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APPEARANCE – One of the most important aesthetic considerations for log and timber home owners is stain color and tone. By choosing a high-performance finish like Lifeline™ Ultra-7, you are ensuring that the finish will look as beautiful years after application as it did the second day it was applied thanks to a balanced formula of transparent iron oxides, fungi and algae inhibitors, and an advanced polymer resin.

LONGEVITY – Lifeline™ Ultra-7 is the most durable exterior stain that Perma-Chink Systems has ever developed. After multiple exposure tests in harsh-weather areas across the country (think snow country, the sunny southeast and extreme mountain locations), Lifeline™ Ultra-7 stands out as THE top-of-the-line, long-lasting finish.

The secret behind its durability is Lifeline™ Ultra-7's state-of-the-art resin that creates a flexible and tough seal on your home's logs. Perhaps more importantly than the seal's strength, the resin also ensures that the seal is continuous, providing protection from holes and gaps that might otherwise develop with a lower-quality finish. In addition it has unsurpassed adhesion to wood.

VALUE – When you think about the cost of products and labor over an extended period of time, Lifeline™ will be the least expensive of your options. Plus, Lifeline™ Ultra-7 can be used in nearly every application around your home, making it a great one-stop-shop product for all of your finishing needs. It works on exterior walls, siding, railings, while also being compatible with all existing Lifeline coatings to help streamline your maintenance routine.

ENVIRONMENTALLY FRIENDLY – Lifeline™ Ultra-7 meets and exceeds all standards for low-VOC exterior finishes in the most restrictive regions in North America, meaning you can use it absolutely anywhere your log or timber home happens to be located. Plus, the tools you use to apply your home's finish need only soap and water for clean-up, eliminating the need for any harsh chemicals during the initial application or maintenance. Perma-Chink Systems, Inc. has been one of the most environmentally responsible manufacturers of wood home care products for almost 40 years!

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After - Lifeline Ultra-7





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"Buyer beware" is good advice for anyone searching for a new home. Even the savviest of DIY'ers can regret their decision if the house they've just purchased proves to be a money pit. *U.S. News and World Report* recently published an article identifying the most expensive problems to look for when making your selection.

Cracks in the home's foundation are a fundamental concern because it supports the entire structure of the house, and repairs can run well into the tens of thousands of dollars. Furthermore, the problem can't be ignored because it can have a ripple effect throughout the entire home, damaging walls, windows, doorframes and even plumbing.

Replacing an air conditioning unit is an expensive proposition, because a DIY'er can't exactly manufacture their own unit, and beyond the cost of purchasing a system, many state and local governments require installation by licensed professionals.

Termites are another potential problem, because your home becomes their favorite meal. Most often found in warmer weather near wood construction, these common pests can do a lot of damage before they're detected by the untrained eye. Spring for the cost of a termite inspection, and consider getting a termite bond if you purchase the home.

Historic homes can be pricey to repair or upgrade because of building restrictions. Landmarking authorities often require these buildings to adhere to strict historical styles, materials and construction methods, which can require a lengthy approval process and significantly add to the cost of improvements.

As I can attest from experience, another serious issue is the "hidden mold or drainage problem," but since these issues are by definition "hidden," they're not easy to spot. My new house has one such issue, and there's a backyard drain project with my name on it looming in the near future.

So, if you're on the hunt for a new home, fork over the dough for a professional home inspection, and do your own research as well. A little investigation can go a long way.



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Q: When utility companies mark underground utility lines at a proposed excavation site, which paint colors correspond with which utilities?

A: Ultimately, the state or local government has final say about color codes, but the Call 811 utility-location service, which is free to use nationwide, follows the APWA uniform color code (ANSI Z535.1)

for marking excavation sites and underground facilities in conflict with an excavation. Red indicates electrical power lines or cables. Yellow indicates gas, oil, steam, petroleum or other gaseous materials. Orange indicates communication, alarm or signal lines. Blue indicates potable water. Purple indicates reclaimed water, irrigation and slurry lines. Green indicates sewers and drain lines.

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Q: What is the proper sequence of replacement when rotating a car's tires?

A: If your vehicle has single rear wheels, and the tread design for your front tires is the same as the rear tires, then remove the front wheels and move them to the back, keeping them on the same sides of the car. Next, take the rear wheel that was on passenger side of the vehicle and mount it on the driver's side at the front of the vehicle. Then, take the rear wheel that was on driver's side of the vehicle and mount it on the passenger's side at the front of the vehicle.

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Q: Where are the best places to keep a fire extinguisher around the home?

A: If you can reach a fire extinguisher within 6 seconds of the start of a fire, you can put it out in its early stages. With 65 percent of fires starting in the kitchen, it is the most important room to locate a fire extinguisher. Most kitchen fires involve grease and can't be put out with water, so a Class K extinguisher is necessary because it is designed specifically to put out fires fueled by vegetable or animal oils and fats. It should be located about 30 feet from the stove, as long as it's easily accessible from the kitchen. Every floor of the home needs a fire extinguisher wall-mounted in a central location about 4 to 5 feet above the ground, stored in plain view. Other places to consider locating a fire extinguisher include the garage or workshop, where flammable or combustible materials are kept. The dryer in your basement or laundry room is another likely place for a fire to start. And don't forget the patio/grill area and other sources of heat, including fireplaces, chimneys, furnaces and wood stoves.

Q: If there is no way to avoid digging near buried utilities, what is the best way to proceed with excavation?

A: Dig carefully. State laws generally prohibit the use of mechanized equipment (trencher, auger, excavator, etc.) within 18-24 inches of a marked utility, which is called the "tolerance zone." If you must dig near the marks, use hand tools or vacuum excavation to expose the utility. After exposing the line, avoid using mechanized equipment within the same tolerance zone. **EHT**

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INSULATING CONCRETE FLOORS

One way to add value to your home is to add a new addition. An unused basement is an existing addition. Of course, the finished look is important, carpet, tile, laminate or wood; but it's equally important to insulate the floor! Why spend the money to finish a room if it does not improve comfort and quality?

Insulating the basement floor adds comfort and additional challenges that need to be addressed. Basement floors are not always on the level. Building codes require that stairs steps be the same height preventing a tripping hazard. You may have to adjust the stair treads heights or add a landing to meet building code requirements and check all existing door swings; doors may require to be rehung and/or trimmed to accommodate the new floor to ceiling height.

Water always seeks the lowest point in your home... your basement. Make sure you have a working sump pump or back flow prevention system to keep water and sewage from getting into unwanted places. The old adage an ounce of prevention is worth a pound of cure, really means something in a basement.

