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10

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EXCLUSIVE! Our editors pick the most innovative tools & home products for the new year.

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EDITORIAL

Workbench Magazine
2200 Grand Ave.
Des Moines, IA 50312
Editor@Workbenchmag.com

Innovative. It's one of those words that gets thrown around a lot. We're constantly bombarded with products and ideas that are touted as innovative, but all too often are merely just new or worse, just repackaged. In fact, this term is so overused that it's easy to wonder whether true innovation still exists.

Top 10 Innovations — That's the question we ask every year as we assemble our annual "Top 10 Innovations" Awards. To compile this list we scour the marketplace to find tools and home products that aren't just new, but also accomplish their assigned duties more effectively, more efficiently, or more ingeniously than others. Those, to us, are the ones that are truly innovative.

Admittedly, some years the task of finding innovations to award is harder than others. But I'm happy to say that this year we've found a batch of tools and products that definitely earn their spots in our Top 10. From a drill capable of decision making to a door lock that reads fingerprints, you'll find them all on pages 38 through 43. We're sure that you'll be impressed with these products, and we think you'll agree that "innovative" can still mean something important.

Storage, Style, & Substance — We think you'll also be impressed with the great projects, tips, and techniques you'll find on the rest of the pages of this issue. We've filled them with ideas that will help you make the most of your home.

Speaking of storage and style, we have a lot more of both to offer in our latest book: *Workbench Home Storage Solutions*. It's packed with 100 pages of great home solutions. Order a copy today at WorkbenchMagazine.com. It's just \$9.95, and the shipping is free.

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ON THE COVER



See how you can build furniture-grade display cases that look like they cost thousands for mere hundreds. The techniques are so simple that anyone can accomplish them. Everything you need to know is right here.

— page 30

ONLINE

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Get even more information about the projects and articles in this issue:

- **Builder's Plans:** Display Cases, A/V Cabinet, Garage Storage Cart
- **Slide Shows:** High-Dollar Looks from Low-Dollar Wood, Paint Power: Trend-Proof Colors, Top 10 Innovations
- **Bonus Article:** Cutting Sheet Goods

easy weekend projects



DIY Tips: Make a No-Fuss Miter Saw Station

Use scrap wood and drawer slides to make a space-saving miter saw station for your garage this weekend. Plus, 20 more great readers' tips!

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Great Looks on Display

You don't have to be a furniture-maker to build eye-catching, head-turning display cases. Just read this article for all the tips, techniques, and inspiration you'll need.

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home storage solutions



Garage Gear: Cabinet Upgrade

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Garage Storage Cart

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Top 10 Innovations

Presenting our annual look at the tools and products that will change the way you work in the years ahead.

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We did an informal office survey to determine which tools get the most use around our homes. The results may surprise you.

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Sound advice on installing sinks, hitting wall studs, fixing chain saws, plus many more answers to common reader quandaries.

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DIY Gear

Stop — it's hammer time. Here's an in-depth look at all the different types of hammer you'll need for your home improvement tasks.

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stylish home **makeovers**



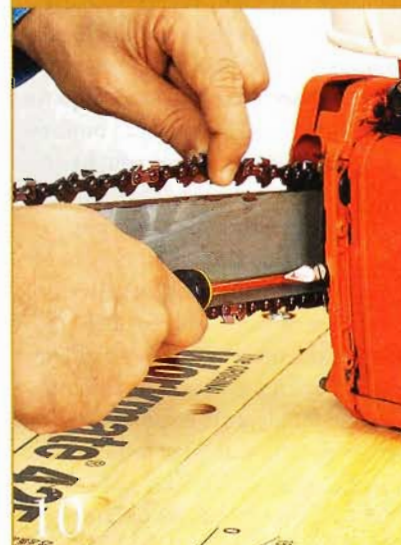
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10



The Passport Series from KraftMaid includes many universal design features, including higher toe kicks for people in wheelchairs.

PUMP UP YOUR HOME'S ACCESSIBILITY WITH

Universal Design

This practical design approach accommodates people with a wide variety of needs — including those who are disabled.

Your home may fit your daily living routine now, but that may not always be the case. Aging and disabilities can change your needs, and you'll have to make adjustments to your home to make it more functional. That's where universal design can make a difference.

Universal design is a design approach that improves accessibility for people with a wide range of needs. Examples of universal design elements include wider doorways and ramps for wheelchairs, and easy-to-read buttons on microwaves for people who have poor eyesight.

It's not exactly a fun topic, but aging is a reality that we all need to be prepared for. Since people are living longer, we're more likely to need accommodations to "age in place," or stay in our homes as we age. Companies and builders are responding to this demand with a variety of products and design strategies.

If you'd like to make your home more accessible, the first step is to make

a list of things that you'd like to change about how it functions. Not all of the changes have to occur on a major scale. Universal design can be as simple as switching cabinet hardware from knobs to handles to make them easier to grip and open. Another easy project is to install textured stair treads to improve traction, and handrails on both sides of a stairwell to provide extra support. Grab bars in the bathroom can also increase safety. Start out small before working your way up to larger changes.

When you're getting ready for a major remodeling project, it's easier to incorporate more complicated universal design elements at the same time. If you're remodeling your kitchen, for example, you could install countertops of varying height. These provide work surfaces for people who like to prepare food while standing, and those who need to or prefer to work seated.

You may also want to consider purchasing appliances that come with more safe and convenient features.

When you're looking for a new cooktop, choose one with controls that are close to the front, so you won't have to reach across hot burners. (If you choose this type, look into models that have a child lock to prevent accidents.) Front-loading washers and dryers with controls on the front face are another accessible choice since they ensure that people in wheelchairs can use them.

When you're ready to make major changes to improve your home's usability as you age, a "Certified Aging in Place Specialist" (CAPS) can guide you through the process of choosing features that work for you. Learn more about the specialists and find one in your area through the National Association of Home Builders Web site: NAHB.org/CAPSinfo.

By the Numbers:

Percentage that dishwasher consumption has decreased by since 2000:

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Just about any company can label their products “green,” but that doesn’t necessarily mean they’re healthier or more environmentally friendly than others on the market. The GREENGUARD Environmental Institute (GEI) set out to change that by implementing an indoor air certification program. It certifies products that meet the GEI standards for low chemical and particle emissions.

To obtain the certification, products such as insulation, adhesives, flooring, and paint are tested under conditions that simulate normal use. Researchers

measure emissions of formaldehyde and other VOCs. If a product meets the strict criteria, the manufacturer may use the GREENGUARD mark on that product’s packaging. The product is then tested regularly to ensure that it still meets the certification criteria.

Since children are especially vulnerable to toxins, there’s also a classification called “GREENGUARD Children & Schools” to ensure that products are safe for places where children are more likely to be. To search for certified products, visit the online product guide at GREENGUARD.org.

HOMEWORDS Easily Mistaken Words

ABATE: To remove a harmful substance completely from a building or home.

ENCAPSULATE: To seal off a harmful substance with an impenetrable barrier.

BALUSTER: The vertical posts that support a rail, often as a guard for a staircase or balcony.

BANISTER: The entire handrail for a staircase, including the posts.

BEAM: A horizontal frame piece that supports the joists’ weight.

JOIST: Horizontal boards that support the floorboards or ceiling of a building.

CEMENT: A mixture of ingredients, including iron oxide and silica, that is used in concrete.

CONCRETE: A material used for foundations and sidewalks that includes portland cement, sand, and gravel.

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If you'd rather shop online, most of the home product companies on this list allow you to place your orders through their Web sites.

10 HOME PRODUCT

Sources You Can't Miss

There's no shortage of companies selling products for your home.

Housing is the biggest investment most of us will ever make, so it makes sense that we have plenty of options when it comes to decor, furnishings, DIY supplies, and anything else we need to personalize and improve our spaces. With so many choices, it can be difficult to decide where to start. Here are 10 notable home product sources.

Habitat for Humanity ReStores

(Habitat.org/env/Restores.aspx)

We couldn't make a list of notable home product sources without mentioning the Habitat for Humanity ReStore. The stores offer a wide variety of building materials, which are often left over from commercial and residential projects. Companies, builders, and individuals donate these supplies to the stores, which sell them at discounted

prices to raise money for Habitat for Humanity's efforts.

Lee Valley

(LeeValley.com)

This company probably isn't a secret to woodworkers and gardeners, who know that Lee Valley is a great source for tools, hardware, and gardening supplies. There's no doubt that those products are extremely valuable, but the company also offers plenty of things to get DIYers of all experience levels excited. If you're looking for cabinet hardware, for example, Lee Valley has diverse style offerings that range from whimsical to sophisticated. The company's Web site also has a gift section, where you can shop under several different categories such as price range or the recipient's hobby.

Materials Unlimited

(MaterialsUnlimited.com)

If you're searching for a large selection of antique components, look no further than Materials Unlimited. In addition to a store in Michigan, the company does business online. The Web site is a one-stop shop for everything from shelf brackets to antique furniture. Check out the stained glass window section — there are often plenty of eye-catching options.



PHOTO COURTESY OF MATERIALS UNLIMITED

Rejuvenation

(Rejuvenation.com)

Rejuvenation started in the 1970s as an architectural salvage store but couldn't keep up with the demand for antique light fixtures. The company's solution was to manufacture new fixtures that capture the look of the highly sought-after antiques. In addition to period reproduction lighting, the company sells hardware and house parts like mounted mailboxes. And true to its salvage-store beginnings, the company still offers gorgeous antique hardware and light fixtures, too.

Restoration Hardware

(RestorationHardware.com)

When you need the perfect hardware and accessories to accent your home, Restoration Hardware is a great place to begin the search. The company is an impressive source for furnishings and fixtures that could be used in a wide variety of decor styles. You can also find outdoor furniture, linens, and



PHOTO COURTESY OF HABITAT FOR HUMANITY

other home goods in the company's extensive Web site catalog.

Rockler Woodworking and Hardware

(Rockler.com)

Rockler Woodworking and Hardware is another notable company whose products would be well-suited to your home improvement projects, too. Whether you're looking for parts for a project or the tools you'll need to complete it, you can probably find them on the company's Web site. It's the perfect source to help you build up your home workshop arsenal with bits, jigs, and clamps.

Schoolhouse Electric Co.

(SchoolhouseElectric.com)

Schoolhouse-style light fixtures were popular from about 1900 to 1950. The founder of Schoolhouse Electric Co. found vintage cast-iron light shade molds and put them back into use to create new versions of the classic fixtures. Today, the

company makes period lighting that captures the authenticity of the older fixtures.

Van Dyke's Restorers

(VanDykes.com)

Van Dyke's Restorers is another great source for reproduction hardware, lighting, and plumbing fixtures. It's a perfect place to look if you're working on a period home, no matter what your project is. The company has a large selection of sinks and faucets for kitchen or bath projects. We were particularly impressed by their selection of upholstery supplies like tacks and chair cane.

West Elm

(WestElm.com)

Items from West Elm will probably fit into your home perfectly if you prefer contemporary design. With everything from stylish storage to lighting and window coverings, the company has plenty of products that can help you finish your modern space. You'll find a variety of sleek finishing touches



PHOTO COURTESY OF Z GALLERIE

for your decor, too, which will bring upscale flair to your home.

Z Gallerie

(ZGallerie.com)

Another home retailer, Z Gallerie, offers unique home items both online and in its stores. It features lighting and furniture that are worthy of an art gallery, but would also look great in your home. And if you want to add a focal point to a room, like bold patterned curtains or furniture pieces with unexpected designs, Z Gallerie may have just what you're looking for.

GIVE YOUR BATHROOM A NEW LOOK WITH A Lighting Makeover

When you're remodeling, a simple light fixture change can make a world of difference for your room's atmosphere. Here are a few things to keep in mind when you're choosing lighting for a bathroom project.

Make sure your lighting is bright enough to do basic tasks like shaving, cleaning, and reading labels on bottles.

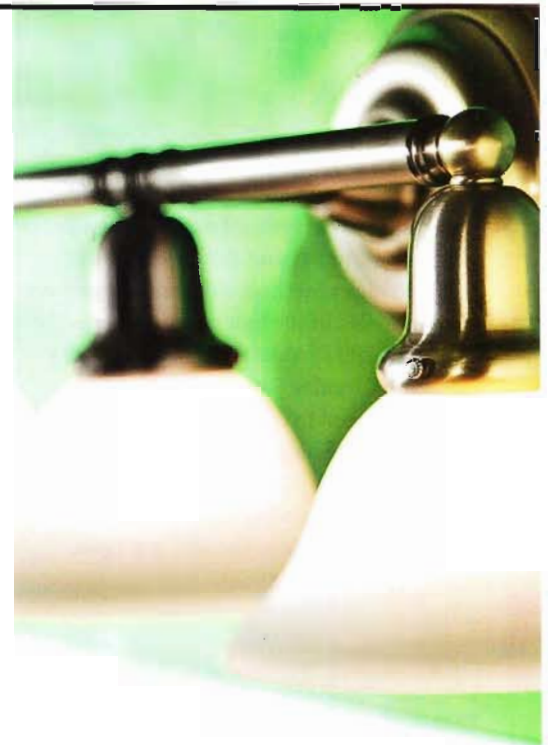


PHOTO COURTESY OF SEA GULL LIGHTING

This seems like a no-brainer, but many bathrooms have inadequate lighting for even these simple tasks. Pair task lights with softer accent lights such as sconces to make the room feel more inviting.

There are also options for people who need extra light in their bathrooms at night. Linear lighting (shown in the *Photo* at left) is sold by companies like Sea Gull Lighting (SeaGullLighting.com), and can be installed in your bathroom cabinet's toe-kick space.

Safety is always a factor when working with lighting in damp areas, though, so make sure your fixtures are rated for the usage you have in mind. If you're not sure whether your lighting scheme is practical for a bathroom, check with a home center or lighting showroom. To find a showroom near you, visit AmericanLightingAssoc.com.





To plunge cut with a circular saw, hold the saw above the cut line, start the motor, and then slowly pivot the saw down. Cut the corners with a hand saw.



Drill holes at opposite corners to start a jigsaw cut. Cut two sides, and then cut diagonally to remove the waste. Then cut the two remaining sides.



TWO SAWS OFFER TWO DIFFERENT WAYS TO CUT

Square Holes in Plywood

Q: I need to cut a square hole in the middle of a sheet of plywood. What's the best way to make this type of cut accurately and safely?

