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MARCH 2014

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table saw
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GOT A DIY QUESTION?

Finding answers is easy at familyhandyman.com. Just use the search box at the top of the page to get expert step-by-step help with your project. Or register on the site and join our DIY Forum, where you can ask questions or give advice.

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We pay \$100 for Handy Hints®, Great Goofs® and Wordless Workshop™ submissions that we publish. Please include a photo of yourself from the shoulders up. Submit your original contribution, along with photos or sketches, by e-mail to: DIYer@thefamilyhandyman.com, handyhints@thefamilyhandyman.com, greatgoofs@thefamilyhandyman.com, wordless@thefamilyhandyman.com

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STUFF we love

BY TRAVIS LARSON

editors@thefamilyhandyman.com

PRESSURE-WASHER PARADISE

I've owned two gas-powered pressure washers. The motor in the first one blew after year two. The second one had a crummy, too-short hose without quick disconnects. Both were loud with hard little wheels and other design flaws that made them tough to move around the compound. But worst of all, with either one, you never knew when it would decide to blow high-pressure water or an ordinary stream. It was always hit or miss.

For my third "investment," I got a Ryobi 3,100-psi pressure washer for \$400. I added the crankcase oil to the 2.5-hp Honda engine, filled it with fuel and hooked up the hose—and it started on the *first* pull. It purrs like a kitten, until you pull the wand trigger. Then the engine revs up and you're ready to clean. Take your finger off the trigger and the engine idles back to that kitten purr. Beautiful!

The RY80940 washer is good design that just keeps on going. Big wheels and a dolly-like handle at a comfortable height make it really nice to move around. It also sports a good long hose with springs at the ends to dampen stress on the hose ends. And the onboard reservoir for detergents, unlike my other washers, actually feeds the fluid into the stream. Check out this pressure washer at any Home Depot store.

Travis Larson,
Senior Editor





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Let's
Go
Places



HIGH-TECH SOLUTIONS

A better power strip

Ever wonder if power strip manufacturers ever use their own products? How could they *not* know that you can't fit more than two AC adapters on a six-receptacle linear strip?

That's why I'm impressed with the Powramid power center (\$25 at electronics stores and amazon.com) by Accell. It has six receptacles and they're spaced so you can actually plug in *six* AC adapters. That's in addition to the two built-in USB ports that'll power a tablet (2.1 amps max) even while the other six receptacles are in use. It has a respectable surge suppressor rating of 1,080 joules. And it's designed to automatically shut down the unit once the surge protection wears out. This unit solves a lot of problems for just a little scratch.

Rick Muscoplat, Contributing Editor

LITHIUM FOR LONG LIFE

Here's the deal with lithium batteries: long shelf life, long run-time, but greater cost. So when does it make sense to use them? One use is emergency lights. Stick them in a flashlight and it can sit on a shelf for 10 years and still work when you need it. Another is smoke alarms. If you have a lot of them, it's a royal pain to replace alkaline batteries every year. With lithium you can get years of use, usually more than five.

Many cameras require lithium batteries because the devices need a lot of juice. And since I'm a camper, I love lithium batteries for use in a headlamp; they're lighter, last longer and do better in the cold. The cost is the only downside: about \$1.65 for a "double A" when you buy a handful at a time. For many of us, just reducing the hassle of changing batteries is worth the extra bucks.

Ken Collier, Editor in Chief



Hudson is the standard

I bet I filled a Hudson sprayer a thousand times back in the days when I cleaned commercial carpets for a living. This particular Hudson has everything I want in a sprayer. The tank is translucent, so I can see how much liquid is in it. It has a straight, flexible hose, unlike those frustrating curlicue kinds. It also has a brass trigger, wand and nozzle. Brass provides a more consistent spray pattern than plastic. One downside of brass is that caustic liquids can corrode the metal, but if you run a little soapy water through the sprayer when you're done, it's not really much of an issue.

The model 90112 sprayer shown costs \$52 at amazon.com.

Mark Petersen,
Contributing Editor



SAVE When You Grow A Zoysia Lawn From Plugs!

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Grass Seed Is For The Birds!

Stop wasting money, time and work sowing new grass seed each spring, only to see birds eat the seed – or rain wash it away – before it can root. Plant a genuine Amazoy™ Zoysia lawn from our living Plugs only once... and never plant a new lawn again!

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Zoysia thrives in partial shade to full sun!

Eliminates Endless Weeds And Weeding!

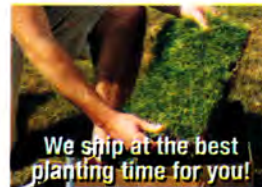
No more pulling out weeds by hand or weeds sprouting up all over your lawn. Zoysia Plugs spread into a dense, plush, deep-rooted, established lawn that drives out unwanted growth and stops crab-grass and summer weeds from germinating.

Environmentally Friendly, No Chemicals Needed!

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Our Customers Love Their Zoysia Lawns!

One of our typical customers, Mrs. M.R. Mitter of PA, wrote how "I've never watered it, only when I put the Plugs in... Last summer we had it mowed 2 times... When everybody's lawns here are brown from drought, ours just stays as green as ever!"

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DIY WORK WEAR

COOL COVERS FOR YOUR SHOES

I've done tons of flooring and trim jobs where I wasn't able to set up my saw indoors. Running outside to make every cut was bad enough, but if the ground was wet, muddy or snow-covered, I'd have to take off or switch my boots every time I got back inside—what a time-consuming pain in the backside. Well, no more. I got myself a pair of Shoe Ins shoe covers. Now I just slip these puppies on and slosh right through the mud or snow



without ever having to take my shoes off. Nice! They're lightweight, easy to slip on and off, and easy to clean. Order a pair at workingperson.com for \$25.

Mark Petersen, Contributing Editor

No electricity? No light? No problem.

Mr. Beams has been around for a while and it offers a great line of battery-powered lighting products. The key is a very sophisticated LED bulb. Up until a few years ago, the Achilles heel of LEDs has been dealing with heat buildup, which has limited the possible lumen (light intensity) output. Engineers have been figuring out how to keep the bulbs cooler, resulting in ever-brighter, longer-lasting bulbs.

Most of Mr. Beams' products are motion activated so they're great for locations where wiring is difficult or impossible to run. The surprising thing is how many hundreds of light cycles you can get out of a set of batteries. Check out the whole product line at mrbeams.com. You can buy directly from the company, but you'll get a much better deal by searching online (online prices shown here). Here are a few of my favorites:

Travis Larson, Senior Editor



UltraBright weatherproof lantern MB470 (\$35): This is what I carry from the backyard shop to the house in those darker-than-the-inside-of-a-cow nights. It has dim and bright settings and even a USB port for charging phones and such.

Spotlight MB360 (\$25): I have one of these near my shop and it keeps me from stumbling around in the dark when I leave for the night. Believe it or not, the three "D" cells lasted well over a year.



Stick-anywhere night-lights MB723 (three-pack for \$30): Good for inside or outside. Hallways, stairs, decks, bathrooms—anywhere you need a motion detector-controlled night-light.



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PROGRESSIVE
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Mud the tape, not the wall

I'm terrible at taping drywall. I just don't do it enough to get a feel for it. My final results are OK, but I'm brutally slow. One of my biggest problems is getting the proper amount of mud under the tape. I either get huge bulges of mud or dry spots. I tried out a product called TapeBuddy. It's a simple taping tool that takes the guesswork out of how much mud to put on the wall.

It's easy to use: Just weave a roll of tape through the tool and fill up the reservoir with soupy mud. When you pull the tape from the TapeBuddy, it has the proper amount of mud on it. It doesn't dispense the tape directly to the wall like the "banjo"-style taping tools the pros use, but it doesn't cost \$85 to \$150 either! My little TapeBuddy costs just \$35, and I don't mind applying the wet tape to the drywall joints by hand.

Check out the video or buy a Tape Buddy at tapebuddy.net.

Mark Petersen,
Contributing Editor



A LOCK FOR YOUR LOCK

I was helping my sister move her daughter into her new dorm at college (I have the only truck in the family), and my niece asked me how she could be sure the previous tenant hadn't made a copy of the keys. I told her she couldn't; her only hope was that the landlord had had the door rekeyed.

Rather than take a risk, we decided to install a Deadbolt Secure. It's a little device that slides under the existing dead bolt, preventing anyone from turning it from the outside, even with a key. It seemed like a more secure system than the flimsy security chains because the deadbolt stays securely in place. My niece installed it herself in two minutes. It won't prevent someone with a key breaking in when she's gone, but at least we'll all feel a lot better when she's home alone. Buy one for \$10 at angelguardproducts.com.

Mark Petersen, Contributing Editor

Cordless chain saw for scaredy-cats

When I was 12, my dad accidentally buried the tip of a gas-powered chain saw in his thigh. A tough South Dakota rancher, he drove himself to the hospital, with me at his side. His injury fully healed, but I've been freaked out by chain saws ever since.

The trees at my in-laws' lake place were in serious need of pruning—you could hardly see the lake from inside the cabin, so I decided to confront my fears with a Ryobi 12-in. cordless chain saw. (Not quite as intimidating as one of those giant gas units.) Using this chain saw was as easy as squeezing the trigger.

In no time, I was zipping through branches from 1/4 in. to nearly 12 in. in diameter. I even made one cut of a 15-in. tree trunk by sawing all the way around the circumference, then wedging out one end to make the final cut. Even though it's battery-powered, I made more than 100 cuts on a single charge. I wore out before the battery!

The saw is lightweight and maneuverable, and the guard at the tip of the saw bar and the slip guard for the upper handle made me feel safe. There's an easy-read battery capacity indicator and a simple release and lock for the saw bar. Maintenance is as simple as filling the chamber with bar oil.

The saw is part of Ryobi's 40-volt Lithium-ion series of outdoor power tools and available for \$189 at Home Depot.

Joel Bierbach, Field Editor



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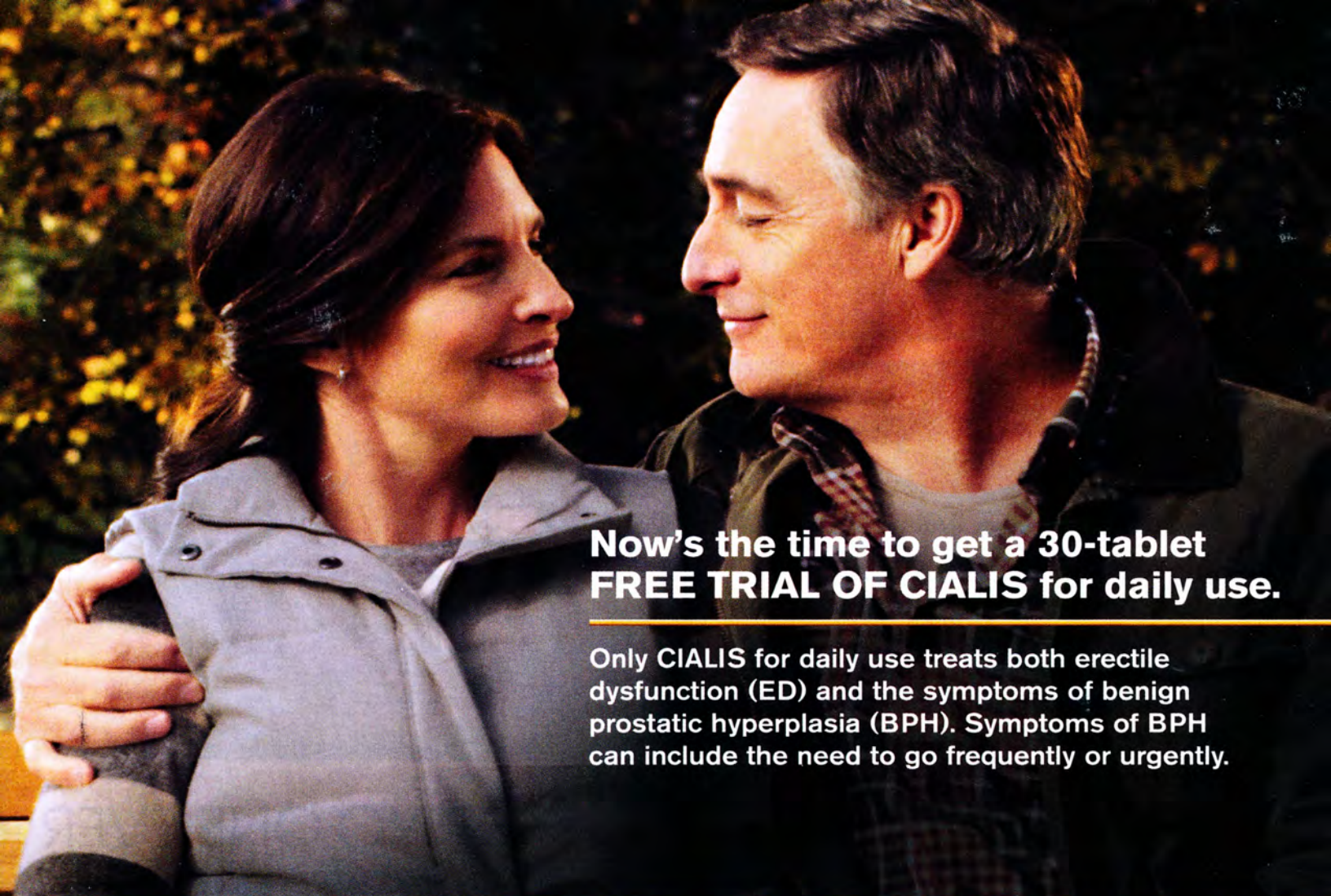
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**Now's the time to get a 30-tablet
FREE TRIAL OF CIALIS for daily use.**

Only CIALIS for daily use treats both erectile dysfunction (ED) and the symptoms of benign prostatic hyperplasia (BPH). Symptoms of BPH can include the need to go frequently or urgently.

What Is The Most Important Information I Should Know About CIALIS?

Do not take CIALIS if you:

- **take medicines called "nitrates"** such as isosorbide dinitrate or isosorbide mononitrate, which are often prescribed for chest pain as the combination may cause an unsafe drop in blood pressure; or use recreational drugs called "poppers" like amyl nitrite and butyl nitrite
- **are allergic to CIALIS or ADCIRCA® (tadalafil), or any of its ingredients.** Call your healthcare provider or get help right away if you experience any symptoms of an allergic reaction, such as **rash, hives, swelling of the lips, tongue or throat, or difficulty breathing or swallowing**

After taking a single tablet, some of the active ingredient of CIALIS remains in your body for more than 2 days. The active ingredient can remain longer if you have problems with your kidneys or liver, or you are taking certain other medications.

Stop sexual activity and get medical help right away if you get symptoms such as chest pain, dizziness, or nausea during sex. Sexual activity can put an extra strain on your heart, especially if it is already weak from a heart attack or heart disease.

Please see additional Important Safety Information on next page and the brief summary of patient information on last pages of ad.

What Should I Tell My Healthcare Provider Before Taking CIALIS?

CIALIS is not right for everyone. Only your healthcare provider and you can decide if CIALIS is right for you. Ask your healthcare provider if your heart is healthy enough for you to have sexual activity. Do not take CIALIS if your healthcare provider has told you not to have sexual activity because of your health problems. Before taking CIALIS, tell your healthcare provider about all your medical problems, particularly if you have or ever had:

- **heart problems** such as chest pain (angina), heart failure, irregular heartbeats, or heart attack
- **uncontrolled high or low blood pressure**
- **stroke**
- **liver or kidney problems or require dialysis**
- **retinitis pigmentosa**, a rare genetic (runs in families) eye disease
- **severe vision loss, including a condition called NAION**
- **stomach ulcers or a bleeding problem**
- **a deformed penis shape** or Peyronie's disease
- **an erection that lasted more than 4 hours**
- **blood cell problems** such as sickle cell anemia, multiple myeloma, or leukemia

Ask your healthcare provider about CIALIS for daily use, approved to treat ED (2.5 mg, 5 mg*), and both ED and the signs and symptoms of BPH (5 mg). Taking CIALIS with finasteride when starting BPH treatment has been studied for 26 weeks. CIALIS is not for women or children. Do not take CIALIS more than one time each day. Do not take CIALIS if you take medicines called nitrates, as the combination may cause a sudden unsafe drop in blood pressure.

CIALIS for daily use helps you be ready anytime the moment is right.[†] With CIALIS for daily use, you can be more confident in your ability to be ready.

*The recommended starting dose of CIALIS for daily use for the treatment of ED is 2.5 mg.

GET YOUR FREE TRIAL OF CIALIS

Men with ED or men with both ED+BPH can get a free trial of CIALIS for daily use with our 30-day, 30-tablet Free Trial offer. Or, men with ED can try 3 tablets of 36-hour CIALIS^{††} for use as needed (10 mg or 20 mg) for free, since CIALIS for use as needed is also approved to treat ED (5 mg, 10 mg, 20 mg). Talk to your healthcare provider and try CIALIS for a month to see if it's right for you. **To receive your Free Trial, tear out the attached voucher and take it to an accredited US-based pharmacy along with a prescription from your healthcare provider.**



OUR PROMISE

If you try CIALIS using our Free Trial voucher and you and your healthcare provider decide it's not the right ED treatment for you, we promise to pay for another CIALIS option or 3 tablets of another prescription ED medication of your choice, as prescribed by your healthcare provider.

Please note that we can only offer to pay for an alternative treatment option for your ED, as there is no other single medication approved to treat both ED and the symptoms of BPH. If you are taking CIALIS for daily use to treat only your BPH symptoms, you are not eligible for a second trial of an alternative ED treatment.

Tear out your attached FREE TRIAL voucher or download one at cialis.com. For more information visit cialis.com or call 1-877-4-CIALIS (1-877-424-2547).

[†]Individual results may vary. Not studied for multiple attempts per dose.

^{††}In clinical trials, 36-hour CIALIS taken as needed was shown to improve, up to 36 hours after dosing, the ability of men with ED to have a single successful intercourse attempt.

Can Other Medicines Affect CIALIS?

Tell your healthcare provider about all the medicines you take, especially:

- medicines called "nitrates" which are often prescribed for chest pain
- alpha-blockers often prescribed for prostate problems
- blood pressure medications
- medicines for HIV or some types of oral antifungal medications
- some types of antibiotics such as clarithromycin, telithromycin, erythromycin (several brand names exist, please contact your healthcare provider to determine if you are taking this medicine)
- other medicines or treatments for erectile dysfunction (ED)
- CIALIS is also marketed as ADCIRCA for the treatment of pulmonary arterial hypertension. Do not take both CIALIS and ADCIRCA. Do not take sildenafil citrate (Revatio)[®] with CIALIS.

What Should I Avoid While Taking CIALIS?

- Do not use other ED medicines or ED treatments.
- Do not drink too much alcohol (for example, 5 glasses of wine or 5 shots of whiskey). Drinking too much alcohol can increase your chances of getting a headache or getting dizzy, increasing your heart rate, or lowering your blood pressure.

What Are The Possible Side Effects Of CIALIS?

The most common side effects with CIALIS are: headache, indigestion, back pain, muscle aches, flushing, and stuffy or runny nose. These side effects usually go away after a few hours. Men who get back pain and muscle aches usually get it 12 to 24 hours after taking CIALIS. Back pain and muscle aches usually go away within 2 days. Call your healthcare provider if you get any side effect that bothers you or one that does not go away.

Uncommon but serious side effects include:

An erection that won't go away: If you get an erection lasting more than 4 hours, seek immediate medical help to avoid long-term injury.

In rare instances, men taking prescription ED tablets, including CIALIS, reported a sudden decrease or loss of vision or hearing (sometimes with ringing in the ears and dizziness). It's not possible to determine if these events are related directly to the ED tablets or to other factors. If you have a sudden decrease or loss of vision or hearing, stop taking any ED tablet, including CIALIS and call a healthcare provider right away.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch or call 1-800-FDA-1088.

CIALIS does not:

Cure ED, increase a man's sexual desire, protect a man or his partner from sexually transmitted diseases, including HIV or serve as a male form of birth control.

CIALIS is available by prescription only.

For additional information, talk to your healthcare provider and see the brief summary of patient information on the next pages.

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Important Information for Patients

CIALIS (see-AL-iss) (tadalafil) tablets

Read this important information before you start taking CIALIS and each time you get a refill. There may be new information. You may also find it helpful to share this information with your partner. This information does not take the place of talking with your healthcare provider. You and your healthcare provider should talk about CIALIS when you start taking it and at regular checkups. If you do not understand the information, or have questions, talk with your healthcare provider or pharmacist.

What Is the Most Important Information I Should Know About CIALIS?

- Do not take CIALIS if you take medicines containing nitrates or recreational drugs (like amyl nitrite or butyl nitrite “poppers”), as the combination may cause a sudden unsafe drop in blood pressure. You could get dizzy, faint, or have a heart attack or stroke. Nitrates are found in many prescription medicines commonly used to treat chest pain such as nitroglycerin, isosorbide dinitrate, or isosorbide mononitrate.
- Tell all of your healthcare providers that you take CIALIS. If you need emergency medical care for a heart problem, it is important for your healthcare provider to know when you last took CIALIS.
- After taking a single tablet, some of the active ingredient of CIALIS remains in your body for more than 2 days. The active ingredient can remain longer if you have problems with your kidneys or liver, or you are taking certain other medications.
- If you get symptoms such as chest pain, dizziness, or nausea during sex when taking CIALIS, stop sexual activity and get medical help right away.

What Is CIALIS?

CIALIS is a prescription medicine taken by mouth for the treatment of:

- men with erectile dysfunction (ED)
- men with symptoms of benign prostatic hyperplasia (BPH)
- men with both ED and BPH
- If CIALIS is used with finasteride to initiate BPH treatment, such use is recommended for up to 26 weeks.

CIALIS for the Treatment of ED

ED is a condition where the penis does not fill with enough blood for a man to get or keep an erection. CIALIS helps increase blood flow to the penis and may help men with ED get and keep an erection satisfactory for sexual activity. Once a man has completed sexual activity, blood flow to his penis decreases, and his erection goes away. Some form of sexual stimulation is needed for an erection to happen with CIALIS.

CIALIS does not:

- cure ED or increase a man's sexual desire
- protect a man or his partner from sexually transmitted diseases, including HIV
- serve as a male form of birth control

CIALIS is only for men over the age of 18, including men with diabetes or who have undergone prostatectomy.

CIALIS for the Treatment of Symptoms of BPH

BPH is a condition that happens in men, where the prostate gland enlarges which can cause urinary symptoms.

CIALIS for the Treatment of ED and Symptoms of BPH

ED and symptoms of BPH may happen in the same person at the same time. Men with both ED and symptoms of BPH may take CIALIS for the treatment of both conditions.

CIALIS is not for women or children.

CIALIS must be used only under a healthcare provider's care.

Who Should Not Take CIALIS?

Do not take CIALIS if you:

- take any medicines called nitrates or use recreational drugs called “poppers” such as amyl nitrite and butyl nitrite

- are allergic to CIALIS or ADCIRCA® (tadalafil) or any of its ingredients. Call your healthcare provider or get help right away if you experience any symptoms of an allergic reaction, such as rash, hives, swelling of the lips, tongue or throat, or difficulty breathing or swallowing

What Should I Tell My Healthcare Provider Before Taking CIALIS?

CIALIS is not right for everyone. Only your healthcare provider and you can decide if CIALIS is right for you. Before taking CIALIS, tell your healthcare provider about all your medical problems, including if you have or ever had:

- heart problems such as chest pain, heart failure, irregular heartbeats, heart attack, or stroke. Do not take CIALIS if your healthcare provider has told you not to have sexual activity because of your health problems.
- uncontrolled high or low blood pressure
- liver or kidney problems or require dialysis
- retinitis pigmentosa, a rare genetic eye disease
- severe vision loss, or a condition called NAION
- stomach ulcers or a bleeding problem
- deformed penis shape or Peyronie's disease
- an erection that lasted more than 4 hours
- blood cell problems such as sickle cell anemia, multiple myeloma, or leukemia

Can Other Medicines Affect CIALIS?

CIALIS and other medicines may affect each other. Always check with your healthcare provider before starting or stopping any medicines. Tell your healthcare provider about all the medicines you take including prescription and non-prescription medicines, especially:

- medicines called nitrates
- medicines called alpha-blockers, sometimes prescribed for prostate problems or high blood pressure. If CIALIS is taken with certain alpha-blockers, your blood pressure could suddenly drop. You could get dizzy or faint.
- other medicines to treat high blood pressure (hypertension)
- medicines called HIV protease inhibitors
- some types of oral antifungals
- some types of antibiotics such as clarithromycin, telithromycin, erythromycin (several brand names exist, please consult your healthcare provider to determine if you are taking this medicine)
- other medicines or treatments for ED
- CIALIS is also marketed as ADCIRCA for the treatment of pulmonary arterial hypertension. Do not take both CIALIS and ADCIRCA. Do not take sildenafil citrate (Revatio®)* with CIALIS.

