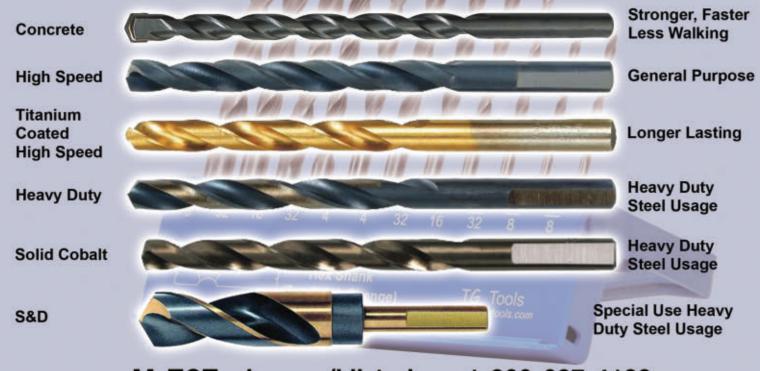




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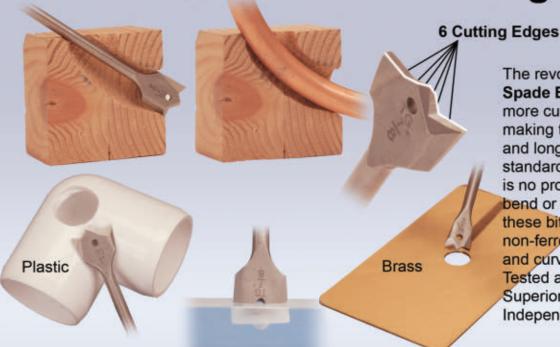


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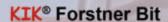
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From The Editor-In-Chief

aving recently filed my Federal income taxes, I'm now thinking of ways I can pay the U.S. government less of my earnings next year. My guess is that a lot of you are thinking the same thing. When it comes to home improvement, a number of tax credits for residential energy efficiency have been renewed for 2016. These tax credits are available for purchases made in 2016, as well as retroactive to purchases made in 2015, through the U.S. Environmental Protection Agency's Energy Star program. Energy Star products are independently certified to save energy, save money and protect the environment. You'll be able to easily identify them by the Energy Star logo prominently displayed on the product labels. Homeowners can use up to 30 percent less energy by outfitting their houses with these products, and pay less Federal tax to boot.

The following Energy Star upgrades earn a credit of 10 percent of the cost up to \$500 (or a specific amount from \$50-\$300): biomass stoves, air-source heat pumps, central air conditioning, boilers, furnaces, insulation, roofs, water heaters, windows, doors and skylights. These credits apply if the upgrades are made to your existing home and your principal residence. (In other words, new construction and rentals don't apply.)

You can deduct even more from your taxes by installing a geothermal heat pump, a solar energy system, or a small residential wind turbine. Each of these three energy-efficient systems earns a credit of 30 percent of its cost, with no upper limit. Plus, this applies to existing homes, new construction, principal homes and even secondary homes. Tough luck for folks who own rental properties, though; those don't qualify.



So keep these figures in mind if any of the upgrades are on your to-do list for 2016. And hold onto those receipts, because they might be able to save you some major money when the next tax season rolls around.





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S. Got's

Questions About Home Building, Remodeling? Have Your Own How-To Tip? Visit our blog at **blog.extremehowto.com** and click on Ask Our Experts.

A I

- A woodpecker keeps drilling a hole into the siding beneath the eaves of my house.
- How can I chase him away?

• The easiest way to get rid of the nuisance is probably to affix the area of infestation with something that • will continue to scare away the woodpecker throughout the day. Trying hanging 12-in. aluminum pie pans



around the spot where the woodpecker likes to cause its damage.
The reflections in the aluminum
will fool the woodpecker that a
predator is nearby, discouraging
the bird from sticking around.
Similarly, you can tape up strips
of black plastic that will blow in
the wind—motion that should
scare away the woodpecker. Once
the woodpecker clears out for
good, remove the plastic or pans,
and don't forget to fill and seal
any holes it left in your siding.

• The electrical fuse in my house keeps blowing.
Should I use a bigger fuse?

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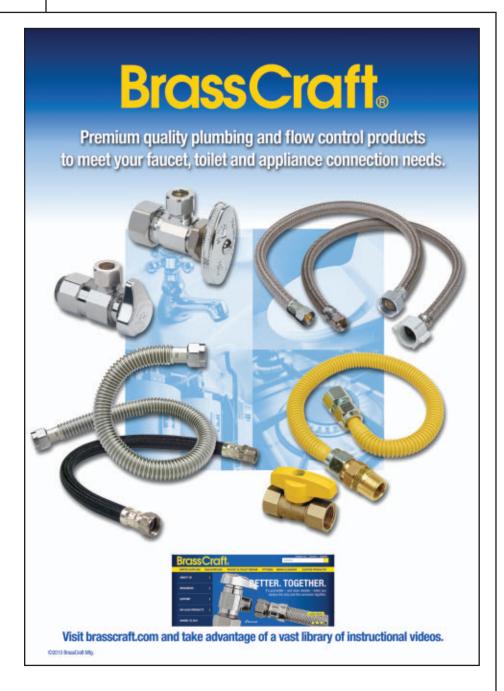
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8. △ Got²-

Questions About Home Building, Remodeling? Have Your Own How-To Tip? Visit our blog at **blog.extremehowto.com** and click on Ask Our Experts.

Do you have any tips for removing a stripped screw?

• Start by placing a thick rubber band over the screw and then slowly use an oversize screwdriver while pressing down firmly. If that doesn't work, hammer the screwdriver down into the screw head, cutting a new slot, then rotate the screwdriver and screw as one. You can also try gluing a driver bit into the screw head with epoxy, and then backing out the screw once it dries. Or, if you can grip the screw head with a pair of Vise Grips, you can lock the pliers onto it and rotate the grips to loosen the screw.



• What's the best roofing material to use for a flat roof?

• For a flat or low-slope
• roof you'll need a builtup roof, rubber or modified bitumen. Built-up roofing is applied
with multiple layers of tar and
felt paper. The surface layer is
coated with lightweight stone
or even seashells that help
to reflect the sun's rays and
increase the longevity of the
roof. EHT



For more home-improvement questions and answers, check out the *Extreme How-To* blog at blog.extremehowto.com



Pro Tips for Exterior House Painting



By Tom Matthews

new coat of paint is one of the most striking enhancements one can make to the curb appeal of a home. However, a home's exterior might consist of any number of materials, as well as a combination of different materials. These various materials often require different techniques to ensure a new long-lasting topcoat. This article covers some of the more common house cladding materials, and offers professional advice on techniques to paint them.

BRICK

Surface prep—If efflorescence is present, remove it by scrubbing

with a wire brush. To remove heavy staining, mix a heavily diluted solution of water and muriatic acid. While wearing goggles and rubber gloves, mop the solution onto the wall and scrub thoroughly with a stiff-bristled brush. Rinse with plenty of clean water. Eliminate any source of water from behind the brick that could have caused the efflorescence.

Treat any mildew with a 3:1 water-bleach mixture, leaving it on for 20 minutes and adding more as it dries. Clean off dirt, chalk, dust, any residual particles of paint or treated mildew by scrubbing with detergent and water. Rinse thoroughly.

Priming brick will maximize sheen uniformity and minimize efflorescence and mildew.

Scrape out and widen any cracks, brush out the dust, then seal with 100-percent acrylic or siliconized acrylic caulk. Check mortar joints carefully and repair or re-point as needed. Always wear gloves and eye protection when prepping the surface for any paint job.

Priming—Priming brick is not essential with quality exterior latex house paints or masonry paints, but priming will maximize sheen uniformity and minimize efflorescence and mildew. Use a quality exterior latex primer that is recommended for masonry surfaces.

Painting—Use top-of-the-line exterior 100-percent acrylic latex house paint in flat, satin or semigloss finish, depending on the desired appearance; or use a quality latex masonry paint.

Another option for brick paint is an elastomeric wall coating. These are exterior acrylic latex masonry paints designed to be applied in



One option for brick paint is an elastomeric wall coating, which is applied in very thick films. These products are tough and flexible, and stretch as cracks underneath open and close.



TOOL SCHOOL

very thick films (about 10 times as thick as regular paints). They are tough and flexible, and stretch as cracks underneath open and close, which bridges the cracks and keeps water out while maintaining a nice appearance. They can be tinted to a light color, but are considerably more expensive than conventional paints. Apply two coats for maximum crack bridging and durability, and follow the manufacturer's recommended spread rate; for best performance, this will be 40 to 60 sq.ft./gallon to achieve a minimum dry film thickness of 7 mils per coat.

The easiest way to paint brick is with a paint sprayer. For small areas such as an accent wall or fireplace, brushes and rollers will suffice. Choose a roller cover with a thick nap (1-1/4 in.) to ensure

best results on brick, which is covered with nicks and surface irregularities.

FIBER CEMENT

Surface prep—If the siding may be manufactured from cement asbestos, make no attempt to scrape, sand, wire brush, powerwash or otherwise disturb the surface. Instead, apply a solvent-based or latex sealer or primer recommended for exterior masonry surfaces, and once thoroughly dried, proceed with painting. If the siding has previously been painted and lead is suspected in the paint, contact a contractor qualified for lead assessment and abatement.

Otherwise, prep the surface of fiber-cement by removing any loose or peeling paint by gently scraping or abrading with a wire brush. If efflorescence is present, scrub it off and eliminate any water source that may have caused it. Treat mildew with a bleach mixture and rinse with plain water.

Priming—For fiber cement, priming is helpful but not necessary if the existing paint is in good condition (unless specified by the paint manufacturer). If you had to remove efflorescence, coat the siding with a quality exterior latex primer that is recommended for masonry surfaces.

Painting—Use top-of-the-line exterior 100-percent acrylic latex house paint in a flat, satin or semigloss finish; or use quality latex masonry paint.

STUCCO

Surface prep—If the stucco has previously been painted and you suspect lead in the paint, leave it alone and call a contractor. Otherwise, remove all loose or poorly adhering paint by scraping or using a wire brush, or powerwash with plain water, taking care not to drive water into cracks or porous areas.

Remove any efflorescence and eliminate any water source that may have caused it. Remove mildew with a bleach solution and rinse thoroughly.



Surface preparation is the first critical step for any painting project, but methods vary among surface materials.