Jim Dickens
Canton, OH

A: You can cut a hole in the middle of a sheet of plywood using either a jigsaw or a circular saw. Both work great. Which you choose depends largely on the size of the hole and how perfectly straight its sides need to be.

Circular Saw Plunge Cut — If you need to cut a large hole, and if you want the hole's sides to be nice and straight, a circular saw works great. This cut is made with a technique called plunge cutting. The idea is simple,

and the technique is easier than you might imagine. But before you take on this technique, make sure that you're comfortable using a circular saw.

Start by adjusting the saw for the correct depth of cut. I like to set the blade to cut no more than 1/4" to 1/2" deeper than the thickness of the plywood I'm cutting.

With the depth set, line up the saw over the cut line on one side of the hole. Rest the front of the saw shoe (base plate) on the plywood, and hold the blade above the workpiece. Use your front hand to hold the front edge of the shoe firmly against the plywood (*Left Photo, above*).

You'll have to hold the blade guard open, so make sure the blade isn't touching the plywood. Then start the

saw, keeping a firm grip on it, and slowly pivot the blade down into the workpiece. Once the shoe sits flat, complete the cut. Then repeat the process for the other sides. You won't be able to cut all the way through at the corners, so use a hand saw to finish up each cut (*Inset Photo*).

Clean Jigsaw Cut — For smaller holes, a jigsaw works great. Start by drilling starter holes at opposite corners. Then cut from each starter hole toward a corner.

Before cutting the opposite corner, you can cut diagonally to remove the waste (*Right Photo, above*). This prevents the waste piece from shifting in the opening and jamming the saw. Then cut the opposite side to complete the hole (*Inset Photo*).



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SIMPLE TIPS MAKE IT EASY TO

Adjust a Chain Saw

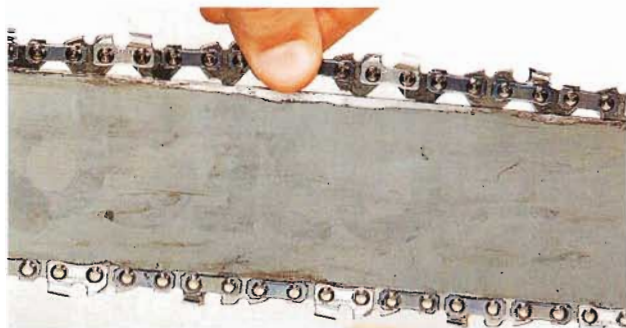
Q: My chain saw blade needs to be sharpened, and it's cheaper if I remove the chain and take it in. But I don't know how to adjust the chain properly when I put it back on. Can you help?

Bruce Loundsbury
Lincoln, NE

A: Installing a chain saw blade requires precision. Too loose, and it can come off. Too tight, and it will wear the chain and bar. Luckily, getting the chain set right is easy.

You'll have to take off the chain-sprocket cover to remove the chain and bar. When you reinstall them, slip the chain on the bar first, and then put the bar in place. Then reinstall the cover with the nuts loose.

On the back side of the bar, you'll find an adjustment screw (*Upper Photo, below*). Turn that one way, and the bar will get pushed outward, tightening the chain. You can tell when the chain is right by lifting up on it in the middle of the bar. Tighten the screw until you can't lift the chain's drive teeth above the bar, but there's still a little play (*Lower Photo, below*). Now tighten the sprocket cover screws, and you're set. After you cut a little while with the saw, it's a good idea to recheck the chain.



For safe operation, the blade on a chain saw needs to be adjusted properly. It's an easy task once you understand how to adjust the chain tension.



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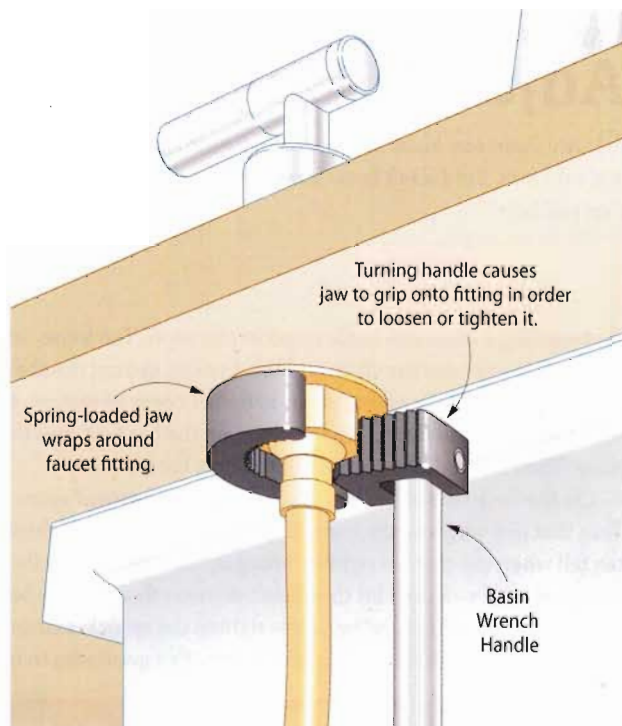
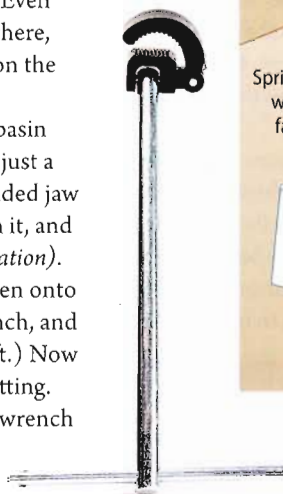
Using a Basin Wrench

Q: I need to remove a faucet to replace it, but I can't reach the fittings underneath to loosen it. Got any advice?

Martin Wilson
Sioux Falls, SD

A: Faucet nuts are always hard to reach. Even if you can get your hand or a wrench up there, it's almost impossible to get the wrench on the fitting well enough to turn it.

Luckily, there's a special tool called a basin wrench just for this purpose (*Photo*). It's just a long T-handle with a pivoting, spring-loaded jaw at the top. Pivot the jaw to one side, open it, and then reach up to the faucet fitting (*Illustration*). As you turn the handle, the jaw will tighten onto the fitting. (If it doesn't, remove the wrench, and pivot the jaw to the other side of the shaft.) Now just rotate the T-handle to unscrew the fitting. To install your new faucet, just pivot the wrench jaw to the other side, and tighten the fittings the same way.



A basin wrench reaches easily into the cramped area behind a sink to grip the supply line couplings and nuts that hold a faucet in place.

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Outlets Act as Simple Stud Finder

Q: I need to locate my wall studs to hang shelves, but I never have much luck using a stud finder. Is there another way to easily locate studs?

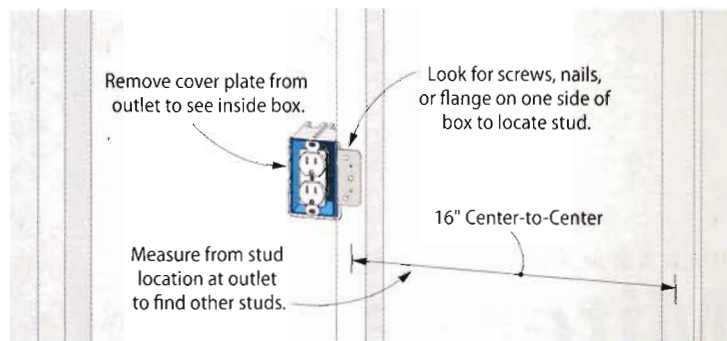
Dave Steffen
Madison, WI

A: An easy method for finding a wall stud is to look at existing light switches and outlets. They're almost always attached to a stud.

To locate a stud, start by removing the outlet's cover plate. Then look inside or alongside the outlet mounting box for screws, nails, or flanges that are used to attach it to the stud (*Illustration, above right*). Don't ever reach inside the box without first shutting down the circuit.

Once you've determined which side the stud is on, mark its center point (just measure about $\frac{3}{4}$ " from the side of the outlet box). Now you can just measure in either direction from that mark to locate the next stud in line, which should be located 16" away. Or keep measuring in 16" increments to your desired location.

To confirm that there's a stud, drive a small nail into the wall. If it hits solid material behind the wall board, you're all set. If you find it hollow, recheck the measurements, and try another test hole.



WHAT'S THE DIFFERENCE BETWEEN KRAFT-FACED AND UNFACED INSULATION?

Kraft-faced insulation has the fiberglass insulation material bonded to a Kraft paper backer on one side. The paper is coated to act as a vapor barrier and has flanges that are used for stapling it to wall studs.

Unfaced insulation is just the fiberglass material without any backer. It gets held in the stud bays by friction and usually gets installed with a separate vapor barrier.

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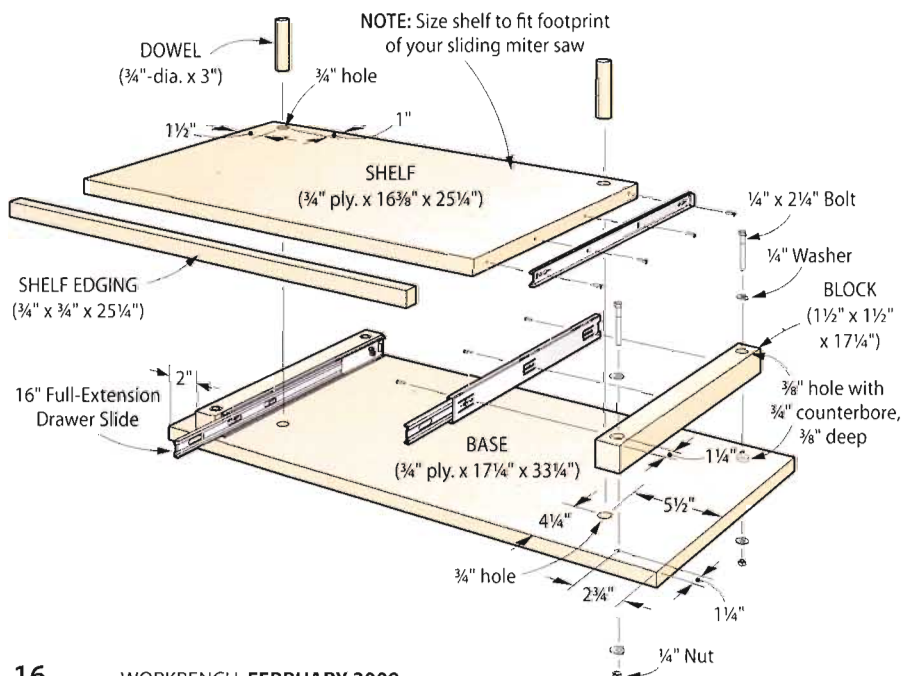
Miter Saw Station

Sliding miter saws are versatile tools, but they also eat up a lot of space. Michael Butts of Fort Erie, Ontario, figured out a way to store his saw tightly against the garage wall when not in use, and then pull it out far enough to give it full range of motion when needed.

The secret is placing the saw on a shelf that's mounted to a pair of heavy-duty drawer slides. The slides allow you to move the saw quickly between its "storage" and "in use" positions (*Photos, right*).

These slides are mounted to blocks, and then the whole assembly gets secured atop a plywood base. If you look carefully, you'll notice that the shelf has a pair of dowels that pass into holes drilled in the base. This locks the shelf in its "in use" position when it's time to put the saw to work.

To use the station, just clamp the plywood base to a work surface in your shop. Then slide out the shelf, push in the dowels, and you're ready to cut.



BEST TIP PRIZE WINNER!



Michael Butts wins a corner cabinet organizer from Rev-A-Shelf (Item #5PSP) valued at over \$550!

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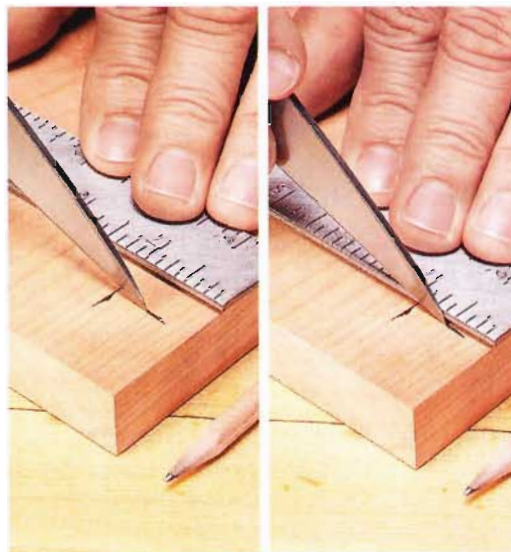
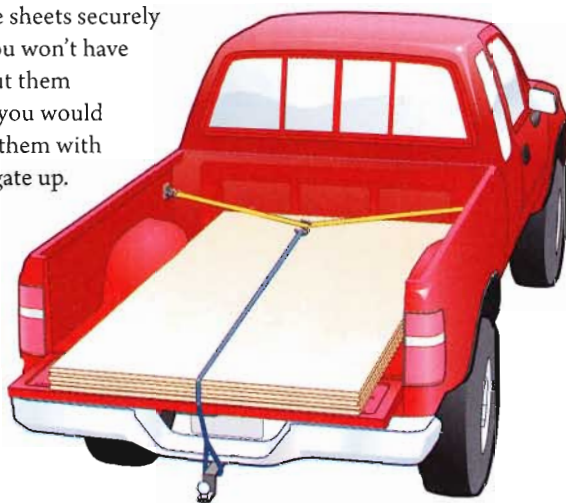
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SAFELY HAUL

Sheet Goods

Hauling drywall or sheet goods in a pickup truck is always a challenge, but Bob Kelland of St. John's, Newfoundland, came up with a simple solution. He starts by tying a rope between the two front cargo rings in his truck bed. Then, a second rope or strap spans between the center of this rope and the trailer hitch.

This holds the sheets securely in place, so you won't have to worry about them breaking like you would if you hauled them with the truck tailgate up.



LAYOUTS PERFECTED

Tired of "missing the mark" by $\frac{1}{8}$ " or $\frac{1}{16}$ " when laying out a cut? Thomas O'Brien of San Antonio, Texas, is here to help. First, he recommends using a knife rather than a pencil for a finer line. And most important, he suggests putting the knife on the mark first and then moving the straightedge up to it.