How Should I Take CIALIS?

Take CIALIS exactly as your healthcare provider prescribes it. He or she will prescribe the dose that is right for you and may adjust your dose, depending on how your body reacts to CIALIS. Some men can only take a low dose of CIALIS or may have to take it less often, because of medical conditions or medicines they take. CIALIS may be taken with or without meals.

For symptoms of BPH, CIALIS is taken once daily.

- Take 1 CIALIS tablet every day at about the same time of day.
- If you miss a dose, take it when you remember, but **do not take CIALIS more than once each day.**
- When therapy for BPH is initiated with CIALIS and finasteride, the recommended dose of CIALIS once daily use is taken at approximately the same time every day for up to 26 weeks.

For ED, there are 2 ways to take CIALIS – either for use as needed OR for use once daily.

CIALIS for use as needed:

- Do not take CIALIS more than once each day.
- Take 1 CIALIS tablet before you expect to have sexual activity.

OR

CIALIS for once daily use is a lower dose you take every day:

- Take 1 CIALIS tablet every day at about the same time of day. You may attempt sexual activity any time between doses.
- If you miss a dose, take it when you remember, but **do not take CIALIS more than once each day.**

For both ED and symptoms of BPH, CIALIS is taken once daily.

- Take 1 CIALIS tablet every day at about the same time of day. You may attempt sexual activity any time between doses.
- If you miss a dose, take it when you remember, but **do not** take CIALIS more than once each day.

What Should I Avoid While Taking CIALIS?

- Do not use other ED medicines or ED treatments.
- Do not drink too much alcohol (for example, 5 glasses of wine or 5 shots of whiskey), as it can increase your chances of getting a headache or getting dizzy, increasing your heart rate, or lowering your blood pressure.

What Are the Possible Side Effects of CIALIS?

The most common side effects with CIALIS are headache, indigestion, back pain, muscle aches, flushing, and stuffy or runny nose. These side effects usually go away after a few hours.

Men who get back pain and muscle aches usually get them 12 to 24 hours after taking CIALIS. Back pain and muscle aches usually go away within 2 days.

Uncommon side effects include:

- Erection that won't go away. If you experience an erection lasting more than 4 hours, seek medical help right away to avoid permanent damage.
- Color vision changes, such as seeing a blue tinge or having difficulty telling the difference between the colors blue and green.
- The following events have been reported in men taking oral ED medicines, including CIALIS: (1) sudden decrease or loss of vision in one or both eyes; (2) sudden loss or decrease in hearing, sometimes with ringing in the ears and dizziness. It is not possible to determine whether these events are related directly to the medicines, other health conditions, or to a combination of these. If you experience a sudden decrease or loss in vision or hearing, stop taking CIALIS and call a healthcare provider right away.

These are not all the possible side effects of CIALIS. For more information, ask your healthcare provider or pharmacist.

**You are encouraged to report negative side effects
of prescription drugs to the FDA.**

Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

Still have questions?

This is only a summary of important information. Talk to your doctor or pharmacist for more complete information or visit www.cialis.com, or call 1-877-CIALIS1 (1-877-242-5471).

* The brand listed is a trademark of its respective owner and is not a trademark of Eli Lilly and Company. The maker of this brand is not affiliated with and does not endorse Eli Lilly and Company or its products.

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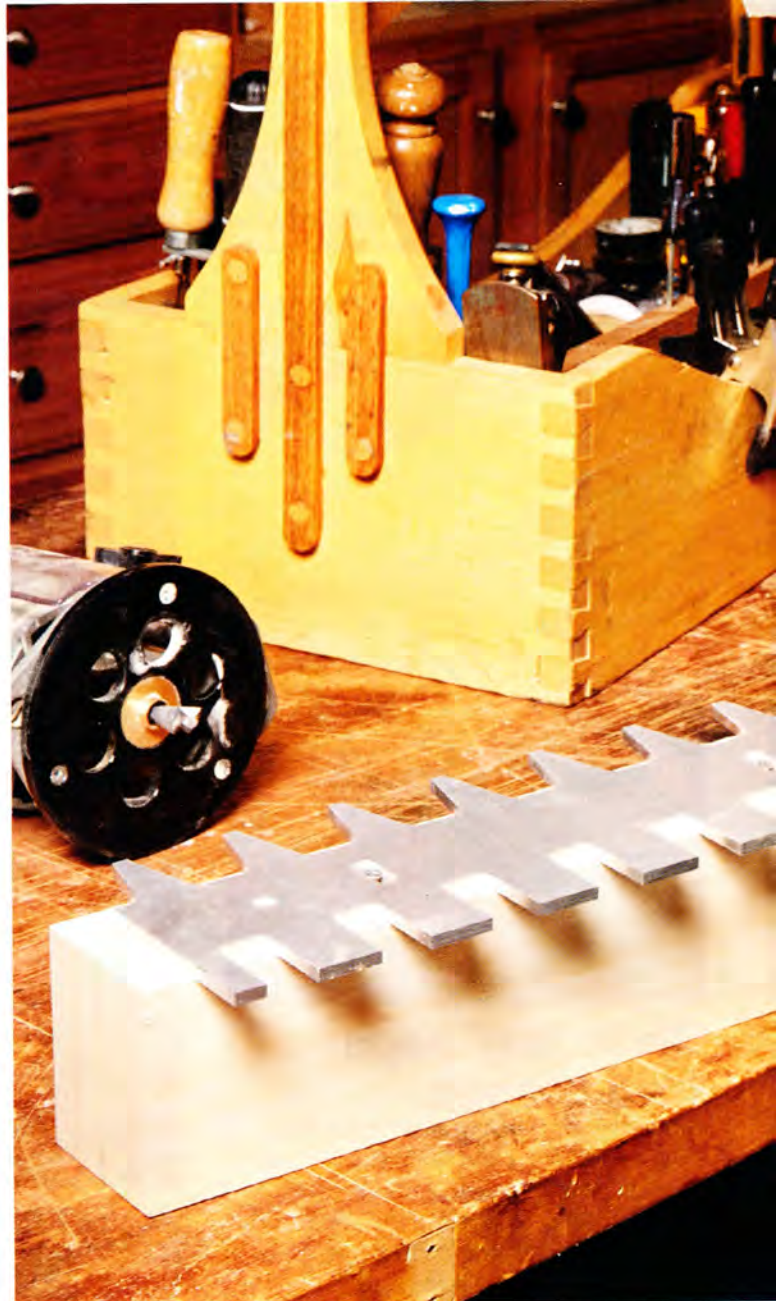
Rx only
CIALIS® (tadalafil) is a registered trademark of Eli Lilly and Company.

Lilly

**Marketed by: Lilly USA, LLC
Indianapolis, IN 46285, USA**

Find additional information at www.cialis.com

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I LOVE MY DOVETAIL JIG

If you'd love to be able to create dovetail joints but don't have the patience to learn to do it by hand or the money to buy those crazy-expensive dovetail jigs, this Pins & Tails Through Dovetail Template is your answer. I use mine to make storage boxes, and I used it to join the sides of my tool tote, as shown here.

The sturdy cast aluminum template guides your router to make classic "through" dovetails (the traditional type where joints show up on both sides of corners). It's not complicated and requires a one-time-only but somewhat time-consuming setup. But when I got it figured out, I cut pins and tails all day long in 1/2-in. to 7/8-in. stock, no matter how wide the workpiece. One side guides the tail cuts; the other, the pins.

Whenever I want to dovetail, I just install the bushing and bit in the router, set the cutting depth and start dovetailing. The template comes with instructions and the bits and guide bushing to fit most router bases. It does take some fussing to set it up, but you can't beat the price at \$50, much cheaper than more elaborate jigs. Check it out at mlcswoodworking.com. The No. 8712 is for 1/2-in. router shanks; the No. 6412 for 1/4-in.

David Radtke, Contributing Editor

Handy HINTS®

FROM OUR READERS

handyhints@thefamilyhandyman.com



Clear leaf bags for storage

I had a few clear leaf bags left over from fall, so I decided to put them to good use. Because they're large, I can cover lawn chairs, cushions, space heaters, fans and other items to keep them dust-free in the rafters or on shelving in the garage. The best part is that I can easily find items at a glance because the bags are transparent—a feature my old black garbage bags lacked!

Frank Normoyle



A STURDIER GROCERY BAG



Cloth grocery bags make a lot of sense—except for the flimsy piece of plastic at the bottom of the bag. I was determined to find something that would hold up better. I had a piece of pegboard on hand, so I cut it to size and used it instead. The pegboard is lightweight and the holes help keep the bags dry. All the baggers at the grocery store remember me because of my special bags, which hold heavier items and are easier to pack.

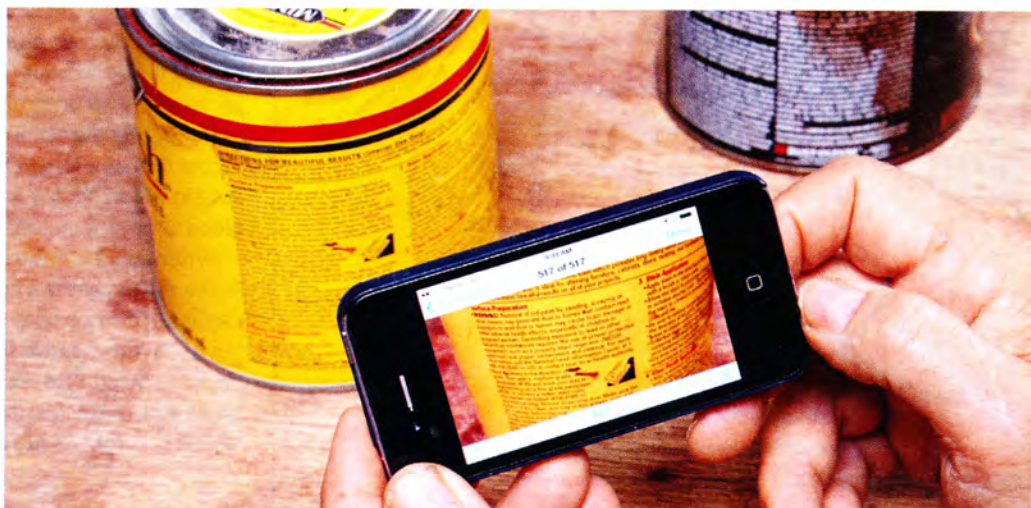
Mike Tate

Digital can labels

My stain and wood finish cans get messy with drips and become difficult to read. When I want to use them again, I often can't read the contents and instructions. I now shoot a digital photo of the labels with my smartphone. I created a folder on my computer (finish categories included) to make the information easy to find.



Serge Duclos



Mantis Does It All!

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The Mantis Tiller is the lightest weight, easy-to-use gardening powerhouse that makes back-breaking hand tools...**OBSOLETE!** From sod busting a new garden, to weeding around delicate plants, or digging a hole for a new shrub...the ***Mantis can do it all!***

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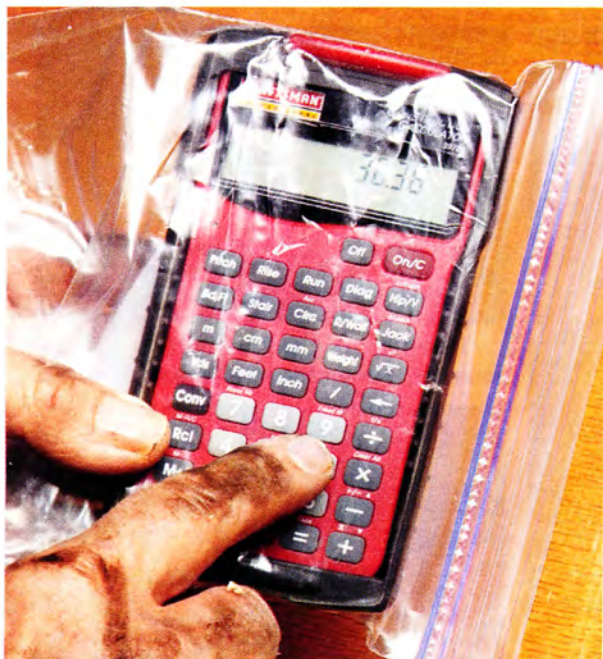
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Southampton, PA 18966



DUST-FREE SHOP CALCULATOR

I had to throw out my last calculator because the keys started sticking from all the gunk that had built up on the keyboard while it was in the shop. To protect my new one, I keep it in a plastic bag. When the bag gets grimy, I just toss it instead of the calculator!

David Hassler



SIMPLE JIGSAW GUIDE

I have a small workshop for DIY projects, so I use a jigsaw for most of my cutting. Sometimes the lighting or sawdust makes the blade hard to see. To solve this, I put a piece of tape on the front edge of the saw boot and marked a line coinciding with the path of the blade. Now I can easily follow my layout and cut clean, accurate lines.

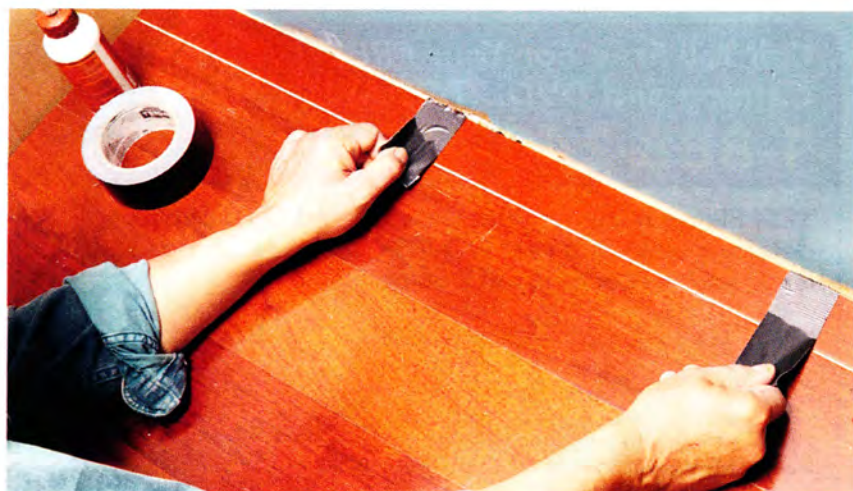
Ramanand Rao



Plastic-card putty knives

Don't throw away your old credit cards or membership cards. You can use them as flexible putty knives to spackle or fix holes in drywall. If you round the edges, you can use them to smooth caulk. They're easy to clean and keep on hand for the next project.

Phyllis Bryant



Installing flooring in tight spots

When I was installing wood flooring in the cramped corners of a closet, I found it tough to hold the last edge and corner pieces to glue them in. Then it dawned on me to use duct tape to make a little "handle" for the plank to pull the pieces together. That way I can stick the tape onto the adjoining plank to act as a clamp while the glue dries. Double efficient!

Bryce Wunder



How to Tell Time Like a Man

*Our digital-analog hybrid has two sides... tough and tougher.
Get it now for an unbelievable \$59!*

Your watch shouldn't cost more than your car. It should look and feel like a power tool and not a piece of bling. Wearing it shouldn't make you think twice about swinging a hammer or changing a tire. A real man's timepiece needs to be ready for anything. But that's just my opinion. If you agree, maybe you're ready for the **Stauer Centurion Hybrid**. Use your Exclusive Insider Promotional Code below and I'll send it to you today for **ONLY \$59**.

This watch doesn't do dainty. And neither do I. Call me old-fashioned, but I want my boots to be leather, my tires to be deep-tread monsters, and my steak thick and rare. Inspiration for a man's watch should come from things like fast cars, firefighters and power tools. And if you want to talk beauty, then let's discuss a 428 cubic inch V8.

Did I mention the \$59 price tag? This is a LOT of machine for not a lot of money. The **Stauer Centurion Hybrid** sports a heavy-duty alloy body, chromed and detailed with a rotating bezel that allows you to track direction. The luminous hour and minute hands mean you can keep working into the night. And the dual digital displays give this watch a hybrid ability. The LCD windows displays the time, day and date, includes a stopwatch function, and features a bright green electro-luminescent backlight. We previously offered the **Centurion** for \$199, but with the exclusive promotional code it's yours for **ONLY \$59**!

No matter what, this watch can keep up. Thanks to the Stauer 30-day Money Back Guarantee, you've got time to prove it. If you're not totally satisfied, return it for a full refund of the purchase price. You also get a 2-year replacement guarantee on both movements. But I have a feeling the only problem you'll have is deciding whether to keep the **Stauer Centurion** on your dresser or tucked inside your toolbox.



"I work in the surveying and construction industry...

This is my work horse watch and I am proud to wear it."

— C.S. from Fort Worth, TX



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HOW TO AVOID THE TOP **4 FERTILIZER BLUNDERS**

**Save money,
get greener
grass &
fewer weeds**

by Joe Churchill

Contributing Editor

When you're fertilizing your lawn, mistakes are easy to make. I know, because I've been in the grass business for a very long time. And I can tell you that professional turf managers and homeowners tend to make the same four mistakes when they feed their grass.

Read along, avoid these blunders and you'll be thrilled with your lawn and get the most for your buck.



MEET THE PRO

Joe Churchill has worked in the professional turf industry for more than 30 years. He is a branch manager for Reinders, a major turf supply and equipment distributor in the Midwest.



BLUNDER #1

FAILURE TO TEST THE SOIL

"I can't tell you how many times I've talked to a professional or a homeowner who has never tested their soil. Big mistake!

When I'm asked to help bring a homeowner's lawn back to life, the first thing I do is to make sure they have their soil professionally tested. Think of it as a checkup for your lawn. The results will provide important information that will help determine what type of fertilizer you should use and how often you should apply it.

You can collect your own samples by randomly pulling 10 to 12 individual soil samples from your lawn to a depth of 3 to 4 in. Make sure there is no vegetation or excessive root mass in the soil sample. Mix together the soil samples and put about a cup of this mix in a plastic bag. Write your name on the bag and send it off for testing.

Most often, a soil test will focus on measuring major nutrients like phosphorus (required for good root development) and potassium (needed to remedy environmental stresses). If your soils are lacking in these major building blocks, your lawn will suffer.

Another important piece of information received from a soil test is your soil's pH. Most lawn grasses like a soil pH in the range of 6.5 to 7.0. If your lawn's soil pH is too low or too high, the fertilizer you use may not work very well. Soils with a low pH, like 5.5 or 6.0, will require applications of lime to "sweeten" the soil. Soil pH values above 7.5 will require soil sulfur or a fertilizer containing sulfur to bring the pH down.

If your soil test results recommend adjustments to correct nutrient or pH issues, it's wise to test annually until the problems are corrected. If your soil test does not reveal any issues, test about every three years to monitor the health of your soil.

The best time to test your soil is early spring just before your lawn comes out of dormancy. Don't collect samples after fertilizing. This will skew the results. And don't use do-it-yourself kits! They may be less expensive, but they aren't very accurate. Your county extension office, reputable garden center or local university can help you test your soil accurately, interpret the results and then offer solid recommendations for fixing any soil problems.





BLUNDER #2

TOO MUCH FERTILIZER

"I bet at least 3 out of every 5 homeowners fertilize way more than they should."

Many retailers promote a four-step fertilizer program for homeowners. Fertilizing more than four times a year is overkill. In fact, most homeowners could get by with two every year. You can cut back on the amount of fertilizer you need by making sure you apply it at the right time of the year. More on that later.

If you apply too much fertilizer, especially in sandy soils, a good share of it will leach through the soil and make its way into our precious groundwater, lakes, streams and wetlands. Lawn grasses only need a certain amount of food. More isn't always better.

Unlike us humans, lawn grasses don't know how to stop eating when they're full! This luxury consumption of nitrogen, phosphorus and potassium actually makes the lawn grasses weak and more susceptible to disease. Excessive fertilizer will create too much thatch, which will ultimately choke out your lawn. Too much fertilizer also means you'll be mowing far more often than necessary. Too much mowing means excessive soil compaction, exhaust and noise pollution and excessive wear and tear on your mower.

More than four fertilizer applications a year is a waste. Save time and money by being more judicious in your use of fertilizer.



More even application

Dial back the rate of application to 1/2, then make two passes with your spreader at right angles.

BLUNDER #3

FERTILIZING AT THE WRONG TIME

"Many lawn owners don't follow a schedule. They fertilize when they think their lawn needs it, when they have time or when the stuff is on sale."

If you fertilize just once a year, apply it around Labor Day. That's when your lawn is the hungriest and when it will respond best to the nutrients it receives. Fertilizing at this time will help replenish food reserves after a long, stressful year of growing and before the harshness of winter sets in.

If you fertilize twice, apply the second application about the middle of October. This acts like a "second helping" of much needed food going into winter. A third application can be added in mid to late spring and can be combined with your crabgrass preventer. A fourth application, if you feel the need, can be added mid-summer. Watch the weather when applying midsummer fertilizers. Fertilizing during hot, humid weather can harm your lawn. An exception would be using an organic fertilizer. They are much more lawn friendly during the dog days of summer.

In the spring, apply just enough fertilizer to help green up your lawn. About half the normal amount will do. Even without fertilizer, your lawn naturally grows quickly as soon as temperatures become consistently higher. Have you ever noticed that grass grows fastest in the late spring and early summer? Why promote even more growth at this time by fertilizing?



MY TAKE ON ORGANIC FERTILIZERS

Organic fertilizers are becoming more popular with lawn owners because of the idea that they are more environmentally friendly. Quality organic fertilizers will contain meal-based nutrients (bone meal, feather meal, blood meal, fish meal) or some may contain poultry litter. A complete natural organic lawn food will have low NPK (nitrogen, phosphorus, potassium) numbers, most always below 10. It's best to apply these fertilizers during the warmer growing months, from May through September, depending where you live. Organics help feed your lawn by stimulating microbial activity in your soil, creating a healthier medium in which your grass can grow.

They are safer to use and will not harm your lawn like some conventional fertilizers will, especially during the hot summer months. They work a bit slower, however, so you'll need to be patient.

You'll also discover they are much more expensive. All that said, give them a try!

BLUNDER #4

GETTING CARELESS

As much as fertilizer can be a valuable tool to keep a lawn healthy, dense and great looking, it can also create environmental concerns if not used responsibly. Too often I see people not paying attention when fertilizing. They're in a hurry or just don't care. They think the little bit of fertilizer that gets washed off your lawn and into the street doesn't matter. But what if all your neighbors thought this? Or worse yet, every lawn owner in your town? Not only can we help our environment by using less fertilizer, we can do even more by making sure it stays where it's intended.

Never apply any type of fertilizer close to wetlands, rivers, streams, lakes and ponds. We're trying to grow lawn grasses, not aquatic weeds. Heavy nutrient loads in these types of water features will create excessive weed growth and algae blooms. Nobody wants that. Stay at least 6 to 8 ft. away from water when applying fertilizer.

After you're done fertilizing, sweep up and collect what remains on hard surfaces, such as your driveway, sidewalk or street. If fertilizer is left on these surfaces, rains will eventually wash it into water features and storm sewers.

Never apply fertilizer to frozen ground. This can easily happen in the spring if you're anxious to apply your crabgrass preventer. If the ground is still frozen, it's too early to apply crabgrass preventer anyway. In short, be a good environmental steward.

"It's not the use of phosphorus and other nutrients that are creating environmental issues; it's the misuse of them."

DO:

- Test your soil first.
- Use test results to choose the right fertilizer.
- Spend time accurately measuring the size of your lawn.
- Try an organic during the hot summer months.
- Buy a quality spreader that best fits your needs.
- Accurately calibrate your spreader to make sure you apply the right amount.
- Keep your spreader well maintained.
- Keep records of what and how much you apply and when you apply it.

DON'T:

- Test your soil after you have fertilized.
- Guess on how much fertilizer you need and what setting you use.
- Apply fertilizer in hot, humid weather.
- Apply fertilizer near water features, on hard surfaces or on frozen ground.
- Use phosphorus unless your soil test indicates a deficiency.
- Apply more than four times a year.
- Use liquid fertilizers on your lawn.
- Use a drop spreader in big lawns.
- Bag your clippings.



ADVANCED TRIM TIPS

Great results,
even in bad
situations

The
TIPS
issue!

Wavy walls, crooked studs, uneven floors and out-of-square corners are the norm in most houses, and they all add to the challenge of getting your moldings to fit just right. To help you out, we've collected problem-solving tips from three veteran carpenters with a wide range of trim carpentry experience.

