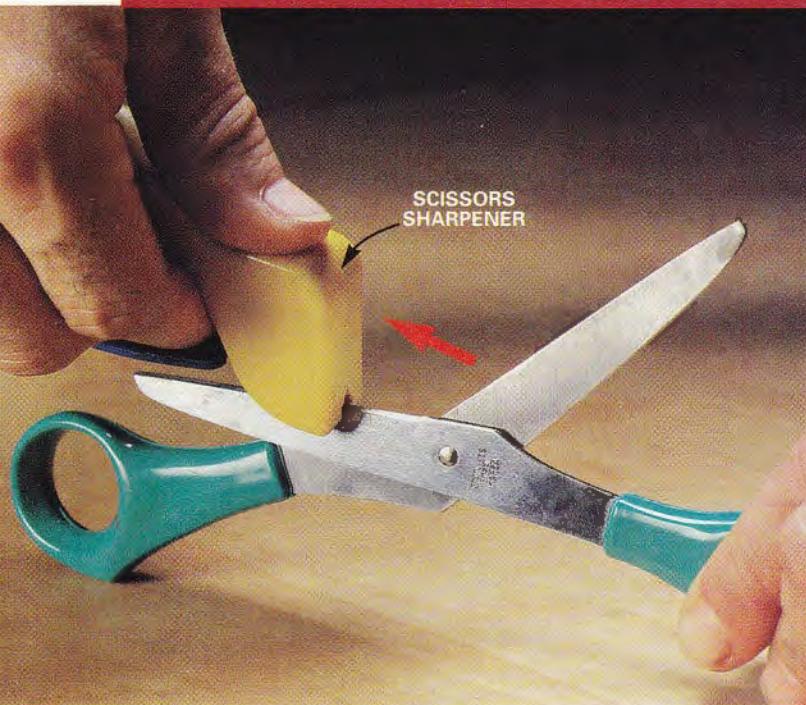
Using a chef's steel in the characteristic freehand style takes skill and a feel for the edge of the knife. But you can still get great results and take most of the guesswork out of these sharpening aids by planting the top of the steel perpendicular to the table. Next, hold the base of the knife against the top of the steel (usually about 15 degrees to the steel). Pull the knife down and back toward you until the tip ends up near the bottom. No need to apply a lot of pressure. Again, smooth, even pressure is all you need, just like when you're cutting an apple with a sharp knife. Alternate sides of the knife, making sure the whole edge contacts the steel as you pull.

**HOLD** the knife at about a 15-degree angle to the steel rod. Stroke the knife alternately on each side of the steel several times. A chef's steel will keep a knife sharper longer and reduce the number of times you'll need to sharpen it.

**More SHARPENING >>**



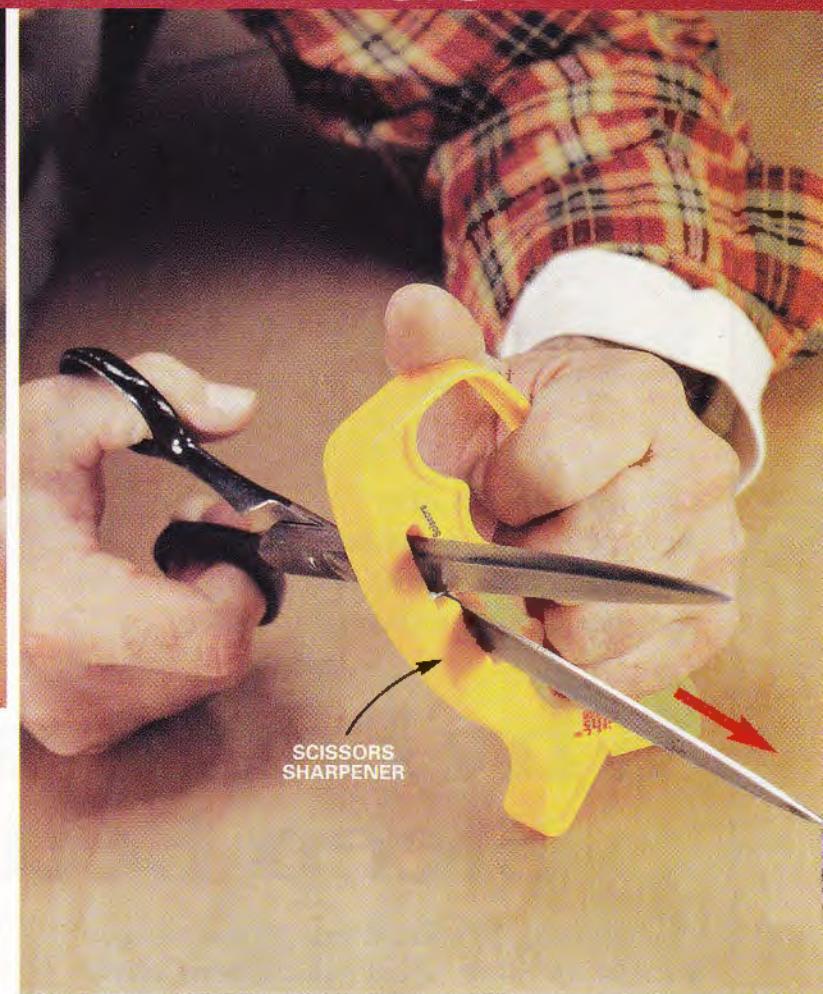
## Scissors sharpening with simple sharpening jigs



**1** **ALIGN** the tungsten sharpener so it sits flat on the scissors blade. Pull the sharpener across the surface from base to tip in one motion. Maintain contact with the surface of the blade. Make several passes and then repeat the procedure for the other blade of the scissors.

Sharpening scissors with a sharpening stone is tough work, but these two jigs make the whole process nearly foolproof. You'll find that both of these jigs will do a great job, although the sharpener in **Photo 1** requires a bit more finesse. This sharpener needs to be held precisely at the angle of the blade while the tungsten bar in the sharpener scrapes the steel along the whole edge as you draw it toward you. You must keep the entire tungsten bar in contact with the edge as you firmly pull it from the base of the blade to the tip. About five passes should do the trick. When one side is shiny and completely flat and smooth, the blade is sharp. Flip the scissors over and repeat the process for the other blade.

The sharpener in **Photo 2** is self-adjusting. It'll sharpen left-handed scissors in one side and right-handed in the other. It has a ceramic bar that floats between the blades and automatically sets itself to the correct angle as you gently squeeze the scissors and pull or push it through the opening. Don't push hard; just pretend you're lightly cutting a piece of paper and maintain consistent pressure. A few passes and your scissors should be sharp.



**2** **INSERT** the scissors through the slots in the sharpener. Push the blades of the scissors together as you pull it out of the slots. You may have better success pushing the scissors through the slots from tip to base. Use whichever method is more comfortable. The sharpener automatically aligns to the correct angle as you push or pull through the slots.

## Buyer's Guide

Most of these products can be purchased at hardware and sporting goods stores. If you can't find them, call the manufacturers for a dealer near you or visit their Web sites for more information.

**FORTUNE PRODUCTS:** (830) 693-6111.  
[www.accusharp.com](http://www.accusharp.com). Carries tungsten knife and scissors sharpeners.

**LANSKY SHARPENERS:** (800) 825-2675.  
[www.lansky.com](http://www.lansky.com). Carries products similar to those shown, except the chef's steel.

**SMITH'S:** (800) 221-4156.  
[www.getsharp.com](http://www.getsharp.com). Carries all products shown, except the chef's steel.



# Remodel a small

# Bathroom

## Make it convenient, elegant and easy to clean.

by **Travis Larson**

**O**ur bathroom design is the perfect solution for the old, heavily used, small bathroom that you can never quite get clean enough. We not only pulled a few rabbits out of the hat to produce features that make the room easy to clean but also used smoke and mirrors to make it appear much larger.

In this article, we'll show you how to tear out an old bathroom and put in a new one, including details on:

- Installing a preassembled glass block window. You *can* have a window in your shower that will stand up to water.
- Replacing a bathtub with a spacious shower. A one-piece shower pan is a simple, leakproof solution to the mistake-prone chore of traditional shower pan construction.
- Installing a state-of-the-art residential wall-hung toilet and sink. Having fewer dirt-catching corners and edges simplifies floor cleaning.
- Making a small (6 x 8-ft.) bathroom feel larger.

Although this new bathroom is a bit smaller because of additional plumbing walls, it appears larger. Substituting a shower for the bathtub, adding a large mirror, and using a wall-hung sink and toilet all contribute to the spacious feeling.

This big-picture stuff is striking, but it's the step-by-step details that make it work. We cover the little kernels of information that will help your project go more smoothly and with fewer headaches.

A bathroom remodel is a *big* project. If you can only work weekends, your bathroom will be out of commission for two months or more. You'll need all your expertise as an experienced do-it-yourselfer because you'll have to tackle electrical, plumbing, tiling, drywalling, taping and even exterior siding. In this article, we'll deal mostly with the nuts and bolts of ripping out existing plumbing and replacing it correctly with new, easily installed PVC piping. For detailed how-to in other areas, see "For More Information," p. 61.

**More BATHROOM >>**



**An elegant solution for a small,  
worn-out, outdated bath.**



**Before**

# Glass Block Window

## Installation

### Hire pros before you get bogged down

Don't think you need to do the whole job solo if you don't feel qualified or able to perform all the tasks, especially the plumbing and electrical work. Pros will greatly speed up the project, which is *particularly* important if the bathroom under construction is the only one in the house.

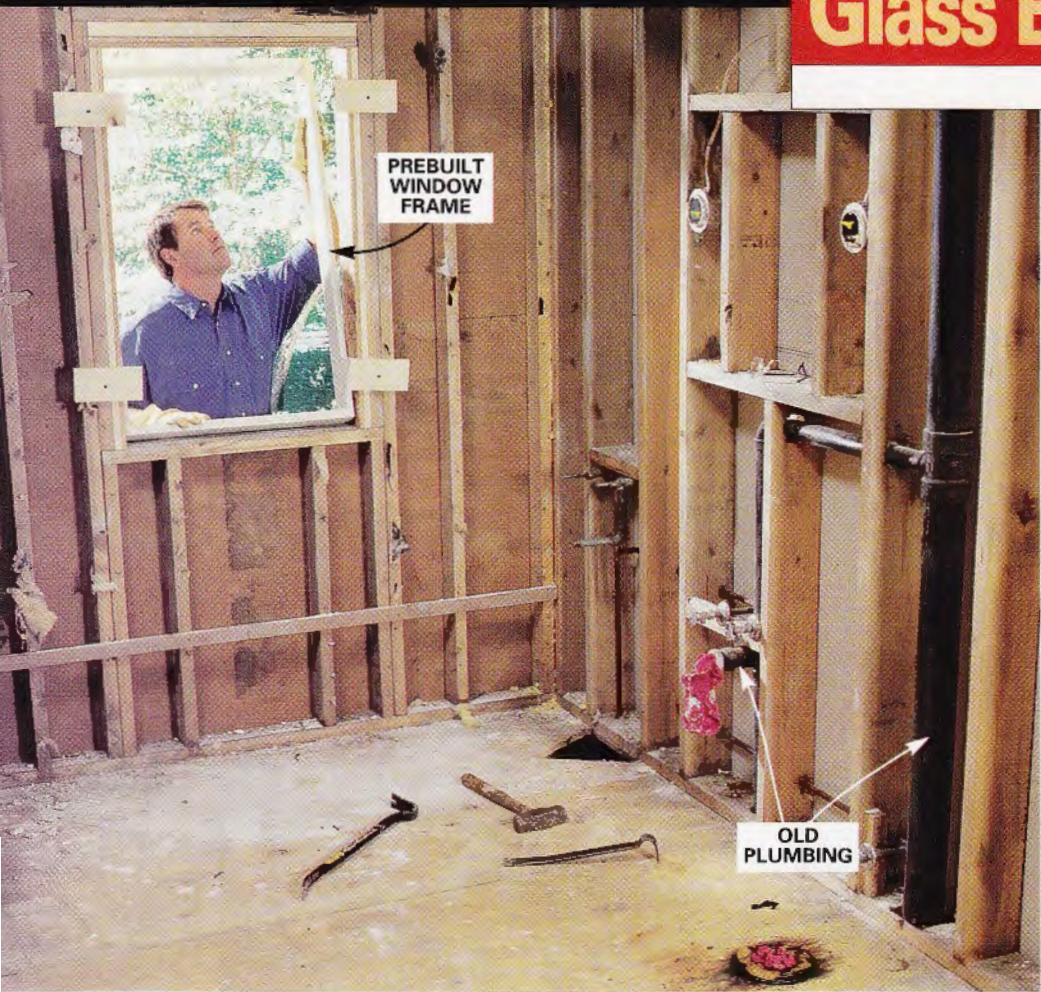
You *must* get permits before tackling a bathroom remodel. Contact your building inspector to go over the scope of the project to find out exactly how much you're permitted to do. When your permit is granted, you'll receive a schedule list that'll tell you when to call for inspections.

### Remember to shut off the water before demolition

The special-order fixtures, fittings, shower pan, tile and glass block panel can take weeks to get in hand, so do the necessary legwork and ordering well in advance.

Before gutting the bathroom, check to make sure that there are shutoffs for all the fixtures or a master shutoff for the entire bathroom. If not, buy ball valve shutoffs sized to fit your pipes. Then turn off the main water supply line where it comes into the house from outside, cut the pipes feeding the bathroom and install the new shutoffs right away (see Photo 7).

Disconnect the trap from the tub, remove any clips, fasteners or screws that hold the tub to the wall, and demolish the old cast iron tub with a sledgehammer (see "For More Information"). Remove the sink and toilet. Turn off the electricity at the main panel and remove light fixtures. Cap the wires with wire connectors. Then rip out the wall finishes and surfaces clean



**1 & 2** **FUR OUT** the existing window opening to 2 in. wider and 2-1/2 in. taller than the dimensions of the glass block panel. Tack stop blocks on the inside of the opening to keep the frame flush to the framing. Assemble the frame, then plumb and square it and nail it into the opening with 8d casing nails, shimming as needed.



down to the studs and pull out any insulation. If your ceiling is in good shape, use a utility knife to cut the drywall along the edges so the wall materials will separate cleanly from the ceiling.

### You can complete the glass block project the first weekend

Converting a bathtub with a conventional window above it to a shower is dicey business, but the result is striking. Order a premade glass block window to fit your existing opening (see "How to Order a Glass Block Window Panel," p. 52). Look under "Glass Block" in the Yellow Pages to find a supplier.

The key to a weatherproof, attractive glass block window both inside and out is to encase it in a custom-built wooden frame (**Fig. A**) with inside dimensions that are 1/2 in. taller and wider than the panel itself. That will give you room to adjust and shim the panel exactly and then inject expanding foam between the frame and the panel to lock it into the opening (**Photos 3 and 4**).

To begin, rip the top and side jambs to the thickness of the wall framing plus the exterior wall sheathing. The cement board will lap over the jambs. The windowsill should also be flush with the interior framing, but hang over the outside sheathing about 1-1/2 in. and have a 5-degree slope toward the outside to help shed water. To keep water from running behind the siding as it drips off the edge, cut a shallow groove (or saw kerf) in the bottom lip (**Fig. A**). Also, remember to flash behind the trim to keep the

### Tip

**Prime and paint the window jambs and sill before setting the glass block panel to save time-consuming painting details.**

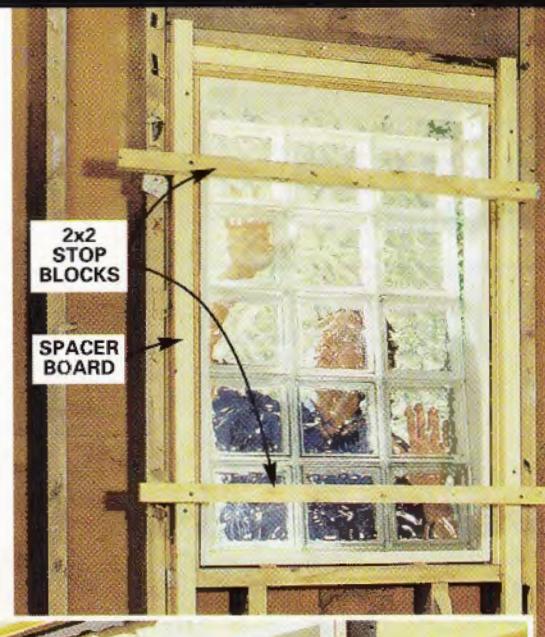


window watertight. Trim the window exterior to match the house, using caulk to seal between the trim and siding.

It's important to set the panel so it protrudes 1/4 in. past the finished tile surface (**Fig. A**). That way, a bead of caulk can seal the joint between the tile and block to keep water out of the wall cavity.

**More BATHROOM >>**

**3** **RIP** two 3-ft. long spacer boards the thickness of your tile plus 3/4 in. so the window will protrude 1/4 in. past the finished tile surface. Tack them to the sides of the window opening. Tack two 2x2s into the boards to hold the glass block panel in the proper position while you push it in from the outside.

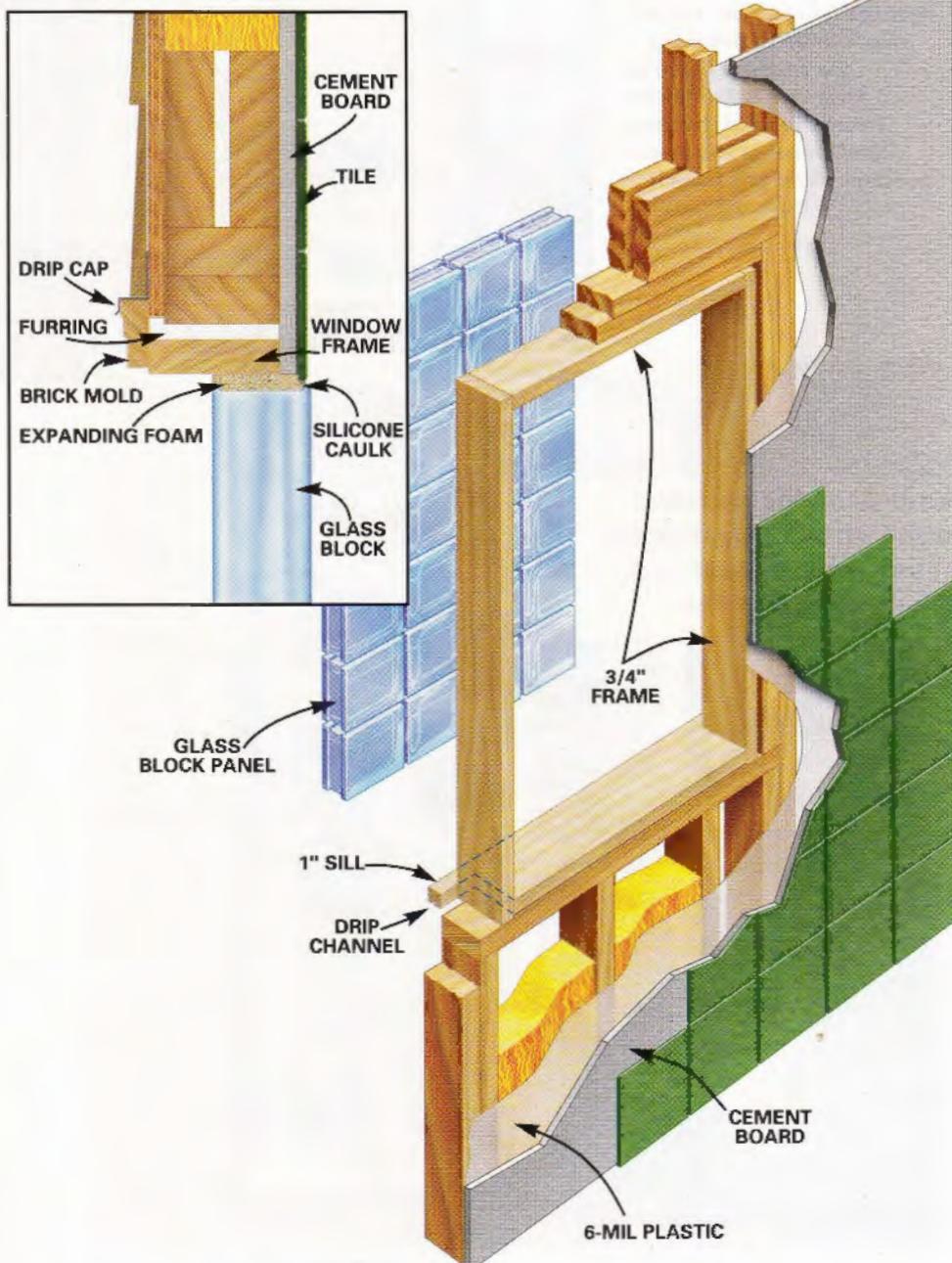


**4** **TAP** shims between the panel and the frame to hold it evenly spaced on all four sides while injecting the expanding foam. After the foam cures, cut away any excess and caulk the 1/4-in. space between the panel and the jamb on the outside of the frame with silicone caulk. Finish off the trim and siding to match the outside of the house.