Address uneven floors prior to installing any floor system, the low spots should be fixed with concrete patch or floor leveler.

Once the basement is prepped, choose an insulation to reduce heat loss and moisture transfer from the slab. InSoFast EPS foam panels provide a one-step solution to finishing a floor with embedded studs built-in to the panel. The average residential load bearing code requirement for floor system is 40psf. InSoFast easily exceeds the compressive strength requirements.

InSoFast's insulation panels provide an easy way to insulate a cold concrete floor. The panels can be applied to every surface from floors to walls to ceilings. InSoFast is a DIYers' dream, a simple way to install insulation, needing only a hand saw, utility knife and caulking gun.

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The makers of Gorilla Glue have a silicone sealant that won't yellow, shrink or crack, and it's paintable.

The caulk/sealant aisle at the home center seems to expand on a weekly basis. There is a lot to choose from.

For interior jobs, an acrylic caulk is the easiest type to apply, shape and clean up. Acrylic caulk doesn't hold up to moisture exposure, however, so it shouldn't be used outdoors. Acrylic caulk also lacks elasticity and hardens over time, which causes it to deteriorate and crack. For this reason, most quality interior caulks are now formulated with some degree of silicone to provide some flexibility in the caulk bead to prevent cracking.

Silicone has its downsides, though. The stuff is incredibly sticky and difficult to clean up, which is why acrylic caulks are still the mainstay for interior applications. Generally used for exterior applications or water-prone areas such as windows and bathrooms, sealants made with 100-percent silicone tend to turn yellow over time, and paint doesn't adhere to the caulk—although manufacturers are making strides to solve both those problems. For example, the makers of Gorilla Glue offer a new silicone sealant that won't yellow, shrink or crack, and it's paintable.

These days, new caulk formulations extend beyond the choices of only acrylic or silicone, including water-based products, urethanes, etc., which doesn't exactly simplify the selection process.

When choosing a product, pay attention to the indications on the label. Look for words like "elastomeric" and "flexible" which means the bead will bend and stretch in lieu of breaking when the surrounding substrates move.

"Adhesive" is another good characteristic for caulks, especially for application to substrates that are difficult to stick to. If a bead pulls away from the substrate, then the seal has failed, so adhesion is very important.

"Waterproof" sealant is what you'll need for exterior applications, and "Mildew-resistant" is a crucial

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characteristic of visible caulk used around moisture-prone areas such as showers and bathrooms.

If you plan to paint the caulk bead, then look for “paintable” on your product package, because not all sealants will hold paint.

If you don’t plan on painting the sealant, then make sure it has “non-yellowing” properties to maintain the look of the bead.

You’ll also find several specialty caulks, such as gutter sealants or mortar-repair caulks, which have unique characteristics specific to their intended applications.

In general, you get what you pay for. Cheaper caulks are less expensive because they’re formulated with inferior ingredients that don’t offer the properties that will keep the caulk performing well and looking good over time.

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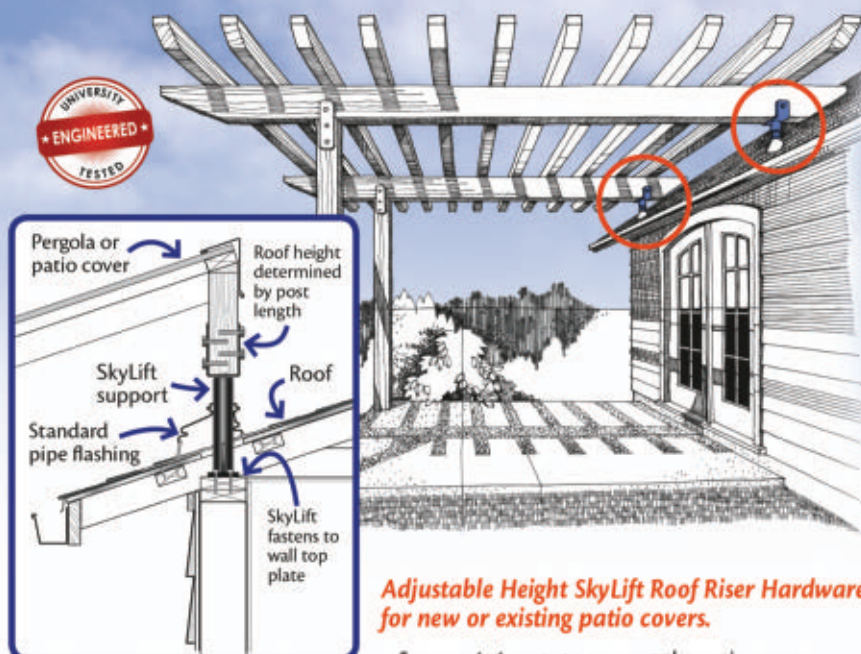
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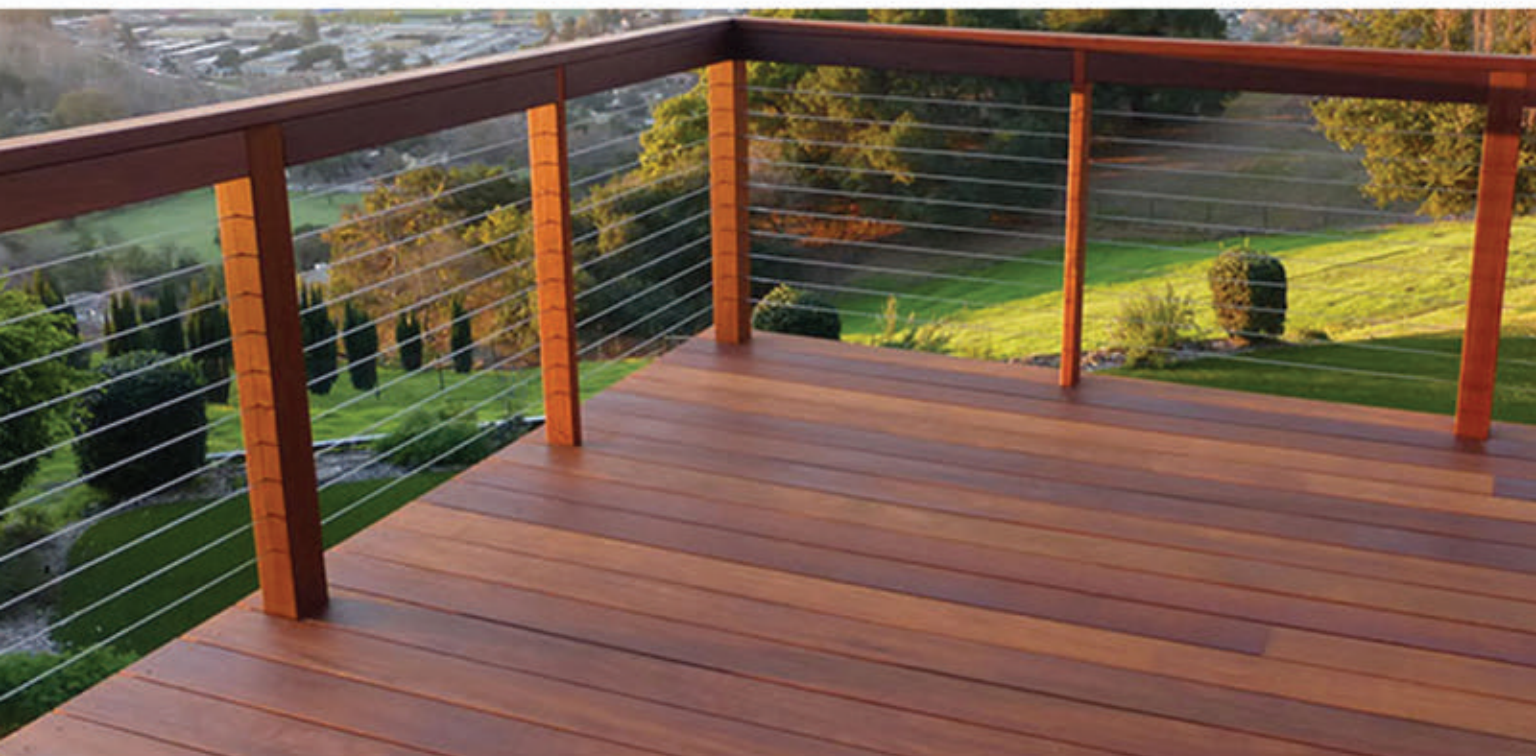


