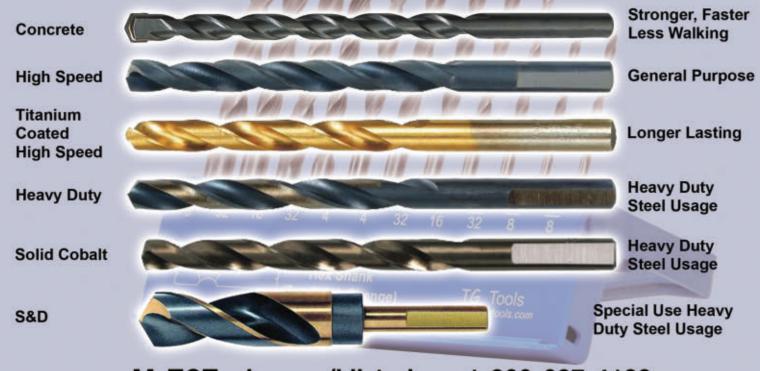


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QUICK TIPS FOR WALL-TO-WALL CARPET



135° Split Point start from Contact 3-flat shank, less chuck slippage

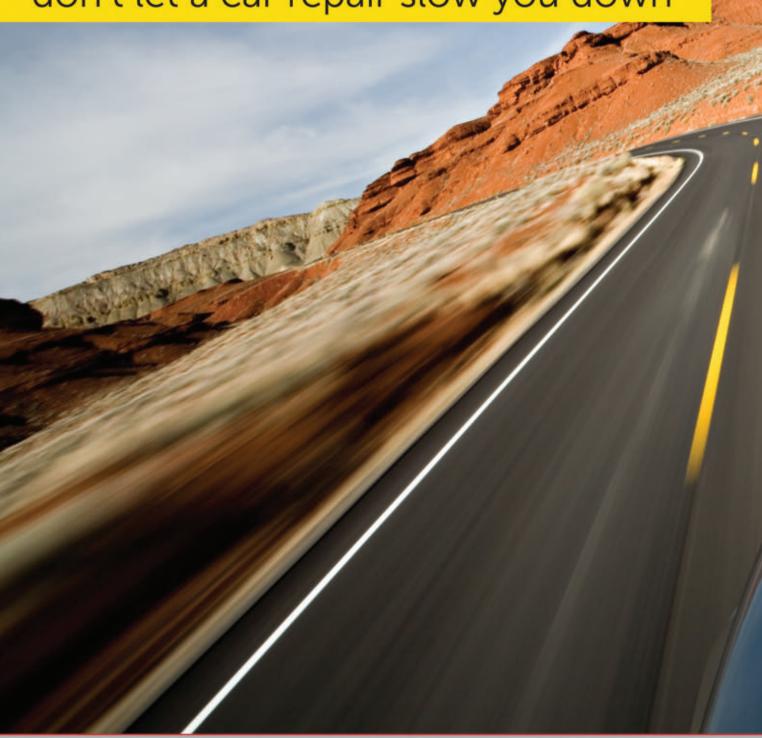


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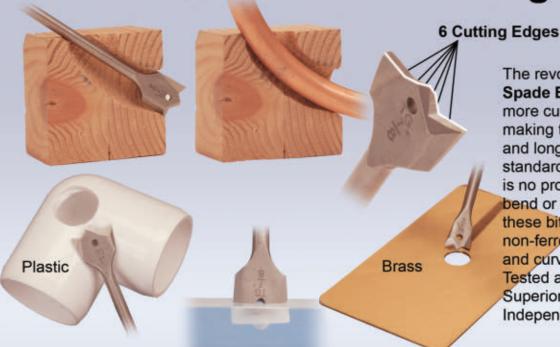


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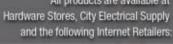
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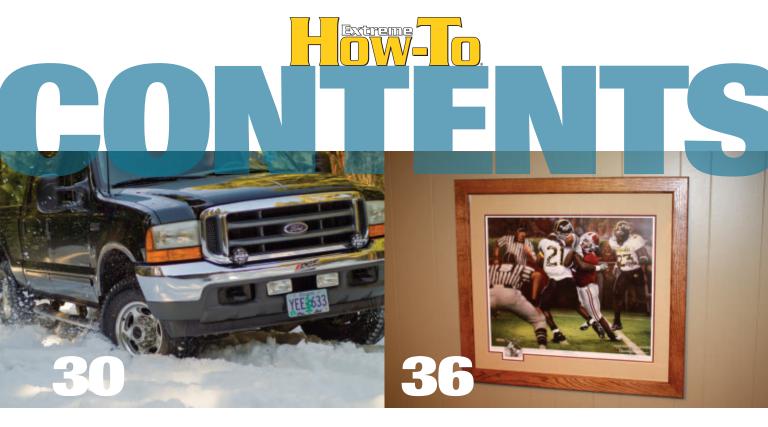
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• My water bill has been on steady incline the last few months. The water department says I must have a leaking plumbing fixture, but I see no sign of one. Is there a way to look for unseen leaks?

• A leaking faucet should be visibly evident, but toilets can have "silent" leaks. A dye test is a tried-and-true method for testing that plumbers have used for many years. To test, remove the tank lid and any colored cleaners that may be in the tank. Flush until the tank fills with clear water. You'll need a dye capsule or some food coloring—even powdered Kool-aid will work. Apply enough dye to give the water a deep color tone. Leave the toilet unused and check the water in the bowl after 30 minutes to an hour. If dyed water is in the bowl, you have a leak. The next step is to determine if the leak is coming from the flush valve or fill valve. Make a pencil mark at the full water line inside the tank wall. Turn off the water supply and weight about a half hour. If the water stays at the level of the pencil mark, then the leak is at the fill valve. If the water level has fallen, the leak is occurring in the flush valve.

. How do I cut glass to repair a broken window pane?

• Generally speaking, picture-framing stores and certain hardware stores, such as Lowe's, will cut new glass to spec for a very reasonable fee. However, you can also cut it yourself using a handheld glass cutter. The cut should be made at least 1/2 inch away from the edge of the glass. Place the glass pane on a very flat, solid surface, padded with layers of newspaper. Using a framing square as a guide, draw a line with a grease pencil along the cut line. Then, using the square as a blade guide, score the glass with the cutter. (The tool is not meant to cut completely through the glass.) Align the scored line with the edge of the framing square and tap the score with the handle of the glass cutter to snap it off.





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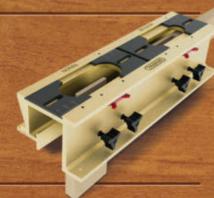




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The Vinyl Answer

Roll out a New Look in an Old Standard.