Jeff Gorton

editors@thefamilyhandyman.com



ART DIRECTION: MARCIA ROEPKE • PHOTOGRAPHY: TOM FENENGA

For people with a higher risk of stroke due to Atrial Fibrillation (AFib) not caused by a heart valve problem

I was taking warfarin. But I wondered, could I shoot for something better?

NOW I TAKE ELIQUIS® (apixaban) FOR 3 GOOD REASONS:

- 1 ELIQUIS reduced the risk of stroke better than warfarin.
- 2 ELIQUIS had less major bleeding than warfarin.
- 3 Unlike warfarin, there's no routine blood testing.

ELIQUIS and other blood thinners increase the risk of bleeding which can be serious, and rarely may lead to death.

Ask your doctor if ELIQUIS is right for you.

ELIQUIS is a prescription medicine used to reduce the risk of stroke and blood clots in people who have atrial fibrillation, a type of irregular heartbeat, not caused by a heart valve problem.

IMPORTANT SAFETY INFORMATION:

■ Do not stop taking ELIQUIS without talking to the doctor who prescribed it for you. Stopping ELIQUIS increases your risk of having a stroke. ELIQUIS may need to be stopped, prior to surgery or a medical or dental procedure. Your doctor will tell you when you should stop taking ELIQUIS and when you may start taking it again. If you have to stop taking ELIQUIS, your doctor may prescribe another medicine to help prevent a blood clot from forming.

■ ELIQUIS can cause bleeding which can be serious, and rarely may lead to death.

■ You may have a higher risk of bleeding if you take ELIQUIS and take other medicines that increase your risk of bleeding, such as aspirin, NSAIDs, warfarin (COUMADIN®), heparin, SSRIs or SNRIs, and other blood thinners. Tell your doctor about all medicines, vitamins and supplements you take. While taking ELIQUIS, you may bruise more easily and it may take longer than usual for any bleeding to stop.

■ Get medical help right away if you have any of these signs or symptoms of bleeding:

- unexpected bleeding, or bleeding that lasts a long time, such as unusual bleeding from the gums; nosebleeds that happen often, or menstrual or vaginal bleeding that is heavier than normal
- bleeding that is severe or you cannot control
- red, pink, or brown urine; red or black stools (looks like tar)
- coughing up or vomiting blood or vomit that looks like coffee grounds
- unexpected pain, swelling, or joint pain; headaches, feeling dizzy or weak

■ ELIQUIS is not for patients with artificial heart valves.

■ Before you take ELIQUIS, tell your doctor if you have: kidney or liver problems, any other medical condition, or ever had bleeding problems.

Tell your doctor if you are pregnant or breastfeeding, or plan to become pregnant or breastfeed.

■ Do not take ELIQUIS if you currently have certain types of abnormal bleeding or have had a serious allergic reaction to ELIQUIS. A reaction to ELIQUIS can cause hives, rash, itching, and possibly trouble breathing. Get medical help right away if you have sudden chest pain or chest tightness, have sudden swelling of your face or tongue, have trouble breathing, wheezing, or feeling dizzy or faint.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

Please see additional Important Product Information on the adjacent page.

Individual results may vary.

Visit ELIQUIS.COM
or call 1-855-ELIQUIS

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Eliquis
(apixaban) tablets 5mg



IMPORTANT FACTS

Eliquis® / **Rx ONLY**
(apixaban) tablets

The information below does not take the place of talking with your healthcare professional. Only your healthcare professional knows the specifics of your condition and how ELIQUIS® may fit into your overall therapy. Talk to your healthcare professional if you have any questions about ELIQUIS (pronounced ELL eh kwiss).

What is the most important information I should know about ELIQUIS (apixaban)?

Do not stop taking ELIQUIS without talking to the doctor who prescribed it for you.

Stopping ELIQUIS increases your risk of having a stroke. ELIQUIS may need to be stopped, prior to surgery or a medical or dental procedure.

Your doctor will tell you when you should stop taking ELIQUIS and when you may start taking it again. If you have to stop taking ELIQUIS, your doctor may prescribe another medicine to help prevent a blood clot from forming.

ELIQUIS can cause bleeding which can be serious, and rarely may lead to death. This is because ELIQUIS is a blood thinner medicine that reduces blood clotting.

You may have a higher risk of bleeding if you take ELIQUIS and take other medicines that increase your risk of bleeding, such as aspirin, nonsteroidal anti-inflammatory drugs (called NSAIDs), warfarin (COUMADIN®), heparin, selective serotonin reuptake inhibitors (SSRIs) or serotonin norepinephrine reuptake inhibitors (SNRIs), and other medicines to help prevent or treat blood clots.

Tell your doctor if you take any of these medicines. Ask your doctor or pharmacist if you are not sure if your medicine is one listed above.

While taking ELIQUIS:

- you may bruise more easily
- it may take longer than usual for any bleeding to stop

Call your doctor or get medical help right away if you have any of these signs or symptoms of bleeding when taking ELIQUIS:

- unexpected bleeding, or bleeding that lasts a long time, such as:
 - unusual bleeding from the gums
 - nosebleeds that happen often
 - menstrual bleeding or vaginal bleeding that is heavier than normal
- bleeding that is severe or you cannot control
- red, pink, or brown urine
- red or black stools (looks like tar)
- cough up blood or blood clots

- vomit blood or your vomit looks like coffee grounds
- unexpected pain, swelling, or joint pain
- headaches, feeling dizzy or weak

ELIQUIS (apixaban) is not for patients with artificial heart valves.

What is ELIQUIS?

ELIQUIS is a prescription medicine used to reduce the risk of stroke and blood clots in people who have atrial fibrillation.

It is not known if ELIQUIS is safe and effective in children.

Who should not take ELIQUIS?

Do not take ELIQUIS if you:

- currently have certain types of abnormal bleeding
- have had a serious allergic reaction to ELIQUIS. Ask your doctor if you are not sure

What should I tell my doctor before taking ELIQUIS?

Before you take ELIQUIS, tell your doctor if you:

- have kidney or liver problems
- have any other medical condition
- have ever had bleeding problems
- are pregnant or plan to become pregnant. It is not known if ELIQUIS will harm your unborn baby
- are breastfeeding or plan to breastfeed. It is not known if ELIQUIS passes into your breast milk. You and your doctor should decide if you will take ELIQUIS or breastfeed. You should not do both

Tell all of your doctors and dentists that you are taking ELIQUIS. They should talk to the doctor who prescribed ELIQUIS for you, before you have any surgery, medical or dental procedure.

Tell your doctor about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements. Some of your other medicines may affect the way ELIQUIS works. Certain medicines may increase your risk of bleeding or stroke when taken with ELIQUIS.

How should I take ELIQUIS (apixaban)?

Take ELIQUIS exactly as prescribed by your doctor. Take ELIQUIS twice every day with or without food, and do not change your dose or stop taking it unless your doctor tells you to. If you miss a dose of ELIQUIS, take it as soon as you remember, and do not take more than one dose at the same time. **Do not run out of ELIQUIS. Refill your prescription before you run out. Stopping ELIQUIS may increase your risk of having a stroke.**

What are the possible side effects of ELIQUIS?

- See “What is the most important information I should know about ELIQUIS?”
- ELIQUIS can cause a skin rash or severe allergic reaction. Call your doctor or get medical help right away if you have any of the following symptoms:
 - chest pain or tightness
 - swelling of your face or tongue
 - trouble breathing or wheezing
 - feeling dizzy or faint

Tell your doctor if you have any side effect that bothers you or that does not go away.

These are not all of the possible side effects of ELIQUIS. For more information, ask your doctor or pharmacist.

Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

This is a brief summary of the most important information about ELIQUIS. For more information, talk with your doctor or pharmacist, call 1-855-ELIQUIS (1-855-354-7847), or go to www.ELIQUIS.com.

Manufactured by:

Bristol-Myers Squibb Company
Princeton, New Jersey 08543 USA

Marketed by:

Bristol-Myers Squibb Company
Princeton, New Jersey 08543 USA
and

Pfizer Inc

New York, New York 10017 USA

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PATIENT ASSISTANCE FOUNDATION

This independent, non-profit organization provides assistance to qualifying patients with financial hardship who generally have no prescription insurance. Contact 1-800-736-0003 or visit www.bmspaf.org for more information.

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December 2012
432US13CBS03602

TIGHTEN UP OPEN MITERS

Uneven walls or misaligned jambs make it hard to get tight-fitting miters. If your miter has a consistent gap at the front, there's a good chance that putting a slight back bevel on both moldings will fix the problem. If you own a compound miter saw, you could tilt the saw about a half-degree, but that requires fussy adjustments.

The quickest and easiest way to cut a slight back bevel is to shim the molding so it's resting at an angle to the saw blade. A pencil makes a handy shim and is just about the right thickness. You can adjust the position or thickness of the shim to compensate for all kinds of wall variations. You can even shim just the back or the front to mimic how the trim rests on uneven drywall.

"I spent 20 years working in old houses where nothing was ever level, plumb or square. It took every trick in the book to make moldings fit."

— Jeff Gorton



PROBLEM: AN OPEN MITER

This doorjamb protrudes a bit beyond the wall, and the result is that the trim can't lie flat and the front of the miter joint can't close.

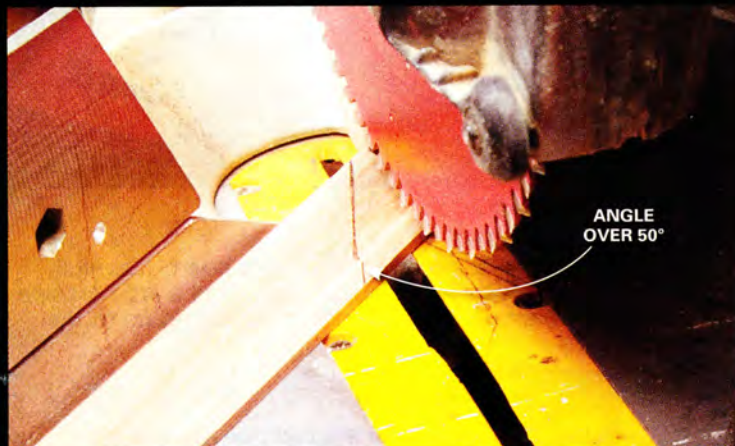


SOLUTION: CUT A "BACK BEVEL"

You could tilt the saw blade to back-bevel the miters, but tilting the trim is faster and easier. Slip a pencil or shim under the molding, just behind where the cut will be. Cut both sides of the miter with shims in the same position. Then test the fit and make adjustments as needed.

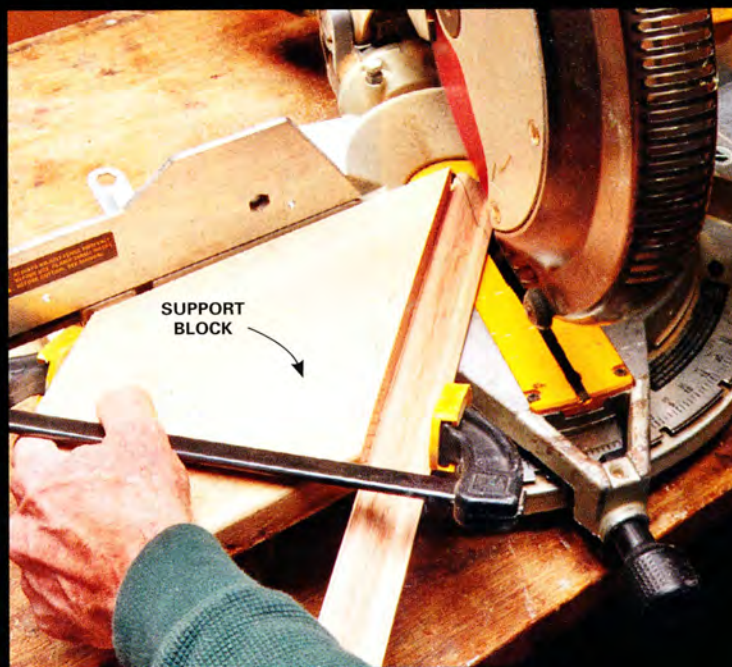
Cut steep angles on your miter saw

It's not common, but occasionally you'll run into a situation that requires miters greater than the 45- or 50-degree angle available on miter saws. The photo at right shows one solution.



PROBLEM: MITER SAWS DON'T CUT STEEP ANGLES

This miter saw won't cut the 60-degree angle we need.



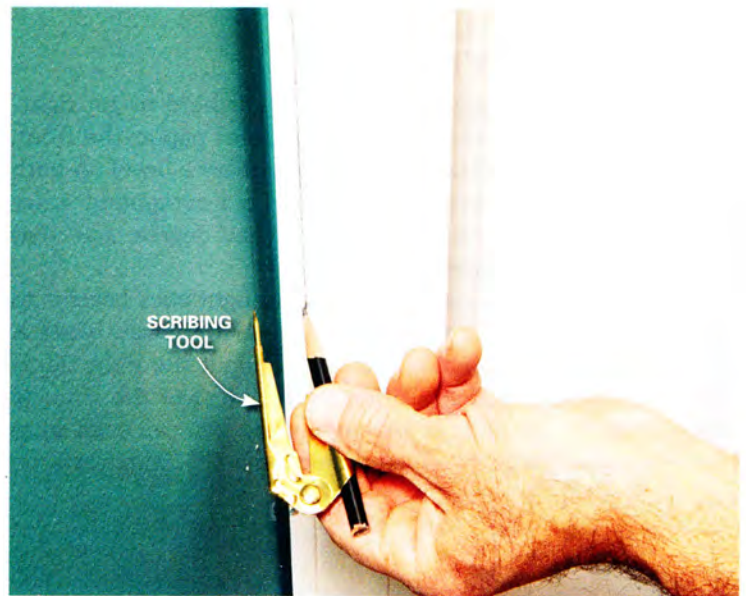
SOLUTION: CLAMP TO AN ANGLED BLOCK

Cut a block of wood at a 45-degree angle and cut a flat spot for the clamp. Clamp the molding to the block and line up the miter saw with the mark to make the cut.

SCRIBE TRIM TO FIT UNEVEN WALLS

Learning how to scribe moldings to fit tightly to uneven surfaces is a vital trim carpentry skill. And once you get the hang of scribing, you'll find all kinds of situations where it'll come in handy. Here we're showing how to fit a casing against an out-of-plumb wall. You can also scribe door bottoms, inside corners of wainscoting, and even shelving or cabinets that abut crooked walls.

There are several types of scribing tools, but the simple compass with a wing-nut lock shown is a favorite with many trim carpenters. The photo at right shows how to use the compass to scribe a line. Then finish up by cutting and trimming to the line for a perfectly fitting piece (photo below).



SOLUTION: STEP 1

SCRIBE A LINE ON THE CASING

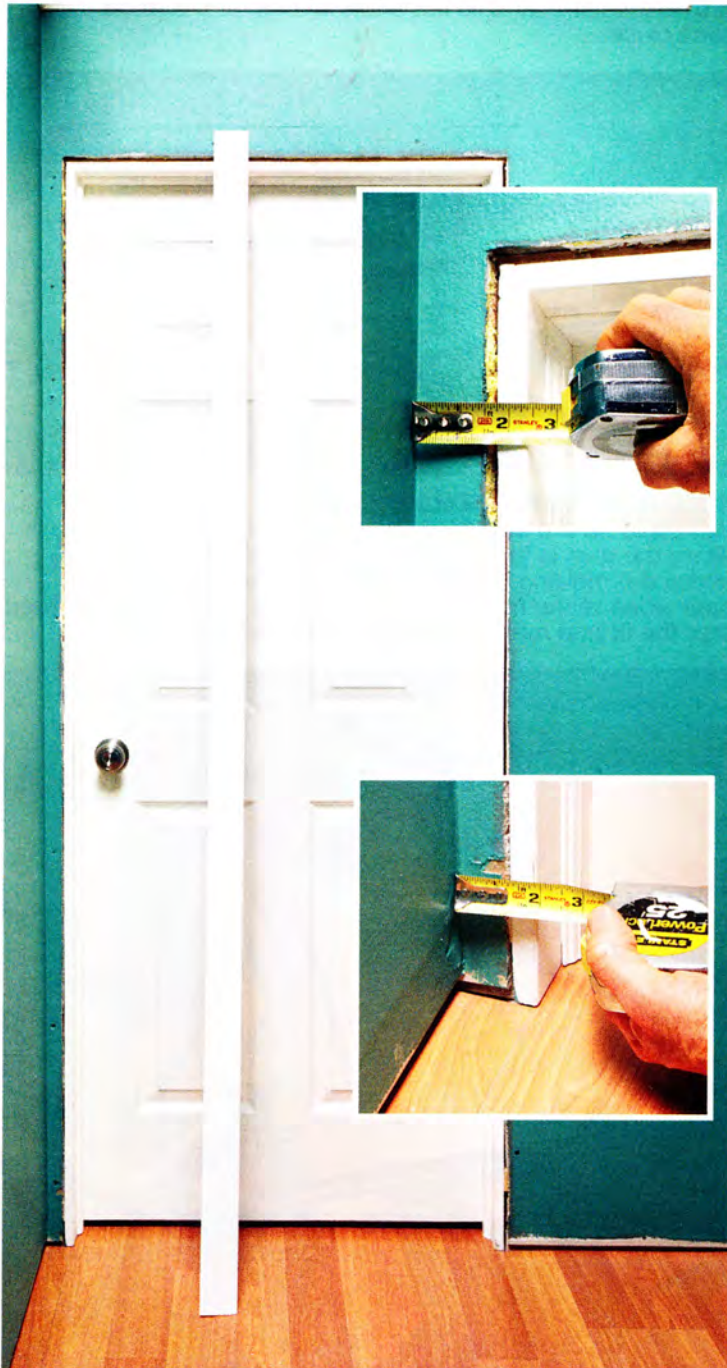
Set the scribing tool to the distance between the wall and the mark on the casing. Scribe a line by running the point of the tool against the wall, being careful to keep the tool perpendicular to the wall.



SOLUTION: STEP 2

CUT ALONG THE LINE

Next, remove the molding and tack it to a board. Carefully saw along the line with your circular saw. Stay a little outside the line. Then finish up by belt-sanding or planing up to the line.



PROBLEM: THE TRIM WON'T FIT

This casing is wider than the space between the door and the wall, so the casing needs to be cut. That cut will need to fit tightly against an uneven wall.



Our iPad edition has even more tips for perfect trim! It's available at the App Store.

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PROBLEM: UGLY GAP, NO STUD

This gap seems impossible to close because there's no stud to nail into. This is common near outside corners where there's a buildup of joint compound.

Angle a nail to close baseboard gaps

Sometimes you can't force baseboard tight against the wall because there's no stud behind the gap. This is especially common at outside corners if there's a buildup of joint compound. But there is a bottom plate that you can reach with a well-placed nail. For the best control and maximum hold, set aside your nail gun for a minute and reach for a hammer and an 8d finish nail. The cutaway photo below shows how the angled nail catches the plate.



SOLUTION: NAIL INTO THE PLATE

If there's no stud where you need to pull in the molding, drive an 8d finish nail at an angle into the plate. In hardwood trim, drill a pilot hole. Use a hammer and a nail set to set the nail head slightly below the surface.

MAKE BLOCKS FOR TOUGH TRANSITIONS

Used tastefully, transition blocks can be a real problem solver. Rather than struggling to align moldings or fudging to match profiles, you can make a nice transition with a decorative block. You can buy ready-made blocks, but it's easy to make your own. Cut the block to the height and width you think look good. Then cut or rout the top or add a small molding to complement your trim style. Use transition blocks where stair skirts intersect baseboards, where floor levels change, or at the bottom of door casings where the baseboard is thicker than the casing.



PROBLEM: MOLDINGS DON'T LINE UP

A change in floor heights creates an ugly jog in the baseboard.

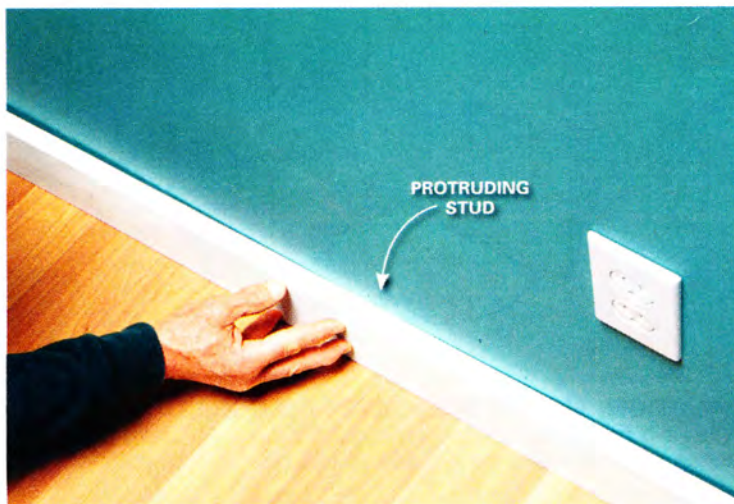


SOLUTION: CUT A DECORATIVE BLOCK

Cut a block of wood that's a little thicker than the baseboard. Then finish the top with a bevel or a routed profile.

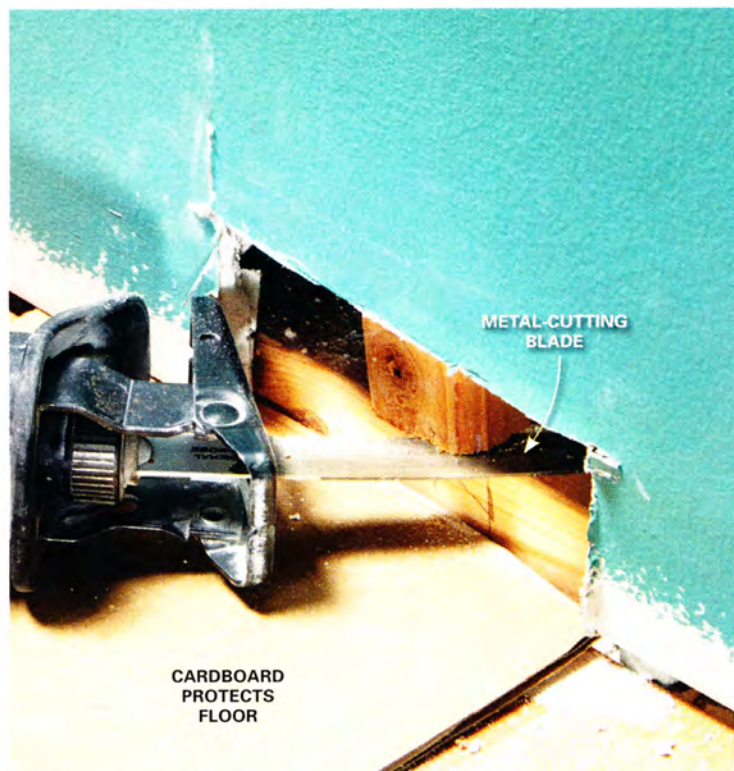
BIG HUMPS REQUIRE SURGERY

Careful framing is the key to easy trim installation. But in the rush to get the walls put up, framing carpenters sometimes get a little sloppy. A stud that's not lined up with the plate causes a big hump in the wall, making it difficult to get the baseboard tight. But if you're courageous enough to cut into your wall, the fix is simple. Start by cutting out a little chunk of drywall right at the hump to see what the problem is. There could just be a chunk of drywall or other debris trapped between the drywall and the bottom plate. Or the stud could be misaligned. If this is the case, see the photo below for the solution.



PROBLEM: A HUMP CAUSES BASEBOARD GAPS

Even if we could draw the baseboard tight to the wall on both sides of this hump, the baseboard would still look wavy. It's better to get rid of the hump.

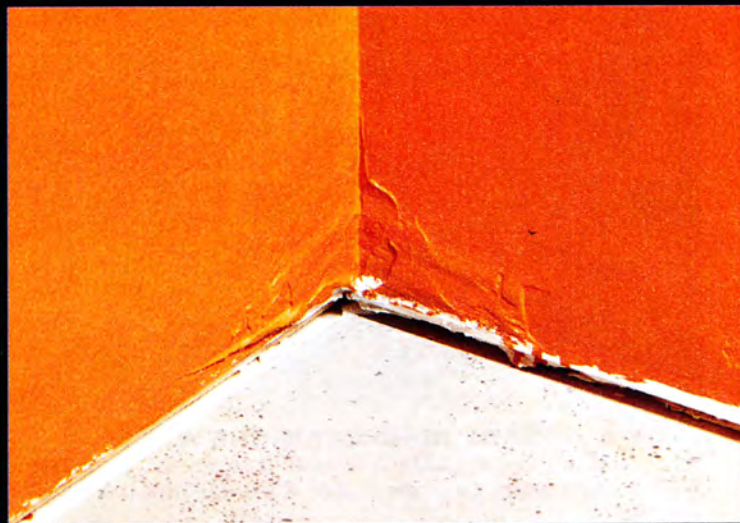


SOLUTION: MOVE A PROTRUDING STUD

Cut the nails that hold the stud to the plate. Then push the stud back until it's lined up with the plate and reattach it with an angled screw.