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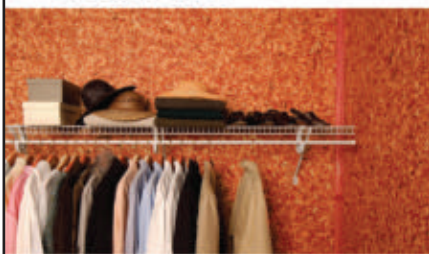
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Perma-Chink also offers Check Mate 2, which protect your logs from water infiltration by sealing log checks and cracks that can develop along log surfaces. Specially formulated to complement the colors of the company's Lifeline finishes, Check Mate 2 is waterproof, remains flexible, and seals checks 1/4 in. to 1 in. on interior and exterior applications. (Use a backer rod wherever possible). Visit www.permachink.com.

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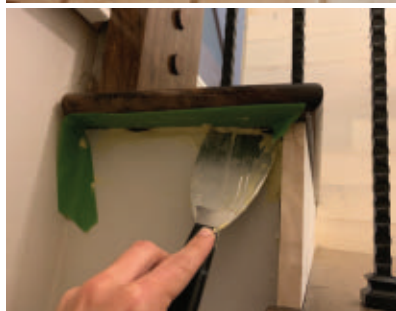
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and the putty has dried, sand the area smooth. Finish the repair by sealing it with primer and paint. Visit www.waterputty.com.

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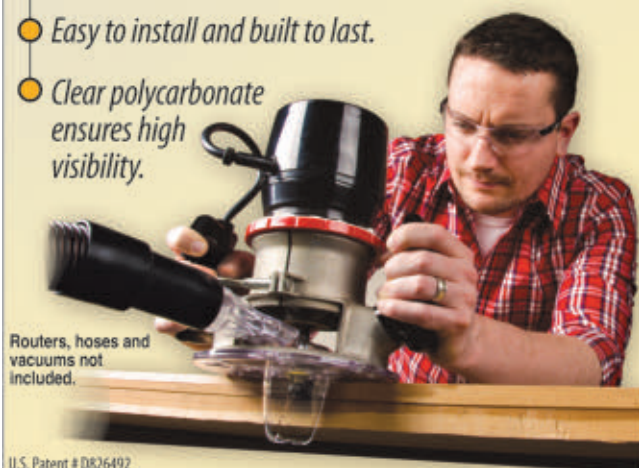
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Go Green with Eco-Friendly Flooring



While eco-friendly materials have been rising in popularity for a number of years, growing environmental concerns should drive the demand for “green materials” even more. Keep sustainability in mind during your next remodel by using natural, recycled, and sustainably-sourced flooring materials. The flooring experts at Diamabrush offer the following tips.

BAMBOO

Bamboo has become an increasingly popular flooring choice because of its eco-friendly nature. It's easy to find and non-toxic as well as VOC- and formaldehyde-free. Bamboo can be shipped directly from China or found at a local home center such as Home Depot or Lowes.

Pros—Easy installation and affordability makes bamboo a go-to flooring option, but it's also more durable than wood and incredibly scratch-resistant. It can be produced in a vast array of styles, such as solid bamboo, engineered bamboo, tongue-and-groove, and floating click-together bamboo. Colors are available that resemble wood, such as cherry, oak and ash.

Cons—Because bamboo is a grass and not wood, it retains moisture and doesn't work well in places prone to flooding or high humidity because the floors can give in to warping. Bamboo also can't be refinished or sanded down like wood flooring.

Tip: Not all bamboo is considered high-quality. Check for a

third-party certification to make sure no unwanted chemical-containing adhesives and finishes are used.

CORK

Cork is a unique, biodegradable flooring option that provides great insulation and a soft, comfy underfoot. Made from the precious bark of the cork oak tree (*Quercus suber*) found in the Mediterranean, the cork is harvested without harming the tree.

Pros—For people who love walking barefoot at home or tend to stay on their feet for long periods of time, cork provides the light feel of carpet without the unwanted dust and hair buildup. Easy to install and maintain, cork is hypoallergenic, durable, fire-resistant and reduces impact noises. It's

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naturally insect-, mold-, and mildew-repellent and has insulation properties that can help cut down heating costs. It can also be refinished just like wood and coat-

ed with a UV-cured acrylic finish for added durability.

Cons—Cork is not the best option for pet-friendly homes, as it's easily susceptible to damage

Photo ©
Heritage Mill
available at
Home Depot



by cats and dogs, heavy furniture and even sunlight. Depending on the style of the home, it may not fit aesthetically, as limited colors are available. It can also be quite expensive.