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Priming—With stucco, priming is important to ensure maximum durability and resistance to efflorescence, alkalinity and mildew. Use quality exterior latex primer that is recommended for masonry or stucco.

Painting—If you're repainting the stucco, use use top-of-the-line

exterior 100-percent acrylic latex house paint in flat, satin, or semi-gloss finish. Old, unpainted stucco can also be finished with a top-quality exterior 100-percent acrylic solid color stain that is recommended for masonry or stucco surfaces. Some solvent-based acrylic masonry or concrete

For large projects such as painting house siding, an airless sprayer can speed up the process while achieving a very smooth, even finish.

stains may be applied to stucco without priming, but you should consult the manufacturer's directions.

WOOD

Surface prep—If the existing house paint has no lead content, remove all loose paint by scraping or by wire-brushing, working with the grain of the wood. For wood shakes, use a wire brush with vertical strokes. (Note: when using a steel brush on cedar, remove all bits of steel wire to avoid discoloration.) Feather-sand the rough







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edges of the remaining paint. Refresh the surface of exposed wood by sanding with medium grit (#120) paper. If gloss or semigloss paint will be used, follow by sanding with fine grit (#220). Dull any existing glossy paint by sanding with a fine abrasive.

Treat any mildew with a household bleach mixture then rinse thoroughly. Use detergent and water to remove any loose dirt or sand.

Priming—Prime all areas where the old paint has come off. For best results, prime the entire job using quality exterior stain-blocking latex or oil-based wood primer. Use quality oil-based primer and paint if the surface has a buildup of old oil-based paint.

PAINTING WITH A SPRAYER

When applying paint with a sprayer, either HVLP or airless, movement of the gun is extremely important. Keep your wrist straight and the spray nozzle parallel to the work surface for consistent application (rather than flexing your wrist and swinging the gun, which causes overspray and uneven coating). The gun should be held 7 to 12 inches away from the work surface. Start at the top and work downward. To avoid excessive



paint accumulation, don't pull the trigger unless the gun is in motion. Squeeze the trigger as you move into a spraying pass over the work surface. Follow the tool manufac-turer's guidelines for tip selection and paint-thinning recommendations.

Once the job is over, clean and flush the sprayer using the appropriate solvent. This is an absolutely critical step and ensures the equipment will be properly stored without contaminants that gunk up the system.





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When using a roller to apply paint to a textured surface, choose a cover with a thick nap to work the paint into the nicks and surface irregularities.

Painting—Use top-of-the-line exterior 100-percent acrylic latex house paint in flat, satin, semigloss or gloss finish, depending on desired appearance. A flat finish will provide a more uniform appearance, but quality satin and semigloss finishes will resist mildew more than a flat. Do not apply oil-based paint over latexbased paint or stain.

VINYL

Surface prep—Treat any mildew with a bleach solution. Clean off any dirt or chalk with detergent and water, or power-wash, then rinse thoroughly.

Priming—Priming generally is not necessary if mildew, dirt and chalk are all removed as part of surface preparation.

Painting—Use top-of-the-line exterior 100-percent acrylic latex house paint in flat or satin finish. A flat finish will be much less revealing of variations and irregularities in the siding than will a

glossier finish. For vinyl siding, apply only very light color paint: white, off-white or a light pastel. A rule of thumb is to not paint the vinyl siding any darker than its original color. Applying a darker color may cause irreversible warping (called "oil canning") of the vinyl siding, due to the heat absorbed from sunshine by darker colors. For best results, apply the paint with a sprayer.

ALUMINUM

Surface prep—Treat any mildew with bleach then remove dirt, chalk, treated mildew, etc. by scrubbing with detergent and water, and rinse thoroughly. Chalking on weathered aluminum siding tends to be deep in the factory finish, and a second treatment may be necessary if there is still noticeable chalk on the surface.

Priming—Priming is generally not necessary if chalk can be removed as part of surface preparation. For areas where chalk is stubborn and cannot all be removed, apply a solvent-based exterior primer recommended for aluminum siding.

Painting—Use a sprayer to apply top-of-the-line exterior 100-percent acrylic latex house paint in flat or satin finish. A flat finish will be much less revealing of dents and irregularities. Note that because excess chalk can hinder the adhesion of paint to aluminum siding, some manufacturers offer acrylic latex additives that help exterior latex paint stick to hard-to-coat surfaces. For excessively chalky surfaces, consider using a product such as EmulsaBond from Flood Paint Solutions.

Editor's Note: Much of the information from this article came from the Paint Quality Institute. Learn more at www.paintquality.com.



NEW PAINT PRODUCTS

BLUE BEAR STRIPPERS

When it is time to paint your house, prepping the surface goes a long way to make the project easier and the finished surface look the best it can. If the old painted surface is showing signs of peeling, removal prior to repainting would be the best option. Blue Bear Paint & Urethane stripper makes removal of old coatings easy without having to spend a lot of energy with a scraper or



sander. Simply apply the gelled stripper to the surface and let it loosen and release the old coatings for you. The Paint & Urethane stripper will remove multiple layers of coatings with just one application.

If the old surface is still in good shape and you are just covering it over, Blue Bear Cleaner & Degreaser may be all you need. Wash the surface with this cleaner to get to the best possible surface adhesion for your new coating.

Depending upon the age of the house and the paint, you may be faced with the challenge of lead paint, which requires special consideration when removing. Franmar's Blue Bear Lead Based Paint Stripper works to neutralize the lead in the paint so that it is safe for you and for disposal. With this stripper you don't have to worry about lead dust or safety concerns from lead. Visit www.franmar.com.

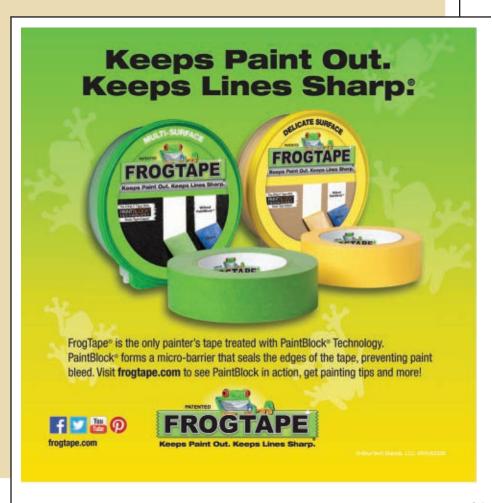


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contractors. To deter hand fatigue for painters tackling tough projects, the new Pro Pail includes an adjustable strap, as well as a handle rest for a mini-roller or paintbrush. The Pro Pail also has a custom-fit liner available for purchase. Manufactured in the USA from 100percent recycled materials, HANDy **Pro Pail Liners are** solvent-resistant

to allow painting contractors to work with any paint or stain. The liners make color changes a breeze while eliminating unnecessary cleanup time. Visit www.bercomincorporated.com.



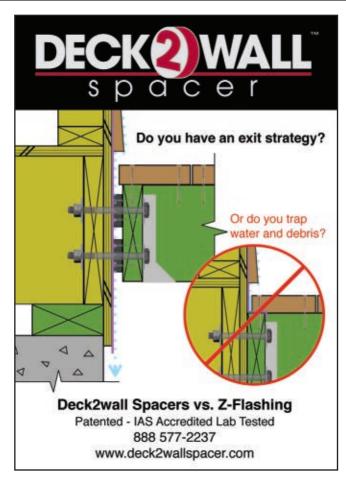
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Cedar Patio Benches

This easy-to-build bench can be used on your patio or deck—or anywhere.



By Matt Weber

hen I build outdoor furniture I want it to last. I also want to spend as little time maintaining the furniture as possible. That's why I often choose cedar as my outdoor building material. In my area of the country cedar is more expensive than treated lumber, but it has the benefit of containing natural oils that act as preservatives to help the wood resist decay and insect damage. Cedar is also a dimensionally stable wood that lays flat and stays straight, which makes it easy to build with, and you can depend on the boards to hold their shape.

These cedar benches became a

project because as my family has grown I've noticed a lack of seating on our back deck. I noticed the same problem on my parent's paver patio. To solve both problems, I decided to whip up a couple simple benches for people to park on. These benches are fairly easy to build, and you get to exercise some of your favorite tools: a table saw, a miter saw (or handheld circ saw), a router and a nail gun.

MATERIALS

If you're like me, you keep your eyes peeled for building materials to squirrel away for a rainy day. I ended up with a few scrap cut-offs of 6x6 cedar posts. They'd been

thrown into a dumpster by a work crew during the construction of a screened porch. I rescued them, and just a few months later found a good use for the wood.

On my table saw, I ripped the 6x6 chunks right down the middle to create four equal 3x3 boards. Not only did I keep this perfectly usable wood out of a landfill, I saved money on not having to purchase a new 6x6. The 3x3 boards would serve as the legs of the benches, and I cut them to equal length on my miter saw.

Aside from the 3x3 legs, all the other wood components are cut from 1x4 cedar boards, which should simplify your shopping









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experience. (Note: "1x4" is a nominal designation, and the 4-in. wide cedar boards I purchased from my local Lowe's measured only 5/8 inch thick, so the following cut list reflects this thickness).

Cut List per Bench

- Front and Back: 2 pcs., 40" 1x4
- Sides: 2 pcs., 16-3/4" 1x4
- Legs: 4 pcs., 15-3/8" 3x3
- Slats: 11 pcs., 18" 1x4





After making the legs, I cut the bench's sides, front, back and slats to length on a miter saw. Although you can measure and cut each board with a handheld saw, I suggest setting up stops on a miter saw to cut each matching board to the exact same size. Not only does setting up stops increase productivity by eliminating the need to measure and mark, but it also ensures the boards are a consistent size, which is critical when assembling a square frame.



Cedar makes an excellent choice for outdoor furniture because its natural oils act as preservatives.



I ripped the 3x3 legs from a leftover 6x6 cedar post.

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Boost production by setting up stops on your miter saw to cut matching pieces to the same size.

ROUTING

The seat of the bench is made of 1x4 slats. I wanted the edge of the seat to feel comfortable so I used a router with a round-over bit to ease the sharp 90-degree edges into a smooth "quarterround" profile. This is most easily

accomplished by mounting the router in a router table and running the ends of the slats over the bit. You'll get the best results and less tear-out by rounding the ends with multiple shallow passes over the router.

Once you've rounded both ends of every seat board, use a sanding block to smooth the end grain.

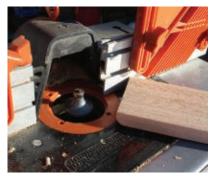
TEST THE FIT

To make sure this project was coming together as planned I preassembled the parts without fasteners to test how they fit.

