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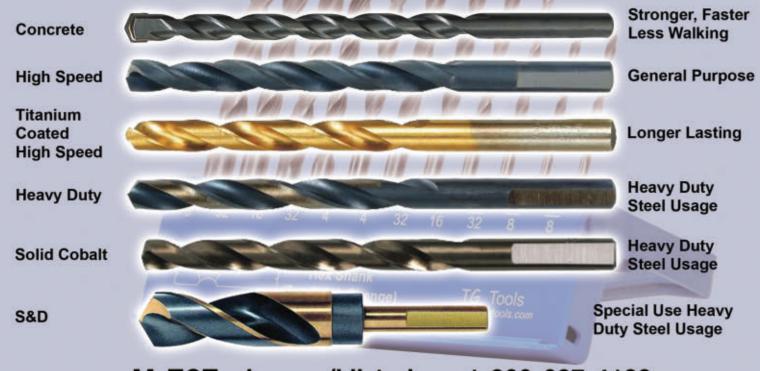
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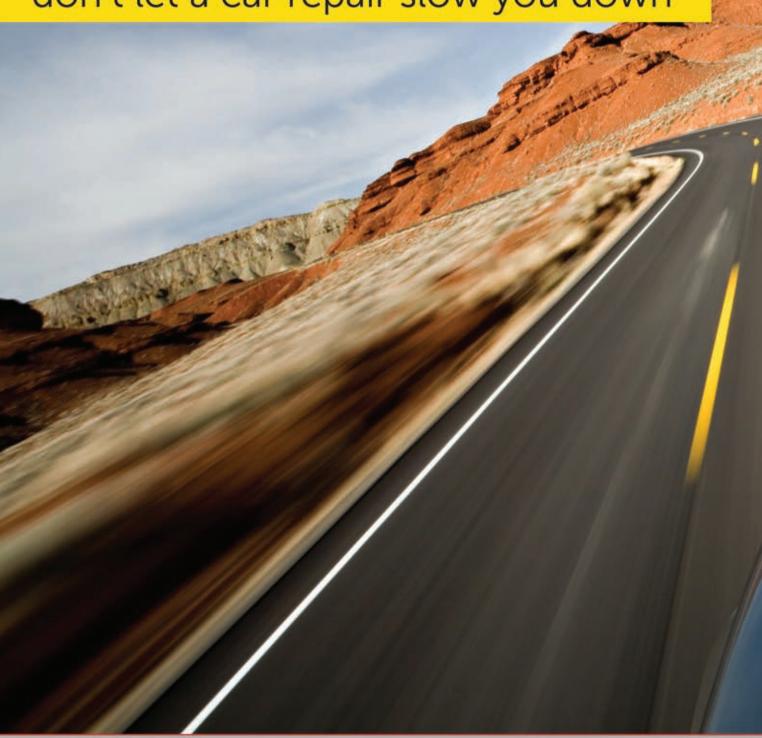


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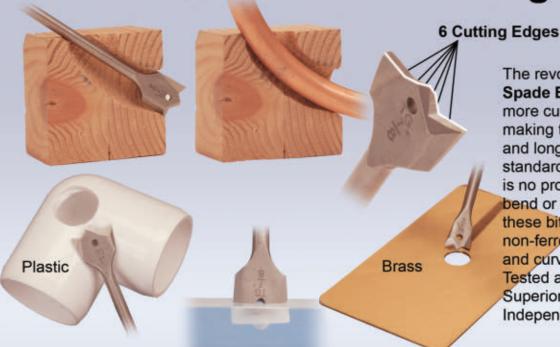


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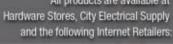
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2016 NAHB International Builders' Show®

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From The Editor-In-Chief

Pe live in a time when it's increasingly difficult to maintain personal privacy. Your web browser monitors your shopping patterns, camera-equipped drones fly overhead in residential areas, and the good ol' NSA monitors your phone and emails.

Some people say that if you have nothing to hide, then you have nothing to fear. That line of thinking has never made sense to me, though, because in an era of rampant identity theft, we should all be protective of our social security numbers, banking information, etc. Thus, we all have something to hide. While I'm no conspiracy theorist, that's why I don't particularly like prying eyes perusing my private properties. Just because someone has the authority to snoop doesn't mean they have the ingrained moral integrity that ensures they'll do the right thing with any sensitive information they might find.

There's an understandable backlash to these encroachments on privacy, and it's interesting to see how the free market responds with new innovations to protect it. In the wake of the NSA revelations, untrackable search engines became popular, as did software apps that encrypt text messages so snoops can't easily read them. The fashion industry has responded with "anti-drone" clothing designed to conceal the user from thermal-imaging technology widely used by unmanned aerial vehicles. Phone accessories are also available that block all incoming and outgoing communication from your phone. And, if you suspect you're being targeted by Martian mind-control rays, I hear a homemade tin-foil hat is a surefire solution to the problem.

Maybe the next market to tap for privacy advocates will be the world of home construction materials. A small company called Conductive Composites out of Utah has developed a flexible material that can keep electronic emissions in and electromagnetic pulses out, and the material is thin and tough enough to be used as wallpaper. Essentially, it's wallpaper that can be used to protect against snooping on electronic communications. The material is reportedly being designed for military applications such as protecting drones from electronic attack, but I fully expect an enterprising company to offer a consumer version in the no-too-distant future.



Technology changes at a breakneck pace these days, and when privacy comes at a premium it raises two important questions: What will they think of next? And, what will someone else then think of to thwart it?





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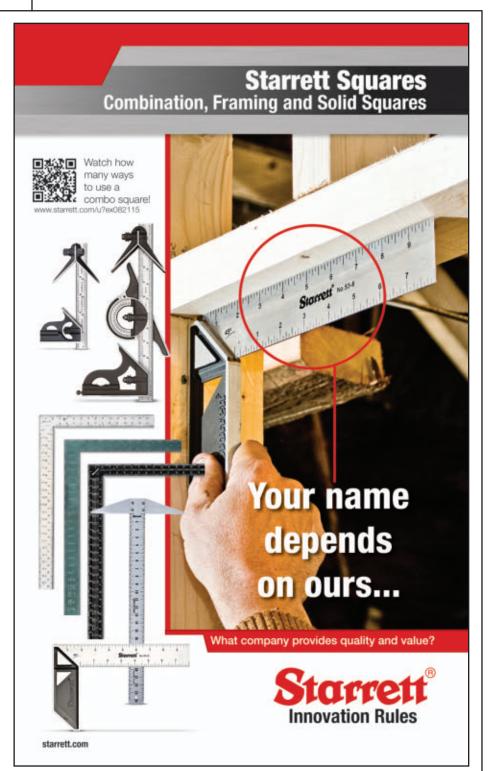
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How do I install railing in a concrete sidewalk?

• You can mount the railing with Anchoring Cement, which is a pourable cement that expands as it hardens and develops greater strength than concrete. First, use a masonry core drill or chisel to create a hole in



the concrete that is at least 1 inch larger than the size of the railing post. The hole should be at least 3 to 4 inches deep, and in many cases you will drill through the entire slab. Remove the loose concrete and debris from the hole. Dampen the hole (but don't leave standing water in the bottom) and then pour in the Anchoring Cement to fasten the railing.

• Can composite decking • be stained?

 Yes, you can stain worn • composite decking, but since it doesn't have genuine wood grain you'll need to select an exterior stain/sealer with a solid color. First, clean the deck surface with a Deck Cleaning detergent and rinse thoroughly, as with any refinishing job. Apply the solid-color stain according to the manufacturer's instructions. You can typically spray on the stain, but always back-brush the product to work it into the fibers of the decking material. Apply even coats and allow ample drying time before exposing the surface to foot traffic.



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• Can I install an Energy Star-approved appliance myself and still qualify for the U.S. Federal tax credit?

Yes, you can install the eligible product yourself and are not required to hire a professional contractor to handle the job. However, while many of the energy tax credits allow the cost of installation/labor to be

included in the eligible amount, if you install the product on your own then you cannot claim a Your Healthful Home...Our Priority! labor charge for the installation.



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• No, PEX pipe is freeze- damage resistant, meaning the pipe will expand if frozen and contract to its original shape when thawed. PEX pipe is not freeze-proof, however, meaning that the water in the pipe can still freeze and block the flow. You should use the same standard insulation precautions with PEX pipe to help prevent freezing. PEX pipe should not be used outdoors in direct sunlight because it is not approved for continuous UV exposure. **EHT**



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Jigsaw Evolution



By Matt Weber

igsaws are lightweight, easy to use and extremely versatile. To some degree, a jigsaw can perform the duties of a band saw, a scroll saw and even a circular saw. Use it to make cut-outs in wallboard, notch flooring around a corner, or rough-cut large pieces of plywood before hauling them to the table saw. Jigsaws are exceptionally good for making tighter, more intricate cuts. The traditional "jigsaw" puzzle, with its tightly curved and complex network of cutout pieces, illustrates the maneuverability of the tool and the detailed cuts that the narrow blade of a jigsaw is capable of achieving. A great saw

for both basic home repairs and advanced woodworking, the tool is used to cut curves, holes and scroll work for projects such as cabinets, countertops, furniture, woodcrafts and more.

SAW SELECTION

When shopping for a new jigsaw, focus on the features that will make everyday use a piece of cake. When holding the saw, is it lightweight and well balanced? Is it easy to see the point where the blade meets the wood? This is a critical area when making cuts, and without a clear view you'll struggle with accuracy.

To ensure a straight cut, clamp a very straight board onto the work-place to guide a jigsaw's footplate as you cut.

Blade alignment is another important feature. Some manufacturers offer disposable plastic guides to hold the blade in alignment with the base. Other manufacturers offer solid metal guides. The metal guides usually offer more reliable blade alignment.

Most traditional jigsaw models feature D-shaped horizontal handles. However, many newer styles feature "barrel grip" handles, which are palm-sized handles positioned directly above the cutting point of the saw and designed for better balance and control. Handle design is really a matter of personal preference. Many people love the barrel-grip design, especially when used for bottom-up vertical cuts, but just as many have grown accustom to the more traditional style.

One welcome feature of many modern jigsaws is an easier blade-change system. Changing blades, which used to be an awkward process requiring special tools, now can be done using only dials or switches to release the blade for easy removal. Bosch offers a "One Touch" blade-change system on some of its models that ejects hot or broken blades with the pull of a lever.

Other handy features include variable speed control. On some saws the blade speed, or the number of blade strokes per minute, can be adjusted with a dial or a variable speed trigger. A light touch on the trigger produces a



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TOOL SCHOOL



Use a compass to mark the radius for round cuts. Note the traditional D-style handle of this Freud jigsaw.

slow cutting motion; pressing harder increases the blade speed and the aggressiveness of the cut.

In addition to speed control, some jigsaws offer orbital cutting action that controls the horizontal motion in the cutting action of the blade. With the flip of an orbital selection switch, a horizontal motion is introduced into the vertical motion of the blade. This improves the speed of the cutting process.

MAKING THE CUT

The jigsaw is a hand tool that you push over the material, but in some situations the jigsaw be mounted to a stand and fixed upside-down on a bench. This allows the material to be pushed into the jigsaw, as when using a band saw.

The limitations of jigsaws lie in their thickness of cut. They're designed to cut completely through material—not partially through a workpiece—and stock thicker than about 1-1/2 inches is typically too thick for jigsaw work. They also have trouble cutting a straight line, however the problems of cutting a straight line with a jigsaw can generally be solved by using a saw guide.

To perform a standard cut, make sure the workpiece is secured to a sturdy work surface. Place the saw's footplate flush against the cutting surface. Make sure the blade is not going to come into contact with the workbench—or the electrical cord — when making the cuts. You may want to drill a pilot hole for the blade for cuts that are not made from the material's edge. Start the blade then slowly push the saw forward to penetrate the material.

Rule number one for jigsaw use: Let the saw blade do the work. Manual pressure is not



A jigsaw's footplate typically adjusts for bevel cuts between zero and 45 degrees.





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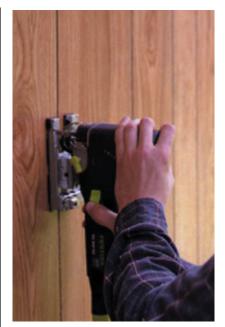
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TOOL SCHOOL



To minimize splintering, cut along the grain of the wood as much as possible.

going to help the cutting action, and too much forward pressure will reduce the quality of cut and wear out the blade—possibly even break it.

Straight-line Cuts. Use a firmly clamped, straight guide fence to make long, straight regular or bevel cuts. For further accuracy on straight cuts, a wider jigsaw blade is less likely to curve outward than a skinny blade. Also, use a slower blade speed. Slower speeds generally allow more accurate cuts.

Bevel Cuts. To produce angled or beveled cuts, rotate the footplate by loosening the screw or adjustment lever at the bottom of the saw. Many of today's jigsaws offer an angled cut adjustable to 45 degrees. Adjust the footplate then retighten the screw. Make a

test cut to measure the angle's accuracy before making the actual production cuts.

Turning Corners. Narrow blades are more capable of making tighter turns than wider blades. A simple solution for tight turns is to drill a pilot hole on the waste side of the workpiece to easily reposition the blade. Or, make sequential cuts that intersect at the corner.

When cutting round corners, use a compass to mark the radius. On intricate curved shapes, trace the layout of the cut, and then determine the direction and sequence of your individual cuts before beginning. Make sure all the marked cutting area extends beyond the edge of the workbench.

Plunge Cuts. Hold the saw with both hands and position the front





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TOOL SCHOOL

end of the footplate firmly on the work piece. With the blade positioned nearly 90 degrees to the work surface and set for vertical cutting action (not orbital), start the saw and slowly tilt the blade back to a flat position, penetrating the material. Plunge cuts are fine for rough cuts, but they're not very accurate, making this method ill-advised for finish work.