Tip: To keep the color intact, cork flooring must be sealed every 5 years.

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GLASS MOSAIC TILE

While still one of the most debated flooring options out there, if you're ready to add a luxurious splash to a room, glass tiles are the way to go. A great eco-friendly choice, compared to ceramic tiles, glass tiles only take about half the energy to produce, and shoppers can also opt for recyclable glass.

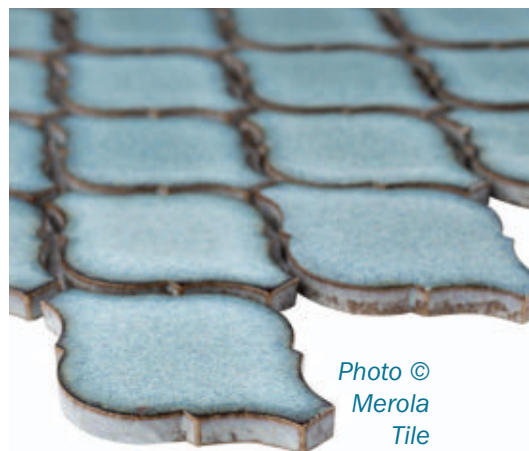


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Pros—Glass mosaic tiles are nonporous, making them resistant to mold, mildew and stains. Beautiful and unique, these floors will add a stunning look to any bath, entryway or room. With just a mop and some warm water, you're able to easily remove almost any spill or stain, leaving behind a stunning reflective surface. Additionally, it's easy to make your installation one-of-a-kind because the tiles are available in an array of colors, patterns and designs.

Cons—Because they're expensive (gorgeous colors and repeating patterns average around \$35 per square foot), glass mosaic tiles are usually professionally installed, which will add to the cost. It's also not recommended for areas of

high traffic or wet areas, as the floor can become very slippery when wet. While scratches are only natural, too many will alter the finish and require the tiles to be replaced—sometimes after just a few years.

Tip: Make sure you're using the right tiles before installation. Tiles must be approved by the American Society for Testing and Materials for flooring use.

LINOLEUM FLOORING

When you think about linoleum flooring, you probably picture an outdated (and not exactly aesthetically pleasing) kitchen floor. Luckily, the technology used to make linoleum flooring has come a long way in recent years to give it many of the same attributes as its once more

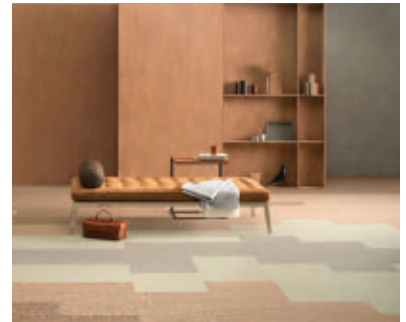


Photo © Forbo Flooring

durable, higher-end competing flooring options. Composed of natural resins, cork dust, wood fibers, mineral pigments and linseed oil, linoleum is easily recycled and biodegradable; some people have even been known to compost their linoleum floors.

Pros—With a cushioning element like cork, linoleum floors are resilient and can last up to 40 years with proper care. Naturally antimicrobial, fire-retardant, stain-resistant and resilient, it's a good choice for places with high traffic, such as baths, kitchens and entryways. These floors come in a huge variety of styles, colors, and patterns—even designs that mimic wood, marble and stone. Limestone dust can also be included to add durability and hardness.

Cons—As time passes, a linoleum floor may alter from natural discoloration, and without coating, it will need to be waxed and cleaned every 2 years to prevent losing its luster. Pets with long nails can easily damage the finish and make irreparable marks.

Tip: Get a professional opinion when sifting through options. You'll want to opt for thick and pre-finished linoleum to ensure you're getting top quality that will perform over time.

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CONCRETE KITCHEN FLOORS

Most people don't think eco-friendly when they think concrete, yet polishing concrete can result in a beautiful sustainable flooring option. Made from recycled and natural materials, these floors are known to minimize heating costs.

Pros—Concrete's durability makes it ideal for busy kitchens, and it can be stained, polished and waxed to give you lots of flexibility in the finish. With rehabs, if you have concrete underneath carpet or wood, it's no longer a major challenge to get back to a concrete floor. Cheap, simple to clean and easy to install, concrete helps improve air quality and is a great choice for people with allergies.



Cons—You may need to opt for a standing mat when doing the dishes, because the hard surface is not best for standing for long periods. Anyone without a case on their phone should be prepared to say goodbye to their glass screen if it drops on this floor, not to mention other fragile items. Concrete is easily susceptible to cracks from heavy items and discoloration from spills and animal accidents.

Tip: Diamabrush coating-removal tools will easily and quickly remove any carpet glue, mastics or other adhesives. You can also use Diamabrush polishing tools to give you a mid- to high-gloss concrete finish, if you're wanting to opt for a sheen look. **EHT**

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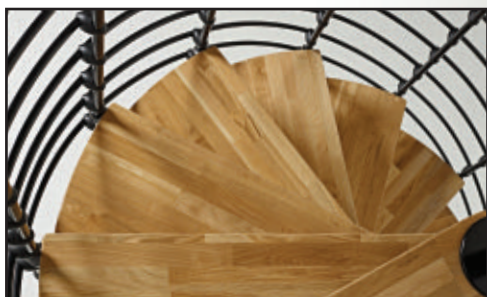
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The Oak 70.XTRA is an adjustable premier series spiral staircase that features solid Oak wooden stair treads and landing to complement and add style to any interior living space. Surrounding the full length of the staircase, the horizontal balusters and railing design is visually unique when compared to the traditional vertical baluster design of most stairs. The staircase can be easily installed by the homeowner in a single day using common household tools. The Oak 70.XTRA is available in 2 diameter sizes and is available in 2 choices of color...Hi-Gloss Black and Hi-Gloss White.

- Standard kit includes 12 oak wood stair treads, a landing, a complete handrail, and all necessary hardware and connectors.
- Diameters available include a 5 ft. 3 in. model and a 4 ft. 3 in. model.
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- Balcony rail kits are available in matching color and horizontal baluster and railing design.
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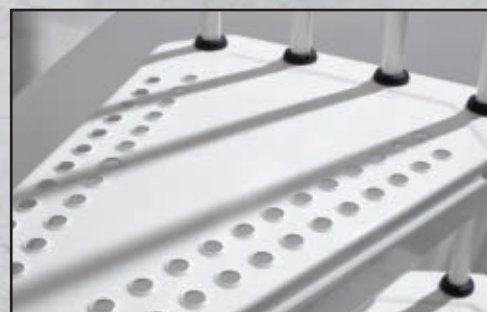


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The SKY030 stair treads are made of solid steel, ventilated to provide a slip-resistant surface even when wet.