MAKING A BETTER VISE

A machinist's vise is great for metal, but the jaws can damage delicate materials. That's why John Thoraldson of Burnsville, Minnesota, made a pair of removable wood jaws for his vise. Each is just a $\frac{3}{4}$ "-thick wood board that's notched to fit around the vise jaws. A pair of magnets epoxied into holes in the back of each jaw hold them securely in place.



PUT A LID ON SHOP STORAGE WITH

Super-Easy Organizers

Shop storage doesn't have to be complicated. One easy way to organize hardware comes to us from Serge Duclos of Delson, Quebec, who fills a drawer with Gladware containers and divides up different types of hardware among them. The containers are available for around \$3 per five-pack at any grocery store. And their clear lids make it easy to find exactly what you're looking for.



10 Classic Quick Tips

- » **Hole-in-One.** When a screw hole get stripped out, squeeze glue into the hole, insert a golf tee, and trim it flush when the glue dries
- » **Lose the Leaks.** If your hose leaks when you screw it to a hose bib, wrap a bit of Teflon pipe tape around the threads before tightening the hose.
- » **Floss Fix.** Loose veneer can be tough to glue back in place, but it helps to use dental floss to spread the glue beneath the veneer before attempting to attach it.
- » **Sharp Edge Saver.** To prevent the ends of chisels from becoming chipped or dull, cover them with masking tape after use.
- » **Mud Management.** Muddy boots are a hassle to take off, especially if you only need to go in the house for a minute. Leave some plastic bags by the door to put over your boots, and then you won't even have to take them off.
- » **Screw Solutions.** If you ever need to drive a screw in a tight space, remember that a screwdriver bit fits into a 1/4" socket. In a pinch, you can use a socket wrench this way to install the screw.
- » **Easy Insulation Cuts.** To cut thick insulation, use a framing square to compress the insulation on the desired cutline, and then run a utility knife along the edge of the square.
- » **Safe Sanitation.** Put old utility knife blades and other small sharp items in old medicine containers. This will keep them from accidentally cutting you or the garbage collectors.
- » **Photo Fixes.** When disassembling something complicated, take photos with a digital camera at various points in the process for use in reassembly. You can delete the photos once the job is done.
- » **Pain-Free Plumbing.** To prevent the cabinet "lip" under the kitchen or bathroom sink from digging into your back while working, lay on a couple of old pillows or chair cushions.

SLICE OFF SMOOTHER

Sandpaper Sheets

If you have a "guillotine" style paper cutter (*below*), chances are it would help you out more in the shop than in the office. After all, how often do you really cut office paper? And Mark Pitterle of Milwaukee, Wisconsin, discovered that it does a great job with sandpaper.



CLEANER CAULKING

A finger is the go-to tool for smoothing caulk, if the caulk doesn't stick to it. That's why Ron Natale of Mississauga, Ontario, wets his finger with liquid soap and water.



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PLUGGED-UP AIR TOOLS

Air tools end up lying around the shop when not in use, which means their air fittings fill up with dust and debris. To prevent this, Steve Nibarger of Franklin, Indiana, fills the fittings with foam ear plugs. These keep the fittings clean and dust-free until their next use.



Quick-N-Easy Tips



» **Flooring Saver.** Rather than investing in fancy tools to install laminate flooring, Bobby Olsen of Tempe, Arizona, uses a scrap of the flooring itself. He just rips a piece of the laminate flooring in half and uses it as a "hammering block" when installing the flooring pieces tightly against one another.

» **Hose Helper.** A young tree is often anchored by a wire that's wrapped around its trunk to help it grow straight. But this wire can dig into the bark and damage the tree. That's why Paul Krause of Titusville, Florida, cuts up an old piece of garden hose and puts it over the wire to protect the trunk.

» **Energy Saver.** Rick Taylor of Dumas, Texas, was amazed by how much money he saved by plugging his electronics into a power strip, and then shutting off the strip itself when the electronics were not in use.

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TIGHT-SPACE SANDER

Terry Toone of North Saanich, British Columbia, came up with a great way to sand in tight spaces, like between deck boards. He just cuts a piece of sandpaper to fit around the blade of a putty knife and staples it in place. If you can find self-adhesive sandpaper, it also works great for this purpose.



STACK THE DECK FOR A PERFECT MITER SAW CUT

Miter saws aren't always exact, and that means two pieces cut to meet at the corner won't fit tightly together. When that happens, Paul Krause of Titusville, Florida, just shims behind the board with a few playing cards to adjust the cut angle slightly.

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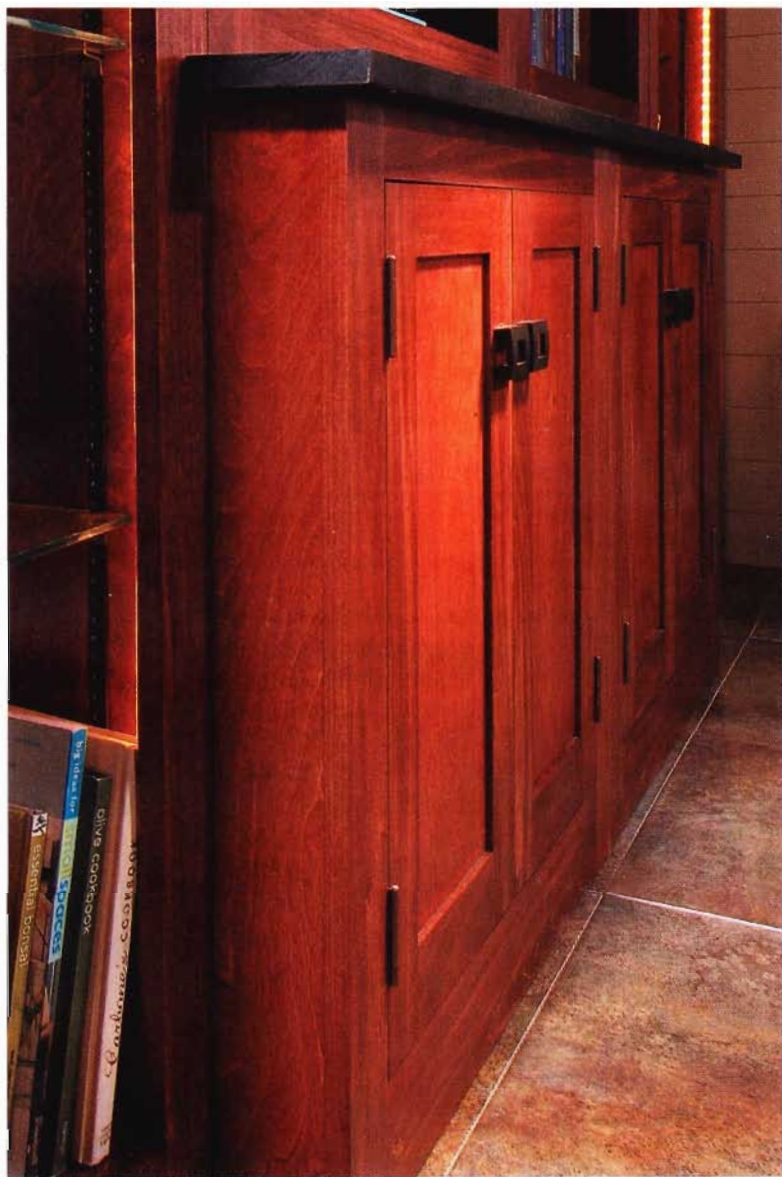
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5 HIGH-DOLLAR LOOKS FROM

Low-Dollar Woods

You don't need expensive wood to make a project look high-end. All you really need are the right stain and finish, applied in the right way.

Any home improvement enthusiast can appreciate the beauty of fine wood furniture. When a piece made from cherry, maple, or mahogany is executed to perfection, it's really in a class all its own.

The only downside is that high-end furniture usually comes with a hefty price tag. Fine wood is expensive, and let's face it — it's not getting cheap again anytime soon.

Thankfully, you can achieve that fine-furniture look without emptying your wallet. The secret is to start with inexpensive materials, and then use stain and finish to transform them.

The display case you see here, for example, is made from just \$350 worth of poplar and birch plywood that's stained to look like cherry. Over the next two pages, we'll share the secrets of the finish for these display cases, as well as other great finishes for poplar, MDF, pine, and pressure-treated wood.



Finish #1: Cheaper Cherry

Poplar is usually considered a "paint-grade" lumber, and with its unappealing green-and-white coloration, it's easy to understand why. One wood that poplar will never be mistaken for is cherry — at least when it's unfinished. But as you can see at left and above, a quick coat of stain will make you rethink your low opinion of poplar.

The stain used to create this look is "Georgian Cherry" gel stain from General Finishes (GeneralFinishes.com). Gel stain is great for poplar, maple, and pine, as these woods tend to blotch when you use liquid stain. Gel stain doesn't penetrate as deeply, so it helps prevent these problems.

After applying the stain to the surface with a foam brush, use a rag to wipe it off and buff the surface to an even, consistent color. Let the stain dry overnight, and then follow up with a polyurethane topcoat.



Finish #2: Marvelous Mahogany

If you think making poplar look like cherry is a stretch, then you'll be shocked to learn that you can even give it the rich, warm tones of mahogany. We applied this particular finish to the platform bed project that was featured on the cover of the October 2008 issue of *Workbench*.

"Java" from General Finishes was the stain of choice to create this mahogany look, and here again, we chose a gel stain to prevent blotching and inconsistent color on the poplar. The "Java" stain can be brushed on and wiped off just like the "Georgian Cherry" stain that's shown on page 24. Polyurethane adds a bit of glossy depth when applied over this stain, as well.



Finish #3: Easy MDF

MDF, or medium-density fiberboard, is a smooth sheet material that's perfect for making cabinets. But its dull brown surface usually relegates it to a painted finish. When we built the closet organizer for the February 2008 issue of *Workbench*, though, we realized that MDF looks pretty good stained. It allows just a little bit of material to show through the surface, creating a unique textured appearance.

You can use standard stain and polyurethane on MDF, but we simplified things by using Minwax PolyShades (Minwax.com), a combination stain and polyurethane, in "Bombay Mahogany." Just use a short-nap roller ($\frac{3}{16}$ " to $\frac{1}{4}$ ") to roll on the finish. MDF can really soak up stain, so you may have to apply a couple of coats.



Finish #4: Antique Maple

Traditional maple furniture has a rich golden-brown tone that goes well with many decors. And while maple boards are a bit pricey, you can get "Select" (or #1) pine boards that look similar for a lot less, and then stain them.

To create this tone, we used "English Chestnut" from Minwax. This is a liquid stain, which presents an additional challenge since it can make pine look blotchy and uneven. To prevent that, you'll need to apply a wood conditioner to the boards first. Wood conditioner is a clear treatment that penetrates soft woods and allows stain to go on more evenly. Just brush it on, wait 15 minutes, and then you can apply the stain like you normally would. Here again, we used a topcoat of polyurethane to enhance the tone of the wood.



Finish #5: Simple Cedar

Our last surprising finish is for use outdoors, where many people choose pressure-treated pine boards to save money over cedar. Of course, pressure-treated wood is a deep green color thanks to the chemicals used to treat it.

If you'd like to disguise your pressure-treated wood to look like cedar, though, a company called Penofin (Penofin.com) makes an exterior deck stain specifically formulated for pressure-treated lumber in three different shades. It has the same durable properties as Penofin's other semi-transparent deck stains, but a greater amount of red pigment to block out that deep green color. Application is simple with standard brushes and rollers. The stain soaks into the wood, so you may have to apply more than one coat to get complete coverage.

Hammer Time



[1] GENERAL PURPOSE This jack-of-all-trades has a head that weighs about 16 ounces and can drive nails large and small, pull nails with ease, and handle a multitude of tasks. If you'll own just one hammer, this is it.

[2] BALL-PEEN This double-duty hammer is a multipurpose metal shaping tool. The flat side of the head flattens and forms outside curves, while the round side can stretch metal and make inside curves.

[3] DRILLING/MAUL If you want to deliver a strong blow with a short swing, this is the tool. It has a head like a sledgehammer, but with a short handle like a conventional hammer. This heavy-duty tool works great for striking chisels, punches, or hardened nails and can drive stakes or persuade wall studs into position with ease.

[4] SOFT FACE Sometimes you need to deliver a blow that's forceful but won't cause damage. That's where a soft-face hammer is handy. One head is hard rubber, and the other is soft so the hammer can match your needs exactly.

[5] DEAD BLOW This hammer's head is hollow and filled with loose metal pellets. Strike with it, and the pellets shift to the striking side, eliminating bounce-back. It's great for assembling furniture and other tap-together tasks.



This simple tool comes in more styles than you might imagine, and each one is designed with a specific striking task in mind.

[6] TACK One end of an upholsterer's tack hammer is magnetic, so a tack will stick to it. That way, you don't have to hold the tack with your other hand and risk hammering a finger. Flip the hammer over, and this lightweight tool sets the tack with a few blows.

[7] DRYWALL If you hang drywall with nails, then this tool should be in your arsenal. The rounded face dimples the drywall to recess the nail without tearing the paper. A blade makes it easy to score drywall.

[8] ROOFING Install shingles in a hurry with this handy hammer. It features a built-in, adjustable exposure gauge, a blade for cutting shingles, and a waffled face that can quickly drive roofing nails.

[9] ROCK/MASON'S Whether you're laying brick or building a precast block wall or walkway, you'll need to shape, break, and position the pieces accurately. With its broad striking face and sharp chipping tip, this hammer can do both with ease.

[10] FRAMING A 22-ounce head and a long handle make a framer the go-to tool for building walls. Add features like a magnetic nail starter, a waffle face that keeps a firm grip on nail heads, and a claw that offers leverage to spare, and you've got a tool that will drive even big 16-penny nails effortlessly.



RedLine Garage Gear

These cabinets combine the sound-dampening quality of wood with the durability of a powder-coated finish. A host of high-end accessories completes the package.

Although there is no shortage of quality garage organization and storage solutions to choose from, it has been awhile since we've seen anything truly unique in this category. And then along came RedLine Garage Gear.

RedLine sets itself apart from other brands with the quantity of its offerings and some truly standout features.

In terms of choice RedLine offers more than 300 cabinet combinations in 10 different colors (*Photo, below right*).