# Glass Block Window

## Installation

### FIG. A GLASS BLOCK WINDOW



### How to order a glass block window panel

To size the glass block, remove the trim from the existing window and measure the rough opening. Subtract 2 in. from the width and the height to allow for the frame, then determine the panel size by counting the number of rows and courses that easily fits into the opening. Glass block comes in 8-in. and 6-in. squares and 4 x 8-in. half-block rectangles. You'll need to choose between real mortar grout joints and clear silicone-joined blocks. We chose the silicone system because we liked the clean, uninterrupted look. Whichever way you go, buy the panel preassembled and banded together as one unit, ready to set into the opening.

Remember that it's easy to make the opening smaller by using furring, but it can be an ugly task to make it bigger. When going with mortar-grouted panels, figure each block is 8 in. wide, then add 1/4 in. to both the total height and width. If you're ordering silicone-joined blocks, figure each block at 7-3/4 in. and don't add the extra 1/4 in.

### Is your bathroom a candidate for this remodel?

All the features we show here will fit in a bathroom as small as 5 x 7 ft., but you may have to frame things a bit differently to get everything to work out. The toilet requires a 6-in. deep false wall (Photo 11) to contain the tank. So, to accommodate the wall, you'll have to install a 48-in. shower

base instead of the 60-in. unit we used.

If your home is older, it may have steel pipe or cast iron drain lines. Both require special tools and adapters to tie in the new plastic drain lines. If you have either type, plan on getting a plumber involved or be prepared to rent special tools.

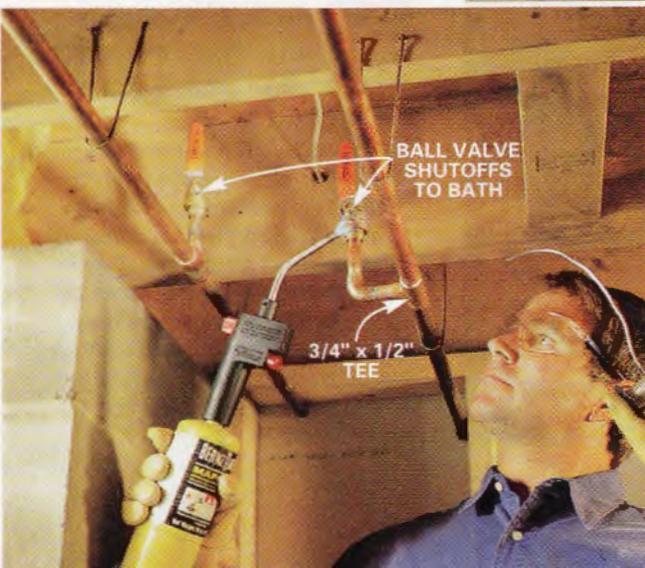
# Plumbing Tear-Out

## The new 2x6 wall simplifies the plumbing

Tear out the existing piping (**Photos 5 and 6**). Then frame the 2x6 walls that will contain the new plumbing and the opposite end of the shower base (**Photos 8, 9 and 14**). It's easiest to nail the bottom plate to the floor and the top plate to the ceiling, then fill in the studs one at a time by toenailing them in at the top and bottom. Stack the studs directly in front of the old ones wherever possible. Space the studs in the center of the shower about 12 in. apart to leave room for the shower valve and showerhead. The studs behind the toilet should be spaced exactly 19-3/4 in. apart for securing this toilet chair carrier (**Photos 8 and 15**).

The wall behind the toilet can be almost any height. For a standard toilet height of 15 in., make the wall a minimum height of 43 in. If you'd like a higher toilet, make the wall that much higher. Or, make the wall go all the way to the ceiling. We built a short wall to conserve space and to create a shelf and a mirror alcove. The wall at the opposite end of the shower can be any height as well. We made it the same height as the toilet/sink wall so we could line up the accent tile and make a convenient shower shelf.

## More BATHROOM >>

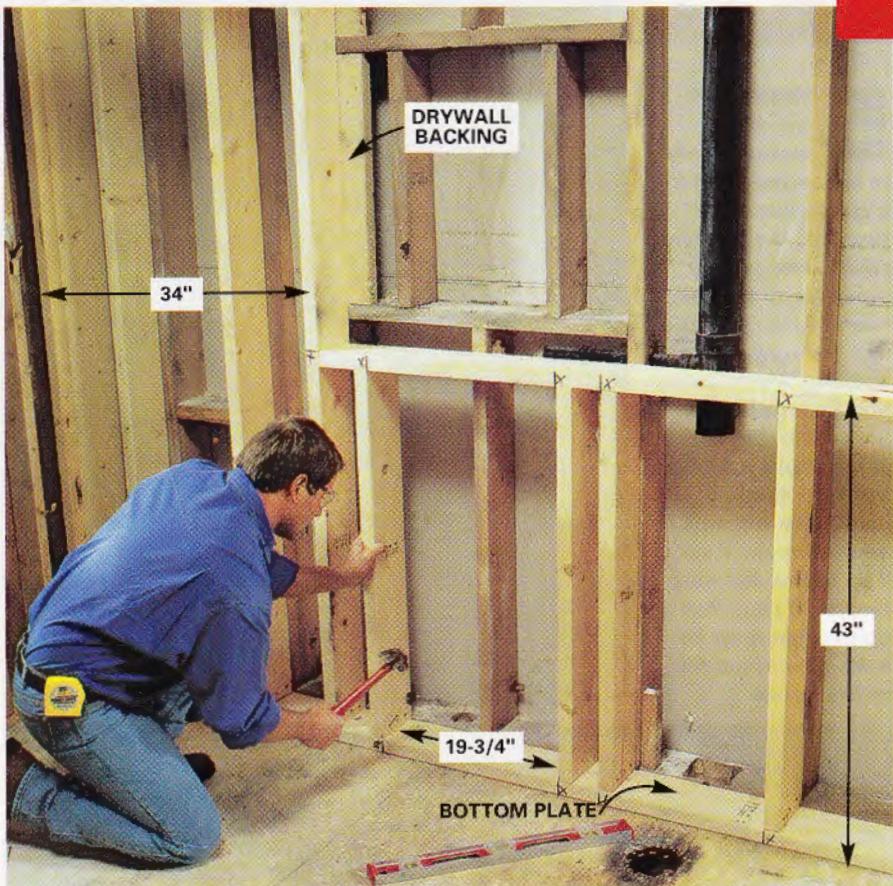


**5 TURN OFF** the main water supply to the house, and in a convenient location, cut the hot and cold water supply pipes for the bathroom. Also cut out and remove all the existing water lines and fittings in the bathroom. Finally, cut out and remove the vent section leading to the sink and the main stack 5 in. below the vent tee. Stuff rags into open drain lines to keep sewer gas out of the house.



**7 DRAIN** any water in the supply lines, cut the hot and cold lines feeding the bathroom, and solder in two ball-valve water shutoffs. Shut off the valves, and then turn the water back on to the rest of the house.

**6 CUT** the main stack and all the other waste lines feeding the bathroom about 3 ft. below the floor. Unhook any strapping and remove the entire plumbing tree.



**8 NAIL** the bottom plate to the floor and the top plate to the ceiling. Then mark the positions of the shower base, toilet and sink. Lay out and toenail the wall studs into position (Fig. B, p. 57) and the top plate for the low wall. On the opposite end of the shower, frame a matching 35-in. wide wall (see Photo 14) 60-1/4 in. (or the length of your shower base plus 1/4 in.) away from the first wall.



### A good rough-in makes for trouble-free drains

Your bathroom could have galvanized, cast iron or plastic drain lines and vents. If you have plastic, you're lucky, because they're easier to cut and join than metal pipes. Cast iron lines need to be "snapped" (cut) with a soil pipe cutter, which rents for \$12 to \$25 a day. Old threaded galvanized pipes that object to being unscrewed can be cut out with a reciprocating saw or hacksaw. If you have metal pipes, it's best to replace them with plastic ones where they tie into the main stack. A knowledgeable plumbing clerk at the home center can help you select the correct adapters for the conversion.

Rerouting drain line plumbing is a huge job on bathrooms that are built on slabs. If your bathroom is built on concrete with the main stack directly behind the toilet as ours was, stick with a conventional, floor-mounted toilet so you won't have to chop out the floor and rework the plumbing under the concrete.

**Tip** Resist the temptation to reuse or reroute existing piping. If you have easy access, it's much easier to rip out all the old supply, drain and vent lines and start with a clean slate (Photos 5 and 6).

**9 TIE** all the short studs to the existing studs at the top and bottom with 6 x 11-in. plywood gussets screwed to every stud on the short wall. Keep gussets on the outside of the chair carrier space so they won't interfere with installation. Install backer boards as needed to support cement board or drywall.

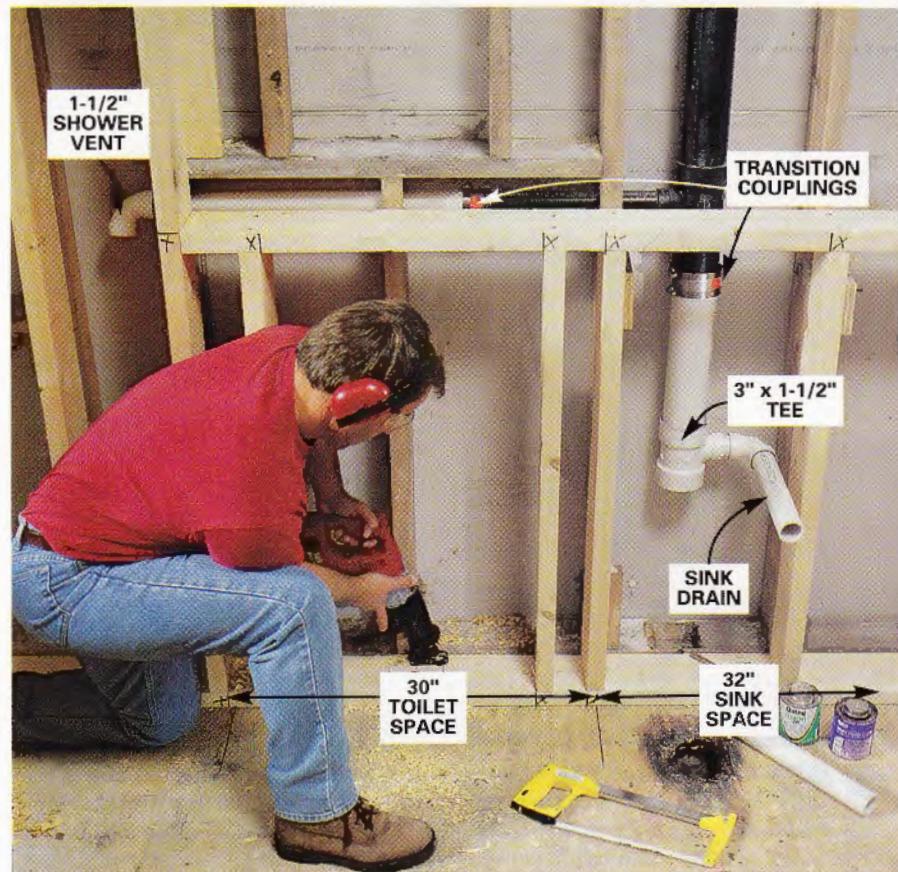
# Plumbing Rough-In

Follow **Fig. B**, p. 57, for the new drain/vent plan. The new shower drain is vented separately into the main stack (**Photos 10, 12 and 13**). Most bathrooms have the main stack positioned directly behind the toilet. The wall-mounted toilet shown here cannot be positioned directly behind the stack because there's not room for the necessary elbows. If your stack is more than 12 in. to the side of the existing toilet, you can keep the same location for the wall-hung toilet. But if it's directly behind it, you'll need to swap the sink and toilet locations like we did.

Black plastic (ABS) drain lines were very common in the past, but now the most readily available drain line material is white plastic PVC pipe. Wherever ABS and PVC are joined, use rubber transition couplings instead of all-purpose cement (**Photos 10 and 12**).

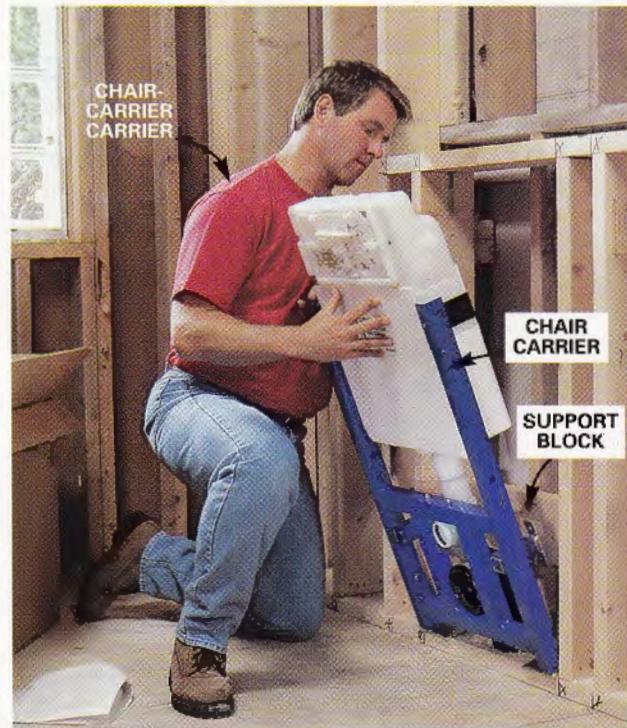
For your bathroom to operate well, it's critical to install vent and drain lines of the proper size and slope. Use a 2-in. line to drain the shower and 1-1/2 in. line to drain the sink. The vents for the sink and shower can be 1-1/2 in. pipes, but a toilet should be vented with at least 2-in. material. Make sure that the drain lines drop 1/4 in. for every foot of travel toward the main stack.

Copper or CPVC (plastic) lines that supply the bathroom with hot and cold water can be 1/2 in. diameter in most regions. House main lines will often be 3/4 in. Make the conversion before the new shutoff valves (**Photo 7**) with a reducer tee. The wall-hung toilet's supply line must have a male adapter with a temporary galvanized cap. Check



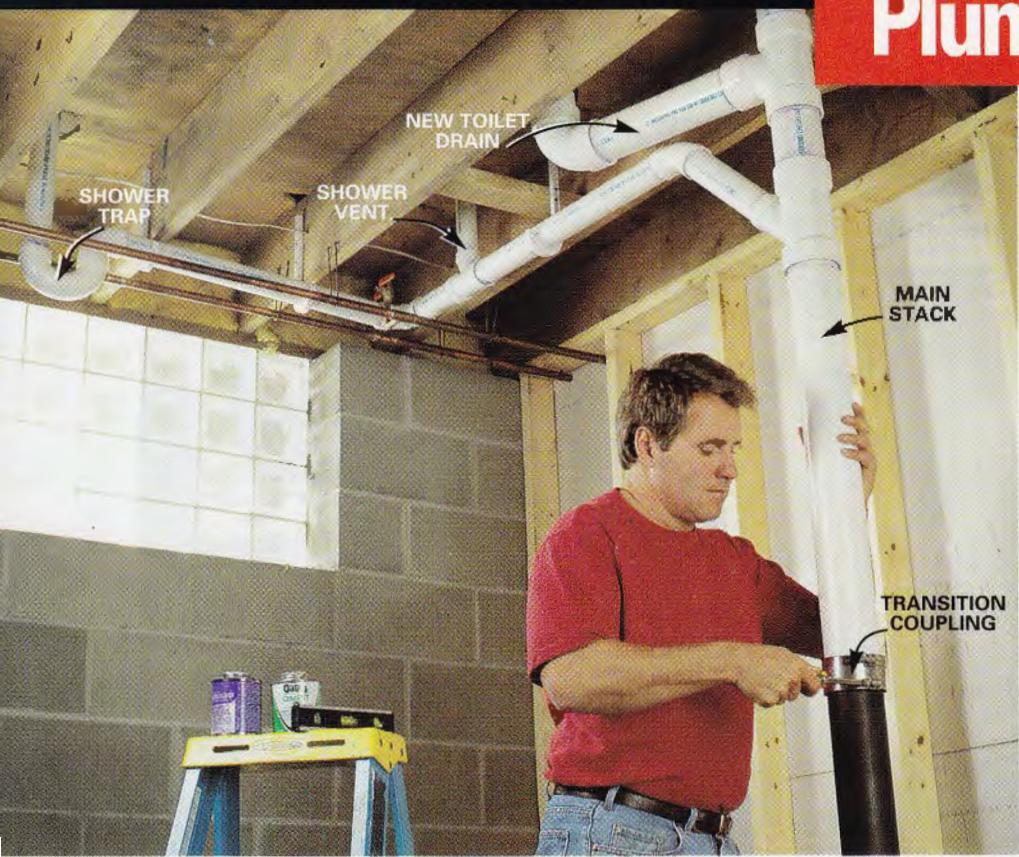
**10** **POSITION** and connect the new shower vent (see Fig. B). Then position the sink and center the drain behind it, 19 in. up from the floor. Connect the drain to the main stack with a 3 x 1-1/2 in. tee. Drill 3/4-in. pilot holes and saw out a 4-1/2 in. hole for the toilet drain.

**11** **NAIL** in 2x6 blocking to anchor the rear toilet mounting brackets. Fit the chair carrier in the opening to check the location of the drain hole and the position of the mounting block. The front surface of the framework should be flush with the face of the studs.



**More BATHROOM >>**

# Plumbing Rough-In



**12** **DRY-FIT** the PVC piping assembly for the wall-hung toilet, shower trap and sink. After you're satisfied that the dimensions are correct, solvent-weld all the joints in the assembly and join it to the existing ABS main stack using a transition coupling.

## Tip

When dry-fitting PVC, pipes won't seat completely in fittings, so add 1/4 in. to all cut lengths. The solvent will lubricate fittings so the pipes will slide in all the way.

the instructions on the toilet to get the proper location. Routing water supply lines is different in every bathroom, so you'll have to adapt runs to your situation. But run the plastic drain lines and vents before starting any supply work. It's much easier to route water supply lines around drain lines than to route drains and vents around supply lines. The same thinking applies to electrical work: Wait until the water supply work is finished before wiring.

Preassemble the shower valve by soldering copper nipples and the shower supply pipe to male adapters and screwing them into the shower valve before fastening the valve to the blocking. That way you won't damage the valve with heat from the soldering torch. Mount the valve 36 in. above the floor. You can mount the showerhead at any height, but plumbers typically mount them 6 ft. 6 in. above the floor.

Solder a female elbow onto the showerhead supply pipe. After mounting the showerhead pipe, screw a 6-in. x 1/2-in. steel nipple into the elbow. Wrap Teflon tape around the threads of all screwed-in connections to prevent leaks, which would go unnoticed inside the wall.