BLADE SELECTION

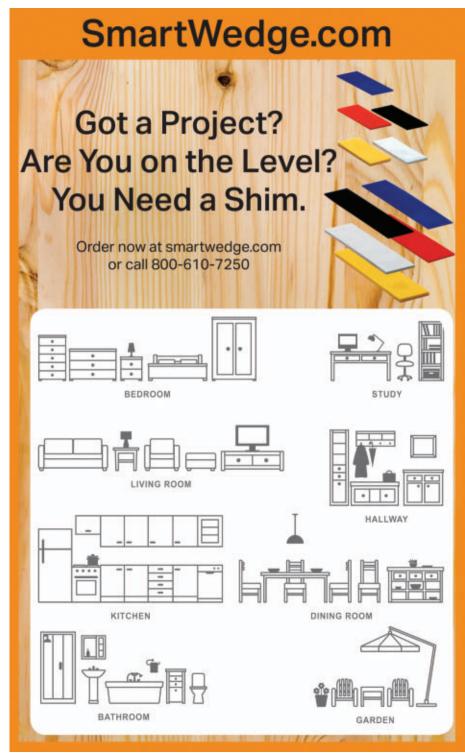
When strolling the aisles of the local hardware store, you're likely to find an almost overwhelming assortment of jigsaw blades. To select the right blade, you need to

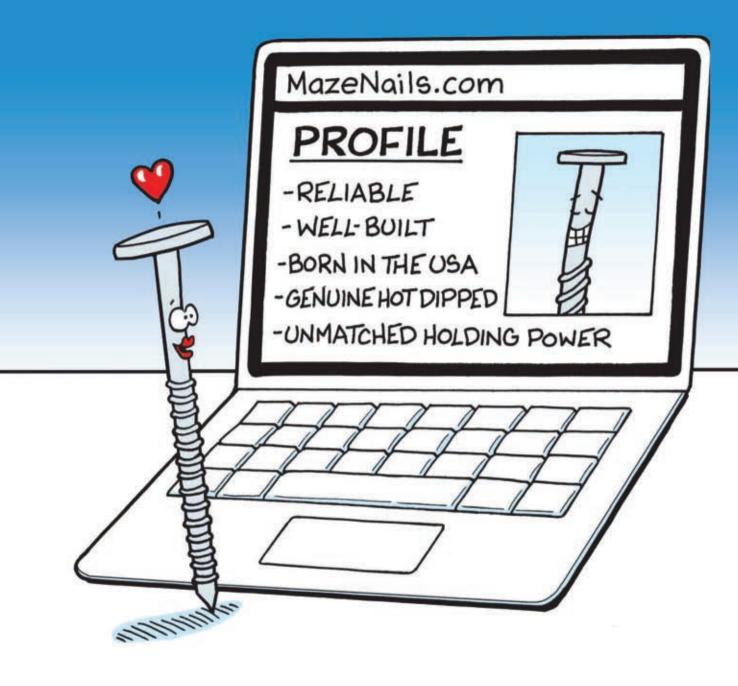


The Black & Decker model BDCJS20B is powered by a 20V MAX lithium-ion battery, so you don't have to tangle with that pesky power cord. It features a compact trigger, clear line of sight, keyless blade clamp, bevel shoe, dust blower, trigger lock, electric brake and a fan-cooled motor.

QUICK JIGSAW TIPS

- Use waste material to your advantage. Waste areas allow room to move the saw and approach a difficult cut from a new angle.
- For a narrow, rectangular cutout, make several straight cuts at gradually widening angles up to the adjacent cross-angle of the rectangle, until you've achieved an opening large enough to turn the blade around.
- To minimize splintering, cut along the grain of the wood as much as possible. When cutting laminated materials, mask the cut lines with tape to minimize chipping.
- Prevent cutout sections from splintering at the final intersecting cut by securing a C-clamp over the previously cut areas, holding the cutout piece in place.







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TOOL SCHOOL

know a few basic facts. What type of material do you plan to cut—wood, metal, plastic or other? What type of cuts will you be making—tight cuts, rough cuts, scrolling or a combination?

Easing the selection process, most jigsaw blades from major companies such as DeWalt and Bosch indicate the blades' recommended material applications right on the package.

One of the most important things to consider is the number of blade teeth per inch. Most woodcutting blades have as many as 12 teeth per inch, while metalcutting blades may have up to 36.



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TOOL SCHOOL

Generally speaking, the fewer the teeth, the faster the blade will cut. However, blades with fewer teeth also mean a rougher cut.

The material's thickness is another point to consider when

choosing blades. As a rule of thumb, at least three blade teeth should be simultaneously cutting the material at all times. This means thinner materials should be cut with a blade with finer teeth. Most jigsaw blades are made from carbon steel. These are great blades for cutting wood, but bimetal blades are recommended for cutting metal. Bi-metal blades have extremely hard steel teeth

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joined to a blade body of softer carbon steel. The high-strength teeth maintain an edge much longer than carbon steel. The carbon steel, however, allows the blade to bend during use without breaking.

Also be sure the style of blade you select is compatible with your jigsaw. Some saws accept T-style blades while others accept "universal" blades. Some saws will accept either type of blade. Keep in mind that there is a lot of overlap among jigsaw



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blades and it might not be necessary to change blades with every job. Some blades may be specified for a certain application, but in a pinch they may work fine for cutting that 2-by-4 lying across your bench. Specialty blades are also available for jobs such as cutting leather, foam rubber or plastic.

Thanks to today's innovations, jigsaws are easier to master than ever. With a little shopping, a little practice and the right blade you'll find uses for a jigsaw around every corner of your home.



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LED bulbs last up to 10 times as long as compact fluorescents, and much longer than typical incandescents. LED light bulbs also use only 2 to 17 watts of electricity (1/3rd to 1/30th of CFL or Incandescent).



By Larry Walton Photos by Mark Walton

Te had another old-school fluorescent tube light fixture bite the dust in our home office, so we picked up some new light fixtures at the home improvement store. We wanted the fixtures to accomplish a number of things: use bulbtype LEDs; take advantage of the reflective nature of the white ceiling; allow air flow for light bulb longevity; maintain a low (or is it high?) profile; and cost less than most fixtures.

In addition to the light fixture shown here, the following steps will also be useful for those who need to install a remodel-style electrical junction box, regardless of shape.



The light fixture lens comes off by grabbing one side or the other and spreading it away from the light fixture to open it up and drop it down.



We carefully removed the 4-ft. fluorescent tubes by gripping each tube and turning them 90 degrees so the pins align vertically and release from the mount.

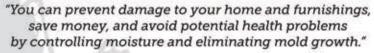




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These fixtures have a built-in cover that act as a junction box. This explains why there was no electrical junction box in the ceiling and why we had to install some remodel J-boxes for this job.



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We used a circuit tester to make sure power was off before proceeding with the wiring parts of this project.



We removed all of the wire nuts by turning them counterclockwise and separating the wires.



On one of the fixtures, we found enough slack in the wires to simply cut them off. Be careful with this approach and make sure you have enough wire for the new fixture.



We positioned each remodeling J-box so the outside flange was against the ceiling. When tracing the J-box, make sure that it is not crossing framing lumber such as the bottom cord of a rafter.



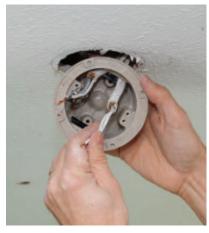
Note that this type of box does not fit flush with the drywall but overlaps the outside of the ceiling board. Therefore, you need a cutline that is inside the flange and approximates the outside cylinder of the box.



We used a Porter Cable reciprocating saw to cut out the opening for the J-box.



We used a hammer claw to break out the knock-outs in the J-box.



The wires are then routed through the newly made holes in the J-box.



Push the J-box up until the back of the flange contacts the ceiling, so the ends of the metal clamping tabs are above the upper surface of the drywall.



DO IT YOURSELF

We used a drill/driver to tighten the bolts that draw the ends of the mounting clamps to clamp the J-box to the drywall.







Assemble the components of the light fixture base.



Insert the light's mounting bolts into the J-box.



Connect the light fixture wires to the groups of wires as they were for the previous fixture. Cap the connections with wire nuts and tuck the slack up into the J-box.

Push the fixture base up into place over the mounting bolts and turn them to the end of the slots



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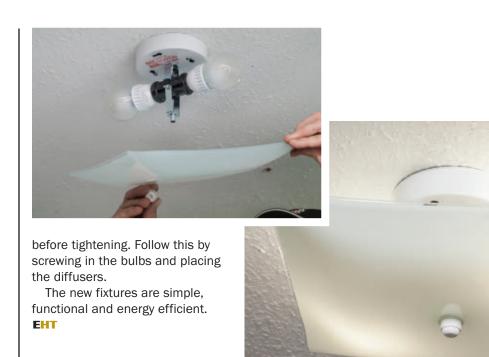


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o amount of ventilation will solve the problems modern day air conditioning causes. For example, if outside air entering through the vents is 85° with 65% relative humidity (dew point of 73° degrees), it will create condensation on any surface below the dew point temperature, such as floor joists, insulation and pipes and ducts. This constant condensation creates the perfect moist environment for wood rot and mold, and attracts all types of insects, including termites.

Closing a crawl space includes sealing the vents, insulating the walls, creating a vapor barrier and conditioning the air in the crawl space. Leading



research by Advanced Energy under a grant from the U.S. Department of Energy (www. crawlspaces.org) identified the common symptoms of a crawl space moisture problem as mold or moisture damage in the crawl space or living area, musty odors and high humidity in the living area, condensation ("sweating"), buckled hardwood floors, insect infestations, and rot in wooden framing members

Closing the crawl space creates a clean conditioned space under the home, improves air quality throughout the home, saves up to 18% in heating and cooling cost in the Southeast,*

reduces mold and wood decay on floor joists, reduces buckling of hardwood floors, creates warmer floors in the winter and reduces pest and termite pressure.

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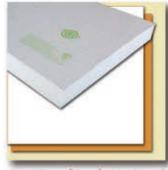
^{*}According to research done by Advanced Energy and funded by the U.S. Department of Energy.

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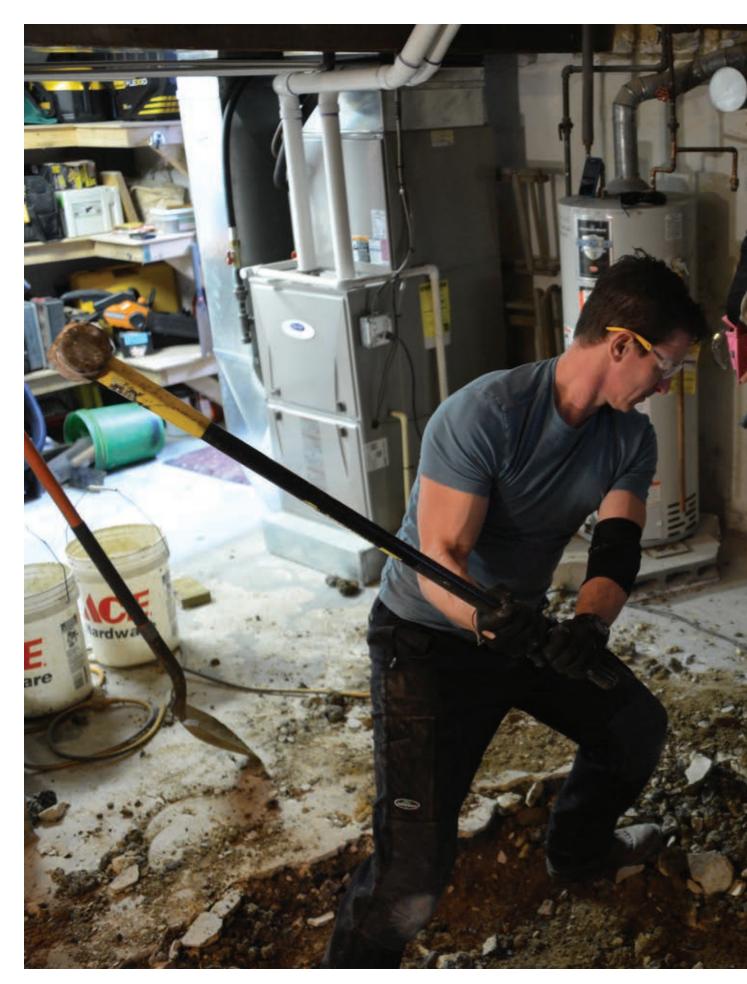
Double Sided Butyl Tape (1.5"x100' Roll)

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*white on white



BY MARK Clement By Mark Clement I'm getting a man cave! I'm getting a man cave! I'm taking my beat-down, dirty basement and giving it a hyperdrive trick-out. I'm saying no to water on the floor, heck no to smelly drinking water, and goodbye to mold in the air. I'm saying yes to a bathroom built for the boys (me, my son and my buddies), It'll have a wood-walled show-

The Heroes Behind the Walls

and beer taps dance in our heads, making this dream room a reality is the stuff of sober work and good craftsmanship. Even though I'm pretty good at watching TV, I'm more fired up for rooms that work. And, as an Extreme How-To-er, I'll have as big a love affair with my sewage-ejection pump as I will the pixels on the TV. This is where the under-

grout joint to clean-ever.

er (I can't wait), a urinal (a sleek, all black, tothe-floor Kohler urinal of awesomeness). The basement remodel will also include a wall-hung toilet, so I never again

> have to clean behind a toilet, and stained concrete floors with nary a

> > But, as visions of flat screens

with the pixels on the TV. This is where the underdogs of design really shine (until they have to go live behind the wall).

This is one of maybe three places a sledgehammer should be used inside. Cracking up the 1-2" slab was hard work, but easier with ol' sluggo than with a jackhammer. It took a long time to build the momentum to take this on, but I'm glad I did.





My man cave—and any smart basement renovation—starts with what I call the heroes behind the walls: The process and the products that make the basement bathroom lurch to life, and also improve life throughout house—for everybody—at the same time. That's the real takeaway for me.

To put a little more technically: On the road to getting what you want, you can also avoid future plumbing problems, make your coffee taste better and your wife's hair silkier, vastly improve sound quality in the rest of the house, and contain the fire you're not planning to have.