But it really is the finer details of the components that make this product line so worthwhile. Details like all-wood construction with a powder-coated finish, for example. That's an unusual combination that offers solidity and durability. So much so, in fact, that RedLine offers a lifetime guarantee on their cabinets.

But there's a lot more to RedLine than just cabinets, as you can see in the *Photos*. For example, you can choose between a traditional maple butcher-block countertop or a virtually indestructible black urethane version. And all the drawers feature full-extension glides with a 100-pound weight rating, so you can pack the drawers full and still get to everything easily.

The RedLine system even includes some highly specialized components like the Loft-It Storage Lift System.



Along with several cabinet styles and sizes, RedLine has a broad color selection to let you personalize your space.

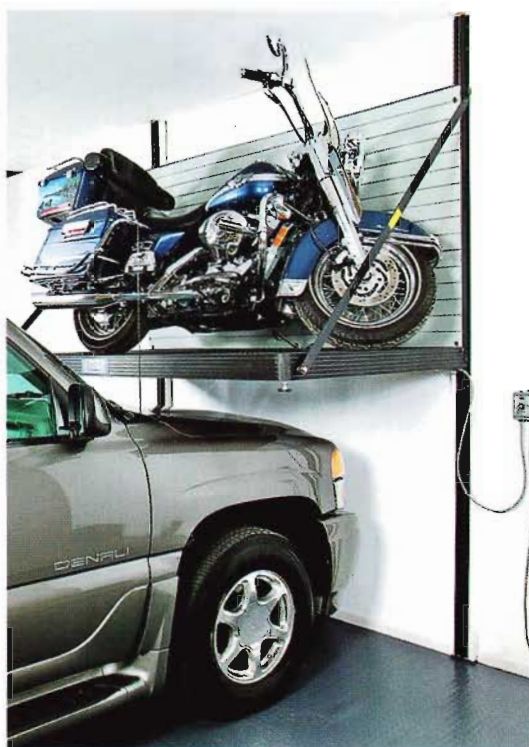


Of course, this is a complete system that includes wall storage panels, racks, and hooks, as well as a variety of flooring choices.

All of the RedLine components are professionally installed through an authorized agent network. To find an agent in your area and for pricing information, call 877-624-2332 or visit RedLineGarageGear.com



Large drawers with full-extension slides provide an enormous amount of easy-access storage space.



Whether it's a motorcycle or a riding mower, RedLine's Loft-It will get it off the floor and out of the way.



THE EVOLUTION OF SUCTION

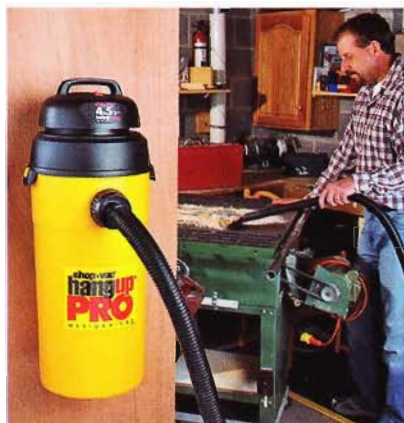
Wall-Mounted Utility Vacs

The garage continues to evolve from a cold, dark space where you park your car and stack your junk to a well-lit, climate-controlled extension of your living space. So it's fitting that utility vacuums are becoming more sophisticated, as well. These wall-mounted models are a great example.

The three models here range in price from less than \$100 to just over \$200 and bring the convenience of a central vacuum to your garage. All of these vacs feature a long hose, so you can reach the entire shop or garage without moving the vac. They also come with a large assortment of tools and attachments for taking on anything from a sawdust-covered floor to a crumb-filled car interior. Two of the vacs can be used for wet or dry cleanup.

Below is a comparison of the features and prices to help you choose the best utility vac for your space.

	Shop Vac Hang Up Model 952-02-62	Hoover GUC Model L2310	Bissell Garage Pro Model 18PQ
Price	\$90	\$200	\$230
Use	Wet/Dry	Dry Only	Wet/Dry
Power Rating	8-amp	10-amp	12-amp
Tank Capacity	5 gallons	5 gallons	4 gallons
Hose Length	18 feet	30 feet	32 feet
Additional Tools	10	7	11
Warranty	3 years	3 years	2 years
Contact Information	ShopVac.com, 570-326-0502	Hoover.com, 330-499-9499	Bissell.com, 800-237-7691





great **LOOKS** on **DISPLAY**

Most homeowners would love to have a great-looking set of display cases like the ones shown at left in their homes. The problem is, looks can be deceiving. Because of their grand, upscale appearance, many DIYers assume that they must also be difficult and expensive to build.

Don't let appearances fool you, though. No matter how nice they look, display cases are really nothing more than plywood boxes with solid-wood edging applied to the front and back. And that means any homeowner with a table saw or circular saw, a router, a drill, and just a small amount of woodworking ability can put these together in just a couple of weekends. In fact, I'd go so far as to call these display cases a "beginner's project."

Not Your Average Cases — Along with that simplicity, these cases have a number of features that make them stand out from ordinary display cases — and will make them stand out in your home, too. You'll notice that the outer cases feature elegant

glass shelves and lighting. These ensure that the items you put on the shelves — and not the cases themselves — are what's really on display.

And how about that stylish cherry finish? It's actually applied to inexpensive birch plywood and poplar, which kept the cost of all the lumber for this project around \$350 while still letting it look fantastic. On some of the shelves and other project parts, we added a black finish that creates contrast and adds a little "pop" to the project. It's formed with just a couple of coats of glossy black spray paint.

Beneath the Surface — Then there are the details you don't see, such as the spline-and-groove joints between the pieces (*Photo, right*). You can make these joints with two cuts with a router, and they allow all the parts to go together easily. Plus, they ensure rock-solid construction, so you know that these cases' good looks will stand the test of time.

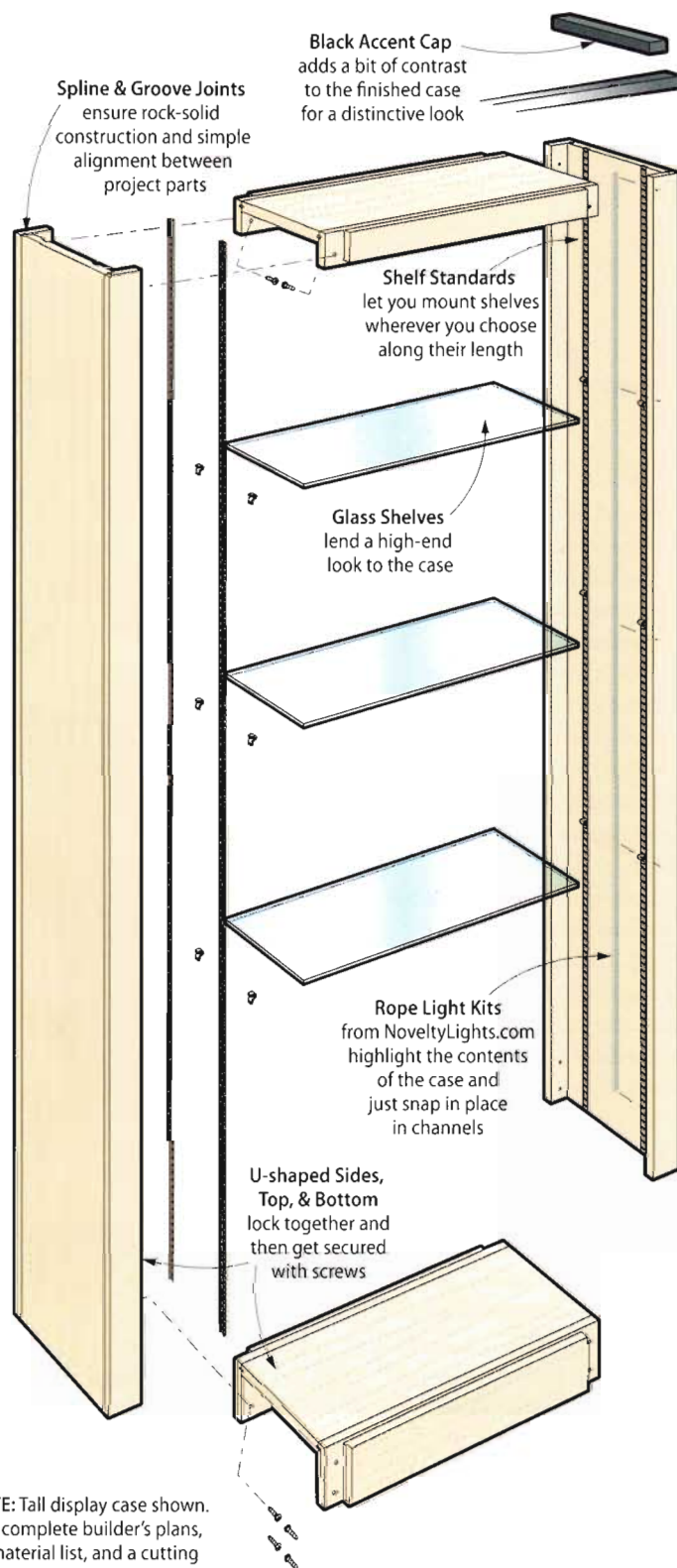
We'll explain all of these features and more in detail over the next few pages, so you can get started on your own set of great-looking display cases this weekend.

If you want to change the look of a room, don't pay thousands for custom-made display cabinets. Though large in scale, these cases are surprisingly easy to build for around \$500. We'll walk you through all of the details [here](#).



Written by **Wyatt Myers**
Project Design **James R. Downing**
Illustrations **Erich Lage**

details of the display design



NOTE: Tall display case shown. For complete builder's plans, a material list, and a cutting diagram for all the cases, visit WorkbenchMagazine.com

Along with great looks and simple construction, these display cases are packed with features that make them stand out from store-bought options:

1 Modular Design — The three basic components of this setup are tall outer cases (*left*), shallow upper cases, and deep lower cases. You can build as many as you'd like, in different configurations to suit your needs (*Sidebar, right*).

2 Splines & Grooves — The basic joinery used in the cases is a "spline and groove," in which a spline made of hardboard fits into grooves in two mating pieces. The joint is about as simple as it gets, and it ensures precise alignment between project parts.

3 U-Shaped Assemblies — Speaking of precise alignment, this is further ensured by the U-shaped assemblies that make up the top, bottom, and sides of each case. These U-shaped assemblies are put together first, and then they are joined with one another to make one strong, sturdy case.



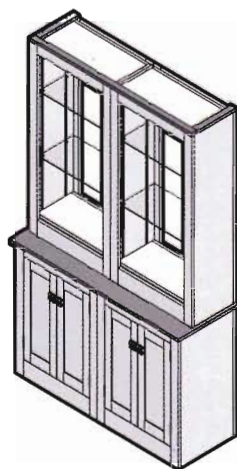


4 Shelf Standards — To give you the freedom to mount shelves wherever you'd like in the cases, we used shelf standards. These are just metal channels that accept shelf brackets in a series of square holes. The shelf standards fit into grooves that get routed in the case sides.

5 Rope Lights — Lighting can really add a touch of elegance to a display case. We used rope lights mounted at the front of the case to highlight each and every shelf. You can purchase this lighting at exactly the custom length you need from Novelty Lights (NoveltyLights.com).

6 Glass Shelves — Lighting is nice, but pairing the lighting with glass shelves is what truly gives the cases their elegant look. Glass shelving allows the lighting to illuminate all the items you place on the shelves.

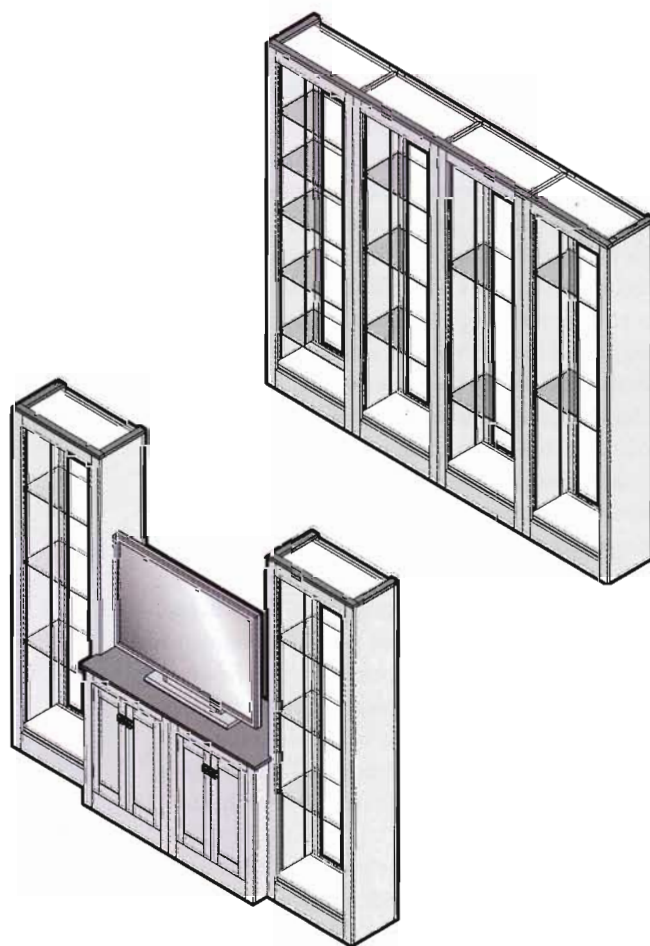
7 Finishing Touches — Perhaps the best part is that you can get this high-end look without spending a lot of money. The secret is to start with inexpensive birch plywood and poplar, and then stain it to look like cherry (see page 24). We also painted a few of the project parts black to add just a hint of contrast.