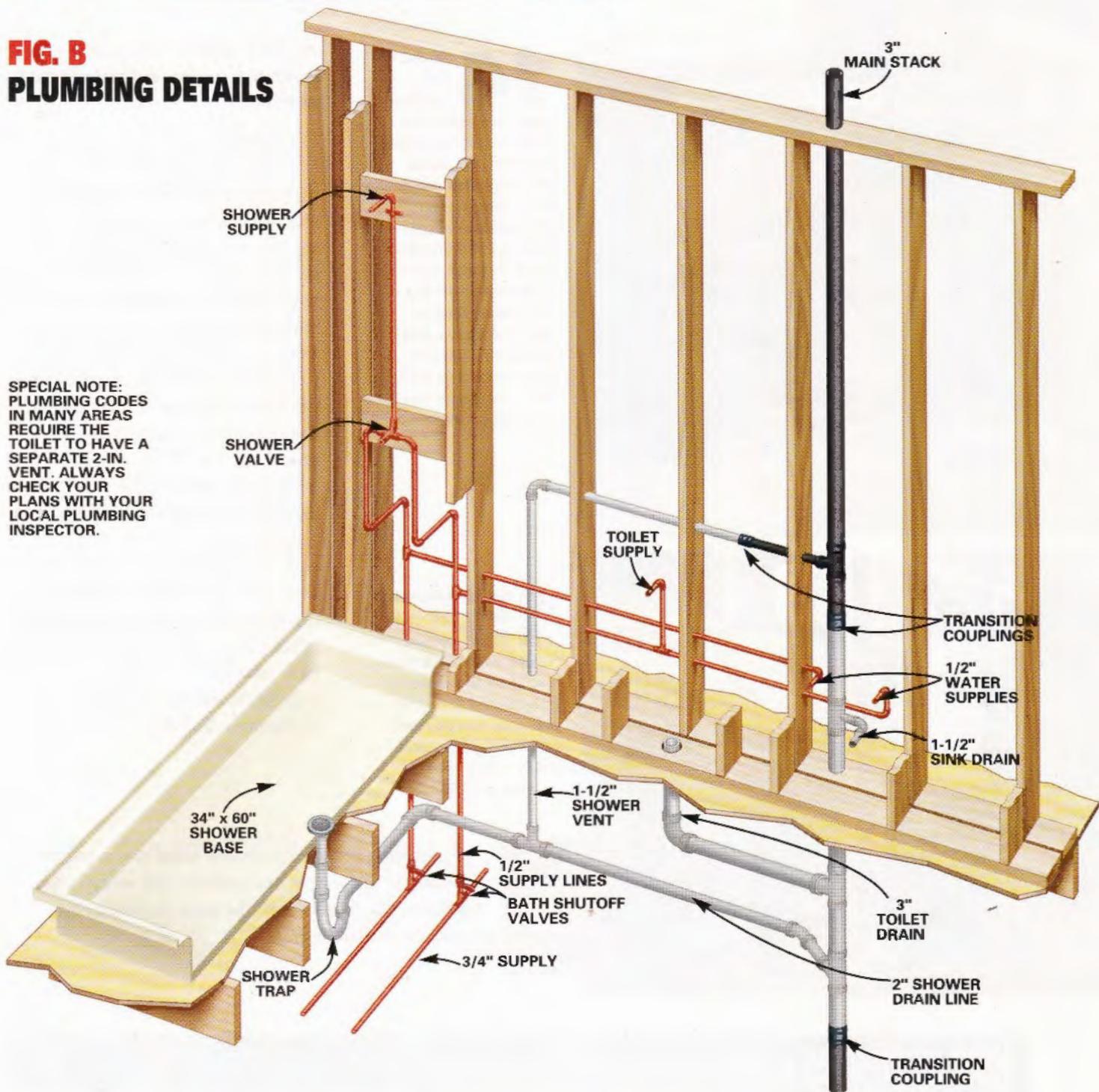


**13** **TOENAIL** 2x6 blocks in the center of the shower 36 in. above the floor for the shower valve and 6 ft. 6 in. above the floor for the showerhead. Position the valve block so the plastic mud guard on the mixing valve will be flush with the finished wall surface. Attach the shower supply line and the hot and cold supply lines to the valve. Clamp the valve body and shower supply line to the blocks with copper pipe straps. Run copper water supplies to the new locations for the sink and toilet.

# New Plumbing Routes

**FIG. B**  
**PLUMBING DETAILS**

**SPECIAL NOTE:**  
PLUMBING CODES  
IN MANY AREAS  
REQUIRE THE  
TOILET TO HAVE A  
SEPARATE 2-IN.  
VENT. ALWAYS  
CHECK YOUR  
PLANS WITH YOUR  
LOCAL PLUMBING  
INSPECTOR.



## Prevent fixture hassles with careful planning

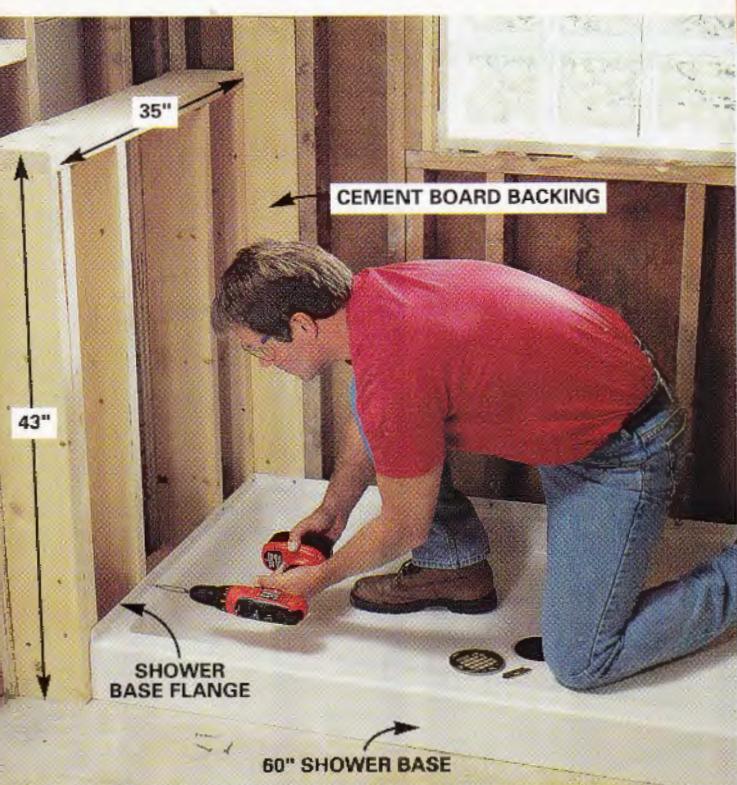
The job of installing our wall-mounted fixtures was tougher than it had to be, thanks to poor and contradictory one-size-fits-all instructions, metric fittings and duplicate and missing mounting parts. Prevent hard-to-fix future problems by test-fitting the actual

fixtures when roughing in framing, plumbing and blocking to make sure everything will work out. Then finish the walls. When test-fitting, simulate finished floor and wall surfaces to get the clearances right.

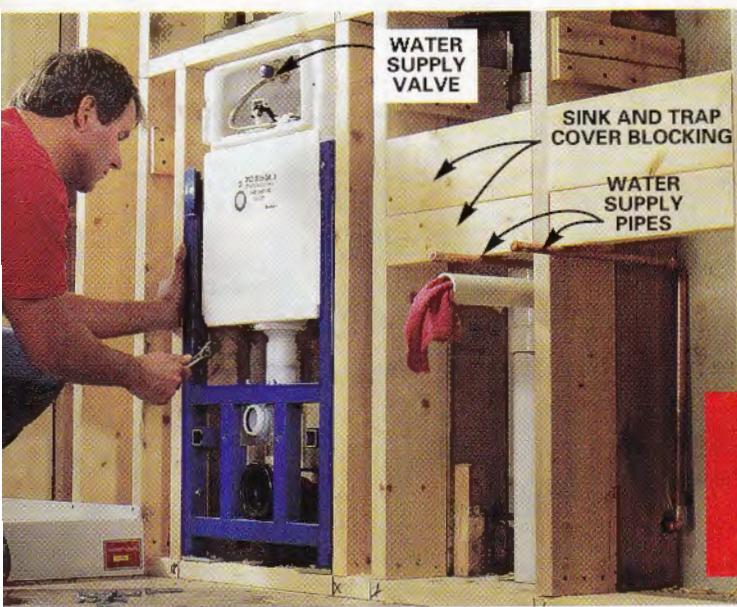
**More BATHROOM >>**

# Shower and Toilet

## Rough-In



**14** PLACE the shower base and mark the drain location on the subfloor. Remove the base and cut a 6-in. wide hole. Tighten the shower drain to the shower base. Pre-drill 1/8-in. holes through the mounting flange into the studs and screw the base to the wall studs with 1-5/8 in. galvanized drywall screws.



**15** ADJUST the chair carrier (toilet support framework) to the desired height and bolt it in place to the bottom plate, blocking and studs with the lag screws provided.

**Tip** For a quieter, rock-solid shower base, mix a bag of mortar, spread it over the subfloor and wiggle the base into the mortar until the base webbing rests firmly on the subfloor.

## How much does it cost?

We didn't pinch pennies when it came to remodeling this 6 x 8-ft. bathroom. We chose top-shelf materials to make the room as striking as possible, but you can go with less expensive materials and still have a bathroom fit for a magazine cover. Here are our costs:

- Glass block window panel, 40 x 24 in., \$160.
- Shower base, 34 in. x 5 ft., \$375. We special-ordered this Swanstone base from a plumbing fixture supplier along with the wall-hung toilet and sink.

- Wall-hung toilet, \$950. It's from the American Standard "Porcher" line, part of the Kimera Collection.
- Wall-hung "Porcher" line sink, 27 in. wide, \$575.
- Tile. We spent \$3,200 on natural 12-in. stone tile imported from Italy. The stone costs \$14.50 per sq. ft. Standard ceramic tile runs \$3 to \$6 per sq. ft.
- Other costs. You'll also need faucets, wall board, rough-in plumbing, lumber and miscellaneous finish materials. We spent about \$600 on these items.

# Cement Board

## Three tools simplify cement board installation

With the rough plumbing complete and the toilet chair carrier in position, finish the electrical and add blocks as needed to support the sink (**Photo 15**), towel bars, grab bars, etc. Then close up the walls. We recommend cement board for durable tile walls and floors, but other tile backers are available at tile shops. Here are key installation tips:

- Fasten cement board with special, coated cement-board screws spaced 6 in. on butt joints and every 8 in. in the middle of sheets.
- Spread thin-set mortar on floors under cement board with a 1/4-in. notched trowel for a more stable tile base.
- Staple up 6-mil plastic sheeting behind cement board on walls in wet areas.
- Use a curved linoleum knife to score and snap cement board to length and width. It works better and lasts longer than a utility knife.
- For cutting notches and holes, use a jigsaw fitted with an abrasive blade. Predrill pilot holes for the jigsaw in "landlocked" openings with a masonry drill bit.
- Rest the shower cement board on top of the shower base flange (see **Photos 14 and 18**), not over it. Extend the tile over the flange, then caulk between the tile and the base.

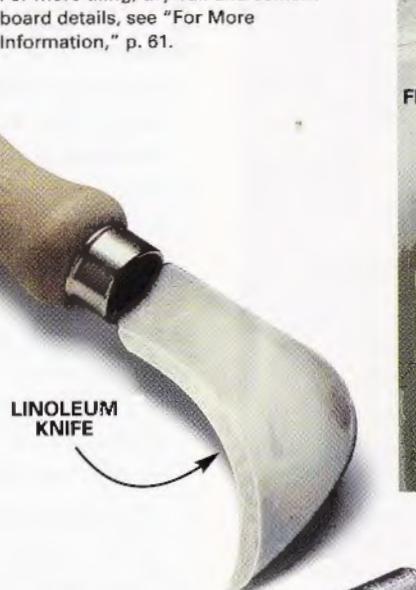
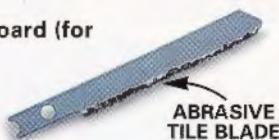
**More BATHROOM >>**



**Tip:** Insulating walls that are common to other rooms will help keep bathroom noises in the bathroom.

- 16** **INSULATE** exterior walls and staple a 6-mil vapor barrier over the insulation. Install 1/2-in. cement board (for tile) with specially coated 1-1/4 in. cement board screws spaced 6 in. on butt joints and every 8 in. in the middle of sheets. Hang 1/2-in. drywall everywhere else.

For more tiling, drywall and cement board details, see "For More Information," p. 61.



- 17** **TAPE** cement board joints with cement board fiberglass tape and thin-set tile mortar. Tape drywall joints with taping compound, sand them smooth and paint areas that won't be tiled.

# Tile & Fixtures



**20** MOUNT the supply and discharge lines to the toilet with the seals provided and slip the toilet bowl into position over the mounting studs. Snug up the nuts, being careful not to overtighten and crack the porcelain.

**18** TILE the walls first, then the floor. When tiling around the window, keep the tile about 1/8 in. away from the glass block. Tile the floor, starting by carefully snapping center lines to lay out border strips and field tile. Work from those lines to get evenly spaced tiles throughout the floor. Grout the walls and floors but caulk the inside corners between floors and walls and where walls meet.

**Tip** Buy specially designed caulk from your tile supplier to match the grout color in corners.



**19** SEAL around the window with a bead of silicone caulk.

## Why a wall-mounted toilet?

There's a reason that commercial bathrooms have wall-mounted toilets. **There's no base to clean around.** But commercial types are expensive and noisy, and they require special plumbing. American Standard offers a quiet, residential wall-hung unit.

The tank is concealed within a 2x6 wall that's built in front of the existing plumbing wall. It does require some plumbing rerouting because the waste line runs through the wall instead of the basic floor-mounted toilet flange (see Photos 8 – 12). The toilet can be ordered with a wall-mounted access panel/flush button like ours or with the panel mounted on top of a half wall. A "chair carrier" (Photo 11) comes with the toilet. This steel framework contains the toilet and operating mechanisms and is designed to support the weight of the toilet.

## Small features pay off big

- We finished off the alcove above the sink and stool by filling it with a floor-to-ceiling mirror glued to the drywall with silicone cement. At \$160, it's an inexpensive, useful way to make a room feel more spacious.
- Since the medicine chest was eliminated, we needed storage space for the stuff guests shouldn't see. We bought a small cherry cabinet for those items.
- Soffit lights over the shower and mirror shed light on all bathroom tasks right where you need it.
- A glass block window, albeit one that distorts images, may not feel private enough. Consider a second shower curtain rod fitted with a short matching shower curtain for more shower privacy.
- The two-piece stone chair rail that runs at the top of the half walls and around the window is spendy, but it contributes more in appearance than its \$25 per linear foot cost.
- If you don't already have a ventilating fan, add one.

### For More Information

- "Remove and Replace a Bathtub," Oct. '97, p. 62.
- "How to Plumb a Small Half Bath," Feb. '00, p. 30.
- "Quiet Bath Fan Upgrade," April '00, p. 69.
- "Cement Board," April '98, p. 81.
- "Tips for Better Tiling," Nov. '97, p. 36.
- "Plumb a Pedestal Sink," June '00, p. 82.
- "Soldering Copper Pipe: Start to Finish," April '00, p. 83.
- "A Beginner's Guide to Ceramic Wall Tiling," May '99, p. 69.
- "How to Install a GFCI," March '93, p. 66.

For information on how to order back issues, copies of articles or the Five-Year Index, please see p. 98.



Art Direction • BOB UNGAR  
 Photography • BILL ZUEHLKE  
 Plumbing Consultant • CHARLIE AVOLES, MASTER PLUMBER  
 Tiling Consultant • DEAN SOREM, SOREM TILE CO.  
 Stylist • SUSAN MOORE



**21** **INSTALL** the faucets and tailpiece in the sink before mounting. Mark the mounting holes on the wall and drill 5/16-in. holes through the tile and cement board and 1/4-in. holes into the backer boards. Screw the hanger bolts through the tile into the wood using the cap screw to drive the bolt. Slip the sink over the screws and snug down the nut.



**22** **CONNECT** the sink to the trap and drain line, and the supply lines to the roughed-in copper lines with compression valve shutoffs. Mark, drill and mount the trap cover to the wall with hanger bolts.

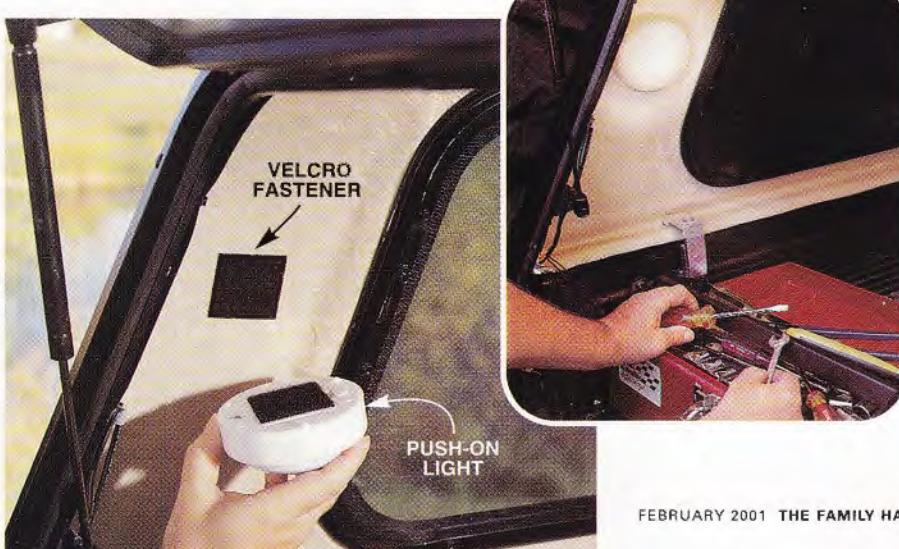
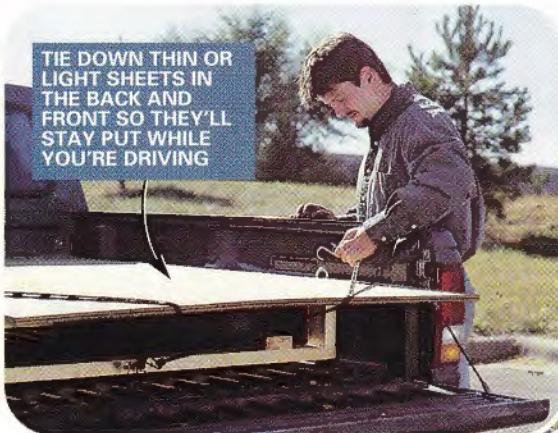
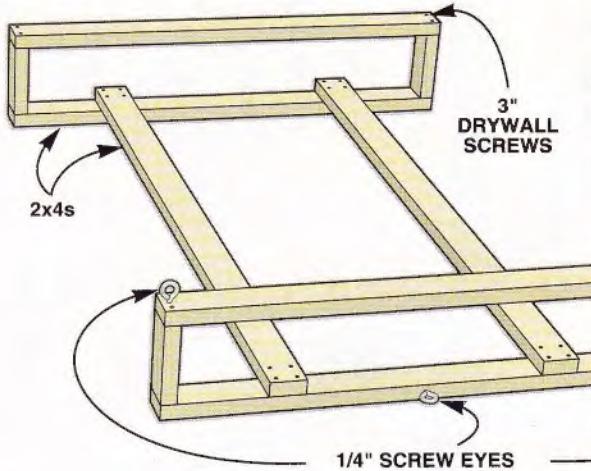
# Pickup truck handy hints®

*Tips for getting the most out of (and into) your pickup*

## Plywood carrier for compact trucks

Turn your compact-pickup bed into a plywood-carrying machine! Construct two frames the height of your wheel wells and the width of your bed (see illustration below). Add screw eyes (2-5/8 in. long shaft) for tie-downs, and your compact pickup will easily carry 4x8 sheets of plywood and other building materials.

—ROBERT E. BUSING



## Topper light

Purchase battery-powered "push-on" lights from a hardware store or home center. Mount the lights on the inside of your truck topper with adhesive-backed Velcro fasteners, and you'll have light to find your tools in the dark.

—ELLEN PORTER

## Secure storage solutions

Here's how to modify your truck bed to keep items secure behind the cab or within easy reach of the tailgate. Mount four 6-in. pieces of aluminum C-channel (3/4 in. inside measurement) to the sides of the truck bed with self-tapping sheet metal screws. Then simply slide 1x8 dividers into the channels. When you don't need the dividers, you can pull them out and stow them in the back of the truck.

—LEONARD LAWRY



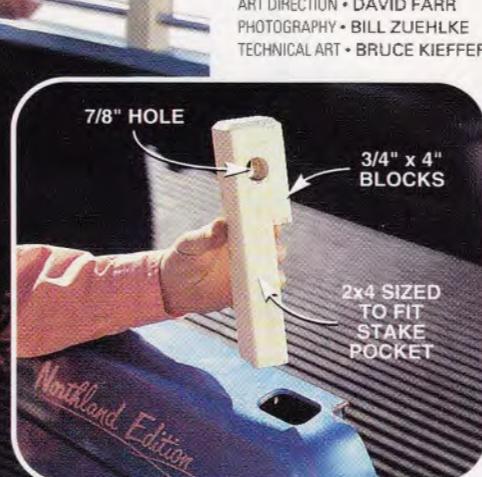
## Tie-down troubleshooter

Do you have problems securing cargo in the bed of your pickup truck? Here's an inexpensive device you can attach your tie-down straps to. Cut six blocks from 2x4 scrap to slide into the stake pockets of your truck. Size the

pieces so they stick out 4 in. above the stake pockets. Glue a 3/4-in. x 4-in. block to the top of all six pieces. Once the glue is dry, drill a 7/8-in. hole through the center of each piece 2 in. from the top, and tap each piece into a stake

socket. Cut 1/2-in. galvanized pipe so it extends 1 in. past the outside blocks, and have your local hardware store rethread the cut end. Simply slide the pipe through the holes and screw on end caps.

