

1 family 1 handyman

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21
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TIPS

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PRO TIPS
FOR GEL STAIN
FINISHES

CHOOSING
THE BEST
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JUNE 2021

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CHEVROLET 



1993

As a part-time copy editor and shop assistant, I once modeled in our "Ultimate Workbench" story. On this and other occasions, I saw the creative process in full force (including the colorful shirts and flashy 2x4s). I watched as these pros solved problems and built stories.

CREATIVITY ENGINEERED

When I finished college, I wasn't sure what I wanted to do, but I had an opportunity with a friend's engineering business. I majored in English. The only science and math classes I took were astronomy and a calculus course I nearly failed.

The work rewarded me with decent pay and a lot of frequent flier miles. It also burdened my friends with a grouch who hated his 8 to 5. I didn't really hate the job, but I disliked it enough to start making fresh decisions about my future.

That future involved writing. I wanted to do cool things and write stories about them. And get paid for it. That's a career, right?

The funny thing is, the engineering job I disliked taught me how to engineer a career I would love. Through workdays that I felt were devoid of creativity, I was learning

the real creative process. And that built a path to *Family Handyman*.

ENGINEERING = PROBLEM SOLVING

Frank, my engineering manager, loved numbers. A walking calculator, he could figure air changes in a room faster than I could conjugate a verb in the present tense. Whenever I got stuck, Frank could have solved the problem fast by himself, but instead he'd make me do it. "I can solve the problem, so you can too," he said to me, frequently. We never left for the day until it was solved.

PROBLEM SOLVING = CREATIVITY

I learned to love tools, and when I left that engineering job in 1992, I discovered *Family Handyman*. And I bugged the editors until they let me help in the office and shop.

I already knew that problem solving requires a process or a tool (sometimes a reciprocating saw, other times a thesaurus). What struck me was that sometimes you have to make the tool or create the process. Wait, not "have to." Sometimes you "get to" create it.

That's the beauty of DIY, of owning a home, of building things, whether a bird house or the ultimate workbench. Keep on engineering, solving problems and creating.

GLENN HANSEN
DEPUTY EDITOR

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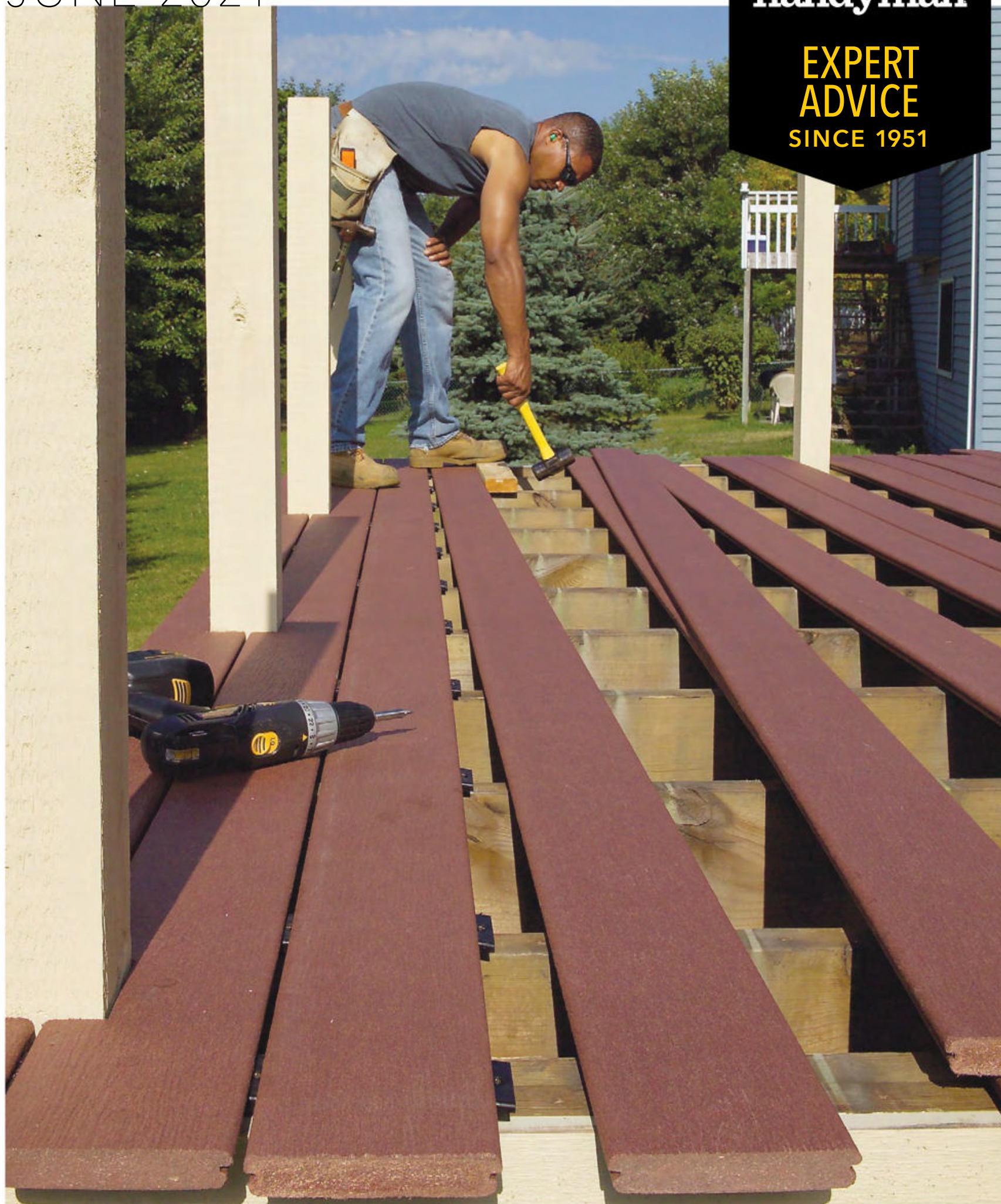
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Add this pair of handsome cabinets to your grill setup.

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Bath Bench & Beyond

This handy bench would be just as helpful in a hall or even a living room.

The risk information provided here is not comprehensive. To learn more, talk about IMBRUVICA® with your healthcare provider or pharmacist. For more information, call 1-877-877-3536 or go to www.imbruvica.com.

What is IMBRUVICA®?

IMBRUVICA® is a prescription medicine used to treat adults with:

- Mantle cell lymphoma (MCL) who have received at least one prior treatment
- Chronic lymphocytic leukemia (CLL)/Small lymphocytic lymphoma (SLL)
- Chronic lymphocytic leukemia (CLL)/Small lymphocytic lymphoma (SLL) with 17p deletion
- Waldenström's macroglobulinemia (WM)
- Marginal zone lymphoma (MZL) who require a medicine by mouth or injection (systemic therapy) and have received a certain type of prior treatment
- Chronic graft versus host disease (cGVHD) after failure of 1 or more lines of systemic therapy

It is not known if IMBRUVICA® is safe and effective in children.

What should I tell my doctor before taking IMBRUVICA®?

Before taking IMBRUVICA®, tell your healthcare provider about all of your medical conditions, including if you:

- have had recent surgery or plan to have surgery. Your healthcare provider may stop IMBRUVICA® for any planned medical, surgical, or dental procedure.
- have bleeding problems
- have or had heart rhythm problems, smoke, or have a medical condition that increases your risk of heart disease, such as high blood pressure, high cholesterol, or diabetes
- have an infection
- have liver problems
- are pregnant or plan to become pregnant. IMBRUVICA® can harm your unborn baby. If you are able to become pregnant, your healthcare provider will do a pregnancy test before starting treatment with IMBRUVICA®. Tell your healthcare provider if you are pregnant or think you may be pregnant during treatment with IMBRUVICA®.
 - **Females** who are able to become pregnant should use effective birth control (contraception) during treatment with IMBRUVICA® and for 1 month after the last dose.
 - **Males** with female partners who are able to become pregnant should use effective birth control, such as condoms, during treatment with IMBRUVICA® and for 1 month after the last dose.
- are breastfeeding or plan to breastfeed. Do not breastfeed during treatment with IMBRUVICA® and for 1 week after the last dose.

Tell your healthcare provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements. Taking IMBRUVICA® with certain other medicines may affect how IMBRUVICA® works and can cause side effects.

What should I avoid while taking IMBRUVICA®?

Do not drink grapefruit juice, eat grapefruit, or eat Seville oranges (often used in marmalades) during treatment with IMBRUVICA®. These products may increase the amount of IMBRUVICA® in your blood.

What are the possible side effects of IMBRUVICA®?

IMBRUVICA® may cause serious side effects, including:

- **Bleeding problems (hemorrhage) are common** during treatment with IMBRUVICA®, and can also be serious and may lead to death. Your risk of bleeding may increase if you are also taking a blood thinner medicine. Tell your healthcare provider if you have any signs of bleeding, including:
 - blood in your stools or black stools (looks like tar)
 - pink or brown urine
 - unexpected bleeding, or bleeding that is severe or that you cannot control
 - vomit blood or vomit looks like coffee grounds
 - cough up blood or blood clots
 - increased bruising
 - dizziness
 - weakness
 - confusion
 - change in your speech
 - headache that lasts a long time or severe headache
- **Infections** can happen during treatment with IMBRUVICA®. These infections can be serious and may lead to death. Tell your healthcare provider right away if you have fever, chills, weakness, confusion, or other signs or symptoms of an infection during treatment with IMBRUVICA®.

- **Decrease in blood cell counts.** Decreased blood counts (white blood cells, platelets, and red blood cells) are common with IMBRUVICA®, but can also be severe. Your healthcare provider should do monthly blood tests to check your blood counts.
- **Heart problems.** Serious heart rhythm problems (ventricular arrhythmias, atrial fibrillation and atrial flutter), heart failure and death have happened in people treated with IMBRUVICA®, especially in people who have an increased risk for heart disease, have an infection, or who have had heart rhythm problems in the past. Tell your healthcare provider if you get any symptoms of heart problems, such as feeling as if your heart is beating fast and irregular, lightheadedness, dizziness, shortness of breath, swelling of the feet, ankles or legs, chest discomfort, or you faint. If you develop any of these symptoms, your healthcare provider may do a test to check your heart (ECG) and may change your IMBRUVICA® dose.
- **High blood pressure (hypertension).** New or worsening high blood pressure has happened in people treated with IMBRUVICA®. Your healthcare provider may start you on blood pressure medicine or change current medicines to treat your blood pressure.
- **Second primary cancers.** New cancers have happened during treatment with IMBRUVICA®, including cancers of the skin or other organs.
- **Tumor lysis syndrome (TLS).** TLS is caused by the fast breakdown of cancer cells. TLS can cause kidney failure and the need for dialysis treatment, abnormal heart rhythm, seizure, and sometimes death. Your healthcare provider may do blood tests to check you for TLS.

The most common side effects of IMBRUVICA® in adults with B-cell malignancies (MCL, CLL/SLL, WM and MZL) include:

- diarrhea
- tiredness
- muscle and bone pain
- rash
- bruising

The most common side effects of IMBRUVICA® in adults with cGVHD include:

- tiredness
- mouth sores (stomatitis)
- pneumonia
- bruising
- muscle spasms
- diarrhea
- nausea

Diarrhea is a common side effect in people who take IMBRUVICA®. Drink plenty of fluids during treatment with IMBRUVICA® to help reduce your risk of losing too much fluid (dehydration) due to diarrhea. Tell your healthcare provider if you have diarrhea that does not go away.

These are not all the possible side effects of IMBRUVICA®.

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

What are the ingredients in IMBRUVICA®?

Active ingredient: ibrutinib

Inactive ingredients:

IMBRUVICA® capsules: croscarmellose sodium, magnesium stearate, microcrystalline cellulose, and sodium lauryl sulfate. The 70 mg capsule shell contains gelatin, titanium dioxide, yellow iron oxide, and black ink. The 140 mg capsule shell contains gelatin, titanium dioxide, and black ink.

IMBRUVICA® tablets: colloidal silicon dioxide, croscarmellose sodium, lactose monohydrate, magnesium stearate, microcrystalline cellulose, povidone, and sodium lauryl sulfate. The film coating for each tablet contains ferrousferrous oxide (140 mg, 280 mg, and 420 mg tablets), polyvinyl alcohol, polyethylene glycol, red iron oxide (280 mg and 560 mg tablets), talc, titanium dioxide, and yellow iron oxide (140 mg, 420 mg, and 560 mg tablets).

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For more information, go to www.imbruvica.com or call 1-877-877-3536.



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Monday-Friday, 8AM - 8PM or visit
ImbruvicaByYourSide.com



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- youtube.com/thefamilyhandyman
- instagram.com/familyhandyman
- tiktok.com/@familyhandyman



NEW-HOMEOWNER TIPS

Congrats on your new home! Whether you bought a fixer-upper or a move-in gem, you can customize your home with everything from paint to updated floors to a new deck. We have all the advice you need for settling into your new house:

- Tool Guides
- Kitchen Ideas
- Cleaning Advice
- Backyard Tips
- Garage Organization
- Home Security & Safety



▲ WAIT TILL YOU SEE ...

... what we're working on! Actually, you don't have to wait. Check our Instagram for previews of our grand Getaway build project. From the ground up, we're building a house, and we'll share the how and why. Follow along on [instagram.com/familyhandyman](https://www.instagram.com/familyhandyman)



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◀ NEW GAS GRILLS

Is it time to upgrade to a new gas grill? Check out these best-rated cookers, from liquid propane to natural gas, value-focused to luxury. We outline them for you here: familyhandyman.com/list/best-reviewed-gas-grills/



◀ ALL ABOARD, HANDYMAN PRO!

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Stuff We Love

Our favorite DIY tools, materials + gear



A NAILER FOR FASTER FRAMING

The rookie carpenter on a job site always gets the task of installing joist hangers. It's tedious job, and any newbie will definitely be better at swinging a hammer after a day of manual hanger installation. Paslode's F150S Positive Placement Nailer makes quick work of joist hangers and other mechanical connections required with framing. You position the guide tip into the nailing hole of a connector and squeeze the trigger to place the nail. It shoots Smooth Brite and mechanically galvanized 1-1/2-in. nails. At 11-3/4 in. tall and 6.5 lbs., it's easy to get in between joists and in other tight spaces. It's available for about \$400 from tool retailers.

JOSH RISBERG, LEAD CARPENTER

A SCREWDRIVER THAT SAVES YOUR WRIST

When I don't need the power and bulk of my cordless drill/driver, I grab my battery-powered screwdriver. Its gyroscopic action senses your wrist motion to change direction and speed. This intuitive design makes it my go-to for working on electrical devices, installing drawer slides and doing light mechanical work and household tasks.

I have a Craftsman with an internal 4V battery and a micro USB charger port. If you want more power, DeWalt's 8V version has an external battery and other added features. Both models have LEDs to light your job. The Craftsman costs \$50. The DeWalt kit with battery and charger is \$130. They're available online and at home centers.

BILL BERGMANN, ASSOCIATE EDITOR



CURE FOR A FORLORN FENCE

I got an email last month from my friend George about his sister repainting her chain link fence. She had found this new paint product and claimed it was the "greatest thing since potable water, though not interchangeable...." Chain Link Fence Paint by Rust-Oleum can be applied to galvanized steel to ward off corrosion and rejuvenate a shabby-looking old fence with a new metallic silver finish. Available at home and hardware stores, a gallon costs \$35.

GARY WENTZ



Surefire Shingle Replacement

Replacing a three-tab asphalt shingle without damaging the surrounding shingles is not an easy task. In cold weather, asphalt shingles break easily. In the heat they tend to tear. The PacTool Roof Snake allows you to install replacement shingles while preserving those surrounding shingles, not to mention your fingers as you try to set a nail under the shingle. Remove the old shingle by twisting the claw end of the tool to "roll" out the old nails. Then, using the offset head and nail slot, nail the new shingle into place. The Roof Snake has the proper 1-in. offset from the bottom edge of your existing course to correctly align the new nails. Find it online and in home centers for about \$32.

BRAD HOLDEN, SENIOR EDITOR



STUFF WE LOVE



Open or close
sink stopper

Use this end to
scrape dishes

SAVE THE SILVERWARE!

I'm embarrassed to admit the number of forks and spoons I've destroyed in our kitchen sink disposal. Not to mention the danger of reaching into the disposal to retrieve a mangled utensil. The Danco Sink Genie II strainer/stopper prevents further carnage and includes a 2-in.-wide scraper on the end for directing scraps into the disposal. Once it's in place, twisting the top of the stopper clockwise seals the sink for filling.

The Genie II is designed to fit a standard garbage disposal opening of 3-1/4 in. Some disposals have a 3-in. opening, so check your drain size before ordering. You can find the Genie II in a variety of colors online for \$15.

JAY CORK, ASSOCIATE EDITOR

A MORE ORGANIZED TOOLBOX

Tired of rifling through your toolbox to find what you need? This modular 18-in. tote from ToughBuilt has a ton of pockets and loop holders along with three tool-storage panels that slide into slots in the

bag. Store your tools in sections to locate exactly what you're looking for. Grab one tool at a time or pull out a panel and take it to the job. A soft box insert cradles fragile items like a laser level or multimeter. Best of all,

the tote's hard body is as tough as your old steel toolbox and much lighter. It's also available in a 12-in. or a 30-in. version, ranging from \$45 to \$70 online and at home centers.

JOSH RISBERG, LEAD CARPENTER



Tool storage
panel insert

Soft box insert



QUICK-DRAW HOLSTER FOR ESSENTIAL TOOLS

A full tool belt is cumbersome and often unnecessary. This 4-in-1 Tool/Tape Holder by Occidental clips onto my belt and keeps my essential tools within easy reach. The utility knife sheath has a plastic insert for nonretractable blades, and there's a leather sheath for a screwdriver, awl or similar-size tool. The quality of Occidental's tool belts is unparalleled, and this 4-in-1 Holder is no exception. You can find it online and at most tool retailers for about \$40.

MIKE BERNER, ASSOCIATE EDITOR



VAC IN A BOX

Shop vacuums are space hogs, and storing the hose, cord and accessories can be problematic. I got one of these Ridgid ProPack vacuums when they first came out, and I absolutely love it. You can't beat the storage features and the portability provided by the compact box design. Everything stows neatly in two compartments, so it takes up very little space in your shop or truck. This new 10-gallon version with wheels costs \$170. My original 4.5-gallon version can still be found for \$100. Both are available online and at Home Depot.

BILL BERGMANN, ASSOCIATE EDITOR

Comfortable Safety Shoes

I've always wanted a safety shoe as light and comfortable as my go-to trail runners. There are several brands of "indestructible shoes," and interestingly they look identical.