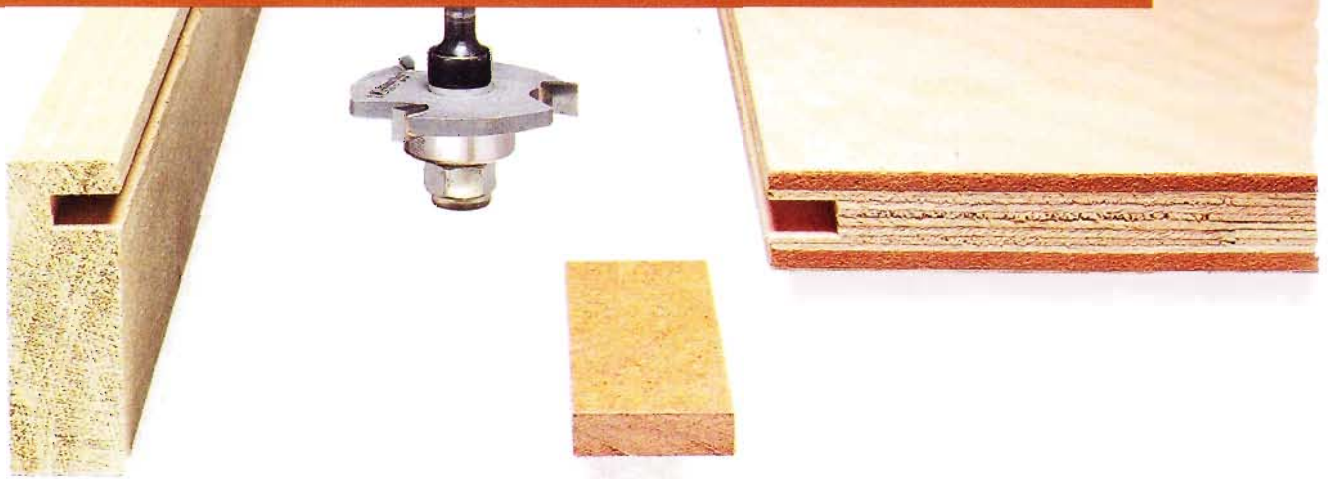


By building only certain components of the display case setup shown on page 30, you can achieve an entirely different look — for an entirely different purpose. For example, you could build just the center section to create an elegant dining room sideboard (*left*). Or make as many tall cases as you'd like and mount them side by side to use as bookcases (*middle*). Finally, leave out the upper middle cases and set a 42" flat-screen TV between them to create a perfect entertainment center (*bottom*).

multiple design

OPTIONS





building the cases

Despite the project's size, the shopping list for these display cases is pretty manageable. If you already own a table saw or circular saw, a router, and a drill, then you'll just need a couple of special router bits: a $\frac{1}{4}$ " slot-cutting bit for the spline-and-groove joints, and a $\frac{5}{8}$ " straight bit to rout the grooves for the shelf standards.

As far as lumber goes, a few sheets of birch plywood, a handful of poplar boards, and some hardboard will be all you need. You can even get the hardboard in smaller pieces to make it more manageable to work with.

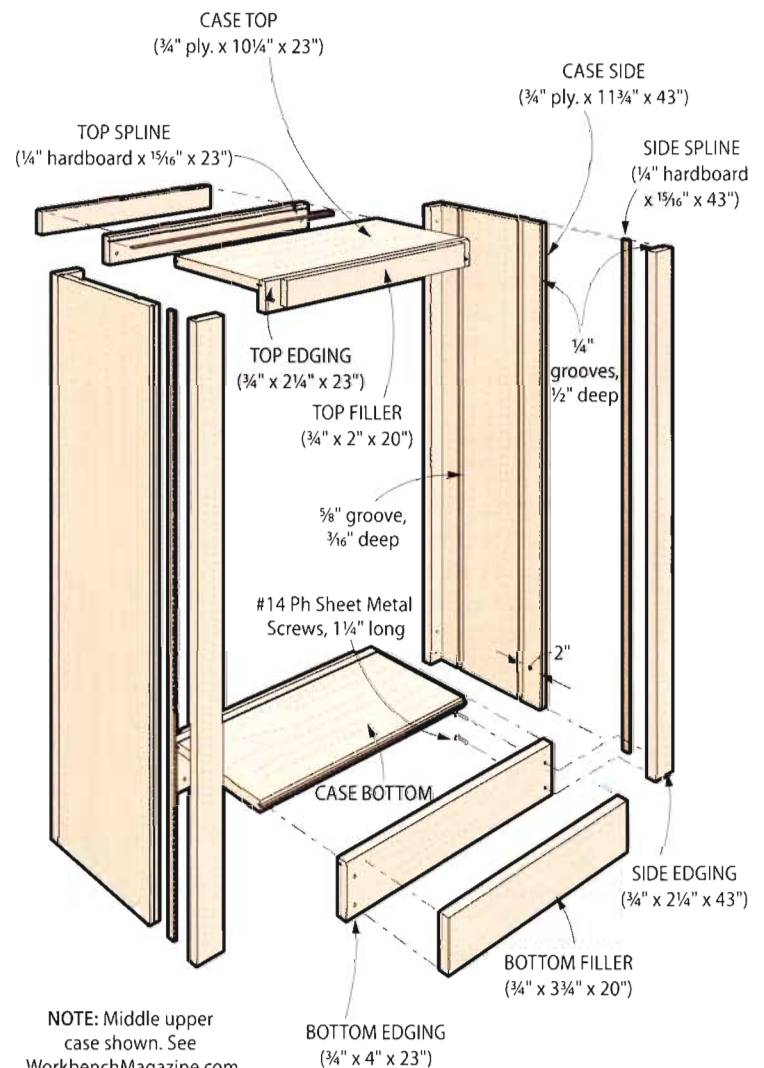
The only specialty items you'll need are the shelf standards and rope lights, which you can order online, and the glass shelves, which you can get at a local glass store. You'll notice in the *Illustration* on page 32 that the glass shelves are shallower than the case sides. This allows room in the front of the cases to mount the rope lights later on.

There are three different types of cases in our setup, but they're all built in essentially the same fashion. The *Illustration* at right shows the dimensions for the upper middle cases. You can go to WorkbenchMagazine.com to get the dimensions for the lower middle cases and the tall outer cases.

Cut the Parts — Once you have all your materials rounded up, cut all the tops, bottoms, and sides to size from birch plywood. Label each piece, so you don't get them mixed up later. Now do the same for all the edging pieces that will get mounted to the front and back of these panels. These are made from poplar. Rip the edging to width on a table saw first (using a push stick for safety), and then crosscut each piece to length.

Next come the hardboard splines, which also require narrow rip cuts on the table saw to produce. Then cut them to length. For the side splines, you can use several shorter splines instead of one long one.

Rout the Grooves — With all the pieces cut to size, you can now turn your attention to a series of router operations that will form both the grooves for the shelf standards and the splines. First you'll want to cut the grooves for the shelf standards in the inside faces of the sides. This is accomplished with a $\frac{5}{8}$ " straight bit and an edge guide (*Fig. 1, right*).



NOTE: Middle upper case shown. See WorkbenchMagazine.com for complete builder's plans, a material list, and a cutting diagram for all the cases

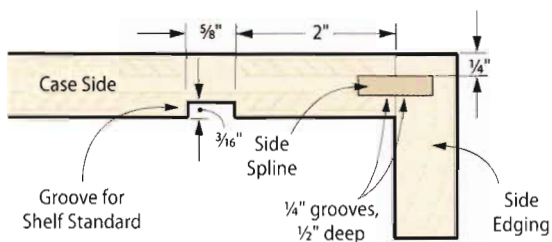
If you don't have an edge guide for your router, you can probably order one from the manufacturer.

Now switch to a slot-cutting bit to cut the mating grooves in the plywood and the edging pieces for splines (*Groove Detail, below*). Rout the grooves in the plywood edges first. First, set the bit depth as close to centered on the edge of the plywood as possible — but keep in mind that it doesn't have to be perfect. As long as the router is set up the same way on the mating boards when you rout, the grooves will line up.

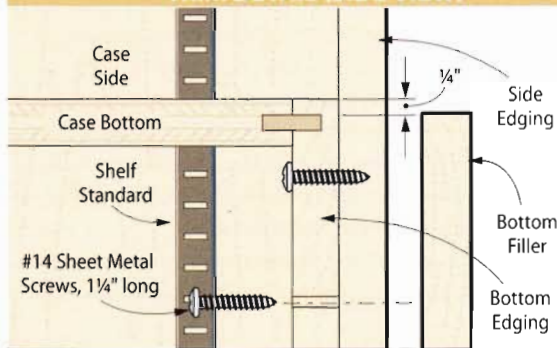
Once you have the bit set up properly, all you have to do is clamp the plywood pieces to a work surface, turn on the router, and rout along the edge with the router positioned on the outside face of the plywood. Repeat the process for the opposite edge (*Fig. 2*).

The grooves in the poplar edging pieces are routed in much the same fashion, except here the groove is in the *face* of the board, and the router is positioned on the *edge*. This makes the router prone to tipping, so an easy way to remedy that is to simply clamp each pair of front and back edging pieces face to face. This gives you a wider surface to support the base of the

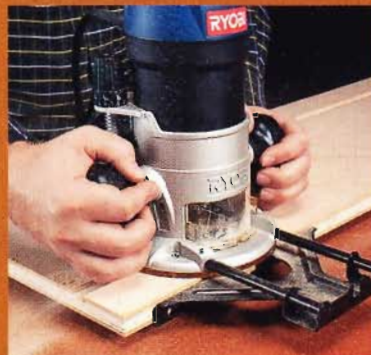
GROOVE DETAIL (TOP VIEW)



TRIM DETAIL (SIDE VIEW)

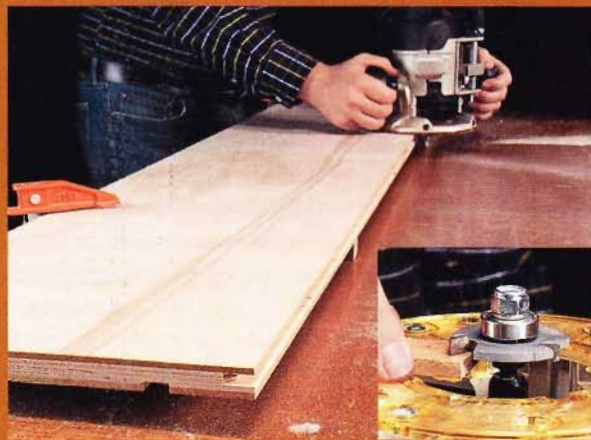


three easy cuts: ROUTER WORKSHOP



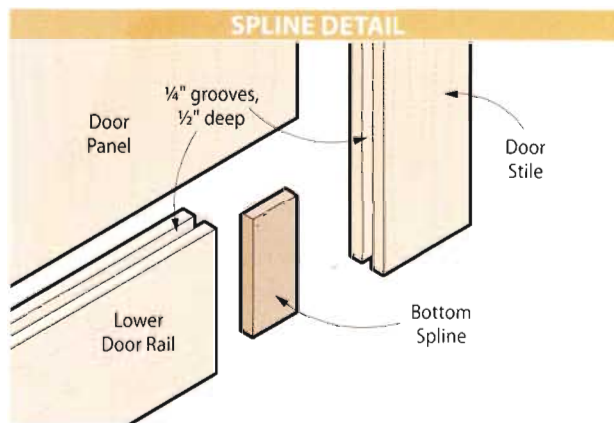
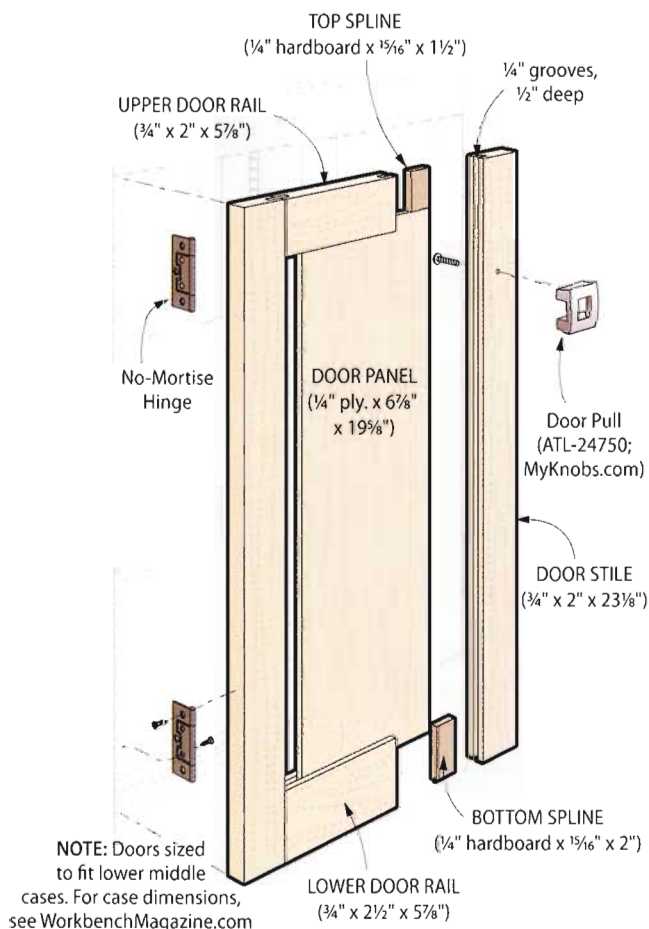
[1] A $\frac{5}{8}$ " straight bit makes quick work of the grooves needed for the shelf standards. Use an edge guide to keep the router moving in a straight line.

[2] To rout slots, first set the bit at the correct depth using a scrap of hardboard (*Inset*). Then guide the router along the edge. Blocks elevate the panel for easier routing.



[3] By clamping the edging pieces face to face, you can rout both slots more easily. Strips of double-sided tape hold the boards securely to your work surface.





router. Then you can just rout up the face of one of the boards, and down the face of the other. (Fig. 3, page 35).

Put the Parts Together — With all the grooves routed, you can now join each case side, top, and bottom piece with its respective edging pieces to create the U-shaped assemblies. To do this, brush glue along the grooved edges of the plywood and the grooved faces of the edging pieces. Insert the splines in the grooves (you may need a few taps from a mallet to coax them into position), and then put each assembly together. Use clamps to hold the pieces until the glue dries.

Before you attach these U-shaped assemblies to each other to make the cases, there are a few things to take care of first. For one, you'll want to stain and finish all the pieces (see page 24). It's easier to do this now than when the whole case is put together. Also, you'll want to install the shelf standards. These just get secured in the grooves in the case sides with screws.

Now you can make each case from its four U-shaped assemblies. This is simple: Just surround the top and bottom U-shaped assemblies with the sides. Then drill pilot holes, and drive screws through the top and bottom edging pieces

and into the side edging pieces to secure the assembly (*Trim Detail*, page 35). Finally, measure and cut filler blocks to size to go in place at the top and bottom of each case. Stain and finish these pieces, and then glue them in place.