—DAVID NYUGEN



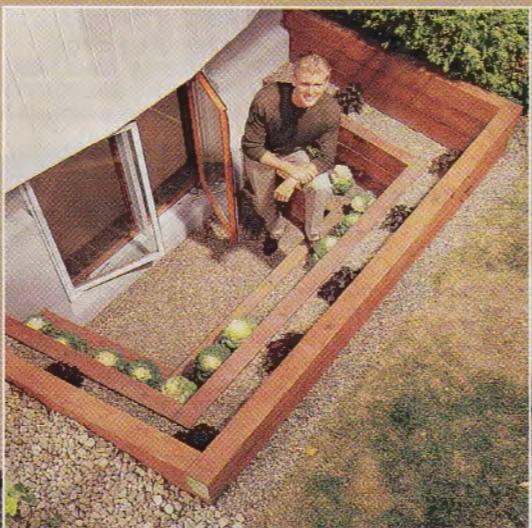
EDITOR • JEFF LARSON  
ART DIRECTION • DAVID FARR  
PHOTOGRAPHY • BILL ZUEHLKE  
TECHNICAL ART • BRUCE KIEFFER

# Basement Egress Window

by Sam Satterwhite

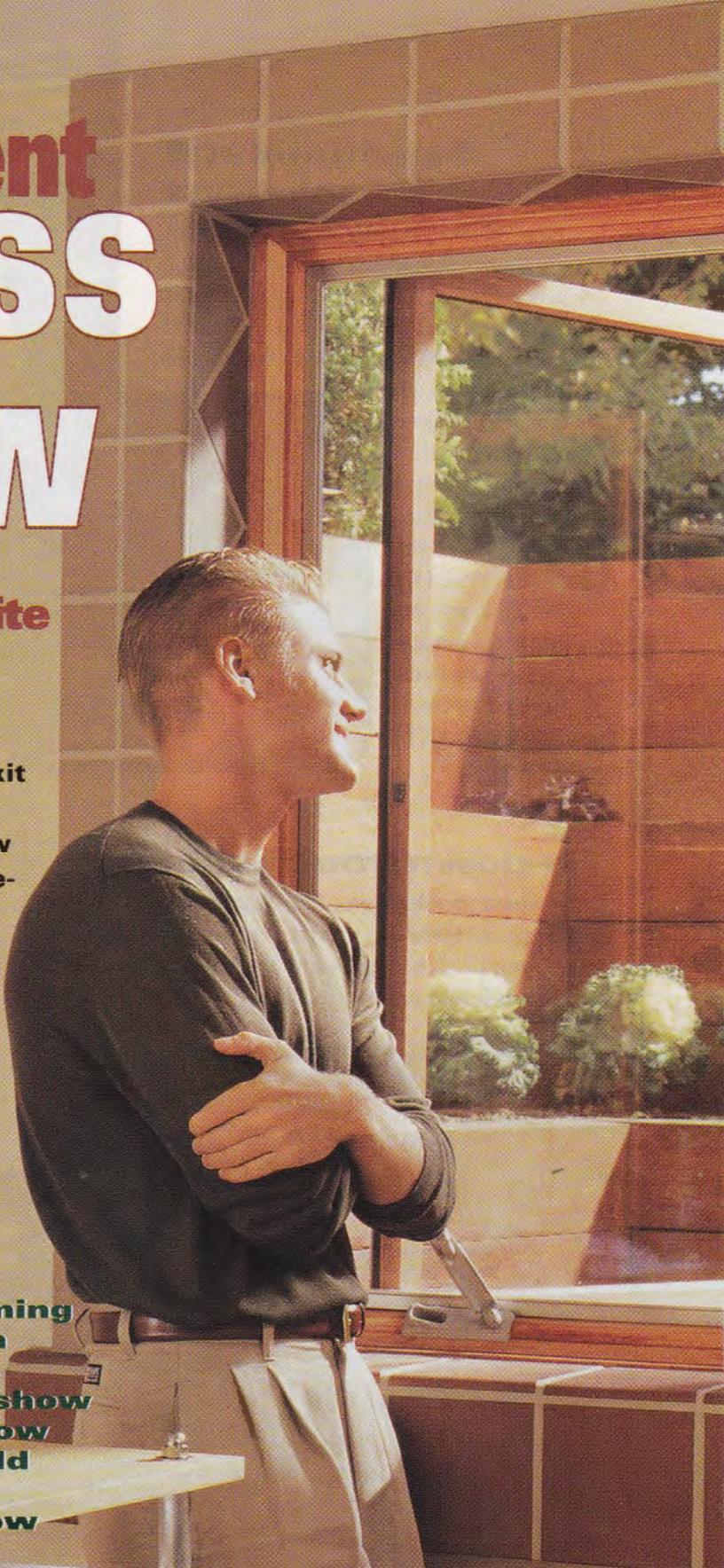
An egress window in a basement dramatically brightens an otherwise dark, dingy room, but it also has a more serious purpose. It's large enough to offer a safe exit from the basement in the event of fire or other emergency. Adding an egress window is essential any time you remodel your basement to make a new bedroom, office or other living space.

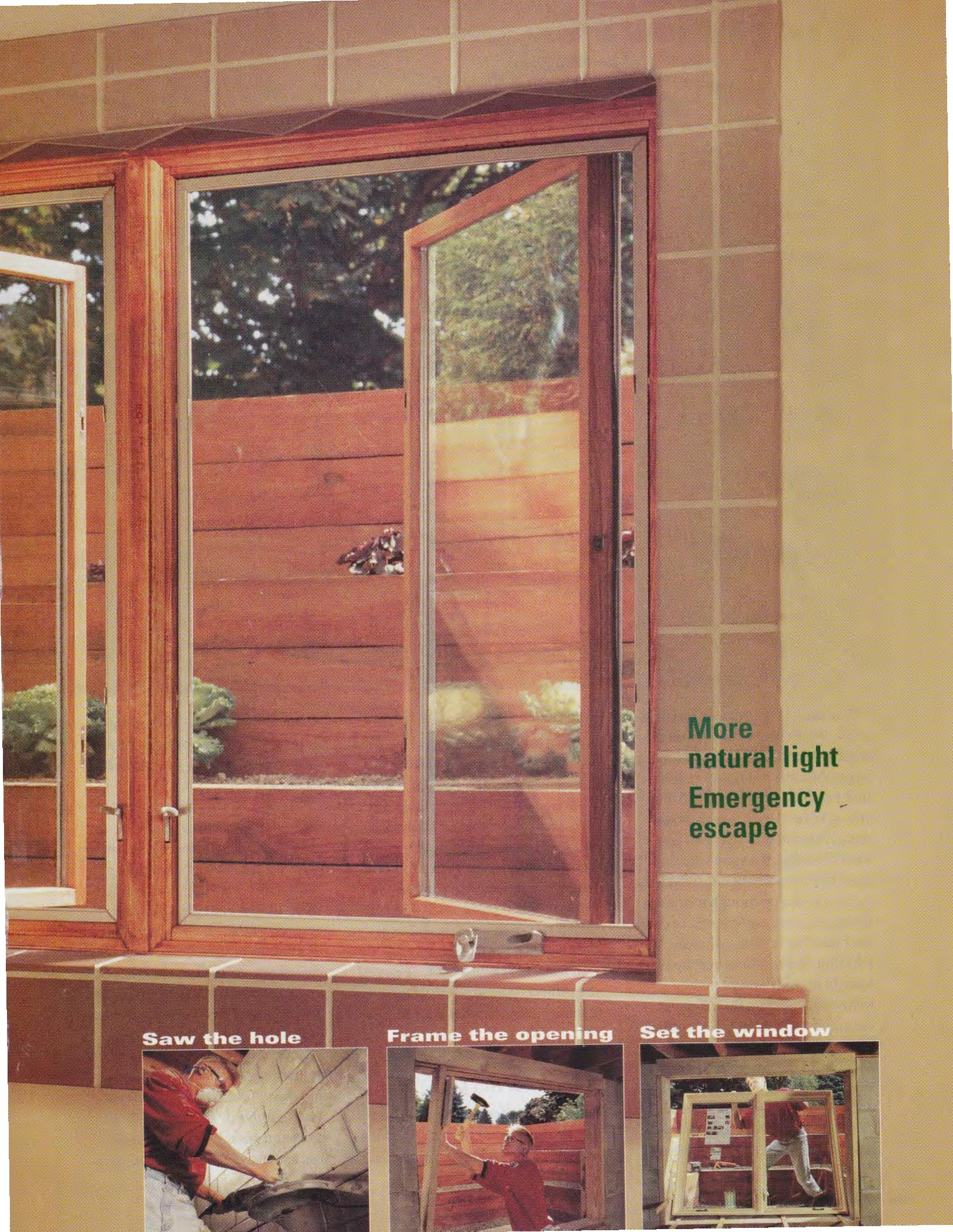
In this article, we'll show you how to cut through a concrete block wall and install an egress window. If you have solid concrete walls, the process is similar, except we recommend you hire a professional for the wall cutting (more on this later).



In our upcoming March issue, we'll show you how to build this window well.

More EGRESS WINDOW >>





**More  
natural light  
Emergency  
escape**

**Saw the hole**



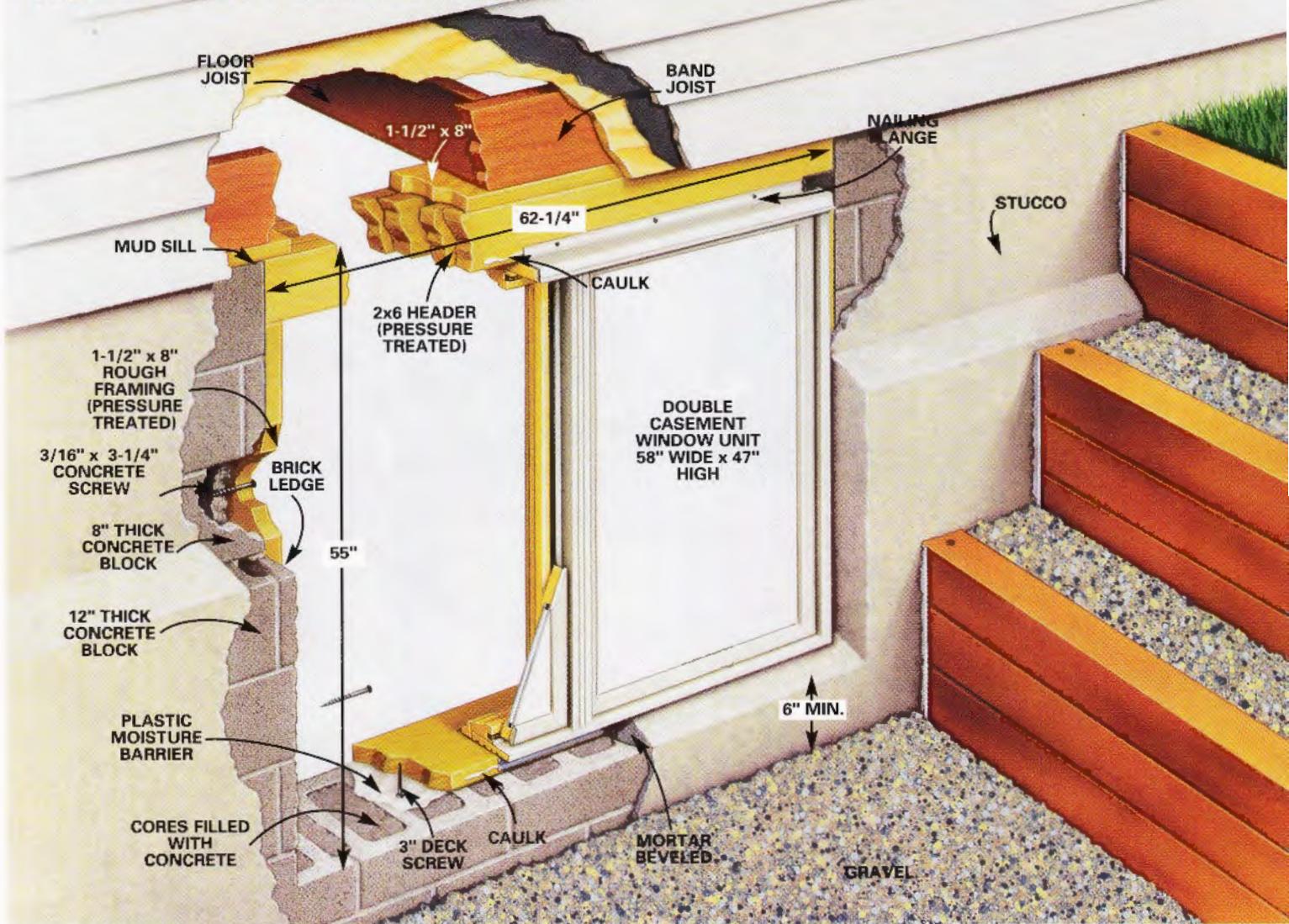
**Frame the opening**



**Set the window**



## FIG. A WINDOW FRAMING DETAILS



The egress windows we installed (two 2947 Pella ProLine casement windows for \$325) are substantially larger than the minimum requirement because we wanted to bring strong natural light into this basement. But you don't have to add ones this large. An egress window must have a clear opening of at least 5.7 sq. ft.—large enough to allow a firefighter, with equipment, to enter the home through the window. In addition, the window must be at least 20 in. wide and 24 in. high (while still meeting the 5.7-sq.-ft. requirement). Finally, the bottom of the opening can be no more than 44 in. from the floor. See "Egress Window Choices," p. 76, for more details, and "How a House Works," Dec./Jan. '01, p. 76, for an in-depth look at sizes and window choices.

### Prepare for a big project

Installing a basement egress window and building a window well are two projects that go hand in hand. In our March issue, we'll give you the dirty details on digging and installing the terraced window well. Both projects are big. Allow at least three full days for each, plus time for finishing the interior. Hiring a contractor to install an egress window and window well like the ones shown will cost from \$6,000 to \$8,000. If you do the projects yourself, expect to spend \$1,500 on materials, tool rental and refuse container fees.

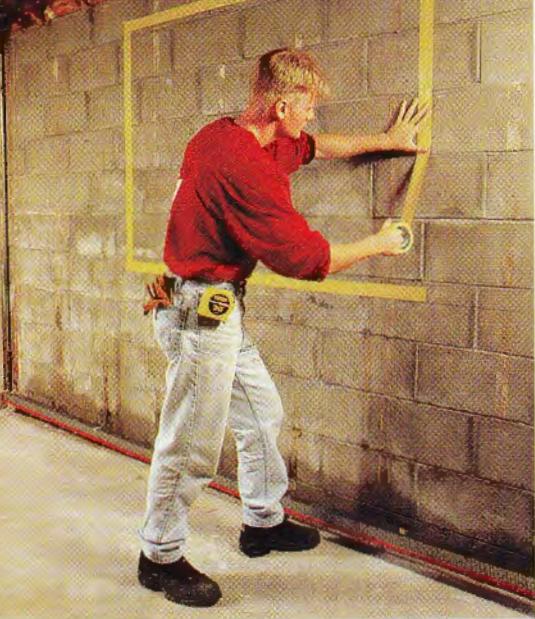
### Good planning simplifies the job

First, find the best location and size for the window. Consider: (1) which wall offers the best light; (2) the

effect on the exterior look of the home; and (3) the obstacles you'll have to deal with for a particular location.

The best natural light comes from the east first and then the south. An eastern window offers rich morning light, while a southern window provides more even light year-round. We centered our egress window beneath a large bow window on the front of the house (facing east). This placement maintained the balanced look of the front of the home, though the window was not centered on the wall of our new basement room.

Check for obstacles such as buried utilities, shrubbery, indoor wiring and ductwork. The more stuff you have to move or work around, the more complex, time-consuming and expensive the project becomes.

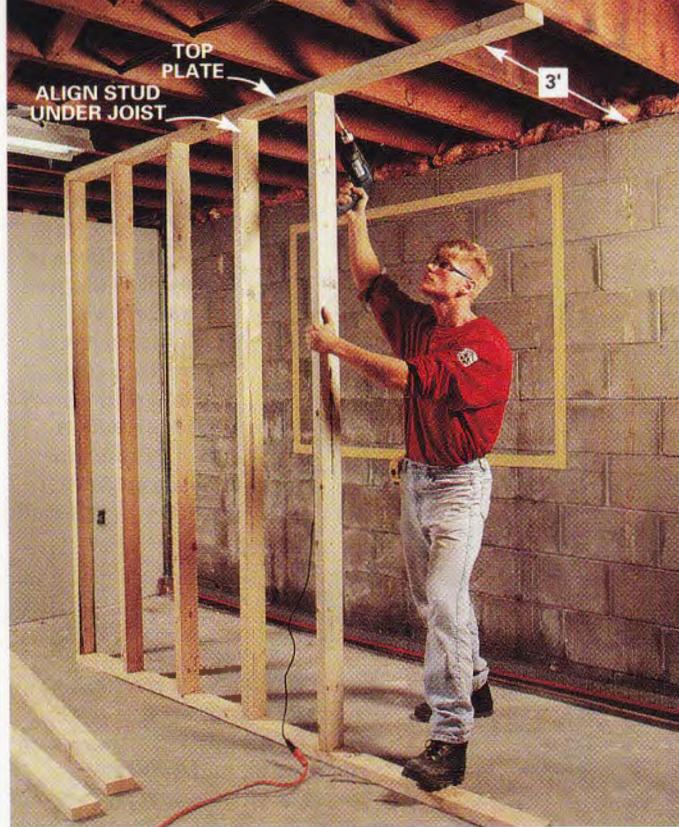


**1 OUTLINE** your proposed window size (frame) with masking tape on the wall to get a feel for the placement and size of your window. Add in space for the header, if you place the window perpendicular to the floor joists (like the one here).

**CAUTION:** AVOID PUTTING AN EGRESS WINDOW NEAR A WALKWAY UNLESS YOU PROVIDE A SUBSTANTIAL BARRIER TO PREVENT FALLS INTO THE WELL.

Always call for buried utility marking so you don't hit or interfere with water, gas, electrical, cable or sewer lines when you dig your well. Then visit a window dealer or home center and pick up a manufacturer's brochure listing window sizes to help plan and size your window.

One key factor that can limit window size is the size of the beam (called a header) that you have to install when you remove a section of your foundation wall. If you're installing a small window (less than 48 in. wide) in a wall that runs parallel to the floor joists, you probably won't need the extra support of a header. But if you install the window in a load-bearing wall (perpendicular to the floor joists; **Photo 2**), consult a structural engineer or architect (both listed in your Yellow Pages) to determine the header size.



**2 ERECT** a temporary 2x4 support wall if the joists are perpendicular to the wall you'll be cutting. Place it 3 ft. back from the concrete wall. Screw the top plate to the joists and align the studs directly under the floor joists. Measure and cut each stud for a tight fit.



**Tip** The simplest way to avoid the header size issue is to make an existing basement window taller. Typical small basement windows measure 30 in. wide by 15 in. high. If you extend this opening down and install a 29-in. wide by 47-in. high casement window, you'll satisfy minimum egress window requirements.

Take a sketch of your plan (**Fig. A**) to your local building inspector's office to obtain a permit for the project. Local code officials should be familiar with local issues and can help you with details.