I opted for these Wolverine Amherst II Safety Shoes; a brand I knew. They have a lightweight carbon composite toe that meets impact and compression safety standards. I have a fairly wide foot, and these fit me well, are breathable and have been comfortable throughout long days on my feet. They're not waterproof, so they're best for inside work conditions. Wolverine has been making shoes and boots for more than a century, so the \$75 I spent on these seems like a sure bet. Find them online and in shoe stores.

BRAD HOLDEN, SENIOR EDITOR



Shoe cut to show carbon composite safety toe

Ready, Set, Launch!

Tips for getting your dock primed—and your Sea-Doo ready—for a sensational summer



After the winter we've all had, it's safe to say we're eager to get outside and into the water. To ensure a safe start to your boating and watersports season, follow our checklist for prepping your dock (the best place to park your Sea-Doo; keep the beach for your activities!), and hauling and parking your gear.

Dock Checklist

No matter where you live, docks can take a beating from the elements, so they need some TLC. With a little planning, it's easy to maintain a clean and sturdy dock for launching your personal watercraft (PWC), fishing or simply lounging in the sun.

Inspect everything to ensure you can get on and off your Sea-Doo PWC safely. Tighten fasteners and hammer down raised nails or replace them with deck screws. Sand down splinters and replace rotting boards. Check stairs, ladders, and built-in benches to be sure there are no weak spots.

Clean the dock to remove dirt and mildew that can easily transport to your Sea-Doo gear. Experts recommend doing this periodically throughout the summer season. Spray on a mix of vinegar and water, then rinse with a pressure washer lightly, or get after it with a regular hose sprayer.

Ensure safe docking any way. Inspect heavily used areas like the transition from your Sea-Doo to the dock, and from the dock to the shore. And check from the water level for rough and unprotected dock edges that can harm people or your watercraft. Consider protecting your PWC from dock damage with Sea-Doo's exclusive **Snap-In Fenders**.



You Can Take It With You

With your dock safe and summer-ready, amp up your options for playtime on the water with these Sea-Doo accessories:

LinQ up. The weather-resistant **LinQ System** products, which come in a variety of configurations, attach to the rear of any Sea-Doo PWC—zero tools required. Stack cargo bags, fuel caddies and coolers with beverages and food for all-day adventures.



Dry bag it. When you want to park your PWC on a distant beach and soak up some rays, pack your towels in the watertight **Sea-Doo Dry Bag**. It has a reinforced bottom and a shoulder strap for easy transport.

Anchor away. Sometimes you'll want to stop and swim or snorkel. For that, you'll need to anchor your watercraft. Sea-Doo's vibrant yellow **Sandbag Anchor** holds 45 lbs. of wet sand. At the end of the day, empty the bag and stow it away.

Tidy up. When you're done for the day, **Sea-Doo's Speed Tie for Dock** system bolts directly to your dock and stores 5 ½ feet of retractable rope that locks to your desired length. Pull up, attach to your Sea-Doo. No rope clutter.

Visit Sea-Doo.com to see the full array of Sea-Doo personal watercraft and accessories.

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Cabinet handle jig

When we remodeled our kitchen, we put new door fronts on all the cabinets. To make sure I installed each new cabinet door handle in the right spot, I made a jig from a 4 x 7-in. plywood scrap. I nailed a piece of 1x2 over two edges of the plywood. Then I marked and drilled the screw locations on the jig. This works great for both two-hole and one-hole handles. Because the jig's lip overhangs both faces, it works for right- or left-hinged doors.

DUANE DREIKOSEN



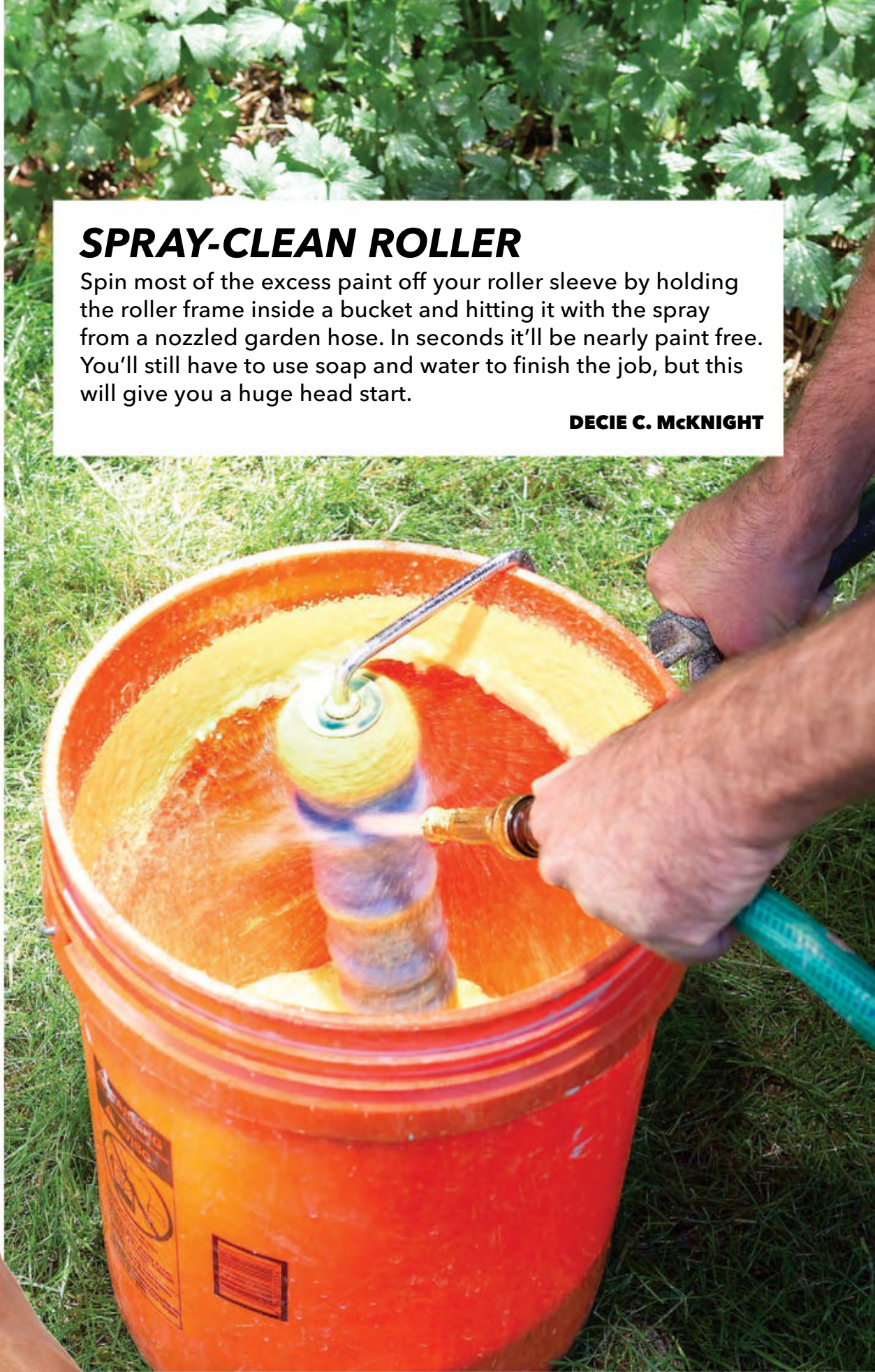


Sprinkle sand immediately after caulking

HIDE CONCRETE REPAIRS

The easiest way to fix a crack in concrete is to caulk it, but these repairs stand out like a neon light even with special concrete repair caulk. However, if you sprinkle ordinary play sand on the wet caulk, the patch will blend in much better. Sprinkle on the sand immediately after caulking, before it skins over, then brush off the excess after the caulk dries.

BOB MOLGREN



SPRAY-CLEAN ROLLER

Spin most of the excess paint off your roller sleeve by holding the roller frame inside a bucket and hitting it with the spray from a nozzled garden hose. In seconds it'll be nearly paint free. You'll still have to use soap and water to finish the job, but this will give you a huge head start.

DECIE C. MCKNIGHT



MARK STRAIGHT LINES ON ROUND PIPES

It's not easy to cut a straight line all the way around a pipe with tin snips or a hacksaw. You can make the job a lot easier by marking a perfect cutting line with a square piece of cardboard or stiff paper. Just align the edges of the cardboard and pull it tight around the pipe, then mark the edge all the way around. As long as you follow the line, your cut will be perfectly straight.

ASHER ROEHR

HANDY HINTS



Magnetic stick trick

In a hard-to-reach area, it can be frustrating to get a nut into place when you need to thread on a bolt from the other side. Here's a slick trick. Glue a small rare earth magnet to the end of a paint stir stick, attach the washer and nut to the magnet, and use the stick to hold them while you thread on the bolt.

GUS ANDERSON



TIGHT-SPACE GARAGE STORAGE

My garage is too narrow for most shelving systems, but I found a great way to store a lot of stuff in very little space. I hung several wire racks on the wall—the same kind as I used in my pantry. They hold a ton and since they hug the wall, they don't get in the way.

RICH CARDILLO



LOW-COST, LIGHTWEIGHT 8-FT. LEVEL

A quality 8-ft. level can cost more than \$200, but you can make a good substitute with a steel stud and a 2- or 4-ft. level. Unlike wood studs, those made of steel are always straight and weigh almost nothing. And if your level is magnetic, you can stick it to the stud for vertical work.

STEPHEN RUSK



MAGIC LABEL REMOVER

When you try to peel the gummed label off new plastic food storage containers, it often turns into a gooey, smeared mess. You can scrub, scrape and soak it, but there always seems to be a little adhesive left behind. Here's a simple trick: Fill the container with hot tap water, but keep the label dry. Let it sit for a few minutes to soften the adhesive and then slowly peel off the label. Voilà! A perfectly clean plastic container.

JUDY HOLT

BOTTOM LEFT: **STEPHEN RUSK**



Petroleum
jelly

SUPER-SEAL PLUNGER

For a better seal and more effective plunging, smear petroleum jelly on the bottom rim of your plunger.

HARRISON MILFORD

Simple outfeed support

Ripping the last few feet of a long board without a helper or support at the other end is virtually impossible. You can solve the problem with an expensive roller support. If you don't have one, set up a temporary outfeed support with clamps, two 2x4s and plywood.

To make a temporary outfeed table, clamp two 8-ft. 2x4s to the saw table, cantilevering them about 5 ft. over the outfeed side. Then screw or clamp 1/4-in. plywood to the underside of the 2x4s.

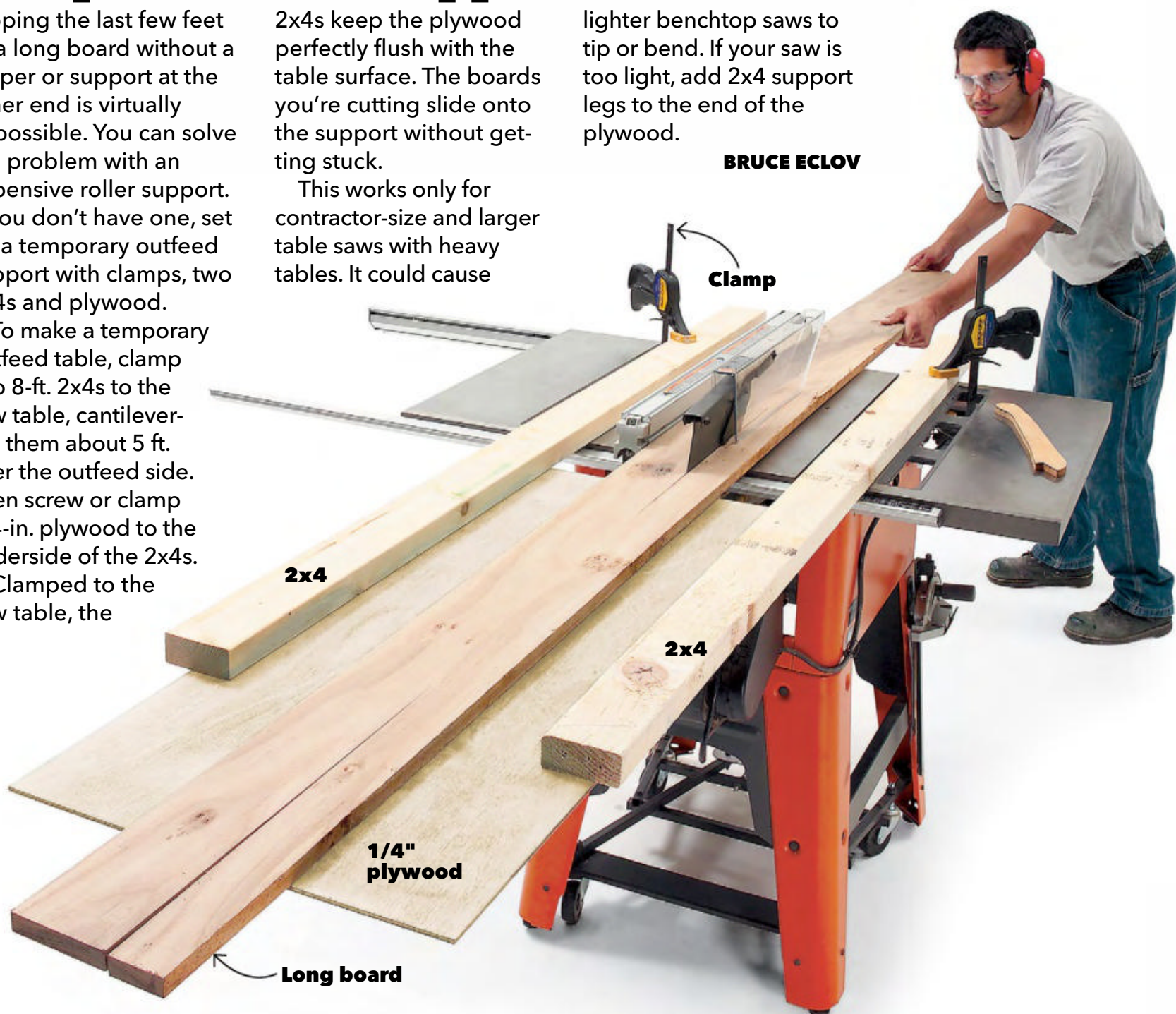
Clamped to the saw table, the

2x4s keep the plywood perfectly flush with the table surface. The boards you're cutting slide onto the support without getting stuck.

This works only for contractor-size and larger table saws with heavy tables. It could cause

lighter benchtop saws to tip or bend. If your saw is too light, add 2x4 support legs to the end of the plywood.

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BY GLENN HANSEN



Measuring wheel



Using my miter saw, tape measure and pencil, I've cut miles of wood for flooring, trim and more. Yes, I can measure accurately—if I do it twice—but I don't like sharpening the pencil, resetting the tape's hook on a board, and aligning the saw blade with a feeble pencil mark. With the M1 Caliber, I can measure precisely in less time and without stretching a tape across several feet of material.

Made by Reekon Tools, the M1 Caliber enables quick and accurate measurements when you're working with a miter saw. Using its own clamp, the tool connects securely and easily to your saw's fence. When you slide the material into cutting position, the M1's small wheel rotates and the tool instantly converts that rotation to linear distance. The tool's easy-to-read screen clearly displays centimeters, inches, or feet and inches, with options for fractional or decimal readouts.

I tried the M1 Caliber on two different saws. On the Bosch sliding miter saw in our shop, the tool mounted easily and allowed ample room for a range of materials. The wheel is attached to a pivoting arm, and that arm can keep the wheel pressed atop material of different sizes. With this

setup, I could cut material up to 3-1/4 in. thick.

The Ryobi compound miter saw in my garage shop has a smaller fence, which limited the tool's capabilities. For this, Reekon makes a fence adapter plate. Four screws secure the adapter to the saw, and now I can make accurate digital measurements and cut 4-by boards in a snap.

The initial tool calibration takes just a few minutes; this preps the wheel for the width of your saw's blade. To measure and cut, you slide the material under the rotary wheel and push it up to the saw blade. Then zero out the display. This is the start of your measurement. Slide your material and watch the display as the wheel measures for your cut.

The cuts are accurate and consistent; no stretching a tape measure or lining up pencil marks. It works with framing lumber, trim pieces, PVC pipe, flooring—almost anything you'd cut with a miter saw.

Other measuring devices can cost thousands of dollars. The M1 Caliber sells for \$150. A pair of "AA" batteries keeps the M1 Caliber rolling for up to 15 hours. And you can keep your pencil and tape in your shop apron.



CORDLESS CLEANING MULTI-TOOL

Saving time is nice, but to be honest, I'd probably just spend that banked time on a nap. The real value of a tool like this? It can take the place of two. Convenience like that saves me storage space, money and time. The Bissell CrossWave Cordless Max is both a vacuum and a mop, with the ability to clean every floor in my house.

Vacuum technology has progressed, but what's most interesting about this unit is its mopping capability. It can clean many surfaces, including tile, linoleum and rubber flooring, plus sealed wood and laminates. The CrossWave has two tanks: one for cleaning solution and one for the dirty water. When you put it in area-rug mode, the CrossWave sprays just the right amount of liquid to clean but not soak through a rug on the floor.

After vacuum-mopping, park the Bissell in its docking station and press the self-clean button. That cycle moves dirt from the brush roller into the dirty-water tank so you don't need to clean after you clean. The unit also charges while it's in the docking station. Yes, this cleaner is cordless, with a 36-volt lithium-ion battery providing a reported 30 minutes of cleaning power. It's also Wi-Fi enabled so you can set a cleaning schedule or track maintenance needs. However, I'm not sure I need another reminder to clean the floor.



DECK FRAMING ON ANOTHER LEVEL

Our lead carpenter, Josh Risberg, is very particular about building materials. I couldn't understand why he chose to frame his entire deck with laminated veneer lumber (LVL). It's more expensive than conventional 2-by framing, and it's really heavy. Yet I soon realized Josh was on to something, especially with his choice of Pacific Woodtech LVLs.

PWT's TRU-CORE treating system is different; the treatment permeates the entire board to its core. That's not the case with most conventionally treated lumber. This makes the company's LVLs more effective at preventing decay, rot and insect damage. Although these LVLs aren't rated for ground contact, they do work for exterior columns and sill plates.

These joists may be heavier to put in place, but they're dead flat and straight as an arrow, with no bad edges. They'll also support longer spans, meaning fewer support columns and longer cantilevers. Josh put a 6-ft. cantilever on his deck to provide a walk-through area below. These are other benefits:

- There's no need to re-treat ends after cuts.
- It's noncorrosive to framing hardware.
- The joist sizes are consistent.
- You can stain it immediately.