By Larry Walton

his not your grandma's linoleum. Today's sheet vinyl flooring is available in a large variety of colors, textures and patterns. Often categorized as resilient flooring, sheet vinyl can be a relatively inexpensive alternative to other hard surfaces for kitchens, bathrooms and utility rooms.

Vinyl flooring is available in a variety of grades, which means the choices go beyond cosmetic considerations of color and texture. In general, higher grades of vinyl are thicker, which means stiffer, especially when temperatures are low during the installation process. In

fact, if you select a heavy grade of vinyl, we recommend you make a pattern of heavy paper to get the layout as close as possible.

The shinier the floor surface, the more demanding the installation. If you select a vinyl with a matte finish, however, it will camouflage more little imperfections such as uneven glue and bumps in the subfloor.

Keep in mind that a strong cross-light source, such as a patio door, will also accentuate ridges and bumps in the floor and may call for more attention during the preparation phase.

SURFACE OPTIONS

Sheet vinyl is usually installed on underlayment, the most common of which is particle board. The advantages of particle board underlayment are its low cost, core consistency and smoothness. On the downside, particle board swells and disintegrates when exposed to water and it lacks structural strength.

Plywood makes a good underlayment, but care must be given that the surface is sanded and smooth. Marine-grade plywood eliminates voids in the interior layers of veneer, which allows

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DO IT YOURSELF

it to withstand the occasional high-heeled shoe. Plywood can also withstand getting wet so it can handle plumbing problems or entry door environments. However, vinyl flooring was designed to have water on the surface only.

Concrete also makes a good sub-surface for a vinyl floor if it has been prepped smooth.

Regardless of the surface, it needs to be clean, grease-free and cleared of any above-surface nail and screw heads. The surface must be flat, and all holes, cracks and joint lines must be filled. Remove shoe molding and base-boards before installing vinyl. Take time to clean the area where the floor meets the wall and watch for debris hidden under the drywall where it can jump under your flooring as you roll it out.

OVERSIZE

Measure and cut the vinyl to approximate size—about one inch oversize all the way around the floor. Roll the vinyl with the top surface on the inside and bring it into the room. Unroll the vinyl to correctly position it in the room, keeping the pattern lines parallel to the longest open wall area. Fold back at least half of the vinyl for gluing.

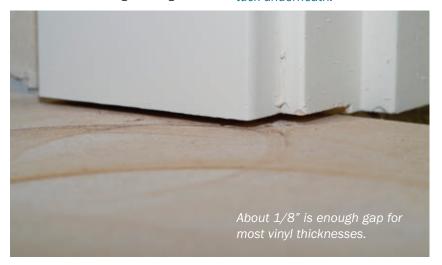
Using a 3/32-inch notched trowel, spread a thin, even layer of glue on the exposed floor. Unfold the sheet of vinyl over the glued area, being careful to avoid creases and large bubbles (smaller bubbles will be worked out later). The extra material should curve up the wall or toe kick.

Fold the unglued vinyl over the glued half. Be careful not to step on the fold, which could damage the flooring. Apply glue to the second half of the floor. Be sure to extend the glue to the already-glued area. Unfold the vinyl over the second half of the glued surface.

Work the bubbles from the center out to the edges using



An undercut saw trims casings and door jambs very close to the floor so the sheet vinyl can tuck underneath.



CASING CUT-OFF

It's much easier to tuck vinyl under existing casing than to trim the flooring to the shape of the casing. If the casing is tight on the floor, use an undercut saw or dovetail saw to trim the casing so there is enough room to tuck the flooring underneath.

VINYL OVERLAY

When installing vinyl over vinyl, cut away any of the old flooring that is loose or curled and fill voids with a quality filler compound. The entire surface of the old vinyl should be floated with an embossing leveler, because most modern vinyl has a textured surface that will show through the new vinyl without the use of a leveler in the prep process. After the leveler has dried, sand and vacuum the entire surface.

Flooring contractor Kent Miller recommends using a finer tooth trowel for spreading glue on existing vinyl. He also says to allow for some "open time" to let the glue breathe, because glue liquids are not being soaked into the underlayment in this application.



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DO IT YOURSELF



Mixing filler compounds right on the floor saves time and cleanup trouble.



Cut the vinyl about one inch extra all the way around. Pay attention to the best locations for full pattern squares as you would with tile floors.

a flooring roller, rolling pin, wet rags or your hands.

Trim the edges where the vinyl is ramped up the wall or toe-kick until the flooring lies flat. The back of a curved vinyl knife can be used to crease the vinyl where



Use a straight edge and a sharp knife to make the initial rough cuts.

the floor meets the wall. This technique will identify a line where the sheet should be cut.

Cabinets usually don't sit directly on the floor but are shimmed for leveling. In this case it's preferable to tuck extra vinyl under the cabinet rather than trim it even with the toe kick.

QUICK CLEANUP

Many pros prefer to mix filler compounds right on the floor. Cleanup is quicker and easier because there is no bucket to deal with. Start with a pile of latex-fortified compound. Dig a hole in the center with a trowel. Pour a small amount of acrylic latex mixture in the hole and gradually work the dry mix into the liquid. Add more liquid as needed. Keep stirring with the trowel until the mixture is smooth and ready for use.

CUT WITH CAUTION

The most common mistake I see in vinyl installations (even by pros) is cutting the material shy of the wall or toe kick during the trim process. Often the installer assumes that if they cut in the bottom of the curved vinyl it will lay in just right, but when it rolls out they find it is 1/2 inch or more away from the wall. It's true that trim will often cover this short-fall but not always. It's better to trim the material more than once to get it to lay flat.

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DO IT YOURSELF

Clean all residual glue from the floor. After allowing time for the glue to dry, install baseboards and/or shoe molding. **EHT**



When trimming be careful not to cut the material too far away from the wall.



Use a trowel to spread the vinyl adhesive.



The back of a curved vinyl knife can help you find the point where floor meets wall.



Extra vinyl along the cabinet toekicks can often be tucked under the cabinets.



Leveling compounds fill in the embossing in old vinyl patterns, plus they match the elevation in areas where the vinyl is missing.



Roll back half of the vinyl sheet. Lay down the first half of the vinyl after spreading glue.



Fold back the unglued vinyl onto the glued half and apply the remaining glue.



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DO IT YOURSELF

Bunch the vinyl back at the door jamb and casing locations to slide the leading edge underneath. This may take a few tries to get the notches trimmed so the flooring lies flat.



You can stand on the flat part of the folded back area but don't get on the fold. A crease will damage the flooring.