PERFECT THE PROCESS

Permit. As much as I love tools and action, I'm only hurting myself if I don't get a building permit. Even contractors who "know what they're doing" do it. Tom Silva pulls permits. So does Mike Holmes and all the other top-drawer people we watch on TV, because if you do things right, there are more payoffs than passing inspection. You'll be able to sell your house more easily because you'll be able to list it as having the upgraded number of

rooms. You also delete the risk of a shutdown. And, you'll have another set of eyes on your work—the best insurance policy ever. YouTube is good, but you can't learn everything from it.

Codes. So, Step 1 is securing a permit, and in so doing you'll learn that ceiling clearances need to meet your jurisdiction's code in order to qualify as a room. If you want to list it as a bedroom, there are also codes for having egress (windows) and multiple escape routes.

In this project, the room had to be 78 inches or higher from finished floor to finished ceiling.



Dumpster companies where I live do not like concrete and dirt in their boxes. You might think about a dump truck rental, friend, landscaper or other means of getting rid of reno dirt.

A perimeter drain is an amazingly simple thing disguised in massive amounts of work. If your basement is even a little wet, you probably need one.



Because I was breaking up the floor for a perimeter drain and plumbing, removing the rest and lowering it makes the entire place awesome. But it was a lot of work. Sledgehammer smashing and farmer's carries with 5-gallon buckets full of dirt are no picnic. It was a big piece to bite off, but I'm glad I did.

Many old houses have thin slabs, and breaking it up can be done with a sledgehammer and shovels. Newer houses will typically have deeper, drier basements and limited need for this scope of work. If you need to to demolish a

I call it "stuff management"; everything from scheduling concrete trucks (notorious driveway crushers) to renting dumpsters and moving dirt. Think through all the phases of construction and have an organized plan.



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thick slab, however, consider renting a heavy jackhammer, and plan it into your budget.

Perimeter Drain. Long story short, if your basement is wet, you probably need one. A drain is a

budget line item for sure, but if your slab is thin (and even if it isn't) then most of this is sweat equity.

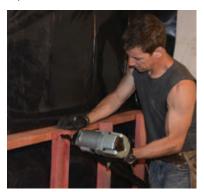
Break up the perimeter of your basement 12-16 inches back from

the wall, dig a trench and haul out the dirt. Pitch the trench to a sump pump pit, fill halfway with gravel, then with Schedule 20 3-in. PVC (with the holes in the sides) wrapped in landscape fabric. Bury the PVC in more gravel. Then cover with concrete. Phewwwww...

Fire Stop. Some people call this fire blocking or draft stop. Whatever you call it, it doesn't actually stop fire; it slows down its transfer between floors. In the unlikely event there is a fire in your basement, fire blocking is a simple and easy-to-install barrier between floors of the house. I used 3-inch strips of plywood pneumatically stapled to the



I could float the concrete floor, but could not float it well. That is a pro craftsman at work..



A 6-mil plastic vapor barrier fastened between the framing and foundation is effective, inexpensive and easy to install. Check local codes for the barrier that works where you live.





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Mold can reduce the air quality in your home and affect your family's health. If you see mold, don't use bleach to solve the problem, it's ineffective on most surfaces and it's toxic. Take the Holmes approach. Concrobium Mold Control® eliminates AND prevents mold—without harmful chemicals.

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ceiling joists then filled gaps with fire-rated spray foam or fire-rated caulk, depending on the gap. Large holes can be filled with mineral wool like Roxul, which I love. Vapor Barrier. A vapor barrier is (A) crucial to stopping a mold farm behind your walls, (B) ridiculously easy and cheap, and (C) easy to screw up because how it's done Who said framing is 'rough' carpentry. To make room for gas, water and three miles of wire, I made a chase that would not screw up trim details later—nothing rough about that.

depends on your climate. Your local building official should be able to advise you of code requirements when pulling your permit. For me (in Pennsylvania), a drape of 6-mil plastic between my foundation wall and framing does the trick. I screw the plastic to plywood battens with washer-head zippies to make it easier to handle, then staple the battens to the fire blocking.

Framing. I hired a concrete guy to re-pour the floor that I

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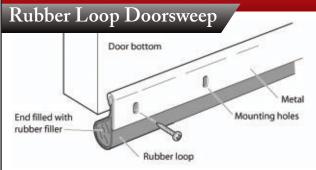


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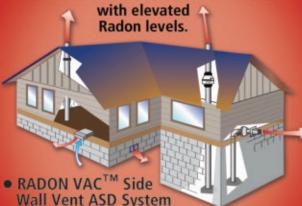
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removed. He left the finish flat and smooth, bull-floated and hand-troweled. His job was likely much better than I could have done and worth the money. However, after the slab was poured I formed and poured my concrete shower curb for the wood-walled shower.

Once the concrete set up, I framed my walls. I'm a big fan of wood studs anywhere I can use

them. I lay out walls one inch away from the foundation wall. It gives me room to make adjustments, space for plastic to drape and breathe, and it usually allows plenty of room to accommodate foundation irregularities.

Sound Control problem?



Auralex Acoustics offers a number of products to help with sound isolation. Sound isolation is the reduction of sound transmission from one space to another. Auralex experts can answer any of your sound control questions and offer a FREE Personalized Room Analysis as well as step-by-step instructions at Acoustics101.com.

- . Mineral Fiber: Insulation offers superior acoustic performance with a NRC of 1.00 (2") and 1.05 (4").
- SheetBlok⁻⁻: Sound Isolation Barrier useful for decoupling (i.e. floating) floors and walls in isolation construction applications.
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There's no single "black box" water treatment solution because water can be different mile-by-mile and day-by-day. For suspended solids (like chlorine) you need a unit like the Pentair Pentek BBFS.



I also framed a portion of the exterior wall "on the flat" to make a channel for the wall-run drain line (remember, old house), which left a nice shelf detail in the hangout portion of the man cave that I'll trim out with finger-joint pine boards later.

HEROES BEHIND THE WALLS

If you spend too much time on what a bathroom looks like and not enough on what it does, you can expect disappointment and to spend more money in the long run. As electricians say, "wire is cheap while the walls are open." We took that notion and ran with it, adding some things that'll benefit the rest of the house for a fraction of what they'd otherwise cost.

Sewage Ejection Pump. Skimp on this vital element of a basement remodel at your peril, my friends. My love affair with my poop pump, the Saniflo Sanicubic1, is not to be understated. It's small.

powerful, and sealed. I dug a pit for it under the stairs where it fits swimmingly as compared with other pumps that are often gigantic, tentacled plumbing Krakens with pipes and vents, and prone to clog.

The Sanicubic1 is a simplex grinder that liquefies the non-liquids entering the system and can eject them up to 36-feet and over 300-feet. What's more, a clog inside a substandard toilet pump can result in—according to my plumber—the worst job in plumbing! Although, the Sanicubic1 costs a little more initially, it comes with a special feature supplied by its power-grinding commercial rating: My peace of mind.

I can sleep at night knowing that if a guest dumps anything down there that they shouldn't have, it'll probably be okay and not measure a 12 on the Richter Scale of Disgusting. Furthermore, I can cover the pump pit and use the area above for storage, which is not so easy with other pumps I've seen.

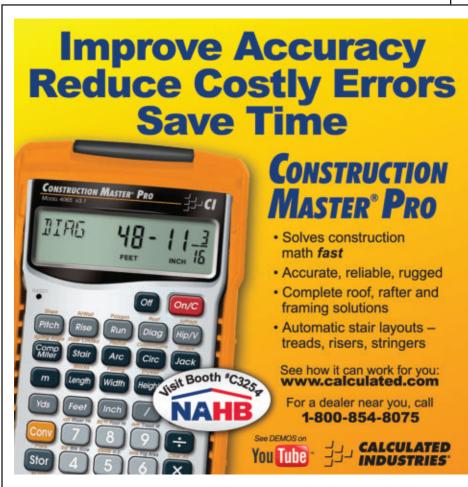
Water Filtration. Our municipal water literally stinks. It's potable, but between its taste, odor and the rock quarry (very small rocks, but still) that pours from our taps, it's brutal on everything. Our dishes come out of the dishwasher as dirty as they went in, only the dirt



For improved drinking water, we install a point-of-use filter, Pentair RO 3500 reverse osmosis unit.



A bath fan isn't so much about removing steam for convenience sake as it is meant to keep your bathroom clean, beacuse that steam becomes mold and grime over time.





is baked on. The shower doors are un-cleanable. Coffee machines are disposable here. And it doesn't make my wife's hair feel good.

So, when we reconfigured the utility room for bathroom walls, we added a Pentair water filtration system.

We actually installed three units that work independently together. When it comes to filtering water, there's no "black box", one-size-fits-all solution. You've got to filter what you've got, and knowing what you've got requires refined knowledge. While I can turn the screws to install a system, what I want is the knowledge that the screws I'm turning are the right ones. Like the concrete slab, I don't see this as a



Oh, Roxul mineral wool, how I do love thee. Cutting you with a bread knife is one of many, which I do around outlet boxes.



Roxul comes in batts for regular framing, and 2x4 panels are ideal for 'on the flat' framing applications common in old houses and basement renos.



I recommend a hard pipe—no flexible tubing—to install a vent fan. I screw and tape all seams and joints too.

DIY job. I don't care how much YouTube I can watch, it does not make me a water-quality expert.

For example, a water quality analysis on well water can change by the hour, so designing a system for that requires local knowledge of the area's overall trends and current weather. (Water in a drought will be different than water after massive rains).

Our system uses Pentair's 9100TS for removal of solids, and it'll go after minerals like calcium, manganese and iron. We also

installed the Pentair Pentek BBFS. This goes after suspended solids that smell like chlorine and chloramines (a chlorine substitute) in municipal water and hydrogen sulfide (a rotten egg smell in some well water).

Plus, because we like coffee and because the joist bay right under our calcified refrigerator is running right through the bathroom framing, we install a point-of-use filter, Pentair RO 3500 reverse osmosis unit. This is installed in the utility room and



DIY MOLD INSPECTION FOR BASEMENT REMODELS

My Mold Detective was invented by Certified Remediation Expert Fred Rodriguez, to provide homeowners with a Do-it-Yourself Mold & Allergen Test Kit that is affordable and accurate. Utilizing the same technology that Indoor Air Quality (IAQ) professionals use (but at a fraction of the cost) My Mold Detective's patented, reusable pump and spore trap cassettes are simple to use. Air samples are then sent in a pre-paid envelope to an AIHA-accredited, independent laboratory where samples are analyzed. An easy-to-understand, confidential lab report is then emailed to My Mold Detective customers that indicates whether mold levels are normal or elevated.

Mold is often hidden in basements behind the back side of drywall, wallpaper, paneling or ceiling tiles, under carpet pads, inside ductwork and around pipes. Rodriguez recommends remodelers test for hidden mold before any reframing or new drywall is installed to prevent covering up any possible mold-contaminated building materials. Maintaining a healthy indoor air environment will help prevent a remediation nightmare that can cost thousands of dollars.

Visit www.MyMoldDetective.com to watch a quick how-to video and to learn how you can now test for mold like a professional.



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plumbed up to the fridge. Goodbye pitcher of filtered water in the fridge forever.

Framing. I'm a wood guy, especially when it comes to complicated framing like a basement buildout in an old house. I know there are alternatives, but for me, wood studs deliver what I need. The straighter the material, the better. If you're picking up lumber from a home center, at least try to peel them off an unopened bunk. If you're getting them delivered from a lumberyard, keep them banded as long as possible. Keep the boards dry and store them flat. You'll be glad you did when you go to install finishes later.

Another reason I like wood is the 80 million blocking and padout assemblies that old houses require. These can't be done quickly or very accurately with any other material.

Every square inch matters in this project. It's like the Space Station, so being able to manage material accurately is important. I took a chance on the fire-and mold-rated Eco Red Shield studs I found by accident at a home center. It is suitable for slab contact (you should use this material or treated lumber for your bottom wall plate), and it stays unbelievably straight.

Screws. The more I work in old houses, the more I realize why Mike Holmes is nuts about screwing things together. The more complicated an assembly becomes—building an angled soffit

around plumbing, HVAC and electrical, and packing out around stairs—the more I screw things together so I can see what works and what can work better. If something doesn't work, screws go in both directions. Nails only go one way.

The screws that have recently changed my life are Spax Multi-Material Screws. Their sharpened threads minimize splits, make toescrewing vastly easier, and the same screw works in wood and concrete. The T-30 driver tip barely wears or cams out, and I've never gotten one stuck.

Insulation. Using Roxul mineral wool was a near religious experience for me. It's hard to describe how much Roxul takes an unpleasant process and makes it better in many ways. Roxul is insulation made from stone that cuts easily with a bread knife and friction-fits between framing members. No staples are required, and there are no paper ears that tear. There's no front and back, just a tight fit, it's code approved and fire-rated.

Roxul costs a bit more than fiberglass batts, but delivers vastly more than its up-charge for the long term. Insulating irregular

framing is a huge advantage. Let's say ceiling joists are irregularly spaced, say 18, 19 or 22 inches. Simply cut a Roxul batt to the dimension, turn it sideways across the bay, and stuff it in there. Repeat until the bay is full. That's not easy to do with other stuff in my experience.

The other advantage of mineral wool is its sound-deadening properties. Coming into my man cave, which is only partially insulated as I type this, is like walking into a sound booth or a bunker. And what's the payoff for the rest of the house? Less sound travels so that action movies and applause can be turned to the man-sized volume they deserve.

Bath Fan. If there is an overlooked, undervalued but crucially important part of adding a bathroom—anywhere in the house—it might just be the lowly but so very important bathroom vent fan.

Notoriously undersized and improperly hooked up by hacks who don't know its importance to keeping a bathroom clean, I use an Air King. They're designed and built near my home, and the company is passionate. It's hard to make something so ethereal sexy, but they do it.



Oddball framing spaces? Cut Roxul to the width and fit it in the space. No tearing paper. No staples or stapler. Just stuff it in, and you're done. Don't want to clean and gouge mold out of your bathroom caulk? Turn on the fan and let it run after your shower. A primary source of mold and mildew is steam condensing after it cools and lands on surfaces. Air King's website is an awesome tool for figuring out which size fan you need to get. Also, take the time to hard-pipe it, which is ten times better than those flexible, cloggable wire tubes.