You do need to use joist sealing tape, but that's good practice for any deck framing. PWT makes these joists in nominal lumber sizes from 2x6 to 2x12 and offers beams in the same material from 1-3/4 in. x 9-1/2 in. up to 5-1/4 in. x 18 in. And the product is backed by a 25-year warranty.



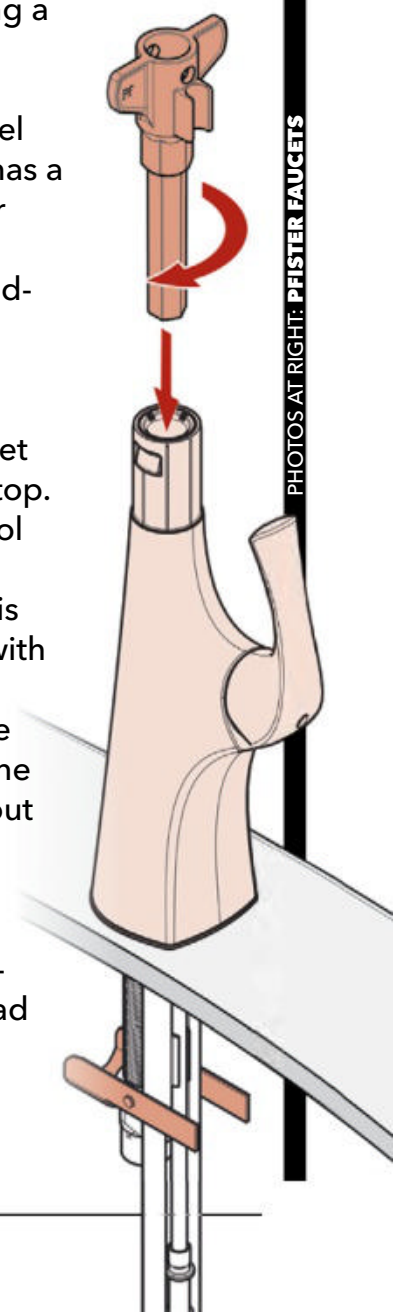
TIGHTEN-FROM-THE-TOP FAUCET INSTALL

Woodworking jobs are great; we get to cut and drill on the *top* side of the workbench. For many plumbing projects, however, we're often straining below a kitchen cabinet. Down there, it's cramped, dark and crowded and can require special tools.

Pfister is changing that with its Top Pfit faucets whose design allows "above-the-deck" installation. You won't need to borrow or buy a basin wrench. Instead, you secure this faucet from the top side of the kitchen sink using a simple tool included with the purchase.

We installed the Ladera model faucet. This one-handle model has a pull-down spray head and other nice features, but its installation method is why we gave it a standing ovation. To install it (with or without a deck plate), hold the body of the faucet and feed the supply lines and attached bracket through the hole in the countertop. Then insert the special install tool into the head of the spout and begin tightening. You can do this by hand, with a screwdriver or with a drill/driver—it's all clearly outlined in Pfister's instructions. The install tool pivots and tightens the bracket to secure the faucet spout to the counter and sink.

It's that easy—installed completely from the top of the sink. Save your back and your knuckles; no fear of banging your head inside the cabinet. Of course, you'll have to go below deck to remove the old faucet, but that will be the last time!



PHOTOS AT RIGHT: PFIISTER FAUCETS



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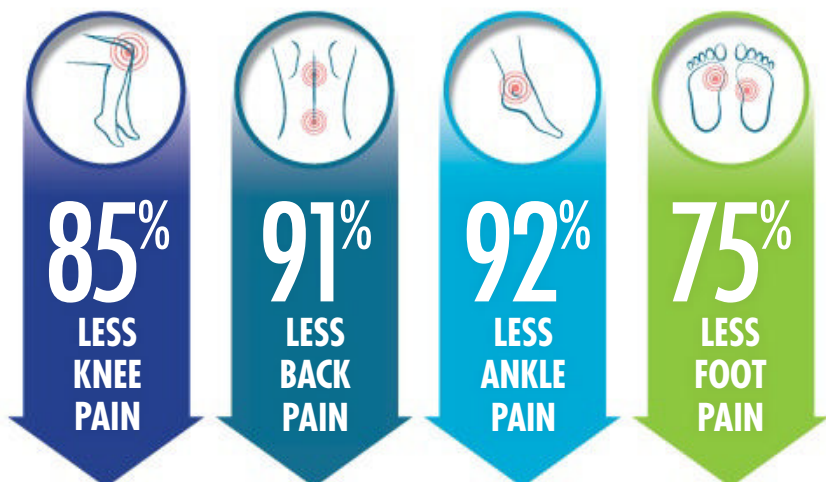


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demystifying DECKING

Need help choosing deck boards?
We've got you covered

BY MIKE BERNER

Whether you're building a new deck or replacing old, worn deck boards, you'll find an overwhelming number of decking options. The two main categories, wood and composites, include dozens of choices. I'll walk you through them to help you choose the right material for your deck.



**HOVER YOUR
CAMERA HERE**
See a video of
all your decking
options, plus
great features
to look for!



Wood

Wood decking is beautiful and typically much more economical than composite. However, it loses its warm tone and turns a dull gray after a few years if it's not meticulously maintained. That increases its lifetime cost.

PRESSURE-TREATED

- The boards are soaked with chemicals and put under pressure so the treatment permeates the entire board. That makes them resistant to rot and insects.
- Copper, a common element in treatments, gives treated boards their green tint.
- When you're sanding or cutting any treated lumber, respirators are a must.
- This lumber is readily available in many red and brown tones.
- Cut ends of pressure-treated boards must be treated with an exterior sealer, such as Woodlife CopperCoat.
- Boards must be thoroughly dry before you apply a stain or protective finish.

CEDAR

- Naturally rot- and insect-resistant.
- It has a beautiful bright tone and can be stained easily.
- Long lasting and easy to work with.

EXOTICS: IPE, CUMARU

- Naturally rot- and insect-resistant, exotic woods have a beautiful, high-end look.
- The installation is labor intensive. The boards are very heavy, dense and need to be predrilled for screws.
- The boards are available with or without grooved edges to accommodate hidden fasteners.



PVC

Cellular PVC is an all-plastic decking. Its core is a porous (cellular) lightweight plastic that's capped just like other composite decking. PVC contains no organic material to rot, grow mold or swell when exposed to moisture, and it comes with a 20-plus-year warranty from staining and fading.

- Can be bent using heat for stunning curved designs.
- PVC expands and contracts more than wood and WPC as the temperature shifts.
- It may become stained with exposure to some rubber products like grill mats and water shoes.
- PVC is the most expensive option, ranging from \$4.40 to \$7.50 per lin. ft.

Wood Plastic Composite

Made with up to 95% recycled plastic that encapsulates the wood fibers, wood plastic composite (WPC) decking is very strong and often comes with a 20-plus-year warranty against staining and fading. Unlike natural wood, it won't crack or splinter. Aside from an easy annual soap-and-water cleaning, it's pretty much maintenance-free.

- Much heavier than wood.
- Some WPC decking requires shorter joist and stringer spans because it's less rigid than solid wood.
- Ranging from \$2.90 to \$6 per lin. ft., WPC is more expensive than wood.

Mineral-Based Composite

Mineral-based composite (MBC) decking is the newest type of composite decking. It's as light-weight as PVC but twice as strong and carries a 25-year stain and fade warranty. There's virtually no temperature-induced shrinking or swelling, and MBC decking is highly resistant to moisture.

- MBC is more rigid than WPC and PVC, so it can be used on longer joist and stringer spans.
- It can withstand ground and water contact.
- It can maintain smaller gaps at miters and seams.
- Ranging from \$4 to \$6 per lin. ft., MBC is comparable in price to WPC.



CAPPED VS. UNCAPPED

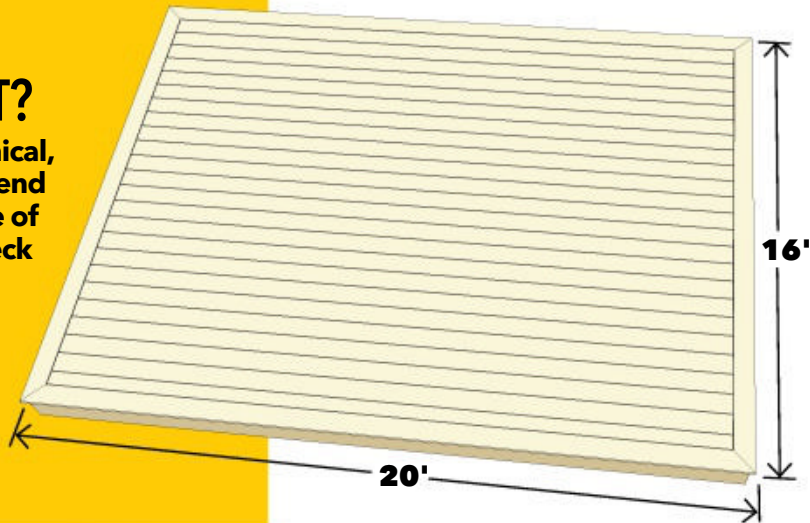
Most modern decking has a hard plastic cap for better UV protection, weathering, scratches and dents. Capped deck boards provide color variations and the appearance of textured wood grain. But uncapped decking has improved and still has a place. Uncapped boards are cheaper and are available with wood grain patterns. Because uncapped deck boards are uniform throughout, you can round over cut ends or edges of them with a router without noticeably changing the board's sheen or color. And scratches or dents can be "healed" with a heat gun or left to heal naturally over time under the sun's heat.

CAPPED

UNCAPPED

WHAT'S IT GONNA COST?

You can find economical, midrange, and high-end choices for each type of decking. A typical deck (16 x 20 ft.) covers about 350 sq. ft. For that size, the cost of decking alone can range from \$450 up to six times that at \$2,700.



WOOD

\$1.25-\$5.60
PER LIN. FT.

\$450-\$1,600
COST OF AVERAGE-SIZE DECK



WPC

\$2.90-\$6.00
PER LIN. FT.

\$1,000-\$2,100
COST OF AVERAGE-SIZE DECK



MBC

\$4.00-\$6.00
PER LIN. FT.

\$1,400-\$2,100
COST OF AVERAGE-SIZE DECK



PVC

\$4.40-\$7.50
PER LIN. FT.

\$1,600-\$2,700
COST OF AVERAGE-SIZE DECK

Design Options

Today, it's easy to get the look you're after. The color, grain pattern, size and shape of the boards give you countless design options.

GRAIN PATTERN

Every board of natural wood has a unique grain pattern. Even though the "grain" in composite decking mimics real wood, the pattern repeats from board to board. The grain options vary, from a deep embossed texture to tight, straight grain.



COLOR

Almost any tone of wood or stained wood is available in composite decking. In addition, some of the more expensive composites have realistic color streaking that mimics the natural colors of real wood. Typically, you won't see this in the more economical options, but you'll still find a wide range of colors.



TEMPERATURE

Composite decking gets hot in the sun, so if your deck gets full sun, consider lighter-colored deck boards, or be prepared to wear shoes. Some manufacturers claim their decking has special properties that resist heat retention, remaining cooler even in darker colors.

GET A GRIP

Although all decking meets a minimum requirement for grip, if you're concerned about slippery conditions, consider decking with deeper grain.

Profiles

The profile and cross section of your deck boards may seem insignificant, but they're important in regard to how your deck is built and how it will look.

SQUARE EDGE

Use square profile boards on your deck's borders to hide cut ends or as a pattern board to avoid seams. With square profile boards, you'll typically drive fasteners through the face of the boards. However, some fastening systems let you hide the fasteners by using a jig to drive them into the board's edge at an angle. CAMO has a system like this.

GROOVED EDGE

Use grooved-edge boards in the middle of the deck, anywhere the edge isn't visible. Hidden fasteners fit in the grooves for a clean look.

SCALLOPED BOTTOM

The scalloped undersides make the board lighter weight and a bit less expensive. Face-screwing scalloped boards can be difficult; screws angle toward the grooves, pull the board and leave an oblong hole that's hard to plug.

NONSTANDARD BOARD WIDTHS

Standard deck boards are 5-1/4 in. wide, but many companies offer different widths, from 3 in. up to almost 12 in. wide. This lets you achieve a completely different look from standard decking and opens the door to many design possibilities. Wide boards also make single-board stair treads possible.

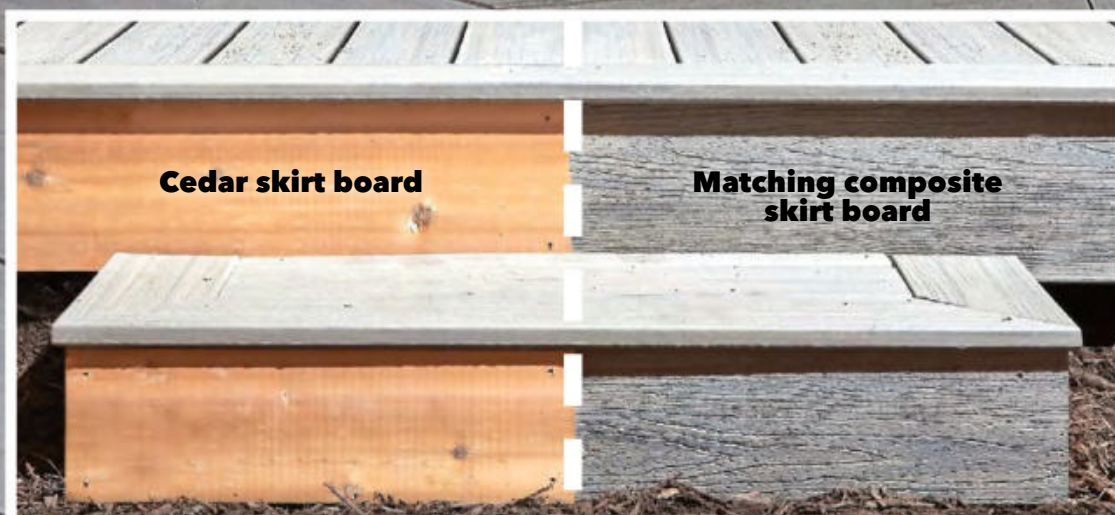


Scalloped boards are made with solid edges or grooved edges



FOLLOW FASTENER RECOMMENDATIONS

Whichever decking you choose, be sure to follow the manufacturer's fastening instructions. The warranty typically depends on your use of the recommended fasteners, including face screws, fascia screws and hidden fasteners.



MATCHING SKIRT BOARDS

Most decking manufacturers offer a 1/2-in.-thick version of decking for use as skirt boards (11 in. wide) and stair risers (8 in. wide). These skirt boards and stair risers are typically available in all of a manufacturer's color options.

Cook Out IN STYLE!

Upgrade your grilling space
with custom cabinets

BY BILL BERGMANN



MEET THE BUILDER

In 30 years of building, Bill Bergmann's favorite projects have always involved outdoor living.

WHAT IT TAKES

TIME

3 days

COST

\$650

SKILL LEVEL

Intermediate

TOOLS

Table saw, miter saw, circular saw, jigsaw, pull saw, pocket hole jig, orbital sander, 18-gauge nail gun, drill driver, 1-1/2" hole saw



There's nothing better than sharing good food with friends and family, and cooking it outdoors always adds to the enjoyment. This grilling center, made with easy-to-assemble cedar panels, is the perfect addition to your outdoor living space. You'll have plenty of counter surface for food prep, and you can customize the rolling cabinets to house any outdoor cooking appliance.

These cabinets are home to a griddle and an air fryer. Paired with my grill, they set me up for new culinary adventures—outside!