To determine the layout of the seat boards, I began with a 1x4 slat flush to one side of the bench and spaced each succeeding slat 1/2 inch apart, using a 1/2-in. dowel to gauge the distance. What I discovered is that the 1/2-in.

spacing resulted in an oddly sized slat at one end. I then tried centering a board on the bench, then working outward toward the sides. This resulted in slats either overhanging the sides conspicuously, or I could rip the slats on each end into "skinny" slats so they fit flush over the bench frame.

I had the option to expand the gaps between slats but reasoned that any spacing greater than 1/2 inch would cause the boards to cut into the thighs of the people sitting on them, resulting in an



I used a round-over bit in a router table to ease the ends of the seat slats.



Use a sanding block to smooth up the routed edges.



Sand all wood surfaces smooth in preparation for staining.





Assemble the components to test the fit. By doing this, I learned that 1/4" spacing worked better between the seat slats than the 1/2" spacing shown in this photo.



Pre-stain all components.



Assemble the frame upside down on a sturdy, flat work surface.

uncomfortable bench. I decided instead to tighten the spacing to 1/4-inch between each board, which determined that I needed 11 slats for each seat (rather than the 10 per bench I had originally cut). Note: This 1/4-in. layout resulted in end slats that slightly overhang the bench by about 1/4 inch on each side, but my wife and I decided we liked this look, so we stuck with it.

STAINING

Sand all rough wood surfaces smooth before applying stain/sealer.

I suggest pre-staining all bench components prior to assembly. Staining/sealing the individual pieces grants you access to all sides and edges, which is difficult or impossible to achieve once the bench is built. Although most people won't generally view the underside of the bench to know if it's



been stained, a thoroughly applied preservative will better protect it from the outdoor elements.

For this project I selected an exterior-grade stain/sealer in a "redwood" color tone. I brush-applied the stain and allowed it to dry overnight before assembling the benches.

ASSEMBLY

To fasten cedar, you need to use coated fasteners or stainless steel to prevent iron-staining of the wood. I used a stainless carriage bolt, nut and washer on each leg, as well as some finish nails and

Mark the front and back boards at the midpoint where they overlap the legs.



DO IT YOURSELF

pin nails. However, I used the nails primarily as temporary fasteners to hold the assembly together as the polyurethane glue dried. (To minimize fastener holes, I used Gorilla Glue at every joint.) Set up a flat, sturdy work surface and assemble the bench frame upside-down. I used a framing square to help guide placement of the seat frame (front, back and sides), and secured the four legs at each corner with clamps. I then used a 5/16-in. brad-point bit to drill through the midpoint of where the front/back piece overlaps each leg. Drill completely through the legs and the mating board.

Before fastening I removed each leg and applied Gorilla Glue to the mating faces of the boards. Use a damp rag to first moisten the wood surfaces, which will help activate the polyurethane adhesive when



Drill a hole through both mating boards for the carriage bolt.



Apply high-quality polyurethane glue to all mating faces.



Insert the carriage bolt through the front/side boards and the legs, and then tighten with a nut and washer.



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I shot finish nails into the side of the legs to hold them square while the glue dried. This cordless finish nailer from Porter-Cable made the job a snap.

Begin installing the slats by centering the first one over the bench frame.



applied. I then replaced the legs and threaded a 5-inch long, 5/16-in. stainless steel carriage bolt through the hole, and fastened the threaded end with a washer and nut.

After double-checking that the legs were perfectly square and plumb to the bench frame, I fired two finish nails through the side boards to hold the legs in place while the glue dried. This same assembly process applies to each leg.

After the frame is assembled and the glue has dried, flip it over and fasten on the seat slats. They're designed to fit flush over the frame from front to back. I began with the first board centered over the midpoint, and spaced the remaining boards using a strip of 1/4-in. hardwood as a spacing guide.



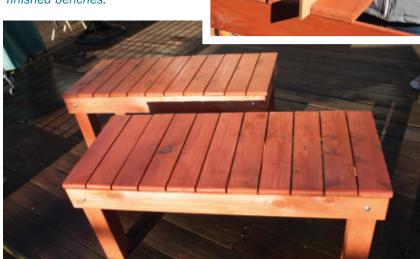
I used Gorilla Glue to fasten each slat, but used pin nails to hold the slats in place while the glue dried. The bench is complete once you fasten your last slat. Allow the glue to dry, and then have a seat. **EHT**



I glued each of the slats in place, but also used a pin nailer to temporarily hold them securely while the glue dried.

A scrap strip of 1/4-in. hardboard made a good spacer for installing the slats.

Here are the two finished benches.





DO IT YOURSELF

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Features include a built-in temperature gauge, porcelain-coated hood, firebox and cast-iron grate, plus a tubular tripod frame. Using the integrated air-flow optimizer, charcoal can be ready for cooking in as little as 7 minutes. Visit www.stokgrills.com.

ARCTIC COVE MISTING SYSTEM

The Arctic Cove 3/8-in. Misting System is easy to set up for 22 ft. of instant cooling for any outdoor living area. Easily enhance cooling performance by using a booster pump. The system is expandable



up to 125 ft. Slip-lock connectors make set up fast and easy, and it attaches to any standard garden hose for outdoor use (with cold water only). The kit includes 3/8-in. PE Tubing, (1) Brass Drain Valve, (1) T-Filter, (10) Brass Nozzles, (20) 3/8 in. Hanging Mounts, (1) 8oz Nozzle Cleaner and an operator's manual. Visit www.arcticcove.com.

SKYLIFT ROOF RISER

SkyLift Roof Riser hardware is designed and engineered to support an elevated wood-framed patio roof cover. These brackets come in a variety of sizes to accommodate every design and pitch requirement. Engineered to hold the weight of standard beam construction, the



brackets are cut through the existing roof, bolted to a structure's exterior weight-bearing walls, and sealed with a standard pipe jack waterproof flashing to form the roof support system. The elevated roof increases pitch that helps water flow and discourages debris accumulation, solving most of the leakage and rot problems of low-pitch or flat covers. Visit www.skylifthardware.com.

TREX OUTDOOR STORAGE

With Trex Outdoor Storage cabinets, boxes and benches, you can add undeniable style and utility to



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THE TEMPEST TORCH

Breaking the barriers of standard torch design, the Tempest Torch by Travis Industries is a decorative gas lamp that is the ultimate lighting enhancement for any outdoor setting. The Tempest Torch's patentpending design features a spinning,



spiral-like flame enclosed in a unique, rectangular ceramic glass housing. From patios to pools to gardens, the Tempest Torch can be used as beautiful walkway pillar lighting, mounted onto movable bases or featured on an exterior wall. The Tempest Torch is conveniently available in two versions: with an easy manual light system, or with electronic ignition which allows for multiple units to be turned on/off with a light switch or tied to any home's automated lighting system. Visit www.travisindustries.com.

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merica was built on manufacturing and innovation. In the tool manufacturing industry, there are few companies who can claim to have a track record of over a century. However, Channellock Inc., a family-owned and -operated plier and hand tool manufacturer, can make that claim. This year they are celebrating their 130th anniversary.

Although 13 decades have passed since George B. DeArment founded the company in 1886, CHANNELLOCK® has remained committed to high-quality products and to domestic manufacturing.

"To be able to say that our world-famous pliers are still made in Meadville, Pennsylvania, USA is a source of pride to everyone at Channellock," says Chairman and CEO Bill DeArment. "Our company was founded in 1886 in northwest Pennsylvania on the principle of making the highest-quality tools, and nothing has changed."

CHANNELLOCK® has long been

known for high quality and craftsmanship, and its product line is the preferred choice of professionals and the serious DIY'ers who want to get the job done. Since its founding as the Champion Bolt & Clipper Co., the company has also led the industry through



innovation. In 1932, chief engineer Howard Manning developed and patented the tongue-and-groove plier, dubbed "Channellock" at the time. The company now offers more than 140 types and sizes of hand tools that bear the company's signature CHANNELLOCK BLUE® color.

Throughout the years, Channellock Inc. has taken pride in its tradition of innovation. The company has made many improvements in its manufacturing practices, including site-specific laser-heat treating operations for more durable products and the implementation of robotics in the forging, polishing and machining arenas.

Other areas of innovation in recent years include 3-D printing, which has allowed Channellock Inc. to develop prototypes for new tools and potential improvements to existing products.



"It has been a welcome addition to our tool design process because it allows us to see how an idea would actually function before advancing too far along the process," said Jon DeArment, president and COO of Channellock Inc.

DeArment said the company looks forward to many more years of innovation, best-in-class quality and a continued commitment to American Manufacturing.

"In addition to the high-quality product CHANNEL-LOCK® customers receive, American manufacturing also employs workers and supports families from local communities," Jon DeArment said. "That's something we are very proud of and believe our customers appreciate." **EHT**







MAKING A MAKANG A MAKING A MAKING A MAKING A MAKING A MAKING A MAKING A MAK

By Mark Clement

n Phase I of our renovation we spent time on infrastructure, converting a beat-down basement to a diesel dungeon for the men of the house. Phase II occurs after the demolition is over, the walls are framed, and insulation has been installed. This second phase requires layout work and careful planning that lead to the carpentry you see and feel every day. The following are some tricks to use during your own basement remodel.

LAYOUT DIFFICULTIES

Something special happens when you remove a basement slab. Yes, you gain headroom; you also lose every single reference point. There's nothing to measure to or from. Yet, you need to locate where the drain lines should go, so your plumber can install them.

One trick I used is to lay sheets of plywood and screw them together like they were the finished floor. I snap lines where I will eventually build walls. Then, from the snapped lines I can measure drain locations from real reference points. I then drill a hole in the plywood and blow spray paint in there.

Then, I remove the plywood. The spray paint remains. Boom; the drain lines have been marked for the plumber.

MAKING A **VIAN CAVE**



For the board-and-batten walls, I laid out the factory-primed TruChoice boards (1x12) like tiles, starting at the center so the transitions at the ends would look good. I held the end-grain off the concrete floor with a hunk of drywall.

WOOD SHOWER

We installed a wood shower, and while I'll detail that in a separate EHT article, the punchline is that it's awesome. The reason I bring it up is the shower curb I formed and poured myself. It's made of concrete to match the floor. It took some figurin', but once I laid out the form, the pour was easy and cost only about 20 bucks (couple bags of 'crete and some plywood scraps). That's tough to be beat for something that works so well. If you don't like the look of concrete, there is no better substrate for tile. It also bought us more headroom, which makes the whole place feel bigger.