TOOLS, TRASH & OTHER THINGS TO THINK ABOUT

A basement renovation is a big job. Maybe you want to do all of it; maybe only some parts (we subcontract plumbing, electrical etc.). It's important to think through the process in advance, everything from re-routing junction boxes



Dust is a big deal. If you're a pro and working inside finished homes, a mega filter like this BuildClean we used is worth its weight in dust. Expensive, yes, but beyond worth it.





(don't bury them under drywall) to how you'll condition the space.

Tools. One hurdle is how to use your tools in the space. While you can cut a pile of studs with a circular saw, my back enjoyed that I set

up my miter saw workstation and cut standing up. While its size meant I had to cut in the adjacent room, it was still well worth the time spent setting it up.

And, to keep things off the floor,

please see my patented "tool wall" (strategically placed nails in studs).

One of my favorite new tools is for one of my least favorite, most pervasive problems: Dust. The BuildClean unit I used here is an expensive-but-worth-it investment, geared for the pros. Never have I used such an effective dust-eater.

HVAC. Chances are your air handler is a fixed item you're working around, so tapping in might be easy. However, any air you take out of the system for the basement won't be going upstairs where it was originally headed, so at the minimum think it through. If you're concerned about airflow imbalance, check with your HVAC specialist to see what the best play is.

Insurance. Notify your insurance agent of the upgrades. If there's damage or loss, you'll rue the day you didn't take 15 minutes to make the phone call, even if it's not to a Welsh lizard.

Trash & Transport. There's a reason lots of contractors have 40-yard dumpsters on their job sites. Trash piles up fast, and it's not fair to your neighbors if you pile it up bit by bit until you have a dumpster load.

Check with your local trash collector. Sometimes moving at the pace of DIY means you're only generating a few bags at a time, which are easily dragged to the curb. For the big loads of demolished concrete, you'll at least need a dumpster or better yet, a buddy with a dump truck or trailer.

After all, you can pay him back with deluxe accommodations in your man cave come game time. Trust me, he'll love the urinal. Free beer can't hurt either. **EHT**

Editor's Note: Mark Clement is co-host of MyFixitUpLife. Find him at MyFixitUpLife.com.







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Tried-and-true tips for a successful DIY painting project.

TIME TO PRIME 84 PAINT

By Matt Weber

xperienced painters know that professional results come from careful planning and prep work. Before you revitalize a room with a new coat of paint, the walls need to be free of all dings, dents, cracks and holes.

REPAIR YOUR WALLS

Over time, walls are often damaged from accidental impact, or cracks can develop from the house settling. Pictures and artwork are rearranged to update the interior décor, and fastener holes are left behind, pockmarking the walls. These types of minor drywall damage can be easily repaired with a putty knife and vinyl spackling or lightweight joint compound.

Clear out the holes then recess the edges below the wall surface using the blunt handle of a putty knife. Use the blade of the knife to fill the hole with repair compound, flush with the wall. Allow to dry overnight and reapply as needed if any shrinking has occurred. Lightly sand smooth if necessary. Coat the repair with two coats of primer before painting. Some of the new spackling pastes are formulated with primer already in the product, which eliminates the extra step.

For larger holes you might try an aluminum screen patch, which are sold at hardware stores in 4-, 6-, and 8-in. sizes. Choose a patch that is larger than the damaged area on all sides by at least an inch, and stick the adhesive patch over the hole. Trowel on the first coat of drywall compound so the



TIME TO PRIME & PAINT



Minor wall damage can be repaired using a trowel or putty knife with lightweight joint compound or vinyl spackling. Feather the edges of the patch to blend with the wall surface.

Primer offers stain- and odorblocking properties, and also ensures a truer color and more enduring finish for the top coat.

screen is barely visibly, then allow to dry overnight. Follow with a wider coat of compound, feathering the edges smooth 8 to 12 inches outside the patch. Allow to dry, then add a third coat, sanding as need to blend the repair with the surrounding wall.

TAPE & PROTECT

When priming and painting, DIY'ers can use painter's tape to mask off all areas where one color meets another, such as window or door trim, accent walls, etc. When applying the tape, use a roller or putty knife to burnish it to the surface you are masking for the best seal. And always remove the tape immediately after you've finished painting. This helps prevent dry paint from bridging over the tape and peeling when you remove it, which can mess up the crisp paint lines.

Cover everything you don't want painted with a plastic or canvas drop cloth. Don't skimp by buying the cheapest, thinnest plastic sheets, either. The thicker the plastic the more durable it is, and the better it stays in place without wadding up beneath your feet and exposing the floor or furniture beneath. If you're painting a large room, cover the entire floor with thick plastic and seal the seams with tape.

PRIME TIME

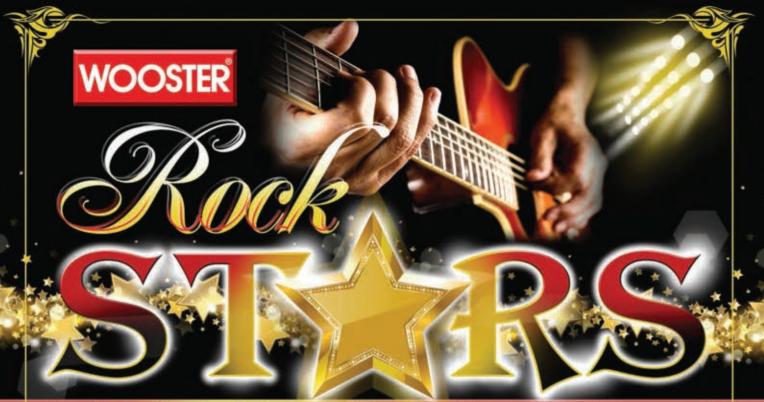
Starting with a good primer ensures the truest color for your top coat, no matter the surface you're working with—walls, cabinetry or trim. Beyond the truer color, primer offers stain- and odor-blocking properties and also provides a more enduring top-coat finish.

One thing to consider is that priming will never hurt anything. If in doubt, prime it. And it definitely helps to use a primer if you're painting a lighter color over a darker one. For darks over lights, you can use a tinted primer to reduce the number of topcoats you'll need to achieve the desired color.

STORE PAINT CORRECTLY

Since air is the drying agent of paint, its exposure should be limited if you want to keep it performing like new. Air thickens the paint, which causes brush marks during application. Keep the can capped immediately after pouring the paint you need. When capping, blow into the container before sealing to increase its shelf life. Carbon dioxide in your breath reduces the oxygen level that causes paint to skin over.

For long-term paint storage, transfer excess paint to a smaller container if a can is less than half full. This will ensure less air exposure. Filter the paint through a paint strainer when transferring. Use a plastic bag to cut a gasket an inch larger than the mouth of the container to help seal the paint inside. Tap the lid closed with a rubber mallet, sealing all the way around the rim.



If you're looking for the best in paintbrushes, Wooster has what you need.

Our range goes from classics like Yachtsman, those natural bristle brushes that first debuted in the 1960s, to hard rockers like Chinex FTP, new on the scene and designed especially for today's paints. We can match your coating, environment, and preferred feel perfectly.

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TIME TO PRIME & PAINT

BRUSH BASICS

To load a brush, dip it only 1 to 2 inches into the paint. Gently tap the brush on the side of the container, first one side and then the other. The excess paint will stay in

the container and leave you with a fully loaded brush for field painting or cutting in.

"Cutting in" is the art of drawing a straight line that separates two colors using only a paint brush—no masking tape or other aid. When cutting in, always keep a fully loaded brush. Using it parallel to the area to be cut, let the brush open up into a semi oval and bring it into the line you are cutting. Follow the line until the paint begins to break up. Repeat this procedure, working into the previously painted area.



To load a brush, dip it only 1 to 2 inches into the paint. Gently tap the brush on the inside of the container, first one side and then the other.

If you find "cutting in" free-handed too difficult to maintain a crisp line, simply mask the lines with painter's tape. However, avoid pushing paint into the tape with the brush, which can cause the paint lines to bleed.

Also, don't paint out of a can. The brush picks up debris that will make its way back into the source can and create specks and lumps in the paint. Furthermore, the air interacting with the paint in the can will dry it prematurely. Instead, load paint into a separate lightweight container, working with a 1/2-in. pour of paint. Refresh the paint often to keep it in a fluid state.

ROLLER TECHNIQUE

For field painting, rollers get the job done quickly with a consistent



Often the simplest tools are the best tools!

If you need to carry, pour, hold, or hang it - you need Add-a-Handle. Attaches to ladders, paint cans, strollers, poles, bottles & more. It is strong, lightweigh and holds up to 30lbs. Removable multi-use straps, with easy pull tabs, adjust in size and height to fit any project. Simple, easy to use, it saves time and makes every project easier.

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PICK THE RIGHT PAINT

INTERIOR VS. EXTERIOR—Paints have this designation for a good reason. Exterior paints often have a fungicide or UV blocker to ensure better outdoor performance, but these chemicals may pose adverse health effects to the home's occupants when used indoors, where an interior-grade paint would be a better choice.

OIL-BASED, LATEX OR ENAMEL—Oil-based paints are typically composed of pigments dissolved in a mineral spirit such as paint thinner. Latex-based products are an emulsion suspended in water. The biggest difference for the DIY'er is that oil-based paint requires mineral spirits for cleanup, has a longer dry time and a stronger odor, but it dries to a harder finish. Latex products typically will dry faster and are easier to clean up, requiring only water. Oil-based paints are used primarily where a harder finish is required. However, today's improved latex products can be used in most applications that traditionally called for an oil-based paint. Enamel is a broad classification for finishing materials that dry to a smooth finish. In the past "enamel" referred only to oil-based coatings, but some new latex products area also referred to as enamels. Always refer to the paint manufacturer's recommendations for specific usage.

THE RIGHT SHEEN FOR THE JOB—Flat paints conceal imperfections in walls and other surfaces, making them a good choice for ceilings and rooms that aren't exposed to moisture or heavy soiling (bedrooms, home offices, living rooms). High-gloss paints tend to highlight imperfections in walls and woodwork, but they are durable and stain-resistant-and much easier to clean than paints with less gloss. High-gloss sheen is ideal for windows, baseboards and moldings. Paints with semi-gloss sheen are a smart compromise between the two sheen extremes, providing some of the benefits of each. They can be used on the walls and cabinets of kitchens and baths. Additional sheens include eggshell and satin, which are less shiny than semi-gloss paints so they won't highlight nicks and imperfections quite as much, but since they have a little gloss, they'll be easier to clean than flat paints.

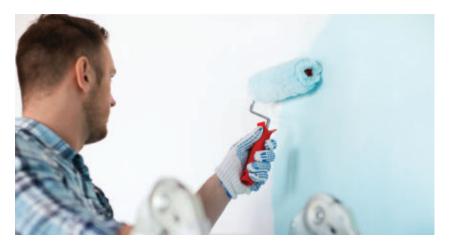
surface texture. One often overlooked step in a painting project is prepping the roller cover. All synthetic covers require some form of preconditioning to improve their performance. Before use in latex paints, rinse the cover with a faucet or hose, then spin it to remove excess water. Before using oil-based paints, the cover should be lubricated in the solvent used to thin the paint. Mohair covers should also be preconditioned in



Ideal for moldings, baseboards, windows and playrooms, highgloss paints are durable and stain-resistant—and much easier to clean than paints with less gloss.



TIME TO PRIME & PAINT



Synthetic roller covers require preconditioning to prevent the lack of paint release caused by the paint sticking to the fibers. Before use in latex paints, rinse the cover with a faucet or hose, then spin it to remove excess water. This extra step lubricates the fibers for smooth, consistent painting.

the solvent used for thinning. Preconditioning prevents the lack of paint release caused by the paint attaching to the fibers. (Lambskin roller covers have natural oils and don't require preconditioning).

When rolling, fill the paint tray no more than 1/3 full. Load the entire surface of your roller cover with paint, rolling it slowly down the tray, then back several times so the cover absorbs. Use the tray's grid to prevent overloading. When painting walls, start at the top and work downward. Roll a large "W" in a space about 3 by 3 feet. Then fill in between the gaps, blending into your initial strokes. Always work from the unpainted into the painted surface. Repeat the process when you start a new area.

Avoid painting with a worn roller. When the roller cover

deteriorates, roller material will tear free and become embedded in the new paint. This will require you to clean the debris from the paint and re-coat the area. Or worse, you could miss the debris, and it could dry into the new coat of paint. Make sure to have replacement covers handy and keep the roller saturated with paint while you work.

After your project, clean all rollers, brushes and related paint equipment immediately after use and store in a clean, dry place.

PAINT 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 manufacturer's guidelines for tip selection, cleaning procedures and paint-thinning recommendations.

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

Follow these pro-grade tips to get professional results on your next painting project. **EHT**



WOOSTER AEROSANDER

On your next paint-prepping project, use the AeroSander from Wooster Bursh Co. It reduces drag for highly efficient drywall sanding, plus the unique 9-1/2-in. triangular shape covers large surfaces and also reaches into corners for faster results than rectangular sanders. The sander mounts onto an extension pole and offers stable 360-degree pivoting for full surface contact, so it won't flip or gouge the wall. The Velcro-brand hook-and-loop pad ensures easy abrasive changes, and the system now offers a new 220-grit paper for finish sanding. Visit www.woosterbrush.com.



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ach year the National Association of Home Builders holds the International Builders' Show (IBS), the largest annual light construction show in the world that attracts 50,000 visitors from more than 100 countries. IBS brings together the industry's most important manufacturers and suppliers to showcase the latest products, materials and technologies involved in all types of build-

ings—including wood, concrete, stone and brick. Now you can see even more of what the building universe has to offer in one trip through Design & Construction Week, which features the co-location of the IBS and the National Kitchen & Bath Association's Kitchen & Bath Industry Show (KBIS).

Here's a preview of some of the home-improvement products that will be exhibited at the show.