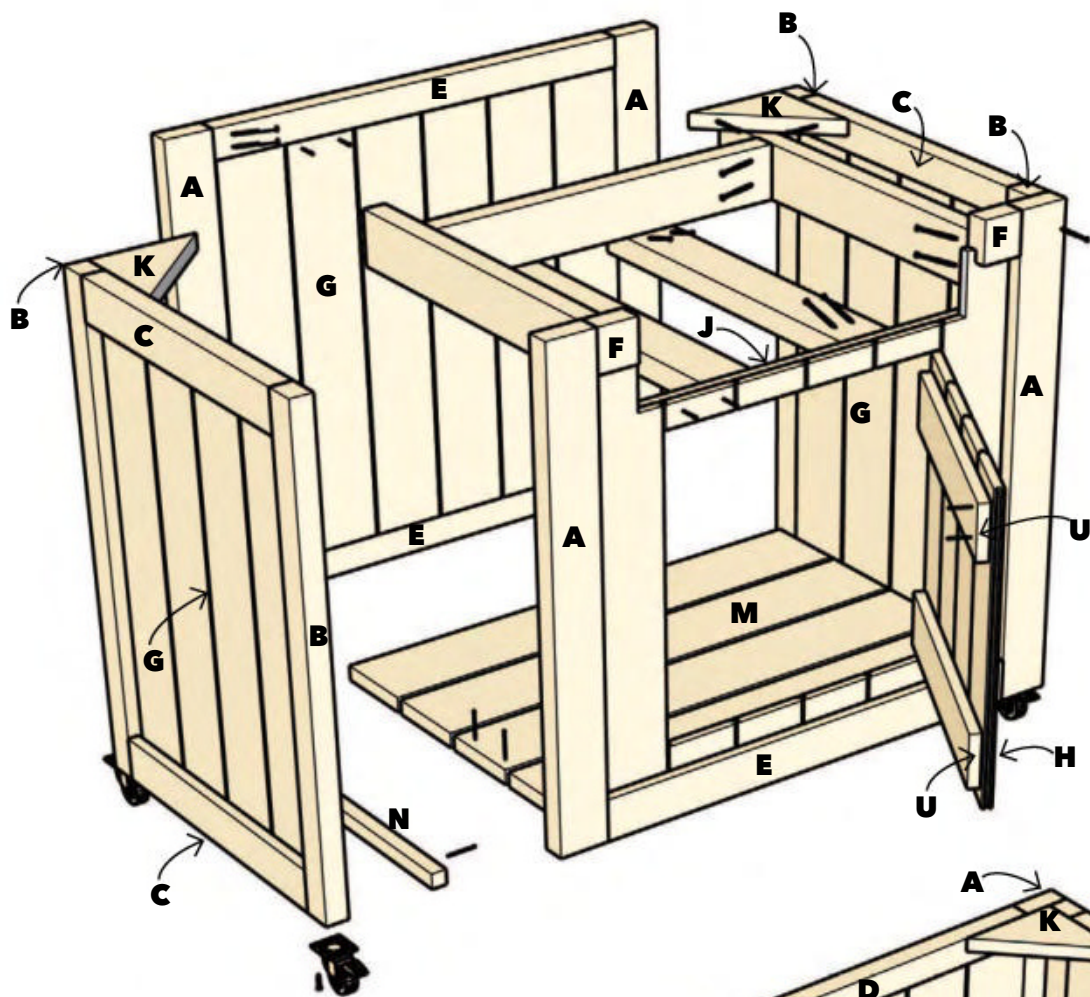


Figure A
Large Cabinet

OVERALL DIMENSIONS:
36-3/4" W x 27" D x 31-1/2" H

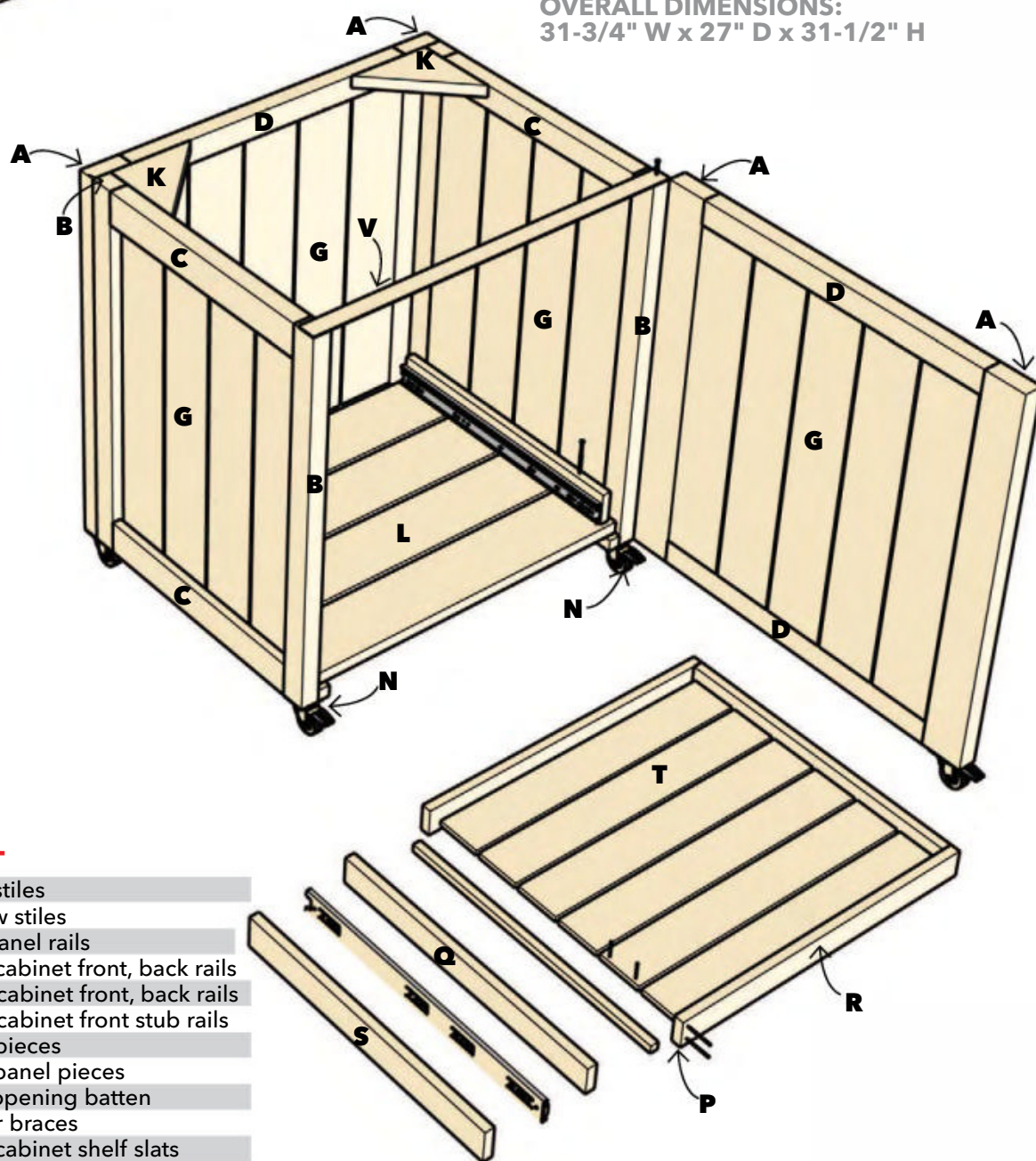


Figure B
Small Cabinet

OVERALL DIMENSIONS:
31-3/4" W x 27" D x 31-1/2" H

Materials List

ITEM	QTY.
2x6 S4S cedar	32 lin. ft.
2x4 S4S cedar	10 lin. ft.
1x6 V-groove cedar paneling	84 lin. ft.
5/4 x 6 cedar decking	30 lin. ft.
1x4 No. 2 cedar	16 lin. ft.
22" overtravel drawer slides	
3" casters	9
No-mortise cabinet hinges	2
No-mortise 3" door hinges	3
1/8" x 1-1/2" x 36" aluminum flat bar	
1", 1-3/4" and 2" galvanized 18-gauge nails	
2" and 2-1/2" pocket hole screws	
1", 2" and 2-1/4" exterior screws	
Construction adhesive	
Exterior wood glue	
Masterbuilt 20-qt. air fryer *	
Blackstone 22" dual-burner griddle *	
Stainless steel countertops and insert *	
* Not included in overall cost	

Cutting List

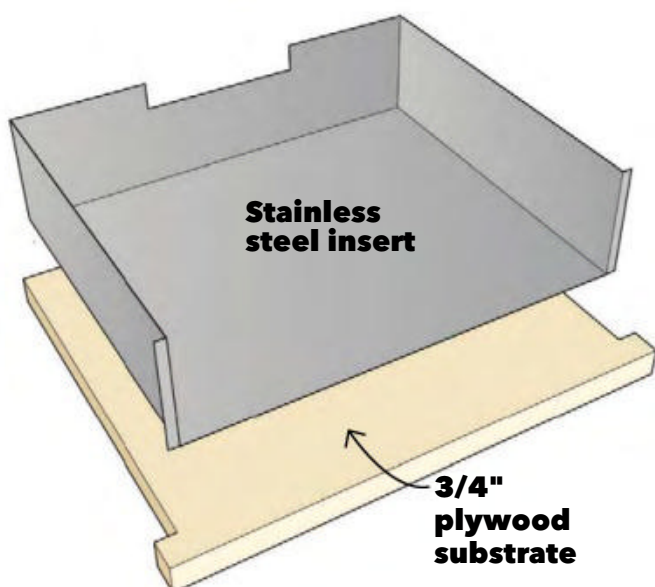
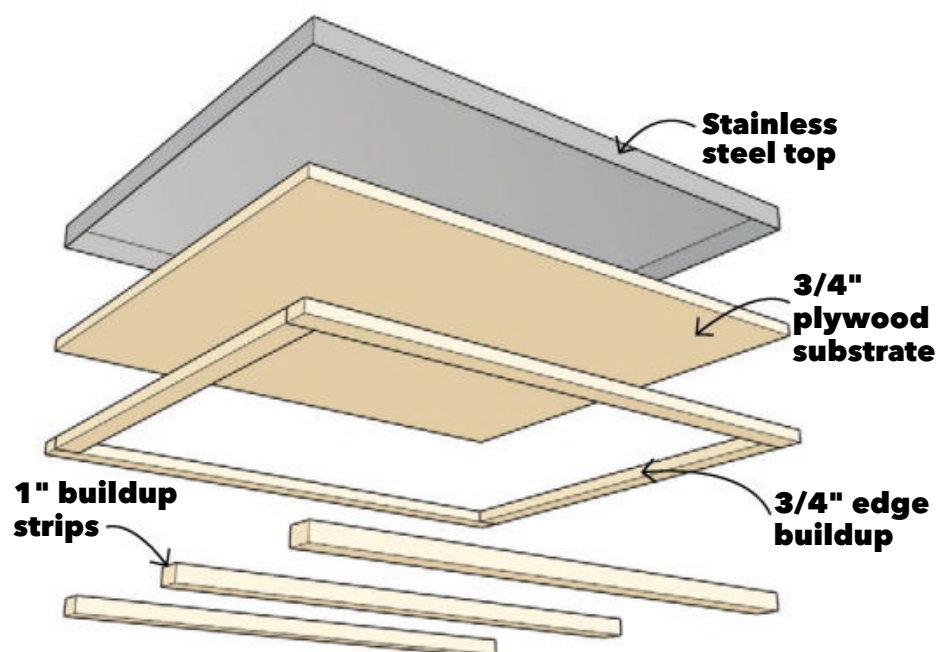
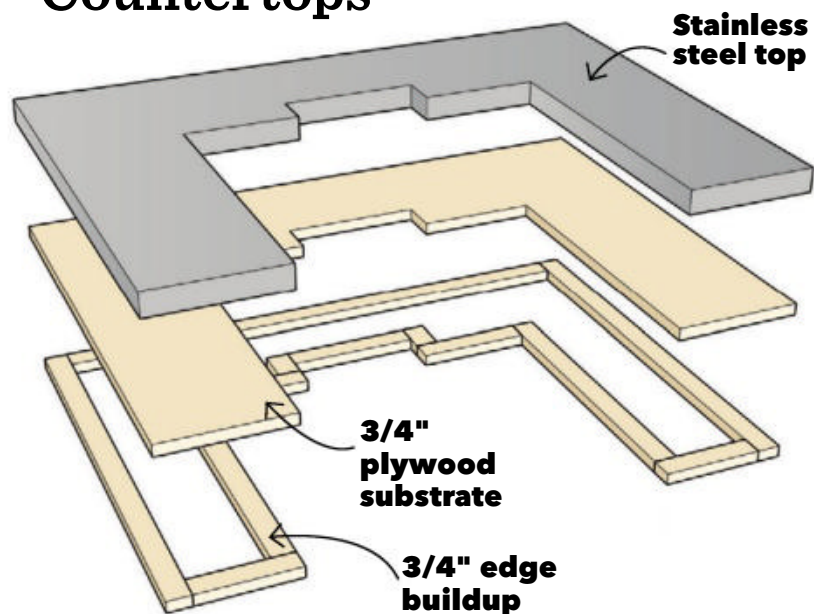
KEY	QTY.	DIMENSIONS	PART
A	8	1-1/2" x 3-3/8" x 31-1/2" *	Wide stiles
B	8	1-1/2" x 2" x 31-1/2" *	Narrow stiles
C	8	1-1/2" x 2-5/8" x 20" *	Side panel rails
D	4	1-1/2" x 2-5/8" x 25" *	Small cabinet front, back rails
E	3	1-1/2" x 2-5/8" x 30" *	Large cabinet front, back rails
F	2	1-1/2" x 2-5/8" x 2-3/4" *	Large cabinet front stub rails
G	32	3/4" x 5-1/2" x 27-5/8"	Panel pieces
H	4	3/4" x 5-1/2" x 24"	Short panel pieces
J	1	3/4" x 1-1/2" x 33-1/2" *	Door opening batten
K	4	1" x 7" x 7"	Corner braces
L	4	1" x 5-1/2" x 28-5/8"	Small cabinet shelf slats
M	4	1" x 5-1/2" x 33-5/8"	Large cabinet shelf slats
N	4	1" x 1" x 24"	Shelf cleats
P	2	5/8" x 5/8" x 22-1/2"	Rollout cleats
Q	2	3/4" x 2" x 22-1/2"	Rollout frame sides
R	2	3/4" x 2" x 24-5/8"	Rollout frame front & back
S	2	1" x 2" x 22-1/2" **	Drawer slide supports
T	6	3/4" x 3-1/2" x 23"	Rollout slats
U	2	3/4" x 3-1/2" x 20-1/2"	Door battens
V	1	1/8" x 1-1/2" x 31-3/4"	Aluminum cross brace

* Ripped from 2x6 stock

** Ripped from 5/4 x 6 stock

*You have many options
for outdoor countertops.
We had stainless steel
tops fabricated for ours.*

Figure C Countertops



1 MILL THE FRAME PARTS

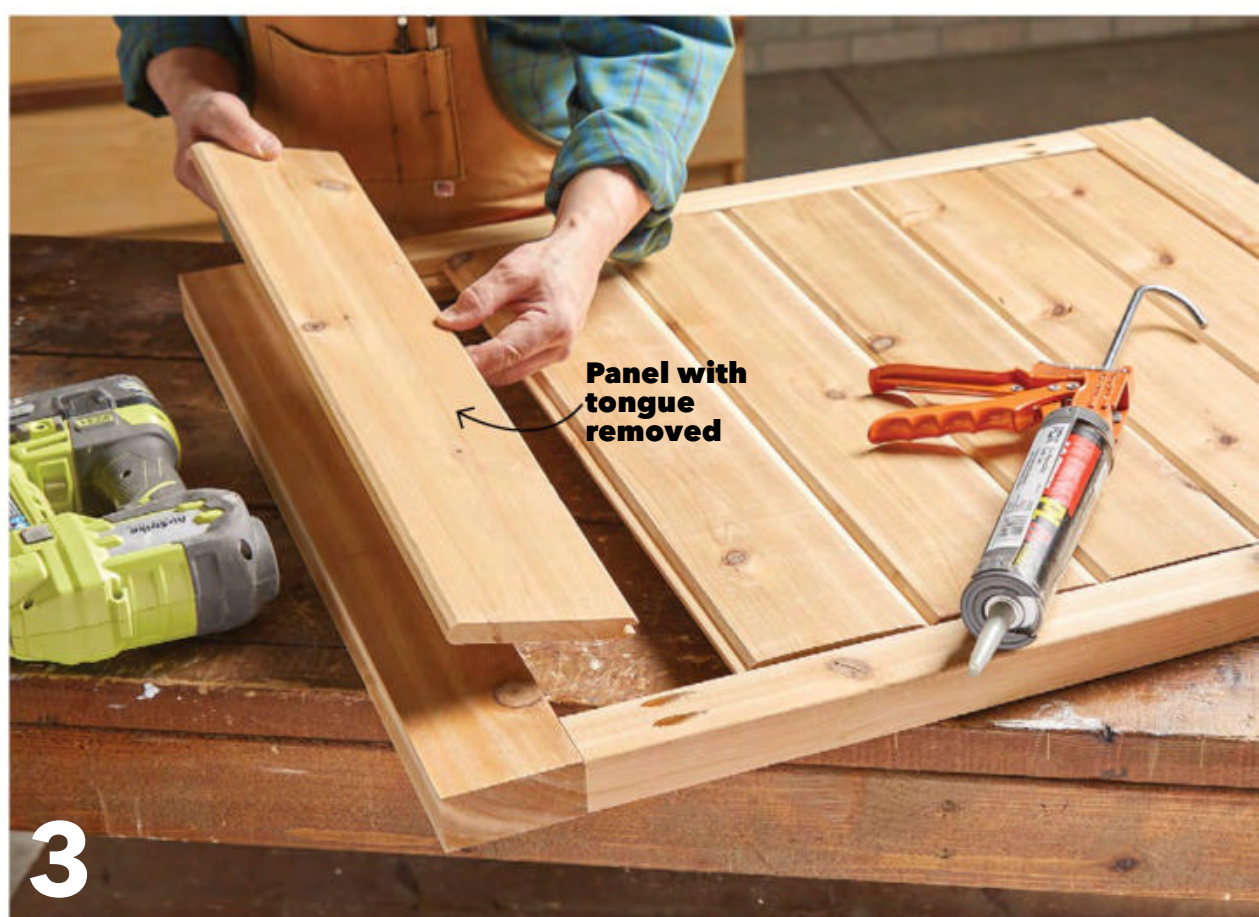
Cut all the frame rails and stiles (A - F) to their final dimension. Cut rabbets into the back edge of the rails (C - F) only and save the off-cuts. You'll use them later. The frames are sized to accommodate full-width cedar 1x6 tongue-and-groove panel pieces (G).

2 ASSEMBLE THE FRAMES

Assemble all the frames using pocket screws. All the frames use the same construction except the large cabinet front. You'll build that in Photo 4.

3 ASSEMBLE THE PANELS

Cut the cedar tongue-and-groove panel strips to length. Keeping the rough side of the cedar facing out, install the strips in the rail rabbets using 1-in. nails and glue. Rip the tongue off the last panel strip in each panel assembly.





4



5



6



7

4 BUILD THE LARGE CABINET FRONT PANEL

Build the large cabinet front panel frame, leaving off the top rail. Notch the two outer panel pieces and cut the short panel pieces to length. Set the assembled panel strips into the preglued rabbet in the bottom stile. Glue and nail the batten (U) to the loose ends of the panel strips and the wide frame stiles (A). Keep the batten ends 1-5/8 in. back from the outer edges of the stiles. Install the short stub rails (F) using pocket screws.

5 INSTALL THE SHELF CLEATS

Attach the shelf cleats (N) flush with the bottom edges of the panels, using construction adhesive and 2-in. nails or screws.

6 ASSEMBLE THE CABINETS

Glue and clamp the back panels to the side panels. Tack them together with 2-in. nails and then add 2-1/4-in. screws.

7 BRACE THE CORNERS

Glue and clamp the corner braces (K) flush with the cabinet tops in the back corners of each cabinet. Predrill and countersink holes, then attach the blocks with 2-1/4-in. screws.

8 INSTALL THE SHELF SLATS

Attach a temporary sizing brace across the opening of each cabinet to maintain the proper opening and keep the cabinets square. Install the shelf slats (L and M) using adhesive and 1-3/4-in. nails. I used 3/8-in. spacers to keep the gaps even.

9 CUT THE DOOR

Mark the door size on the large cabinet's front panel, then make two horizontal cuts and one vertical cut with a circular saw. Make the vertical cut on the tongue edge of the panel piece. Finish the cuts with a jigsaw or a handsaw. Clean up any waste left from these cuts with a chisel.

10 BUILD THE DOOR

Using a carpenter's square, assemble the cut-out panel pieces (H) to make the door. Glue and nail the door battens (U) to the back of the door. Glue a cut-off tongue into the empty groove on the door's edge.