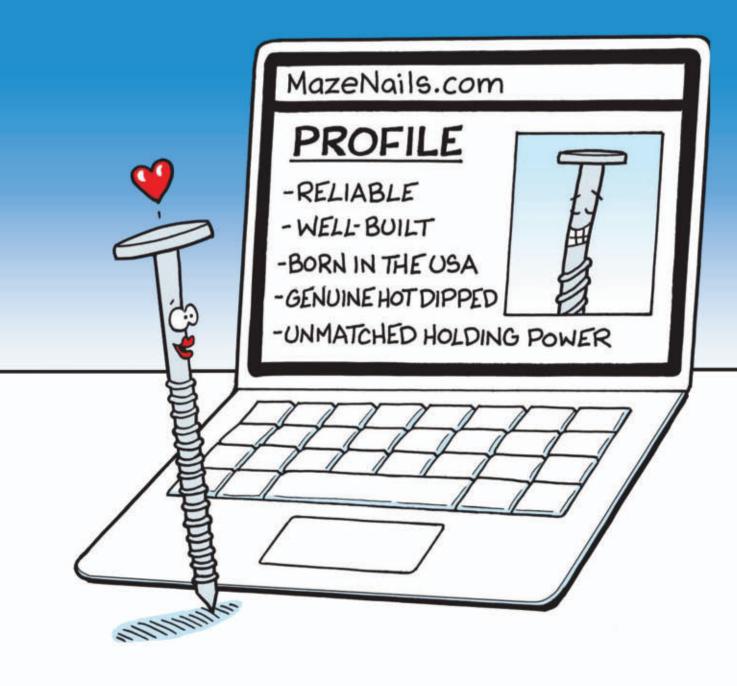




Under-cutting the door trim beats trying to trim the vinyl to fit.









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which allows you to charge your electronics via the cover plate and leave your outlets open for other uses. Integrating USB ports within the outlet itself is nothing new-the difference is that the SnapPower Charger integrates the USB port into the face plate and not the outlet. To get its power, the face plate has two metal prongs located on the back that automatically make connection with and draw power from the sides of the existing outlet. The only installation required is removing the old cover plate and replacing it with the new one-that's it. Visit

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337 7-in. High Leverage Diagonal Lap Joint Cutting Plier and the 420 9.5-in. Straight Jaw Tongue & Groove Plier, which has right-angle, laser heat-treated teeth that last longer and grip better. Both tools are Made in the USA and use high-carbon C1080 steel specially coated for rust prevention. Visit www.channellock.com

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Ryobi introduces a new tool that defines professional features at an affordable price: the 18V ONE+ EverCharge Hand Vacuum (model P714K). It features an internal charging system that keeps the battery charged once the unit is placed on the wall-mount adaptor so it's always ready for use. The



company's IntelliPort technology protects battery cells, maximizes battery life and conserves energy. This unit features 20-percent reduced sound for quieter operation when compared to the P713 and is backed by a 3-year warranty. The vacuum is also compatible with any Ryobi 18V ONE+ battery. Visit www.ryobitools.com.

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FOR THE DIY'FR



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designs (three-sided Catios that attach to a home) or the freestanding Oasis Catio for a yard, which includes directions for a catwalk tunnel. Cat access to the



Catios is via a cat door installed in a window, door or wall. Both the Sanctuary and Oasis Catios provide space for seating to accommodate human and feline interaction. Sizes range from 3-by-6-ft. to 8-by-10-ft. Each DIY plan includes step-by-step instructions, a materials list, tool list, and more than 25 diagrams to minimize guesswork and save time. Visit catiospaces.com.

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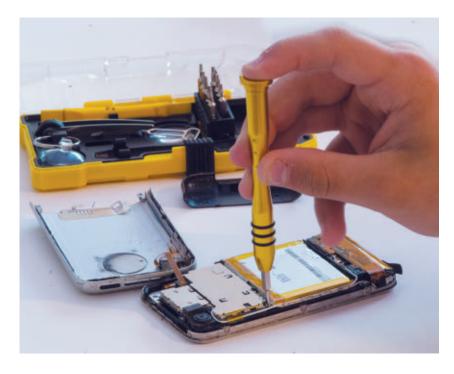
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The other eleven bits (Torx T3 through T8), Phillips #0, #00 and #000, 1.5mm slotted and

Tri-Wing Y00) fit screws used by phones and tablets from Samsung, Motorola and Nokia as well as by video game consoles. The kit's supporting cast includes four general-purpose tools suitable for work on miniature devices of all kinds, including cameras and model trains. The most useful tool is a 2-1/2 in. long stainless steel fine-point tweezers attached to a 5X magnifying plastic lens by a double-hinged adjustable arm.

The other three tools are a plastic double-sided mini pry bar, a tiny pick for removing SIM and MicroSD cards, and a 1 in. diameter suction cup with a 5-lb pull—more than enough to pop off a phone's screen. The kit comes in a custom hard-plastic case with a snap-in slot for each part. Visit: http://amzn.to/1N2aWZo.

GENERAL TOOLS & INSTRUMENTS LASER THERMOMETER (IRT207)

It's hard to imagine a DIY homeowner tool as versatile as a laser thermometer.

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By measuring the infrared energy emitted by an object or a surface, an infrared laser thermometer (or IRT) can take its temperature from a distance. That neat trick makes IRTs indispensable for a wide range of tasks, including;

- Energy auditing (detecting heat losses around doors and windows),
- Troubleshooting HVAC and automotive systems,
- Checking that foods and beverages in the kitchen and on the table are sufficiently hot or cold.

General's IRT207 is one of the simplest and most affordable (under \$20 on amazon.com) IRTs on the market. One of its two key specifications—a measurement

range of -4 to 608 degrees F—suits it for most DIY applications, including those "under the hood". Its other key spec—a distance-to-spot ratio of 8:1—means that the IRT207 has the optics needed to measure the temperature of a 1 in. diameter spot from 8 inches away (or a 1 ft. diameter spot from 8 feet away) with 2% accuracy and 0.1 degree resolution.

Using the gun-style IRT207 is as simple as pulling the trigger, aiming the low-power laser at a target, and reading the 1.5 in. diagonal backlit LCD display. There are only two buttons on the front panel. One toggles readings between degrees F and C, and the other turns the sighting laser on and off. The IRT207 is ruggedly built and comes with a "9V" battery and a 1-year limited warranty. Visit: http://amzn.to/1kuuqJD. **EHT**





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WINTER MS

Preparing your automobile for the storms ahead.