Clean out corners before you start

Even careful drywall tapers can end up with an accumulation of joint compound near the bottom of inside corners. The problem is that all that extra mud prevents the baseboard from fitting well. The trick is to scrape off the buildup before you start installing the base. You can use a small pry bar with a sharp edge, a dull chisel or a stiff putty knife scraper. Before you start scraping, mark the top of the baseboard on the wall. Then scrape below the line where it won't show.



PROBLEM: SLOPPY MUD IN CORNERS

Lumps and ridges will lead to gapped or tilted baseboard and open joints.

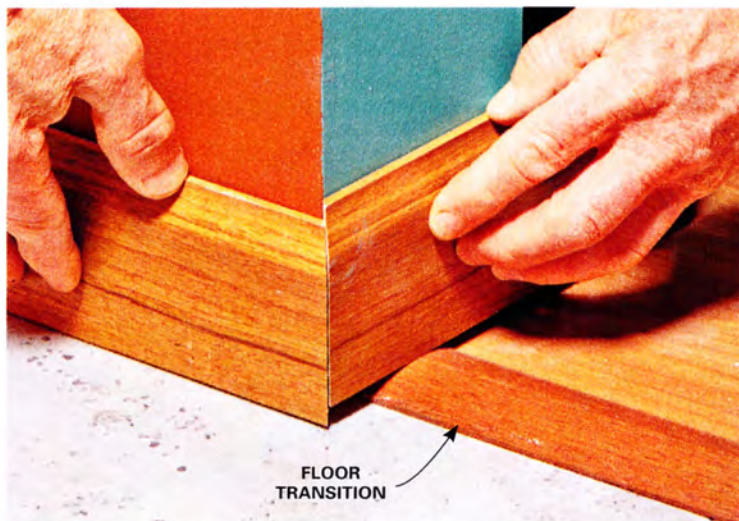


SOLUTION: SCRAPE OUT THE CORNERS

Mark the top of the baseboard on the wall. Then scrape away any excess mud below the line.

KEEP AN OSCILLATING MULTI-TOOL HANDY

On every trim job, there's at least one situation where an oscillating multi-tool can save the day. Whether it's trimming the bottom of an installed casing or notching a transition piece, an oscillating tool with a woodcutting blade is the perfect choice. And now that you can buy one for as little as \$40, it's a tool every trim carpenter can afford.



PROBLEM: TRANSITIONS GET IN THE WAY

You could notch the base to fit over this transition piece. But it would be easier and look better if you cut the transition instead.



SOLUTION: NOTCH THEM WITH AN OSCILLATING TOOL

Mount a fine-tooth blade in the oscillating tool. Then use a scrap of baseboard as a guide to cut the wood transition.

Keep baseboard from tipping

Most drywall is installed with the tapered edge parallel to the floor and with at least 1/2 in. between the drywall and the floor. The combination of the space along the floor and the drywall taper can allow the baseboard to tip in at the bottom. This isn't a big problem along the length of walls, but at inside corners, the tilt can make fitting coped corners difficult. The photo at right shows a simple fix.



PROBLEM: TILTING BASE CREATES A GAP

The tapered drywall edge allows the baseboard to tilt—and that means a gap in the corner.



SOLUTION: SPACER BLOCKS PREVENT TILTING

Cut strips of wood to the thickness of the drywall and cut off small pieces to use as spacers at inside corners or wherever they're needed. The spacers prevent the trim from tipping and make fitting inside corner joints much simpler.



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- Celebrex is not a narcotic.

When it comes to finding the right arthritis treatment for you, you and your doctor need to balance the benefits with the risks. So ask your doctor about prescription Celebrex. It could be an important step towards keeping *your* body in motion.

Visit celebrex.com or call 1-888-CELEBREX for more information.

Celebrex has been an option for millions of patients for over 15 straight years.

*Individual results may vary. **Clinical studies with osteoarthritis patients.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch or call 1-800-FDA-1088.

Important Safety Information:

All prescription NSAIDs, like CELEBREX, ibuprofen, naproxen and meloxicam have the same cardiovascular warning. They may all increase the chance of heart attack or stroke, which can lead to death. This chance increases if you have heart disease or risk factors for it, such as high blood pressure or when NSAIDs are taken for long periods.

CELEBREX should not be used right before or after certain heart surgeries.

Serious skin reactions, or stomach and intestine problems such as bleeding and ulcers, can occur without warning and may cause death. Patients taking aspirin and the elderly are at increased risk for stomach bleeding and ulcers.

See the Medication Guide on the next page for important information about Celebrex and other prescription NSAIDs.

Tell your doctor if you have: a history of ulcers or bleeding in the stomach or intestines; high blood pressure or heart failure; or kidney or liver problems.

CELEBREX should not be taken in late pregnancy.

Life-threatening allergic reactions can occur with CELEBREX. Get help right away if you've had swelling of the face or throat or trouble breathing. Do not take it if you have bleeding in the stomach or intestine, or you've had an asthma attack, hives, or other allergies to aspirin, other NSAIDs or certain drugs called sulfonamides.

Prescription CELEBREX should be used exactly as prescribed at the lowest dose possible and for the shortest time needed.



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(CELECOXIB CAPSULES) 100 mg / 200 mg

Medication Guide
for
Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)
(See the end of this Medication Guide
for a list of prescription NSAID medicines.)

What is the most important information I should know about medicines called Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)?

NSAID medicines may increase the chance of a heart attack or stroke that can lead to death.

This chance increases:

- with longer use of NSAID medicines
- in people who have heart disease

NSAID medicines should never be used right before or after a heart surgery called a “coronary artery bypass graft (CABG).”

NSAID medicines can cause ulcers and bleeding in the stomach and intestines at any time during treatment. Ulcers and bleeding:

- can happen without warning symptoms
- may cause death

The chance of a person getting an ulcer or bleeding increases with:

- taking medicines called “corticosteroids” and “anticoagulants”
- longer use
- smoking
- drinking alcohol
- older age
- having poor health

NSAID medicines should only be used:

- exactly as prescribed
- at the lowest dose possible for your treatment
- for the shortest time needed

What are Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)?

NSAID medicines are used to treat pain and redness, swelling, and heat (inflammation) from medical conditions such as:

- different types of arthritis
- menstrual cramps and other types of short-term pain

Who should not take a Non-Steroidal Anti-Inflammatory Drug (NSAID)?

Do not take an NSAID medicine:

- if you had an asthma attack, hives, or other allergic reaction with aspirin or any other NSAID medicine
- for pain right before or after heart bypass surgery

Tell your healthcare provider:

- about all of your medical conditions.
- about all of the medicines you take. NSAIDs and some other medicines can interact with each other and cause serious side effects. **Keep a list of your medicines to show to your healthcare provider and pharmacist.**
- if you are pregnant. **NSAID medicines should not be used by pregnant women late in their pregnancy.**
- if you are breastfeeding. **Talk to your doctor.**

What are the possible side effects of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)?

Serious side effects include:

- heart attack
- stroke
- high blood pressure
- heart failure from body swelling (fluid retention)
- kidney problems including kidney failure
- bleeding and ulcers in the stomach and intestine
- low red blood cells (anemia)
- life-threatening skin reactions
- life-threatening allergic reactions
- liver problems including liver failure
- asthma attacks in people who have asthma

Other side effects include:

- stomach pain
- constipation
- diarrhea
- gas
- heartburn
- nausea
- vomiting
- dizziness

Get emergency help right away if you have any of the following symptoms:

- shortness of breath or trouble breathing
- chest pain
- weakness in one part or side of your body
- slurred speech
- swelling of the face or throat

Stop your NSAID medicine and call your healthcare provider right away if you have any of the following symptoms:

- nausea
- more tired or weaker than usual
- itching
- your skin or eyes look yellow
- stomach pain
- flu-like symptoms
- vomit blood
- there is blood in your bowel movement or it is black and sticky like tar
- skin rash or blisters with fever
- unusual weight gain
- swelling of the arms and legs, hands and feet

These are not all the side effects with NSAID medicines. Talk to your healthcare provider or pharmacist for more information about NSAID medicines.

Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

Other information about Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)

- Aspirin is an NSAID medicine but it does not increase the chance of a heart attack. Aspirin can cause bleeding in the brain, stomach, and intestines. Aspirin can also cause ulcers in the stomach and intestines.
- Some of these NSAID medicines are sold in lower doses without a prescription (over-the-counter). Talk to your healthcare provider before using over-the-counter NSAIDs for more than 10 days.

NSAID medicines that need a prescription

Generic Name	Tradename
Celecoxib	Celebrex
Diclofenac	Cataflam, Voltaren, Arthrotec (combined with misoprostol)
Diflunisal	Dolobid
Etodolac	Lodine, Lodine XL
Fenoprofen	Nalfon, Nalfon 200
Flurbiprofen	Ansaid
Ibuprofen	Motrin, Tab-Profen, Vicoprofen* (combined with hydrocodone), Combunox (combined with oxycodone)
Indomethacin	Indocin, Indocin SR, Indo-Lemmon, Indomethagan
Ketoprofen	Oruvail
Ketorolac	Toradol
Mefenamic Acid	Ponstel
Meloxicam	Mobic
Nabumetone	Relafen
Naproxen	Naprosyn, Anaprox, Anaprox DS, EC-Naproxyn, Naprelan, Naprapac (copackaged with lansoprazole)
Oxaprozin	Daypro
Piroxicam	Feldene
Sulindac	Clinoril
Tolmetin	Tolectin, Tolectin DS, Tolectin 600

* Vicoprofen contains the same dose of ibuprofen as over-the-counter (OTC) NSAIDs, and is usually used for less than 10 days to treat pain. The OTC NSAID label warns that long term continuous use may increase the risk of heart attack or stroke.

This Medication Guide has been approved by the U.S. Food and Drug Administration. LAB-0609-1.0

JOIN MOLDINGS WITH BISCUITS

Strengthening trim joints with biscuits may seem like overkill, but it's a great way to keep miters tight and prevent misalignment when you nail moldings to the wall. This tip is especially useful for larger casings, which are harder to hold in alignment. But you can add biscuits to just about any joint that's wide enough to accommodate them. The photos below show how.

You'll need a biscuit joiner (\$80 to \$200) and some biscuits. If you're not familiar with this tool, go to familyhandyman.com and search for "biscuit joiner" for tips and operating instructions.

Cut and fit the miters first, then cut the biscuit slots. The photo below right shows how to cut biscuits on a profiled molding. On new doors and windows that are perfectly square, some carpenters cut and assemble the casings with biscuits and nail the assembly to the wall after the glue dries. Or you can use the technique we show here and add the biscuits as you go.



PROBLEM: JOINTS OPEN WHEN NAILED

Perfect-fitting miters can become misaligned as you nail them to the wall.



SOLUTION: STEP 1 CUT BISCUIT SLOTS

Clamp the molding (face down if it has a profile) and cut a slot with the biscuit joiner. Cut a biscuit slot in the same location on the other molding.



SOLUTION: STEP 2 JOIN MOLDINGS WITH A BISCUIT

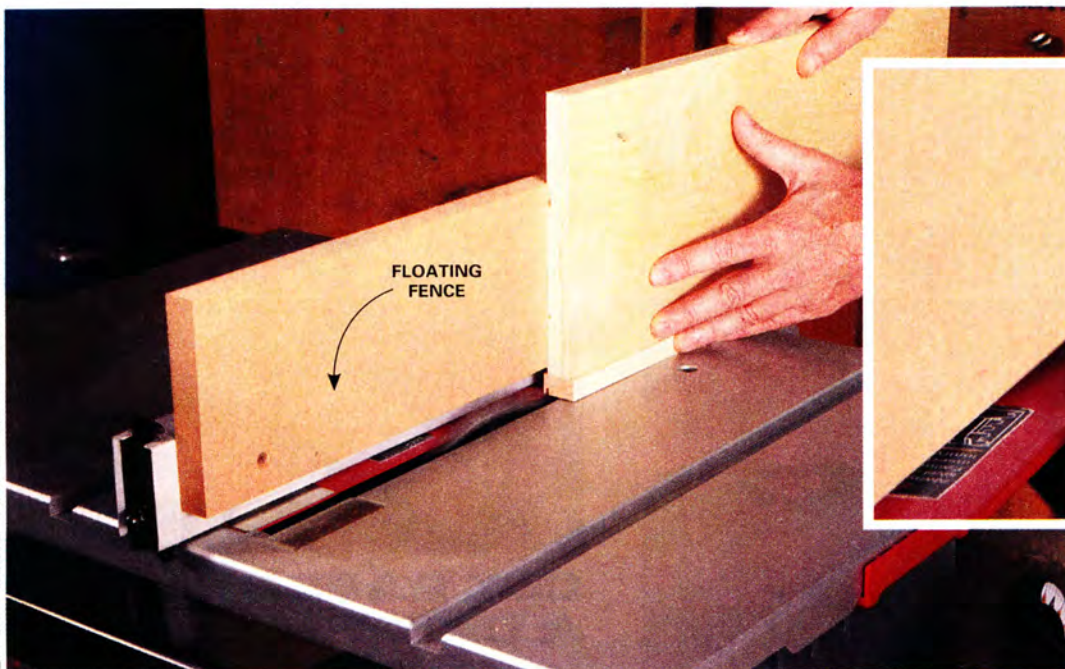
Nail one casing to the jamb and wall. Spread glue on the miter and the biscuit and assemble the miter.

TABLE SAW HELPERS

**Make your
saw do more
—and do it
better**



The Family Handyman has been dishing out table saw wisdom for more than 50 years. The saws themselves have improved dramatically over that time, but even the best modern saw can benefit from some old-fashioned ingenuity. So we selected some of our favorite tips from the past few decades to help you get more from your saw, whether it's an antique or the latest model.

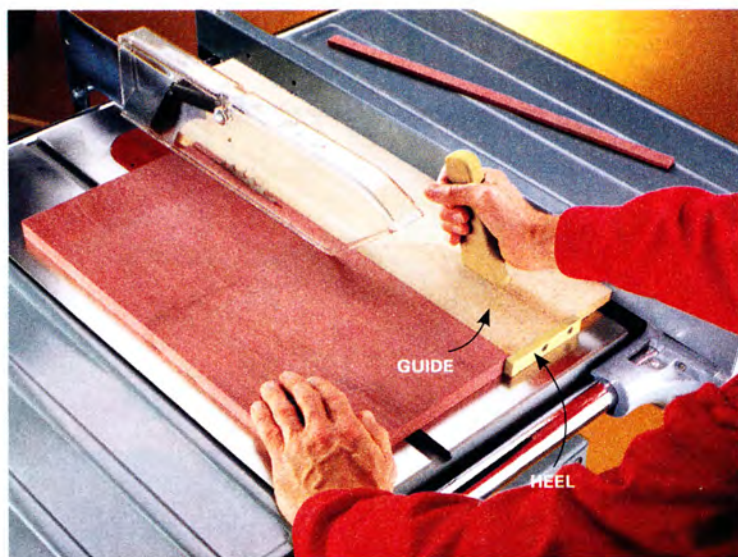


FAST, FLAWLESS PLYWOOD EDGING

If you've ever covered plywood edges with solid wood, you know how hard it is to position the edging flush with the plywood surface. Next time, try this: Start with edging that's about 1/8 in. wider than the thickness of the plywood. That way, you can attach the edging fast, without worrying about a flush fit. To trim off the excess edging, clamp or screw a tall "floating fence" to your table saw fence. Then position the floating fence so it's flush with the outer edge of the blade. Finding the perfect position requires a couple of test runs. But when you get it right, you'll be able to trim the edging in seconds. And if you use a good-quality smooth-cutting blade, you can remove the saw marks with only light sanding.

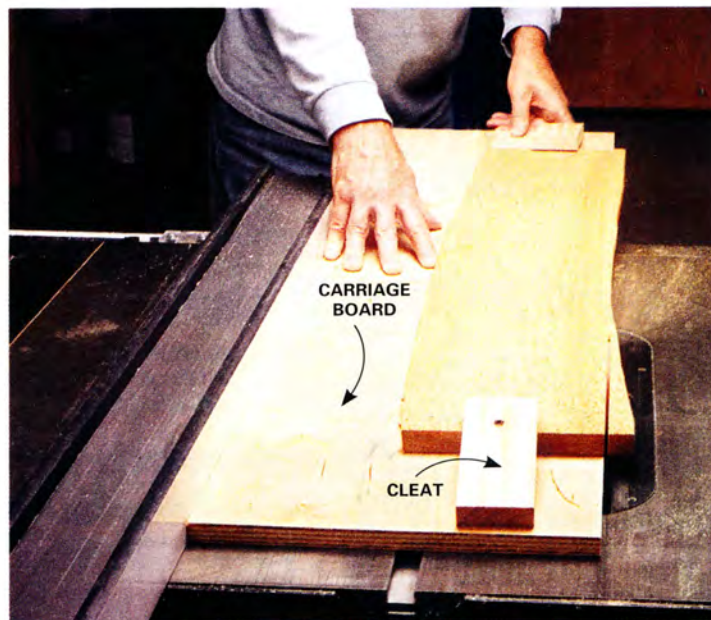
Use your blade guard!

To show some of these tricks more clearly, we removed the blade guard. For others, the guard must be removed. Use your guard whenever you can—and keep your fingers attached to your hands.



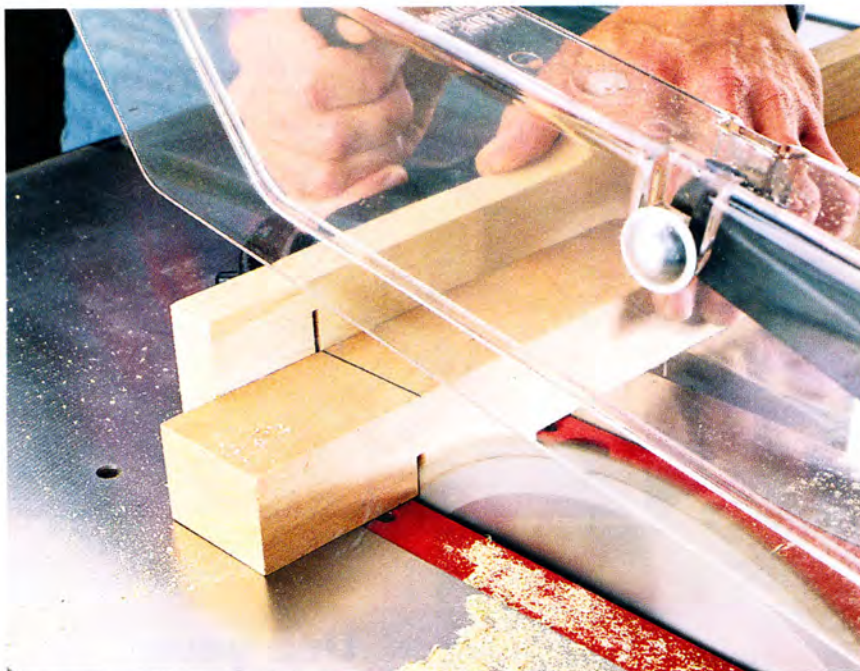
Cut skinny strips safely

Cutting thin strips can be dangerous. There's no space between the blade and the fence for a push stick, and on some table saws you have to remove the blade guard. Five minutes and a 6-in.-wide scrap of plywood or particleboard are all you need to cut safely and quickly. Just screw a wooden "heel" to the scrap and you've got a sliding guide that lets you leave the guard in place and keeps your fingers safe. Add a handle to make it easier to pull the guide backward after each cut.



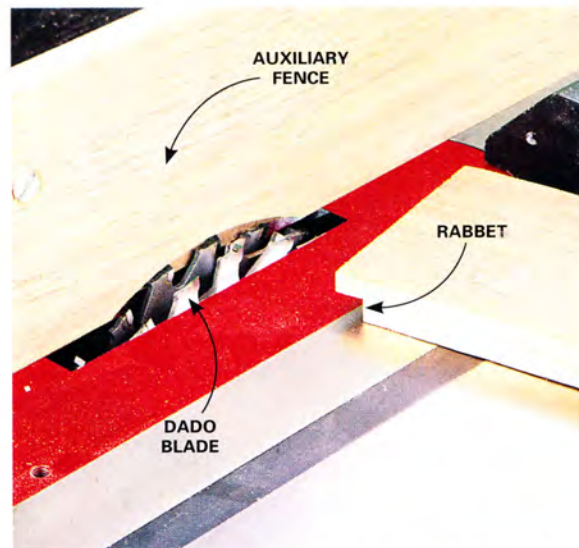
Straighten a crooked board

To cut a straight edge on any board, all you have to do is mount the crooked board to a larger carriage board and run the whole assembly across your table saw. You can fasten the crooked board with screws or—if you don't want to put screw holes in the board—hold it firmly in place with 4-in.-long screwed-down cleats at both ends. Set your saw's fence to match the width of the carriage board. That way, you can tell exactly where the blade will cut the crooked board.



Precision crosscuts

For easy and accurate crosscuts, mount a tall backer board to your miter gauge. Run the board across the blade and you've got a kerf that shows you exactly where the blade will cut. No more guesswork and no more squinting to align the cutting line with the blade.



CUT RABBETS WITH A DADO BLADE

A dado blade in a table saw is the fastest way to cut notches, or "rabbets," along the edge of a board. And here's a way to make the process even faster: Set the blade to cut slightly wider than the rabbet width. Then clamp or screw an auxiliary fence to the saw's fence. Now—instead of fussing with dado adjustments—you can precisely adjust the width of the rabbet by moving the fence and allowing the dado blade to cut into the auxiliary fence.



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Tools used:
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2) Kirb-Perfect®
3) Quick-Pitch®
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1) Pre-Pitch™
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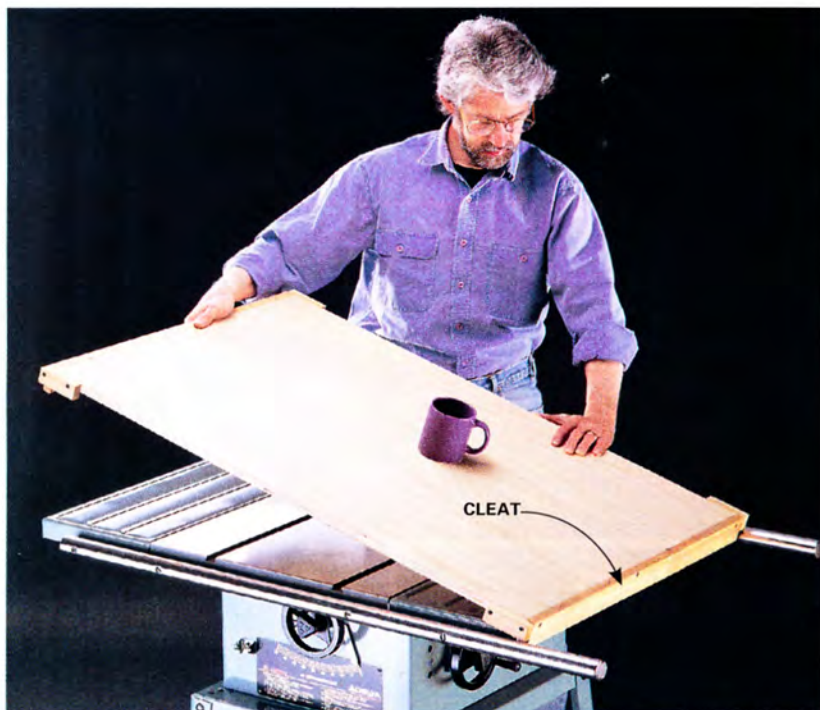
Sheet Membranes



Tools used:
1) Quick-Pitch®
2) Quick-Clips
3) Kirb-Perfect®

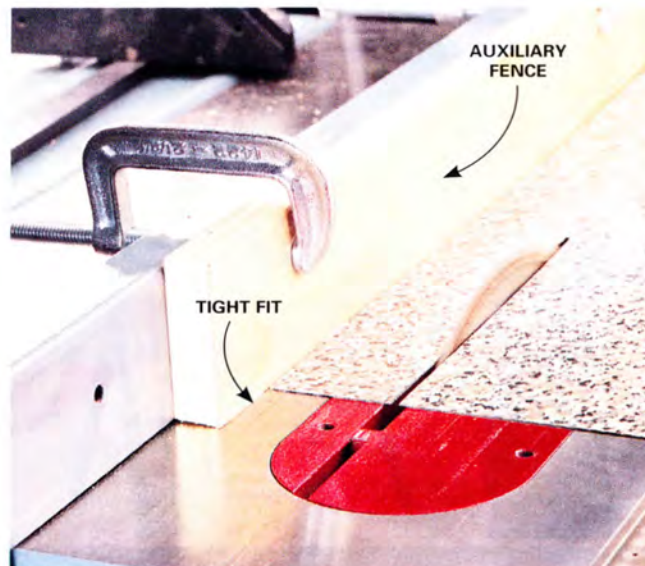


Simultaneously attach and level a continuous stringer on which to stack heavy or large format tile vertically.