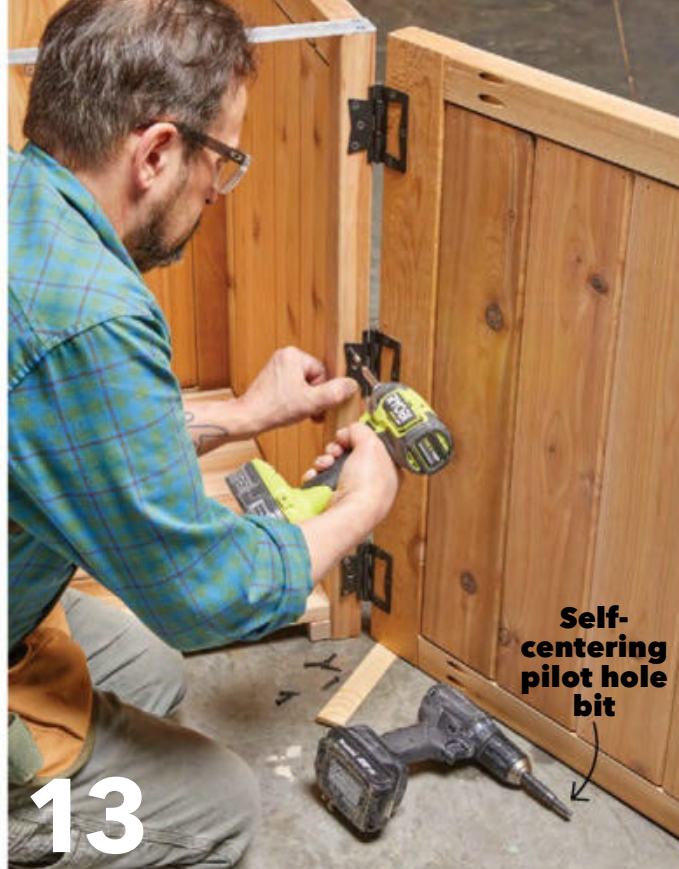
11 HANG THE DOOR

Attach the large front panel to its cabinet. Align the hinges with the door battens and attach them to the door, then hang the door and install the magnetic catch.





12



13

12 BRACE THE SMALL CABINET

Cut the aluminum cross brace (V) to length, predrill and countersink it, then install it across the top of the open side of the small cabinet with 1-in. screws.

13 HANG THE SMALL CABINET DOOR

Attach the hinges to the front panel of the small cabinet, and then attach the panel to the cabinet. I used a shim under the door so that when I installed it, it matched up perfectly flush with the cabinet top. Use a self-centering pilot hole bit to mount your hinges accurately.

14 BUILD THE ROLLOUT

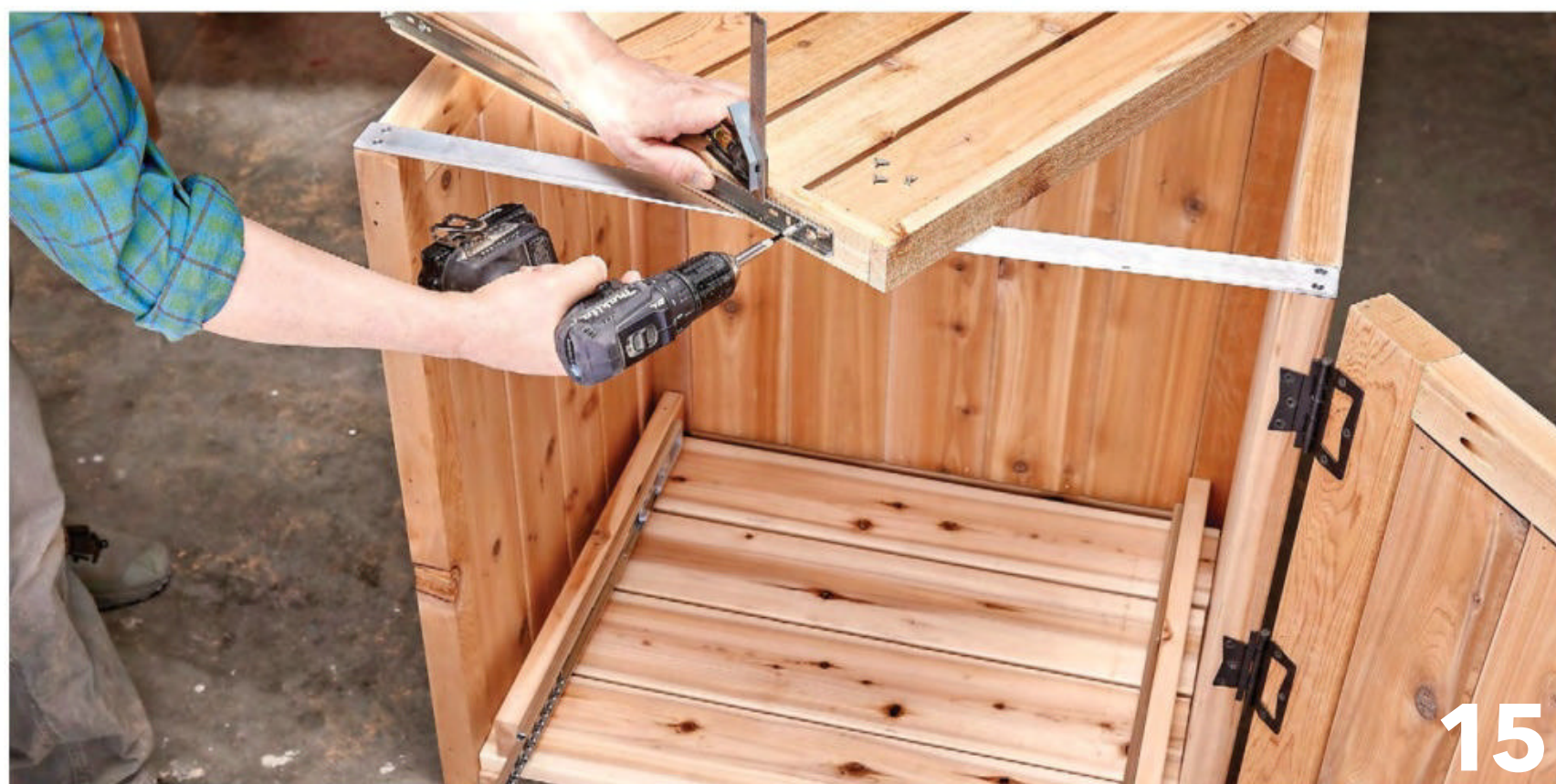
Build the rollout frame (Q and R), attaching the rabbeting offcuts as support cleats (P) for the rollout slats (T). Using a 1/4-in. spacer, glue and nail the slats into the rollout frame.

15 ADD THE DRAWER SLIDES

Attach the drawer slides to their supports (S), then screw the supports to the cabinet's shelf. Install the other drawer slide components on the assembled rollout. Use a combination square to make sure they're mounted straight.



14



15

16 FRAME THE GRIDDLE SUPPORT

In the large cabinet, I installed 2x4 framing as shown to define the opening and support the griddle. You can assemble the framing as you like. I chose pocket screws.



17 ADD POWER

I installed a receptacle outlet on both the interior and the exterior of the small cabinet to power the fryer—a GFCI on the exterior and a standard outlet inside. I wired a power plug to the GFCI on the exterior and then powered the interior outlet from the GFCI to make it ground fault protected.



18 ADD CASTERS

Attach a swivel caster to all four corners of each cabinet. Attach one caster to the outer edge of the small cabinet door to support the weight of the air fryer when it's in use. I added a 1-in. block to the door to accept the caster base.

19 INSTALL COUNTERTOPS

Options for the exterior countertops include solid surface, cement and natural stone. I chose stainless steel wrapped over a 3/4-in. marine plywood substrate. I installed 1-in. buildup strips on the cabinets for door clearance and venting. Then I attached the countertops from underneath using adhesive and 1-1/4-in. screws.



BEAUTIFUL BACKYARD LIGHTING

12 tips for creating a safe and inviting outdoor space

BY JAY CORK

Don't let nightfall drive you indoors. Instead, create an inviting outdoor space with lights. Most outdoor lighting is low voltage, so it's safe and easy enough for any DIYer to install. I talked with Scott Pesta from Kichler Lighting to get his advice on creating a beautifully lit yard.



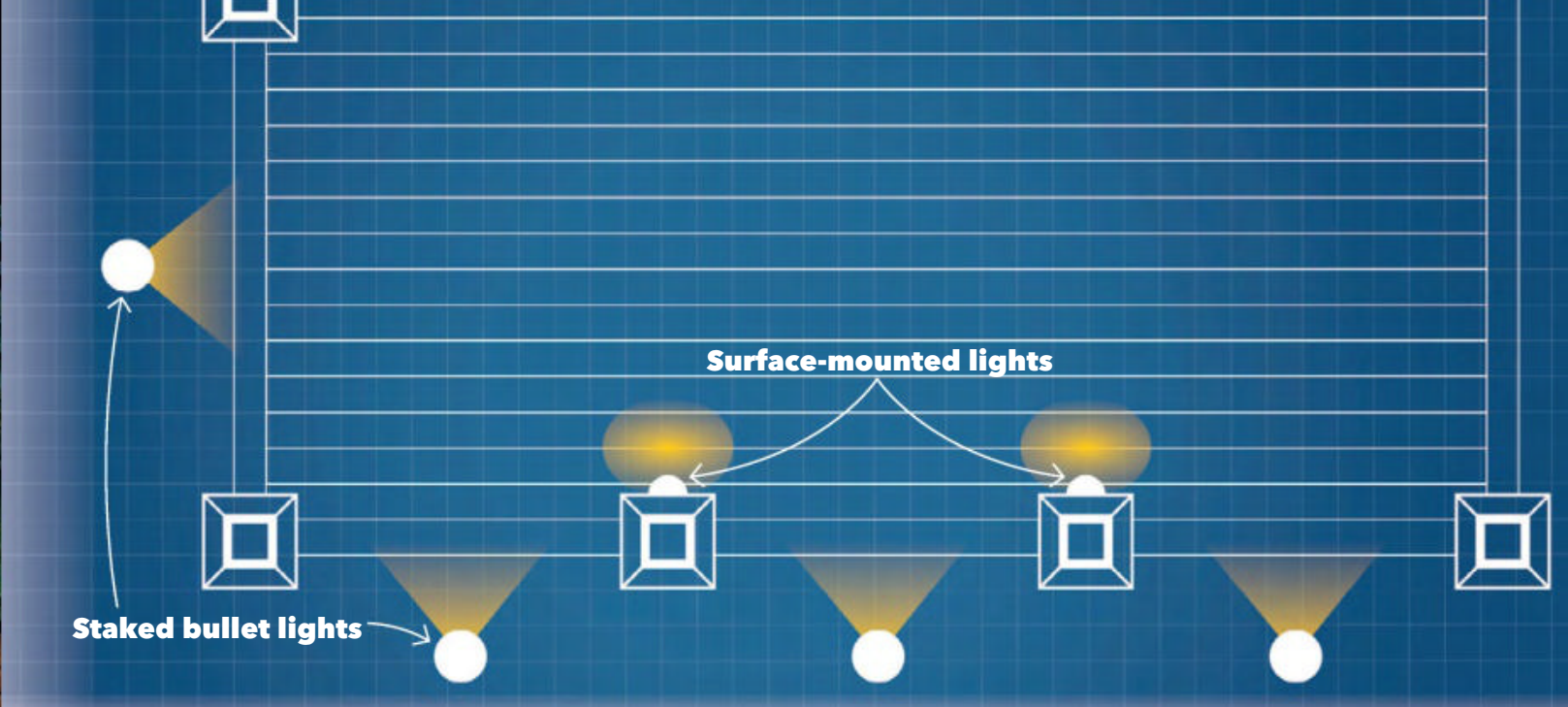
MEET THE EXPERT

Scott Pesta has been a landscape lighting technician with Kichler Lighting for 13 years.

PHOTO: IN-LITE



BOTTOM PHOTO (P. 41): CJMCKENDRY/GETTY IMAGES

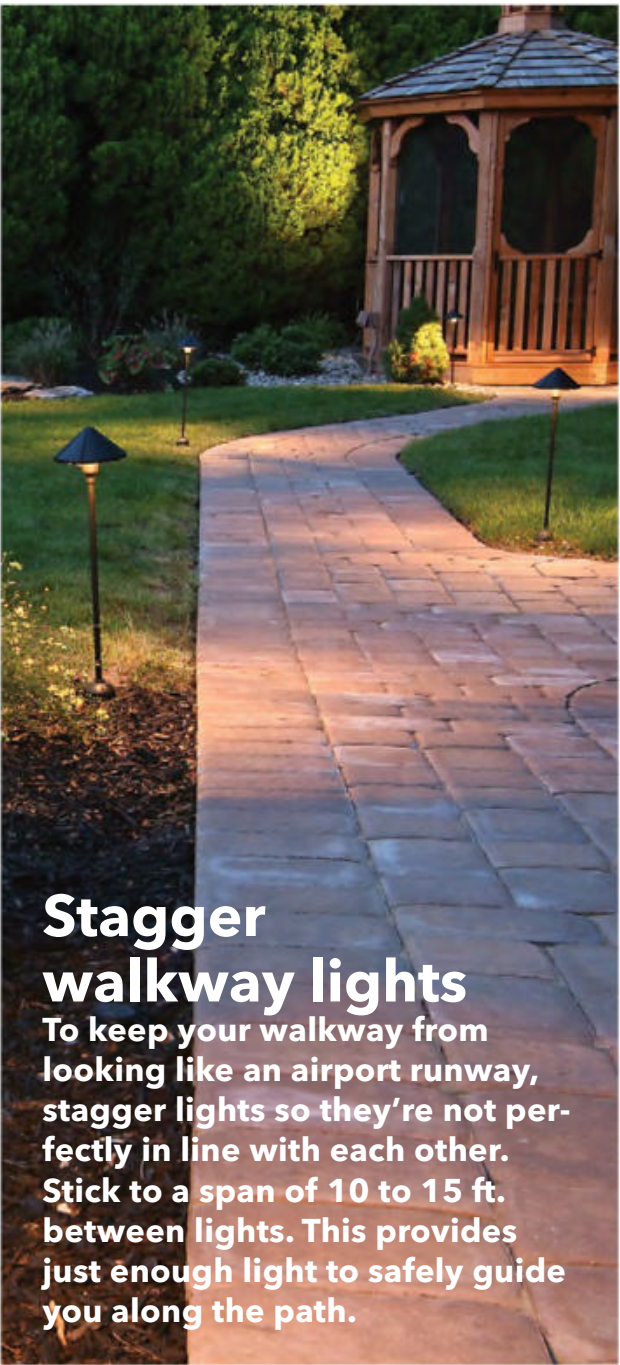


Stick with a simple design

The first phase of any lighting project for the deck or yard is design. Scott says most DIYers start with too many lights. A simple installation of just a few lights makes a huge impact, he says. Start small and add more as needed.

EXPERIMENT WITH CLAMP-ON LIGHTS

Once you have a design in mind, use clamp-on lights to see if your design creates the look you want. Also, try out bulbs with different brightnesses and colors to determine what suits your installation best.

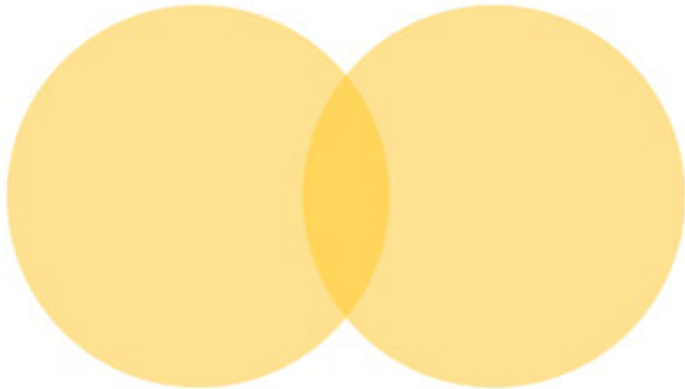


Stagger walkway lights

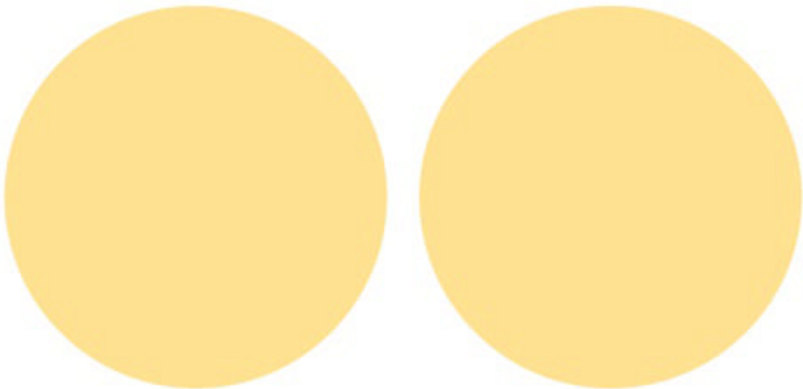
To keep your walkway from looking like an airport runway, stagger lights so they're not perfectly in line with each other. Stick to a span of 10 to 15 ft. between lights. This provides just enough light to safely guide you along the path.

Don't overlap light

Deck lighting is intended more for ambience than visibility. Scott recommends mounting lights far enough apart to avoid overlapping pools of light. For decks, choose fixtures that cast a 4- to 5-ft. pool of light. Position them 30 in. up off the deck floor and space them no more than 10 ft. apart.



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Illuminate stairways

Adding subtle lights to your deck stairs is not only aesthetically pleasing but also a safety feature for your deck at night.

AUTOMATE YOUR LIGHTS

Most transformers have a receptacle for a timer. Scott suggests upgrading to an astronomical timer (\$30 to \$50) that follows dusk till dawn. For a bit more money, a transformer with built-in Wi-Fi smart timers (\$300 and up) allow you to create zones, design scenes and control your lighting from anywhere.

Solar is easy, but...

Options for solar landscape and deck lights have exploded at home centers. And there are good reasons to love them: instant installation, no wiring and no increase in your electric bill. But solar lights aren't as bright as those on a wired system. In some areas, that might be OK. But for a system that truly illuminates, choose low-voltage lighting.



TOP PHOTO: COMSTOCK/GETTY IMAGES

Pick your transformer

A transformer’s job is to convert 120-volt household current to 12-volt before sending it to power your fixtures. Until recently, you would have needed a 600- to 1,200-watt transformer to light an entire yard with halogen lamps. But because LEDs use fewer watts than halogen lamps, smaller transformers—45 to 300 watts—are usually all you need.

To determine the size transformer you need, add up the wattage for all the light fixtures you’re planning to install, add 25% and then round up. In the example below, the installation calls for a 200-watt transformer.