SOLAR-POWERED SKYLIGHTS FROM VELUX AMERICA

Energy Star-qualified, solar-powered fresh air skylights from Velux America offer the opportunity to save 30 percent up-front on the cost of the products, and then save on long-term energy costs. The 30 percent federal tax credit can have the effect of making the latest top-of-the-line skylights available for close to the cost of entry-level models. The fresh air skylights not only admit natural light, but allow for passive ventilation to improve indoor air quality. Solar-powered blinds can be added to the skylights for even greater energy efficiency, and both products are operated by a programmable touchpad remote control. The skylights close automatically in case of rain, and are available for new installations or for replacing older units. They carry a ten-year "no leak" warranty and feature laminated Clean, Quiet and Safe glass that



reduces outside noise while keeping the glass cleaner and brighter. Double-pane LowE3 glass, with argon gas between the panes, makes the Energy Star-qualified units highly energy efficient. Visit www.whyskylights.com or Booth C4531.

The NEW F80 "Adaptable" Broadcast Spreader System with interchangeable material application trays.

Easy to use, professional results.

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SASHCO HIGH-QUALITY CAULK PRODUCTS

Sashco makes only high-performance caulking products designed to work right for the project. For windows, doors, siding and moulding, there's Big Stretch. It won't crack because it stretches up to 500 percent of original bead size. Kitchens and baths can be sealed immediately and permanently with Lexel,



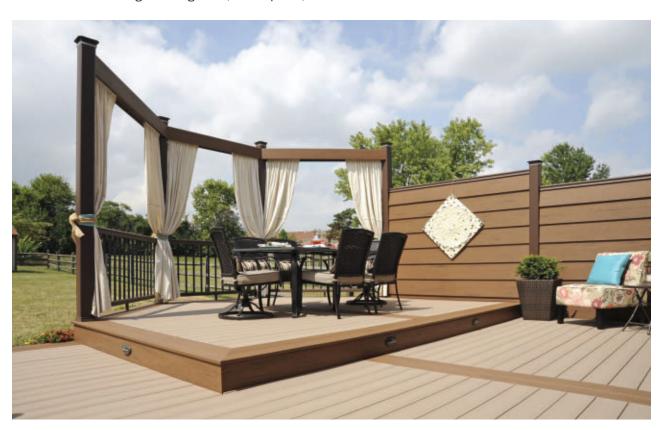


the tough elastic sealant for every job, which even sticks to wet surfaces. Through The Roof stops roof leaks in their tracks, and can be applied in temperatures down to zero degrees on gutters, downspouts, flashing and shingles. And, banish ugly dandelions and anthills in your driveway, sidewalk and patio with Slab, the serious fix for concrete cracks.

At the International Builders Show, Big Stretch, Sashco's high-performance elastomeric sealant has a challenge for you: Go Big or Go Back! Stop by the *Extreme How-To* booth C3160 to see Big Stretch in action and get your sample. Learn more at www.sashco.com.

TIMBERTECH SANDY BIRCH TERRAIN DECKING

The decking color Sandy Birch, part of TimberTech's Terrain Collection, has been named one of the "Top 100 Building Products" of 2015 by *Professional Builder* Magazine. TimberTech added Sandy Birch to its popular Terrain Collection last year as a versatile, light tan color designed to complement any home exterior. The natural earth tones of Sandy Birch combine unparalleled aesthetics in an affordable alternative decking material. Like all Terrain Collection products, it features superior quality, low maintenance and is backed by a 25-year residential limited fade and stain warranty. Other Terrain Collection colors are Brown Oak, Silver Maple, along with the newest colors Stone Ash and Rustic Elm. Visit www.timbertech.com and booth C2115.





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

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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



METAL CEILING EXPRESS

Metal Ceiling Express is a manufacturer of authentic decorative metal ceiling tiles, panels and backsplashes. The company's high-quality tin ceiling tiles, panels, backsplashes and accessories follow a strict stamping process to ensure that all tiles are produced perfectly and are manufactured to be historically correct. Decorative tin tiles are available in unfinished metal in over 35 patterns or can be ordered in a large variety of 80 powder-coated colors. You can also order tiles with a faux hand-finished antique or vintage look. The tiles are suitable for nail-up installation, drop-in installation, deep-drop-in installation or can be used with the company's snap-grid system, which is just as easy to install as a suspended or drop ceiling. Visit booth S1569 or www.metalceilingexpress.com.

TJERNLUND NO-CLOG DRYER DUCT BOOSTER

Tjernlund Products' new model LB2 no-clog Dryer Duct Boosting Fan has been listed to the updated DEDPV, Dryer Exhaust Duct Power Ventilator supplement to UL705. The 2015 IRC restricts use of dryer booster fans to those tested to the DEDPV supplement. Incorporating dryer booster fans in clothes dryer ducts has increased substantially with the placement of laundry rooms not adjacent to outside walls. Duct runs often exceed 25 equivalent feet (each

elbow equates to five additional feet of duct length), which many manufacturers set as a maximum duct length. The LB2 booster fan is rated for duct lengths up to 150 equivalent feet, and reduces drying times by up to 60 percent. The booster fan attaches easily to 4-in. rigid or flex duct and plugs into an electrical outlet. An LED indicator panel mounted near the dryer displays operational status and faults. It communicates to an on-board booster fan control that monitors pressure and temperature, and stops the fan operation if duct temperature exceeds 165°F or if the duct becomes blocked. The heart of the LB2's effectiveness is the exclusive no-clog lint handling blower design that eliminates the need for regular cleaning of lint from the housing and blower wheel. Visit www.tjernlund.com or booth S2131.



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PreFormed® Niches & Shelves

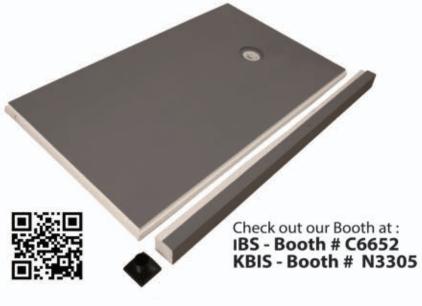
New in our line of convenient tile installation products are our new PreFormed® Niches Shelves. Four colors of natural stone and marble will compliment most any tile! Sized to fit PreFormed Niches, they are ready to install.



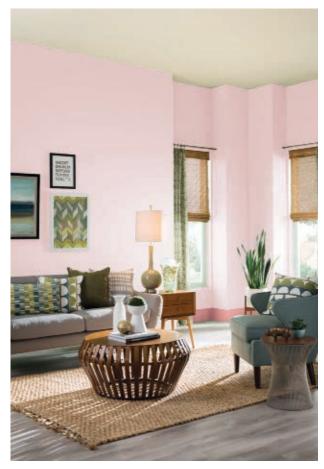


ProPan®

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.







SHERWIN-WILLIAMS NEW COLORS

Pinks are making their way down the runway and into homes from blushing walls to pink accessories. Sherwin-Williams adds an array of blushed neutrals and cheeky pinks based on the company's 2016 Color Forecast. The new tones include Charming Pink, Doeskin, memorable Rose and Unfussy Beige. Visit www.sherwin-williams.com or booth C4536.

NYLODECK

Strikingly beautiful, yet incredibly durable, NyloDeck offers minimal maintenance and exceptional performance. Made using 100-percent recycled carpet fiber, NyloDeck is impervious to moisture, mold, mildew and termites. NyloDeck is the only 1-in. deck board rated to span joists up to 24-in. on center. NyloDeck also has a 16/200 lbs./ft² live load rating, making it twice as strong as other leading 1-in. composite deck boards at 16 inches on center. Lightweight and easy-to-use, NyloDeck installs like a builder's dream and translates into overall savings in both time and money for labor and materials. NyloDeck's advanced manufacturing process also provides superior UV protection and a beautiful finish. Just as in natural wood products, no two NyloDeck boards look exactly the same, and the product is backed by extensive testing and a 25-year fade and stain warranty. Visit www.nylodeck.com or booth C9313.







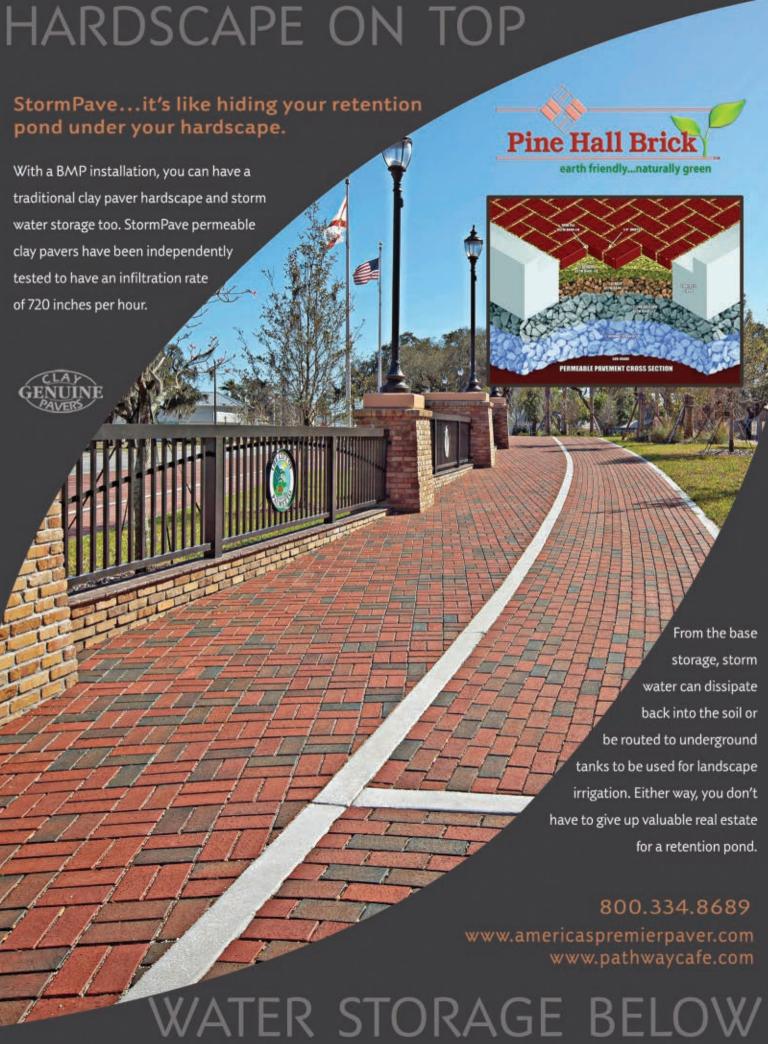
ALTERNA ENGINEERED STONE FLOORING

Armstrong Floor Products introduces five striking new additions to the company's Alterna engineered stone flooring collection, presenting an innovative choice over natural stone and ceramic tile. Like natural materials, Alterna flooring is incredibly beautiful and durable. But a comfortable surface makes Alterna tiles warmer to the touch, kinder to feet, and easier to care for in any room of the home. Durable engineered stone construction makes Alterna tiles tough enough to stand up to a lifetime of activity. New designs offer options to create a high-end custom look throughout the home. The product is designed and printed in Pennsylvania; the stone is quarried and manufactured in Illinois and features more than 90 percent domestic content. Alterna engineered stone is backed by a Lifetime Residential and 5-year Light Commercial warranty. Visit www.armstrong.com/alterna or booth C6937.

MAZE NAILS PAINTED TO MATCH

Maze Nails, celebrating 167 years in business, offers painted nails to match pre-finished Allura, James Hardie and LP Smartside siding and trim products. Maze Nails are available in double hot-dipped galvanized coils, sticks and hand drive, and are 100-percent Made in the USA. For more information, visit www.mazenails.com or booth C6646.







MURO AUTO FEED SYSTEMS

For 25 years Muro has been serving the Pro Contractor market with a complete line of Auto Feed Systems and Collated Screws. We specialize in mak-



ing construction life easier by helping builders get the job done in a fraction of the time, all while improving overall job quality without any of the aches and pains normally associated with manually driving screws. From drywall installation to subfloors and decking, Muro has a tool for the job. The Muro FDVL41 Speed Driver can drive screws from 1 to 3 inches long (up to #10), so you can drive fasteners into the floor while standing, and without reaching for every single screw. Visit www.muro.com or booth C8510.

GRK WHITE CABINET SCREWS

GRK Fasteners' White Cabinet Screws blend perfectly with white cabinet frames without the need of sticker covers. The specifically designed dull white color blends in better than other shiny white coated screws. GRK's specialized coating formulation will not chip while being driven in, allowing for a clean finish. The white heads will also match closet and garage organization systems and are ideal for other interior applications. As with all GRK screws, the white cabinet screws include many unique engineered features: recessed star drive to eliminate stripping, the W-Cut



thread for lower driving torque, the Zip Tip so there's no need for pre-drilling, and a low-profile washer head for extra holding power. Visit www.grkfasteners.comor booth C1547.

FINPAN TILE SUBSTRATES

A beautiful tile or stone installations starts with FinPan, which offers a wide variety of substrates that can be tiled directly. Beginning with three different versions to choose from, FinPan was the world's first continuous manufacturer of concrete backer-board. ProPanel Backer Board answers today's needs for lightweight, strong and waterproofness. FinPan also posted firsts for PreFormed products, manufacturing the first one-piece waterproof soap and shampoo niche. PreFormed Niches feature sloped interiors in



a variety of sizes and styles. New at KBIS this year, FinPan is introducing marble insert shelves in four natural stone and marble styles, that coordinate with most tile styles. Custom shower pans are also no problem for FinPan, which has produced a UPC-rated shower pan since 2002 that meets all the codes and rigors of testing. Whether the design is complicated, large or small, PreFormed Pan or ProPan can meet your custom needs in as little as 10 business days. Visit finpan.com or KBIS booth N3305.

Deck Flashing That Makes Sense!