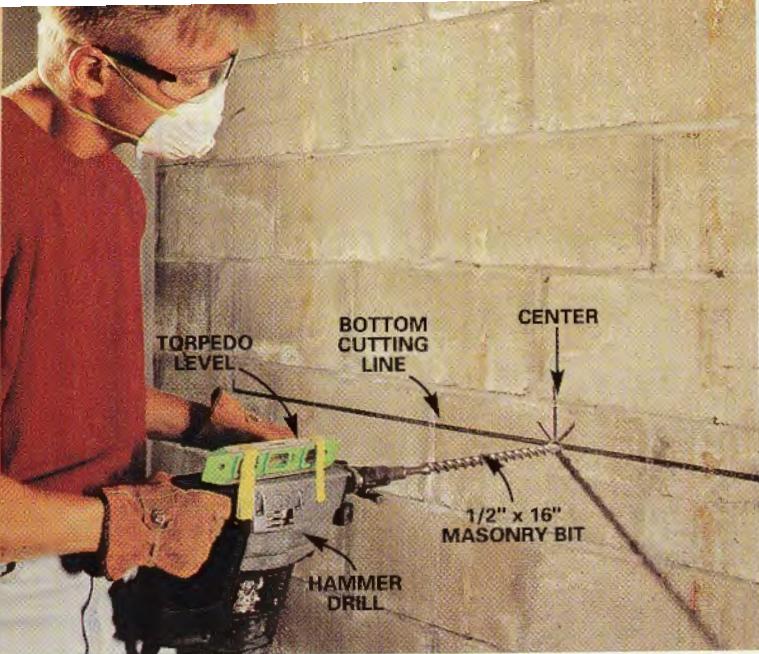
#### Prevent moisture trouble—establish good drainage

Any time you install an egress window below ground, you have to ensure good drainage. If your basement has ever had moisture problems, take these steps:

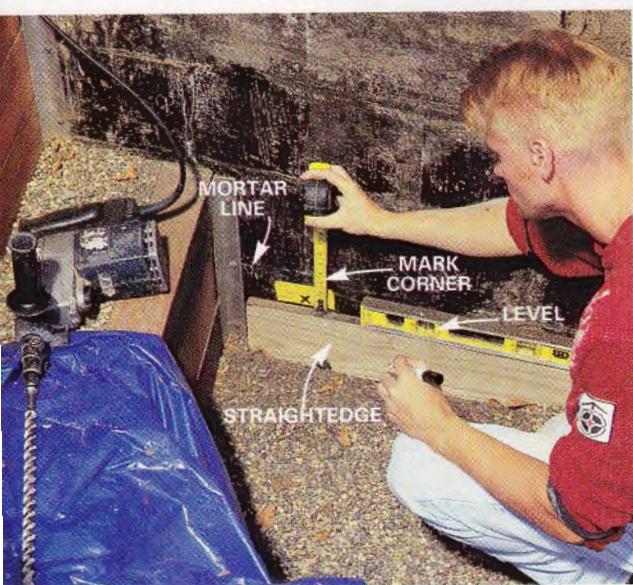
**3 TENT** the area where you'll be cutting with 6-mil plastic sheeting to confine the dust. Use sheeting at least 8 ft. 6 in. to 9 ft. wide. Make slits in the sheeting to seal the area between the joists and staple it in place.

**More EGRESS WINDOW >>**

## Basement Egress Window

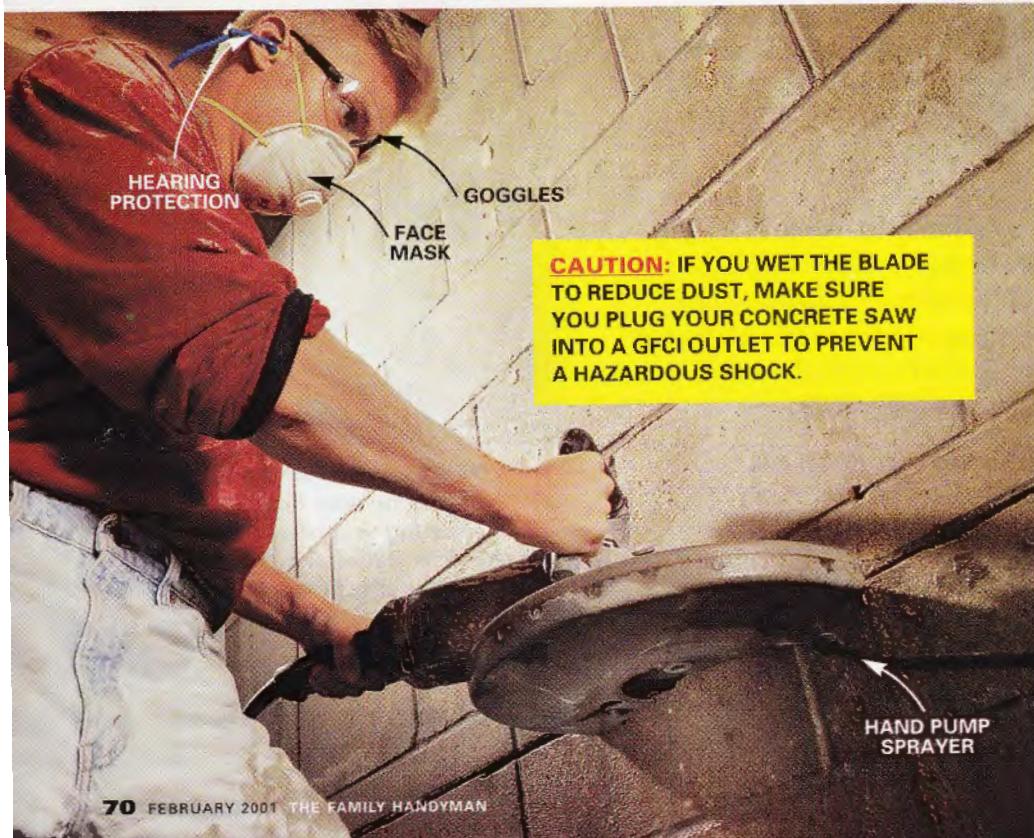


**4 MEASURE** down from the joists to locate the height of the bottom cut. Mark the center of the bottom cutting line and drill a level pilot hole with a hammer drill and a bit long enough to go through the wall.



**5 LEVEL** from the pilot hole on the exterior in both directions from the center and measure and mark the corners of the cutout. The mortar lines usually serve as a level reference line too. Drill a level hole through the wall at each corner.

**6 CUT** a 1/2-in. deep groove in the concrete block with an electric 14-in. concrete saw equipped with a diamond blade. Then complete the cut on a second pass. Wetting the blade as it cuts reduces dust. Caution: Plug the saw into a GFCI outlet.



**Step 1:** Make sure existing gutters and downspouts are clean and drain water away from the house. If necessary, install new gutters.

**Step 2:** Check the grade of the slope around your foundation walls. It should be 1/2 in. per foot at least 10 to 12 ft. out from the foundation wall.

**Step 3:** Make sure the drainage system is in good repair. Many homes have a drainage system around the footing of the foundation walls that sends excess water to a sump pump or exterior drain. If you have such a system and your soil has a high clay content, create a gravel drainage path below your window well to tie into this system.

**Step 4:** If you've had moisture or flooding problems, consult a waterproofing specialist before adding a below-ground window. Check the Yellow Pages under "Waterproofing Contractors."

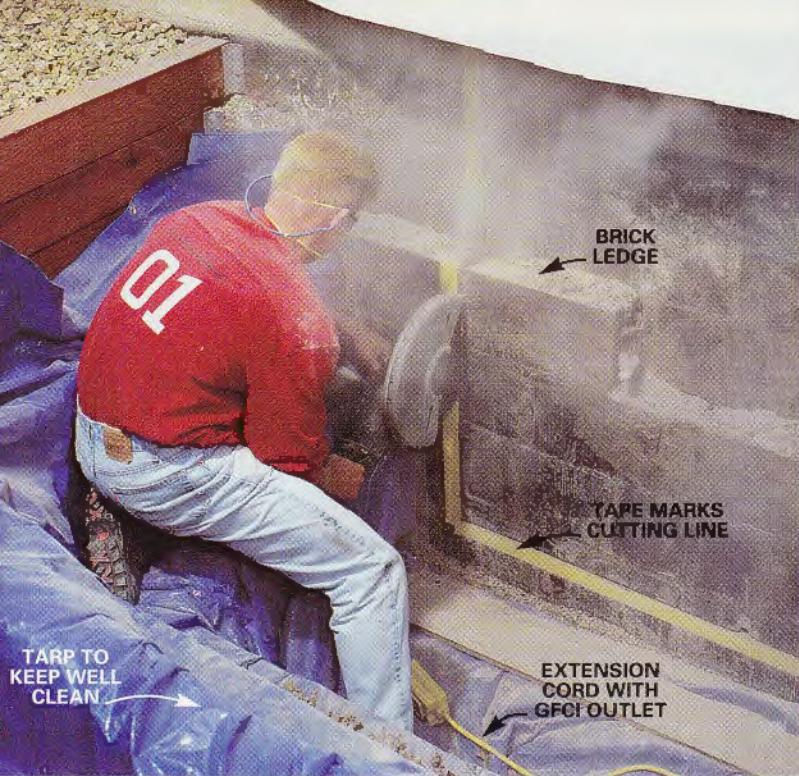
### Rent a concrete saw with a diamond blade

Your basement or lower-level walls will be either poured concrete or concrete block. In this article, we show you how to cut through concrete block. For a poured concrete wall, we strongly recommend that you hire a professional to cut the opening (\$600 to \$1,000). Doing this yourself is difficult and dangerous because of the weight of the slab you cut loose.

Cutting through concrete block is no picnic either. The two major tools you'll need are a concrete saw and a hammer drill. Choose a concrete saw with either a 12-in. or a 14-in. blade. The 12-in. saw will work fine for an 8-in. thick wall. We used a 14-in. saw because our wall contained both 8-in. and 12-in. blocks. Along with the saw, rent a

**More EGRESS WINDOW >>**

## Basement Egress Window



**CHIP** the sides of the opening smooth with a brick chisel. **9**  
Check to be sure the rough opening is large enough for the rough frame and window.

**7 FINISH** cutting through the wall by making the same cuts on the outside wall. If you have a brick ledge like we did, some blocks will be 12 in. thick and some will be 8 in. Mark the lines for the outside cut with tape and cover the well area with a tarp to keep it clean.

**8 BREAK OUT** the block with a 4-lb. hammer, starting at the top center. Work carefully around the edges so you don't loosen the remaining blocks. For stubborn blocks, first break out the core in the middle of the block, then break the block.

diamond blade. This blade will pay for its higher cost in time saved because it cuts much faster than abrasive blades.

Some rental stores carry only gas saws; others rent both gas and electric. We recommend electric so you won't have to worry about fumes while you're making the inside cut. Also, the electric saw is less bulky, making it easier to get in tight spaces. If you use the electric saw, especially if you wet the blade, plug it into a GFCI outlet to protect yourself from electrical shocks. These are big, heavy saws that take strength and attention to control. Always wear goggles, gloves and hearing protection when operating them.

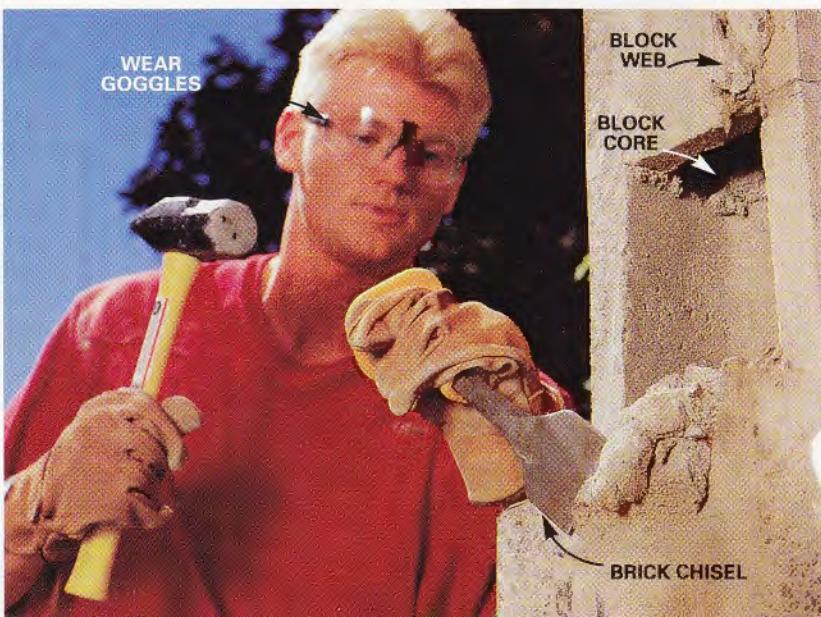
When you rent the hammer drill, also rent a masonry drill bit long enough to go through the wall: 12 in. long for 8-in. block and 16 in. for 12-in. block. Expect to spend about \$120 to \$140 to rent the saw, hammer drill, diamond blade and masonry bit for the day.

### Roll up your sleeves and grab a shovel

**Photos 1 - 17** show you the construction basics.

Begin by digging the well to the rough window well size. (We'll tell

**More EGRESS WINDOW >>**



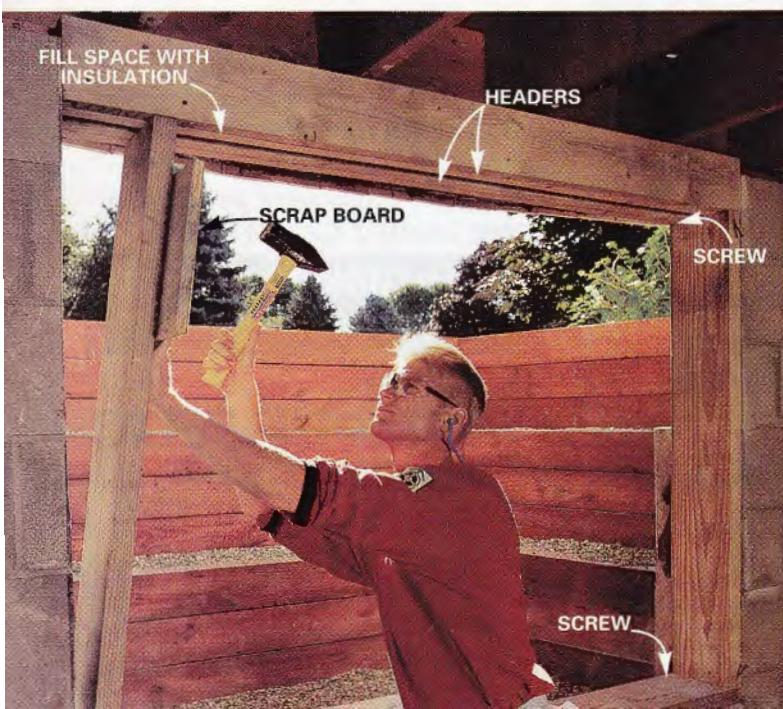
## Basement Egress Window



**10** **FILL** the open cores under the sill with concrete. Stuff newspaper into the cores to keep the concrete from falling down through them.



**11** **COVER** the wet concrete with plastic sheeting so the water from the concrete won't warp the frame sill. Drive 3-in. deck screws partway into the treated wood sill and push them down into the wet concrete. The screws will anchor the sill and prevent the frame from shifting.



**12** **BUILD** the header according to your plan (we installed two), hoist it into place and screw it to the floor joists. Cut the frame sides to length for a very tight fit and bang them into place to support the header. Plumb the sides with a level and toe-screw them to the sill and header.

you about well construction in our March issue.) Then move on to the egress window installation. We actually finished our well first, but it's usually easier to get the window in and then finish the well around it.

**TIP:** Keep a tarp handy so the sides of the well won't wash in if it rains.

When you position your window layout with masking tape, remember to make the cutting lines about 3-1/2 in. wider than the rough opening required (listed with the window dimensions). Add the width of the header plus 1-3/4 in. to the rough opening height. The extra space is for the 1-1/2 in. treated wood rough frame (**Fig. A**, p. 68) plus room for adjustment. Cutting through concrete isn't as exact as cutting through wood!

Since our egress window was in a wall perpendicular to the floor joists (in a weight-bearing wall), we built a temporary support wall (**Photo 2**) to carry the weight before cutting out the window opening and putting in the header.

Sawing concrete creates an incredible dust cloud. So when cutting inside, tent the area around the cut to confine the dust (**Photo 3**). Having a helper spray water on the blade with a hand pump sprayer while you cut reduces the dust about 90 percent (**Photo 6**). But you'll have to clean up a mucky mess on the floor.

**TIP:** Apply a bead of insulating foam to the floor to act as a curb to contain the water. Allow a day for the foam to harden.

For height accuracy, lay out your cutting lines on the inside wall (**Photo 4**). Since you have to cut from both the inside and outside, drill through the wall at the lower corners with a hammer drill held perfectly level, to establish the layout

**More EGRESS WINDOW >>**

## Basement Egress Window

### Egress window choices

Casement windows (windows that are hinged on one side and crank open) and side-to-side sliding windows are the best choices for egress windows. Double-hung windows (windows that slide up and down) don't work well because they have to be almost 5 ft. tall in order to meet the minimum openable area requirements—more digging and a deeper well.

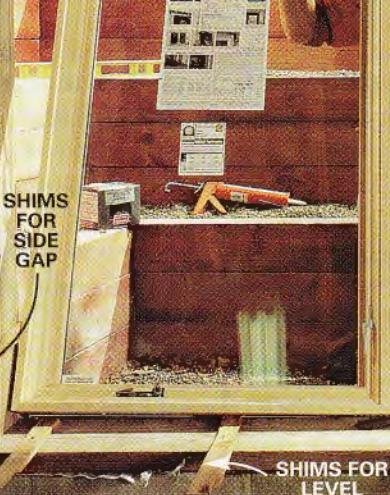
Sliding windows don't have to be as tall as a double-hung, but they do need to be wide. It takes a 48 x 48-in. sliding window to meet the minimum egress requirements.

Casement windows are usually ideal because the entire window swings open. That means you can install a smaller casement window than other types. A 29-in. wide by 47-in. wide (outside frame dimensions) window will meet the requirements, and you can go even smaller if the window is equipped with special egress hinges. Modern casement windows with a single lock are also the easiest for a child to open. Check window sizes in manufacturers' catalogs at any home center or window and door store.

**13** **ANCHOR** each side of the frame to the block wall with two 3/16 x 3-1/4 in. concrete screws. Predrill for the screws with a masonry bit. Countersink the hole for the screwhead with a 3/8-in. drill bit.

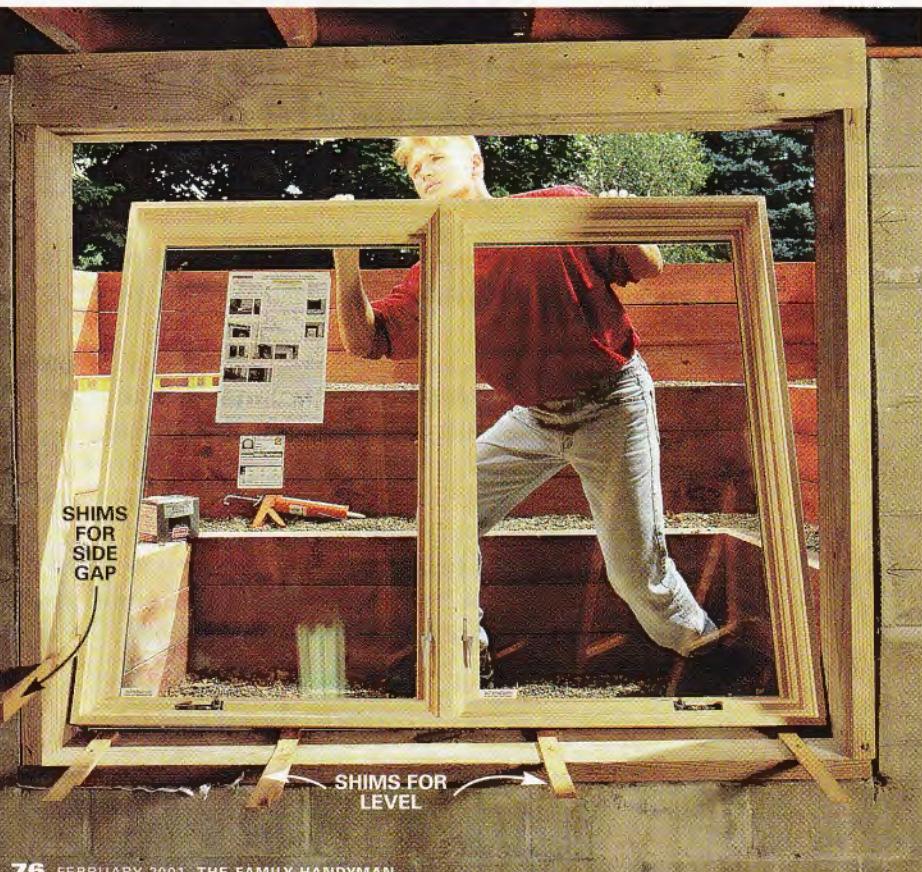
**14** **SEAL** gaps between the wood frame and the concrete with polyurethane or other exterior caulk. For gaps more than 1/4 in. wide, push a foam backer rod into the gap before caulking. With the frame securely in place, you can remove the temporary support wall.

**15** **CENTER** the window in the opening and level it with cedar shims. Get help here to steady the window while you shim it. Temporarily tack the shims in place and remove the window.