4 STEP LIGHTS x 12 WATTS	48 WATTS
3 POST LIGHTS x 20 WATTS	60 WATTS
8 LANDSCAPE LIGHTS x 6 WATTS	48 WATTS
SUBTOTAL	156 WATTS
ADD 25% EXCESS	40 WATTS
TRANSFORMER SIZE (ROUND UP)	200 WATTS

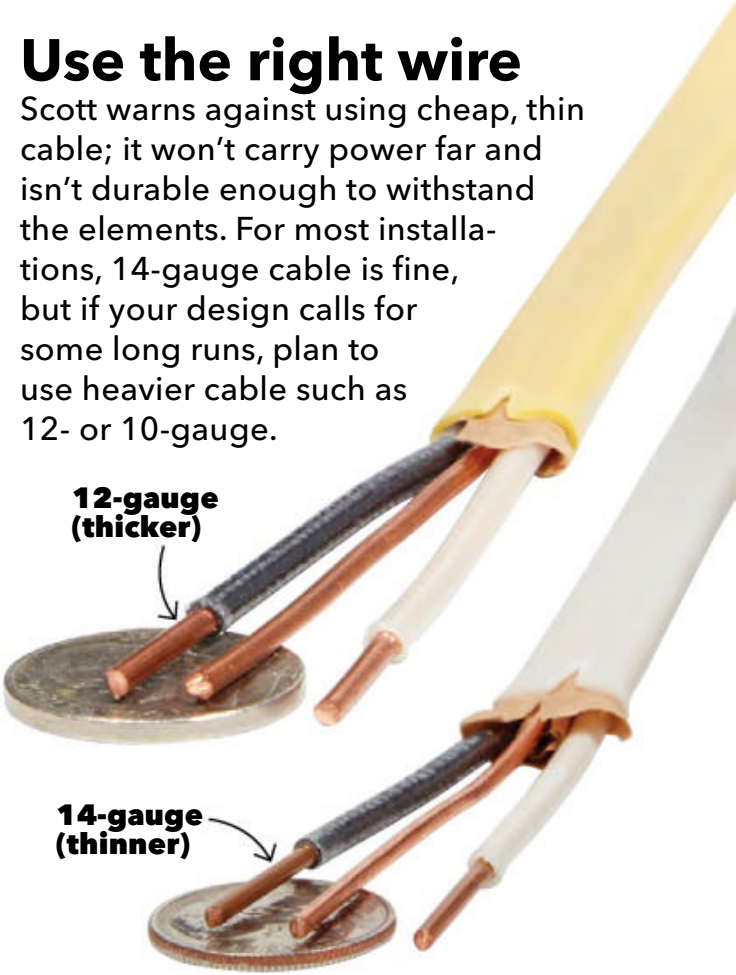


Use an outdoor GFCI outlet

No matter the size of your transformer, it needs to be plugged into an outdoor GFCI outlet on a dedicated circuit. If you’re unsure about doing electrical work yourself, hire a licensed electrician.

Use the right wire

Scott warns against using cheap, thin cable; it won’t carry power far and isn’t durable enough to withstand the elements. For most installations, 14-gauge cable is fine, but if your design calls for some long runs, plan to use heavier cable such as 12- or 10-gauge.



CABLE LENGTH	WIRE SIZE
UP TO 100 FEET	14-GAUGE
100 TO 250 FEET	12-GAUGE
250-PLUS FEET	10-GAUGE

USE CONDUIT OR UF CABLE

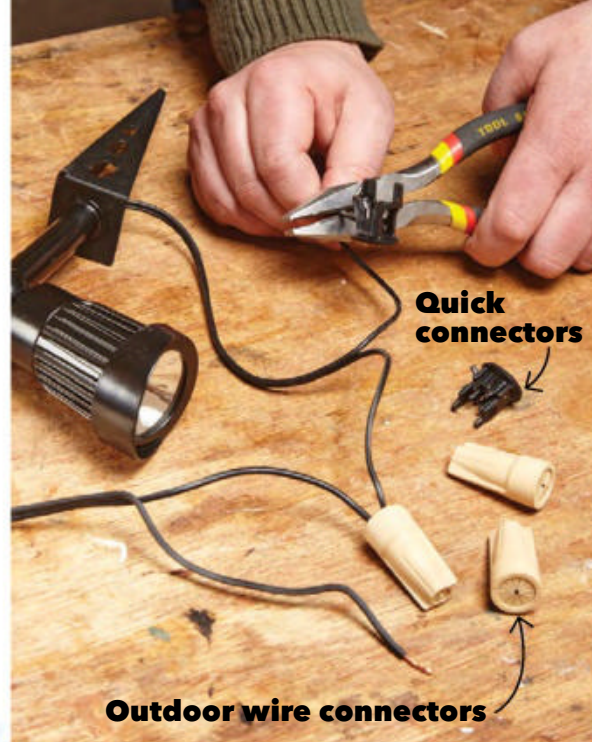
All outdoor wiring must be in conduit or be rated for direct burial.

DO YOU NEED A LICENSE?

In some states, low-voltage lighting systems must be installed by a licensed electrician. Check your local ordinances to make sure you are in the clear.

Run wire under walkways

If you need to run wiring under an existing walkway, try this trick: Dig a small trench on both sides. Next, flatten one end of a piece of rigid metal conduit and use a sledgehammer to drive the conduit, flattened end first, horizontally under the walkway. Then cut off both ends of the conduit with a hacksaw. Finally, file off the sharp edges and feed your wire through the conduit. A 10-ft. stick of rigid steel conduit (the thick, heavy-duty stuff) is inexpensive and available at home centers.



Use waterproof wire nuts

Some landscape lighting kits contain preinstalled quick connectors. Scott says these connectors work for a while but can corrode and fail over time if buried underground. Cut off the factory-installed connectors and splice the connections using gel-filled wire nuts made for outdoor use. They offer excellent protection for years of service, but they can't be reused.

CHECK THE MANUFACTURER'S WARRANTY

The manufacturer's warranty is a good indication of quality as well as how much a company stands behind its products. Scott says that quality low-voltage landscape lighting products should have a 10- to 15-year warranty.



Indirect light for patios

Instead of focusing lights directly onto a patio, try lighting the nearby objects, like landscaping elements and trees. This provides illumination without glare and creates attractive shadow effects.

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The blade is full tang, meaning it doesn't stop at the handle but extends to the length of the grip for the ultimate in strength. The blade is made from 420 surgical steel, famed for its sharpness and its resistance to corrosion.

The handle is made from genuine natural bone, and features decorative wood spacers and a hand-carved motif of two overlapping feathers—a reminder for you to respect and connect with the natural world.

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NEW LIFE *for an* OLD DECK

21 tips to give your deck
a face-lift, not a teardown

BY MIKE BERNER

A deck that's not maintained can become unsafe and unsightly. If this sounds like your deck and you want to upgrade to a maintenance-free outdoor living space, consider a "re-deck." The job of ripping up and replacing deck boards might seem straightforward, but you could run into problems.

With these tips, you'll avoid major pitfalls and give your deck a whole new life.



PHOTO: JAMES PINTAR/GETTY IMAGES



Demo the decking

Pulling up deck boards is a chore. If your wooden decking was nailed on; demo will be a bit easier. If it was screwed on, don't expect to back out the screws one by one. Instead, pry up the boards, then break off any screws left in the joists by hitting them at the base with a hammer. A purpose-built pry bar like this Duckbill Deck Wrecker will ease this job.



Flash the ledger board

Install Z-flashing over the ledger board that holds the deck to the house. Older decks may not have flashing, but with the decking off, it's the perfect time to add it. Tuck the Z-flashing under your home's weather-resistant barrier. It protects the ledger board and sends water away from the house.



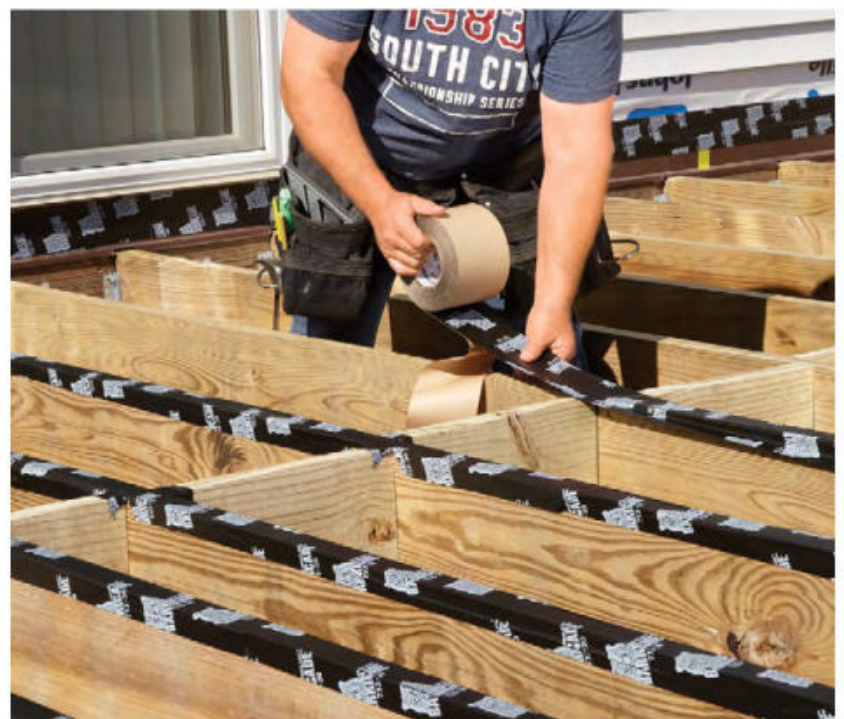
Replace rotten posts

Check the bottoms of the posts that support your deck. If they're rotting, it's time to replace them. And it's pretty easy. First, using hydraulic jacks, place temporary posts on both sides of the rotten post. Make sure the jack is on firm, flat ground, then slowly jack up the deck framing enough to remove the post. Install a new post on a post base to keep it from rotting.



Missing hanger nails

With the deck boards off, check the joist hangers. They should be rust-free and full of nails. If you see holes that are missing nails, hammer in hanger nails. Pound 1-1/2-in. nails into the ledger board and 3-in. nails at a 45-degree angle into the joists.



Protect the joists from rot

Composite decking will last a long time. To make sure the structure of your deck lasts, adhere joist tape on the tops of the joists before fastening the deck boards. The tape will seal around all the deck screws, helping to keep out water and prevent rot.



Reinforce railings

If your deck is taller than 30 in., it will need a railing. Whether you're using wood, composite or aluminum railing, building code requires it to withstand a minimum of 200 lbs. of force applied anywhere. This is difficult to measure, so it's best to beef up these rails so they don't budge.

■ CORNER POSTS

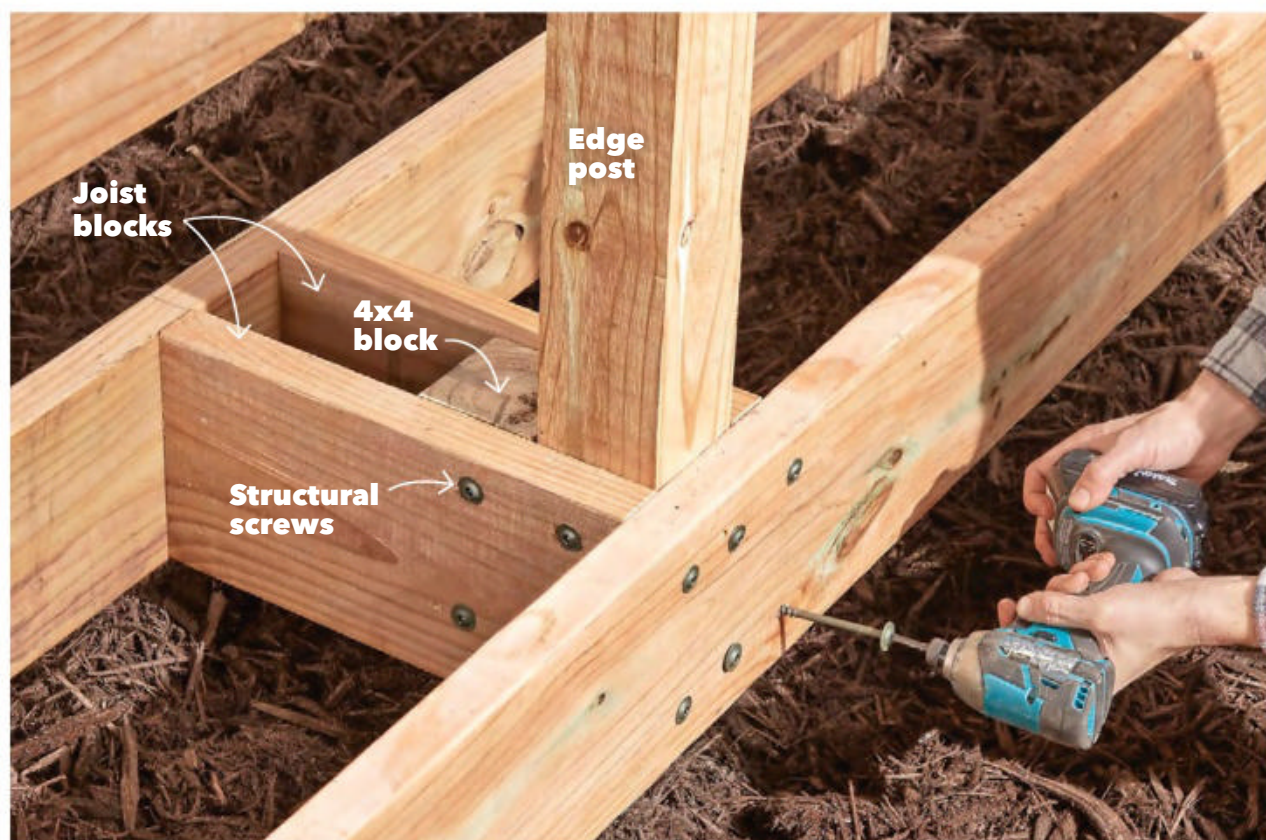
Fasten the corner posts with 5-in. structural screws. Then add two blocks between the joists against the post and a 4x4 block cut to the same height as the joist right behind the post.

■ EDGE POSTS

For posts along the edge of the deck, fasten blocks on both sides of the post. Then fasten a 4x4 block against the post and between the blocks.

■ SURFACE-MOUNTED RAILINGS

For surface-mounted railings, secure a double-layer block flush to the top of the deck framing. If the joists are perpendicular to the edge, add a block across the joists, then use 8-in. structural screws to fasten them. The grain of the blocking should run perpendicular to the edge of the deck.





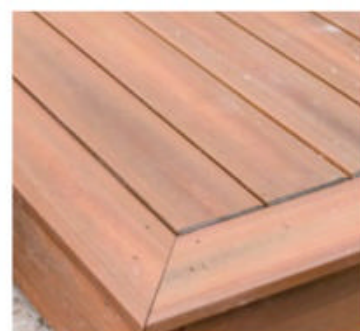
Stiffen up the joists

Here's an easy fix for a bouncy deck: Snap a chalk line down the middle of the deck and add tight-fitting blocks between the joists. Stagger them so they're easier to screw in.



Add a picture frame border

A great way to hide cut ends of your deck boards is to wrap the entire deck with a picture frame border. You'll need additional blocking to support the deck boards, but the clean look is worth the extra effort. Add an extra joist 3 in. away from the end joist and add blocks every 12 in. between. This supports the picture frame board and the decking that runs into it.



Work from the outside in

The first row of decking you install should be away from the house. This will ensure that the most visible deck boards are full width, and any skinny boards are hidden against the house.



Pin the middle

Composite decking expands and contracts with fluctuating temperatures, and decking manufacturers include an installation step, but it's often missed: Toe-screw each deck board into the centermost joist. If a board expands a total of 1/4 in., it will move 1/8 in. in either direction; that's much less noticeable than 1/4 in. in one direction.



Run the boards long to avoid butt joints

Deck boards come in lengths up to 24 ft. Cut deck boards to span your entire deck, when possible, in order to avoid butt joints. Keep the deck boards long instead of trying to cut them, and line them up individually as you lay them. See "Trim the Edges" on p. 55.



Hidden fasteners for a clean surface

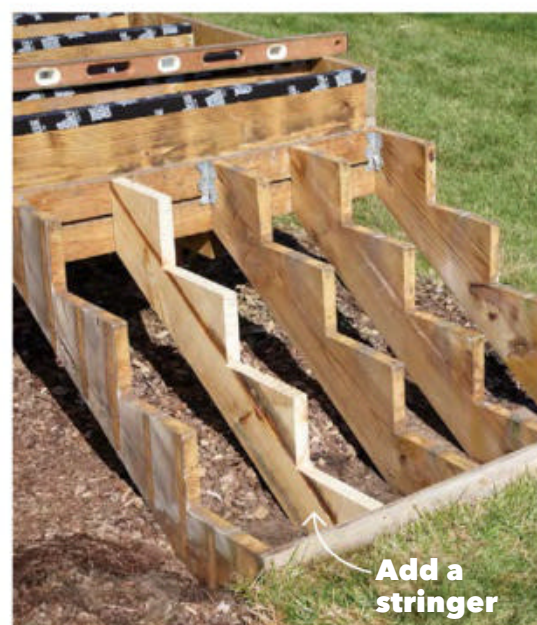
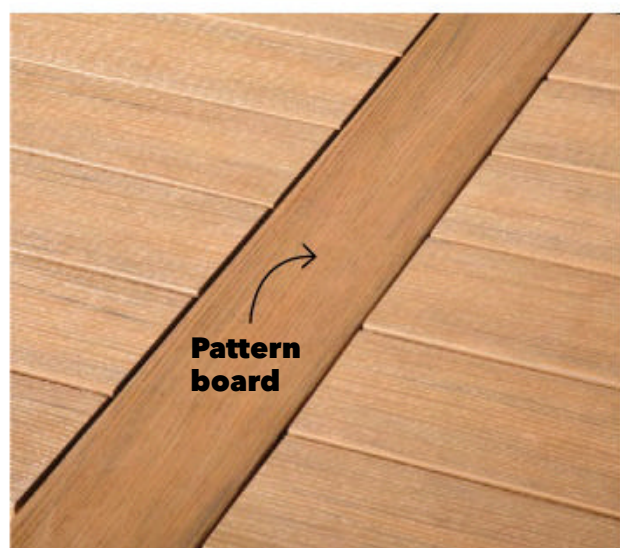
The brand of decking you choose will dictate the fasteners used. Screwing through the top is an option, but the clean surface you get by using hidden fasteners is worth the upcharge. Plus, hidden systems space the deck boards perfectly, so usually they install just as fast.