By Larry Walton

n the olden days, getting ready for winter meant chopping enough firewood to cook and heat the house, and moving livestock from elevated pastures closer to home. Nowadays it's quite a bit different. For many of us, digging out a winter jacket, changing seasonal sports gear and getting our cars ready to run easily and efficiently in frigid temperatures is about all that's needed to survive the cold season.

Winter can be tough on a vehicle. Traction, visibility and daylight hours are all limited, but there seems to be no limit to rain, fog and snow. Tire pressures drop, oil gets thick, salt accumulates and roads get slippery. We need our wipers to wipe, our lights to light and our antifreeze not to freeze.

All of the regular maintenance procedures apply for winter, and in some areas they are more important because a mechanical breakdown can be dangerous when the temperatures really get low.

Therefore, make sure that your oil changes, tire pressures, air filter, fuel filter and coolant levels are current. Depending on your mileage, you may be due for some of the longer term items such as injectors, plugs, igniters, shocks, transmission service and whatever else your owner's manual says.





WINTER



Applying Rain-X is a wax-on/wax-off type of operation. The window treatment also aids in removing ice, mud and bugs.



Easy to install, Rain-X Latitude wiper blades feature a curved-style, graphite coated rubber blades, built-in spoiler to reduce wind lift, and no exposed metal to prevent ice buildup.

TRACTION

Lower temperatures drop air pressure readings at a time when tire condition and traction are critical. In addition to making sure pressures and tread depths are in spec, consider switching to a true winter tire.

Yuppers, NoDakers, Mainers and other dwellers of the north will be sporting their studded tires for the season. Snow boarders and ski bums alike will often go with the spiked treads as well. Studless snow tires are another option. Bridgestone Blizzak, Goodyear Ultra Grip Ice, Michelin X-Ice Xi2, Nokian Hakkapilitta RHi, and Continental ExtremeContact are examples of these tires, which work well especially for those who only occasionally see snow and ice. These DOT-approved snow tires are made of softer tread compounds and have lots of siping for added grip in ice and snow. Studless tires are better on dry pavement and are easier on the road surface compared to studs.

Those who occasionally see snow and ice conditions can opt to carry tire chains in their vehicles. Some retailers who sell chains will take them back for a refund if they are unused. Chains can be very effective traction devices when used properly.

Make sure you are in a safe location when installing chains. You are chaining up because conditions have gotten pretty challenging. Other drivers may not have control of their vehicles, which makes it dangerous for those installing chains at roadside.

Do not attempt to use chains that are off the fitting chart for your tire. Follow the installation instructions carefully. Throwing a chain can cause both auto body and drivetrain damage. Pay attention to speed cautions and give attention to the safety check intervals to make sure everything is operating properly.

Rainy conditions also require appropriate tread designs. Don't assume that your car has all-season tires. In fact, if you drive a performance oriented car with sport tuned suspensions and low-profile tires, it probably came



My truck has an aFe intake, which improves horsepower and fuel efficiency. It also has the added advantage of being cleanable. Summer use gets an air filter dirty, so part of my winter prep is cleaning the filter.



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WINTER

stock with summer tires. When I checked the tires on my wife's turbo-charged WRX I found this to be the case so I ordered a set of Goodyear Eagle F1s.

Four-wheel drive also enhances traction and is great to have for



Thoroughly wash the filter with soap and water. Dish soap works well to cut the oil in the filter treatment products.



Rinse the filter with clean water.

Set the filter in the sun to dry out.



most winter road conditions. Make sure all the drivers in the family understand the operation of the transfer case, hubs and switches. Provide the proper cautions about diff lockers if your rig is so equipped. Test



The air filter improves filtration by trapping small dust particles.

Make sure the filter oil is getting into the folds of the filter ribs. Start at the seam, and rotate the filter until you get back to the seam again.



your four-wheel drive system ahead of time especially if it's rarely used. Remember, four-wheel drive isn't a magic get-out-of-trouble device. Braking and handling remain mostly unchanged in 4x4, so don't get too cocky.

GETTING STARTED

Batteries need more attention in winter. They don't like temperature extremes. When cold, they can produce less power at the very time when the engine is harder to start. Diesels are particularly hard to start when cold. So make sure your battery is in good shape before winter sets in.

Also hard to start is any vehicle with a cracked block from frozen coolant. Check and/or change the engine coolant in your vehicle to make sure it has the proper antifreeze levels.

One of the reasons engines start harder in cold temperatures is because oil gets thicker when temperature drops. You can counteract this tendency by using oil with lower viscosity grade numbers. Check your owner's manual for the proper range to match the temperatures.

Diesel owners may want to consider switching to a synthetic motor oil such as Rotella T, which improves cold-weather performance while providing excellent high-temperature wear protection. Exceptional cold-weather flow properties really help with cold starts on diesel engines.

WINTER EYES

Wiper blades have about a one-year life expectancy. UV exposure, being frozen to the windshield, and wiping off mud splatters all speed the degradation of the blades. Aftermarket frame-and-blade designs make

for a quick and easy install. Rain-X Latitude, for example, can easily be installed on wiper arms with J-hook, side pins, bayonet or pin-and-holder connectors.

Don't forget the wiper fluid, which needs to be temperature rated to levels you expect to encounter in your travels.

Seeing and being seen is greatly improved through the addition of auxiliary lights. We not only face rain and fog, but the nights are longer, requiring us to drive more hours in the dark. Adding driving lights and fog lights to your vehicle can make a big difference to improve vision, reaction times and stopping distance.

Check your owner's manual for a section on winter driving. Above all, be prepared. **EHT**



A few teaspoons of baking soda in a spray bottle of water makes a good battery cleaning solution.



After spraying the corroded areas, use a toothbrush to scrub the affected areas. Rinse with water.



It's a good idea to test the battery for output. A battery nearing the end of its lifespan can leave you stranded in winter conditions.

If the battery starts showing signs of fatigue, replace the battery.

MORE WINTER TIPS

WINTER SURVIVAL KIT

During the winter months your vehicle's emergency kit should include a first-aid kit, water, food, flashlight, window scraper, tire chains, bag of sand, flares, small shovel, jumper cables and blankets.

PLUGGED IN

If your diesel vehicle is equipped with a block heater, use it. It will start easier, run better, and the heater/defroster will work right away. To save energy, Dan Judy Automotive in Salem, Oregon, recommends buying a 30-amp, commercial-grade timer and setting it to come on about two hours before you plan to start your truck.

WHEEL DEAL

When you get serious about changing tires for winter conditions it may work best for you to get a second set of wheels for your snow tires. If your vehicle is a model that is often modified by owners with aftermarket wheels, the stock wheels that fit your rig can often be found on Craigslist or local trader publications.