SUPPORT WALL REMOVED

EXTERIOR CAULK

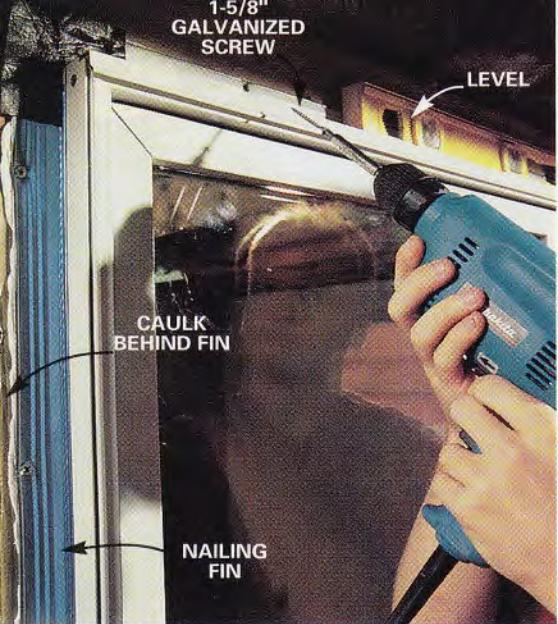


on the exterior. Or drill through the center of your proposed layout (**Photo 4**) if you build your window well first. That way you can adjust your layout to center on the well before drilling the corners (**Photo 5**).

**TIP:** Use the joints on the block to help maintain accurate alignment—if you can find them through the tar that's often spread on the exterior!

Once cut, the blocks won't fall out. You have to break them out with a 4-lb. hammer (**Photo 8**). Be sure to wear eye protection. Chips will fly! With the block broken out,

**More EGRESS WINDOW >>**



**16** **APPLY** a generous bead of caulk around the treated wood frame to create a seal behind the nailing fin of the window. Set the window in place, check it for level, and drive screws or nails through the nailing fin to secure it to the frame. Some manufacturers specify that the fin must be nailed, not screwed.

you'll see that your cuts won't align perfectly. Smooth the sides as best you can with a brick chisel (**Photo 9**).

Follow **Photos 11 – 14** for setting the rough frame. Cut the pressure-treated 2x10 to fit the thickness of your wall. Since we had both 8-in. and 12-in. thick blocks, we fit the window to the 8-in. thickness and

mortared a beveled sill under the window to shed water over the 12-in. blocks (**Photo 17**).

Anchoring the rough frame to the block can be tricky (**Photo 13**). Mark the block where the concrete screws can get a good bite into solid concrete. Don't try to draw the side frames tight to the wall with the screws. Use shims when tightening the screws to keep the frame straight and plumb (perfectly vertical).

## Basement Egress Window

### Install the window and wall finishes

Installing the window (**Photos 15 – 17**) will go quickly compared with the prep work. Most manufacturers include complete installation instructions with every window. Read through them to check for variations from our procedure. The trim work will vary according to the style of your home. The exterior finish could pose some problems because most foundation walls are coated with rubbery tar below the soil level. We chose to cover the entire exposed foundation around the window and inside the well with metal lath and stucco. For help in applying stucco, see "For More Information," p. 79. If you have lap siding, you may choose to apply furring strips to the concrete and carry

## How to Get Something For Nothing...

**Well, Almost Nothing!**

Log on to [NorthernTool.com](http://NorthernTool.com) and  
**GET FREE WORK GLOVES** with any purchase!



Item# 1701



Over 8,000  
Power Tools & Equipment  
Online!



**NorthernTool.com**

A Division of Northern Tool & Equipment Co.

Offer Ends May, 2001

KEY = 42981

Log on to <http://www.NorthernTool.com/gloves/>  
Today and Get ...  
**FREE**  
WORK  
GLOVES!  
with purchase  
KEY = 42981



Item  
# 1701

the lap siding down into the well area. On the interior, we trimmed the window with tile rather than the more traditional wood sill and casing; however, wood trim also will work well.

## Buyer's Guide

**ANDERSEN WINDOWS:** (800) 426-4261. [www.andersenwindows.com](http://www.andersenwindows.com)

**CRESTLINE WINDOWS:** (800) 552-4111. [www.CrestlineOnline.com](http://www.CrestlineOnline.com)

**HURD:** (800) 223-4873. [www.hurd.com](http://www.hurd.com)

**KOLBE & KOLBE:** (715) 842-5666. [www.kolbe-kolbe.com](http://www.kolbe-kolbe.com)

**MARVIN WINDOWS:** (800) 435-0013. [www.marvin.com](http://www.marvin.com)

**PELLA WINDOWS:** (800) 547-3552. [www.pella.com](http://www.pella.com)

**POZZI:** (800) 257-9663. [www.pozzi.com](http://www.pozzi.com)

**SILVER LINE:** (800) 234-4228. [www.silverlinewindow.com](http://www.silverlinewindow.com)

**WEATHER SHIELD:** (715) 748-2100 or (800) 477-6808. [www.weathershield.com](http://www.weathershield.com)

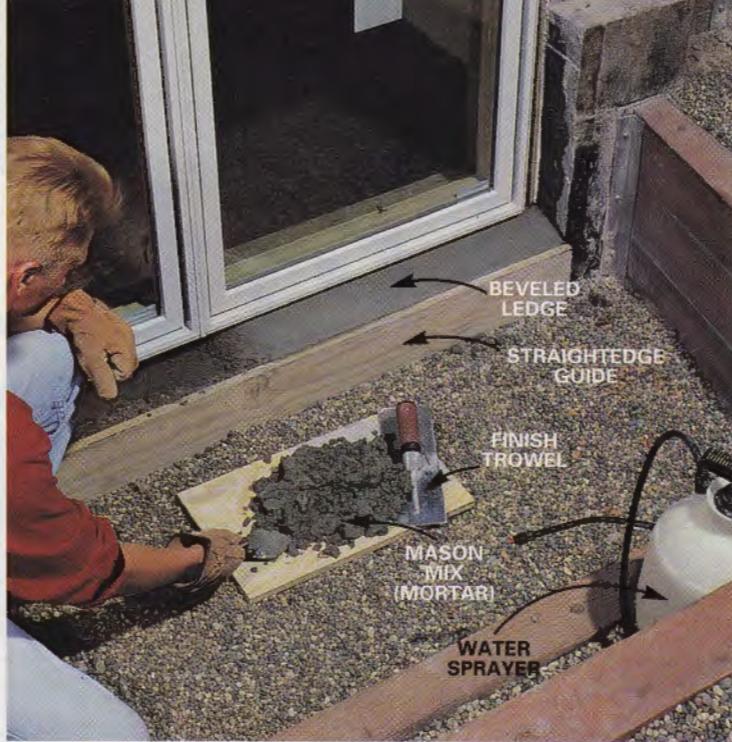
## For More Information

- "Basement Waterproofing," Oct. '96, p. 40.
- "Stucco over Concrete Block," May '95, p. 52.
- "Tips for Successful Basement Remodeling," Oct. '95, p. 38.
- "How a House Works," Nov. '95, p. 26. Making tile last a lifetime.

For information on how to order back issues, copies of articles or the Five-Year Index, please see p. 98.

Art Direction • HOPE FAY Photography • BILL ZUEHLKE Illustration • DOUG PEARSON 

THE FAMILY HANDYMAN FEBRUARY 2001 79



**17** BEVEL the ledge under the window with mortar so it will shed water. Use a straightedge as a guide because your saw cut won't be perfectly straight. Wet the ledge, add the mortar and shape the bevel with a small finishing trowel.

# INTRODUCING THE PULSE. YOU'LL BE AMAZED WHAT IT CAN DO.



Check our Pulse—with just the features you asked for. All locking blades. Smooth, rounded handles. A unique unlocking mechanism. And scissors that grip finer materials better than ever. You'll be amazed what twelve tools packed into just four inches of stainless steel can accomplish. No one else can say that.

ONE TOOL. A COUPLE THOUSAND USES.®

**LEATHERMAN®**

Available in sporting goods and hardware departments of retailers worldwide.

PULSE™



800-762-3611 [www.leatherman.com](http://www.leatherman.com)

# Garage door

by Sam Satterwhite

Perhaps no other part of your home experiences as much wear and tear as your overhead garage door. The average garage door will go up and down more than a thousand times a year. When kept in good working order, it provides convenience and security. But a neglected door can not only become as noisy as a locomotive but also pose a significant safety risk to your family, especially your kids. In this article, we'll show the steps involved in the annual inspection and maintenance of your automatic overhead door for reliable, quiet operation and safety. Many of these tips also apply to overhead garage doors that don't have an automatic opener.

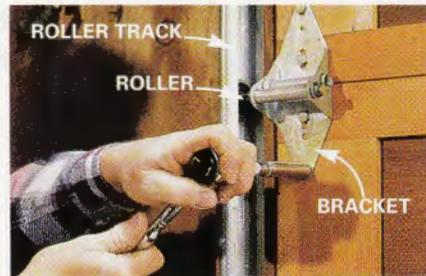
The simple maintenance steps shown in the following photos require no special skills and take less than 10 minutes each to perform. Any materials you may need are available at home centers and garage door dealers.

The vast majority of garage doors have either torsion springs, which mount on the header above the door (**opening photo**), or extension springs, which float above the upper roller track. Except for the installation of containment cables shown in **Photos 10** and **11**, all the steps featured in the following photos apply to both types.

**More GARAGE DOOR >>**



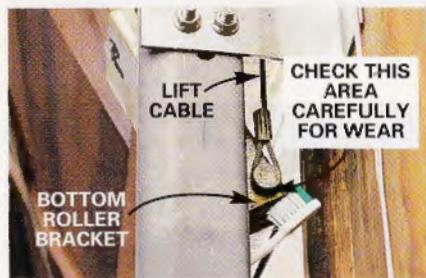
# tune-up



**1 TIGHTEN** all nuts and bolts. Because your door moves, the hardware can loosen. Inspect and tighten all roller brackets and the bolts that hold the rails to the support brackets.



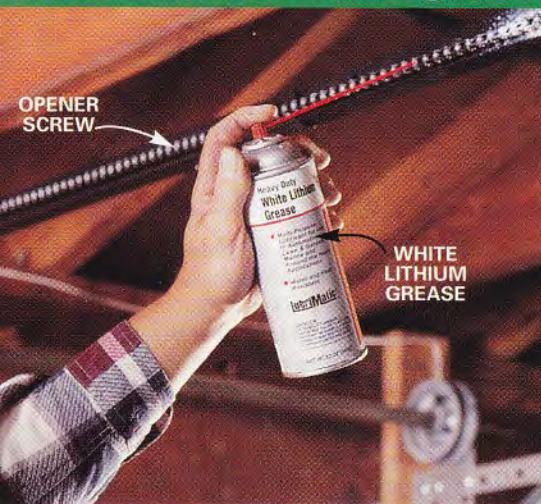
**2 INSPECT** the rollers for wear and tear. Nylon rollers tend to crack or chip when they deteriorate, so defects should be easy to spot. On steel rollers, the bearings wear and the wheel begins to tilt like the one shown. Buy replacement rollers at a hardware store and install them by removing and reinstalling the roller bracket. Caution: Do not remove the bottom roller bracket. The cable attached to it is under extreme tension.



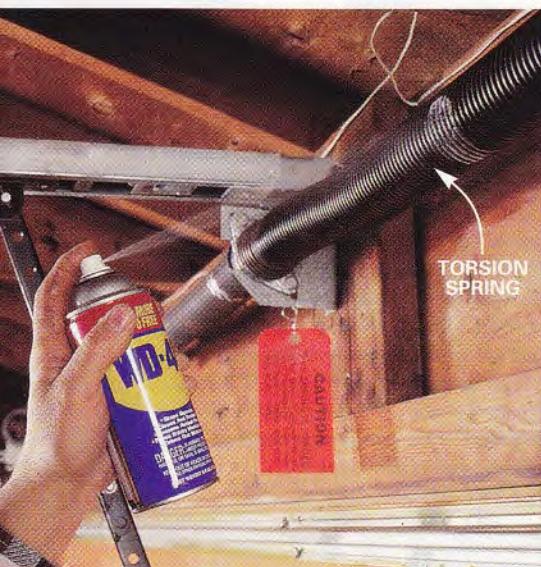
**3 INSPECT** the lift cable for wear. Look for broken strands. Damage is most likely to occur where the cable attaches to the bottom roller bracket, where it's most exposed to moisture. Clear away the gunk from this area with an old toothbrush so you can check the condition of the cable. Since this cable is under high tension, don't try to replace it yourself. Call a garage door professional to replace it.

# Garage door tune-up

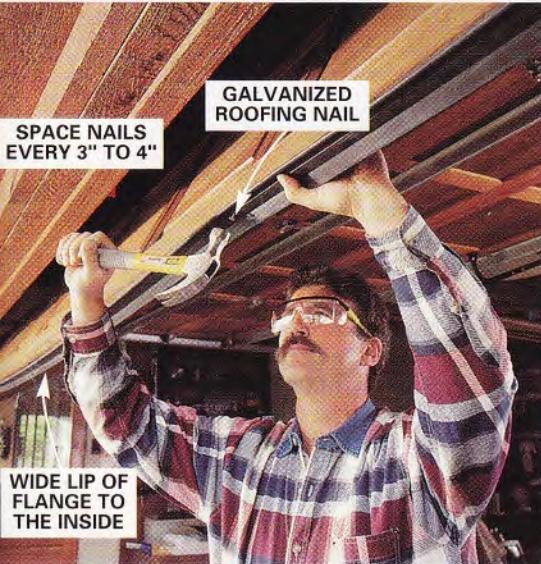
## B. Maintain springs, chains and seals



**4 LUBRICATE** the chain or the screw on your opener annually with white lithium grease. Spray-on versions are available at most home centers. Lubrication will make the opener's operation smoother, quieter and extend the life of both chain and opener.



**5 COAT** the overhead torsion springs or the extension springs mounted above roller tracks with a lubricant/cleaner like WD-40. Don't wipe off the excess. All springs will eventually break because of metal fatigue and/or corrosion, but this annual maintenance will prevent corrosion. **NOTE:** Replacing springs is a job for a professional. If one spring breaks, both should be replaced.



**6 REPLACE** the weather seal on the bottom of your door if it's brittle and worn. On wood doors, remove the old seal with a flat pry bar. Install the new seal with the wide angle of the flange to the inside of the door. Use 1-in. galvanized roofing nails to attach one end of the seal, then pull it across the door and nail the other end. Next place a few nails in the center. This technique will help you keep the seal aligned as you go back and place nails every 3 to 4 in.

## Replacing a U-shaped astragal on a steel door

The hollow rubber weather seal on the bottom of steel doors is called a U-shaped astragal and is subject to damage from wear and mice. U-shaped astragals are sized according to their width as they lie flat. Choose the width that best fits your situation. Use a larger seal if you need to fill a wider gap between the door and the garage floor. The best source for U-shaped astragals is a garage door dealer.



**USE** a flat-blade screwdriver to open the ends of the channels that hold the old seal on both ends of the door. Then pull out the old seal.



**SLIDE** the new seal into the channels. To make the job easier, lubricate the channels with silicone spray or rubbing alcohol. After the seal is in place, crimp the channel ends on both ends of the door with a pliers.

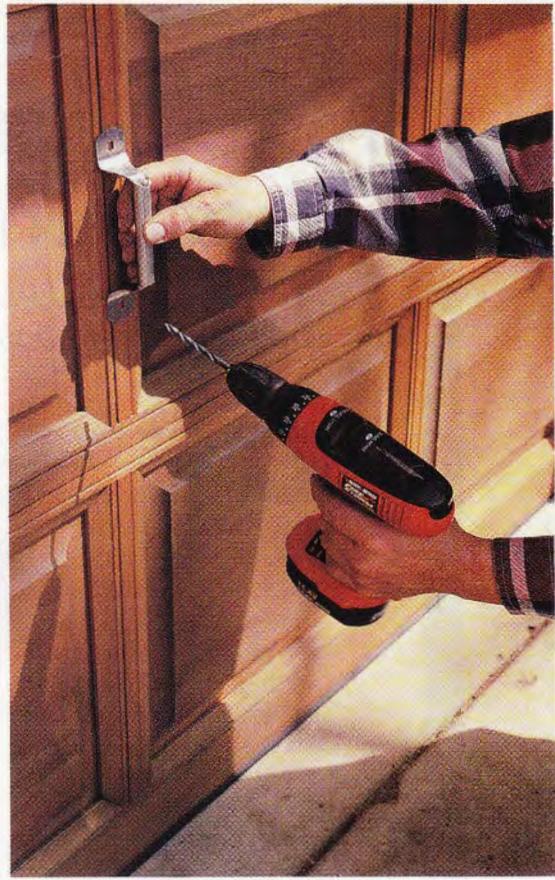
**More GARAGE DOOR >>**

# Garage door tune-up

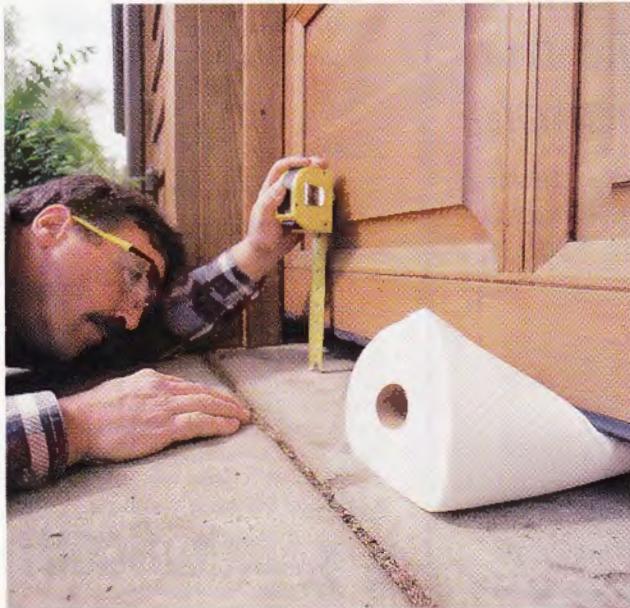
## C. Steps to a safer door



**7 TEST** the balance of your door. A properly balanced door is less likely to crush someone or something and keeps your door opener from working too hard. First, disengage the opener from the door by pulling the opener release handle (see opening photo). Then lower the door about halfway. A properly balanced door will hold the halfway position without assistance. If the door rides back up, the springs are under too much tension. If it falls, the tension needs to be increased. Adjusting the spring tension is tricky and dangerous. Call a garage door professional to perform the service!

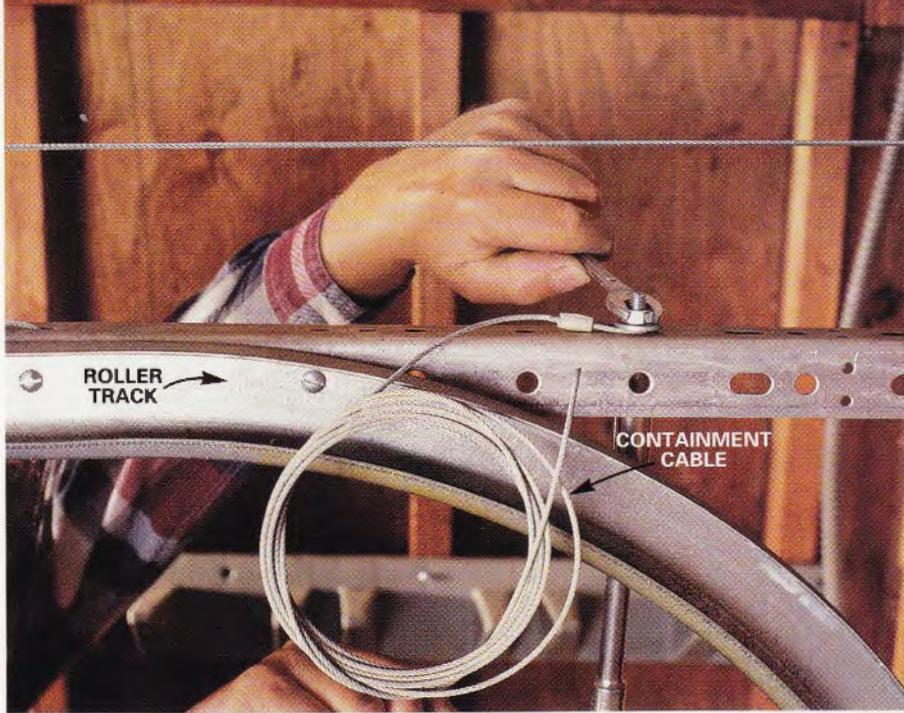


**9 INSTALL** a lift handle on both sides of the door. Make sure the handle will clear the top of the door frame; otherwise, you may need a lower-profile handle or your door may need adjustment. If there's a handle, you're less likely to pull down on the spaces between sections, a habit that results in hundreds of crushed fingers every year.