WORKTABLE CONVERSION

Admit it: You sometimes use your table saw as an auxiliary workbench, slopping it up or damaging it. Better to build a plywood cover to protect it from glue, paint and tools. Cleats at the edges prevent the cover from sliding off the saw. Makes a great coffee table too!



AVOID LAMINATE DISASTER

An auxiliary fence mounted tightly against the table is essential when cutting plastic laminate (or any other thin material) on a table saw. Without it, skinny stuff can slip under the fence and cause a crooked cut, major chipping, kickback and injury, and ruin an expensive sheet of laminate.

familyhandyman.com MARCH 2014 39



✓Yes



✓Yes



✗No



✓Yes



✓Yes



✓Yes



✓Yes

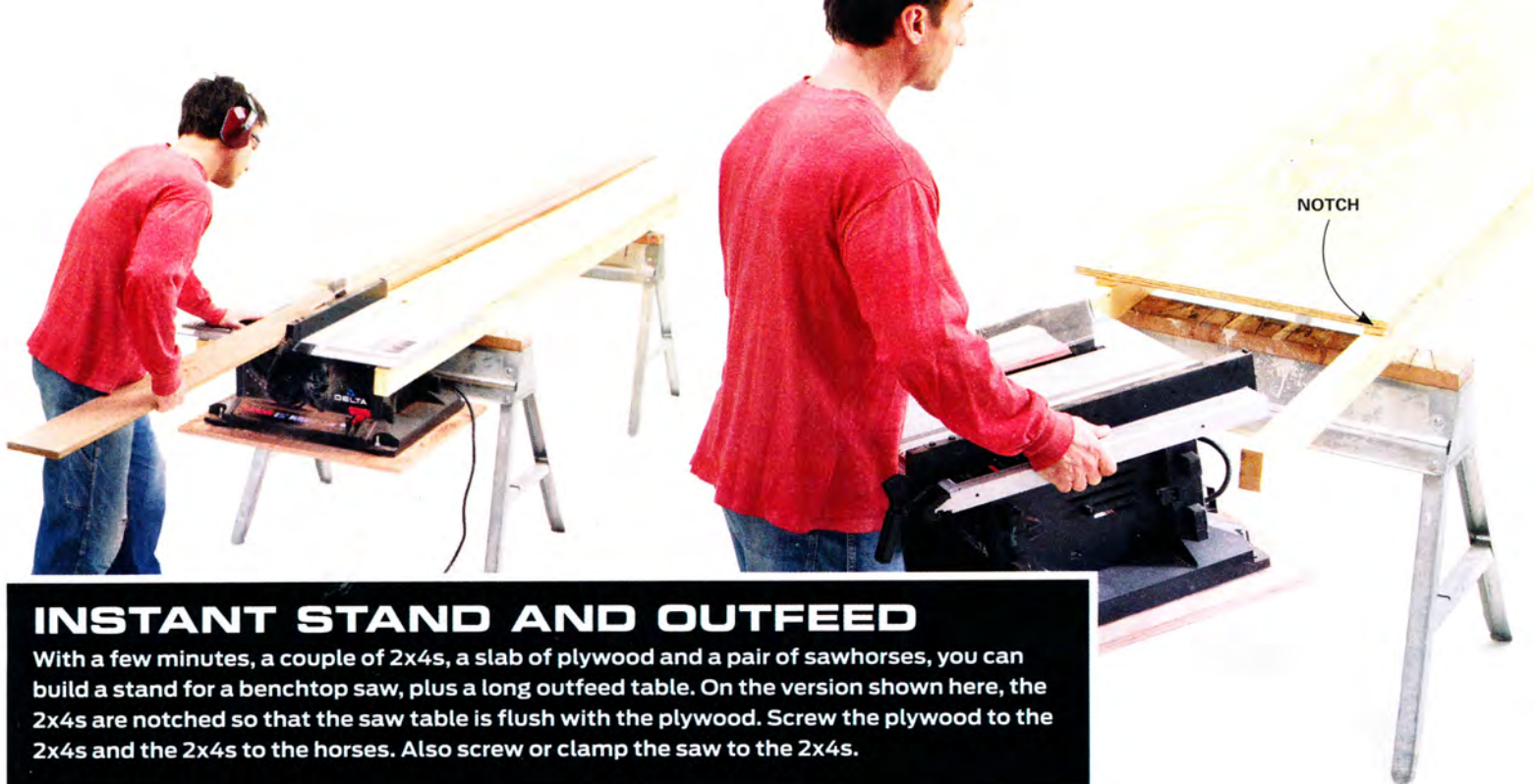


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INSTANT STAND AND OUTFEED

With a few minutes, a couple of 2x4s, a slab of plywood and a pair of sawhorses, you can build a stand for a benchtop saw, plus a long outfeed table. On the version shown here, the 2x4s are notched so that the saw table is flush with the plywood. Screw the plywood to the 2x4s and the 2x4s to the horses. Also screw or clamp the saw to the 2x4s.



Inexpensive accuracy

Think of the markings on your miter gauge as approximate, not exact. For real accuracy, drop by a woodworking store or an art supply store. For a few bucks, you can get a setup tool that's as accurate as the most expensive square. Use it to set your miter gauge to 45 or 90 degrees. This works with your miter saw and other tools too.

Upstanding support

Upright cuts—for lap joints, tenons or rabbets—aren't a good job for a table saw. That is, unless you build a simple box to guide and support the workpiece. Precise cuts depend on a precise box, so take the time to build it square and sturdy. And as always, make your adjustments and mistakes using scraps before cutting precious wood.



Our iPad edition features even more great table saw tips. It's available at the App Store.

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FIRE! FLOOD! STORM!

YOU are
the first
responder.
**Are you
ready?**

by **Gary Wentz**

editors@thefamilyhandyman.com

When disaster strikes your home, you can text a friend, call a plumber or dial 911. But until help arrives, you're the one on the scene, the only one who can act fast. And what you do can make the difference between minor damage and destruction. As usual, it all comes down to preparation and know-how. This article provides the know-how; the prep work is quick and inexpensive. So read on—the payoff could be huge!

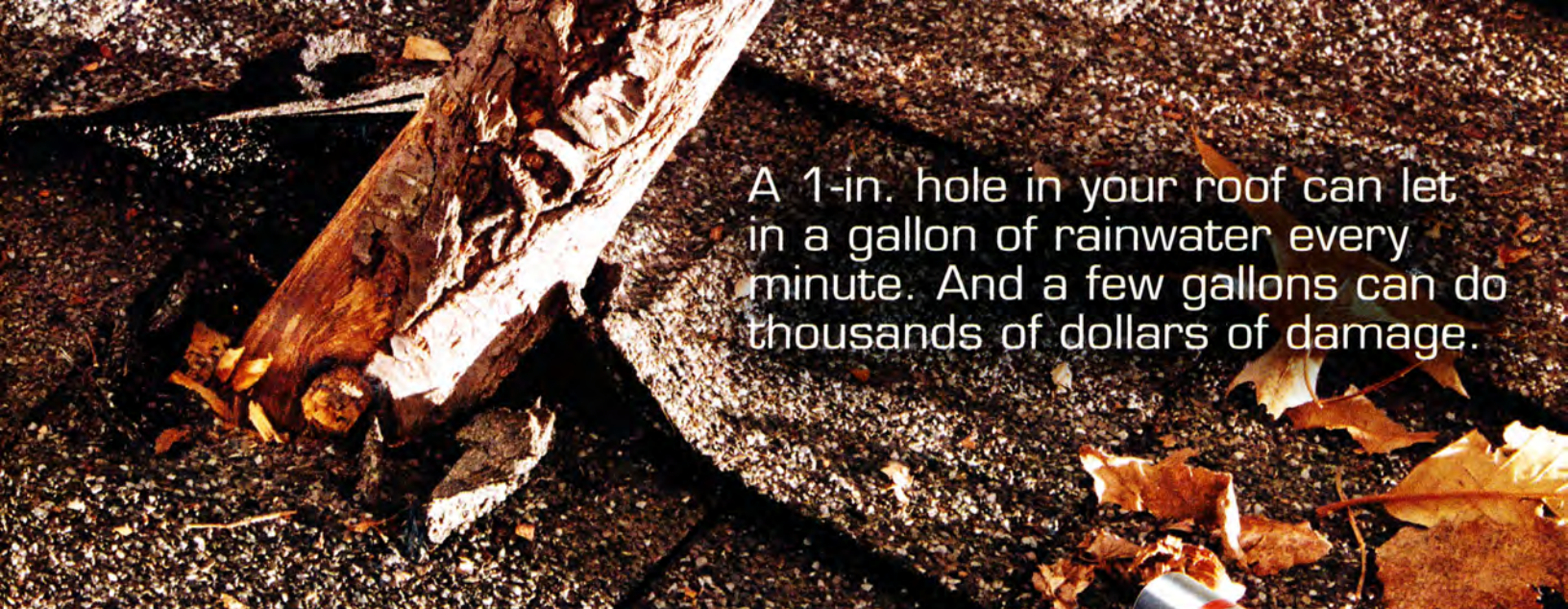


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A 1-in. hole in your roof can let in a gallon of rainwater every minute. And a few gallons can do thousands of dollars of damage.

First aid for roof damage

With 30 bucks in materials, you're ready for almost anything

Minor roof damage can lead to major water damage inside your home. But if you keep a few simple materials on hand, you can seal most roof injuries in just a few minutes.

A section of flashing is the perfect patch for smaller holes—often caused by blown-down tree branches (**Photo 1**). Don't forget to caulk around the hole. Special roof sealant is best, but any type of caulk is better than nothing.

For larger areas, a tarp is the best bandage. But before you spread a tarp, screw plywood over large holes in the roof. Left unsupported, a tarp will sag into a hole, fill with rainwater and possibly leak. If shingles have blown off but there are no holes in the roof, you can lay the tarp directly over the roof sheathing. Stretch the tarp so it lies smoothly over the roof and batten down the entire perimeter (except the ridge). Just a few inches of loose tarp will allow strong winds to drive in rain or rip the tarp to shreds. Use screws and any type of lumber you have on hand to secure the tarp. Whenever possible, extend the tarp over the roof ridge (**Photo 2**) so water won't flow down and under it. If there's no way to run the tarp over the ridge, slip sections of flashing under shingles and over the upper edge of the tarp. Then drive nails through both the flashing and the tarp.



FIRST AID KIT FOR YOUR ROOF

A 9 x 12-ft. tarp (\$13) is big enough to cover a large area but small enough for one person to manage. If you have a large roof, keep two or three of them on hand. A 14-in. x 10-ft. roll of aluminum flashing costs about \$12.

Roofs are dangerous!

Emergency roof repairs often mean walking on a wet roof and wrestling with tarps, which can catch the wind like a sail. We strongly recommend you wear a roof harness (about \$100 online).



1 PATCH A SMALL HOLE

Cover a small hole with metal flashing. Slide the flashing under the shingles above the hole, run a heavy bead of caulk around the hole and nail down the exposed corners of the flashing.



2 TARP LARGE AREAS

Even if the damage is near the lower end of the roof, extend the tarp over the ridge so water won't run under the tarp. Screw down boards to secure the tarp.

Sewer “backflow” can blast a 6-ft. geyser of sewage out of drains.

Put a stop to sewage backup

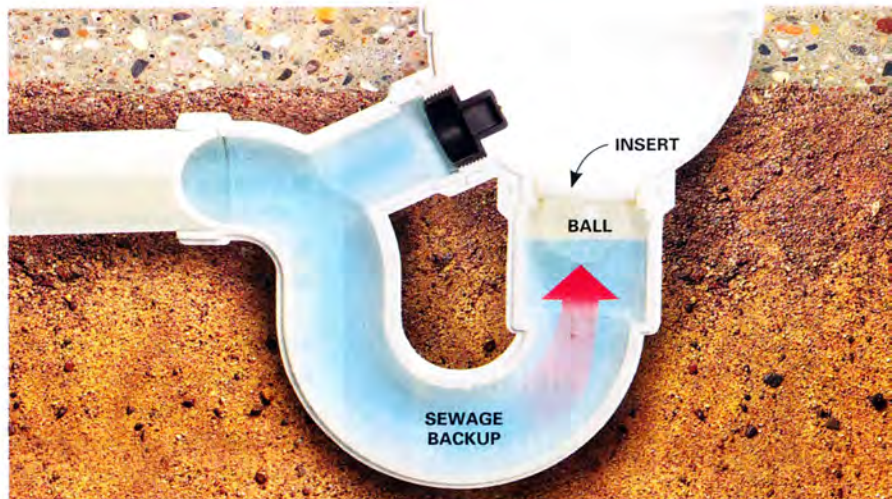
During a flood, sewage can flow back into your house

Floodwater doesn't just fill streets and basements. It can also fill sewer or septic systems, causing sewage to “backflow” through drains and into homes. Sewage is a nasty, toxic soup—more damaging, dangerous and disgusting than ordinary floodwater. The lower the drain, the greater the risk—so homes with basements and homes in low-lying areas are the most vulnerable. To find out if this is a likely danger in your home, talk to your neighbors. If they've ever had sewage backflow during a flood, your house is probably at risk too. Don't wait to plan and prepare; home centers sometimes run out of backflow-stopping gear just before a flood.

In some situations, blocking off individual drains is a good approach. In a basement with only a floor drain and a laundry tub, for example, you can stick a test plug in the tub drain and install a “backwater” valve (\$8) in the floor drain (**Photo 1**). But other types of drains are more difficult: The best way to block a toilet drain, for example, is to remove the toilet and plug the pipe. The most reliable way to block a bath or kitchen sink is to remove the trap and cap the drain stub-out pipe. That's a lot of work.

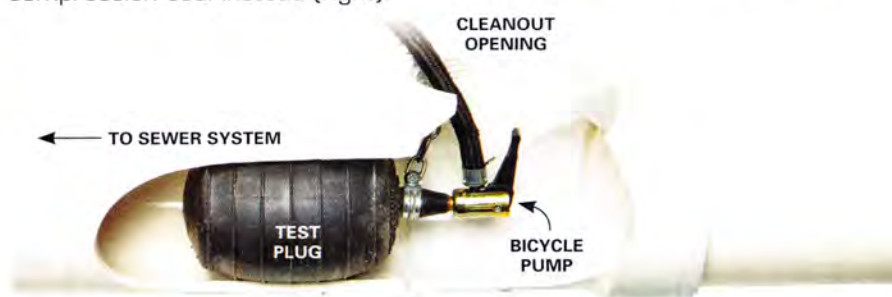
So instead of fussing with individual drains, consider blocking the main drain line at the cleanout (**Photo 2**). Most homes have a cleanout near the point where the main line exits the house. Unscrew the cleanout plug, insert a test plug and inflate it with a bicycle pump. This single solution protects your whole house, but has three drawbacks: First, you have to do it immediately when flooding begins and the flow is weak. Strong backflow will make it impossible. Second, any water that seeps into your home (through basement walls, for example) can't flow out through floor drains. And finally, since your entire drain system is blocked, you can't use toilets, sinks or tubs. To prevent accidental use, it's a good idea to shut off the water supply.

The ultimate solution is a whole-house backwater valve (not shown) installed in the main line. Prices start at about \$50 online. Once installed, it protects all your drains without any effort or inconvenience. Installation isn't tricky but usually requires breaking up the floor—a big, messy job.



1 PROTECT FLOOR DRAINS WITH A BACKWATER VALVE

A “backwater” valve lets water flow into the drain but not out. To install the type shown above, drop the ball into the drain and screw in the threaded insert. When water rises, the ball seals against the insert. If you have a cast iron floor drain, the threads inside are probably corroded, so choose a version with a rubber float and compression seal instead (right).



2 BLOCK THE MAIN LINE WITH A TEST PLUG

The fastest, easiest way to stop sewage backflow to all drains is to place an inflatable test plug in the main sewer line. Inflate the plug with a bicycle pump.

THE TWO TYPES OF TEST PLUGS

Test plugs are used when plumbing systems in new homes are pressure-tested. But they can also be used to block drains and stop sewage backflow. Screw-type plugs cost \$7 or less. Inflatable plugs are more versatile and cost a lot more (\$20 to \$40). Home centers carry some test plugs; shop online for the best selection.



Get to know your fire extinguisher

There's no time to learn during a fire

Household fire extinguishers are for small fires and have a short "discharge time" (10 seconds is typical). That means you can't learn as you go. So take a minute now to read the label. Check the expiration date and the pressure gauge to be sure the extinguisher will work when you need it.

There's nothing complicated about basic fire extinguisher technique:

- Stand a few feet from the fire, start blasting and move toward the fire. The instructions will tell you how far away to start.
- Move the extinguisher's stream in a sweeping motion.
- Aim at the base of the fire, not at the flames.

But there are a few other things to know. First, fire extinguishers blast the area with chemicals and make a mess. So an extinguisher may not be the best tool for every small fire. In the case of a stovetop grease fire, for example, it's usually best to smother the fire with a pot lid. Second, fires that seem to be out can reignite. So keep an eye on the area for a few minutes afterward.



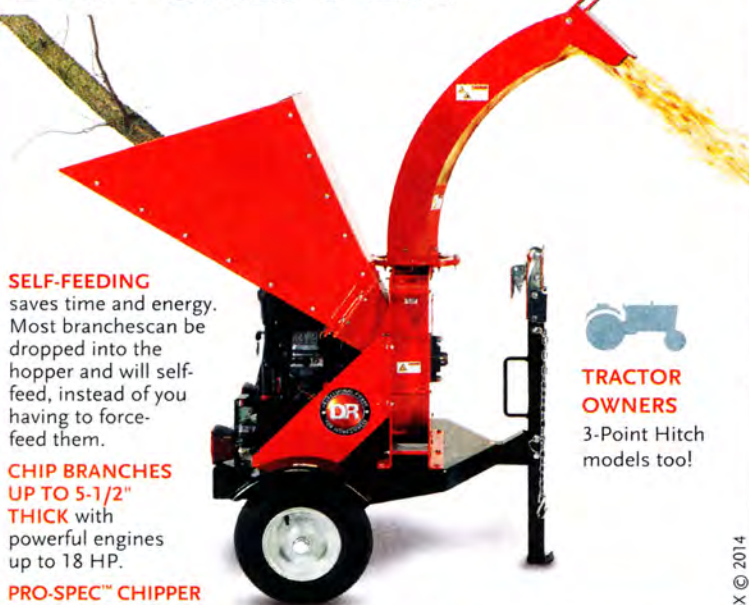
Most extinguishers hold just a few seconds' worth of fire suppressant.

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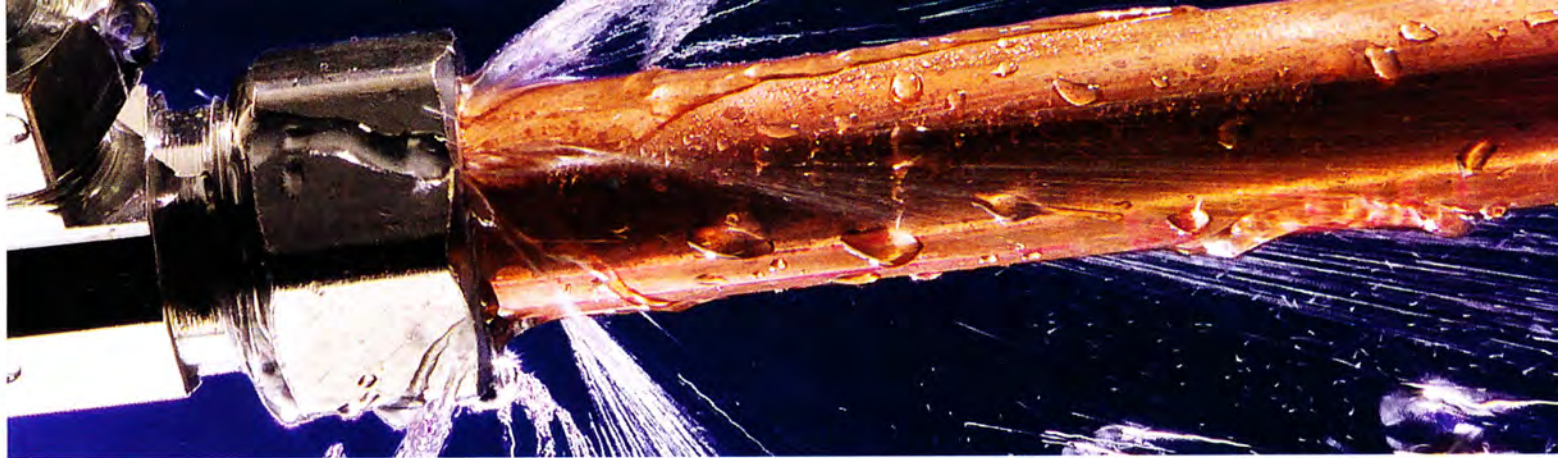
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Does your shutoff shut off?

Don't wait for a disaster to find out

Your main shutoff valve is one of the most important disaster-stoppers in your home. When a pipe leaks or bursts, this valve lets you shut off water flow to your entire home. But there's a good chance your main valve will fail when you need it. So take a few minutes now to make sure you can close it.

Ball valves rarely fail, and testing is easy. But if you have a gate valve, you might need a little patience and know-how. Turn the handle clockwise to close it. If you can't turn the handle, loosen the packing nut just a little (**Photo 1**). A shot of lubricant or penetrating oil may also help. Then try again. Don't worry about cranking too hard. There's a small chance that you'll damage the valve, but a valve that won't close is useless anyway and needs to be replaced. For help with that project, search for "main valve" at familyhandyman.com.

Reopening a stubborn gate valve is more risky than closing it; you're more likely to break internal parts and could end up without running water. If the valve is stuck closed, tap it with a hammer (**Photo 2**). When the valve opens a little, stop for a few minutes. That allows water pressure on both sides of the valve to equalize, instead of pressing against one side and locking the valve in place.

Emergency shutoff tips

- If a toilet or faucet is leaking, try the shutoff valves below them first. If they won't close, head for the main valve.
- If you're able to close your main valve most of the way but it's still allowing a trickle of water through, simply open the lowest faucet in your house. Water will trickle out of that faucet, but it won't flow to the higher pipes in the house.
- If your home has a water meter, you have two valves—one on each side of the meter. If one won't close, try the other. Closing either of them will stop the flow.
- If you have a hot water leak, you can stop the flow by turning off the valve at the water heater.

BALL VALVE

The stainless steel ball almost always rotates smoothly to shut off the water. But just to be sure, give the handle a quarter turn. Then turn on a faucet to see if the water is off.



GATE VALVE

The gate is prone to getting stuck open, closed or somewhere in between—especially after years without use.