Protect your deck! Minimize water intrusion with our pocketed design that fits composite decking. Everflashing is available in Stainless Steel and G-185 Galvanized IRC Code R703.8

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DRICORE

DRIcore Products will be exhibiting DRIcore Subfloor, DRIcore Subfloor R+ and the revolutionary DRIcore SmartWall at the IBS Show in Las Vegas. DRIcore Subfloor is the one-step engineered subfloor solution that is specifically designed for basements. The raised moisture barrier covers cold, damp concrete to protect, insulate and cushion your finished floors. DRIcore Subfloor R+ combines high-density Oriented Strand Board (OSB) and Extruded Polystyrene (XPS). With an R-Value of 3, DRIcore Subfloor R+ raises the temperature of finished flooring by up to 5.6° C/10.6° F. DRIcore's SmartWall product is an all-in-one engineered wall panel designed specifically for the basement environment and is backed by independent third party testing. Visit dricore.com or booth C7320.



GOOF PROOF SHOWER SEAT

Mark E. Industries has developed a heavy-duty, molded plastic corner shower seat that not only installs easily, but is also immediately ready to tile afterwards. The Shower Seat (GPSS-3024) is the standard 30 inches wide with guide marks to make it easy to cut the seat to 24 inches wide, if preferred. The waffle pattern on the top surface ensures ideal tile adhesion. Two leveling vials are integrated for installation convenience and to maintain the built-in 1/4-in. fall per 12-in. run slope during installation. The front face has a full width support shelf to keep the vertical tile from sliding. Six predrilled, fortified mounting holes are strategically angled to boost the seat's shear strength rating. All necessary hardware is included and consists of six anchors, screws and shims. The shims are for managing walls that aren't



square. The maximum suggested weight capacity of the Goof Proof Shower Seat is 400 lbs.

For new installations, blocking between the wall studs is required, and the seat is attached by screwing through the wallboard and into the blocking.

For retrofit installations, the seat is installed on the wall tile surface by drilling 3/8 inch holes and using the supplied plastic toggle anchors. Visit Goofproofshowers.com or booth C9131.

DAVINCI ROOFSCAPES ENHANCED SLATE TILES

DaVinci Roofscapes now offers more realistic profiles on the company's Multi-Width Slate and Bellaforté Slate polymer roofing tiles.

"All three of the durable slate composite roofing profiles now boast a truly authentic quarried look," says Ray Rosewall, CEO and president of DaVinci



Roofscapes. "We've taken the steps to offer all of our slate tiles with thicker, more realistic profiles that accurately replicate real slate."

Details on the edges of the DaVinci slate tiles now have a more

accurate quarried look that replicates natural slate for exceptional curb appeal. Deeper impressions in the tiles make them appear thicker, even though they're the same weight as the previous tiles. Low-maintenance slate tiles from DaVinci resist algae and moss growth, come in 50 standard colors and are rated for installation in areas experiencing high winds, hail and wildfires. Visit www.davinciroofscapes.com or Booth C2136.



BUILD ONE GREAT DECK ONE TIME.

If you have ever had to replace rotten, chipped, or warped decking boards, or been fed up by constant maintenance and upkeep requirements, then you know the value of high-quality decking materials.

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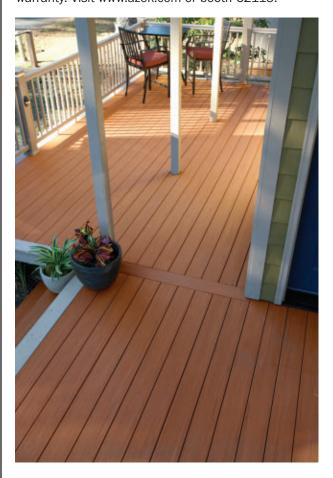
contact@wahoodecks.com 877-270-9387





AZEK DECK'S VINTAGE COLLECTION WITH CLASS "A" FLAME SPREAD INDEX

AZEK's Vintage Collection capped PVC decking has now achieved a Class "A" Flame Spread Index. The rating is based on results of testing per ASTM E84, which is recognized by the International Building Code as a standard method for testing flame spread. The designation of a Class "A" Flame Spread Index, one of the best ratings possible, means these materials are among the lowest in terms of flame spread. AZEK Deck's Vintage Collection consists of three rich, natural shades with the definitive look of freshly stained wood; however, these boards will maintain their beauty and richness without the need for applying stain. With durability, stain and scratch resistance, the Vintage Collection is covered by a limited lifetime warranty. Visit www.azek.com or booth C2115.



DECKWISE DECKING PRODUCTS

The Hardwood Wrench by DeckWise is an easy-tooperate board bender that enables a single deck installer to straighten deck boards with just one hand. All it takes is a quick sway of the tool's handle, and it



TRUE ONE HAND INSTALLATIONS

cam-locks into place to make any exceedingly bowed/warped board straight as an arrow.

The company's flagship hidden deck fastener is the Ipe Clip, which is composed of an injection-molded, edge-mount fastening clip that incorporates a black oxide-coated stainless steel insert. The Ipe Clip Extreme series is recognized globally as the No. 1 hidden deck fastener for exotic hardwood decking. With three different gap sizes and three color choices, this is the "original" patented biscuit-style deck fastener. The Extreme line works with air- and kiln-dried decking and offers up to 3X the hold-down force versus other deck fastener methods.

DeckWise also provides a complete line of decking screws, including Trim-Head, Bugle-Head, Heat-Treated and Self-Tapping deck screws. Visit www.deckwise.com or booth booth C9008.

AGS STAINLESS VERTICAL CABLING AND DECORATIVE MESH

AGS Stainless, Inc. adds Vertical Cabling and Decorative Mesh Panel Infills to its line of stainless steel railing systems. The simple, elegant design of both Infills will beautifully accentuate a home's overall aesthetic. Both options are available immediately with either a round or flat stainless steel top rail. With AGS Stainless, the overall railing design and ordering process is straightforward and simple: First, sketches and approximate dimensions are submitted by the prospective customer. Then, a member of the design team creates CAD (computer-aided design) drawings and details of the railing system. Finally, the custom



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railing system is fabricated to meet the high standards set by AGS. Throughout the entire process, an AGS railing expert works directly with the customer to ensure accurate product fabrication, prompt delivery and complete customer satisfaction. Visit www.AGSstainless.com or booth C8746.

TYTAN BUILDING PRODUCTS

Tytan is a Global Leader in professional one-component foam insulation, innovative sealant and adhesive technologies. Available across the globe, Tytan has earned a reputation as an innovative, contractor-focused brand that users can trust to create more efficient buildings and more productive workers. Stop by the company's booth at the International Builder's Show to see the full line of foams, sealants and adhesives; and see demonstrations of the new line of Tytan Subfloor, Drywall and Outdoor & Landscape High Yield Adhesives. High Yield means one can equals one case of traditional adhesive cartridges. You'll also see the brand new Tytan Coat & Seal Duct Sealant. Visit tytan.com or booth C3802.

KOR SMARTTOILET

KOR Toilet is a leader in toilet accessory innovation, and the company's flagship product, the KOR SmartToilet, eliminates 95 percent of toilet odor in just seconds while adding wireless, dual flush options to any existing toilet. KOR's KLN Bidet is a simple but elegant bidet attachment that adds the comfort of a warm/cold water bidet to 95 percent of toilets. It features normal and ladies spray options, simple



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The L. S. Starrett Company has provided products for craftsmen, toolmakers and contractors for 135 years. In addition to blades for industrial band saws; the company offers hole saws, jigsaw blades and rip saws for power tools. Hacksaw and PVC saw blades are available for hand tools.

Starrett's hole saws include diamond grit, carbide tip and bi-metal cutting solutions for a wide variety of materials. This year Starrett is improving its bi-metal hole saws with extra cobalt in the cutting teeth for enhanced heat and wear resistance. The new Fast Cut bi-metal hole saw features an improved tooth design allowing smoother and faster cuts. The new



Deep Cut series features the variable pitch tooth design allowing greater penetration and kerf clearance with a 2-in. cutting depth. When you have a tough cutting project to perform, Starrett has the saw for the job. Visit starrett.com or booth C9110.

CONSTRUCTION MASTER PLUS EZ

The Construction Master Plus EZ (CMP EZ) is the newest in Calculated Industries' line of award-winning Construction Master Pro construction-math calculators. The CMP EZ takes the "problem" out of construction-math problems. It walks you through all the steps for every job from stairs and framing to crown molding and balusters. It even calculates quantities for ten kinds of building materials. The CMP EZ has basic and advanced solutions (lengths, angles, quantities, etc.) for common rafters, hip/valley rafters, jack rafters and stairs. Other built-in solutions include: Square-Ups, Areas and Volumes; Circular; Arcs; Rake Walls; Arch Studs; Balusters (Cap Wall and Open Wall), Elliptical Arches; Crown Molding; Compound Angles; Polygons; and Spacing. The CMP EZ makes a valuable addition to any builder's or serious do-it-yourselfer's toolbox and comes with a rugged shock-, dust- and moisture-resistant Armadillo Gear case. Visit www.calculated.com or booth C3254. EHT

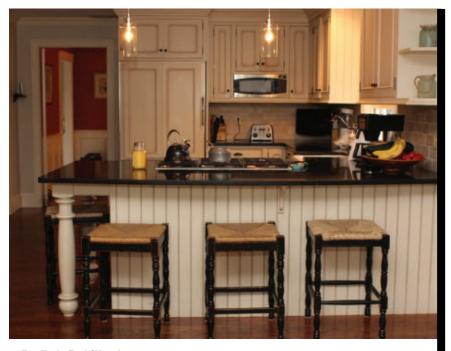






Repair Home Furniture and Woodwork

Pro Tips for Simple DIY Fixes



By Rob Robillard

ome furniture and furnishings need special care to keep them working properly and maintain their original luster, value and aesthetics. Here are some maintenance tips and tricks I've picked up along the way, to help you attain the status of home-furnishing maintenance Jedi Knight!

REPAIR A WOBBLY LEG

"Stop Leaning Back!" I never thought I'd be echoing my parent's words, but now I do. My kids are "lean-ers," they love to lean back when sitting on the kitchen counter stools. Not only is it dangerous, it drives me crazy because the pressure on the rear legs always weakens the frame joints. As a result, I probably end up repairing two stools per year.

This repair takes 30 minutes or less. When compared to a \$150 stool replacement cost, it's well worth the time investment.

First spread the stool's stretchers further apart with a bar clamp to expose the tenon and mortise. Lightly sand the exposed tenon to roughen up the surface for the new glue. Use a small brush to dampen both mating surfaces, which helps the glue cure faster. Then apply the glue. For wood components, use a quality wood glue. For other materials an epoxy may work better. Gorilla Glue epoxy comes in a two-part applicator and is fast-setting, strong, easy to use and evenly dispenses. Apply the glue with a brush to ensure equal coverage inside the mortise.

Next, clamp the legs together, then clean excess glue off the

joint. If foaming occurs as the adhesive sets, wipe it clean with some solvent (paint thinner works). Come back later and clean up any additional foam with a small sharp chisel.

When dry, cover the glue line with a marker to make the repair invisible.



Spread the legs to expose the tenon of the stretcher.



Shave away the old glue.



Sand the tenon for the best adhesive bond.

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Liberally apply glue.



Reinsert the tenon and wipe away excess glue.



Clamp the repair overnight.



Touch up the repair with a marker.

REPAIR A FOOTSTOOL

Footstools or ottomans are popular additions to chairs and couches and are designed for people to rest their feet on or for additional seating. They also serve additional functions of storing items such a blankets and books, and although not recommended, are occasionally used as a stepping stool.

As you can imagine, footstools and ottomans take a beating, especially if they are used often. One common repair is to tighten a loose leg joint.

Many store-bought stools have threaded inserts that accept a machine-threaded bolt. This bolt (called a hanger bolt) usually has a machine thread on one end, and the other has a wood thread. The wood-thread side inserts into the





stool's leg. This is where the failure usually occurs.

Use or misuse causes the legs to spin loose and eventually wiggle, which in turn elongates or widens the threaded wood hole and causes the leg to become permanently loose or wobble.

To repair, use thin strips of wood or even toothpicks and a little wood glue to make the wood hole smaller. Then, insert the wood-threaded bolt. The additional wood gives the threaded bolt something to grab against.

Use ChannelLock pliers to hold the threaded screw as you turn the wooden leg with your hand.

If this method does not work. then glue in a dowel, cut it flush and completely predrill and insert the threaded screw into the dowel.



Footstools often wear at the joint between the legs and seat.



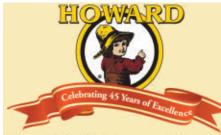
Turn the item upside-down for easy access.



Legs are often attached with a dual fastener called a hanger bolt, which is threaded like a wood screw on one end but has machine threads on the other.



Insert thin strips of wood and glue into the fastener hole of the leg.



Wood Conditioner & Protectant

Howard SunShield is specially designed to keep teak and other tropical hardwood furniture from cracking, drying and oxidizing due to exposure to sun, temperature variations or moisture. SunShield combines UV inhibitors along with a unique blend of carnauba wax, beeswax and orange oil to enhance the natural beauty and depth of grain in outdoor wood furniture.

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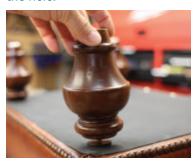
PROJECT NEXT



Break or cut the strips flush with the wood surface.



Screw in the dual fastener which should thread tightly into the hole.



Hand-tighten the leg into the female mounting hardware.

LOOSE HINGE REPAIR

Similar to repairing a footstool, here is a trick for fixing strippedout wood screws. This is a common problem with cabinet door screws, which come loose and cause the door to bind. In some cases you can just use a longer screw, but finding a screw head to match can sometimes be tough.

A quick, convenient cure can be achieved with toothpicks or wooden matchsticks. Toothpicks are usually made of a harder wood than matchsticks and may provide a longer repair.

First, remove the screw or hinge for best access. Dip one or more wooden sticks into wood glue and then stuff them into the hole. Tap with a hammer or butt end of a screwdriver for full penetration. Break the toothpick or matchsticks off at the surface and replace the screw. If the stick does not break flush with the cabinet surface, you may need to remove the hinge and cut it flush with a utility knife or chisel. If the holes are larger than about 1/4 inch, use more sticks and glue. Once dry, reinstall the screw in the center of the bundles of toothpicks or matchsticks.