Add the Doors — To provide some enclosed storage, we put a pair of doors on each of the lower middle display cases (*Illustration*, above). The doors are made using the same spline-and-groove technique we used on the cases. But this time, short splines fit in the corners between the door rails and stiles (*Spline Detail*). The center portion of each door is filled with a panel made from $\frac{1}{4}$ " plywood.

Just like the edging pieces on the display cases, you can start by cutting the door rails and stiles from poplar. Then cut each of the plywood panels to size, and rip and crosscut all the small splines. Next, rout grooves in all the rails and stiles in the same manner as is shown on page 35. Here, you'll want to make grooves in the inside edges of all the rails and stiles, as well as on the ends of the rails where they meet the stiles.

The last step is assembling the doors, which is easy with glue and clamps. You can stain and finish the doors to match the cases once the glue dries.

Time to Install — Now comes the fun part: Putting all the cases together. The first step, of course, is moving them into position. Even if you built them



correctly, the cases still might not be plumb and level in the room. You can insert shims under the case bottoms where needed to correct for this.

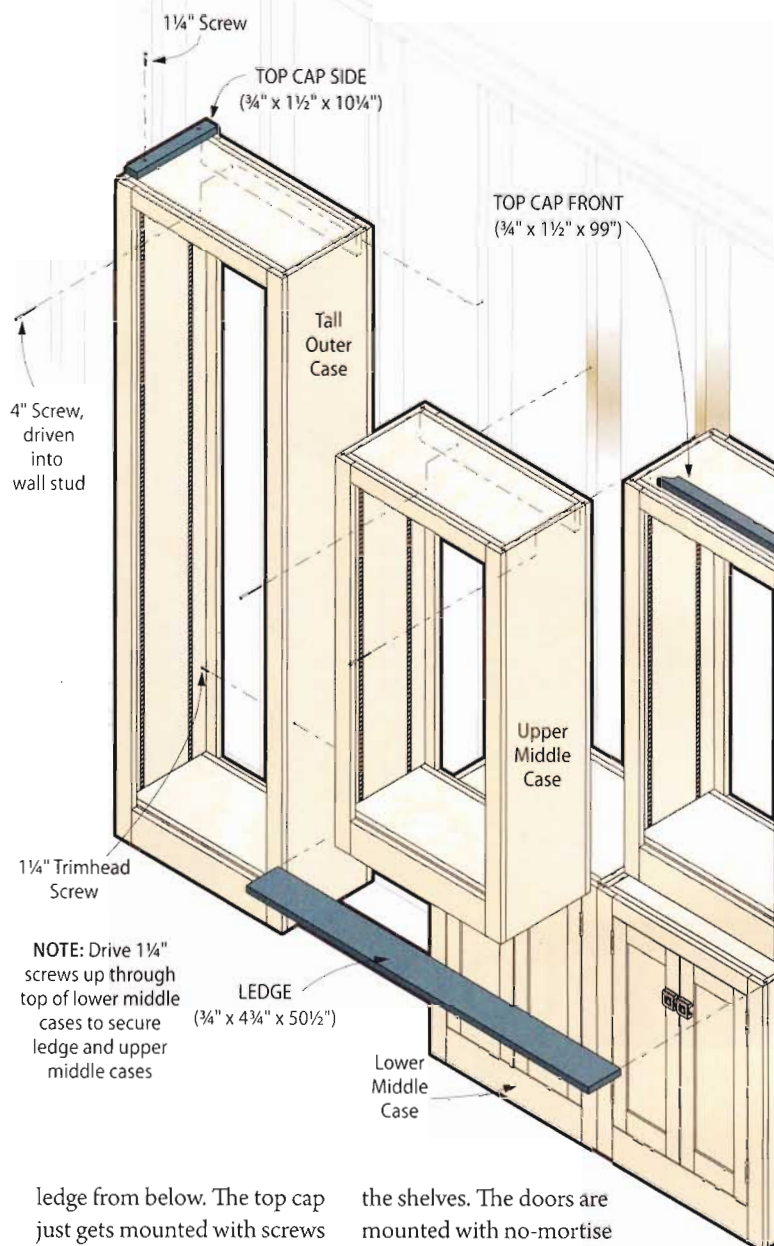
Secure Them — Once the cases sit level and plumb, you'll want to attach them to each other and to the wall.

The screws that attach the cases to each other should be as inconspicuous as possible, so I'd recommend using trimhead screws. You only have to use a few screws for each case.

To attach them to the wall, use long screws to make sure that you hit wall studs. Locate the wall studs using a stud finder, drill pilot holes, and then drive these screws through the upper back edging piece and into the studs (*Photo, far left*).

Cap It Off — At this point, there are just a couple more parts to add to really finish things off in style. These are a ledge board that creates a transition between the upper and lower middle cases, and a top cap that rests above the case. These just get cut to size from poplar and spray-painted black. If you want to install wood shelves in the middle cases like we did, now is a good time to make those, too.

To mount the ledge, drive screws through the tops of the lower cases and into the



ledge from below. The top cap just gets mounted with screws from above, since the screw heads won't be visible here.

Final Touches — Now all that's left is installing the doors, the rope lights, and

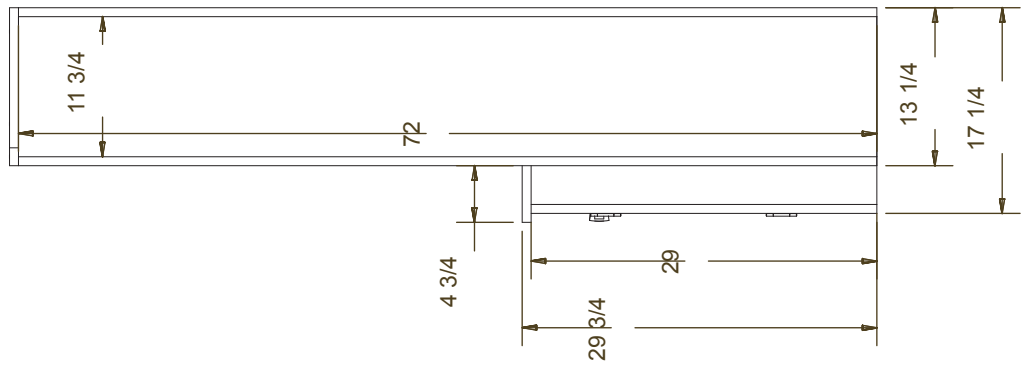
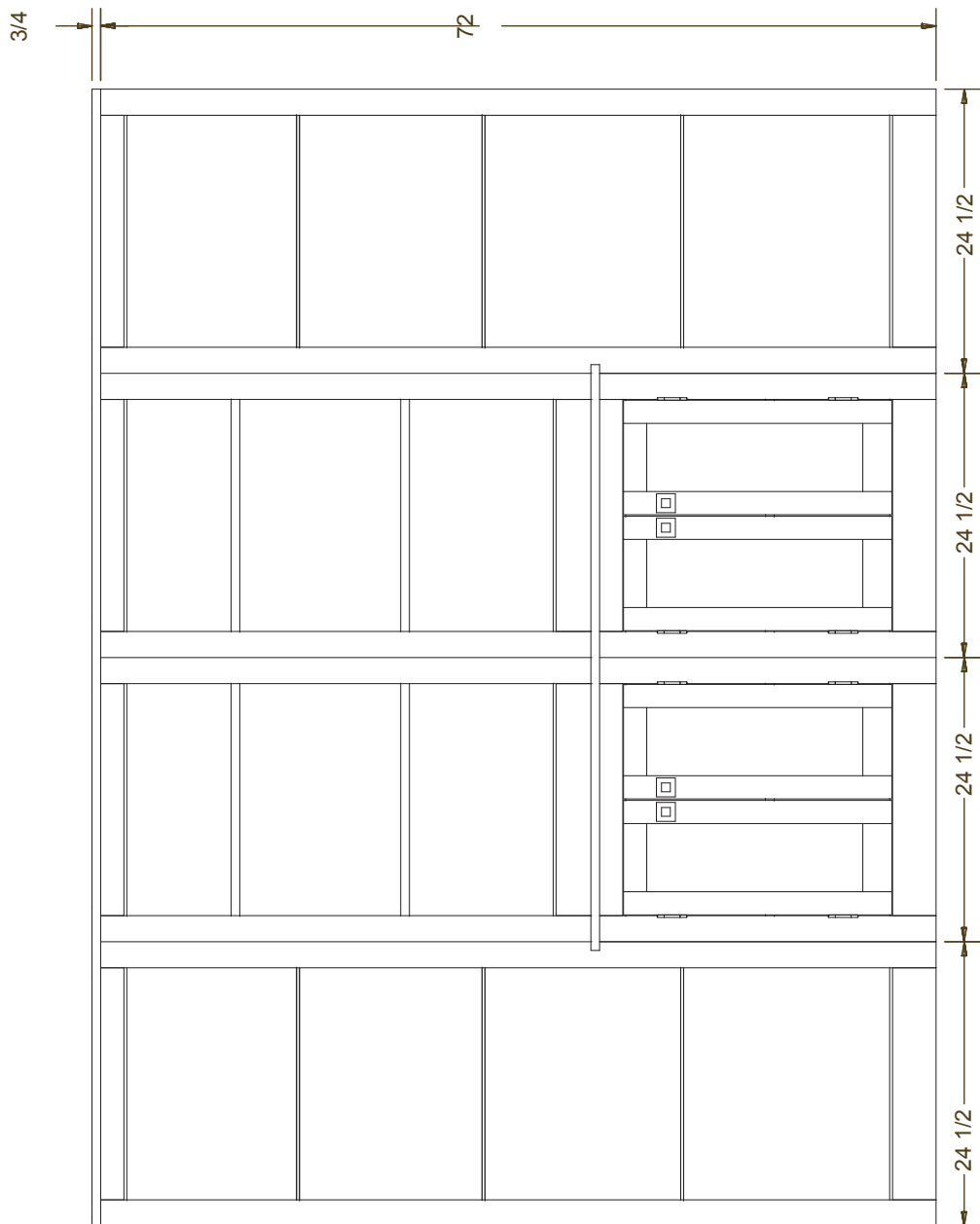
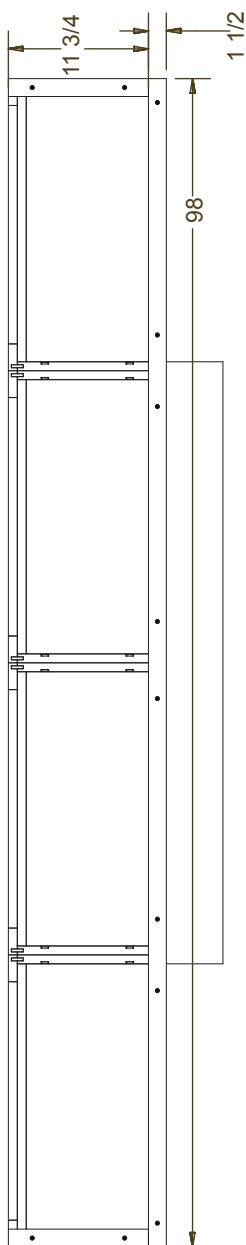
the shelves. The doors are mounted with no-mortise hinges (*Photo, above left*). Magnetic catches get added to keep the doors closed.

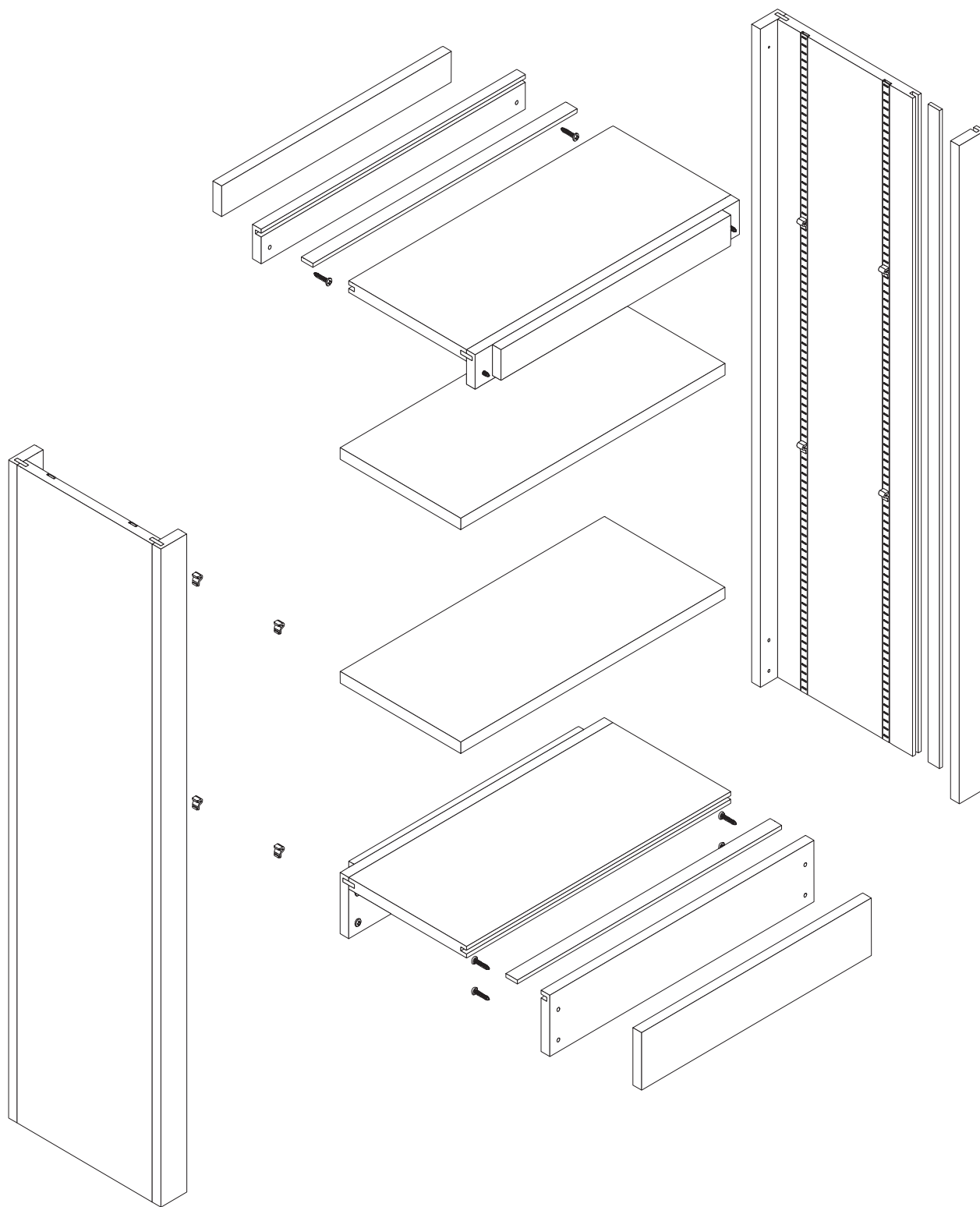
The rope lights fit into plastic channels with adhesive backs, so these channels can just be pressed into place on the inside face of each side edging piece. Then the lights snap into the channels (*Photo, left*).