Additional riser kits can be purchased separately.

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STEP IT UP

By Matt Weber

Remodeling a Staircase—Tread, Riser and Stringer Replacement for the DIY'er

The EHT staff recently remodeled a staircase, and if you plan to do the same as a DIY project, be prepared for a lot of work. Take the time to carefully plan every aspect of this multifaceted project, which involves the support framing, treads, risers, a stair-rail system, the need to integrate everything into the surrounding house structure, and careful measurements in multiple dimensions that comply with strict building-code guidelines. If this complicated project sounds like a job that you're willing to tackle, then read on to see the challenges we faced and how we overcame them.

To provide the degree of detailed instruction that will prove helpful on the job, we've decided to spread this story over more than one magazine issue. This article will focus on tread and riser replacement.

FIRST STEPS

When ordering your stair parts, we recommend you war-game every step of the project, and check with your parts supplier for special tools and fasteners that are specifically designed for stair installation. We remodeled the staircase shown using parts and supplies from L.J. Smith Stair Systems, and the company provides a handy checklist to make sure you don't forget any important pieces to the puzzle.

The original plan was to replace the treads and a wonky handrail system on the front foyer of our project house.

Phase one of the project entailed staining the unfinished cherry stair treads. We had ordered 14 treads—seven plain treads and seven reversible treads with a mitered return on one end (for the upper flight).



The treads arrived from the factory very smooth, but it's important to scuff the surface with fine 220-grit sandpaper to remove any oil or grime that might impede penetration of the stain. Also, don't forget to sand the rounded nosing, where the wood-grain tends to be rougher due to the routing process.

Once you've sanded the treads, use a tack cloth to remove the wood dust, which may not be visible to the naked eye.

STEP IT UP

We wanted to match some existing wood trim in the adjacent family room, so we chose a “dark walnut” wood stain and applied it with a 3-in. brush. After leaving the stain on the wood surface for

about ten minutes, we wiped off the excess with a rag, revealing the richly stained cherry tread.

After the stain dried, we applied three coats of gloss polyurethane finish to withstand years of foot



traffic. Note that every side of each tread should be coated with poly (at least one coat), so the wood will better withstand changes in temperature and humidity.



The poly should be applied in thin, successive coats and allowed to completely dry between coats.

Before applying a new coat, the previous coat of poly should be hand-sanded with 220-grit in the direction of the wood-grain. This light sanding strengthens the bond between coats and helps ensure a smooth, even finish. Use a tack cloth to wipe away the sanding dust before applying the next coat.

Along with the stair treads, stain and finish all associated stair parts at this time, which in our case included the cherry newel posts and handrails from L.J. Smith Stair Systems.

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With the stair parts prepared for installation, it's time to remove the old treads. Although the old treads on this staircase weren't the prettiest pieces in the world, we were hoping to salvage them to eventually refinish the wood and maybe re-purpose them as shelves. So, rather than going hog-wild with the demolition, we tried to remove them in an orderly fashion to avoid unnecessary

damage. To help pull up the treads, we made a "prying block," which is basically just three 2x4s stacked and screwed together lengthwise.



We used a gnarly long-handled pry bar from Mayhew Tools called the Deck Wrecker. It's got doubled cat's paws on the business end.



The prying block provided the elevation we needed for leverage (plus a sacrificial prying surface). We slipped the cat's paws beneath the nosing of the tread to lift it up.

If you're trying this at home, work from one end to the other, prying up only enough to loosen the front fasteners and open a gap beneath the tread. If you pry up any higher, the tread will probably break due to the screws holding it down in the back.

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Grab a reciprocating saw and equip it with the longest nail-cutting blade you have in your tool-box. Slip the recip blade into the gap beneath the tread and saw through all the fasteners that you can reach.

With the front fasteners out of the way, you can slip a pry bar (shown) beneath the tread as far to the back as it will reach, then pry the tread upward off the fram-



ing. On the tread in the photo, you can see how the screws that held it down in back have pulled out of the bottom of the wood. You can then pull out those old fasteners to prepare the stringers for the new treads.

Repeat the same procedure for all the old treads, and your staircase will soon look like this one.

When we removed the treads, we found the stair stringers had



been shimmed level with oak blocks (indicated with red arrow) to provide a level nailing surface for the treads. Generally speaking, the shim blocks all rested slightly

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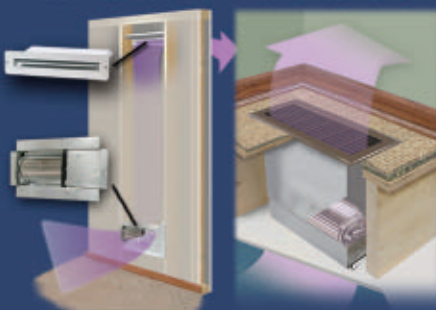
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STEP IT UP



higher than the notched surface of the stringers and aligned flush with the tops of the risers. Since the shim blocks would provide the mounting surface for the treads, we double-checked to make sure they were all level and even with one another at each tread location. Lucky for us, they were. On the upper staircase, we would not be so lucky.



We marked the location of each shim block on the risers using a patch of painter's tape.



Don't forget to prep the staircase for installation by cutting away old caulk and paint, and clean off all the dust and debris.

The scraper blade on a multi-tool will make quick work of the old caulk beads.



We installed each tread using a liberal bead of construction adhesive at all points of contact between the staircase and the underside of the treads. This meant we applied glue to the tops of all shims, the risers, the sides of the skirt board, and along the rear edge of the treads.



Before installing the stair treads, individually measure and cut each one to length with a sliding miter saw or a handheld circular saw. Tread length can vary. For example, the top tread on this flight of stairs was a half inch longer than the bottom tread. To make sure you achieve a near perfect fit, use an angle finder to make sure the treads should indeed be cut at a straight 90 degrees. If the stair construction is a little out of whack, the stringers might slightly flare or contract in a corner, in which case it might help to cut the tread at a slight angle to match.



Once they were cut, I fastened the treads down with finish nails. The painter's tape indicated where the shim blocks were located beneath the treads. I simply aligned the edge of a Speed Square with the tape to guide nail placement. Note that I used very few nails—only enough to cinch the treads down onto the glue. This way I wouldn't have many nail holes to fill and refinish.



Repeat this procedure for each stair tread, and with any luck, you'll soon be ready to complete the job with caulk and paint.