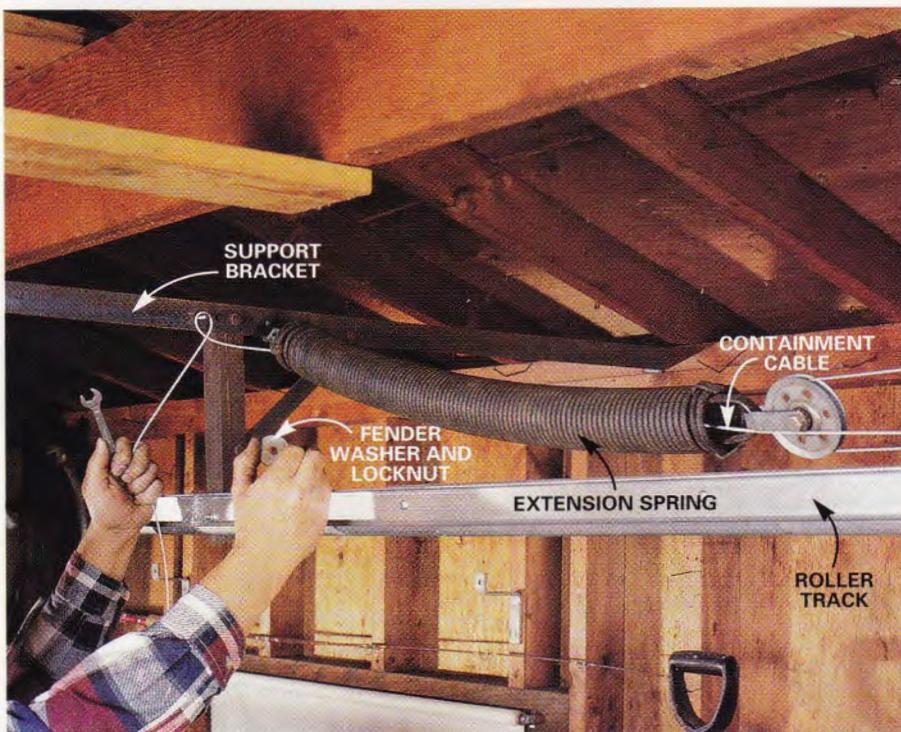


**8 TEST** the auto reverse feature of your automatic opener by placing a roll of paper towels directly under the point where the opener is attached to the door. The door should get no closer than 1 in. to the ground and should reverse direction within two seconds after coming to a stop. If your door opener doesn't have an auto reverse feature, buy a new opener.

For a free safety kit, which includes a lift handle/step plate, contact Wayne-Dalton at (800) 827-3667 or [www.garagedoorsafety.com](http://www.garagedoorsafety.com).



**10** MOUNT an extension spring containment cable on extension-spring-type doors by bolting one end to the bracket at the front of the upper rail.



**11** FEED the cable through the extension spring and bolt the other end to the upper support bracket. Make one full loop of the cable around the bolt and secure it with a fender washer and a locknut.

#### For More Information

- "Automatic Garage Door Openers," July/Aug. '93, p. 43.
- "Install a New, Safer Steel Garage Door," Nov. '99, p. 97.
- For information on how to order back issues, copies of articles or the Five-Year Index, please see "Reader Services" on p. 98.

## Safety improvements

Manufacturers have made great strides in improving the safety of garage doors and garage door openers. One of the biggest improvements is the addition of photoelectric eyes on door openers manufactured since 1993.

Photoelectric eyes are mounted above the floor and cause a closing door to reverse when movement is detected in the door opening. If you have an older-style door opener, consider replacing it with a new one that has all the latest safety features. A new opener costs from \$100 to \$150 and can be installed by a homeowner in two to four hours.

A second safety improvement is adding a containment cable to extension-spring-type doors (Photos 10 and 11). (Extension springs are mounted above the roller tracks.) When an extension spring breaks, the spring and cable become a heavy whip that can smash into cars or unsuspecting victims. A containment cable stops the recoil.

Containment cables cost only \$4 each and are available at home centers. Follow the steps in Photos 10 and 11 to install one.

# Handy hints®

## Organize elastic cords—so you won't snap!

My husband, Bill, is always using elastic cords to secure one thing or another in the back of his pickup truck. One day, the frustration of untangling and unhooking individual cords from the "bird's nest" finally reached critical mass and he decided to do something about it.

Now he hooks the ends of the cords over a PVC pipe for easy storage and access. He cut the pipe a little longer than the longest cord length and drilled holes at 1-in. intervals for the shorter ones. (His blood pressure has dropped 20 points.)

*Melody Morse*



## Electric-razor stud finder

You may not need to buy an electronic stud finder. There may already be a substitute in your bathroom cabinet. If you run an electric razor over drywall, it's easy to tell when you pass over a stud. There's a noticeable change in the tone of the razor when it passes over solid wood.

*Bill Lewis*

If you have a Handy Hint® you'd like to share, send it to Handy Hints®, The Family Handyman, 2915 Commers Drive, Suite 700, Eagan, MN 55121.

We pay \$100 for tips we print. Original contributions become our property upon acceptance and payment. We're sorry, but tips can't be returned.

## **CD racks are great—until you have to move one**

I used to take all 238 CDs out of the rack, transfer them to a box, and then reorganize and reload them in the new location. One day I was at the lumberyard and saw the checkout clerk wrapping loose lumber in plastic wrap for easy carrying, which gave me my idea. Next time you need to move your rack, wrap the whole works in plastic wrap. You'll be able to pick it up and move it without disturbing the collection at all.

*Aaron Heintz*



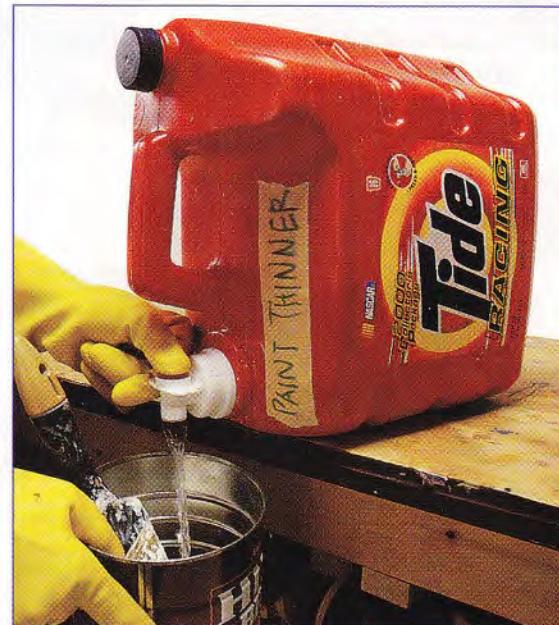
## **Out-of-the-way paint brush storage**

Hang your paint brushes up out of harm's way by installing a couple of screw eyes or cup hooks on the bottom of a couple of rafters or floor joists. Then thread the brush handles through a stiff wire (I used welding rod) and hang it all up.

*E. J. Johnson*

---

Editor • TRAVIS LARSON  
Art Direction • HOPE FAY & GREGG WEIGAND  
Photography • BILL ZUEHLKE

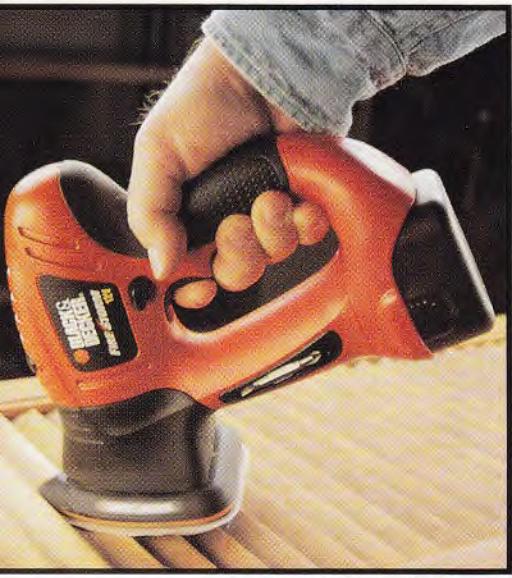


## **Reuse laundry detergent jugs**

Those laundry detergent jugs with the newfangled spouts have many uses. Use them to hold wash water in the shop, paint thinners for cleaning paint brushes or fertilizer solutions for plants. They're a low-cost way to store and dispense nearly any fluid—except beverages! Be aware that some harsh solvents (like acetone) dissolve plastics. Keep the jugs well marked and out of the reach of children.

*Lyle F. Guion*

# New products



by Bruce Clark



## 3 in one cordless tool

**B**lack & Decker has just introduced the first 12-volt cordless, variable-speed Multi Tool—a drill, a sander and a jigsaw that all operate using the same motor.

Very cool!

The 3/8-in. **drill** offers a keyless chuck, forward/reverse and a 24-position clutch that adjusts the torque to prevent stripping of screws. (It took a special touch to snap

the drill head onto the motor body. But once installed, it performed fine.)

The teardrop-shaped **orbital sander** attachment noses into tight places regular sanders can't. The sander uses hook-and-loop

backed sandpaper, which makes for quick and easy changing.

The kit's **jigsaw** makes straight or curved cuts and accepts screw-held blades. The jigsaw cuts up to 3,000 strokes per minute and features a tool-free blade changing system. Simply operate the spring-activated blade changing system to load or remove blades instantly.

The kit (No. MT1203K-2) comes with two 12-volt batteries, a three-hour battery charger and a carrying case, plus a screw-driving bit, sandpaper and a jigsaw blade. The Multi Tool has a two-year warranty, lists for \$120 and is available from home centers and hardware stores.

**Black & Decker Consumer Services, Dept. TFH, P.O. Box 618, Hampstead, MD 21074; (800) 544-6986.  
[www.blackanddecker.com](http://www.blackanddecker.com)**

**More NEW PRODUCTS >>**

## New products

### Rapid-fire drywall driver

Senco Products Inc. has invented the next generation of screw guns: DuraSpin, a 14-volt cordless screwdriver that drives strips of collated screws into drywall, decking and flooring underlayment. This tool is fast!

The 4.9-lb. DuraSpin uses only Senco's collated drywall or deck screws, available in lengths from 1 to 2 in., and packaged in tubs of 1,000 screws selling for \$13 to \$20. (By comparison, regular drywall or deck screws cost



# Anything You Can Glue, I Can Glue Better.

You're beyond simple yellow glues, and you don't want a different bottle of glue for every project. You want Gorilla Glue®. Bonds wood, stone, metal, ceramic, plastics and more. Incredibly strong and 100% waterproof. Don't monkey around with other glues. Call 800-966-3458 or visit [www.gorillaglue.com](http://www.gorillaglue.com) for a retailer near you.



The Toughest Glue  
on Planet Earth™



\$5 to \$10 per 1,000.)

It was difficult keeping track of our demo model because editors and shop workers kept borrowing it for their weekend projects. One drawback: We discovered that for hanging drywall, the DuraSpin must always be held perpendicular to the wall to properly align the next screw for straight-in driving. For the same reason, installing screws in inside corners is difficult because the unit doesn't work well when held at an angle. But in the open field, it's a speed demon!

The DuraSpin isn't cheap. The (No. DS200) kit comes with two batteries, a one-hour charger, spare drive bits and a carrying case. It sells for \$285 at major hardware stores and home centers. For help finding a local dealer, call the company.

**Senco Products Inc., Dept. TFH, 8485 Broadwell Rd., Cincinnati, OH 45244; (800) 543-4596. [www.senco.com](http://www.senco.com)**



# New products

## Talking carbon-monoxide sentry

Carbon monoxide (CO) is a combustion byproduct from appliances like furnaces, water heaters, kitchen ranges and gas fireplaces. This potentially lethal gas is odorless and tasteless, which makes it impossible for your senses to detect when appliances are either malfunctioning or venting dangerous levels of CO into the living space.

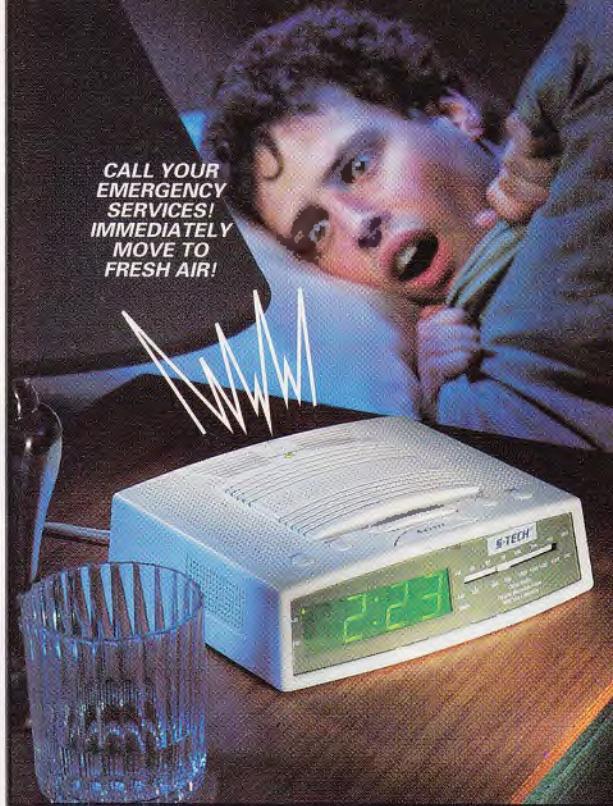
Standard carbon monoxide detectors placed around your house should remain your first line of defense to detect CO. But now, you can buy a CO alarm built into a clock radio to supplement them.

This AM/FM clock radio looks and works like one you may already own. It has a good sound, a built-in wake-up alarm and a battery backup in case of power failure. But if the detector senses mounting levels of

carbon monoxide gas, it'll sound a piercing alarm with voice alerts. The CO alarm works whether the radio is on or off and will override radio broadcasts to alert your family. The unit has a test/reset button for the CO detector that allows periodic testing. And you put it where you need it most—in the bedroom where you snooze.

The clock radio (No. COCR-015) has earned the Underwriter's Laboratory listing in both the United States and Canada. It costs \$70 and is available on-line at [www.esmmall.com](http://www.esmmall.com). Click under "Home Products" and select "PPI-Stech." For more information, contact the company.

**Patrick Plastics/S-Tech:** Dept. TFH,  
18 Basaltic Rd., Vaughan, Ontario,  
Canada L4K1G6; (800) 203-7987.



## More NEW PRODUCTS >>

THE FAMILY HANDYMAN FEBRUARY 2001 91

## Stunning beauty is no longer high maintenance.



Not when it's WeatherBest™ Decking and Railing.

We've paired the stunning beauty of wood with the performance characteristics of polymer resins for a true, long-lasting, low-maintenance relationship.

There are no knots. It won't rot, splinter or split. WeatherBest comes with an attractive woodgrain finish that, unlike traditional decking materials, won't require staining, painting or expensive treatments.

It's all resistant to termites, rot and decay. Our 10 year limited warranty spells out all the details.

For more information, or for a copy of our warranty, call 800-521-4316, or visit our website at [www.weatherbest.lpcorp.com](http://www.weatherbest.lpcorp.com).

# WeatherBest™

Composite Decking & Railing  
An LP Product

LP is a registered trademark of Louisiana-Pacific Corporation.  
WeatherBest is a trademark of Louisiana-Pacific Corporation.  
© 2001 Louisiana-Pacific Corporation. All rights reserved.  
WeatherBest is manufactured using Strandex Technology.  
Strandex is a registered trademark of Strandex Corporation.

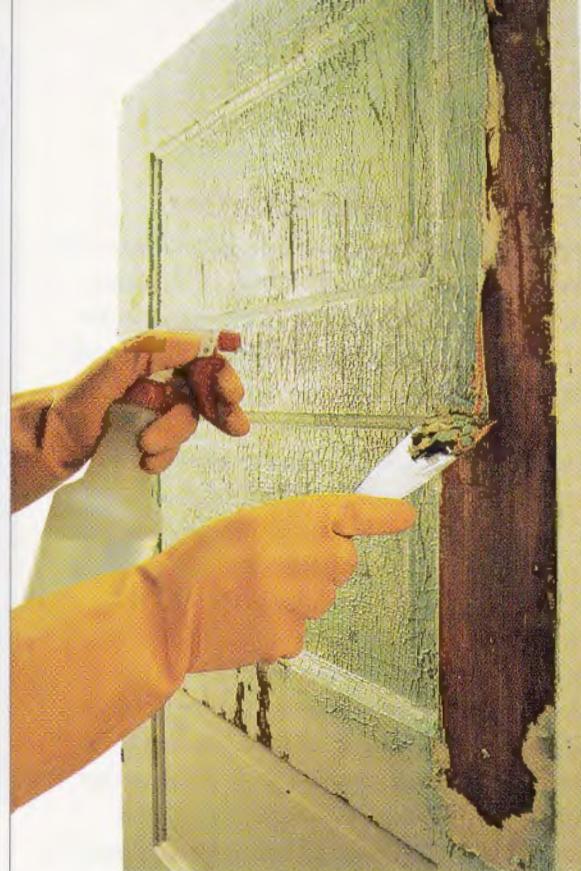
# INNOVATION

*Can you hear something that doesn't exist? Bose® Auditioner® audio demonstration technology lets builders hear how the sound system will perform before their building even exists. They say it's magic. But it's research. The kind of research that goes into every Bose product.*

*Which Bose product is best for you?*

1-800 ASK BOSE  
please request ext. S67 or  
[ask.bose.com/lws67](http://ask.bose.com/lws67)

*For your home. Your car.  
Your business. Your life.*



## New products

### Safer paint stripper

The Back to Nature Products Co. has developed Ready-Strip, a safer alternative to harsh chemical paint strippers. It offers many advantages:

- It comes as a paste that sticks much better than a liquid stripper, making it ideal for vertical surfaces and built-in pieces like doors, wood trim and buffets.
- It has no methylene chloride (a suspected carcinogen) and won't burn skin. It's also

odor-free, nonflammable and biodegradable.

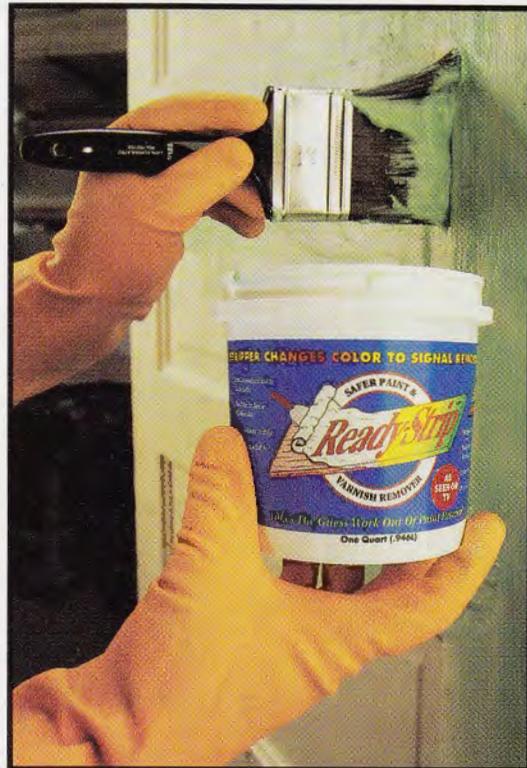
- Ready-Strip removes up to five layers of oil or latex paint, stains, varnish and polyurethane without raising wood grain or loosening glue joints.
  - The product goes on green and turns off-white when the stripping action is complete and the paint is ready to be removed.
- Ready-Strip works more slowly than chemical strippers (between 4 and 24 hours per application), but the longer working time means it can be applied over larger areas. We found that wetting the area as you scrape speeds the work.

Ready-Strip comes in quart (\$10), 1/2-gal. (\$18), 1-gal. (\$30) and 5-gal. (\$149) sizes. One gallon provides approximately 50 sq. ft. of coverage. Call the company for help finding a local dealer.

**NOTE:** Lead paint residue is hazardous waste. Contact the environmental/solid waste agency in your county for disposal locations and procedures.

Back to Nature Products Co.,  
Dept. TFH, 28 Harrison Ave.,  
Suite 238, Englewood, NJ  
07626; (800) 922-0621.  
[www.ready-strip.com](http://www.ready-strip.com)

Product available at  
Restoration Hardware.  
Call (800) 762-1005  
for store locations.