THE RIGHT FRAME OF MINE

Cutting, Shaping and Joining Your Own Picture Frame

By Matt Weber

uring college I had a part-time job chopping wood for a framing shop in Memphis, Tennessee. I made several frames per day, joining the miters with a Cassesse machine. This was a large, table-sized machine driven by an air compressor, on which we'd join the corners by pressing a foot pedal that fired a V-shaped metal fastener into the underside of the miters. These V-shaped wedges provided a good, strong connection for the picture frames, but most folks don't have a Cassesse machine laying around the garage.

Neither do I, but after having assembled countless picture frames, I cringe at the prospect of paying the high cost of a professional framer to do something I can do myself. Maybe I'm stubborn. Maybe I'm cheap. Either way, this article will show how you, too, can be stubborn and cheap by cutting, shaping and joining your own frame from hardwood that's widely available at most home stores. The stock I used for this project was 1X oak lumber that I picked up at my local Lowe's store (www.lowes.com).

Of course, frame shops offer all sorts of picture moulding, from wood to metal to plastic, in countless designs and profiles. You can always purchase these pre-manufactured sticks and go straight to the measuring and mitering. Or, as shown here, you can make moulding from "scratch."

One advantage to making your own picture moulding is that there aren't many rules. You're the artist. You can make the moulding as thin or as thick as you want. If you're handy





THE RIGHT OF MINE

at crafts, you can add detailed carvings, burned wood engravings or faux finishes. You can go crazy with a variety of router bits, or even build up your molding with trim strips of various profiles to create elaborate cornice designs.

I was framing a sports painting a print by Daniel Moore, an artist who paints University of Alabama football players in moments of game-changing glory. It had been professionally matted by a framing shop and given to me as a gift. Considering the subject matter, I didn't want my moulding frilly or feminine, so I cut it from 1-by-8 oak stock.

MAKING THE CUT

The 3/4-inch thickness of the oak worked fine for my purpose, but I ripped the boards on my



Rip the dimensional oak lumber to your desired molding width.

table saw to about 3 inches wide.

The next step is to rout a rabbet along one edge of the 3-inch moulding strips. You can use a free-hand router, but for this type of operation I prefer a router in

a router table so the fence can keep the stock stationary. To determine cutting depth, measure the thickness of both the matted picture and the glass that will cover it. Adjust the rabbeting bit





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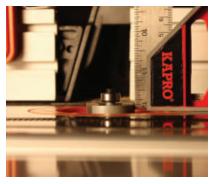
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THE RIGHT FRAME OF MINE



Measure the artwork carefully, and add 1/8" to each dimension to allow a little wiggle room within the frame.



Set the router bit deep enough to house the combined thickness of the artwork and glass.



Rout the inner rear edge of the frame to create a groove that conceals the edges of the art.

to allow both the glass and matted picture to lay into the groove and be recessed—or, at least flush with—the back of the moulding. The rabbeting bit I used has a ball-bearing guide to keep the groove a consistent 1/2-inch wide, which will conceal the edges of the picture mat.

With the backside rabbet complete, I flipped the moulding over to add some detail to the front. First, I ran the outside edge of the moulding across a round-over bit, which gave it a more graceful (and nick- and dent-resistant) curve. I then ran the opposite side of the moulding over a chamfer bit. The chamfer bit cuts at a 45-degree bevel along the edge to provide some extra shadow lines.

When routing, cut the stock carefully to avoid burn marks that can discolor the grain. The easiest way to do this is to make a few shallow passes over the work with the router bit, working progressively toward your overall desired cutting depth.

MEASURING, MITERING

I was making a square frame, meaning 45-degree miters. If you're making anything funky, like an octagonal frame, then you'll need to pull out the ol' geometry book and calculate your cuts. You can cut the sticks with a miter box and handsaw, or chop that first 45 with a powered miter saw.



Use any number of router bits to create a profile of your choice.



A round-over bit is shaped to ease the edge of wood stock, which made the edge of the frame less susceptible to nicks and dents.



The chamfer bit gives the inside edge of the molding a bevel cut to add some decorative shadow lines.



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THE RIGHT FRAME OF MINE



For square frames, all miters are simple 45-degree cuts.



When transferring the dimensions of the artwork to the molding, make sure to take the measurements from the longest point of the rabbet.



Stops for a miter saw help ensure consistent, matching cuts.

Next, measure the top edge of the picture (and/or matting) to determine the length of the frame. When transferring that measurement to the corresponding length of picture moulding to be cut, it is critical that you calculate the measurement from the outside edge of the rabbet, not the inside point of the miter. This accounts for the length of the recessed groove that will conceal the edges of your picture. If you were to measure your moulding from the shorter corner of the rabbet, then you will cut the moulding too short for the picture.

Before cutting the other end of the moulding in an opposite 45-degree miter, first double-check your measurement. Then, add about 1/8-inch to the length of each stick, so when positioning the artwork you'll have a little wiggle room to guarantee no binding of the mat. To ensure consistency of cuts, I lock the stops of my miter saw so I'm cutting the next piece—the bottom rail of the frame—to the exact same length.

Be sure the moulding is firmly supported when cutting. Although this flat oak stock was easy to cut, smaller and/or taller profiles can sometimes sit slightly out of square against the fence, or roll a bit beneath the blade, which can lead to an uneven cut at the rear of the miter. Keep the moulding steady and square against the saw base and you'll require less wood filler later.

Repeat this cutting process for the two side pieces of the frame, ensuring the measurements match each other exactly and orienting the miters for "inside" corners

Once the sticks were cut to length, I sanded them smooth and wiped on a mahogany gel stain. I liked the darker tone of the mahogany, plus it still allowed the natural wood grain to show through the stain. I chose a gel stain simply for its ease of use. Gel stains are a cinch to apply by simply wiping them on with a rag. They clean up fairly easily and give the wood a rich look. I used



The top and bottom pieces should match exactly, as should the two side pieces.



Sand the moulding smooth before applying a wood stain.

two coats, allowing drying time between each.

JOINERY

In lieu of the Cassesse machine, I joined my corners with a combination of wood glue and finish nails. You'll need a large flat working area, such as an uncluttered workbench, as well as some miter clamps for this procedure, particularly if working with long sticks of moulding. Apply a liberal amount of quality wood glue to

the face of each miter, join and clamp the pieces tightly with the faces of the moulding completely flush. Use a toothpick to remove any beads of glue that squeeze out of the joint. The particular clamps I used elevated the moldings about 1/4 inch off the table, so I had to place shims beneath the opposite ends of the sticks to relieve pressure at the miters and prevent the joints from separating.