BOARD-AND-BATTEN WALLS

The juju in my DieselDungeon is "refined-rustic." What brings that to life more than an exterior siding technique polished up for interior use?

We rocked a board-and-batten look and the more pieces I put in, the more I fell in love with this technique, inspired by my wife Theresa. Here, vertical 1x12 'boards' and 1x2 'battens' work well, which I laid out and observed in the space before I bought all the boards.



There's no need to measure or plumb the battens (1x2). Turn them on edge along a board edge, mark the wall and install on the marks.



Among the many tools I used when trimming out, I particularly enjoyed the 15-gauge Hitachi angled finish nailer.

Board-and-batten requires horizontal blocking between the studs for sufficient nailing. I like to use two blocks per stud bay, about 2 feet up and 2 feet down, which provides four places to nail.

Laying out the walls from the center of a space, like a long wall, works nicely. I put one board on each side of a centerline and installed with 2-inch finish nails (Tool Note: The 15-gauge Hitachi angled finish nailer I used is made out of Awesome). Once the centerline is established, get the first pieces plumb, then nail. If you just whack it up there with no regard for plumb, you'll be in trouble when you hit something that is plumb, like a door or window.

I gapped the boards about 1/4-inch so they can expand and contract with seasonal humidity changes. I also kept them off the floor by "shimming" the boards on a hunk of drywall. This way, if the basement ever floods, the end grain has a chance to dry when the water recedes (I keep the primed ends toward the floor and the cut ends up).

Next I installed my 1x6 base with a 1x2 top. Between them, I ran the battens. Note: Along the ceiling—which undulates as they always do in old buildings—I did my best to hold it straight and hide the ceiling waves. This was after we shimmed the ceiling flat for drywall. I had to make a choice between perfection and production, and we hit a nice balance.

Nail the battens into each board behind them. So you don't have to measure to center them, just place the batten on edge along a board seam, line up the edges, make a mark and install it.

ELECTRICAL

You should plan your wall treatment in advance. This way, if you



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MAKING A MAKING A CAVE



Leave electrical rough-in pig tails running long so you can center your device boxes between the battens. (Guess how I learned that.)



It seems like every trim job in an old house requires lots of notching. Instead of trying (and failing) to cut full pieces, I make templates from scraps.

decide to go with the board-andbatten style, then you can leave extra slack in the rough-in electrical wires so you can center devices between the battens.

And, for cutting in the electrical boxes, make a template to get accurate cuts. With wood walls, you can't go back and tape over bad cuts like drywall.

Make an electrical-box pattern from a scrap piece first, make sure it fits, then cut the finish piece. (I use a jigsaw as little as possible to cut notches, relying as much as I can on the vastly more accurate and cleaner cutting miter and table saw.)

DRYWALL

Bathrooms have to deal with water in all its forms. And this is

a basement bathroom, so there is humidity even though the place is enveloped in vapor barriers and a perimeter drain. Half-inch Purple drywall was my choice for the ceiling. This is pretty (hugely) unscientific, but to me, it seems to cut easier and straighter than regular drywall I've used. And there seems to be less flex, which I appreciated because I'm using it overhead. From paper tape to patches (OK, I mis-measured a junction box, so sue me), the



Okay, so maybe I measured the drywall sheet upside down and then realized the light is on the other side. A few quick cuts and a bullet patch, and poof—bye-bye.



Between coats I screed high spots with a dry knife before applying the next coat. This is between 1 and 2.

Purple drywall took compound well and sanded nicely. And, Purple is made to deal with moisture, and I can tell you, steam curls across this ceiling like smoke when the shower is powered.

PLUMBING

If you're considering installing a bathroom or are doing one as a pro, I cannot stress enough the importance and pleasure derived from primo plumbing. Obviously, it's what we interact with the



Wall cleats (on the back plus right and left sides) accept a dado in the sink deck that makes it appear to float.



I used my table saw to cut dadoes from the deck sides and back.



I got the old growth 3x10 from Philadelphia Salvage Company, which also has a working shop. They glued up the panel.

Rolling Barn Door Hardware

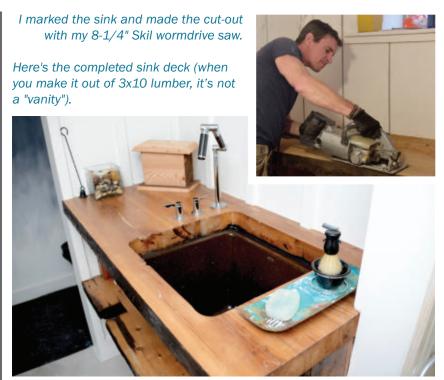




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most in nearly all our bathroom experiences.

The faucet in this Valhalla is the Kohler Karbon. This articulating dispenser of thundering Thor-like goodness can be deck-mounted or wall-mounted. Turn the finely machined handle, and the water pours in a laminar fashion (not aerated and dead silent).

If you want the water aerated, just press a button in the back and use the entire thing as a sprayer. It couldn't be better for us since this utility sink is not for show. It's actually our utility sink for paintbrushes and drywall knives and mucky caulk buckets, etc.

Tip: Okay, this is more like a passionate plea ... I cannot stress the efficiency of clean tools. They work better. Going to lunch in the middle of joint compound application?





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DECK WRECKER

Clean the knife. Ditto with a paintbrush. Refresh the water in your caulk bucket. (Do not wash your circular saw; that's just weird.)

Designer Theresa and I are also big fans of toilet rooms, partitions that obscure humans transferring material into non-human plumbing. This toilet room, adorned with a cityscape-inspired paint design and Theresa's epic "book cover art" walls, is part of the sanctum sanctorum. Not so much because of the activity undertaken (though the seclusion is nice) but because it's mine. Every other room in the house is theirs; designed for wife and children. Dads should have a place that's ours. It's good for heads and hearts.

On one wall, rising from the floor like Atlas shrugging, is Kohler's space-black floor-mounted urinal.

HAVING A FROSTY

I don't mean a beer, I mean the window in the door we reclaimed for the bathroom area. Mounted on Johnson sliding hardware, it literally (ha!) has a mail slot. Get it?

Anyway, it also has clear glass, which is not ideal for a naked area. So Theresa simple-solution-ed it with a few stencils and some Krylon Frosted Glass Finish spraypaint. It's weird the things that seem to stick with you once you live in a space, especially one you built. I gave very little thought (other than not wanting it, actually) to the frosted glass, and now find it is one of my favorite things about being in the space. (My absolute favorite of hers being the "dust jacket" wallpaper she invented.) The No. 1/2 stencil is genius because it refers both to the obvious and not so obvious: Father and son.



I cannot describe the calm and coolness that item delivers. On the opposite end (of the body and the room) is Kohler's wall-mounted commode. The tank and flush valve are located between the studs. It makes the room bigger

and the design payoff is functional art. Two simple tabs operate it. And, never again will I crawl behind a toilet to clean it. There is no behind! The commode bolts to a steel carriage inside the wall cavity, and you can reach under



MAKING A MAKING A CAVE



For the interior décor, you can get creative and have fun without spending a lot of money.



Yes, that's the shower under construction. And yes, that's Southern Yellow Pine. And, no, it doesn't leak. Look for an upcoming EHT article on the details.



Lighting—it's more than having the lights on. It's about what you can see with the lights on. I would never have installed lighting like this on my own. Now, I'd never not install lighting like this. We used lights from LampsPLUS.



If ya got it, flaunt it. I used a rotary hammer to chip off the parge coat covering this hundred-year old structural brick post then sealed it in spar urethane.

the toilet to clean the floor. It is hard to over-express my daily joy feeling this unencumbered in a simple toilet room.

None of these items are inexpensive, and some are tricky to install, so think about that when you're planning budgets. Also don't underestimate the value these things deliver you or your customers. I wanted to sell the house before this. Now I'm not so sure.

RECLAIMED LUMBER

We are lucky to live in an old, East Coast city that's stock full of towering places that were factories and mills and hulking hulls where men worked and built things. And the materials these buildings were built from are equally colossal. We lucked into a carpenter's Nirvana when we found Philadelphia Salvage Company. They have, well, all kinds of stuff (and if you're a fan of the truly vintage—from school desks to old bottles—they have it). What caught my eye on their Facebook page was the



Frosted glass (Krylon frosted glass spray) and reclaimed lumber rock this cubby under the stairs.

3x10 Eastern White Pine and Southern Yellow (heart) pine. I was smitten.

Philadelphia Salvage glued-up a panel for the sink deck. (Sink basin? Vanity? ... Not when you're talking 3-by materials; it's a deck). I cut and fit it on site with my Skil 8-1/4-in. wormdrive and jigsaw (the jigsaw was vastly outmatched by this material). We also grabbed some tongue-and-groove for the man cave's shelf area, which we built into a nook with floating shelves.

DOORS AND HARDWARE

I have a love/hate affair with sliding or pocket doors. I love them when they work, but they can be finicky as heck to install properly. Lots of parts and little pieces are involved, and there's almost no room for error—especially with double doors.

Yeah, well my love/hate just slammed into love/love. Johnson Hardware's wall-mounted aluminum sliding 'barn door' kit is gold. It's awesomely industrial

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looking and beyond easy to install. Still, I had to hack it. The kit includes some awesome stand-off clips to facilitate the wall-mount and I love them, so it hurt me a little to nix them and install the

I-track directly to the ceiling. The reason for the ceiling mount is that we barely have 80-inches. and the wall-mounts drop the door an inch or two, which would have required cutting the reclaimed

doors we used for this project too far. The trolleys mount easily to the door itself, and hanging them is a breeze. They also roll solidly, which I love, and they even sound cool.

To make sure I had plenty of bite into the ceiling, I fastened a 1x6 to the joists, then mounted the track on the 1x6. This also enabled me to get the track dead level and flat. To disguise any gaps between the 1-by and the ceiling, I installed a 1x3 fascia piece onto the 1x6, and it all looks like it grew there.



Check out the letter slot. You've got male. (I don't want to be too "designy," but little things like this really do bring joy).



Deep space isn't as black as Kohler's to-the-floor urinal. And as deep as it is. Theresa's dust jacket wall art is ... I love it. You can also see a small representation of our library.

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MAKING A MAKING A CAVE



That toilet hangs off the wall. It doesn't touch the floor at all.