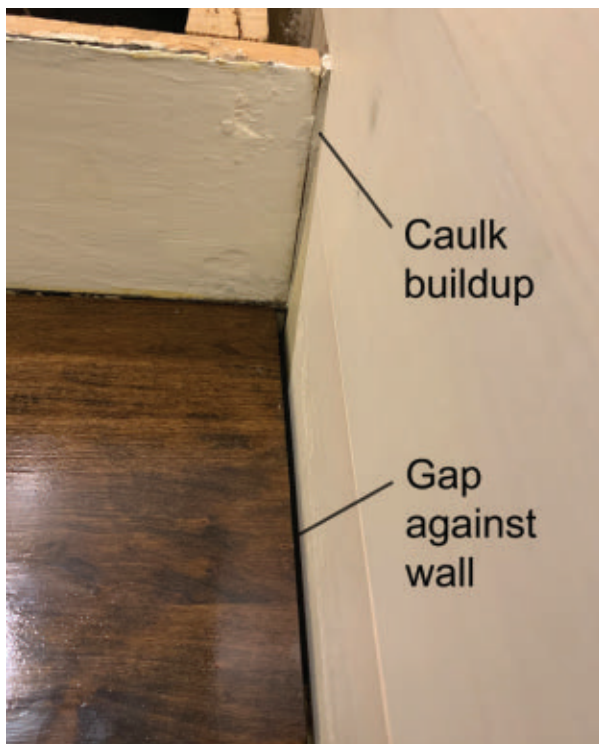
WHEN YOUR LUCK RUNS OUT

A funny thing happened on the way to installing the remaining treads: Everything went haywire.

After removing the old treads on the upper flight of the staircase, we discovered the frame was missing a middle stair stringer (unlike the lower flight). Then, when dry-fitting the new treads, we discovered that the poorly



installed risers were interfering with the installation of the treads.



Because the mitered return of the treads wrapped around the open ends of the risers, we had trouble fitting the opposite ends of the treads snugly against the wall. This was because the risers above the treads had been installed out of alignment to the stair framing, leaving gaps against the wall that were caulked to conceal the problem. Since we had ordered the maximum tread length, we couldn't exactly "stretch" the treads to close the gap, so we decided to replace the risers.

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STEP IT UP

CONSTRUCTING A STAIR STRINGER



To reconstruct the stairs, we bought a 2×12 for the stringer and some pre-primed 1×8 boards for the risers. The plan was to duplicate the existing stringer pattern, so we used a Milescraft angle finder to match the stair angle.



Transfer the angle to the 2×12 and mark the layout.



A Speed Square makes a handy tool to mark the notches for the treads and risers.



Take careful measurements and double-check everything. This stringer had a 10-in. tread depth, and riser height was 7-1/8 inches.



Stringer layout completed.



Use a circular saw to cut the notches up to the intersection of each angle.



To complete the notches without over-cutting them (which will weaken the stringer), use the straight blade of a jigsaw.



Stair stringer completed.



Besides, the risers were ugly. They'd taken a beating from foot traffic over the years. Since we didn't want anything detracting from the nice, new stair treads, we pried off all the risers for replacement.



And heck, as long as we're pulling off the risers, we might as well install that missing stair stringer, right? This is why someone came up with the expression, "In for a penny, in for a pound."



We tacked the new stringer in place with a predrilled screw between the two existing stringers, then anchored it with metal hardware after final alignment.



The new stringer did not exactly slip right into position. The truth is that fitting the thing was a major pain in the neck. Complicating the situation were the measurements of the other stringers. The original two stringers didn't exactly match each other. Furthermore, the notches of one of the stringers didn't even match in measurement from one notch to the other. The former carpenter must have been half-blind or drunk. After many attempts at adjustment and re-installation, we finally got things in working order by relying on a lot of shims to make the risers and treads fit snugly.



We cut the risers to size from pre-primed 1×8 trim boards. The risers need to be installed level as well as plumb (front to back) and snugly against the surrounding treads and wall(s). You should cut the risers separately, just like the treads, taking careful

measurements of each individual step and cutting a riser to fit, rather than cutting them all at once to the same measurement. This will ensure the best fit and allow you to address any minor discrepancies in riser size. The tread shown above is laid in place “dry” for the purpose of sizing the riser.



Since the stair framing (in particular the two outermost stringers) was all jacked up due to shoddy work by the original builder, we had to use a lot of shims between the risers and the stringers. We used store-bought wedge shims and also cut some of our own.



Once a riser was shimmed into position, we installed it using a combination of brad nails and construction adhesive.

With all the risers in place and level, we had a good base for the treads, but to ensure a solid and squeak-free installation, we used plenty of shims installed with nails and construction glue to provide a solid nailing surface atop the stringers.



Complete this phase of the staircase by filling all fastener holes, caulking the joints and applying finish paint.



Next comes the handrail system, but that's another story, which you'll find in a future issue of *Extreme How-To*. **EHT**



WIDER WINDOW

*Replacing
a Window
with a
Wider Unit*

By Larry Walton

Dave Butler, a fourth-generation rancher at Spring Cove Ranch in Southern Idaho, has been tackling some home-improvement projects on the 65-year-old house his dad grew up in. He had several reasons to add and upgrade windows, a project that would improve energy efficiency, add light, increase air circulation, and provide some new views of the valley to his west.

One of the recurring themes of this project was the desire to extend the size of the windows. Some grew vertically, bringing the bottom of the window closer to the floor. Several others were made

wider, which required more work because we had to replace the headers in the framing above the wider window openings.

Whenever there is an opening in a load-bearing wall, an adequate support must span the opening to carry the part of the house that is above it. Most of the time this support is a header beam of sufficient dimensions to carry the load above the door or window. The header must be supported on both ends by vertical framing members, usually a trimmer attached to a king stud. It was this requirement for a longer header that



WIDER WINDOW



made this project a bit more substantial than a standard window replacement. We determined the lumber dimensions of our header by consulting the code book.

We removed the window, removed the interior trim, exposed the framing by removing some dry-wall, took out the existing header, cut out some framing, built and installed a new header, installed the window, replaced and finished the drywall, and trimmed the window inside and out.

STEP BY STEP



One of my favorite techniques for removing aluminum frame windows is to drive the nail through the flange with a nail set or punch.



Removing the old window was easier with the slider and screen removed first.