The fasteners come next. As with any hardwood, begin by predrilling the nail holes. I used a Dremel, but any drill will work-in fact, we used a manual hand drill in the dark ages back at the framing shop. Use nails long enough to extend well into the matching piece of stock. I used two different sizes of nails for each corner. The shorter nail joined the outside point of the corner. I used a longer nail as the second fastener to penetrate through the thicker portion of stock and nearly 3/4-inch into the mating piece of moulding. Set the nail heads below the

surface of the moulding. Allow the adhesive to dry overnight, and the combination of glue and nails will create a strong joint.

You can join the remaining two corners on the following day. Once the frame is dry, use a stainable or color-matched wood putty to fill nail holes and conceal any gaps at the joints. To add a glossy finish, I used two coats of varnish, allowing each coat to dry overnight and lightly sanding between.

FINISHING AND ASSEMBLY

Rather than using actual glass for this picture, I went with Plexiglass for a little extra durability. My local



Connect the miters with a highquality wood glue.



Miter clamps will hold the joints securely while the wood dries and the nails are driven.



I used a mahogany-tone gel stain that allowed the oak wood grain to show.

THE RIGHT FRAME OF MINE



Support the long ends of the moulding sticks with shims to relieve tension on the clamped joints.



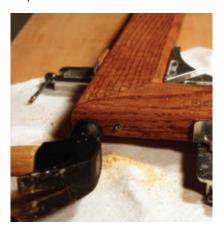
Predrill the nail holes to avoid splitting.

Lowe's cuts the sheets to spec and sells them for a reasonable price. When placing the glass and picture in your frame, do so in a fairly dust-free area. For example, the Plexiglass required me to remove thin scratch-resistant film before placing, but its removal created static electricity on the plexi surface that attracted little bits of a fuzz and debris, which I then had to labor to remove so they wouldn't be sealed between the

glass and picture. Using compressed air to clear the glass works well, and leaves no streaking like a spray cleaner is apt to do.

If you've cut and routed the moulding correctly, then your glass and frame should lay right in, flush with or recessed within the frame. If you've built your frame too small, I suppose you can always take some scissors to your artwork. But that's kind of like rearranging the colored stickers on a Rubik's Cube and calling it "solved."

Finishing up, I simply taped the rear of the matting in place to hold its position and then backed the



entire frame with foam board sealed along the edges with Gorilla Tape. This isn't the most beautiful back-of-frame treatment-but who looks at the back of a picture? In the old frame shop, we used "framer's points" to secure the mat in the frame (see sidebar), and sealed the backs of the frames with construction paper glued along the perimeter of the frame. Whichever method you choose, the idea is to seal out dust that could potentially work its way between the glass and artwork.

When it comes to picturehanging hardware, a wire will work fine for smaller pictures, but for larger ones I prefer the extra stability of two predrilled picture hooks mounted to each side of the frame. After that, all that's left is to mount your new showpiece. **EHT**

Use finish nails long enough to penetrate substantially into the mating stick of moulding.



Set the nail heads below the wood surface.





200

If you're measurements were correct, the artwork should fit right in. Seal the back of the frame to prevent dust intrusion.

When applying varnish to the frame, Hyde Painter's Pyramids elevated the frame for easy access to the edges.

Keep the glass free of dust and debris when installing.

HANDY TOOL FOR THE DIY'ER

A point gun was a staple (pardon the pun) in the frame shop I worked at in

PICTURE FRAMER'S POINT GUN

college. Functioning like a heavy-duty stapler, this framer's gun drives flexible points into picture frames to hold the glass/artwork/backing sandwich securely in position. Points are driven parallel to the backing into either hardwood or softwood, but leaving a 1/64" space—just enough to hold the sandwich securely without causing damage. Visit www.leevalley.com.







Reclaiming or recycling wood not only saves money on woodworking projects, but often results in finding more beautiful wood than you can purchase (or afford to purchase) today. Hardwoods, such as walnut, maple and oak, were often used in relatively small projects, as well as in building construction. Our 150-year old house is framed in red oak. I discovered an old, timber-framed barn made entirely of walnut. The recycled pew had a walnut seat board, walnut trim and a back board of white pine. The back board was one piece, one-inch thick by 20 inches in width and 10 feet long. You won't find that at your local wood dealer. Other recycling "finds" include: hickory, yellow pine, butternut, beech, maple, cherry, mahogany and chestnut. Even if some of these pieces aren't big enough for furniture or cabinetry, they will create beautiful wood turnings or small projects.



Old paint can be stripped or belt-sanded off.



This solid maple, butcher-block countertop was made entirely from reclaimed wood.



A drum sander is used to sand and smooth the glued-up countertop.

LOCATING

Finding recyclable woods is like a treasure hunt. Look for renovating and remodeling jobs, particularly in older neighborhoods. Even commercial buildings often were framed of now-hard-to-get woods. Homes built during the post-depression period, however, tend to be made of less valuable woods. Old barns were once a great source of wood for recycling, but are getting harder

to find. Due to insurance problems, permission to acquire woods from remodeling and renovating jobs is also getting harder. Most owners don't want you taking just a few boards, so it's a good idea to make friends with a renovator. Of particular interest are the interiors and trim, especially from public buildings and churches. Even something as humdrum as shelving boards can be valuable, if made of a quality wood.



Storm-damaged trees, logging tree tops and other woods destined for the burn pile can also be reclaimed.

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Discarded furniture often results in great finds. Don't expect an "Antique Road Show" find, but garage sales, going-out-of business sales and even the community clean-up days can result in haul-it-away furniture with recyclable woods. You'll often discover, as I did, a beautiful and useful wood under coats of paint. Even an ugly piece of furniture may have some redeeming woods. Avoid veneered projects as veneer rarely covers great woods.

Another source is wood pallets. Pallets are readily available and many companies will gladly let you take them. These can vary from



This beautiful matched walnut comes from a discarded tree top.



The author constructed a walnut gun case entirely from discarded trees.



Shown is a piece of spalted maple the author discovered in a firewood pile.

great finds to only firewood quality. Heavier equipment is usually shipped on hardwood pallets. Heavy-duty pallets holding imported products can also be good, because cheap woods in one country may be valuable in another. I've often found valuable, thin plywood used with many heavy-machine crates. This makes great cabinet backing and craft projects. On the other hand, softwood pallets aren't usually worth the effort. Do not use pallets that may

have contained toxic materials such as paints, chemicals and so forth.

If you're looking for small pieces of wood for wood turnings, making small boxes and so forth, check the local yellow pages for cabinetmakers, boat builders, millwork plants and others. You may be able to acquire their offcut pieces for a small fee. Do not attempt to reclaim woods that are rotten or have potential insect problems. Doing so can potentially



The old-fashioned way of getting small pieces was often using a maul or froe to split log sections. Then, shape the surfaces with a hand plane.