# New products

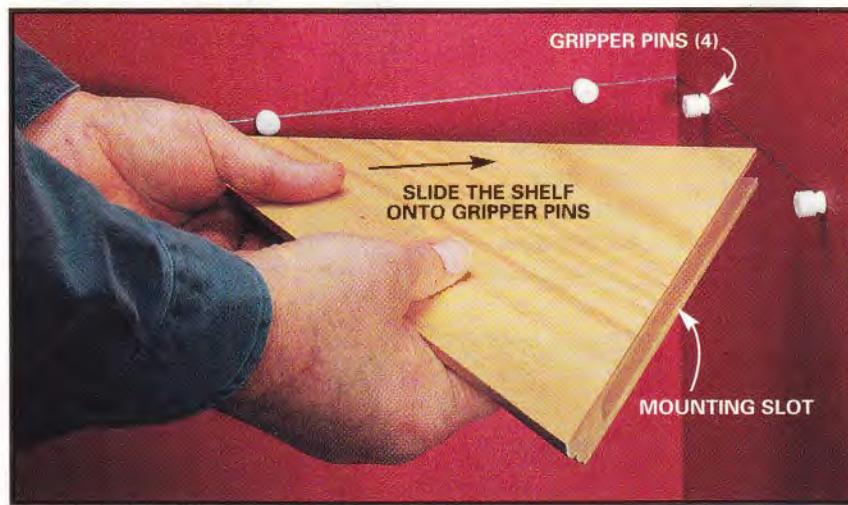
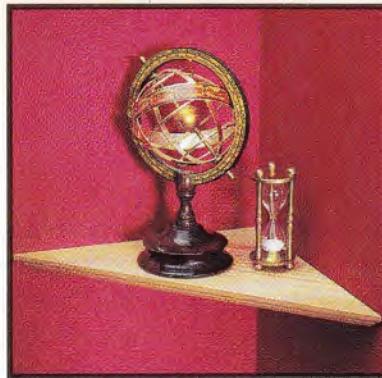
## Instant corner shelf

Here's an easy-to-install, prefinished shelf that'll fit in any corner.

The 12 x 12 x 17-in. triangular shelf (shown here) holds up to 25 lbs. and mounts in less than 10 minutes. Simply draw two light horizontal pencil lines on the wall where you want the shelf, install two gripper pins along each line and slide the shelf onto the pins, tight to the wall. The shelf can be easily removed by reversing the procedure. Because the holes made by the shelf pins are small, drywall repair is a snap once the shelf is removed.

The corner shelf comes in two sizes. The small shelves (No. 189454) cost \$25 for a pack of three. A larger 17 x 17 x 24-in. shelf (No. 189629) supports up to 35 lbs. and costs \$25 for a pack of two.

Improvements Catalog: (800) 642-2112.  
[www.improvementscatalog.com](http://www.improvementscatalog.com)



## Abuse-resistant drywall

Every time I hang drywall in garages, hallways or kids' rooms, I wonder how long it'll be before someone punches a hole in the wall.

USG's Fiberock Abuse-Resistant panels can solve this problem. This product has no paper face. Instead, it has a thicker, tougher fiber facing that outperforms regular gypsum board by resisting denting, breaking and puncturing in high-traffic, heavy-use applications. Because of the facing, Fiberock also grabs screws and nails better than conventional drywall does (less nail popping). Fiberock is installed,

finished and painted like regular drywall. The panels come in 1/2-in. and 5/8-in. thicknesses, and in 8-, 9-, 10- and 12-ft. lengths.

Although Fiberock Abuse-Resistant panels cost about twice as much as regular drywall (\$16 per 1/2-in. thick 4 x 8-ft. sheet), in high-use areas it'll pay back with lower maintenance and "life-cycle" costs. To find a Fiberock retailer near you, contact the company.

U.S. Gypsum Co., Dept. TFH,  
P.O. Box 806278, Chicago, IL 60680;  
(800) 874-4968. [www.usg.com](http://www.usg.com)

**More NEW PRODUCTS >>**

## STOP PAYING EXCESSIVE ELECTRIC BILLS!



## ENERGYSMART'S POWER PLANNER IS YOUR HOME ENERGY SAVING RESCUE PACKAGE!

### IT'S ALSO A TRULY AMAZING DISCOVERY!

Do you watch helplessly as your energy meter rotates out of control? Are you tired of paying excessive energy bills? Then use the energy saving product your home or business deserves -- The Power Planner®. Use of the Power Planner in a power management role in a home, business or industrial facility, typically results in energy savings of up to 35% or more. You can start saving on your utility bills now. Browse our web site at [www.energysmart.com](http://www.energysmart.com) or call (800)808-8897 & start saving today!

#### Many Energy-Saving Home Uses!



**POWER PLANNER®**  
SAVES ELECTRICITY!

Toll-Free Or On The Web at  
**(800)808-8897**

[www.energysmart.com](http://www.energysmart.com)

EnergySmart • 470 North 56th Street • Chandler, AZ 85226 • (480)893-3028

## Space-making storage bags

If you have limited closet space, it's awfully difficult to store bulky comforters, pillows and blankets. Space Tote container liners can solve that storage problem by

reducing the volume of those big items by 75 percent.

Space Tote liners are reusable heavy-duty, clear plastic storage bags specially designed for the compression of bulky items so they'll fit into common plastic totes, bins and cardboard boxes. Simply place the liner in a bin, stack the items to be stored and set them inside. Then seal the bag, connect the liner to a



**Put bulky  
stuff into a  
Space Tote**



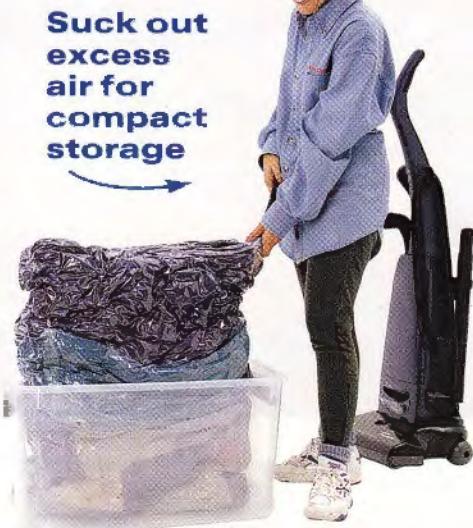
vacuum cleaner hose and draw out the air as you compress the Space Tote liner.

The liner's anti-blowback zipper will ensure a long-lasting airtight and watertight seal.

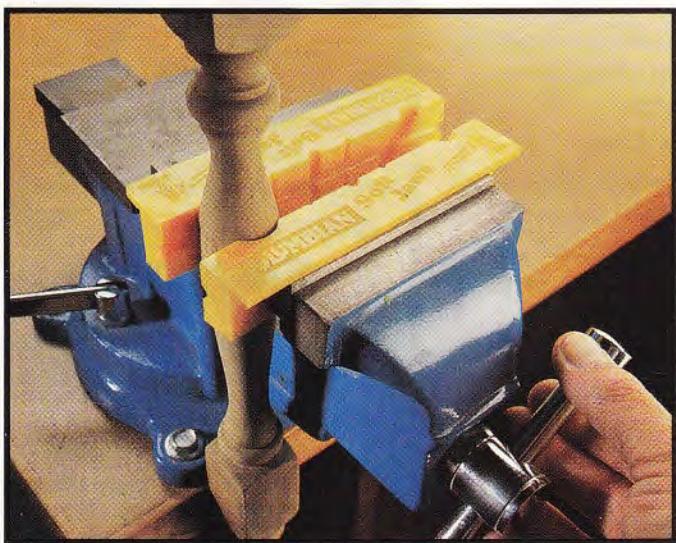
Space Tote liners can be purchased by phone, on-line and through independent retailers nationwide. The price of three bags (plus a smaller, suitcase-sized bag) is \$22.



**Pack  
it away**



**Suck out  
excess  
air for  
compact  
storage**



## Padded jaws for your vise

Bench vises are workhorses in any shop, but they don't hold round or fragile objects very well.

The Wilton Tool Group offers a solution to this problem. Soft Jaws is a nifty pair of inserts with built-in magnets that cling to the jaws of all 3-in. to 6-in. bench vises. Soft Jaws is formulated from a medium-density, rubbery material that'll grip fragile objects firmly without marring them. Profiles of different diameters are preformed in the tool, making it easy to grip round objects.

Soft Jaws lists for \$13 and is available by phone, at True Value Hardware and from the Northern Tools Catalog (800-221-0516; [www.northerntool.com](http://www.northerntool.com)).

**Wilton Tool Group, Dept. TFH, 10610 Freedom St.,  
Garretttsville, OH 44231; (800) 519-7381.**

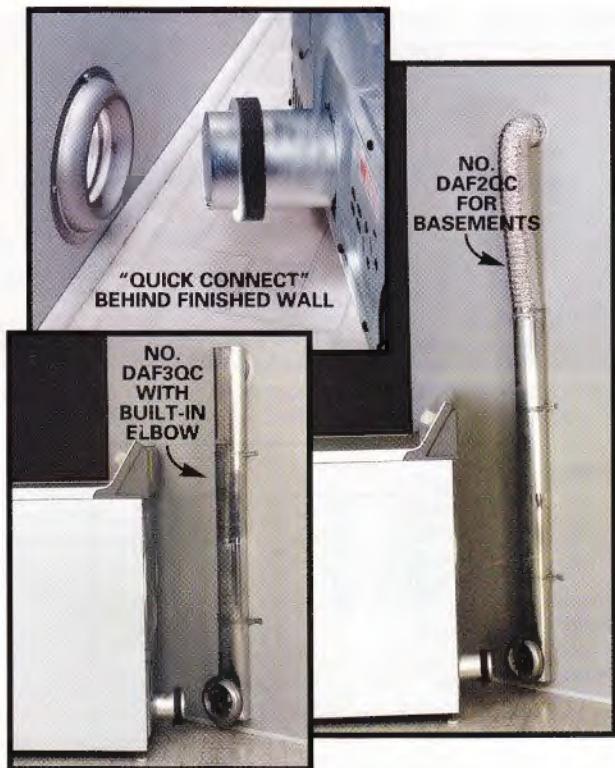
## Safer dryer vent

According to the Consumer Product Safety Commission, 15,500 clothes dryer-related fires occur each year. Failure to adequately clean out lint is the leading cause of the fires. Accordion-style vinyl dryer ducting is one of the main culprits because it traps lint, can't be cleaned easily and slows airflow.

Deflecto Corp. sells two types of smooth-walled Quick Connect, 4-in. metal ducts. They connect to your dryer snugly and disconnect quickly for easy cleaning. Both ducts work on gas and electric dryers, are oval shaped for running in tight wall cavities and telescope from 27 to 48 in. long, making it easy to connect to other ducting. The No. DAF2QC duct (for new construction) has a built-in elbow—allowing easy connection to ducting that runs in a framed wall. The No. DAF3QC has an open top—allowing direct connection to ducting that runs over a finished wall.

These ducts and other Deflecto products can be purchased or ordered from Ace Hardware, Payless Cashways and Home Depot. The DAF2QC sells for \$28; the DAF3QC sells for \$30.

**Deflecto Corp., Dept. TFH, P.O. Box 50057, Indianapolis, IN 46250; (317) 849-9555. [www.deflecto.com](http://www.deflecto.com)**

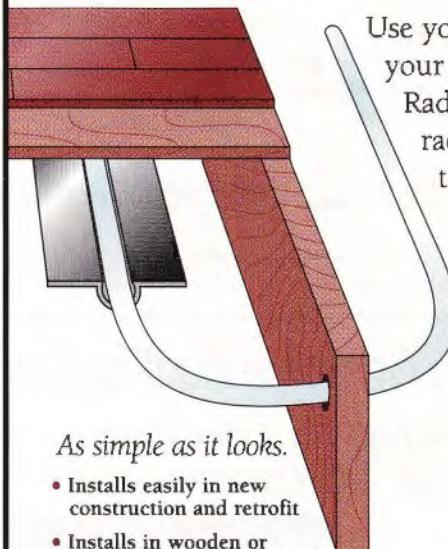


Art Direction • JANIS MCKAY BABCOCK  
Photography • MIKE KRIVIT  
Space Tote photo courtesy of VacuSac Co. Dryer vent photos courtesy of Deflecto Corp.

# Add Comfort and Energy Efficiency To Your Home...

## with your own hands.

Use your own tools and our components to give your family comfortable, efficient radiant heat. Simplicity, reliability, and affordability have made Radiantec the first choice of do-it-yourselfers. Buy factory-direct and save 50%, then watch your fuel bills come down as pride in your home goes up.



As simple as it looks.

- Installs easily in new construction and retrofit
- Installs in wooden or concrete flooring
- Use your existing boiler or domestic hot water heater



### Outstanding Support

- Free brochure and installation manual
- Free design assistance and video

FOR MORE INFORMATION

**[www.radiantec.com](http://www.radiantec.com)**

(800)451-7593



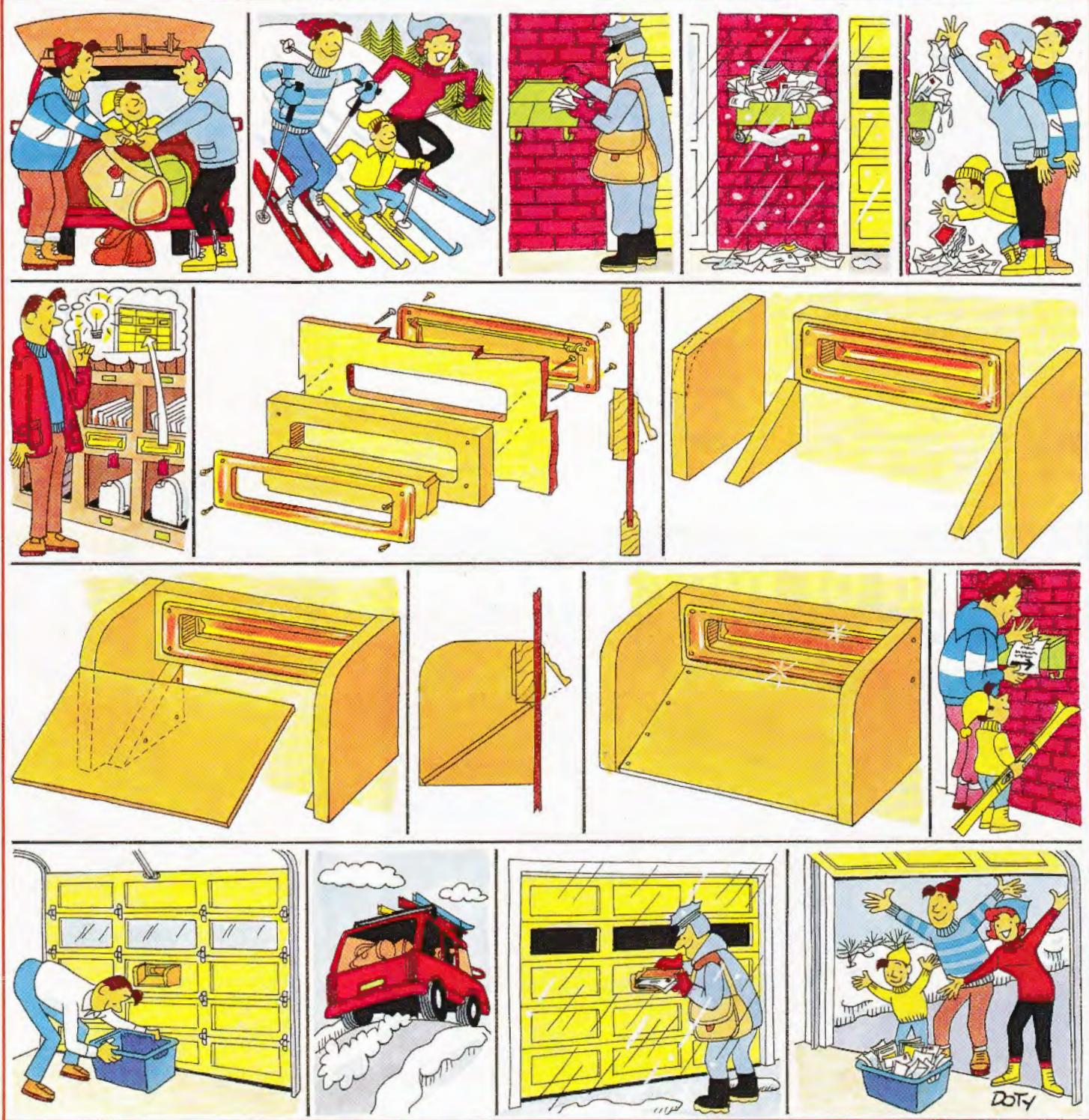
(802)626-5564 • FAX (802)626-8045  
Box 1111, Lyndonville, VT 05851

**RADIANT  
UNDERFLOOR HEATING**

# Wordless workshop

by Roy Doty

## VACATION MAIL SLOT



Our thanks go to Matthew Eisele, M.D., Belleville, IL, for this idea. **We'll pay \$100** for any ideas published, so send in those sketches and notes! Submit your idea to Wordless, The Family Handyman, 2915 Commers Drive, Suite 700, Eagan, MN 55121. Only ideas we purchase can be acknowledged. Original contributions become our property upon acceptance and payment.

# Great Goofs

## Bad hair day

I recruited two friends to help me install a home security system. The upstairs guy was using a 36-in. long drill bit to bore a hole between floors to run wiring, and the basement guy was standing below on a ladder, making sure the drill bit didn't hit anything it shouldn't. I was working on the main floor when I heard a horrendous scream from the basement. I ran to investigate and found the screamer with the bit entangled in a large clump of his hair.

—Steven Smith



## Drywall drama

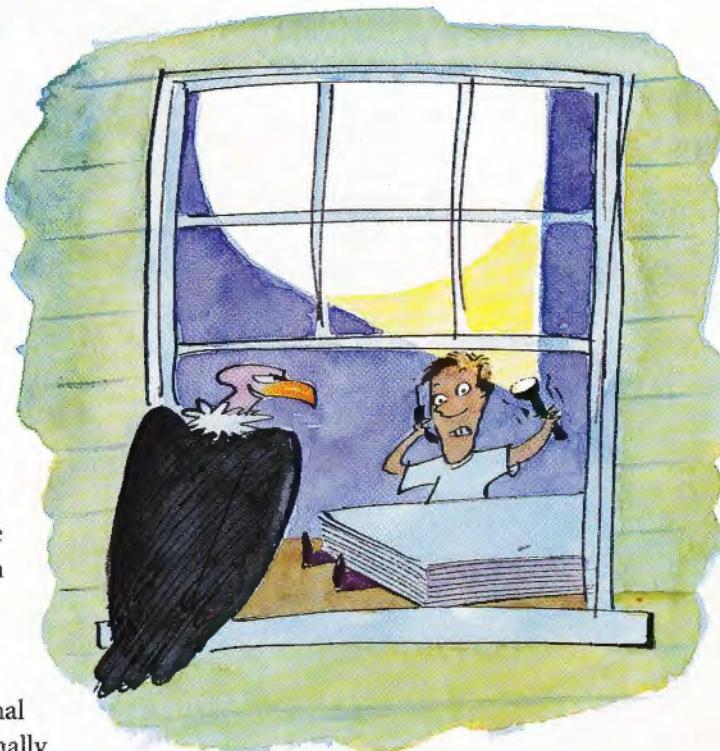
Late one night, I went to the construction site of my new house to check the wiring work the electrician had done that day. I tipped a large stack of 4 x 12-ft. drywall away from the wall so I could check the location of an outlet behind it. Unfortunately, I tipped the stack beyond the point of no return and it toppled over, trapping my legs underneath! I was able to use my cell phone to call 911, but I didn't have an exact street address to give the dispatcher. When flashing red lights appeared, I aimed the flashlight at the window to signal the rescue squad, which was finally able to find and free me.

—Robert Casey

## Good deed down the drain

While replacing the flooring in my parents' bathroom last winter, I took the toilet bowl outside to get it safely out of the way. I set it upside down on the deck, letting all the water drain out—or so I thought. Instead, water collected in the inverted rim, froze and cracked the bowl. But my folks are happy. They love the new replacement toilet I bought them.

—Adam Logue



## Got your own do-it-yourself mistake?

We pay \$100 for each one we print. Write to:

Great Goofs, The Family Handyman

2915 Commers Dr., Suite 700

Eagan, MN 55121

*Original contributions become our property upon acceptance and payment.*