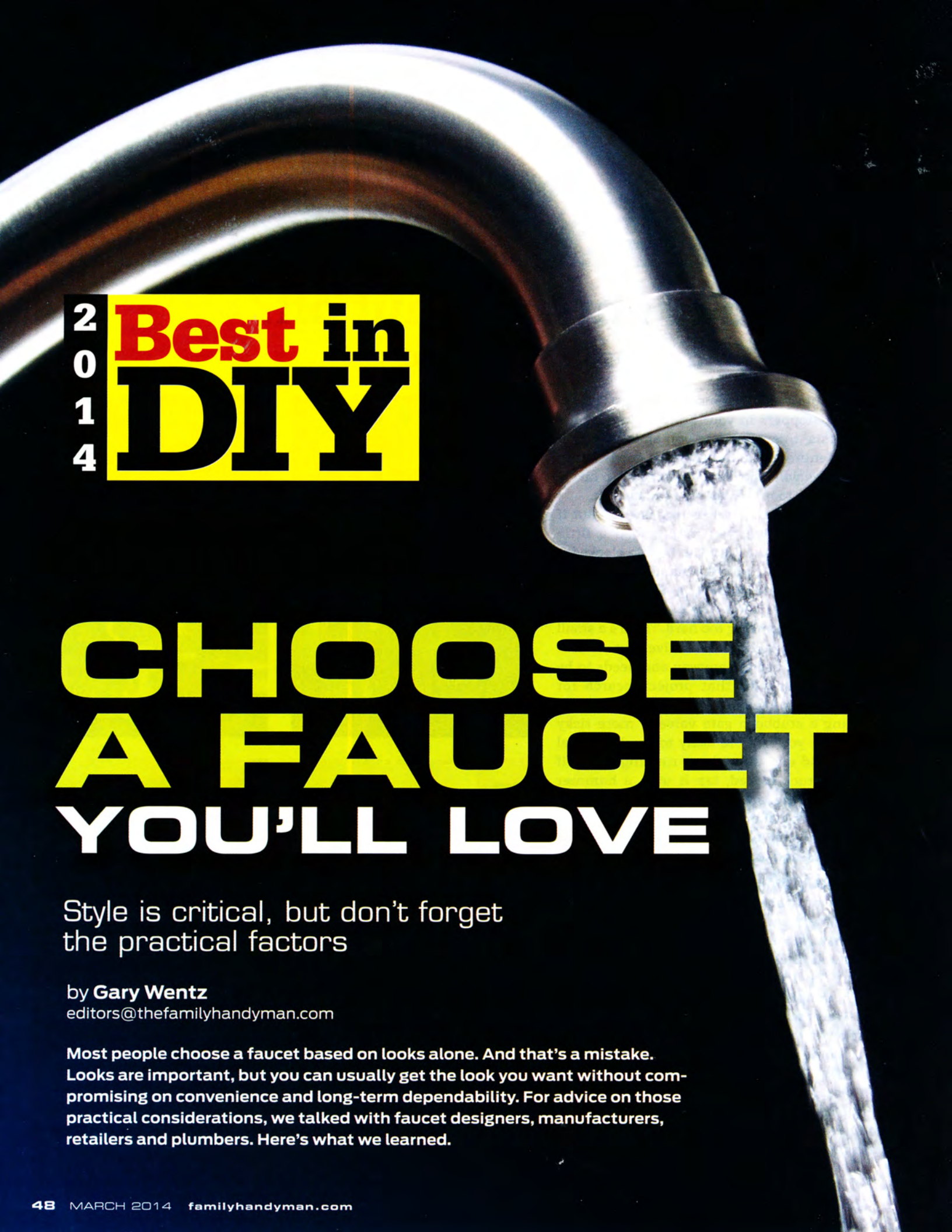
1 CLOSE A STUBBORN GATE VALVE

If the handle won't turn, loosen the packing nut. But be sure to hold the handle in position while you turn the nut. If the handle turns as you unscrew the nut, you risk breaking the valve.



2 REOPEN A GATE VALVE

If the valve is hard to open, tap the underside of the valve with a hammer as you turn it.



2
0
1
4

**Best in
DIY**

CHOOSE A FAUCET YOU'LL LOVE

Style is critical, but don't forget
the practical factors

by **Gary Wentz**

editors@thefamilyhandyman.com

Most people choose a faucet based on looks alone. And that's a mistake. Looks are important, but you can usually get the look you want without compromising on convenience and long-term dependability. For advice on those practical considerations, we talked with faucet designers, manufacturers, retailers and plumbers. Here's what we learned.

Spend enough but not too much

Plan to spend at least \$65 for a bath faucet and at least \$100 for a kitchen faucet. You might get a great faucet for less, but it's more likely that you'd get a low-quality faucet. If you spend much more, you're paying for extra features or style rather than basic reliability or durability.

Watch the spout height and reach

Faucet spouts vary a lot in height and reach, and most of the time you can just choose the look you like best. But if you have a shelf above the sink, a tall spout may not fit. With a three-bowl kitchen sink, a spout with a short reach may not extend to all the bowls. A bath faucet with a short reach might cause you to slop water behind the spout when you wash your hands.

Pull-down sprayers are better

If you've ever had a "side" sprayer (a spray handle mounted in the sink), you've probably had dribbles or leaks. And you might assume you'd have similar (and more expensive) trouble with a faucet-mounted sprayer like the one shown here. Probably not. All of our experts told us that "pull-down" sprayers have proven much more reliable than the old side sprayers.

Choose ceramic valves

If you want to avoid having a faucet that drips, get one with ceramic valves. Other types of valves are usually drip-free for years, but they can't match the long-term reliability of ceramic. Faucets with ceramic valves cost about the same as other faucets.

Count the holes in your sink

If you want to switch from two handles to one, you have to think about the number of holes in the sink. Most sinks have three holes: one for the hot handle, one for the cold and one under the spout. Some single-handle faucets include a cover plate to hide the extra holes. But some don't, so check the label. If you currently have a "wide spread" bathroom faucet with two handles far from the spout, you can't switch to a single-handle model.

If you want a kitchen faucet with a "pull-down" sprayer mounted in the spout, there will be an empty sprayer hole. But the solution is simple: install a soap dispenser (\$20 and up). Your new faucet may even include one.

Some finishes are tougher than others

Here's Rule No. 1 of faucet finishes: Choose a finish that matches nearby cabinet hardware, towel bars, etc. Mismatches look bad. If you plan to replace existing hardware, your choice of faucet finishes is wide open. The vast majority of faucets have polished chrome, satin nickel or bronze finishes. All of these finishes are durable and keep their good looks for years. But some are more durable than others.

Chrome is the most durable finish and the easiest to keep clean—that's why it's always been the favorite for commercial kitchens and public bathrooms. If your faucet gets heavy use, it's your best bet for long-term toughness.

Nickel finishes are usually labeled "brushed," "satin" or "stainless steel" and have a dull shine. They're durable but prone to fingerprints and water spots, so they're harder to keep clean. Some have a coating that reduces stains and smudges, but that coating isn't as durable as metal and may chip or wear.

Bronze faucets have a brownish tone and are often called "oiled" or "rubbed" bronze. But the surface is a coating (such as epoxy) rather than metal. This coating is tough stuff, but can be chipped or scratched more easily than metal.

A single handle is more convenient

Two-handle faucets have a stylish symmetry that suits many bathrooms, especially traditional ones. But in practical terms, single-handle faucets have all the advantages. They're just plain more convenient; water temperature adjustment is easier and there's one less handle to clean.

EASIER INSTALLATION

Installing a new faucet often earns a "PG" rating for the foul language involved. But faucet makers have been striving for a "G" rating with ingenious engineering that takes some of the frustration out of installation. Here are our favorite innovations:



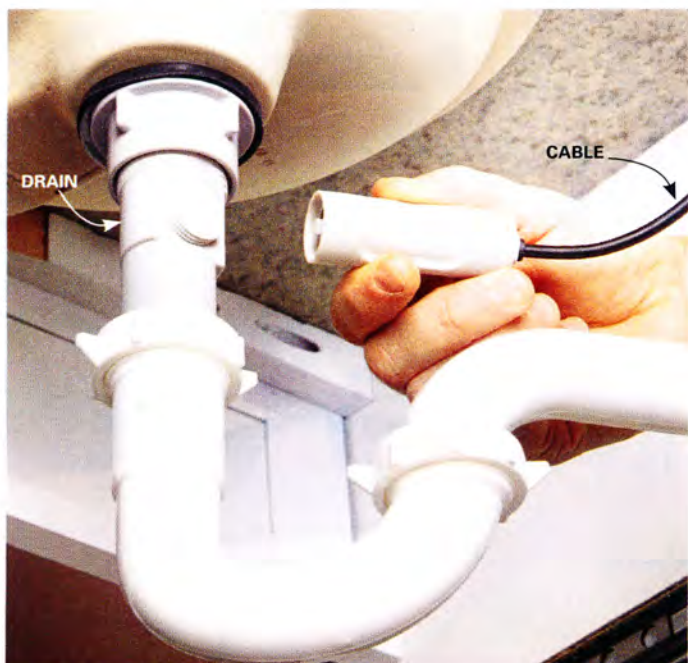
Instant-change faucets

Moen's M-PACT system consists of a valve kit that contains below-the-sink components, and a kit containing the handles and spout. With the valves installed, adding the handles and spout takes less than five minutes. When styles change, you can buy new components and install them instantly. Faucets for the M-PACT system may or may not include the valve kit—check before you buy. There's also a version for showers.



Faster, easier faucet mounting

Delta's EZ Anchor system lets you mount the faucet without crawling under the sink. First, you install the anchor; all it takes is turning a couple of screws. Then set the faucet body onto the anchor. As you turn the hub, barbed fingers lock the faucet solidly onto the anchor. You still have to reach under the sink to connect the preattached supply lines, but you'll avoid lying on your back and reaching up, cramming your hand behind the sink and dropping tools on your face. Only a few Delta kitchen faucets feature EZ Anchor (we hope that changes soon).



Super-simple stopper

Pfister's Push & Seal pop-up assembly is the ultimate in stopper simplicity. There's no linkage between the stopper and the faucet, nothing to connect or adjust. The spring-loaded locking mechanism under the stopper provides a tight seal. The Push & Seal drain is included with most Pfister bath faucets.



No-adjust stopper

Pop-up sink stoppers are frustrating. You make fussy adjustments when you install it and readjustments later. American Standard's SpeedConnect system eliminates all that. Just connect the cable—no adjustments, no readjustments. From above the sink, the system looks and operates just like the traditional system. Most American Standard bath faucets include the SpeedConnect drain.



Get a step-by-step guide to replacing a faucet in our iPad edition. It's available at the App Store.

Save money with WaterSense

If you're buying a bathroom faucet, look for the WaterSense label. To get this EPA label, a faucet has to have a low flow rate (1.5 gallons per minute) but feel like a high-flow faucet. As one of our experts put it, "You're saving water, but you can't tell." In areas with high water costs, a WaterSense faucet can pay for itself in one year. WaterSense labels don't apply to kitchen faucets.



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Repair a buried cable

If you're digging holes in your backyard, you should always call 811 a few days beforehand to mark all the underground utilities. Unfortunately, privately owned wiring will not be marked, so it's still possible to strike an electrical cable. It's especially likely if you're digging between the house and a freestanding garage, shed or yard light. If you do cut a power line, though, it's easy to fix. Here's how.

Assess the damage

Turn off the circuit breaker to the cut cable and double-check at the damaged area with a voltage sniffer to be sure it's really off. Then enlarge the hole to a 2-ft. diameter. If the cable is cut cleanly, you can just splice it back together with a single underground splice kit. But if it's cut or nicked in several places, you'll have to remove the damaged section and splice in a "jumper" piece of UF (underground feeder) cable using two splice kits.

Two types of splice kits

Underground AC splice kits come in two varieties: heat-shrinkable tubing and gel-filled shield. Both use a brass splicing block to connect the wires. But they differ in how they protect the splice.

The most common type of kit protects the splice with an 8-in. length of heat-shrinkable tubing filled with watertight hot-melt adhesive. (The Gardner Bender HST-1300, \$14, is shown.) Slide the tubing over the cable before you connect the wires to the splice block. Then slide the tubing over the connector and shrink it with a heat gun (best) or a torch (gently!). The other type is a corrugated plastic shield filled with an encapsulating gel. (Shown at far right and in **Photos 1 – 5** is the Tyco Electronics PowerGel Wrap-



around UF Splice Kit; \$30). It's twice the price, but it installs much faster, is goof-proof and is very long lasting.

Make the splice

Start by cutting out the damaged sections. Then cut, separate and strip the ends of the buried cable (**Photo 1**). Do the same for the additional section of cable

(if needed). Next, secure the wires in the brass holder (**Photo 2**). Locate the splice block in the protective shield (**Photo 3**). Wrap the shield around the splice and secure it (**Photo 4**). Then repower the circuit to make sure the splice works.

To make it easier to locate the splice in the future, mark it with bright-colored surveyor's tape (**Photo 5**). Then refill the hole.



TWO SPLICE KITS

On the left, one with heat-shrinkable tubing. On the right, one with gel. For both, the wires are connected in a splice block.

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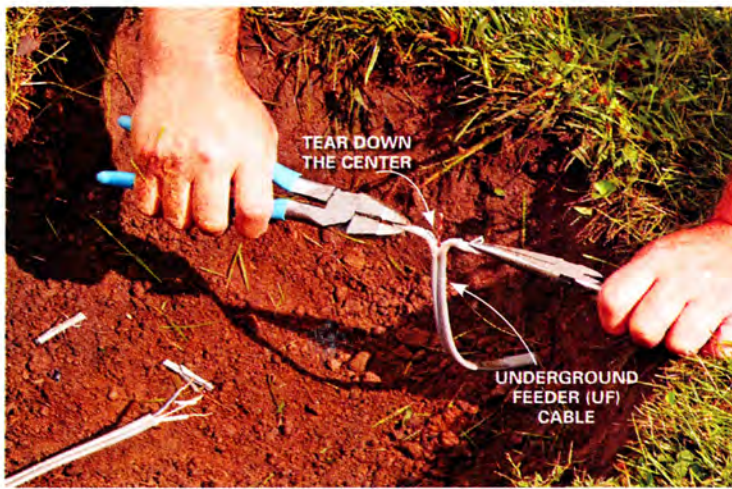
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1 TWIST AND PULL TO SEPARATE

Grab each of the side conductors with pliers. Then twist your hands in opposite directions to start the tear. Pull the conductors 180 degrees away from each other to separate and expose a length of 1-1/2 in. Strip 3/4 in. of insulation off the black and white wires.



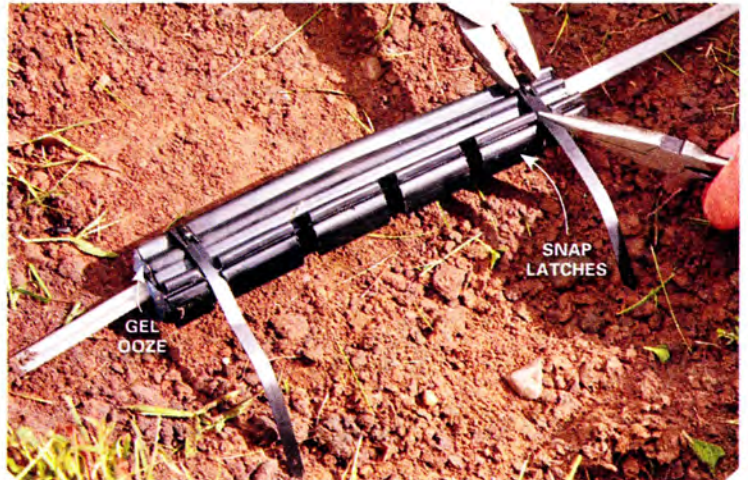
2 MATCH THE COLORS AND SPLICE

Slide the black wires into opposite ends of the brass barrel and tighten the screws. Then do the same for the white and bare copper wires.



3 POSITION THE SPLICE ON THE SHIELD

Place the splice block dead-center over the gel-filled shield. Clean off any debris that may have fallen into the gel. Then press the splice into the gel.



4 ROLL AND SNAP

Roll the shield around the splice and align the plastic latches. Snap the latches, starting at the center and working toward the edges. Then install the zip ties and tighten with pliers.



5 MARK THE LOCATION

Tie bright-colored surveyor's tape around the splice and fill the hole with soil. Replace the grass and trim the tape at soil level so you can find it again.

Splicing low-voltage cable

Besides underground power cable, it's also possible to slice through low-voltage lighting, irrigation and telephone cable and coaxial cable. Since they're low voltage, you may be tempted to just twist the wires and wrap the splice with electrical tape. It won't work. Instead, head to a home center and get a couple of low-voltage connectors for direct burial. They rely on gel to encapsulate the splice to prevent water intrusion and corrosion.

For low-voltage stranded cable, like you might find on lighting, use the wire nut/gel-filled tube style. Twist on the wire nut, plunge the connector into the tube until the gel oozes out the top, then snap the lid. For solid irrigation and telephone wire, shove the wires in an insulation piercing gel-filled connector and snap it closed.



LANDSCAPE WIRING CONNECTORS

Chicago Doctor Invents Affordable Hearing Aid

Outperforms Many Expensive Hearing Aids

Reported by J. Page

CHICAGO: A local board-certified Ear, Nose, Throat (ENT) physician, Dr. S. Cherukuri, has just shaken up the hearing aid industry with the invention of a medical-grade, affordable hearing aid. **This revolutionary hearing aid is designed to help millions of people with hearing loss who cannot afford—or do not wish to pay—the much higher cost of traditional hearing aids.**

"Perhaps the best quality-to-price ratio in the hearing aid industry" —Dr. Babu, M.D. Board-Certified ENT Physician

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"Perhaps the best quality-to-price ratio in the hearing aid industry."

—Dr. S. Babu Board-Certified ENT Physician, National Authority on Hearing Loss

"I have a \$2,000 Resound Live hearing aid in my left ear and the MDHearingAid® in the right ear. I am not able to notice a significant difference in sound quality between the two hearing aids."

—Dr. May, ENT Physician

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Dr. Cherukuri knew that untreated hearing loss could lead to depression, social isolation, anxiety, and symptoms consistent with Alzheimer's dementia. **He could not understand why the cost for hearing aids was so high when the prices on so many consumer electronics like TVs, DVD players, cell phones and digital cameras had fallen.**

Since Medicare and most private insurance do not cover the costs of hearing aids, which traditionally run between \$2,000-\$6,000 for a pair, many of the doctor's patients could not afford the expense. Dr. Cherukuri's goal was to find a reasonable solution that would help with the most common types of hearing loss at an affordable price, not unlike the "one-size-fits-most" reading glasses available at drug stores.

He evaluated numerous hearing devices and sound amplifiers, including those seen on television. Without fail, almost all of these were found to amplify bass/low frequencies (below 1000 Hz) and not useful in amplifying the frequencies related to the human voice.

Inspiration From a Surprising Source

The doctor's inspiration to defeat the powers-that-be that kept inexpensive hearing aids out of the hands of the public actually came from a new cell phone he had just purchased. **"I felt that if someone could devise an affordable device like an iPhone® for about \$200 that could do all sorts of things, I could create a hearing aid at a similar price."**

Affordable Hearing Aid With Superb Performance

The high cost of hearing aids is a result of layers of middlemen and expensive unnecessary features. Dr. Cherukuri concluded that it would be possible to develop a medical grade hearing aid without sacrificing the quality of components. The result is the MDHearingAid® PRO, starting well under \$200. **It has been declared to be the best low-cost hearing aid that amplifies the range of sounds associated with the human voice without overly amplifying background noise.**

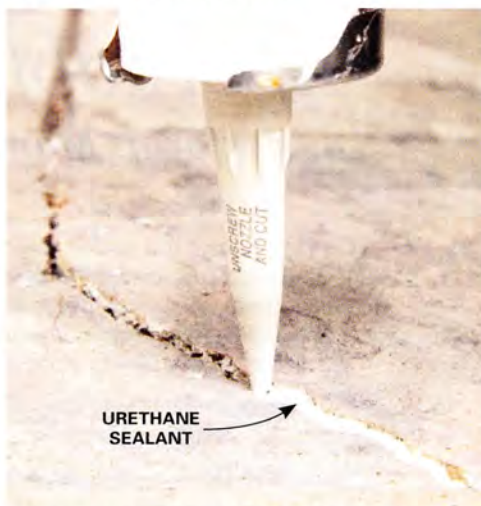
Tested By Leading Doctors and Audiologists

The MDHearingAid® PRO has been rigorously tested by leading ENT physicians and audiologists who have unanimously agreed that the **sound quality and output in many cases exceeds more expensive hearing aids.**

Patch hairline cracks in concrete

It's easy to ignore hairline cracks in your sidewalk or concrete patio. But patching them early is the key to preventing them from growing into larger and uglier cracks. The type of sealant you use is critical to a long-lasting repair. Don't use a traditional vinyl or latex concrete patching product—it will dislodge as soon as the slab moves. Instead, use a self-leveling flexible urethane sealer (two choices are Quikrete Polyurethane Self-Leveling Sealant and DAP Concrete Waterproof Filler and Sealant).

Blow loose sand and debris out of the crack with compressed air. Cut the tube nozzle slightly smaller than the crack width and inject the sealer (Photo 1). Allow a few minutes for the surface bead to self-level. Clean up the excess with a rag and mineral spirits (Photo 2).



1 USE URETHANE SEALANT Hold the tube upright and force the sealant deep into the crack until it oozes up around the nozzle tip.



2 WIPE OFF THE EXCESS Wet a clean rag with mineral spirits and wipe across the crack to remove excess sealer.

REPLACE A FAILING LAPTOP HARD DRIVE



Hard drives rarely fail without warning. So if you hear buzzing, clicking or low-pitched squeals, your drive is about a day away from the big croak. You can replace the drive yourself and save all your data if you act fast.

First, shut down the laptop. Buy a new (and larger) hard drive to fit your computer. Expect to pay about \$100 for a new laptop hard drive. If you don't already have an external backup drive, get one now. And, you'll need "imaging" software to copy your entire laptop drive onto the external drive and then transfer it to the new laptop drive. Finally, you'll need an antistatic wristband to prevent static damage to the new drive. Find all the parts at a computer or electronics store.

We're working on a Dell C840 laptop; it's typical of most PC-style laptops with a "slide-out" drive tray. However, to find the exact procedure for your laptop, just search online for your model number and add "service manual" to the search field.

Start the repair by backing up the failing drive to the external drive (Photo 1). Disconnect the power cord and remove the laptop battery (or batteries). Then remove the failing drive (Photo 2). Using an optional antistatic mat provides an extra measure of protection. With the drive tray out, swap out the drives (Photo 3) and reinsert the drive tray. Then boot the computer with the emergency disk and restore the data from the external drive to your new laptop drive.

1 MAKE A BOOT DISK AND A BACKUP

Plug in the external drive and boot the computer with the imaging software disk. Then create an exact duplicate of your hard drive on the external drive. Use the imaging software to burn an emergency boot disk.



2 REMOVE THE OLD DRIVE

Attach your antistatic wristband and clip the end to a ground point. Remove the screw from the drive door. Then slide the door down and pull the drive straight out.



3 REPLACE THE DRIVE

Remove the four Phillips head screws from the bottom of the tray (or the side rails). Then lift out the old drive and install the new drive in the same orientation. Replace the screws and gently snug them up.

Repair your office chair

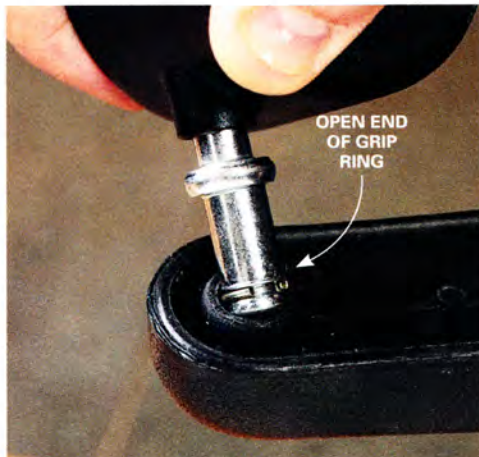
When casters roll around long enough in dust, dirt and hair, they stop rolling and start skidding. And that's how your floors get scratched up or your carpet gets wear tracks. Sometimes you can bring casters back from the dead by cleaning and

lubricating them. So try that first. Just spray household degreaser/cleaner right onto the roller axles. Then spin the wheels to loosen them up. If that helps, rinse off the cleaner, blow them dry with compressed air, and then lubricate them.



1 POP OUT THE OLD CASTER

Slip the angled end of a flat bar under the caster and pop the caster out of its socket in one quick motion. If it doesn't come out all the way, grab it again and pry it the rest of the way.



2 START THE NEW CASTER AT AN ANGLE

Rotate the open end of the grip ring so it's facing up. Then tilt the caster stem into the socket until the ring gap starts to close. Straighten it up and push it home.

If cleaning doesn't help, you'll have to replace them. Here's how.

Most office chairs use a twin-wheel grip-ring style caster. The grip ring compresses and snaps into a groove in the socket. The easiest way to remove a grip-ring caster is with a flat bar (**Photo 1**). Before you buy replacements, measure the width and height of the stem. The most common widths are 3/8 in. and 7/16 in. There's only a 1/16-in. difference between the two, so measure carefully! If you try to fit a 7/16-in. stem into a 3/8-in. socket, you'll crack the socket.