Butt joint seam fix

If you can't avoid a seam in your deck boards, choose one of these two options:

1. Stick with a butt seam. You'll need to leave a gap between the boards and fasten each end down. To do this, add a block to screw the hidden fasteners for each board into.

2. Place a pattern board perpendicular to the rest of the decking. You'll need extra blocking to support the pattern board and the ends of the deck boards on both sides.



Easy stringer replacement

Most composite decking requires shorter spans between the framework supports, especially on stairs. Check with the manufacturer of the decking for the required stringer spacing; some require stringers to be as close as 8 in. apart. If you need to add new stair stringers, use an existing stringer as a template. Trace its shape onto a new 2x12 and cut it out.



Trim the edges

Trim the edges after you've installed all the decking. Snap a line and cut them all at once. This is faster than cutting each board when you're installing it, and it will ensure the ends line up.



Update wood posts with a sleeve

To protect your wood posts and give them a new look fast, you can just slide a sleeve over the top. Combine them with an 8-ft. railing kit and you'll get a maintenance-free section of railing and two covered posts for just under \$200. Find the sleeves and railing kits at home centers.



Modernize with aluminum rail

Upgrade the style of your deck with aluminum railing. Install aluminum posts on the surface of your deck and choose from a variety of railing options, including glass and steel cable. Expect to pay at least \$250 for 6 ft. of aluminum railing and posts at home centers.



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BY MIKE BERNER

We have a pair of toddlers who splash up a storm in the tub, and I'm the lucky guy who gets to monitor the mayhem from this bench. The comfy cushion is welcome after a long day, and the compartments keep all the important toys and towels right at hand. I built the bench in just one day with basic tools, and I'm sure we'll use it daily for years to come.

WHAT IT TAKES

TIME 1 day	COST \$75	SKILL LEVEL Beginner
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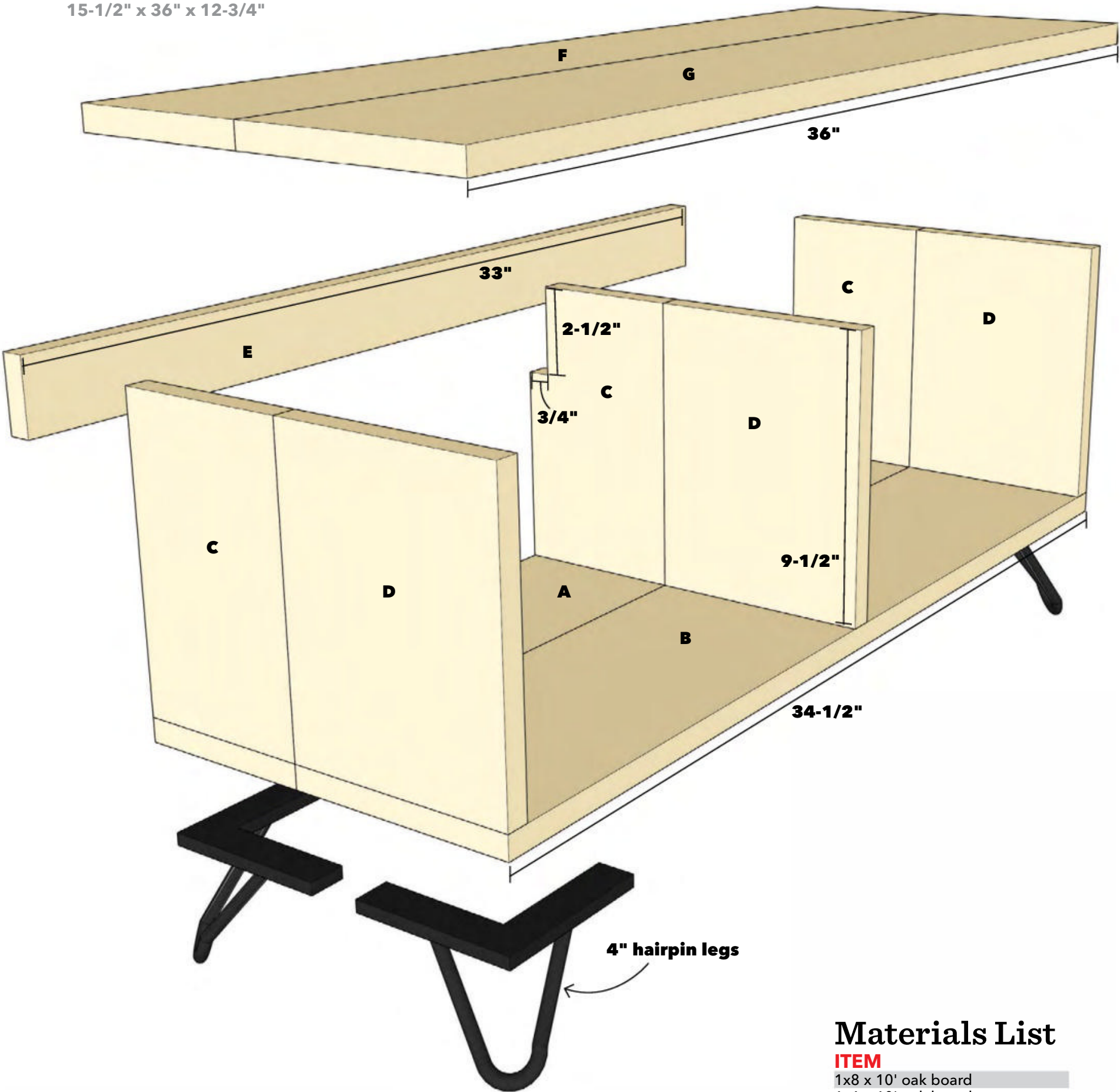
TOOLS

Clamps, drill, jigsaw/handsaw, 8-gauge brad nailer, circular saw/miter saw

Figure A

Bathroom Bench

OVERALL DIMENSIONS:
15-1/2" x 36" x 12-3/4"



Materials List

ITEM
1x8 x 10' oak board
1x6 x 10' oak board
1x3 x 3' oak board
4" hairpin legs
Brad nails
Glue



MEET THE EXPERT
Mike Berner was a school-teacher until his summer job building homes turned into a year-round career. Now he's an editor at *Family Handyman*.

Cutting List

KEY	QTY.	DIMENSIONS	PART
A	1	3/4" x 5-1/2" x 34-1/2"	Narrow bottom board
B	1	3/4" x 7-1/4" x 34-1/2"	Wide bottom board
C	3	3/4" x 5-1/2" x 9-1/2"	Narrow sides/divider board
D	3	3/4" x 7-1/4" x 9-1/2"	Wide sides/divider board
E	1	3/4" x 2-1/2" x 33"	Stretcher
F	1	3/4" x 5-1/2" x 36"	Narrow top board
G	1	3/4" x 7-1/4" x 36"	Wide top board

1 MAKE WIDE PANELS

Cut all the individual boards 1/2 in. longer than their final length. Then edge-glue the boards to make the top, bottom, sides and divider panel. Wipe away any excess glue and allow the panels to dry.

2 TRIM THE PANELS TO LENGTH

Trim one end of the panels, then cut the other end to final length. A 12-in. sliding miter saw like the one shown can cut the full 12-3/4-in. width. With a smaller saw, you have to flip each panel to finish the cuts. You could also make these cuts with a circular saw, using a large framing square as a guide.

3 ATTACH THE SIDES

Sand the parts smooth before you assemble them. Start with 100-grit sandpaper and work up to 180. Position the sides flush to the ends of the bottom board, and fasten them with glue and brad nails. If you don't have a brad nailer, drive trim-head screws, sinking them below the surface and cover with wood putty.





4 NOTCH THE CENTER DIVIDER

Clamp the center divider to your work surface and cut a 3/4-in. x 2-1/2-in. notch on the top back corner. I used a jigsaw, but a handsaw works just as well. Attach the center divider with glue and brad nails.

5 INSTALL THE STRETCHER

Spread glue on the ends of the stretcher and in the notch in the center divider. Before you nail the parts, check that they're all in proper alignment using a Speed Square or framing square. Nail the stretcher in place through the sides and into the center divider.



6 SECURE THE TOP

Position the top so it overhangs each side by 3/4 in. and is flush with the front and the back of the bench. Fasten the top with glue and finish nails, again checking with a square before driving the nails.



7 ADD THE LEGS

Flip the bench upside down and set the legs in the corners. Keep them 1/2 in. away from the edges, then drill pilot holes and screw the legs to the bottom. Apply stain and polyurethane to ensure the bench will last through years of bath time. Top off the bench with a cushion that has a nonslip bottom, or leave it as is to show off the oak grain.



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Best ProTips

Expert advice from the job site. By Jay Cork

DISCOVER GEL STAIN

You'll get greater color control and better finishes



In Kevin Southwick's world, matching color is a daily challenge, with exacting standards. Kevin doesn't own a single can of liquid stain; he uses gel stains only. I dropped in to Kevin's shop to find out why gel stains are his favorite and asked him to share his best staining advice.



MEET THE EXPERT

Kevin Southwick is a furniture conservation specialist. He has been the in-house finishing expert at his local woodworking store for the past 25 years.



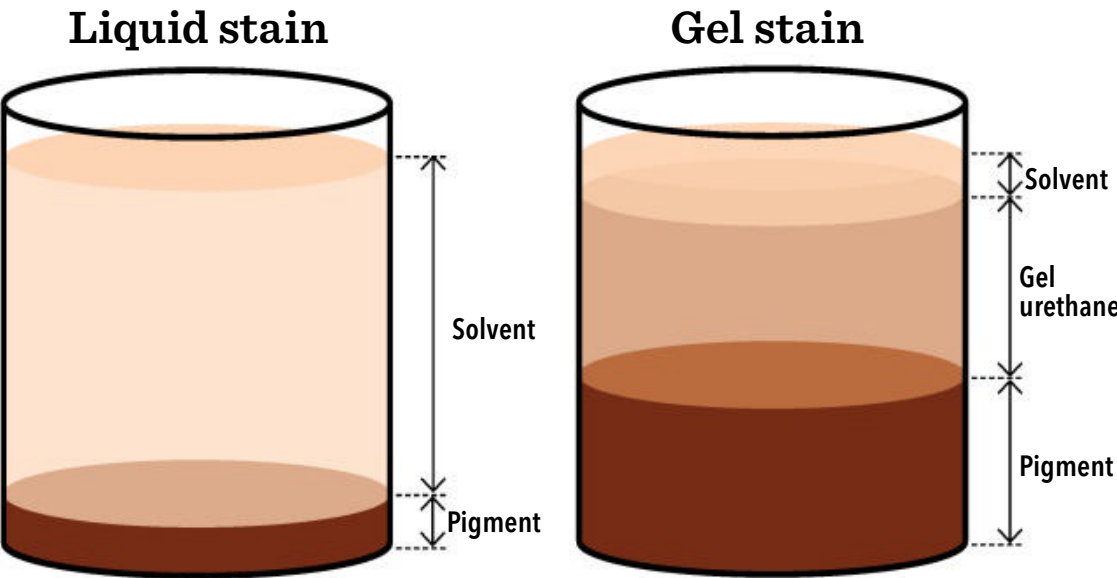
Four Reasons to Use Gel Stain

1. GAIN GREATER COLOR CONTROL
Gel stain is more similar to paint than it is to stain; it contains significantly more pigment than liquid stain does. It also contains gel polyurethane, which helps fix the pigments to the surface of the wood. This allows gel stain to be applied in layers, giving you the ability to fine-tune the tone and depth of color.

2. EASILY STAIN VERTICAL SURFACES
Unlike liquid stains, which run and drip when used on vertical surfaces, gel stains, with their yogurt-like consistency, cling to vertical surfaces.

3. ELIMINATE THE BLOTCHY LOOK
Woods such as pine, cherry and birch don't absorb pigment evenly; they tend to look blotchy when stained. Because of the greater color control you get with gel stain, you can virtually eliminate blotching, especially if you apply two or more coats.

4. STAIN END GRAIN EVENLY
End grain readily soaks up liquid, making that part of a project much darker than adjacent surfaces. This occurs with gel stains too, but less so. Gel stain can be wiped off from the end grain soon after it's applied, which helps you get a uniform color.



LIQUID STAIN VS. GEL STAIN

Liquid stain contains a lot of solvent with a little bit of pigment. Gel stain is mostly pigment and gel urethane with a small amount of solvent.



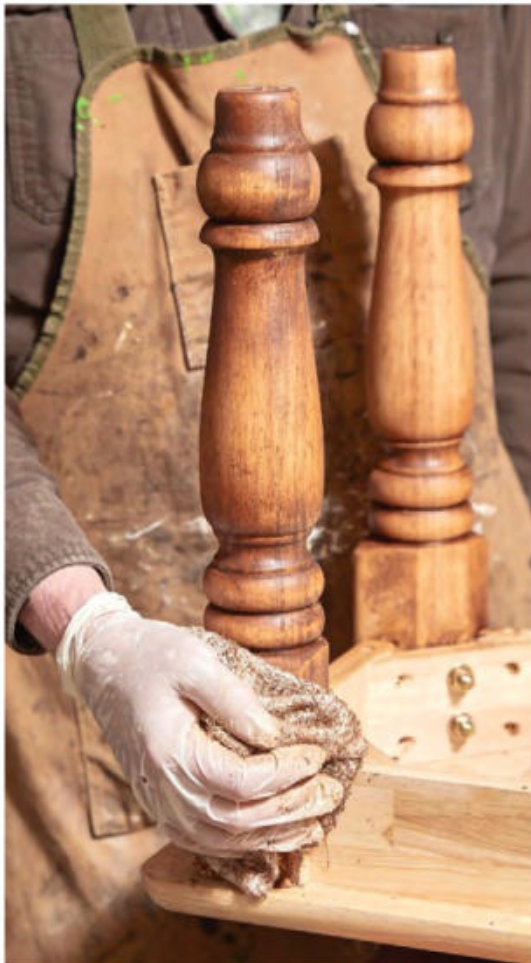
ADD LAYERS OF COLOR

Because gel stain contains urethane, you can add layers of color as long as you let the previous coat dry completely. Liquid stains don't do this very well, if at all. You can use this technique to get an extremely dark stain color on your wood.



ADJUST COLOR WITH ARTISTS' OIL PAINTS

Artists' oil paints are highly concentrated pigments, and Kevin uses them to fine-tune the color. Adding a little at a time, he'll blend in oil paint with the gel stain and test the results on a piece of scrap wood. Once he's found the color he's looking for, he applies it to the whole project.



CREATE AN ANTIQUE LOOK

Kevin takes advantage of the level of color control offered by gel stain to create an antique look. Smearing some gel stain on the detailed areas and lightly wiping off the excess with a cloth leaves more stain in the details, creating the effect he wants.

Test your stain!

To make sure you get the look you're after, test your stain on a piece of scrap wood from your project, or the underside of a table, for example. Sand test pieces to the same grit as your project, then stain and topcoat them before making any final decisions.



USE GEL STAIN AS A GLAZE

Kevin defines the term "glazing" as adding color over an existing finish. Gel stain excels at this. To add new life to that flea market find, gently scuff the existing finish with "0000" steel wool and apply gel stain. Lightly wipe off the excess and let dry.



CLEAN DETAILED PROFILES

When you're removing stain from fine details in molding, use a stiff-bristle brush to get at the stain a rag wouldn't reach. Kevin usually has two brushes on hand for this purpose. As one brush gets loaded with excess stain, he switches to a clean one.



THIN GEL STAIN WITH SOLVENT

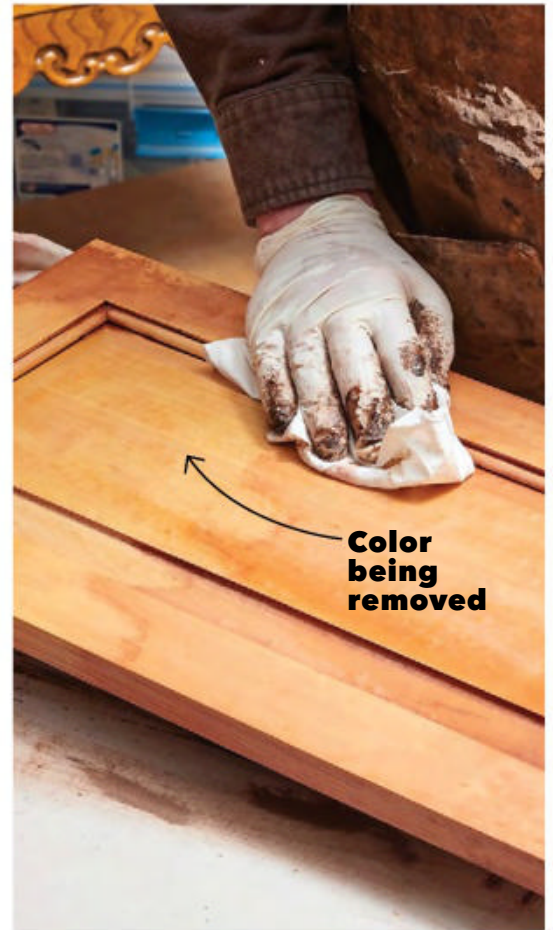
To extend the working time of gel stain, which is typically five minutes, add a little solvent. Put some gel stain in a jar or cup, add a dash of mineral spirits and mix it well. You can apply the stain as usual, but you'll have an extra few minutes of working time.

BEST PRO TIPS



WORK IN SMALL SECTIONS

Liquid stain can be applied liberally with a rag or a brush to cover large surfaces before wiping it off. Gel stains need to be wiped off in five minutes or less, so Kevin suggests working in sections roughly 10 ft. square at a time.



ERASE YOUR MISTAKES

Undoing liquid stain is difficult. But with gel stains, you can “erase” the color as long as you act quickly. Get to it before it dries, wet a rag with mineral spirits and wipe off the stain.



LET IT FULLY DRY

It's important to wait for gel stain to dry completely before you apply the next coat of stain, especially for the topcoat. If it's not dry, the solvent in the topcoat causes the stain to lift and get smeared around on the surface of your project. Kevin recommends a full 24 hours between coats.



Dispose of rags properly!

Rags full of oil finish can self-ignite if they're crumpled and thrown into the garbage before they're completely dry. Best practice is to drape rags over the rim of a garbage can until they feel stiff, usually overnight, but maybe longer. Then they're safe to throw away.