I added a little of my own personalization. A shower caddy soldered with my Bernzomatic propane torch, some threaded couplings and nailing plates. To keep it from rusting (mostly on the back) I sprayed a few coats of Krylon clear coat. The soap adds near instant patina.

LIGHTING

I think most guys would rather have someone else think about lighting. Many of us want illumination. But lights; who cares?

The longer I'm married to a designer, the more I see the utter and intrinsic value in not just light, but the design and feel of light—and the fixture that produces it. Lighting can set the mood and deliver pleasure and positivity. That's not bull crap; this is man cave talk. Theresa worked with LampsPLUS on building out just the right light feel for my DeiselDungeon that is both manly,

but also works with the rest of the house

Along with some exposed brick and wall art by Theresa, the space truly comes alive for me and my son who could not be cuter standing up to "go peepee" at his very own urinal.

I'm not one of those "buying stuff makes you happy" people, but I'm proud to be his dad and see him graduate from bath to shower and pee at a urinal like a little man. These moments become memories, and that's what truly makes me happy.



Reclaimed doors and Johnson rolling door hardware combine for a look that works great and is easy to install.

Hacking the wall-mount rolling door hardware to affix to the ceiling made hanging these doors possible.

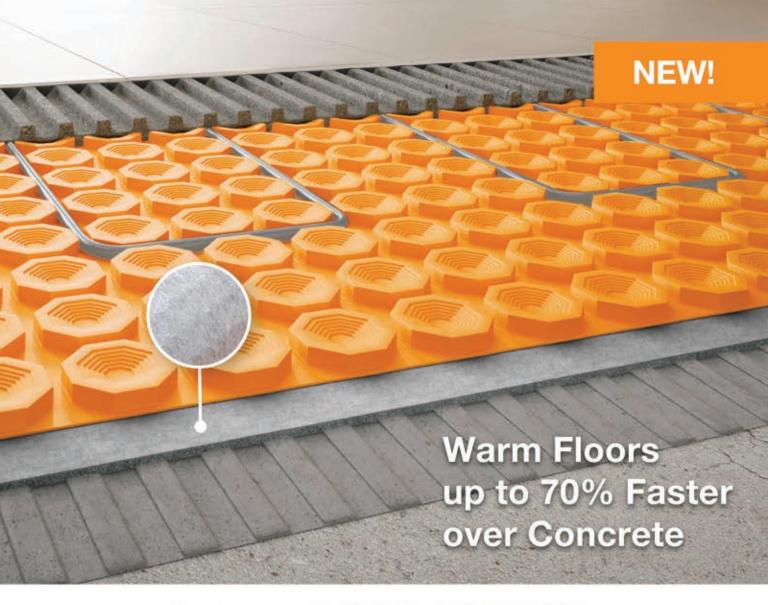


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In addition, High Yield means project savings. Tytan estimates the average basement room remodel at 1,250 square feet of drywall; five to six cans of the 12-oz. Tytan Drywall High Yield Adhesive will handle that compared to more than five 12-pack cases of 10-oz. cartridges. This means you can bond and seal the entire basement remodel for around \$50, and you can purchase it directly from www.TYTAN.com.





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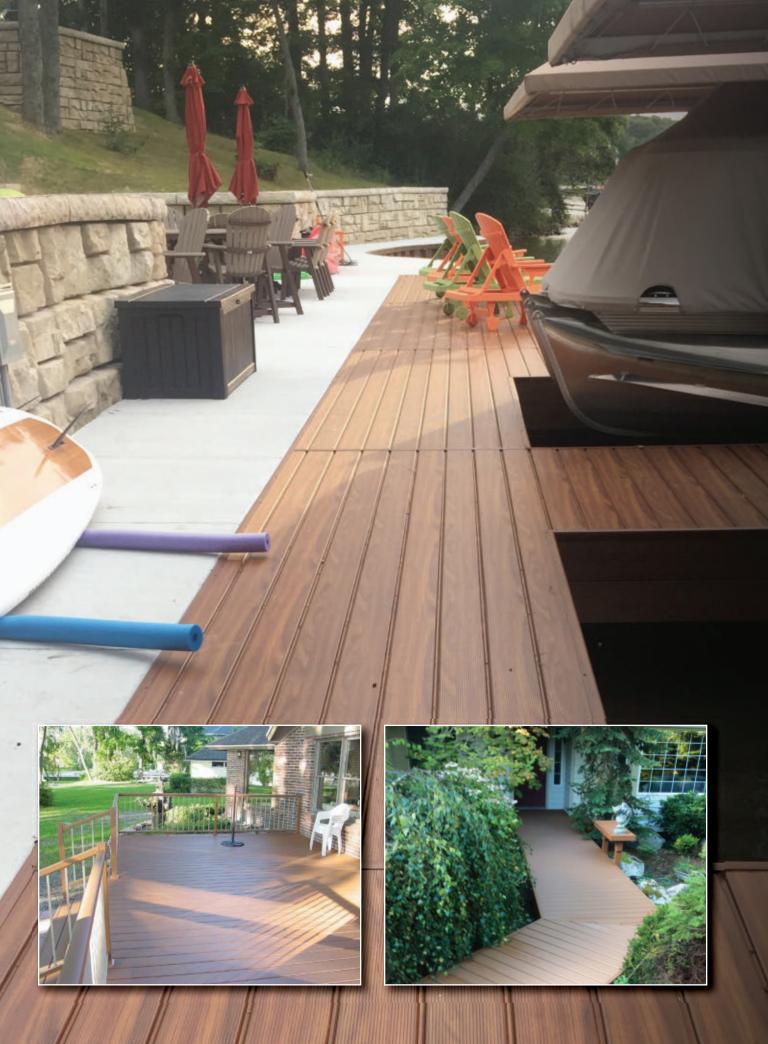
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Requiring no staining or sealing, just mild soap and water for cleaning. No warping, splitting, cracking, rotting, molding, lightweight and fire-resistant. Last Deck and Rail are available in a multitude of options allowing you to design your own luxury out-door space. Manufactured in the Midwest of all American made structural-grade aluminum – the same as an aircraft; Last Deck and Rail are built with high quality standards from our family to yours.

Last-Deck and Rail are available in 9 standard soft-touch colors and 7 sublimated "woodgrain" finishes.

Last-Deck customers have the freedom to mix and match railing, picket and deck board finishes; giving them the power of personal customization creating that amazing outdoor dream space all of their own.



Last-Deck is available in 3 different Series.

100 Series: If your deck is low to the ground with no need for a "dry space" below, to create a beautiful walkway or to refresh your lake dock or pontoon. The 100 Series is for you! With all of our planking weighing in at 1lb/ft. and easily cut with a standard carbide blade. The average install time of a deck is cut in half.

200 Series: Your desire is a "dry space" for storage or a patio beneath your deck. The 200 Series is your match. With the "watertight" 200 Series you are well on your way to the dream multilevel outdoor space or the "dry storage" space everyone has been needing.

300 Series: Your desire is a "dry space" that you may want to "change up" every once and awhile. With the "watertight" 300 Series individual planks can be replaced or changed without taking apart all the plank that come before it.



www.lastdeck.com

information@lastdeck.com toll free: 866-527-8332

NATIONAL HARDWARE SHOW 2016 PREVIOUS PR

he National Hardware Show is where new tools and products are introduced to the world and eventually make their way to your local hardware store. Held this year in Las Vegas, Nevada, from May 4-6, attendees get to explore the products and connect face-to-face with the people behind the innovations. The show provides an excellent opportunity to discover new brands and money-saving deals through show specials and exhibitor discounts. *Extreme How-To* is proud to be a sponsor of the event, and we offer this preview of products to be exhibited on the convention floor.

ADD-A-HANDLE

Add-a-Handle is a new multi-use tool for carrying, pouring, holding or hanging anything up to 30 lbs. with comfort and ease. Originally designed for attaching to quart-size paint cans, its uses are

State.

WERNE

practically limitless. Add-a-Handle is comprised of one strong lightweight plastic handle with two 18-in. Velcro buckle straps and a magnet placed on top for resting a paint brush. The straps are removable and adjustable with easy-pull tabs,

making it handy for anyone to adjust them individually for size or height to fit any project. Add-a-Handle is simple, easy to use, and saves time on every project, be it carrying a ladder or a wine bottle. Add-a-Handle is made in the USA with genuine Velcro brand straps. See why it won the NRHA 2015 Retailer's Choice Award at Add-a-Handle.com or visit booth 4528.

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CHANNELLOCK HAND TOOLS

Throughout 2016, Channellock will introduce a number of new products and innovations from their plant in Meadville, Pennsylvania, USA. These products are being developed to meet the needs of professionals and serious DIY'ers with the same commitment to quality and purpose that Channellock is known for. A commitment to manufacturing quality products in the USA for 130 years has built Channellock, Inc.'s reputation as a leader in the hand tool industry. One of



the hallmarks of their tools is dependability so when they change something, they make sure it's a needed change that will make the users' jobs easier.

"We invented the tongue-and-groove plier in 1933, and it has been an industry-best tool ever since," says Jon DeArment, President and COO of Channellock, Inc. "Unlike our competition, we don't waste time

constantly trying to design the latest gizmo or gadget to add to pliers. Instead, when we change something, we make sure it's a needed change for tool users that will make their jobs easier and add more value to the product." Visit booth 7226 or channellock.com.

CARGO MAX XRT

Putting "utility" in "utility trailers," the FLOE Cargo Max XRT 8-57 multifunctional trailer remains unrivaled in its construction and function, and could render the archetypal, antiquated steel-frame and woodbox trailer obsolete. The nearly indestructible polymer

UltraBody and aluminum frame superstructure will never rust, rot or need paint. The Cargo Max





DaVinci roofing tiles have all the appearance and beauty of natural slate or shake, but with a higher level of durability from the proprietary-engineered polymer roofing formula. The tiles are designed for easy installation, while protecting against the elements for decades to come. DaVinci offers the discerning homeowner a level of style and beauty previously unattainable, backed by a lifetime limited warranty and made in the United States.





CLASS A Fire Rating

CLASS 4 Impact Rating

50-YEAR WARRANTY

SLATE & SHAKE STYLES to choose from in a wide variety of color blends

VIRTUALLY MAINTENANCE FREE

The Art & Science of Lasting Beauty



is extremely rugged, yet lightweight and low-maintenance. The Cargo Max XRT weighs only 300 lbs. but has a load capacity of 1,800 lbs., and measures 97 inches long and 54 inches wide (between wheel wells). Learn more at www.floeintl.com/cargo-max-dealers or see for yourself at the National Hardware Show in booth 8654.