Next, measure the wheel diameter. If you want the chair to push back easier or roll over small items on the floor rather than get stuck, buy a caster with a larger wheel. Buy a urethane tread caster for wood (and composite), tile or vinyl floors. But if the chair will roll on carpet, buy a hard rubber or nylon tread caster.

To install the caster, tilt it into the socket to compress the grip ring (**Photo 2**). If you can't get it started, apply a drop of oil to the ring. If the caster only goes in halfway, tap it with a mallet (**Photo 3**).



3 TAP IT IN

Position a small block of wood directly over the caster stem. Then tap it with a mallet until the stem pops all the way into the socket.

Two online sources for casters are servicecaster.com and castercity.com.

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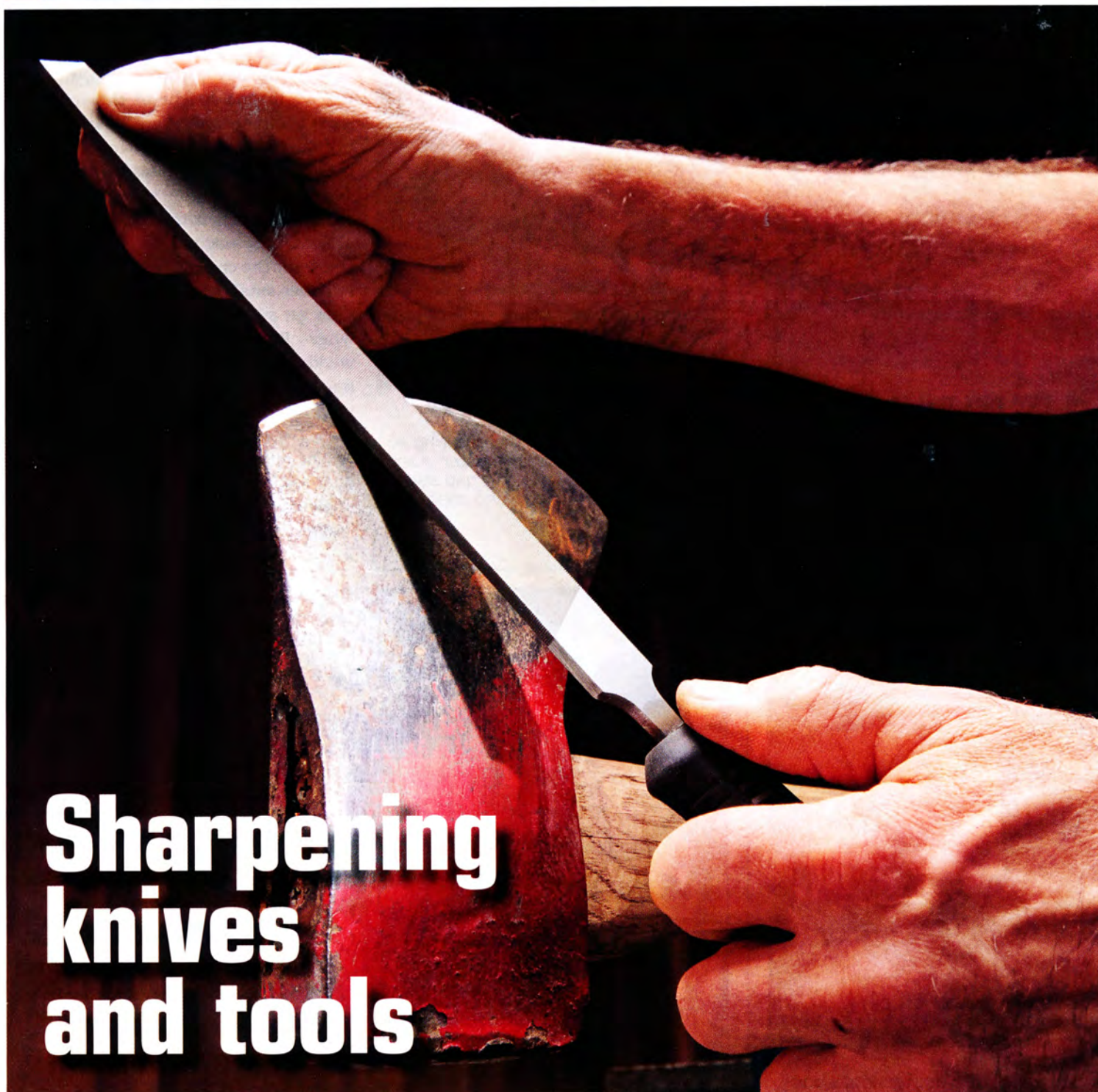
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Top Ten TIPS

BY JEFF GORTON

editors@thefamilyhandyman.com



ART DIRECTION ELLEN THOMSON • PHOTOGRAPHY TOM FENENGA

Sharpening knives and tools

If sharpening your dull kitchen knives or blunt chisels sounds like drudgery, we can help. We'll show you some cool sharpening tips and tools that'll motivate you to tune up the edges on all the dull tools and knives in your shop and kitchen.

We don't have space here to teach every sharpening step, but we've collected tips to help you get started on the most common sharpening tasks. For more detailed sharpening information, go to familyhandyman.com and search for the topic you're interested in.

1 Flatten the back of chisels and plane blades

It's impossible to get a sharp edge on a chisel or a plane if the back of the blade isn't flat. If you're using the glass and sandpaper method of sharpening (Tip 10), press the back side of the blade against the sandpaper and move the blade back and forth, being careful to hold it perfectly flat. Sand the back of each blade until it's uniformly shiny along the cutting edge. Do this with each grit as you move through the progression from coarse to fine. Use the same technique with natural or diamond sharpening stones.



2 Keep a handheld sharpener in your kitchen drawer

Most of the time you don't need a power tool or an expensive knife-sharpening system to keep a workable edge on your kitchen knives. Regular use of a handheld sharpener will be fine. The Wusthof sharpener we're using costs \$20 and works great. Other brands may work equally well, but we haven't tried them. The sharpener has carbide steel rods to shape the blade, and diamond rods to finish the edge. Follow the instructions to quickly sharpen kitchen knives that have standard beveled edges. You'll have to use another sharpening tool if your knives have unusual or asymmetrical angles.

3 Sharpen serrated bread knives with a diamond sharpening steel

The only hard part of this tip is finding the right size diamond steel. The curve of the steel has to fit the scallops on your serrated knife. Take your knife to a cookware store and find a diamond-coated steel (about \$30) that matches the scallop size on your knife. If you're shopping online, you can find the diameter you need by holding drill bits against the scallops. Then use this dimension to order the right diameter sharpener. Another option is to buy a tapered, pocket-size diamond steel (the one shown is \$15) that accommodates a variety of different scallop sizes.

You'll notice that one side of the blade is flat and the other tapered. Sharpen only the tapered side. Starting at one end, sharpen each scallop with two or three strokes, matching the original angle. When you're done, run the knife through corrugated cardboard to remove metal filings.



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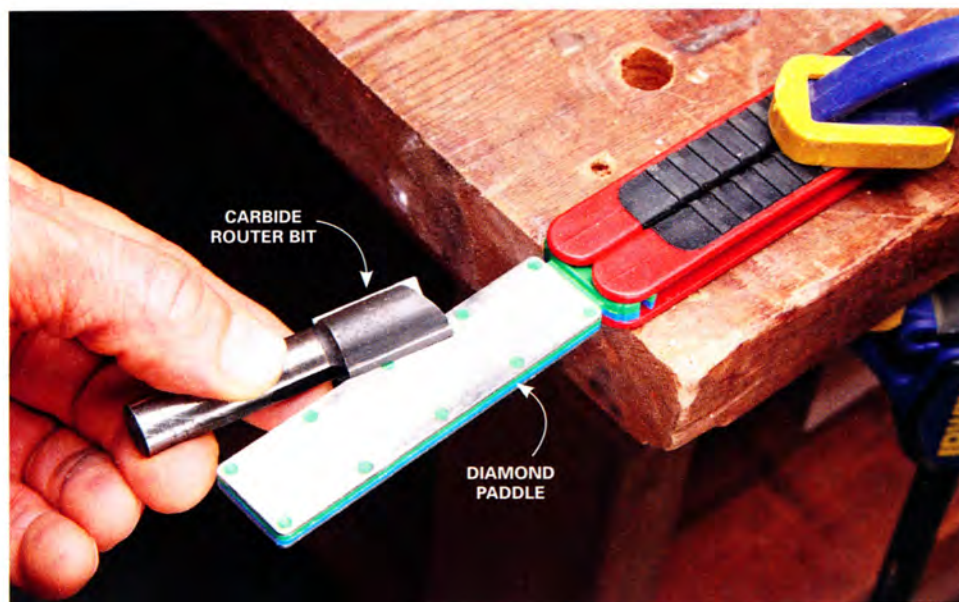
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4 Touch up a knife with a honing steel

You've probably seen chefs on cooking shows brandishing a knife and a steel like a samurai swordsman and thought it was just for pros. But a honing steel isn't hard to use and is perfect for restoring a sharp cutting edge to your knives. You can't fully restore a dull blade with a steel, but you'll be surprised how quickly you can take a slightly dulled edge to almost razor-sharpness with just a few strokes.

The safest method for using a steel is to rest the tip on a surface that's not too slippery, like a wooden cutting board. Then pull the knife down and across, alternating sides. Keep the knife at about a 25-degree angle so you're just tuning up the edge. The steel doesn't actually sharpen. It simply straightens out the wavy edge so the knife slices through material better. Eventually you'll have to resharpen the knife. But for between-sharpening tune-ups, you can't beat a steel. You can buy a steel for \$8 to \$40 wherever good knives are sold.



5 Tune up carbide router bits with a diamond paddle

Chipped or severely dulled carbide router bits require professional sharpening, but you can restore a slightly dulled edge with a diamond paddle. The one we're using is available online and at sporting goods and woodworking stores for about \$20.

To avoid changing the cutting profile of the bit, sharpen the back of the cutters only. A handy method is to clamp the diamond paddle to your workbench and move the bit back and forth over the diamond-impregnated surface. Start with the coarser-grit side of the paddle. Then switch to the fine side. The sharpened carbide should have a consistent shiny band along the cutting edge.

6 Sharpen hatchets and axes with a file

You don't need a power tool to sharpen hatchets or axes, just a sharp mill bastard file with a handle (\$10 to \$18). Buy a good-quality American-made file brand like Nicholson. And pick up a file brush while you're at it. You use the file brush to clean the metal filings from the file's teeth to keep it cutting well.

Clamp your hatchet to your bench or in a vise. Then file the edges, following the original angle. The file cuts only on the push stroke, so don't go back and forth with a sawing motion. Start your stroke on one end of the blade and push the file up and across, applying a little pressure. Make three or four passes on one side, then do the same on the other side. Keep the number of passes equal for both sides. File until the edge is uniformly sharp. Look directly at the sharp edge with a strong overhead light. Dull spots will show up as bright reflections.

File hatchets or axes used for cutting or felling wood at about a 25- to 30-degree angle on each side. Splitting axes work better with a blunter angle, so for them you should increase the angle to about 35 to 40 degrees. Filing will get your hatchet or ax blade back in shape, but if you want it really sharp, you'll have to follow up with a stone or diamond hone.



7 It's easy to keep your spade bits sharp

Most of us grab a spade bit instead of our expensive Forstner bits when it's rough material that needs drilling. But this abuse takes a toll. Luckily, a spade bit doesn't have to be sharpened with precision to work better. A few strokes along the bottom with a file and you're back in business.

Clamp the bit in a vise and file the cutting edges, making sure to maintain the existing angle. A tapered triangular file works well for many sizes of spade bit.



8 Don't throw away those old drill bits

If you've ever tried to sharpen a drill bit on a grinder, you know what a hit-and-miss proposition it is. It's hard to maintain the correct angle, keep the chisel point centered and avoid burning the bit.

Drill Doctor offers several versions of a special tool that makes drill-bit sharpening almost foolproof. The least expensive tool (\$50) is perfect for the home shop. You simply follow the instructions for chucking the drill bit into the tool and rotate it on the grinding wheel to sharpen. Go to drilldoctor.com to compare features of the different models and to get tons of great information on sharpening drill bits.

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9 A 1-in. belt sander is a versatile sharpening tool

Most carpenters know that a belt sander is a good ad hoc tool for getting a reasonably acceptable edge on a dull chisel. And knife-makers and professional sharpeners often use special belt grinders to shape and sharpen blades. You can get many of the benefits of a professional belt grinder for a fraction of the cost with a 1 x 30-in. benchtop belt sander. The one we're using is from Grizzly Industrial (\$94). Buy 180- and 240-grit belts and you'll be set for serious knife sharpening. Plus, you can use the belt sander to grind other tools like axes and chisels, and to sand small woodworking projects.

For really dull knives, start with a 180-grit belt and finish with a 240-grit belt. Practice on an inexpensive knife until you get the feel of holding the knife at the correct angle as you move it across the belt. Try to maintain the angle that's on your knife. This is usually about 20 degrees. For a razor-sharp edge, buy a leather belt (\$18 to \$20) along with honing compound and mount it on your sander for the final sharpening step.



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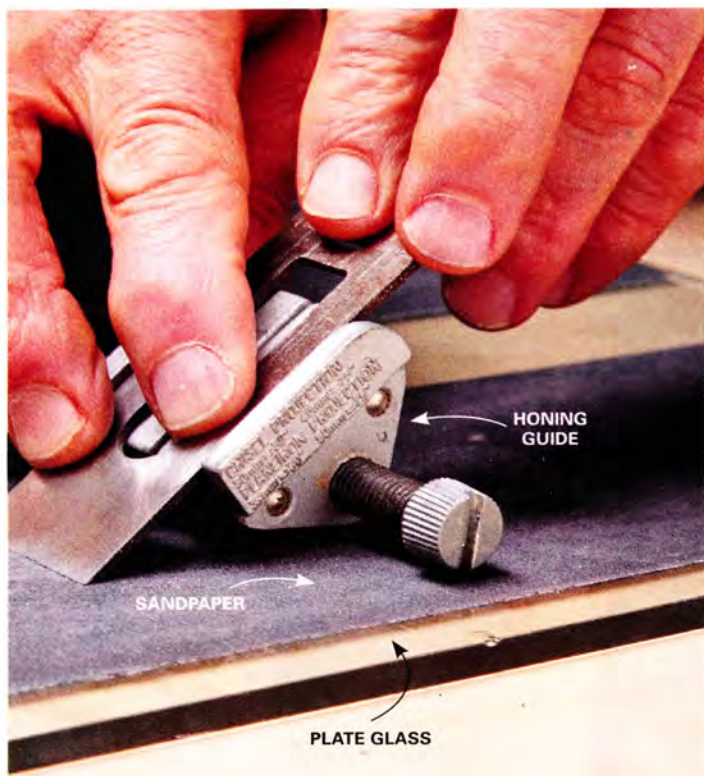
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10 Foolproof chisel and plane sharpening

There's nothing like working with a razor-sharp plane or chisel, and nothing more frustrating than trying to use dull ones. Arkansas or Japanese stones are the traditional tool, but they're expensive to buy and take practice and skill to use. But there's an easy and inexpensive way to get great results without stones or much practice. The key to success is the honing guide, which ensures a consistent bevel. The guide we're using (\$15 at woodworking stores) works for both chisel and plane blades. You'll also need a 12-in. square of 1/4-in. plate glass to provide a perfectly flat honing surface. You can order one at any hardware store, but be sure to have the sharp edges sanded smooth. You'll glue sandpaper to the glass and use it like a sharpening stone.

Use spray adhesive to attach half sheets of silicone carbide sandpaper to the glass. Cover one side with 220- and 320-grit paper and the other with 400- and 600-grit. The sharpening angle is determined by how far you extend the blade before clamping it to the guide. Dimensions on the side of the guide show where to set chisels and planes to maintain 25- and 30-degree angles.

Clamp the blade in the guide and roll it back and forth on the coarsest paper until the edge is uniformly shiny. It should take only 15 or 20 seconds. Repeat this process for each progressively finer grit.

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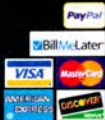
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PRO tips

BY MARK PETERSEN

editors@thefamilyhandyman.com

Working with PVC conduit

For outdoor wiring—hooking up a hot tub, adding outlets to a deck, powering a shed—installing conduit makes a lot of sense, and many times it's required. Conduit even has its uses inside, wherever wires would otherwise be exposed and could be damaged. And if you have a circuit you may want to extend someday, conduit will enable you to pull additional wires.

We're going to show you how to install plastic (PVC) rigid conduit rather than metal conduit. Plastic conduit is less expensive, lighter and much easier to work with. Here are great tips from commercial electrician Jason Bouchard to help you make wiring runs with conduit.

MEET THE EXPERT



Jason Bouchard has been a journeyman commercial electrician for more than 19 years. He's worked on everything from

traffic lights to waste incinerators. He even wired and lit the huge torch featured in the 1996 Summer Olympics in Atlanta.



ART DIRECTION ELLEN THOMSON • PHOTOGRAPHY TOM FENENGA



SCHEDULE 40 VS. 80

Schedule 40 conduit is cheaper and has a larger inside diameter, so it's easier to pull wires through it. The plastic on Schedule 80 is thicker, but the conduit has the same outside diameter as 40, so the inside diameter is smaller. Always install Schedule 80 conduit in high-traffic areas or any other areas where it could get damaged, like behind your woodpile. By the way, the fittings (such as adapters and turns) are the same for each type.



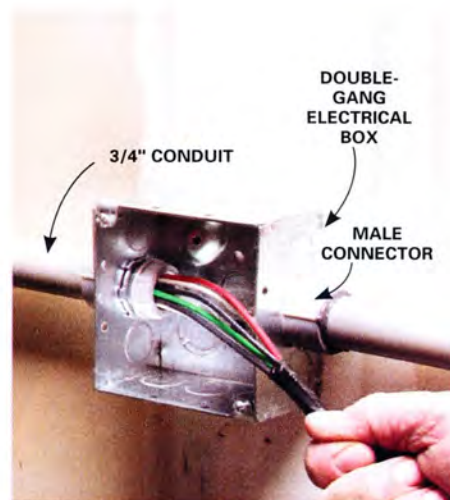
Buy THHN wire

THHN (thermoplastic high heat-resistant nylon-coated) is the best wire for pulling through conduit. Other types of wire have a sticky rubber sheathing that makes them almost impossible to pull. Stranded THHN is used on most commercial jobs—it's more flexible than solid wire, which makes it easier to pull, and it doesn't spring back when you push it into the box.



Deburr with a utility knife

If you do end up with a rough cut, don't forget to deburr the inside of the conduit. Burrs can damage the insulation on the wires. There are a lot of fancy deburring tools out available, but Jason just spins a utility knife on the inside of the conduit to smooth it out.



Larger conduit and bigger boxes

Install 3/4-in. conduit instead of 1/2-in. if (1) you need to pull more than three wires through one section of conduit; (2) there's any chance you'll add wires in the future; or (3) if you have a long and winding run. The 3/4-in. conduit doesn't cost that much more, and it's a heck of a lot easier to pull wire through. Whatever size conduit you use, don't fill it more than 40 percent with wires.

Single-gang electrical boxes will work, but if you have two or more conduit sections connecting to one box, buy double-gang. The male connectors on the ends of the conduit take up quite a bit of room inside the box, leaving little room for devices. GFCI receptacles and other large devices, like dimmers, fit better in deeper boxes (2-1/8 in.).

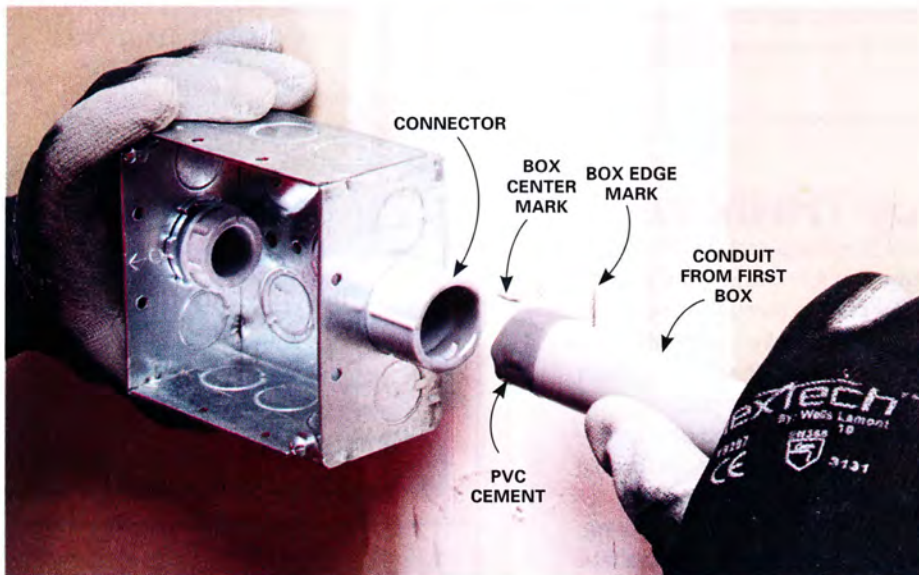
Conduit in a trench

If you're running rigid PVC conduit, most trenches need to be 18 in. deep, but ask your electrical inspector how deep to dig the trench for your specific project. You can run Schedule 40 in a trench, but use Schedule 80 wherever the conduit comes up out of the ground (see "Schedule 40 vs. 80" above). Assemble all the conduit first and plop the whole thing into the trench when you're done. Much easier and cleaner than working in a trench!

CONDUIT DOESN'T NEED PRIMER

Some PVC pipes require primer, but you don't need to use primer when gluing conduit and fittings. Home centers usually sell the appropriate cement near the conduit and fittings.

Measure as carefully as you can so you can avoid dry-fitting your connections. Unlike PVC plumbing pipes, PVC conduit and fittings can be difficult to pull apart once you shove them together. And always wear gloves, unless you want to spend half the evening picking glue off your hands.



MOUNT THE BOX, THEN THE CONDUIT, THEN THE BOX

It's tempting to start by attaching all the boxes to the walls and ceiling first and then run the conduit, but don't do it. It's easier to secure one box and then run the conduit from that box to the next one. Fasten the second box to the wall or ceiling after you fasten it to the conduit. Then you won't have to fight the conduit trying to bend it into position. This is especially important if you have two boxes in close proximity because it's difficult to bend short sections of conduit. This process makes it easier to fasten the connectors, nuts and bushings (see p. 69) to the box first and then glue the conduit to the connector.

Metal hangers work best

Use metal hangers even with PVC conduit; they hold up better than plastic. Choose the single-hole type. One screw is more than enough support, and compared with the two-hole strap, installation will go twice as fast.

Your job will look better if you install the kind of hanger that offsets the conduit the same distance from the wall as the knock-out on your boxes. For 1/2-in. through 1-in. conduit, the maximum spacing between supports is 3 ft.





Cut it with a circular saw

There are lots of ways to cut PVC conduit, but a circular saw fitted with a metal blade gives you a smooth, fast, burr-free cut. If you don't have a metal blade, a regular construction blade will do the job, but you may have to deburr the end of the conduit after you cut.

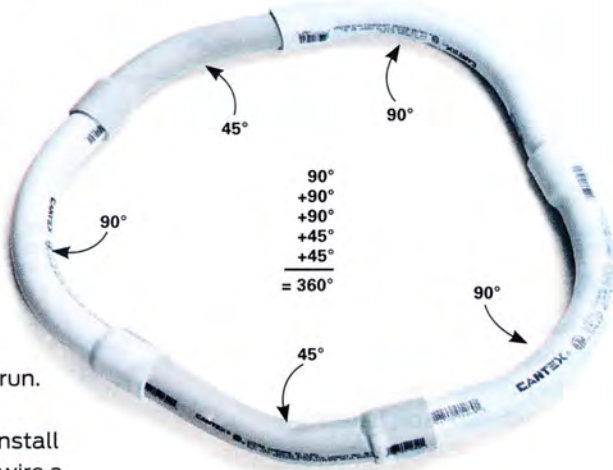
Install metal locknuts

It's OK to use plastic conduit locknuts, but just as with conduit hangers, Jason prefers the metal ones. He says plastic locknuts can strip out and break.