As you install the screw, it will crush the toothpick fibers tightly

against the existing wood. The pressure will hold the toothpicks in place and fill out the stripped hole. When the glue dries, the toothpicks will be glued to the existing wood and to each other, making a very strong repair. If you don't have glue you can do this repair without it.

Use a screwdriver to tighten the screws by hand (not with a drill or screw gun) because power tools tend to overdrive and strip out the screw.



To tighten a screw, you need a screwdriver, wood glue, a utility knife and thin wood sticks.



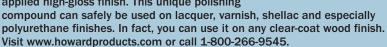
Remove the screw and clean out the damaged hole.



Coat a toothpick or matchstick with wood glue.

RESTOR-A-SHINE WOOD POLISHING COMPOUND

Howard Restor-A-Shine Wood Polishing Compound is specifically designed for wood finishes, using extremely fine micro-polishing powders, mineral oil, orange oil and select waxes. Restor-A-Shine safely polishes out fine scratches, oxidation and haze. It revives dull areas and eliminates steel wool marks and other surface blemishes. It is the perfect product for completing the restoration of a high-shine wood finish after using Howard Products' Restor-A-Finish. You can also use Restor-A-Shine for the final buffing stage on a newly applied high-gloss finish. This unique polishing





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Insert the stick and break or cut flush with the surface. Reinstall the screw, which should fasten snugly into the smaller hole.



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CARE FOR TEAK FURNITURE

Teak is a tropical hardwood species of tree, popular for outdoor furniture use due to its durability and natural resistance to rot and decay.

As teak ages and is exposed to the elements, the natural, beautiful color changes to a silvery gray patina. Teak naturally resists moisture and part of the reason for its durability is its high content of resinous oils, which prevent the wood from drying out quickly. This also prevents it from absorbing too much moisture, making it less likely to rot. Teak will most likely not rot away, but it can look ugly if not maintained.

Left unprotected teak can sometimes develop black mildew spots from moisture and lack of maintenance.

Regular cleaning teak will help prevent mildew buildup and potential discoloration.

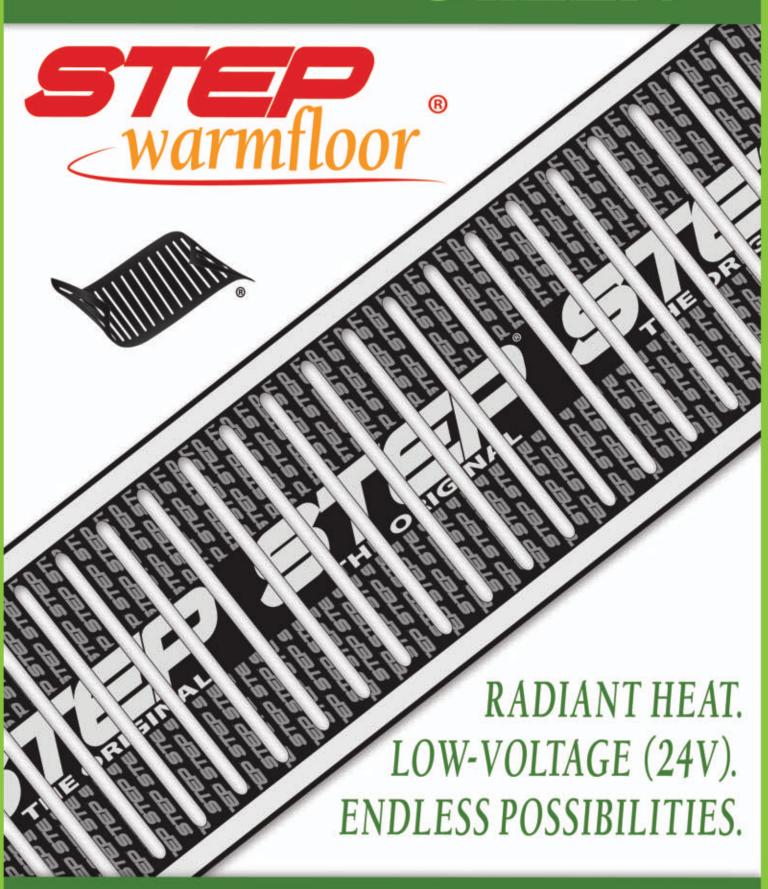
Here are two DIY cleaning solutions for teak: No. 1-mix 1 cup each of chlorine bleach and laundry detergent with 1 gallon of warm water; No. 2-mix 1 cup of vinegar with 1 gallon of warm water. Note: If the teak is badly stained with mildew and mold or other material, add about 2 teaspoons of Trisodium Phosphate (TSP) to the mixture.

Wear rubber gloves and safety glasses, and apply the solution with a spray bottle or garden sprayer.

Apply the cleaner in a well ventilated area, and work it onto the teak using a soft nylon bristle brush to scrub the solution into the woodgrain. Scrub the mixture

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into the wood and across the grain. If you scrub with the grain, it can tear the wood fibers, leaving the surface rough and vulnerable to the elements. Wait 15 minutes and then rinse with water.

For teak that has seen a long exposure to the weather, you may need a more aggressive store-bought cleaning solution.

When cleaning teak furniture, try to work in the shade. Spray the

entire item, including the underside, and keep it wet with the solution for at least 15 minutes. Work in sections small enough that the solution will not dry before the allotted time. Scrub on more solution to areas that begin drying too early.

Rinse the teak with clean water. Use a soft-bristled brush as you rinse to remove any residual stubborn dirt. Allow the wood to dry for about 24 hours. If it is still dark or stained, mix 1/2 cup of oxalic acid into a gallon of hot water and apply to the wood with a nylon scrubber. Let the mixture sit for about 10 to 20 minutes, then rinse and repeat if staining is still present. Let the wood dry 24 to 36 hours before applying protective oils.

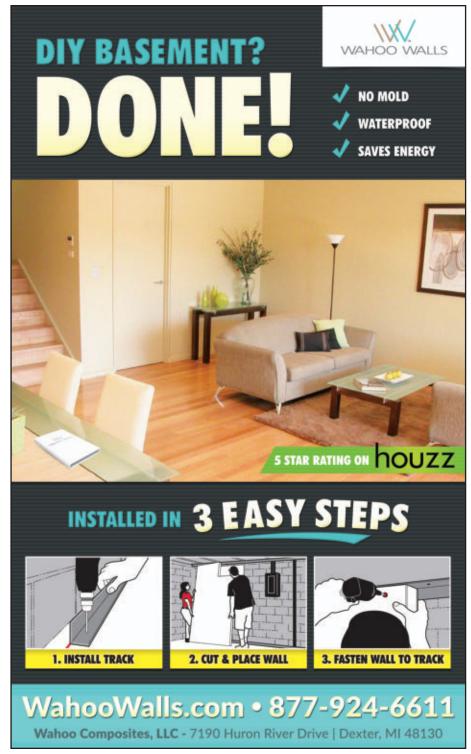
Apply the protective oil of your choice to the teak in a well ventilated area. Apply it evenly, with a brush and allow it to soak in at least 1 minute. Wipe off the excess with a dry, clean rag. Allow to dry before using the piece of furniture.



Apply the cleaning solution to the entire furniture item.



A teak-cleaning solution can be made by mixing 1 cup each of chlorine bleach and laundry detergent with 1 gallon of warm water.



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Use a soft-bristle brush to scrub in the direction of the grain. Rinse off the solution after 15 minutes.

Apply protective oil to the wood surface.









PROTECT HARDWOOD FLOORS FROM FURNITURE DAMAGE

We all pay a lot of attention to protecting floors against outside contaminants like sand and salt by installing foot mats to prevent abrasion damage. Sometimes, furniture and chair legs can get overlooked as potential sources of floor damage.

The oak wood floors in my house were refinished in 2004 and shortly after my wife purchased new bar stools I started noticing scratches. It was time to remove the plastic glides installed at the factory and install felt pads.

Just like foot traffic, how often your furniture moves along a floor will play a part in choosing the right type of furniture pad or chair glide. For heavy pieces of furniture that won't be moved at all, you have a wider range of furniture pads to choose from. Thick pieces of felt or rubber work well with heavy furniture.

Unprotected chair legs can damage your floor's finish in a matter of minutes, so I typically gravitate toward self-adhesive felt pads. These are peel-and-stick Make the CLEAR CHOICE. T. Clear's unique next generation building products are ideal for residential and light commercial applications.



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PROJECT NEXT

pads that can be found almost everywhere. They are typically made of felt and are inexpensive. The adhesive on these pads won't last as long as tap-on or slip-on pads, but they allow the stools to glide smoothly along the floor. For this reason, I choose to change them out yearly.

When making the repair, set the furniture item upside down for easy access. Remove any factory-installed plastic pads from the chair legs by prying off the staples with a screwdriver and hammer. Use pliers or end nippers and pull the staples if applicable. Wipe the end of the leg clean. Apply pre-cut felt or cut your own to size, providing a protective pad to all four legs.



Protect hardwood floors from scratches by padding the legs of all furniture.



Peel-and-stick pads are available, or you can purchase sheets of adhesive felt and cut your own to size.



Made with the same great quality beeswax as the original BriWax, the new BriWax Spray offers a perfect wax finish every time. It cleans, restores, revives and polishes wood, marble, granite, silver plate and more. It features high wax content, it's is silicone free, and easy to use. Just spray it on 15 to 18 inches from the surface, wait 2 to 5 minutes and buff it to a waxy shine. Repeat the process until the desired shine is accomplished. Visit www.briwax.com.



GOT TABLE LEGS?

The woodworkers at Tablelegs.com make classic, unfinished furniture parts with quality and value you can count on. Design your own table and choose from premium furniture legs, wood columns, cabriole legs, bun feet, kitchen island legs and more. Your parts are made to order, and 98 percent is crafted right in the company's Vermont woodshop. This ensures consistent tolerances between parts, as well as superior color and grain matching. Also, made-to-order makes it possible to customize almost any design to your exact need. All parts are sold without finish applied. Learn more at www.tablelegs.com.

HIDE SCRATCHES & WEAR MARKS

With three kids and two dogs I've come to the realization that hardwood floors are going to have scratches. Several years back I had a water leak in my kitchen, and several oak floor boards were replaced. As a result the newer area of repair is slightly higher than the older floor and develops wear marks at the seam.

Once a year, or as needed, I touch up this area with a colormatched Minwax Wood Finish Stain Markers. These markers are great for quick and easy touch-ups of nicks and scratches on wood furniture, moldings, cabinets, doors, floors and other wood surfaces in your home.

This stain pen contains real Minwax Wood Finish stain and comes in a variety of colors to match most stains. I've used them to touch up many projects, such as staircases, banisters, bathroom vanity cabinets and floors.

There are many such kits available that can make glaring scratches, dents and chips

disappear with-out the high cost of a hardwood professional or a wood restorer.

Shake the marker well before use, and depress the tip gently a few times on scrap paper or wood to start the stain flowing. Apply it precisely to the area of wood needing attention and wipe off excess with a cloth.

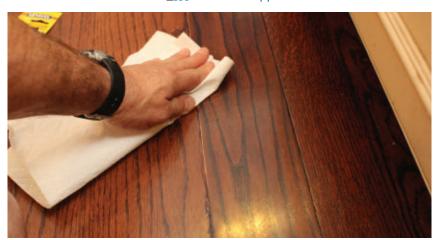
Replace the cap tightly after use, and store the pen on its side. If the tip dries out or hardens after extended storage, remove the tip and soak it in mineral spirits overnight. Mineral spirits or paint thinner can be used for cleanup.

These simple tips will not only help you maintain your home furnishings and furniture but will help you obtain the elite status of "problem solver" with your significant others and friends. **EHT**



A wood stain marker is an easy way to conceal scratches in furniture and hardwood flooring.

Simply apply a matching stain to the scratch and wipe away the excess to make little dings "disappear."



TIMBER BUDDY WOOD FLOOR AND FURNITURE REPAIR KIT

The Timber Buddy Repair Kit includes everything you need to make simple repairs to your hardwood floors, cabinets and furniture. The Hardwood Floor Cleaner cleans your wood floors and furniture without the use of harsh chemi-



cals. The Repair Putty is pliable, easy to use, and comes in multiple colors that can be blended to match your wood finish. The Timber Buddy Kit also includes three stain pens, a handy little scraper, pair of gloves, a durable cloth, water-base finish and storage bag. Visit shop.timberbuddy.com.

Replace an Ignition Lock Cylinder

If the key won't turn, the car won't start.



By Matt Weber

hen you start a vehicle with a key, the key inserts into an Ignition Lock Cylinder that turns to start the engine. This cylinder is an interchangeable core that can wear over time and make it difficult to start the car. If this is the case, the cylinder can easily be replaced with a new cylinder that can be coded to match your existing car keys.

That was the problem I recently had with a Dodge Stratus, which had a cylinder that would stick in place, refusing to turn and preventing use of the car. I replaced the cylinder with a new Ignition

Lock Cylinder from Dorman Products that I picked up at a local auto parts store.

Here's how to do it.



First, remove the negative cable from the terminal on the battery. Next, unscrew the screws that

hold the upper and lower covers onto the steering wheel column. On some vehicles, it may be necessary to remove the steering wheel by disconnecting the wires connected to the horn and then removing the wheel's retaining nut and washer. That was not the case on the Stratus shown.



Pull off the steering wheel cover to reveal the ignition coil cylinder. Depending on the model of your vehicle, it may be necessary to remove wiper or other accessory switches to free the steering wheel cover.



Place the key in the ignition and turn it to the accessory position. On the car shown, all it took was a screwdriver to depress a retaining tab that released the cylinder from the lock housing and allowed me to easily slide it out.

Some cylinders may also require you to insert a paper clip into a hole in the end of the cylinder to release it. The steps will vary

What are the symptoms of a Blown Head Gasket?

There are some makes or models of cars that have a reputation for blowing head gaskets. One vehicle I owned had such a bad reputation for head gasket problems that there was a group of owners trying to get the manufacturer to have a recall on them. If you happen to own one of these vehicles, don't worry... it does not mean that you have a bad car or that you are going to spend lots of money.