BLUE BEAR STRIPPERS & CLEANERS

Franmar will exhibit the Blue Bear product line at this year's National Hardware Show. Creating effective solutions that are safe for the user and the environment has driven Franmar for more than 30 years. Stripping paint can be a labor-intensive project, espe-



cially when there are multiple layers of coatings. Blue Bear Paint & Urethane Stripper simplifies the task, removing multiple layers of coatings with a single application. Remove paint from intricate millwork without sanding or dipping the project into hazardous chemicals. Just apply the Paint & Urethane Stripper and let it do the work for you. The Blue Bear line

also extends beyond just paint removal, featuring products to clean and degrease a surface prior to recoating, mastic and adhesive removers, along with building cleaners, brush and spray gun cleaners, as well as saw blade and drill bit cleaners. Visit franmar.com or watch a demonstration at booth 4934.

FROGTAPE BRAND PAINTER'S TAPES

FROGTAPE

FrogTape is no longer a new product; it's well on its way to becoming a staple in the DIY painting industry. FrogTape is the only painter's tape treated with patented PaintBlock Technology. PaintBlock reacts with the water in latex paint to form a micro-barrier against paint bleed giving you the cleanest, sharpest

> lines possible. FrogTape Multi-Surface has a medium adhesion that can be used on cured painted walls,

wood trim, glass, metal and more. FrogTape Delicate Surface has a lower adhesion to

prevent damage on surfaces such as fresh paint (at least 24 hours old), wallpaper and faux finishes. No matter your painting project needs, FrogTape offers an easy taping solution. For more information, visit booth 5615 or frogtape.com.

MR. LONGARM

The world's leading US manufacturer of quality extension poles and accessories since 1958, Mr. LongArm designs and manufactures the largest selection of painting and staining poles for both the professional and do-it-yourselfer. The product line includes window and solar panel cleaning equipment, flow-through cleaning brushes and accessories, bulb changers, letter changers, equine products and more. The products are distributed in more than 50 countries worldwide, and custom manufacturing is available for a variety of industries. This year Mr. LongArm's NHS booth will feature an interactive virtual home, highlighting the company's solution-based products for home maintenance. The award-winning Woodmates stain applicator products will also be highlighted. Designed specifically for wood staining, they feature tear-resistant foam pads that hold and release more stain than other pads and remove easily via a hook-and-loop system.

Visit www.mrlongarm.com or booth 5215.

LIBERTY GARDEN PRODUCTS

Since 1989, Liberty Garden Products has led the way in designing new and smarter ways to store and utilize garden hoses. Liberty Garden metal hose reel storage products have set the bar in quality and craftsmanship. With styles ranging from classic to contemporary, the company uses the finest materials to create beautiful and practical designs that add class to any home or garden. All Liberty Garden hose

storage products are tough enough to handle the rigors of most outdoor elements. Using powder-coated steel, cast aluminum and all brass fittings, they stand the test of time unlike their plastic competitors. Visit www.libertygardenproducts.com or booth 11809.



FROGTAPE

ETERNA-KOTE SILICONE+ ROOF COATING

Eterna-Kote Silicone+ Roof Coating provides the ultimate in waterproofing protection, delivering a seamless barrier that even stands up to ponding water challenges associated with flat roofs. The product provides excellent chemical, heat and weather resistance with long-term watertight security. The coating is also flexible, stretching to prevent cracking. In addition to waterproofing, Eterna-Kote includes eco-friendly features and application advantages, saving time, energy and money. Eterna-Kote is CRRC (Cool Roof Coatings



Council) rated and low in VOCs, meeting all national air quality standards. Eterna-Kote's bright white finish keeps roofs cooler, resulting in potential energy savings and reduction of peak energy demands. Contractors will appreciate the application advantages of Eterna-Kote, too. This high solids formula is easy to apply and quick curing, so coating jobs finish faster. The product is also more accommodating to temperature ranges, allowing for application at both lower and higher temperatures. Visit Gardner-Gibson at NHS booth 5126 for hands-on experience or visit www.gardner-gibson.com.

MOSQUITO DUNKS

The key to preventing mosquitoborne diseases such as West Nile virus, Zika virus and Chikungunya is controlling mosquito breeding grounds. Mosquito Dunks are the top selling biological mosquito control because they kill mosquitoes before they're old enough to



bite. The active ingredient in Mosquito Dunks is BTI, a natural bacterium that kills mosquito larvae but is harmless to people, pets, fish, plants and wildlife. When a donut-shaped Mosquito Dunk is placed in

standing water, the BTI in the Dunk will kill mosquito larvae for up to 30 days. Just float biodegradable Mosquito Dunks in ponds, birdbaths, rainbarrels, fountains, and any standing water. They're approved for organic use as well as for use in animal water troughs and fish habitats. In places where small amounts of water collect, such as potted plant saucers and tree holes, use a granular form of BTI called Mosquito Bits. Mosquito Bits can also be used to kill mosquito larvae in swampy areas and larger areas where water cannot be drained. Mosquito Bits are also approved for fungus gnat control in potted plants. Visit booth 11110 or www.summitresponsiblesolutions.com.

KREG CLASSIC 2" FACE CLAMP

Kreg Tool Company's all-new Classic 2-in. Face Clamp (Item# KHC-MICRO) offers the features, versatility and durability of the company's current Face Clamp, but is sized smaller for use in tighter spaces and by people who prefer a smaller clamp. Plus, the Classic 2-in. Face Clamp is attractively priced below \$15 (U.S.), making it an excellent value. The clamp is perfect for pocket-hole joinery, project assembly, general clamping,







repairs and more. It features swiveling pads, locking jaws, adjustable clamping force, non-marring clamp face, as well as a 2-in. reach and 2-1/4-in. capacity. Visit kregtool.com or booth 4039.

POST SHIELDS

Post Shields are a simple low-cost solution to protect mailbox, deck, pergola and fence posts from unsightly damage caused by lawn equipment. Homeowners love the look of a natural wood post, but maintaining them is time-consuming and expensive. As soon as you finish painting or installing the post the lawn equipment starts tearing them up. Lawnmowers and grass trimmers damage the

bottom of posts, and the exposed wood will deteriorate faster, look unsightly and attract insects. You can now affordably protect your posts and maintain the beauty of your property with Post Shields, which look great and are easy to install on new or existing posts with no tools necessary. If your posts have already taken a beating, use Post Shields to cover the damage and immediately stop further destruction. They are available in multiple colors, post and height sizes. Visit PostShields.com or NHS booth 10177 located in Lawn & Garden at the Made in USA Pavilion.







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No Joist Modification - Installs Direct to Joist Flexible Drain Placement - Goes Anywhere! ADA & Plumbing Code Slopes

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PreFormed® Niches & Shelves

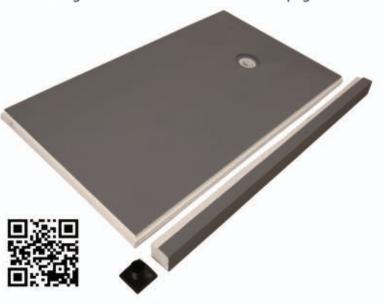
New in our line of convenient tile installation products are our new PreFormed® Niches Shelves. Four colors of natural stone and marble will compliment most any tile! Sized to fit PreFormed Niches, they are ready to install.





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ProPan® Is a ready to install shower pan, presloped and waterproof. As one option in the PreFormed® family of products, there are many stock sizes as well as CUSTOM shower pans. Complicated configurations are no problem and most ship with a 10 day lead time. ProPan® and PreFormed® shower pans are UPC rated. For a complete listing of sizes and models visit our web page.





RECLAIM

Reclaim is a revolutionary line of refinishing products and decorative paints that allows you to drastically improve your home in less time, with less effort, for less money. The kits ensure professional results without the hard labor, enormous time commitment and big price tag of competitive products. Whether you're looking to refinish your cabinets, furniture, countertops or add a little flare to a room, Reclaim does it all. Reclaim water-based paints are three products in on—primer, bonder and finisher—to save time, effort, money and mess. Available in 12 designer colors for

Cabinets and four designer colors for Countertops, reclaim eliminates the need for stripping, sanding or priming. Just make sure the surface is clean and free of wax, oil and dirt. Reclaim



is formulated to make virtually any surface paintable. When cured, the finish coat is durable, chip-resistant and washable with mild soap and water. Visit www.reclaimbeyondpaint.com or booth 5232.

RICHPOWER TOOLS

Richpower Industries is a manufacturer and importer that has been in business since 2002, providing full lines of high-quality,





innovative products to the hard-ware, home center, farm and home, and industrial channels. The current major product lines are Genesis Power Tools, Powersmith LED Work Lights, and Powersmith Ash Vacuums. Richpower emphasizes product design, quality control, packaging, merchandising and aftersales service to help wholesalers, co-ops and independent retailers to compete against the big boxes. Visit booth 6648 or www.richpowerinc.com.

LIFAN POWER USA

Lifan Power USA offers the full line of Lifan Power Equipment, including quality generators, digital inverter generators, water pumps, pressure washers and engines at extraordinary value. The company's Platinum Series Portable Generators contain low THD (Total Harmonic Distortion) alternator technology, which



produces "Clean Energy" with a Sine Wave Distortion of 5 percent or less. With this "Clean Energy," all of your sensitive tools and equipment can be powered safely, without the risk of damage. For maximum conductivity, the Platinum Series Portable Generators use 100-percent copper windings and welded magnetic plates to produce clean dependable energy. Visit www.lifanpowerusa.com or booth 7240.

TG TOOLS BRAD POINT BITS

An innovative concept in bradpoint design comes from TG Tools. The Kik brad-point bits are tipped with six cutting edges to provide 20-percent more cutting surface when compared to standard brad-points. This means the



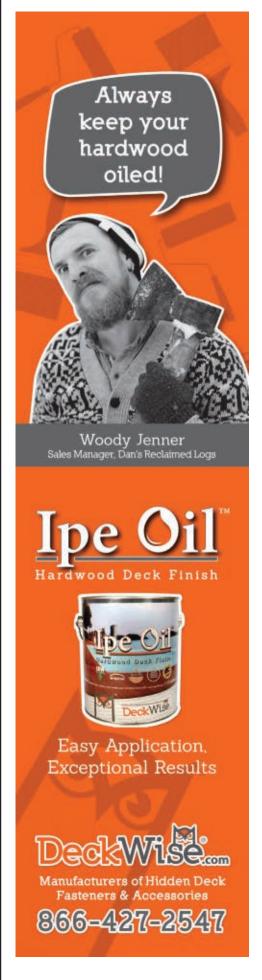


Kik bits bore faster, cleaner and last longer due to decreased wear. In fact, the tip cuts so aggressively that it necessitated an extraction ridge inside the flutes to remove material quickly and prevent heat buildup. Visit www.mytgtools.com or booth 5044.