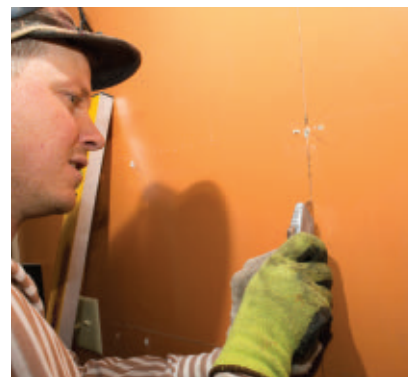
We removed the interior trim, starting with the casing, prior to removing the surround boards.



Removing the surround boards exposed the window framing.



We had the new window on site so we could get accurate measurements for the rough opening. Our goal was to provide an extra 1/2 inch of room for leveling and shimming.



We marked the new rough opening on the interior wall and then went to the next stud outside of the opening and cut the drywall vertically with a utility knife along the center of the stud.

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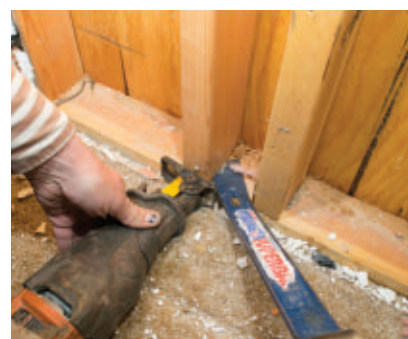
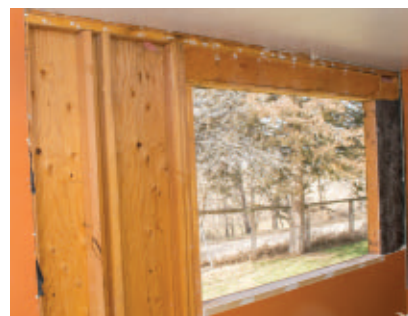
WIDER WINDOW

We removed the drywall from floor to ceiling in the area where the new window would extend.

On the studs that needed to be moved, we used a flat bar to pry open space for a reciprocating saw

blade and cut the stud-to-plate nails.

Still working from the interior, we pried between stud and sheeting just enough to use a long reciprocating saw blade to cut the sheeting nails.



We projected a line from the bottom of the sill onto the adjacent studs and trimmer so they could be cut for the new section of sill. We used a reciprocating saw to cut the framing for the extended sill.

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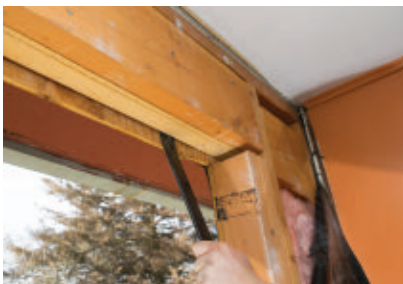
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Cutting a random section out of the king stud and trimmer made removal easier.



We cut the existing sill in the center of a cripple to make a splice point for the sill extension.



Prying between the old header and sheathing made enough room for a long reciprocating saw blade to cut the nails.



After cutting enough nails, Dave removed the old header.

Dave used a six-foot level to lay out the rough opening on the interior side of the sheathing.



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WIDER WINDOW



He followed his layout lines to cut the sheathing and siding from the inside using a reciprocating saw.

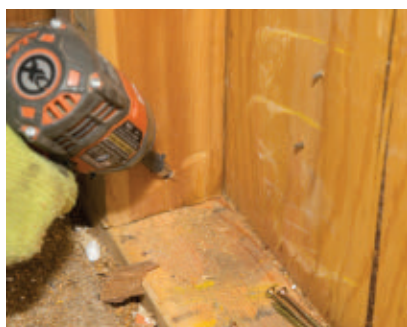


He used a combination square to mark where to cut the siding for the window flange. Note: This cut was wide enough for the window flange but not wide enough for the exterior trim boards. The exact siding cut for the trim would be made after window installation.



Dave marked and cut one of the existing studs to serve as a trimmer to support the new header.

He pinned through the sheathing into the trimmer to keep it in position along the edge of the window rough opening.



Dave cut and installed a new section of window sill framing to support the bottom of the wider window.



After cutting the two header boards to length, he tacked 1/2" spacers on one board before sandwicing them between the two header boards. It's important to crown both header boards and flip or turn them so the crowns match before nailing them both together. We determined the crown by sighting down the length of the board being sure to put the concave side of the curve down on both halves of the header.



The two halves of the header were fastened together with 16d framing nails.



Dave found an unsuspecting cowboy wandering by to give him a hand installing the header. He nailed the header into the king studs on both ends and through the sheathing into the header in the center.



With the new window opening all framed up, the crew got to work installing the new window.

With the window installed, Dave installed new drywall. Next came tape, mud, sand, texture, primer and paint. Because of the need to expose framing, the drywall repair portion of the project adds a lot of



work compared to installing a window of the same size.

We used the exterior trim boards to mark and cut the siding before installing the trim. Because we made the framing changes

from the interior side of the wall, it took very little work to complete the exterior.

We built and installed window surrounds and casing to complete the interior part of the job. **EHT**




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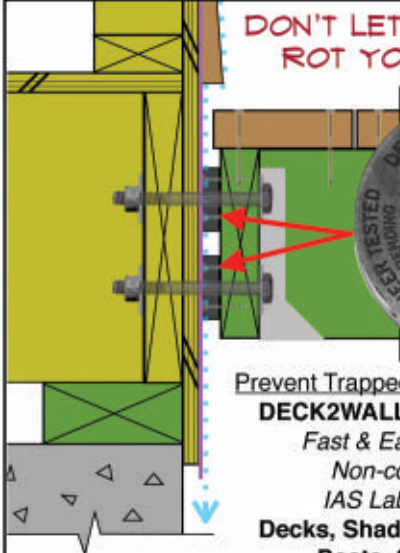
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Truck Steps

Install a Pair of Truck Steps for Easy Access



By Larry Walton

My Chevy Silverado 4x4 is still on the stock suspension, which is not very tall, but there are times when it would be nice to have a step for getting in. My wife and I are a bit spoiled because we usually have power steps on our trucks. We haven't put power steps on this truck because of the expense. We also are not fans of the running-board type step bars. So I looked for an inexpensive alternative and found these Bully single side steps. We figured they would get the job done without dominating the look of the truck.

The Amazon listing calls them a "Universal Fit for Most Vehicles," which explains why the kit comes with a lot of brackets, spacers, nuts and bolts. After installing on our 2014 Silverado, I'm guessing that the step was originally designed for my truck because it fit perfectly into the rocker panel without using many of the parts that came in the kit.

We found the build quality of the steps to be good, and they work pretty well for the price. The design has your foot more perpendicular to the truck than the more natural parallel you

can achieve with power steps or step bars, but they get the job done.