The head gasket forms a seal between the engine block and the cylinder head. This seals both the combustion chamber and the coolant passages in your engine. This means your head gasket has to seal both extremely hot high pressure combustion gases as well as engine coolant which can be anywhere from cold ambient temperatures to the normal operating temperature of your engine. Due to the wide range of temperatures and relatively large surface area, it is not unusual for head gaskets to develop leaks over time.

Since the head gasket seals the coolant passages both from the atmosphere and the combustion chamber, you can't see or get to much of the head gasket on a vehicle. Because much of the gasket can't be seen without disassembling the engine, it can be very difficult to diagnose a head gasket leak. Since a visual inspection usually will not prove a head gasket leak, it is important to know the other symptoms so you can accurately diagnose a head gasket problem.

Blown Head Gasket Symptoms:

- · Coolant leaking externally from below the exhaust manifold
- White smoke from the exhaust pipe
- Overheating engine
 Bubbles in the radiator or coolant overflow tank
- White milky oil
- · Significant loss of coolant with no visible leaks

The only externally visible sign of a blown head gasket would be coolant externally leaking from the head gasket. The head gasket will be below or inboard of the exhaust manifold. Most head gasket leaks will be between the combustion chamber and the coolant passage in your engine. On the intake stroke of the cylinder closest to the leak, coolant will be drawn in under the vacuum created along with the intake air charge. Upon combustion, the high pressure will force exhaust gases past the head gasket into the coolant passage. This process will repeat itself for every revolution the engine makes.

As coolant is pulled into the combustion chamber it will cause your engine coolant level to drop. This can cause a low coolant light and overheating if the cooling system on your vehicle is not continually topped off. Also, once your engine is turned off the coolant still left in the engine cylinder will seep past your piston rings into your engine oil. Coolant mixed with oil will make a white milky substance. You may see this on your engine oil dip stick or on a ring around your oil cap.

If your engine is running the small amount of coolant that is in the combustion chamber will turn into steam and white smoke upon combustion. If you are checking your exhaust pipe for signs of white smoke, make sure your vehicle is fully warmed up and idling during a warm part of the day. A cold engine on a cool day will produce a small amount of water vapor which will look like white smoke from your exhaust pipe. If the exhaust has a sweet smell to it then it mostly likely is a head gasket problem.

Lastly, during the combustion process the high pressures in the cylinder can push exhaust gases past the head gasket into the engine cooling system. The exhaust gases will be trapped in the cooling system and will be circulated through your engine and into the radiator. During normal operation your engine's cooling system remains under pressure, so never remove the radiator cap while the engine is operating or still warm. If your vehicle has a coolant overflow tank you can check that for the presence of bubbles. To be certain you can purchase a test kit from your local auto parts store that will chemically check your engine coolant for the presence of exhaust gases.

Usually one of these symptoms by itself is not enough to prove you have a head gasket leak, but if you have multiple symptoms at the same time it is likely that you have a head gasket leak. It is important to drive your vehicle as little as possible if you have a head gasket leak. The hot gases and cold coolant moving through the hole in the gasket can quickly erode or warp the metal head or engine block leaving you with costly machining bills or even having to purchase new heads or a new

To quickly and permanently seal your blown head gasket, go to your local auto parts store and pick up a bottle of BlueDevil Head Gasket Sealer. Installation requires the removal of your vehicles thermostat and a complete cooling system flush but is guaranteed to fix your blown head gasket!

Don't risk getting stranded or damaging your vehicles engine by driving with a blown head gasket. Stop by your local auto part store today and pick up the quick and easy solution from BlueDevil Products!





EVERYTHING AUTO



among manufacturers, so refer to your owner's manual for more details.



Shown here is the cylinder with casing after being removed from the steering column.



With the key in the old cylinder and turned to the accessory position, use a small screwdriver to depress the small anti-rotation button beneath the face of the cylinder. This allows the cylinder to be turned farther than its normal position. Rotate the cylinder so the retaining tab and slot align, then slide the cylinder out of its casing. Remove the old key from the old cylinder.

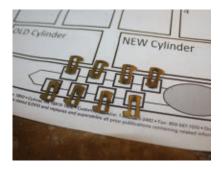


To code the new Ignition Lock Cylinder requires you to carefully insert the tiny new tumblers in sequence and orientation to match the original cylinder. This is the trickiest part of the job.

Along with the cylinder assembly instructions, Dorman included a paper template to help organize the tumbler sequence, and this definitely made the job easier.



With a small screwdriver, remove the first tumbler from the old cylinder located closest to the key side of the cylinder. Place it on the corresponding spot on the paper key diagram.



Continue to remove each of the tumblers from the old cylinder, and use the template (or make a

note) to remember their position relative to the key. The tumblers are located on the top and bottom of the cylinder and are stamped with numbers to aid identification.

Set the old cylinder aside. Note the numbers on the old tumblers and record them relative to their position on the key.



Insert the key into the new cylinder and turn it to the accessory position. Remove the cylinder from its casing and then remove the key. Use a small screwdriver to remove the first tumbler closest to the key side. Check the stamped number, and if it does not match the number of the corresponding tumbler of the old cylinder, replace it with a correctly numbered tumbler from the parts provided in the cylinder kit. (Do not re-use the old tumblers because they are likely damaged from wear and are the primary cause of lock failure.)

If any springs pop out when removing the tumblers, replace them immediately. Continue inspecting and replacing new tumblers until all are complete. Then, squeeze together all the tumblers and insert the old key. Align the retaining slot and tab, insert the new cylinder into the new casing, then turn the key to ensure smooth operation.

Install the new lock cylinder in the steering column by simply reversing the removal procedure. That completes the job, and your vehicle should be ready to roll. **EHT**

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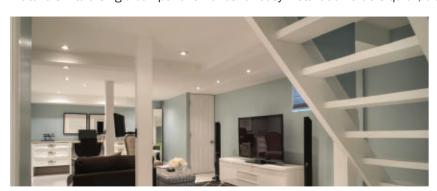




PRODUCTS

WAHOO WALLS

Wahoo Walls is a ready-to-install basement finishing system available to purchase direct from the manufacturer, giving you a basement you can quickly install yourself without going through a basement franchise company. Utilizing advanced materials, this company has created a DIY composite wall panel that replaces the conventional stud-and-drywall construction method with a wall system that answers the challenges of belowgrade construction. The polystyrene core is clad with a substantial exterior facing of Magnesium Oxide Cementitious Board. Unlike wood and drywall, both the Magnesium Oxide board and the polystyrene insulation are made of non-organic materials and do not feed mold. EPS polystyrene insulation and Magnesium Oxide remain unaffected by standing water and provides a durable wall panel. Combining these modern materials into a single component makes for easy installation that is quick, clean and unharmed by water.



Simply install the lightweight aluminum mounting track, measure and cut each panel to the correct dimension, carry into the basement, fasten in place and enjoy a cozy finished basement to fit any budget. Check them out at www.wahoowalls.com

WAMBAM FENCE

Forget about digging holes and pouring concrete with WamBam Fence's innovative fence systems. Developed for the DIY market, WamBam Fence manufactures a line of professional-grade vinyl and aluminum fencing that offers an easier way to install a fence. Traditional fence installation is a time-consuming and difficult process for homeowners that requires renting augers, tearing up the yard, and pouring hundreds—if not thousands—of pounds of concrete. WamBam's no-dig fence systems eliminate these headaches because their fence is installed by driving steel pipe anchors deep into the ground. The pipe anchors work in conjunction with some patent-protected pieces to ensure a strong, lasting and easier install. Rated for up to category-1 hurricanes, the concept of no-dig vinyl fence systems has been used successfully by professional fencers all over Western Canada for more than fifteen years. WamBam Fence is the first company to have developed a full product line to take the concept national to the DIY market in a boxed program. Visit www.wambamfence.com/eht.



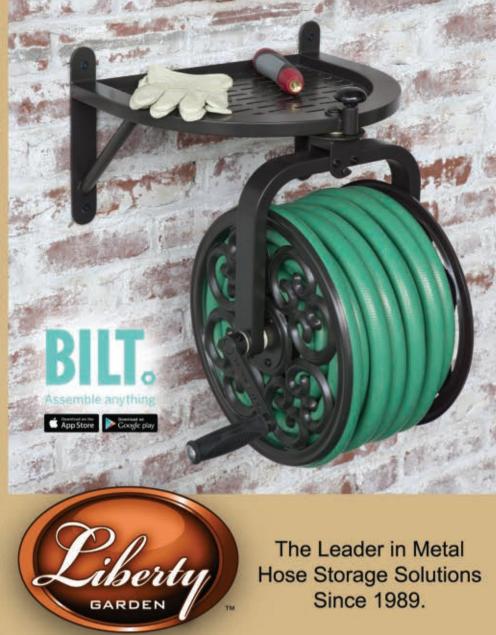


SCREEN REPAIR SHEETS

Using a strong adhesive, the peel-and-stick Screen Repair Sheets from JIB Products allow air to circulate easily through the repaired area. By using a special clear adhesive, the patched screen looks and works like new. The repair holds up well against wind, rain and snow. The kit includes four sheets measuring 1.87 by 1.87 inches, and two sheets measuring 1.87 by 3.87 inches. Visit www.jibproducts.com.







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PRODUCTS

MAGGIE MAGNETIC LOCATOR

The Schonstedt "Maggie" is a next-generation magnetic locator that combines the best features of the company's two flagship products; the sensitivity, precision, and reliability of their GA-52Cx model, and the single-handed operation of the GA-92XT. In basic



terms, Schonstedt took the best features of their very popular 52Cx model and combined it with the ergonomics of their 92 model and created "the best of the best" in the world of magnetic locators. Schonstedt Engineers took user input to offer features like a handle that makes it easy to hold the popular 52Cx model. Users did not like opening up the 52Cx and exposing the electronics just to replace the battery, so the Maggie's handle is located where the electronics are not exposed during a battery change. Schonstedt also offers a soft case that can easily fit behind a truck seat, as well as be carried with a shoulder strap. Another feature is the knobs are now on top and not underneath like they are on the 52Cx. For excellent sensitivity and ergonomics, check out the new Maggie Magnetic Locator. Visit www.engineersupply.com.

ZERUST CONSUMER PRODUCTS

All Zerust products operate on the same basic principle: to create an invisible barrier of corrosion-blocking molecules around your valuable metal items. Exposed metal surfaces protected with Zerust benefit from a long-lasting shield against rust, tarnish and corrosion. The patented technology is odorless, non-toxic, eco-friendly, and lasts up to five years. When your tools are protected with the best rust prevention products, you can mold, shape, and create the projects of your dreams. The Zerust Drawer Liners, which combine the corrosion-inhibiting formula with a heavy-duty non-slip PVC rubber, save you time and money



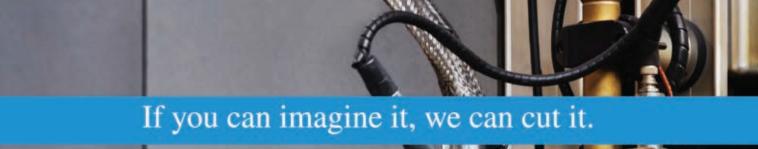
by sparing you from having to apply costly oils and WD-40 to the contents of your toolbox. And the Zerust Table Saw Covers are uniquely designed to guard your most expensive investment from rust, electrochemical reactions, dust and moisture. Visit zerustproducts.com.

APEX72 ELECTRIC WALL HEATER

Where electric heaters were once just an afterthought to most remodelers, an innovative electric wall heater will literally "elevate" both the wall positioning and stylish appearance of the system. The Apex72 electric wall heater by Cadet Heat combines low-maintenance heating and simple installation with a modern look designed to be elevated high up from the floor, thus saving up to nine square feet of valuable living space.



The Apex72 is mounted a minimum of 72-inches above the floor thus up, out-of-the-way of furniture and everyday living areas. The 12-in. by 8-1/2- in. decorative cover features a louvered or hexagonal pattern grill to complement any décor. This compact and elegant design efficiently delivers warmth while maximizing every inch of valuable living space. It features low whisperquiet fan noise, "hidden" air intakes for less maintenance/cleaning and a modern, contemporary look. Visit www.CadetElectricHeat.com or HomeDepot.com.





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The predictably boring and rectilinear appearance of ratty old baseboard heaters can now be instantly transformed into curvaceous elements of interior décor. Baseboarders Elliptus is the Vancouver-based



manufacturer's latest example of how ugly old baseboard heaters can be easily transformed to look amazing. Elliptus features the gentle curve of an ellipse that runs the length of the heater producing a sleek aesthetic. Elliptus uses sturdy 24-gauge galvanized steel and comes with a lifetime warranty that protects against the onset of rust. Visit www.baseboarders.com.

RIDGID GEN5X 18V BRUSHLESS HAMMER DRILL & IMPACT DRIVER COMBO KIT (R9205)

Ridgid introduces the next level of GEN5X tools with brushless motors. The new GEN5X 18V Brushless Compact Hammer Drill/Driver and 3-Speed Impact Driver Combo Kit includes best-in-class features and brushless performance such as up to 50-percent more runtime, longer motor life, and best-in-class torque in a compact size. With free registration, this tool kit is covered for life, including free batteries, free parts and free service. The kit includes the R86116 Hammer Drill, R86037 Impact Driver, (2) R840087 4.0Ah lithium-ion batteries, R840095 charger, (2) belt hooks w/ screws, auxiliary handle, (2) bits, bag and operator's manuals. Visit www.ridgid.com.



Since a resurgence in the 1990s, the popularity of Arts and Crafts style homes has soared across America. The new Mission and Prairie window styles from Hy-Lite harmonize with these home styles. The Mission style window from Hy-Lite is a true Craftsman-inspired design constructed with silkscreened tem-



pered privacy glass and clear diamond shapes on the interior. The Prairie style window features a simply elegant, transitional design with clean lines in the perimeter of the window. Visit www.hy-lite.com

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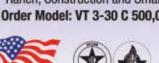
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