T-REX TAPE

T-Rex Tape from ShurTech Brands, LLC, is specially designed for all-weather protection to work longer and hold stronger than other utility tapes. Whether it's simple, around-the-house fixes, or extreme industrial repairs on a work site, there's no project too







big or too small for this hard-hitting tape. The double-thick, super-aggressive adhesive allows the tape to offer superior hold on more surfaces than other ordinary tapes, including rougher and dirtier surfaces in a wide range of temperatures and humidity levels. T-Rex Tape also is specifically designed with a thick sun-resistant skin that gives the tape its holding power, inside or outside. Visit NHS booth 5615 or trextape.com.

DRYLOK MASONRY WATERPROOFER

Both the latex and Extreme versions of DryLok Masonry Waterproofer have been tested to ASTM D



7088 to determine the Pounds Per Square Inch (PSI), as well as ASTM D 6904-tested to withstand wind-driven rain. Both products can be applied on the positive or negative sides of masonry surfaces, above or below grade. DryLok Masonry

Waterproofer is America's most versatile masonry waterproofing paint. It can be used on new or old concrete, basement walls, fish ponds, birdbaths, retaining walls, masonry building exteriors and as a foundation coating. Sprayed, brushed or rolled, DryLok is a proven solution to water seepage. Visit www.ugl.com and booth 5921.

CANGUN1

SafeWorld Int'l. offers the CanGun1 premium spray can tool that features the world's first FullGrip trigger with a 3:1 leverage advantage. The CanGun1 makes spraying the contents of virtually all standard spray cans of paint, lubricant, adhesives, etc. considerably



easier, while providing professional results every time. The patented pistolgrip accessory easily snaps onto standard aerosol spray cans, transforming them into pro-style spray guns with unprecedented control for hours



Lawn mowers and grass trimmers damage the bottom of your mailbox, deck and fence posts. Exposed wood will deteriorate faster, look unsightly, and attract insects. You can now affordably protect your posts and maintain the beauty of your home with Post Shields.

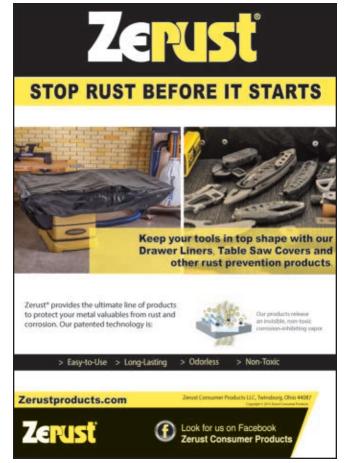
If your posts have already taken a beating, you can use Post Shields to cover the damage and immediately stop further destruction. The four shields are easy to install and are available in multiple colors, post and

are easy to install and are available in multiple colors, post and height sizes. Check them out at postshields.com and visit us at the National Hardware Show – Booth 10177 located in Lawn & Garden at the Made in USA Pavilion.





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The secret to the Accubrush is a roller which lays down the paint, combined with a small brush that takes paint right up the very edge. You get a clean, straight line, every time!



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The professional pole-mountable version has a threaded handle which allows the edger to be mounted to any standard paint pole. While your feet remain firmly planted on the ground, you can get a neatly painted edge at the top of the wall.

Accubrush paint edgers can be used around doors, windows, ceilinngs (including orange peel and knockdown), baseboards, crown molding, and chair rail.



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of effortless, pain-free spraying. The exclusive ergonomist-tested and arthritis-friendly design also makes it suitable for use while wearing gloves. The reusable CanGun1 is made in the USA with 80-percent recycled non-toxic plastic and recyclable packaging. Visit www.cangun1.com or booth 4909.

GORILLA HEAVY DUTY CONSTRUCTION ADHESIVE

Gorilla Heavy Duty Construction Adhesive is a tough, versatile, all-weather adhesive. Unlike other construction adhesives,





its 100-percent adhesive formula provides a long-lasting, heavy-duty bond. The gap-filling, durable, waterproof formula is perfect for indoor and outdoor projects, holds in 30 seconds, and bonds virtually anything, including subfloor, mirrors, trim, drywall, landscaping, bath surrounds, foamboard, marble and more. Visit www.gorillatough.com or booth 4715.

WOODMATES

Wood staining...made simple



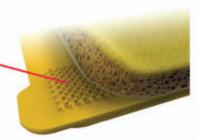
Woodmates® award winning deck stain applicators* can tackle all types of wooden surfaces. The system includes a 7" basic, 9" standard and 12" premium deck stain applicator. It also includes a fence tool, a double-ended detail tool and a contour tool especially for spindles, rails and balusters.



Scan to see Woodmates in action.

Flextech*, tear-resistant foam pads hold and release more stain than other pads and prevent dripping and pooling. They provide a smooth even finish and cover more board feet in less time. Pads are replaceable and remove easily via a hook and loop system making clean-up a breeze.

*Winners of a 2010 GOOD DESIGN Award from the Chicago Athenaeum: Museum of Architecture and Design together with The European Centre for Architecture Art Design and Urban Studies.







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^{*}ATSB Trial Summaries Israel 2013: ATSB with garlic oil encapsulated in beta-Cyclodextrin as active ingredient" by Dr. Gunter Müller.





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It may look like home improvement skills come naturally for my brothers and me, but it's mostly due to a lifetime of lessons strung together. Early on we learned from our dad, a professional carpenter and a prolific remodeler of the house we grew up in. But we also learned some remodeling lessons from our mom. One of our earliest memories of a home improvement project was carried out by mom at her friend Betty's house. The ladies decided it was time take out a wall between the dining room and the living room to accommodate her friend's large family. Mom walked down to Betty's house with dad's circular saw in hand, and the friends made short work of the wall.

When Mom proudly reported on the project at dinner, she heard a thing or two from dad about the dangers of removing potentially load-bearing walls and all of the possible obstructions that could have been hidden inside the wall. Mom just shrugged and said, "None of that happened, and it will look great when you and Alan finish the details."

Few projects on a house interior can bring as significant a change as removing an interior wall between living areas to open up the space. Prior to the 1970s, many homes were designed with smaller defined spaces than we usually see in the current era, which is why "opening up the space" has become such a popular upgrade.

There are several design considerations for removing an interior wall, including sight lines, traffic flow, lighting, resale value, privacy and family dynamics. If you decide the change is desirable, there are some logistical and structural considerations as well. These can be divided into questions about what else the wall is doing besides breaking up the space. Interior walls often provide hidden passage for utilities such as HVAC (heating, ventilation and air conditioning), electrical wiring and plumbing.

Interior walls can also provide load-bearing support for the roof system, for the floors above, or for intermediate support of long spans and splices in the ceiling joists.

In the case of the project featured here, we noted a pair of outlets in the wall and determined there were no water pipes or HVAC ducts living in the wall. However, a quick inspection of the rafter components in the attic space revealed that the ceiling joists were perpendicular to and supported by the unwanted interior wall.



OPEN SPACES

Right away we could see that the ceiling was too low to put a beam under the ceiling joists, so we asked our engineer if he could spec out a beam to go above the ceiling joists in the attic (supported on each end by wall framing). He did the calculations for a 3-1/2-by-12-in. laminated beam to replace the bearing wall.

After ordering the beam and removing the drywall from both

sides of the wall, the remainder of the project was about installing the beam, removing the wall framing and filling the voids in the floor, ceiling and adjacent walls.

Here's how we got it done:



Removing the drywall was as far as we could go in removing the interior wall until the beam was in place.



We poked the beam through a vent opening in the gable end of the house.



We put half of the beam inside the attic, which made it easy for Chad to balance it while I came around to the inside to get a grip on the interior end.











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COME VISITUS AT NHS BOOTH #4528





OPEN SPACES

We cleared insulation from around the area where the beam was to go, but we had to move it into position under some recentlyinstalled furnace ducts. It was pretty easy to align the beam over the top plate of the interior wall, which was outlined by the break in the ceiling drywall of the two rooms below.

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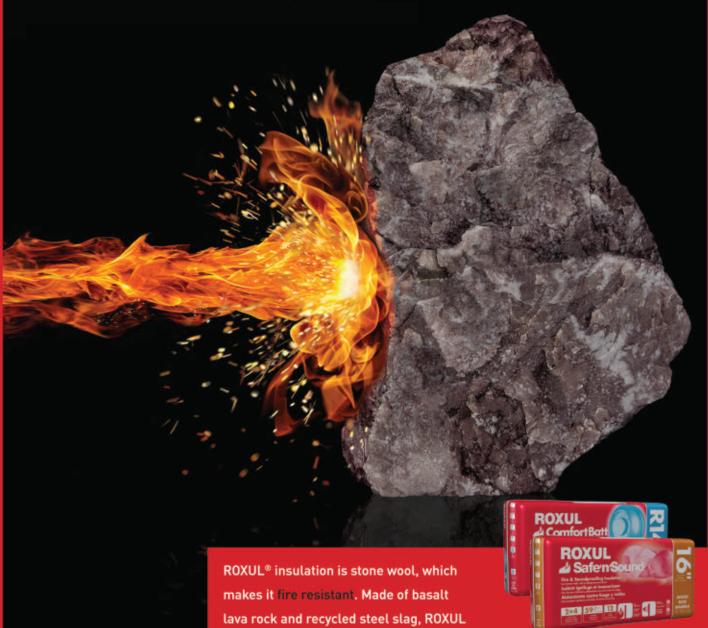
We cut some blocks to fill in the space between the beam and the top plate of the walls that would support the ends of the beam.



We nailed straps as outlined by our engineer on both sides of the beam and into each ceiling joist.

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Visit www.roxul.com for a complete series of ROXUL how-to videos.

OPEN SPACES

It takes a lot of nails to properly fill the nailing positions on the two straps at each ceiling joist. The ceiling joists are hanging from the beam so sheer strength is very important. With the beam in place we could remove the load-bearing interior wall studs.

With the studs removed, we pulled down the framing wall plates, which were nailed into the ceiling joists.







The bottom wall plates were trapped between decades of flooring layers and had to be pried out of place.