As always when you are doing any work under your vehicle, make sure you are parked on a level spot away from traffic, that the vehicle is in park or in gear, the parking brake is engaged and the tires are properly chocked to prevent rolling accidents.

When determining step locations, watch for potential damage to wire harnesses, A/C lines, after-market stereo wiring, fuel lines, brake lines, etc. Check before you drill.

STEP BY STEP

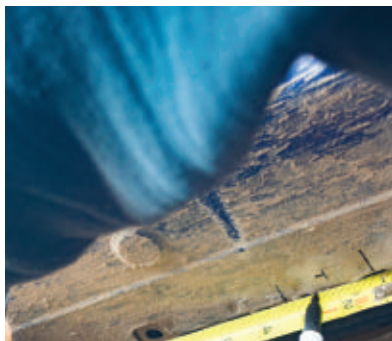


The kit came with more than everything needed to install the steps on my 2014 Chevy. Depending on your vehicle model, you may have quite a few leftover parts when installation is complete.



The instructions suggest mounting the step centered on the front of the seat base, but I used a step stool to test for the best location. If anything, I would move it forward a little from the suggested mounting point, if the rocker panel and pinch weld flange allow. Do your own location test.

After test-fitting the step, I marked the edge of each mounting point and found the center between them. I then checked that my layout marks matched the spacing on the holes of the step. While this step fits nicely against the rocker panel on the Chevy, the bolt hole is on top, so you can't simply trace the hole location for drilling. It takes some measuring



and marking. I left this side of the truck dirty so you could see my layout marks.



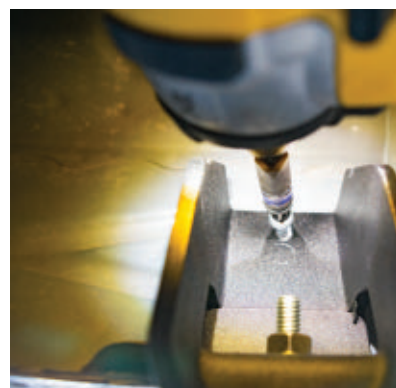
To locate the in and out of the bolt hole, I measured to the point where the step arms contact the pinch weld flange.



After drilling 3/16-in. pilot holes in the flange, I used a 3/8-in. drill bit to cut the final holes.



With the step back in place, I fastened it to the flange with the supplied nuts and bolts.



I drilled 1/8-in. pilot holes through the top holes of the step and into the first layer of the rocker panel. I used an impact driver to tighten the supplied sheet metal screws through the top holes.



The Bully step provides a textured flat surface for comfort and safety. **EHT**

HOT PRODUCTS



GREENWORKS PRO 60V BRUSHLESS STRING TRIMMER & BACKPACK BLOWER

Battery technology is making huge strides in cordless tool performance, as seen with the new Greenworks Pro family of lithium-ion lawn tools. When batteries hit the 60-volt range, you're dealing with gas-equivalent power but without the hassle and mess of liquid fuel or engine oil. The Greenworks Pro line delivers all the benefits of going cordless but without the noise of a gas-fired motor.

The EHT staff got our hands on a couple of test units, and we found the 60V Greenworks Pro String Trimmer to have an astonishing amount of slicing power for an electric tool. Its 16-inch cutting width cleans broad swaths through thick weeds and undergrowth, making quick work of around-the-yard chores.

The 60V Backpack Blower is compact, lightweight, and sweeps away leaves and debris with ease. It offers quiet, on-demand power with a variable-speed trigger. Expect up to 80 minutes of run time with a fully charged 5Ah battery.

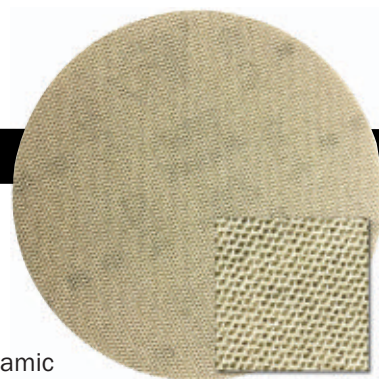
Made with medium/heavy duty-construction and materials, both tools feature high-efficiency brushless motors for long-lasting, low-maintenance reliability. And as long as you keep a battery charged, they're at the ready for grab-and-go convenience. The Greenworks Pro tools met and exceeded our expectations for cordless lawn tools, and you can pick them up online at www.greenworkstools.com or at your local Lowes' Home Improvement Center.

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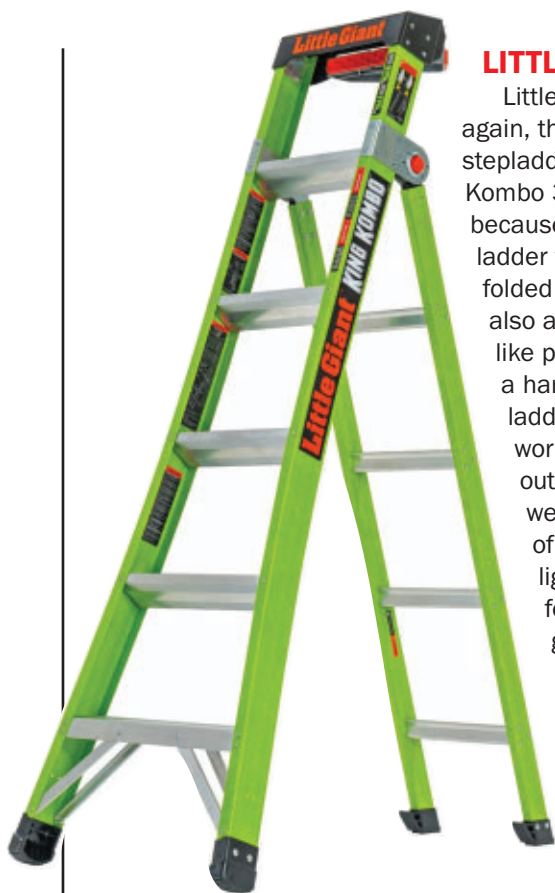
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HOT PRODUCTS



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Remover, which helps restore drains suffering from years of build-up from hair, grease, paper, organic matter, food and soap scum. A safer alternative to harsh chemicals, this main line cleaner is engineered as a precautionary to be used monthly. CareFree Septic Treatment is a worry-free way to maintain septic systems, most effective when used in drains, toilets and garbage disposals. TruFusion products are available exclusively on Amazon. Visit TrustedPowerfulProducts.com.



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