A chainsaw mill, such as the Granberg International Small Log Mill, is an excellent choice for woodworkers, wood turners and others for converting small logs into lumber. You will need a chainsaw with at least a 20" bar and 50cc motor.

bring insects such as wood beetles, wood roaches and even termites into your shop or home.

RECLAIMING

The first step is dismantling. This can be easy or difficult depending on the project, the type of wood used and the intended use. Use a sharp knife, chisel or sander to remove a bit of paint or finish to determine the wood used. A great lesson I learned from years of dismantling in my dad's shop was how furniture was put together. This made for easier restoration of valuable pieces, as well as a better idea of how to build furniture. It's important to dismantle with a plan in order to retain as much valuable wood as possible. A big sledge-hammer is not the answer. Remove all fasteners, screws and nails as they can quickly ruin a saw, planer or jointer blade. Scanning the wood with a small woodworker's metal detector, such as the Zircon, can save valuable blades.

Next prepare the wood for use. Grit and dirt can also dull

woodworking tools. Use a stiff-bristle brush to scrub off all dirt, grit and grime. Do not use a steel or metal brush as these can leave particles in the wood surface. Don't immediately run the wood through your saw, jointer or planer because old hardened varnish and paint can also dull and chip blades. Use a belt or drum sander to remove the old finish or paint. Make sure you wear a dust mask.

Green wood is another source for reclaiming economical wood,

and I've also done a lot of that. A friend from Mississippi related the tremendous amount of storm-damaged pecan and other valuable trees piled and burned during the Katrina disaster. Stormdamaged trees can be a valuable wood source, as can dead or damaged trees that must be removed from yards, trees removed for developments, and even the tree tops left from logging operations. Milling slabs from a saw mill can sometimes result in usable woods as well. Even short chunks usually relegated to the firewood pile can be used by wood turners. I always look for unusual grain, crotch figures and other beautiful woods, even when cutting firewood.

Many trees that would not be utilized by commercial loggers can



A bandsaw with resaw blade can also be used to mill small wood chunks, or whatever you can lift and support on the saw table.





A shop-made fence, clamped to the saw table, holds the logs in place for the cuts. You can cut planks or even veneer with a bandsaw setup.



You can also cut wood-turning blanks quickly and easily on the bandsaw. One wood-turning technique is turning green, bark-on bowls. First step is to rough-cut on the bandsaw.

also result in excellent material for the serious woodworker. If you have a mid-sized chainsaw and are handy with it, you can saw your own logs ready for milling.

MILLING

You can cut or mill lumber if you have the right tools, some of which you may already have in your shop. The old timers cut logs into sections by "riving" or using a large chisel, wedges or a "froe" to split the wood apart. This can be used to make rough cuts, followed

by a large hand plane to smooth and shape the lumber. Or, use a bandsaw to resaw the wood into planks or blocks. You will need to utilize a wide resaw blade for this chore.

A chainsaw mill is a tool that can be used by the occasional woodworking "logger" to saw small trees into planks and "blanks." These handheld mill attachments are fastened to a chainsaw bar for slabbing and milling. The Granberg models are excellent choices and include the Alaskan MK III Saw Mill. which can be mounted on bars from 24 to 56 inches, as well as the Alaskan Small Log Milling Attachment, which can be mounted on saw bars 20-inches or less. These saws are also excellent choices for cutting beams for constructing buildings. The units require the use of a ripping chain and a chain saw of at least 50cc.

A bandsaw mill is the ultimate tool for the serious wood collector. You can saw large or small logs into boards and turning blanks. I once had a big, circular-blade mill, which ran off my tractor's

power-take-off, but I've used a Timber King portable bandsaw mill for a number of years. It's easier to use, wastes less wood and is portable. Some small bandmills, such as the Wood-Mizer, are extremely portable, relatively inexpensive and can even be stored in your garage when not in use.

Freshly sawn wood is green or uncured but can be used for some projects and construction. Barns, outbuildings and even post-and-beam buildings are often constructed of fresh-cut beams and posts. A favorite project of woodturners is turning green wood bowls. The wood is extremely easy to turn and provides an



If small logs for turning are to be stored for some time before use, their ends should be coated with exterior house paint.



The ultimate for home-shop milling is a bandsaw mill, such as the Timber King model shown. These mills are portable, waste little wood and are relatively safe and easy to use.



With a bandsaw mill you can cut planks, beams, even turning pieces, quickly and easily and often from tree sections that would otherwise be wasted.



In most cases, wood must be dried before use, especially for furniture and cabinetry. Air drying is an ages-old and effective method of drying wood. Any dry area with plenty of air circulation can be used. I've used a barn for many years.



The sawn wood planks must be stacked apart with wooden stickers for air circulation.

unusual project. Short chunks of 12 inches or less are commonly used. Use a chainsaw to saw the logs into lengths. If you're not going to use immediately, coat both ends heavily with several coats of exterior house paint. Rough-cut the wood to shape on a bandsaw before turning.

Most woodworking projects, however, are made from dried wood. Purchased lumber is kilndried, but the old-time method is air drying. I've used this method for many years with lots of successful projects. It takes time and the appropriate space; a dry area with good air flow. You can air-dry outside, covering the wood, or you can air-dry inside. I've air-dried in my barn for many years.

Regardless of whether inside or outside, the boards should have their ends coated with house paint. The wood stack must also be located well off the ground or floor and supported to prevent sagging. To allow for air circulation, 3/4-inch wood stickers are placed between the planks as

they are stacked in place. If drying outside, add corrugated metal or plastic roof panels as a cover, then cover

the entire stack with a material called "shade cloth" available at nursery supply houses. This keeps off direct sunlight, yet allows for air circulation. Now you simply need to wait. It normally takes about a year of drying for each inch of lumber thickness to bring the moisture content down to around 12 to 14 percent, but this will vary according to the humidity and temperature in your area. You will need a moisture meter such



It's extremely important to know the moisture content (MC) of wood to be used for furniture and other projects. The Lignomat moisture meters come with a chart listing the different woods groups.



The Lignomat pin meters are extremely easy to use; simply push the pins into the wood surface. Air-drying will usually bring MC down to 10 to 12 percent as shown with this walnut.





Before using for construction, the dried lumber must be shopmilled. A power planer, such as the Woodmaster shown, is used for surface and thickness planing.



A jointer is used for surface planing small pieces and edges of larger pieces. A hand-held plane or power planer is used to surface-finish large planks that won't run through a planer.

as a pin meter to check the moisture content of the wood in the stack occasionally.