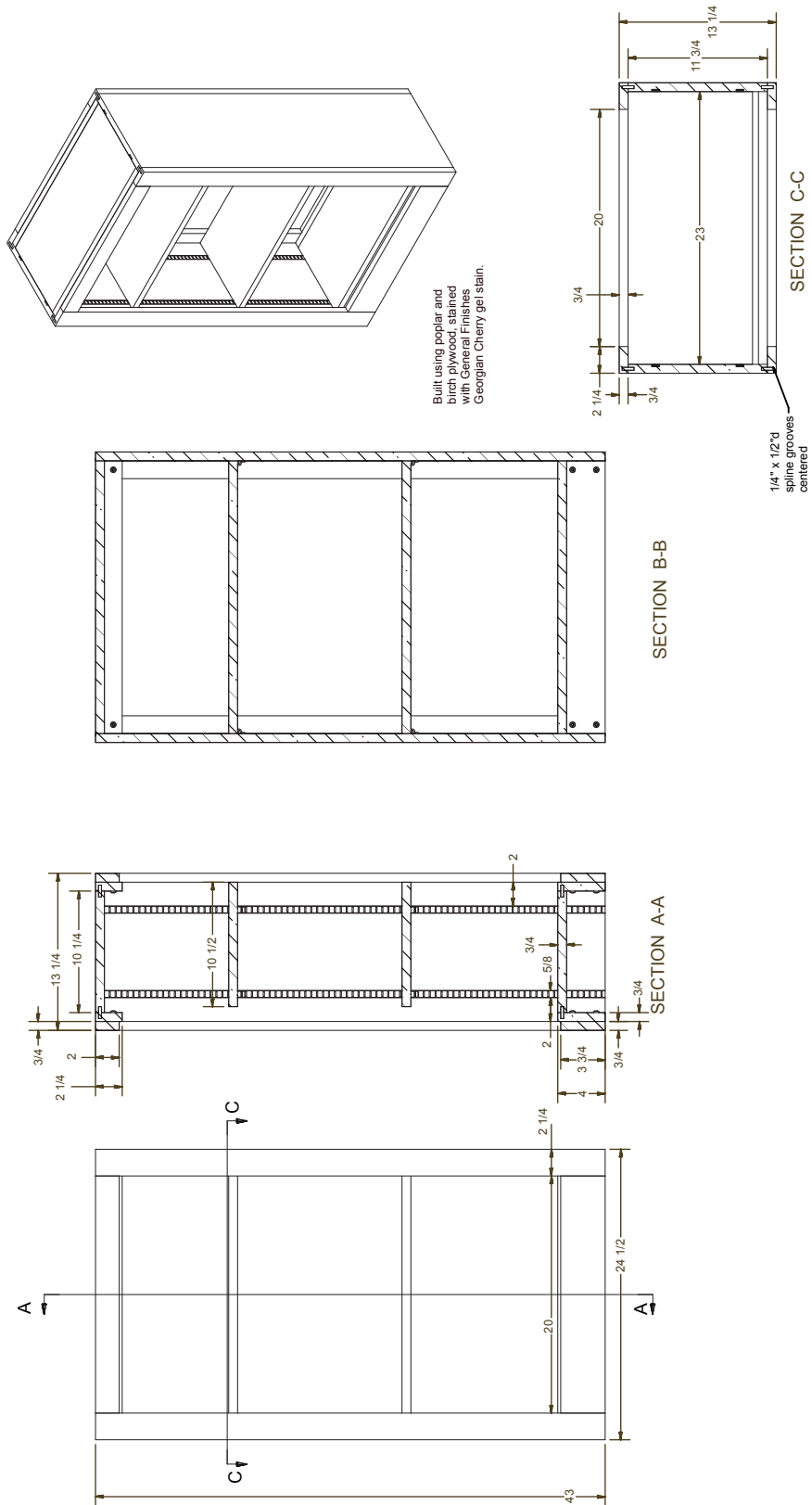
Last up are the shelves, which you can mount on brackets anywhere along the length of the shelf standards. Then accessorize the shelves as desired, and get ready to enjoy your great-looking display cases. 