FINE-TUNE THE COLOR

Applying more or less pressure when you're wiping off gel stain lets you control how much color is left behind. Wiping lightly will produce a bolder color. For less color depth, wipe harder and repeatedly. This technique is perfect for getting even color on wood prone to blotches.

Kevin's favorite finishing gear

Achieving a fine finish is challenging work. Here are some of the tools Kevin relies on to produce the best results with gel stain.

JULEP SPOON

Never one to shy away from fancy things, Kevin uses a julep spoon to scoop stain out of the can when mixing custom colors.

GEL STAIN

Kevin uses General Finishes gel stain for its quality of pigments. It's available in pints (\$15) and quarts (\$25).

PAPER TOWELS

These paper towels feel and work like real cloth towels. A box of 200 Sellars TOOLBOX white rags costs about \$12.

CAN OPENER

One of the most important tools in the shop, it opens cans of stain as well as your favorite beverages!

FOAM PADS

Kevin uses stiff foam pads to grip sandpaper or steel wool during the finishing process.

KNIVES

A palette knife (or even a butter knife) works well for stirring oil pigments into stain.

ACID BRUSH

These cheap, disposable brushes are good for applying stain in hard-to-reach areas.

CHIP BRUSH

Kevin uses chip brushes to clean stain out of small details.

SASH BRUSH

Sash brushes allow you to work color into the details and crevices of molding and carvings.

Home Care

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Choose the BEST ROLLER

You can buy a decent paint roller for a couple bucks, but it's smarter to spend about \$6 or \$7 and choose one that says "woven" on the label. Here's why:

1. Cheap, non-woven rollers shed tiny fibers and leave ugly lint on the painted surface. A high-quality woven roller will shed few, if any, fibers and will leave the smoothest finish.

TIP *Regardless of the roller, play it safe: Before using it, apply tape to the cover and quickly remove it to pull up any loose fabric fibers.*

2. Woven rollers hold and release paint evenly. That means you'll spend less time dipping in the paint tray. A thicker nap also holds more paint, but that's a trade-off; a thicker nap also means more stipple/texture.

BEST ALL-AROUND

A woven 3/8-in. nap is the go-to option for typical drywall applications. It's a good compromise between paint-holding capability and achieving a smooth finish.



MEET THE EXPERT
Mark Eichelberger is the director of marketing for Purdy Professional Paint Tools.

BACKGROUND PHOTO: MESAMONG/GETTY IMAGES

Don't install your security keypad near the door

Installing a control pad in a noticeable location may seem logical, but Stephany Smith says it's a bad idea. "Don't be tempted to mount it on or next to your front door. Instead, the best spot for the control pad is in a hidden area—master bedroom, hallway, back or side door," she explains. "Another great idea is to install a few keypads at different places with a PIN code that's hard to crack."



MEET THE EXPERT
Stephany Smith is a home security expert at Fantastic Handyman.



SAVE THOUSANDS ON YOUR SEPTIC SYSTEM

If your septic system isn't working properly, take heart: You may be able to revive it by cleaning out the leaching pipes. I use a long hose attachment called a Clog Hog (\$130 at cloghog.com). It clips onto the wand of a pressure washer and delivers blasts of water to the inside walls of pipes up to 100 ft. long. The end of the Clog Hog has four water jets. One points forward, blasting a passageway for the Clog Hog, while the other three angle backward, cleaning out sludge and propelling the hose into the pipe. This job requires a gas-powered pressure washer that delivers at least 3,000 psi and 3 to 4 gallons per minute.

You'll need to find the end of each line first, which requires some shovel work. The pipes are buried a minimum of 6 in., and up to 36 in. They branch off from a header pipe that connects to your tank. A typical household septic system has four to six leaching pipes extending 40, 50 or 60 ft. out from the tank. Patches of thicker or greener grass are good indicators of pipe location.

STEVE MAXWELL

Choosing Window Screen

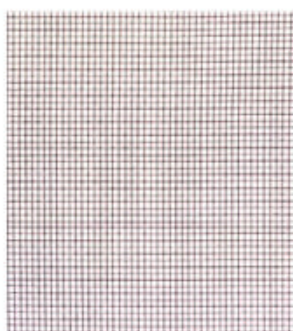
Screens are no longer a one-size-fits-all category. If you've never replaced your window screens and they're nearing the end of their service life, know you can choose from several options. You'll still find the classic aluminum, but a different screen material might be a better choice for you.



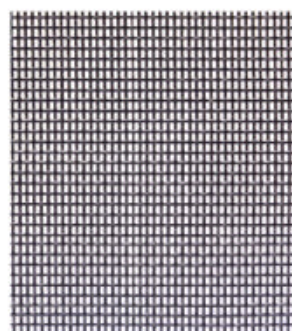
ALUMINUM SCREEN is very durable, allows great visibility and is available in many colors and different mesh sizes. On the downside, it's more expensive than fiberglass and is susceptible to dents.



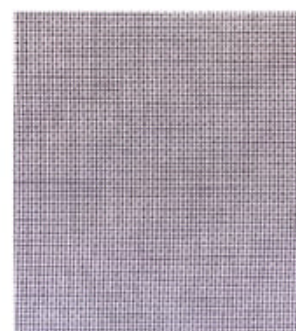
SUN OR SOLAR SCREENS block light and absorb heat, making them a good choice for a warm-climate patio. Typically, they reduce natural light by 30% to 40%. They can help reduce air conditioning costs, add privacy and slow the fading of patio furniture. But they'll darken your space.



VISIBILITY SCREEN is all about the view. When you want to be able to see through a screen clearly without even noticing it, this light mesh screen is a good choice. The downsides are that this screen doesn't offer any privacy or block sunlight and is less durable.



PET-RESISTANT SCREEN is typically made from heavy-duty polyester coated with vinyl. It might not stop your St. Bernard from a tempting squirrel chase, but this type of screen definitely resists tears from an errant paw.

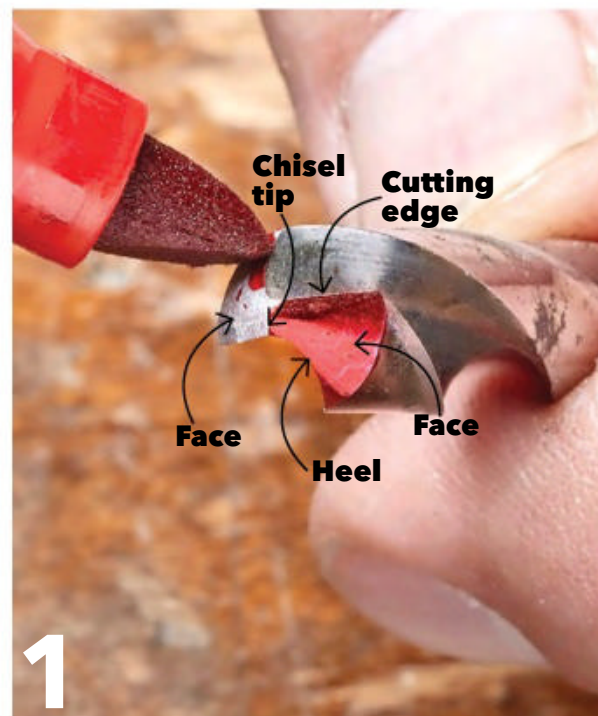


SMALL INSECT SCREEN has tiny mesh to keep out the smallest gnats and no-see-ums. If you live in a marshy, wooded or coastal area and your screened porch is plagued by tiny pests, this is a good option. On the downside, small insect screen does decrease visibility.

SHARP DRILL BITS IN 30 SECONDS

You can tell a drill bit has become dull when it squeals, smokes or takes five minutes to bore a hole. A close look usually reveals a cutting edge that reflects light, meaning it's no longer an edge, but a surface, which won't cut anything.

On too many occasions, I found myself on a job site where running out for a new bit wasn't an option. I had to learn how to make a bit "sharp enough" in a hurry. I've used a bench grinder, a belt sander, an angle grinder and the narrow benchtop belt sander shown here.



1 MARK THE FACES

Color each face behind the cutting edge using a permanent marker. You'll have a reference to track your progress and make sure your angle is correct when you start grinding. (Wear eye protection!) The goal is to lightly grind each face evenly, from the heel to the cutting edge, without changing the angle or the size of the chisel tip. It sounds complicated, but if you're careful, you'll have a sharp bit in about 30 seconds on your first try.

2 FIND THE ANGLE

Before turning on the sander, looking from the top, eyeball the angle of the cutting edge. On larger bits, you can even press the bit's face against the belt and feel the angle.

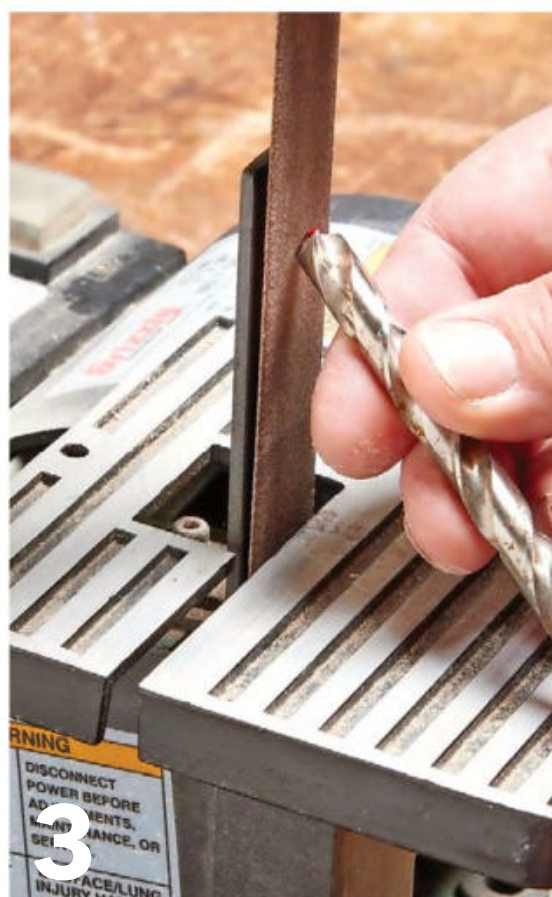
3 FIND THE HEEL

Keeping the first angle, drop the end of the bit until the heel is touching the belt. Feel that position in your muscle memory.

4 GRIND AWAY!

Turn on the machine and touch the bit to the belt. Using very light pressure, rotate the bit, starting from the heel, until you've reached the cutting edge. Check your progress by looking at the colored face. When the marker ink is gone and the cutting edge no longer catches light, you're done!

NICK WIESNESKI
OWNER, NICK OF ALL TRADES LLC





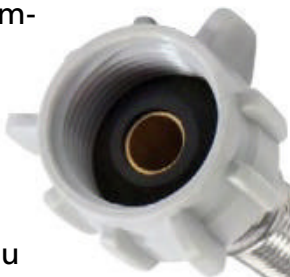
HAND-SAND BEFORE STAINING

When you buy molding or any surfaced lumber, it may seem like it's ready for finish. But when you apply stain, the milling marks jump out at you. If you're like me, once you see them, they'll drive you nuts! If I installed this piece of trim in my house, I'd kick myself every time I walked by it. Using a random orbit sander is fine for flat, non-profiled lumber, but for trim boards with a shaped profile, hand-sanding is the only way.

BRAD HOLDEN
SENIOR EDITOR

Tightening plastic nuts

A toilet supply line with a metal nut or reinforced plastic compression nut is a better choice than one with a regular plastic nut. But if you can't find one, you can tighten a plastic nut this way: First, tighten it just enough to stop leaks. Come back a few hours later when the rubber gasket has compressed a bit and snug it up a tad more. Don't crank on it with pliers. You could strip the threads or crack the nut.

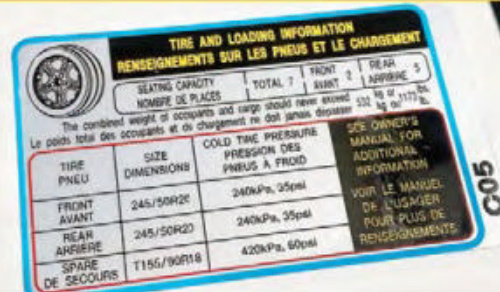


Not for salad dressing

We all know that vinegar is a good all-around household cleaner, but there are stronger versions made specifically for cleaning. They have higher acidity than standard vinegar, which is 5% acidity. So, they'll power through grime much easier. Don't use vinegar to clean natural stone, though. It may etch the stone.

Correction

In our "Stuff We Love" review of the Gozen tire pressure monitor valve stem caps (April '21, p. 13), we wrote that you can check the sidewall of your car tires to see what your tire pressure should be. That's incorrect. The recommended tire pressures for your vehicle, front and rear, are shown on the Tire and Loading Information sticker on the driver's-side doorjamb.



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Laughs and lessons from our readers

THE EYE OF THE BEHOLDER

I was remodeling my daughter's second-floor bedroom and had finished all the demo work. I was ready to start the next phase when I saw daylight coming up through a hole in the floorboard. But that didn't make any sense. How could there be light between the ceiling downstairs and the floor upstairs? So I got down on my hands and knees and peered through the little hole—only to see an eyeball looking right back at me! I almost had a heart attack. When I gained enough courage to take a second look, I realized that a piece of broken mirror had lodged itself in a knothole. I'd nearly frightened myself to death by staring at my own eyeball!

ROBERT ARNOLD



WHY NOT TO OVERTIGHTEN A SCREW

Our oven door handle was loose and rattling, and it seemed like a simple fix to remove the door, tighten the handle screws and reinstall it. Splitting the door apart was the biggest part of the fix. I finally got it apart and tightened the handle screws. No problem. And just to make sure I never had to revisit this repair, I gave the screws one more turn for good measure and ... CRACK! The tempered glass panel that was sandwiched between the door layers shattered into a thousand pieces. My "simple fix" took several days and cost me \$150 (for a new glass panel). Plus, there was no frozen pizza for a while.

ROB WRITENOUR



RUNAWAY MOWER

My old riding mower works fine except for a weak battery that needs an occasional jump start. One day as I was riding the mower across the lawn, I had to shut it down to take a phone call. When I tried to start it again, the engine wouldn't turn over. Luckily, it had died near the street, so I pulled my car up next to the mower, connected the jumper cables and waited a few minutes. Standing next to the mower, I pressed my foot down on the brake and turned the key. Sure enough, the engine started right up. I then took my foot off the brake and watched in horror as the mower sped away, ripping off the jumper cables as it went. I had forgotten to put the transmission in neutral! Thankfully, I was able to hop on and stop it before it got too far, but I got a hearty round of applause from my neighbors, who appreciated the clown show.

CHRIS LINDSAY

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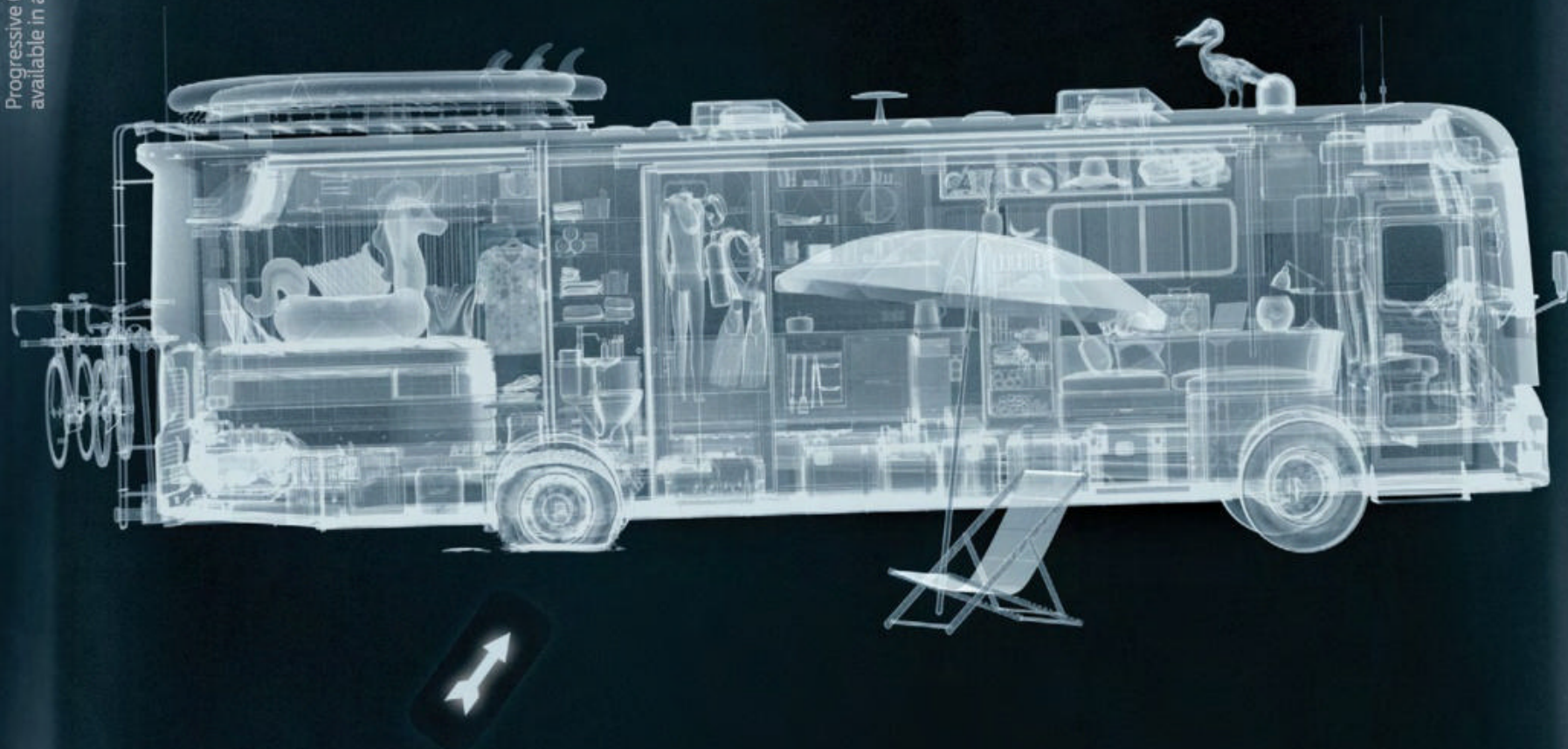
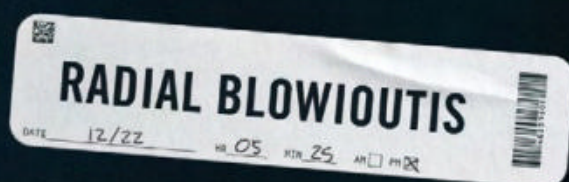


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