You can speed the drying process to a few months by using a home kiln. These can be purchased, or you can build

your own. A number of plans are available on the internet. The Lignomat company also has an accessory that allows you to instantly check the moisture content of the wood in the kiln, as well as the humidity. Most furniture projects are constructed from wood with a 6 to 9 percent moisture content (MC). The best tactic is to store the wood in a heated shop or other area until you reach the desired MC. Check the MC with the moisture meter before using.

Nothing is wasted from my recycling, reclaiming and shop projects. Whatever I can't use in projects gets burned in the fireplace, either as kindling or as fuel.

For more information on building the projects and using the tools found in this article, visit www.extremehowto.com. **EHT**



The author even recycled old deck boards for a deck rejuvenation project. Remove the old boards, belt-sand their bottom sides and reinstall them.



Sawing your own wood allows you to produce big slabs for table tops.

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Quick Tips for Wall-to-Wall Carpet



By Matt Weber

s I sit down to type this article on DIY carpet installation tips, I hear a radio advertisement for Lowe's offering professional carpet installation of an entire house for only \$97. That price covers installation of both carpet and pad (purchased from Lowe's), but you'll have to remove and dispose of the old carpet yourself and pay extra for any customization, including installation on stairs. Still, assuming you like one of Lowe's selections of carpets, that's a pretty attractive offer, because installing carpet often requires specialized tools that most DIY'ers don't have laying around the house.

Carpet tools are available for rent and purchase, but if you don't do much carpeting, the cost of the

tools probably won't justify a purchase. And, although you'll save money by renting, by the time you rent all the required tools you may very well have surpassed \$97. Doit-yourself carpet installation is most appropriate for small rooms that don't require the use of a carpet stretcher, and if no seams are required—that's good, too. The small-room scenario eliminates some of the pricier rental items, and according to some of my contractor friends, a small room can sometimes be carpeted with little more than a knee-kicker, a carpet knife and carpet tucker (broad knife).

In light of that caveat, the following are a few guidelines to consider for typical carpet installation.

Recruit Help. A roll of carpet isn't something you're going to be able to haul on your shoulder. Its considerable weight and bulk means you'll need a helper (or two) just to get the carpet into the room to be installed—and to do so without scratching up the house walls or trim with the abrasive underside of the carpet as you weave the roll through the house.

Prep Steps. Rough-cut the carpet to a workable size before hauling it into the room, so you're not lifting more than necessary and you won't have a lot of excess material obstructing the work area.

Tack Strips. Cut the tack strips, which anchor the carpet, to fit around the perimeter of the room



Rough-cut the carpet to size.

Recruit help to lift the roll of carpet into the room.





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and hammer in place. Leave room between the tack strip and the wall equal to the thickness of the carpet. Nail the strips to the floor.

Padding. Lay the carpet padding over the entire floor, butting the seams and taping them together. Staple the pad every 12 inches, working toward the tack strips, securing the pad against the edge of the strips.



Tack strips and carpet padding are the first items to install.

Measure and Cut. Use a carpet knife and a straight edge to cut the carpet roughly 6 inches longer and wider than the area of the room. If the room is too large for a single piece of carpet, you'll need to join the seams with carpet seam tape, a carpet heat-bond iron and a carpet seam roller.

Place the Carpet. Center the rug in the room, with the excess lapping up the walls. Make any necessary relief cuts at wall corners so the carpet lays flat.

Knee-kicker Installation. Even for small DIY jobs, a knee-kicker is the one specialized tool necessary for carpet installation, and you can find one of these on sale for as little as \$20 (at Harbor Freight Tools, www.harborfreight.com). Place the toothed end of the knee kicker on the carpet about 3 inches from the wall, starting in a corner and



Center the carpet in the room.



Use a knee-kicker to push the carpet over the tack strips.

facing the long wall of the room. "Kick" the padded end of the tool with your knee, pushing the carpet over the tack strip to hook it in place. Use the carpet tucker to push the carpet firmly onto the tacks. Work about 3 feet down the wall, then repeat the same procedure along the adjacent short wall. Trim the carpet as you go, cutting away the excess along the wall with a carpet knife and tucking the edge into the space you left between the wall and the tack strip.

Installation Sequence. With the first corner anchored, go to the adjacent corner along the long wall and anchor both sides of that corner just like you did the first corner. For a large room, you may need a carpet stretcher to pull the carpet tightly from one end of the room to the other corner. Once the second corner is anchored,

proceed down the wall between the two installed corners, kneekicking the carpet in place and trimming as you go. Follow this procedure to anchor the short wall. Next, install the second long wall and finish with the final short wall.



Trim away any excess with a carpet knife



Tuck the carpet between the wall and the tack strip.



Position the foot of a carpet stretcher against solid wall framing.

Carpet Stretcher. If using a carpet stretcher, start with the foot of the stretcher placed against the short wall of the starting corner. Make sure the carpet stretcher is placed against solid wall framing so you don't inadvertently "stretch" the tool right through the wallboard of the house—a horror story relayed to me by seasoned



Extend the stretcher to the far end of the room



Push down on the handle to stretch the carpet.

carpet installers. Angle the stretcher about 15 degrees toward the opposite corner. A carpet stretcher is a modular device in which the installer adds lengths of tubes between the head and foot of the tool to traverse the distance across the room. Set the toothed head of the stretcher about 6 inches from the wall and push



Proceed down the wall between the installed corners, anchoring the carpet and trimming the excess.



To join a seam, use a heat-bond iron and hot-glue seaming tape.

down on the handle to stretch the carpet. Once stretched, used the knee-kicker to anchor it in place.

Seaming Sections. If it's necessary to seam the carpet, plan the layout so the seams fall in lowtraffic areas of the room. Butt together two straight seams and make sure the carpet is laying flat and in line. Position a strip of hot-glue seaming tape centered beneath the edges. Slowly move the heated bonding iron under the carpet and over the tape to melt the adhesive. As you move the iron down the seam, the flaps of carpet will fall back down onto the active adhesive. Use weights or a carpet seam roller to firmly attach the carpet to the tape.

Terminating the Carpet. Where the carpet meets the perimeter walls, the edges can be concealed by base molding and/or quarterround. Where carpet meets another flooring material, a transition molding such as a threshold, carpet bar or Z-bar binding strip may be installed for a finished look. For low-pile carpets, some installers simply fold the carpet under and staple it flatly. Other options include wooden thresholds, or hot-seaming two carpet floors together if it meets another carpet of equal thickness. EHT



Press the carpet firmly into the seaming tape with a carpet seam roller.

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