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OPEN SPACES

We cut filler strips to fill the voids left by the bottom wall plates.

We blocked out the framing as needed so 1/2-in. drywall would flush out with the existing drywall in the

living room and dining room walls.

Strips of drywall were attached to the ceiling joists to fill in the gaps where the top wall plate was removed.









The drywall strips were joined where the ends would be supported by the ceiling joists.





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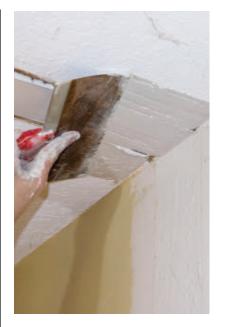
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Fix a Power Window

How to Replace a Power Window Regulator



By Matt Weber

y son was complaining about all the rain and hail slapping him in the face during his backseat commute to daycare. I suggested that he roll up his window. He said, "But Dad, it won't work." I tried it myself. He was right; the window was stuck halfway down. After dropping him off, I haphazardly duct-taped a trash bag over the opening, and as fond as I was of this stylish look, I decided I'd better fix the window because nobody else thought it was as cool as I did.

The nice thing about power windows is that there's no need to crank on a handle. The downside

is that the motorized devices that raise and lower them (called regulators) tend to fail over time.

The older the car you drive, the less likely you'll be to find a matching replacement regulator in stock at your local parts dealer. Regulators vary greatly in design among different vehicles, and the easiest way to locate a suitable replacement might be to visit your local junkyard. I've replaced four or five regulators throughout my life, all from junkyard parts, and it's a job that can easily be done by a DIY'er who wants to save a little money rather than pay a mechanic.

When purchasing a part from a salvage yard, always call ahead and provide the salesperson the make and model of your car to see if they have a part in stock. If they do, make sure that the part is in good working order once you arrive to pick it up. For a window regulator, have the salvage dealer hook it up to a power source to verify that it works.

Another tip for salvage dealers: Take advantage of any free instruction you can get. For example, the salvage dealer where I got the replacement regulator wouldn't pull the part until I showed up to the junkyard, so I spent my time

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EVERYTHING AUTO

on site watching the mechanic remove the regulator from an old car. Since car doors and windows differ in construction and fastener location, I was able to see how to take the door of a Dodge sedan

apart without wasting my time searching for hidden fasteners.

Although the methods of replacement will vary somewhat from vehicle to vehicle, the following article shows the basics steps for window regulator replacement. I suggest you also invest in a repair manual that is specific to the make and model of your car to determine fastener details and any other particular requirements related to your vehicle.

STEP BY STEP



Here's the replacement window regulator that I purchased from a local salvage yard. The aim of this project is simply remove the existing regulator and swap it with this one.



First step is to remove surface fasteners from the finished door panel.



This Dodge Stratus had screws hidden beneath plastic caps that were colored to blend with the car's interior.





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After removing the screw(s) that hold the window switch to the door, lift out the switch and unplug the electrical connection in the back.

In addition to surface screws, the door panel is probably held in place by a series of push tabs located around its perimeter. Use a long screwdriver to pry out the edge of the panel and pull the tabs loose.







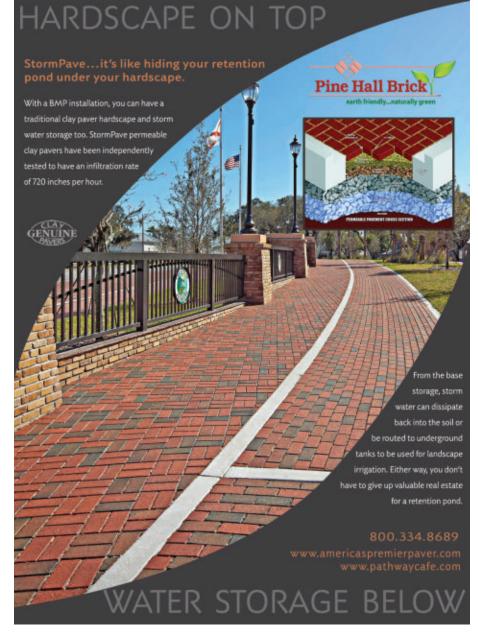
One the tabs are out, the panel should pull freely away from the door.



As you pull the panel free, reach behind the interior door handle and unhook the control arm from the handle. This is the necessary final step to completely free the panel so you can set it aside.



Next, pull away the door liner and discard.





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Shown here is the fully exposed interior of the door. The old window regulator is inside the door and bolted in place. The window glass sits on a bracket that is bolted to the regulator. In some cases it may be easiest to remove the interior weather-stripping, unbolt the window glass and set it aside while your work on the regulator. However, this window decided to stop working while halfway down, which misaligned the access holes in the door over the bracket bolts on the regulator. This meant I couldn't remove the glass without first unbolting regulator.



If you're faced with the same challenge, I suggest clamping the glass in place so the window and regulator don't crash down into the door as you disassemble them.
Use a clamp with soft, rubber feet or otherwise pad the feet to avoid cracking the glass.

Use a socket wrench to remove all the bolts that hold the regulator onto the door.

Next, remove the fasteners that hold the regulator motor to the





door. This motor was held by three closely located nuts.



With the regulator unfastened, both it and the window were loose inside the door. I grabbed the glass from above and lifted the entire assembly until the window-bracket bolts were aligned with the access holes (circled in red), and then I clamped it in place to finish taking it apart.



Remove both bolts that hold the regulator bracket onto the window glass.



Fish the old regulator out of the large access hole in the door.



Disconnect the electrical connection from the old regulator and then plug it into the new regulator. Reinsert the new regulator inside the door, and then bolt the window glass onto the new regulator.



The installation procedure for the new regulator is the reverse of removing the old one. Simply screw on the bolts and nuts that mount the regulator to the door, reconnect the window switch, and reassemble the interior panel. Roll up the window, then mash your nose against the glass and make a bulldog face. **EHT**

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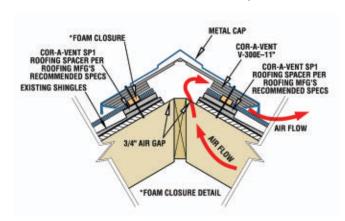
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and fresh air to pass through. Create a minimum 1/8-in. air gap at the bottom of the roof behind the drip edge, and Sturdi-Spacer will provide an extra boost of intake ventilation from the eave to the ridge, enhancing the performance of ridge/exhaust ventilation at the top of the newly-installed metal roof. Sturdi-Spacer is made from 5/16-in. (8mm) thick single-ply polypropylene plastic and comes in strips that are 2-inches wide by 4-feet long. They are power-nailable and power-screwable, and will not compress like other commercial spacer products on the market. Metal panels or hidden clip systems can be applied directly to the Sturdi-Spacer for easy installation. Visit www.cor-a-vent.com.

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Why is My Car's A/C Blowing Hot Air?

The air conditioning system in your car is designed to cool down the air in the cabin of your vehicle to keep you comfortable on a hot day. When you only get hot air instead of cold air, it can be frustrating and extremely uncomfortable. In this article, we're going to look at how your Car's A/C creates the cold air so you can more accurately diagnose what's going wrong.

The cool air is created by blowing air from either outside your car, or from the cabin over cold coils. This cools down the air before it gets blown out of the vents into your car to keep you comfortable. Most systems are designed to blow very cold air, between 32 and 40 degrees! These cooling coils, called the evaporator, is where the actual cooling of the air happens. These coils are cooled by cold refrigerant flowing through them.

Most cars today use a refrigerant called R-134a which is a special refrigerant designed to work at the temperatures and pressure standard in a car's A/C system. As the cold refrigerant passes through the evaporator it absorbs the heat in the air which warms up the refrigerant. This warmer refrigerant now needs to be cooled back down so your A/C system can continue to operate. This is accomplished by first compressing the refrigerant to a high pressure which also heats it up to a high temperature.

This hot refrigerant is then cooled down by running it through the condenser. The condenser is cooled by ambient air in the front of your car just like the coolant in the radiator is cooled. On most cars the condenser is actually in front of the radiator and gets cooled first to make sure your A/C system gives you consistently cool air. This high pressure, now cooled, refrigerant is then allowed to expand quickly as it passes through an orifice or expansion valve. The expansion valve is a simple device that takes advantage of the fact that quickly expanding liquids and gases get cold. The process of liquids and gases getting cold during expansion is a scientific phenomenon you can prove by using an entire can of spray paint in one sitting and seeing how cold the can gets.

Now the cold, low-pressure refrigerant can return to the evaporator to cool it and along with it, more air keeping your car comfortable. There are a few other components in the system like temperature and pressure sensors, hoses and the dryer or accumulator. The dryer is where any moisture is removed from the refrigerant, the refrigerant is filtered to make sure it all enters the compressor as a gas, and the oil for the system is equally distributed through the refrigerant passing through.

If your car's is blowing hot air then one of these systems isn't doing its job properly. Since there are two components that require air to be moving through them, the evaporator and the condenser, it is possible one or both of these are clogged and not getting the proper air flow. Check the front of your vehicle for debris, the engine cooling fans for proper operation, and your cabin air filter for debris and dirt. The refrigerant in your system also needs to be able to flow properly through the system. Check your compressor for proper operation, clogs in your system and the proper amount of refrigerant. All of these can be checked by observing the pressures around the system both before and after the compressor and all the other components. This can be done with set of A/C gauges to measure both the high and low pressure sides of your A/C system.

If you find unusually high pressure before any particular components and unexpectedly low pressures after them, there is a good chance there is a clog in that component. If this is the case, you will most likely find the clog in the accumulator or the condenser. If you don't have a large enough pressure increase across your compressor you may be in need of a new AC compressor. If you have lower than expected pressures on the low pressure side of your system, may simply have a low refrigerant level.

If you do not have enough refrigerant in your car's A/C system the compressor may not be able to raise the system pressure high enough for the expansion valve to be effective in cooling down the refrigerant. Due to the high pressures of your air conditioning system and the volatile nature of the R-134a refrigerant used, it is not uncommon for some of the refrigerant to leak out over time causing a low pressure condition in your system. If you discover this to be the reason why your A/C is blowing hot air add Red Angel A/C Stop Leak to your vehicle's air conditioning system to seal any leaks no matter how small they are before you recharge the system.

Red Angel A/C Stop Leak One Shot comes in an easy to use aerosol can that can be installed quickly and easily without any tools and also contains 2.5 ounces of R-134a to help bring your system back up to normal operating pressure.

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