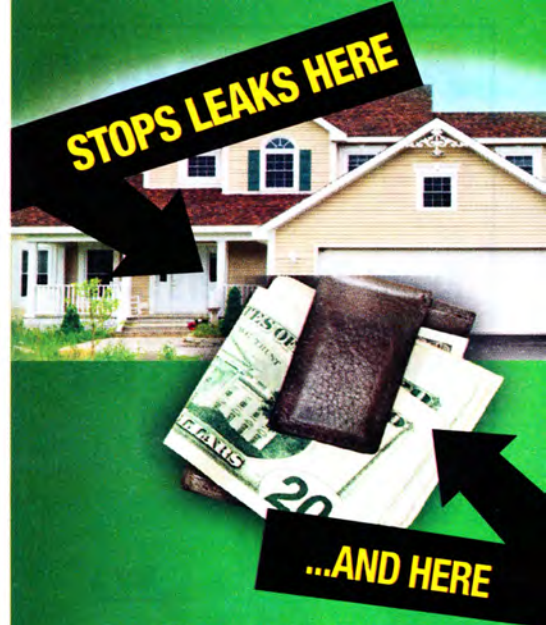
Keep elbow totals no more than 360 degrees

If you have a long run with a whole bunch of twists and turns, consider splitting up the span with junction boxes. Every elbow you install makes pulling wire more difficult. And installing turns totaling more than 360 degrees (four 90-degree elbows) is not allowed on one run. Jason rarely goes beyond 180 degrees because it's easier to install an additional box and pull the wire a shorter distance.



HOOK ON OLD WIRES TO PULL NEW ONES

If you're adding wires to existing conduit and have to pull them a long distance, hook the new wires to an existing one—including a replacement wire for the one you're using—and pull them through that way. You'll have to buy extra wire, but you'll save a lot of time and frustration.



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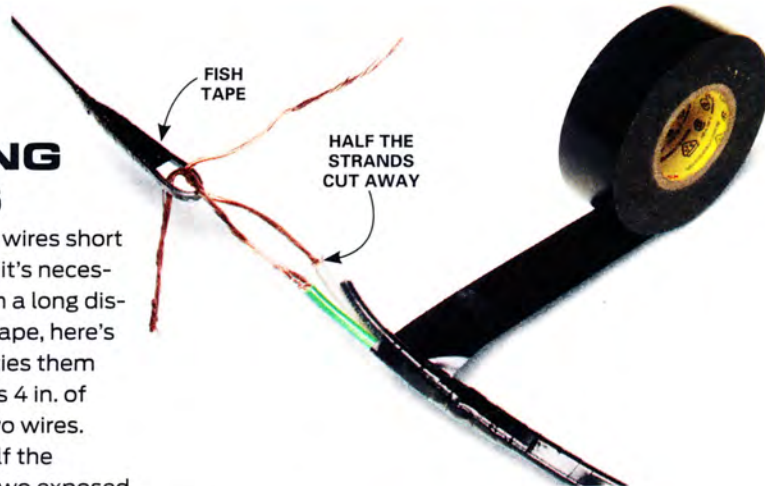
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Drill a hole to let water out

There's still a strong possibility that water will get inside your weatherproof box. Jason drills a 1/4-in. hole in the bottom of the box, so if water gets in, it can get out. You can drill the hole before or after you install the box.



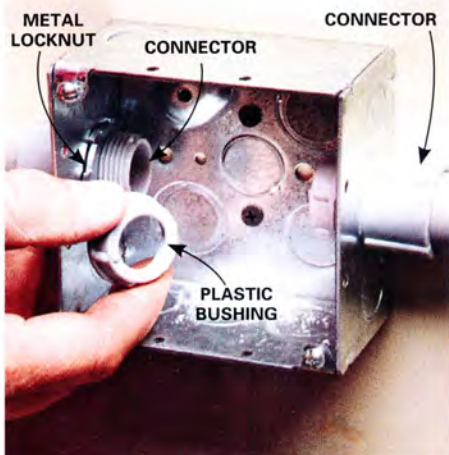
PULLING WIRES

It's easy to push wires short distances, but if it's necessary to pull them a long distance with fish tape, here's how our expert ties them on: First he strips 4 in. of sheathing off two wires. Then he cuts half the strands off the two exposed wires (less bulk to pull through). Next he loops the remaining exposed wires through the eyelet of the fish tape. Finally, he wraps all three wires in electrical tape all the way up to the eyelet of the fish tape.

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DIY TIP GENIUS



Bushings protect wires

Even if you deburr the end of your pipe, you can still damage wires when pulling them past conduit edges. A bushing provides a nice rounded, smooth surface for the wires to slide by. It's cheap insurance, and your electrical inspector will be impressed.

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Use weatherproof boxes outdoors

Install weatherproof boxes (sometimes called bell boxes) outside. Unlike regular boxes, weatherproof boxes usually have threaded knockout holes to create a water-resistant connection. Many come with caps to plug the hole you don't use. Make sure the box you buy has holes where you need them.



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CAR + garage

BY RICK MUSCOPLAT

editors@thefamilyhandyman.com



Roll on a truck bed liner

You bought a pickup truck because you needed to haul things. But what can you haul in a pickup bed that's not going to destroy the finish and eventually rust out the bed? Pillows? Precisely. That's why you need bed protection. Your choices are a preformed hard plastic drop-in liner, professionally applied epoxy coating or a DIY roll-on coating. The best preformed liners cost about \$500. That's about the same cost as for a professionally applied epoxy liner. However, you can roll on a fairly high-quality bed liner yourself for about \$150. (See "Other Bed Liner Options," p. 75). That's the path we're going to take you down.

Choosing a roll-on product

Herculiner, Dupli-Color and Rust-Oleum are the most popular retail brands. You can find them at most auto parts stores. However, you can also find many other brands online. Just search for "roll-on bed liner."

The products come in three types: water-based, solvent-based single-stage and solvent-based two-part formulas. Prices range from \$80 to \$100 per gallon for water-based and single-stage products, to \$150 per gallon for two-stage formulas. One gallon is enough to apply two coats to most truck beds. The preparation work is the same for all three formulas.

All DIY bed liner products contain a gritty material for skid resistance. However, some of the higher-priced versions also

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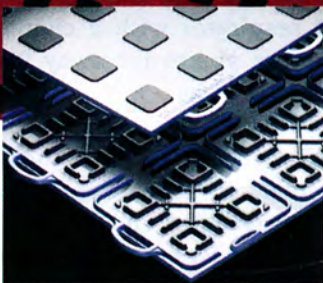
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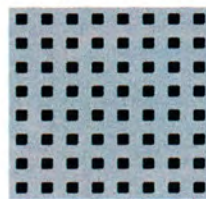


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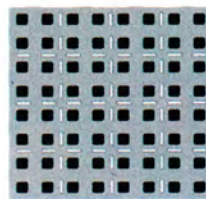
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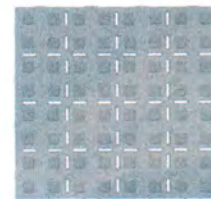
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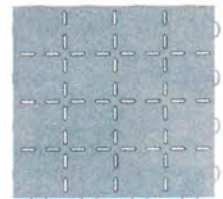
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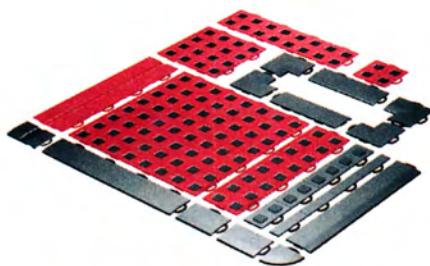
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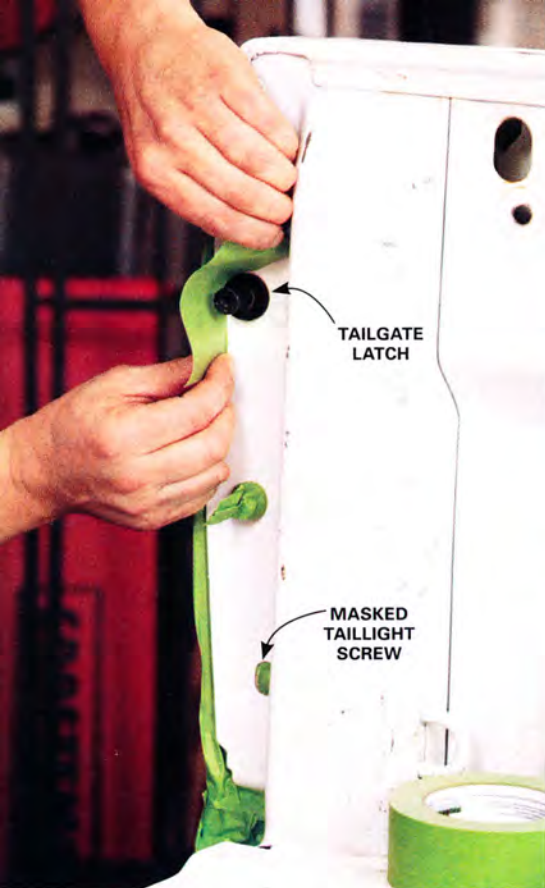
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1 MASK OFF OPERATIONAL COMPONENTS

Butt the tape against the painted edge and stretch it around latches and lights. Cover small taillight retaining screws with tape and cut off the excess with a razor blade.

2 TREAT RUSTY AREAS

Spray primer or rust converter over the sanded areas. Allow the first coat to "flash" the recommended time. Then apply a second coat and let it dry.



3 MIX THE BED LINER IN A BOX

It will contain any mess. Throw the box into the truck bed before you even pop the lid of the bed liner product. Leave the gallon can inside the box and add the activator. Then mix with a drill and a stirring paddle until the product is smooth.

include rubberized bits for added impact resistance.

You'll have to brush the product into corners and seams. You may choose to brush it onto the bed itself. But we recommend buying the manufacturer's optional application kit and applying the product with its special roller. If you opt to brush it on, at least back-roll it to achieve a more uniform texture.

If cost is your most important consideration, buy the water-based or single-stage product. However, if you want a bed liner that's closest in durability to a professionally sprayed-on product (see "Other Bed Liner Options," p. 75), spend the extra dough and buy a two-part bed liner. We chose the two-part Rust-Oleum Professional Grade Truck Bed Liner Kit for this story.

Just like painting, it's all about the prep

No bed liner is going to stick to the factory paint if you haven't done the recommended prep work. It's awful work and there are no shortcuts. First remove any grease stains, dried paint, caulk or adhesive with chemical removers and a scraper. Then wash the entire bed with car wash soap. Rinse and let dry.

Next, remove any remaining car wax using wax remover (from any auto parts store) or acetone. **Caution:** When you're using these chemicals or applying the bed liner, work in a well-ventilated area and wear a respirator with a charcoal filter. Make sure you're far away from open flames and sparks.

Use the scuff pad provided in the bed liner kit and scuff every square inch of the bed (we told you it was awful work). Sand off any surface rust and feather the edges. Wash the bed a second time with car soap and water and let it dry. Always follow the directions on the product label, especially if they differ from ours.

Mask the truck and tarp the floor

This is an incredibly messy project, and there's no way you can "cut" around lights and latches without getting the goop on them. So mask off any part you don't want covered with bed liner (**Photo 1**).

If you want to coat the bed rails (the ledges at the top of the bed), mark off the flat portion of the bed rail and mask along it with a painter's tape that prevents paint bleed. Then cover the fenders with a drop cloth. Cover the back and roof of the cab as well. Protect the floor or driveway with

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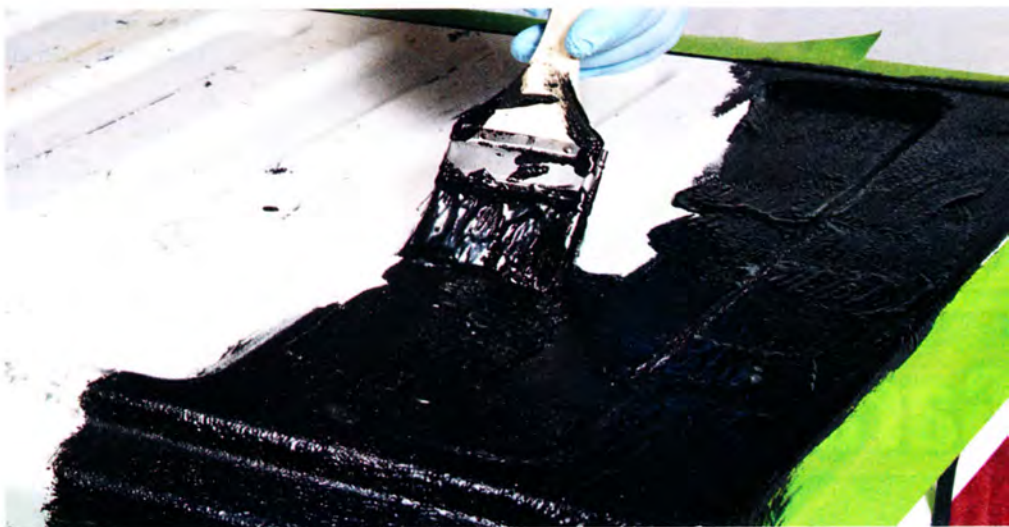
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4 CUT IN WITH A BRUSH

Brush a heavy coat of bed liner into the corners, around the wheel wells and under the bed rail—all the areas that are hard to reach with a roller.



5 BRUSH THE TAILGATE

Brush an extra-heavy coat of bed liner onto the tailgate. Then use the roller to texture it. Allow additional drying time and then apply a second heavy coat.



6 DO THE FLOOR LAST

Working from front to back, roll a liberal coating of the bed liner onto the corrugated flooring. Back-roll to get an even texture, but don't spread the product too thin.

drop cloths under the truck and along the sides. Shove a drop cloth under the gaps between the bed and the cab and under the tailgate. Or, remove the tailgate and set it on sawhorses. Once the vehicle is masked and tarped, prime the sanded areas with a "rusty metal" primer. If the areas were heavily rusted, use a "rust converter" product instead (Photo 2).

Mix, cut in and apply

You'll find all the traction grit/rubber particles settled into a heavy glob at the bottom of the can, so plan to take the time to mix the product thoroughly. Some kits include a plastic mixing paddle for your drill. The paddle in our kit broke right away. So do yourself a favor and buy a mixing paddle made of metal at the hardware store. Then mix the product (Photo 3). Next, cut in with a brush around the truck bed box (Photo 4).

Coat the front and sides of the box with the roller. Then coat the floor (Photo 6). Allow the first coat to dry the recommended time, then apply a second coat.

Other bed liner options

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PROS:

- Best impact protection
- Easiest to clean because the liners don't have sharp corners or seams

CONS:

- Cracks must be repaired immediately to prevent water leaks between the liner and the bed
- The surface will be slippery unless you pay more for a nonskid texture
- Even if the liner stays intact, water and moisture eventually cause the bed to rust prematurely

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- Must return to installer to get material match for deep gouges

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Clogged, Backed—up Septic System...Can anything Restore It?

DEAR DARRYL: My home is about 10 years old, and so is my septic system. I have always taken pride in keeping my home and property in top shape. In fact, my neighbors and I are always kidding each other about who keeps their home and yard nicest. Lately, however, I have had a horrible smell in my yard, and also in one of my bathrooms, coming from the shower drain. My grass is muddy and all the drains in my home are very slow.



My wife is on my back to make the bathroom stop smelling and as you can imagine, my neighbors are having a field day, kidding me about the mud pit and sewage stench in my yard. It's humiliating. I called a plumber buddy of mine, who recommended pumping (and maybe even replacing) my septic system. But at the potential cost of thousands of dollars, I hate to explore that option. I tried the store bought, so called, Septic treatments out there, and they did Nothing to clear up my problem. Is there anything on the market I can pour or flush into my system that will restore it to normal, and keep it maintained?

Clogged and Smelly – Burlington, VT

DEAR CLOGGED AND SMELLY: As a reader of my column, I am sure you are aware that I have a great deal of experience in this particular field. You will be glad to know that there IS a septic solution that will solve your back-up and effectively restore your entire system from interior piping throughout the septic system and even unclog the drain field as well. **SeptiCleanse® Shock and Maintenance Programs** deliver your system the fast active bacteria and enzymes needed to liquefy solid waste and free the clogs causing your back-up. This fast-acting bacteria multiplies within minutes of application and is specifically designed to withstand many of today's anti-bacterial cleaners, soaps and detergents. It comes in dissolvable plastic packs, that you just flush down your toilets. It's so cool. Plus, they actually Guarantee that it restores ANY system, no matter how bad the problem is.

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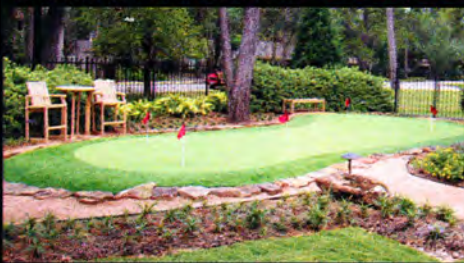
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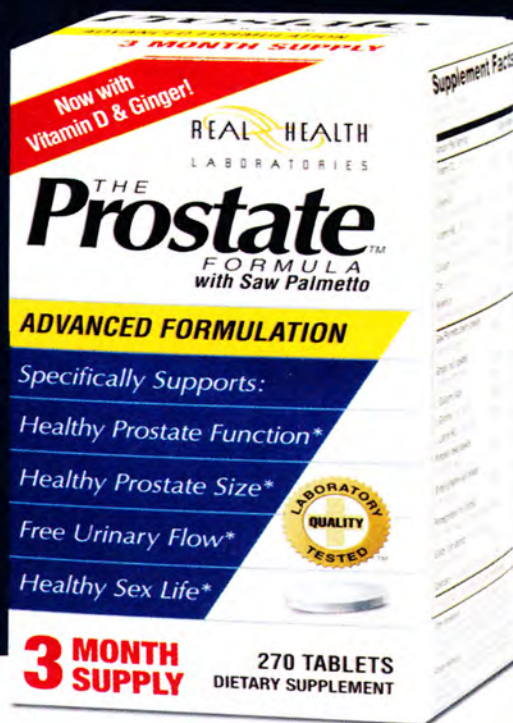
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On the House

With the Carey Brothers
Tips of the Month



SPRING FORWARD REMINDER

It's that time again, time to spring forward or be an hour late. When you reset clocks in the spring and fall check smoke alarm batteries and back-up batteries in all household safety systems such as carbon-monoxide detectors and burglar-alarm control panels. Many other electronic products have back-up batteries, that save stored information or keep them operating in a power failure. Memory in telephones and answering machines and even some alarm clocks and sprinkler timers are examples. In fact, time changes should be a reminder to do all sorts of things — like replacing filters in air conditioners and furnaces, changing the direction of ceiling fans (forward in summer, reverse in winter) and resetting programmable thermostats.

GAS IS NOT DIRTY

You've decided to cut energy costs in the kitchen by upgrading your appliances. A friend suggested converting to a gas cooktop and it sounded like a good idea. Except as you recall, mom always talked about how dirty gas was. Not the case anymore. Gas seemed dirty in bygone days, because range hoods and exhaust fans were neither readily available nor properly engineered/installed. Today, that's no longer the case. Yes, gas gets hot faster and is a more cost-efficient source of heat — but remember — when converting from an electric cooktop to gas, make sure to upgrade the range hood as well. Look for a hood that exhausts the number of cubic feet of air per minute recommended by the cooktop maker. Remember: A hood for an electric cooktop must exhaust only vapors from cooking food. A hood for a gas cooktop must also exhaust burner gasses.

COMBATting MILDEW THE SAFE AND EASY WAY

Being locked up for a long winter usually means lots of indoor moisture and humidity caused by showering, cooking and doing laundry. And where there's moisture, mold and mildew usually aren't too far behind. Showers, tubs, window frames and sills, and even walls and ceilings often look like a full-blown science experiment! What to do? The folks that make Wet & Forget Outdoor, the safe and effective 'no scrub' means of getting rid of mold, mildew and algae outdoors, have come up with Wet & Forget Indoor Mold & Mildew Disinfectant Cleaner. The convenient spray and wipe formula cleans, deodorizes and disinfects all-in-one! Simply spray the contaminated surface, wait 10 minutes and wipe dry with a clean cloth, sponge, mop or allow to air dry. It gets better. Now that you have mildew under control, it's time to tackle your grungy shower with the new Wet & Forget Weekly Shower Spray. Simply spray Wet & Forget Shower once a week on fixtures, shower curtains, enclosures, shower glass, shower tiles and tubs after the last shower of the day. The next day, simply rinse the surfaces before or during your shower to keep it sparkling clean. No bleach, ammonia or irritating fumes. What could be better? www.wetandforget.com.



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27863582

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19395404

SUPER COUPON!

CENTRAL PNEUMATIC
3 GALLON, 100 PSI OILLESS PANCAKE AIR COMPRESSOR

LOT NO. 95275/
60637/69486/61615

SAVE 50%

Item 95275 shown

\$39.99 REG. PRICE \$79.99

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93259657

SUPER COUPON!

US GENERAL
56", 11 DRAWER INDUSTRIAL ROLLER CABINET

LOT NO. 67681/69395

SAVE \$300

Item 67681 shown

\$699.99 REG. PRICE \$999.99

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91426104

SUPER COUPON!

GENERAL MACHINERY
2 HP INDUSTRIAL 5 MICRON DUST COLLECTOR

LOT NO. 97869/61790

SAVE \$100

Item 97869 shown

\$149.99 REG. PRICE \$249.99

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CHICAGO ELECTRIC POWER TOOLS
MULTIFUNCTION POWER TOOL

Item 68861 shown

SAVE 70%

LOT NO. 68861/68303/60428

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22526703

SUPER COUPON!

CENTRAL MACHINERY
4" x 36" BELT/6" DISC SANDER

LOT NO. 97181/93981

SAVE \$45

Item 97181 shown

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28966062

SUPER COUPON!

STORM CAT
900 PEAK/800 RUNNING WATTS 2 HP (63 CC) GAS GENERATOR

LOT NO. 66619/
60338/69381

SAVE \$90

Item 69381 shown

\$89.99 REG. PRICE \$179.99

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90263113

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MECHANIC'S GLOVES

MEDIUM LOT NO. 61235
LARGE LOT NO. 93640/60447
X-LARGE LOT NO. 93641/60448

SAVE 64%

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32425919

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RAPID PUMP® 3 TON HEAVY DUTY STEEL FLOOR JACK

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2500 LB. ELECTRIC WINCH WITH REMOTE CONTROL AND AUTOMATIC BRAKE

LOT NO. 68146/61258/61297/61840

SAVE \$70

Item 61258 shown

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92259059

SUPER COUPON!

29 PIECE TITANIUM NITRIDE COATED DRILL BIT SET

LOT NO. 5889/61637

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51731817

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HEAVY DUTY RETRACTABLE AIR HOSE REEL WITH 3/8" x 25 FT. HOSE

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FROM OUR READERS

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HOODWINKED

Our new house had a very old kitchen, and our first project was to replace the nasty, greasy range hood. Simple enough, I thought—it would only take a few minutes.

To protect the cooktop, I covered it with cardboard. The old hood came out easily, but while I was putting in the new hood, the clamp I used to hold it in position slipped. The hood fell onto the cooktop and then down onto my shoeless foot. I picked up the new hood, set it back onto the cooktop and proceeded to hop on one foot into the next room to assess my injury.

When I hobbled back into the kitchen, there were flames shooting up from the cooktop. I threw the hood and the cardboard out the door onto the driveway. Apparently when the hood fell, it knocked one of the burner knobs, which started the fire. I bought another new hood, removed the burner knobs and had a successful second attempt without burning down our new home.



Steve Berzins



Wake-up shock

Several years ago, I decided to replace the vanity lights in my small bathroom. Because my dad had been an electrician, I asked if he could stop by to help. After he made sure the light switch was off, he walked me through removing the old light fixture and explained the wire colors and their gauges. He also brought along the

new fixture and explained how to twist the bare wires and install the wire nuts.

Since the room was dim, I was having trouble seeing which wires to connect. Ever helpful, my dad flipped on the light switch. Yikes! I received a nice "wake-up" jolt of electricity. After apologizing profusely, my dad then showed me how to turn off the breakers in the breaker panel. Luckily I was unhurt and we shared a good chuckle over the incident.



Marci Henscheid



Our iPad edition has twice as many Great Goofs! It's available in the App Store.



GASSED

Awhile back, we went to see relatives, and a few of us decided to sit on the patio and visit. It was a cool day, so I pulled my lawn chair up close to the nearby dryer exhaust vent. The stream of warm air felt good on my chilly arms as we visited, but eventually I started feeling lightheaded and a bit ill.

With a bit of clumsiness, I was able to lift myself out of the chair and walk into the house. Soon I started to feel better and explained to my husband what had happened. He listened carefully and then said the problem was that I was breathing in carbon monoxide fumes from the dryer's exhaust. Then he explained the dangers of hanging around a gas dryer vent for any period of time!

Ann Johansen

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