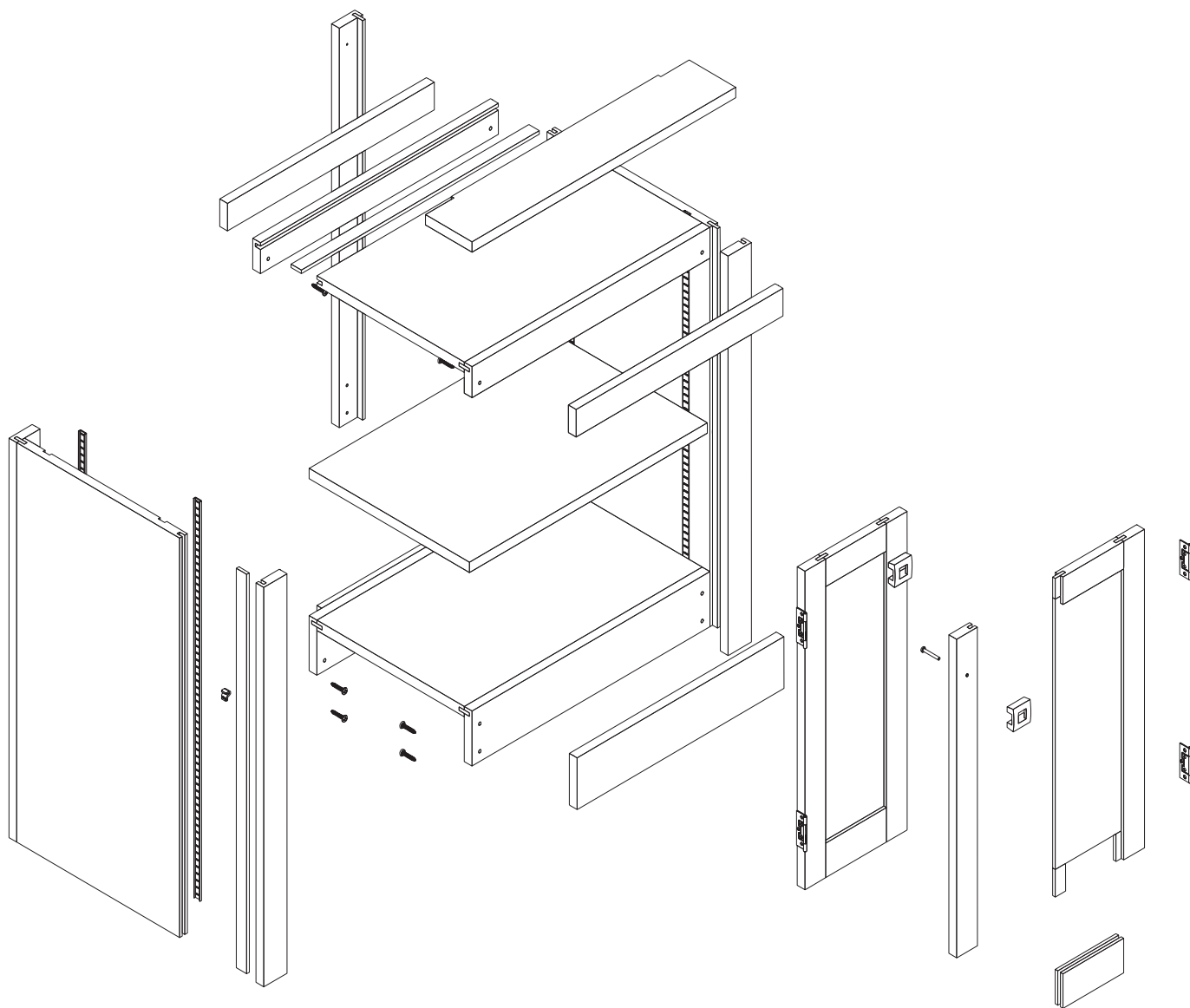


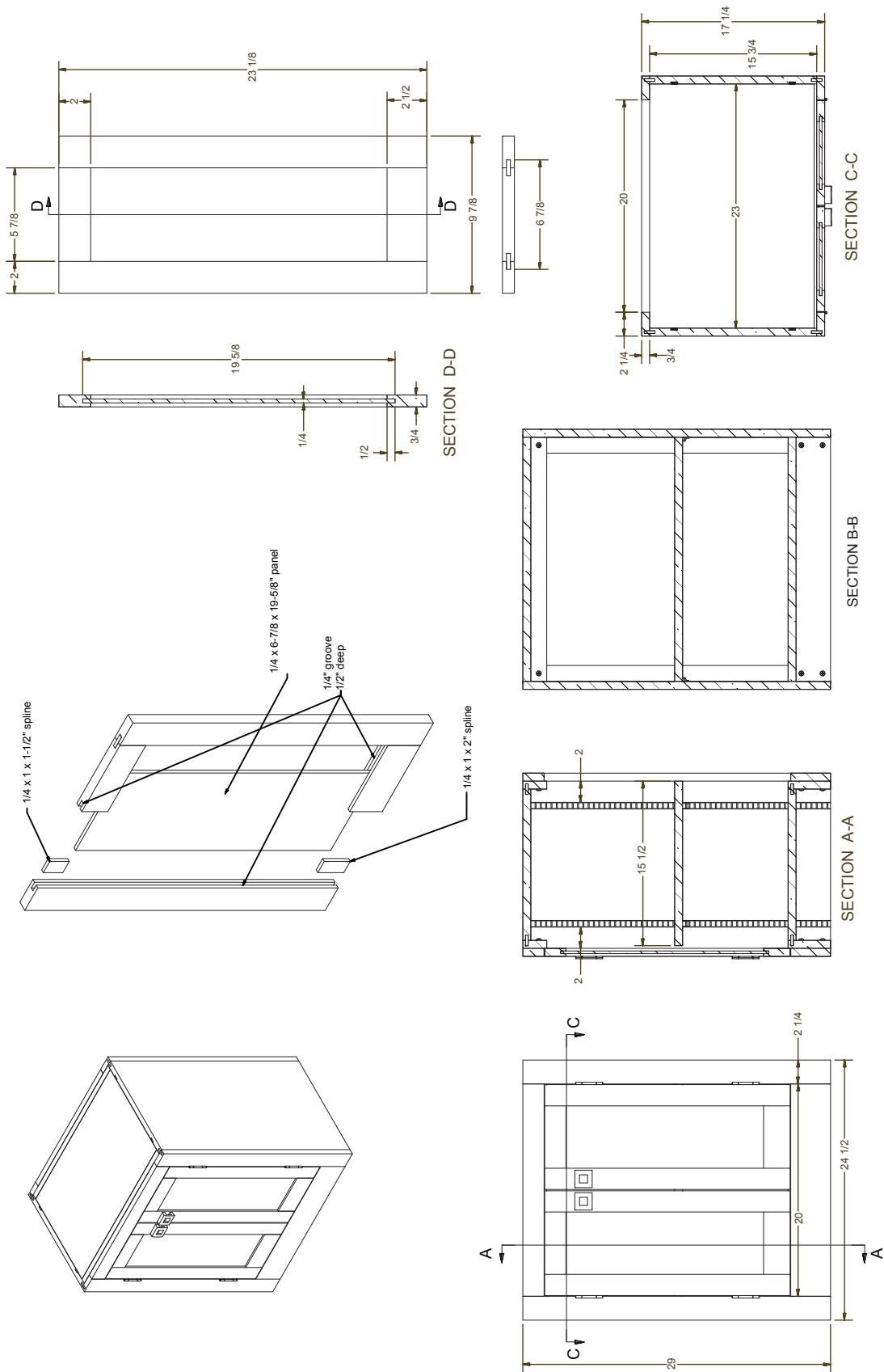


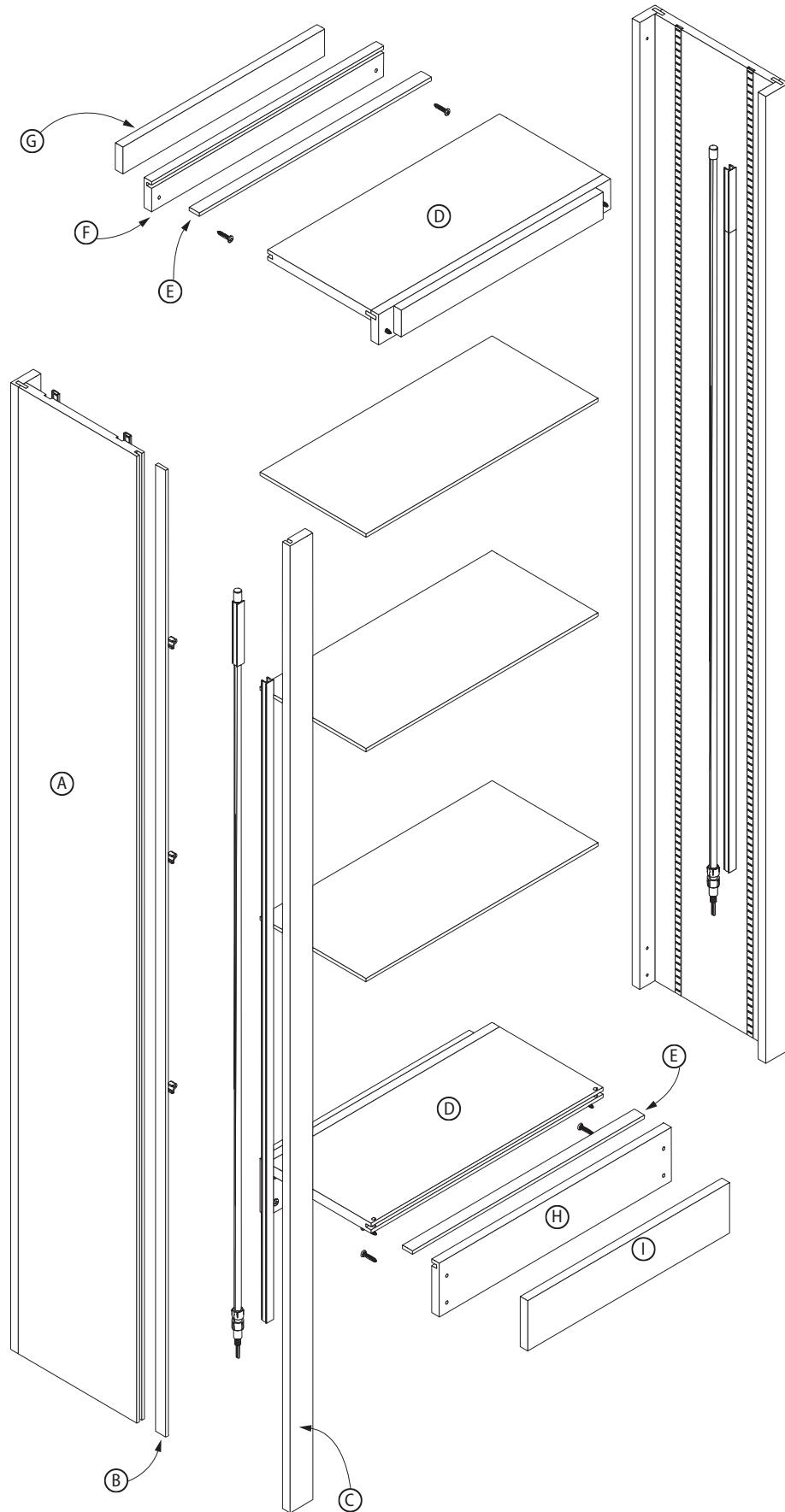


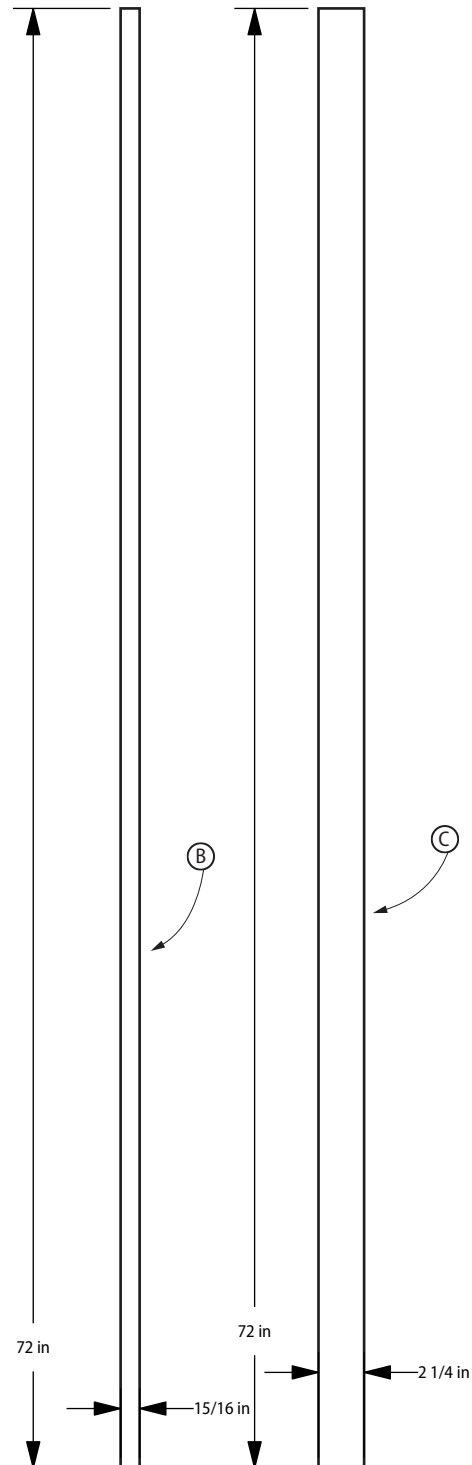
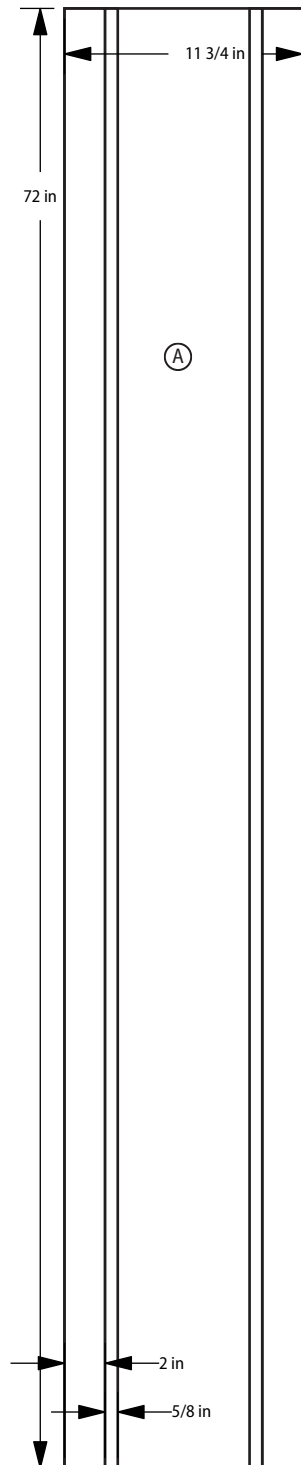
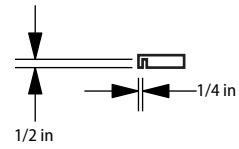
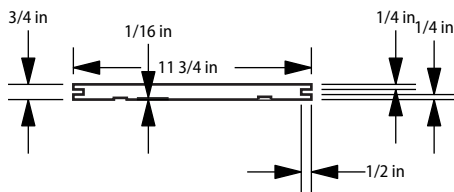


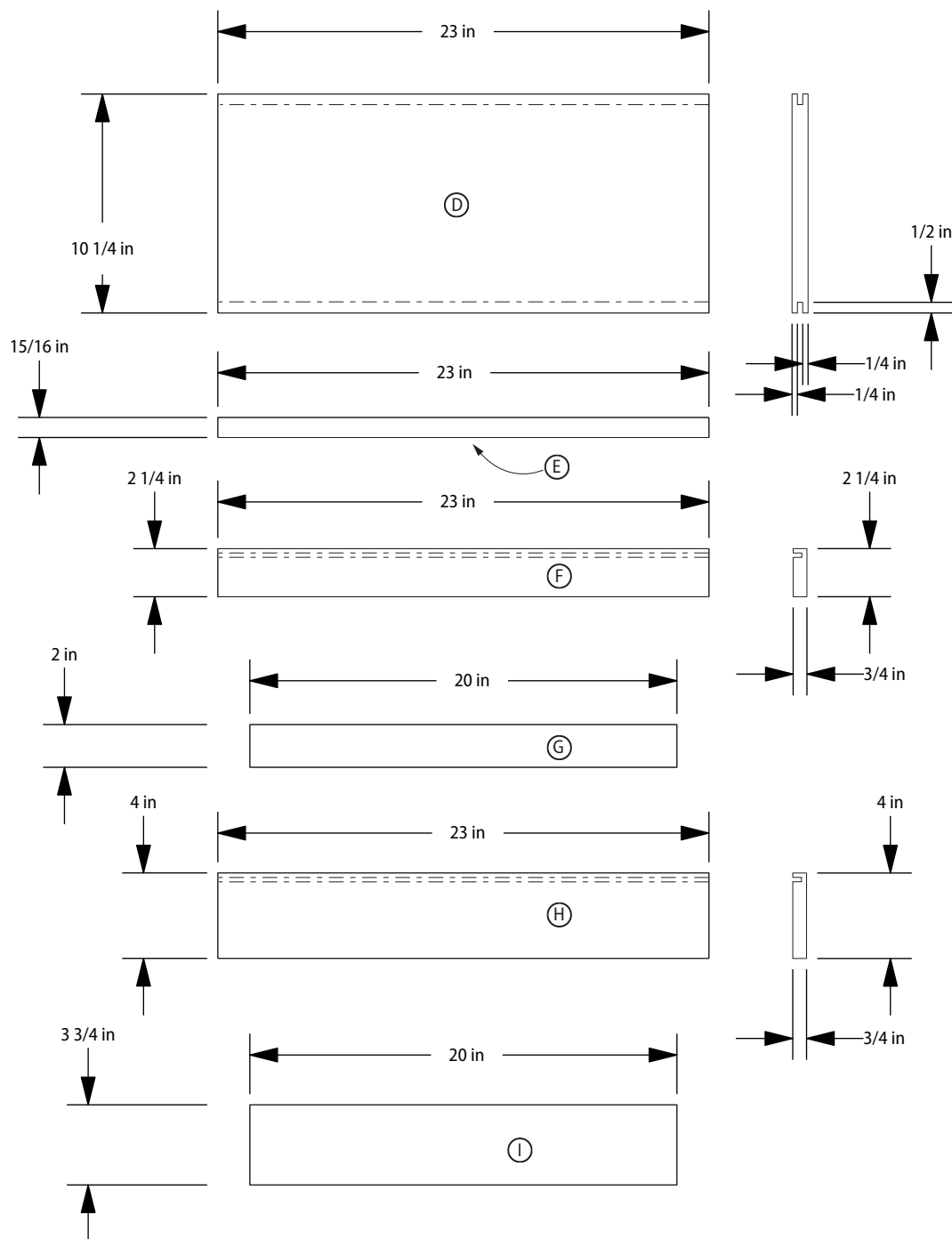
Built using poplar and birch plywood, stained with General Finishes Georgian Cherry gel stain.









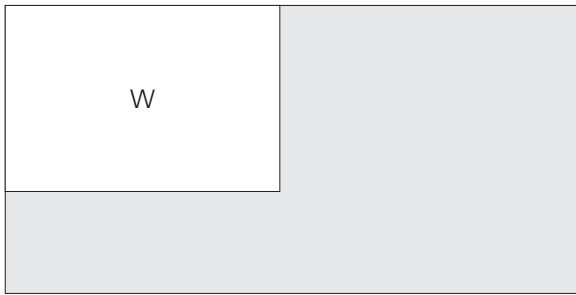


A	C
A	C
A	C
A	C

3/4 x 48 x 96" Birch Plywood

H		H		
J	J		R	
P	P		R	

3/4 x 48 x 96" Birch Plywood



3/4 x 24 x 48" Birch Plywood

B	K
B	K

1" x 6" - 96" Poplar (3.75 Bd. Ft.)

D	D	D	D
E	E	E	E

1" x 6" - 96" Poplar (3.75 Bd. Ft.)

F	F	F	F
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1" x 6" - 96" Poplar (3.75 Bd. Ft.)

G	G	G	G
---	---	---	---

1" x 6" - 96" Poplar (3.75 Bd. Ft.)

I	I	I
I	I	I

1" x 6" - 96" Poplar (3.75 Bd. Ft.)

L	L	M	M
Q			

1" x 6" - 96" Poplar (3.75 Bd. Ft.)

Q	Q	Q
S	S	T

1" x 6" - 96" Poplar (3.75 Bd. Ft.)

N	N	V	V	
CC				

1" x 6" - 108" Poplar (4.5 Bd. Ft.)

O	O	O	O	
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1" x 6" - 96" Poplar (3.75 Bd. Ft.)

U	U	U	U	
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1" x 6" - 96" Poplar (3.75 Bd. Ft.)

X	X	Y		Z	Z
X	X	Y			

1" x 6" - 96" Poplar (3.75 Bd. Ft.)

BB	DD	DD	
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1" x 4" - 108" Poplar (3.75 Bd. Ft.)

AA	
AA	

1/4 x 24 x 24" Birch Plywood

MATERIALS LIST

Project: **Display/Bookshelves**

Issue:

311

CODE	DESCRIPTION	QTY.	Dim1	Frac.	Dim2	Frac.	Dim3	Frac.	Material
72" Display/Bookshelves									
A	Side panels	(2)	3/4	x	11 3/4	-	72		Birch Ply
B	Side panel edges	(4)	3/4	x	2 1/4	-	72		Poplar
C	Top & Bottom panels	(2)	3/4	x	10 1/4	-	23		Birch Ply
D	Top rails	(2)	3/4	x	2 1/4	-	23		Poplar
E	Top rail fillers	(2)	3/4	x	2	-	23		Poplar
F	Bottom rails	(2)	3/4	x	4	-	23		Poplar
G	Bottom rail fillers	(2)	3/4	x	3 3/4	-	23		Poplar
43" Display/Bookshelves									
H	Side Panels	(2)	3/4	x	11 3/4	-	43		Birch Ply
I	Side panel edges	(4)	3/4	x	2 1/4	-	43		Poplar
J	Top & Bottom panels	(2)	3/4	x	10 1/4	-	23		Birch Ply
K	Top rails	(2)	3/4	x	2 1/4	-	23		Poplar
L	Top rail fillers	(2)	3/4	x	2	-	23		Poplar
M	Bottom rails	(2)	3/4	x	4	-	23		Poplar
N	Bottom rail fillers	(2)	3/4	x	3 3/4	-	23		Poplar
O	Shelves	(2)	3/4	x	10 1/2	-	22 7/8		Poplar
29" Base cabinet									
P	Side panels	(2)	3/4	x	15 3/4	-	29		Birch Ply
Q	Side panel edges	(4)	3/4	x	2 1/4	-	29		Poplar
R	Top & Bottom panels	(2)	3/4	x	14 1/4	-	23		Birch Ply
S	Top rails	(2)	3/4	x	2 1/4	-	23		Poplar
T	Top rail fillers	(2)	3/4	x	2	-	23		Poplar
U	Bottom rails	(2)	3/4	x	4	-	23		Poplar
V	Bottom rail fillers	(2)	3/4	x	3 3/4	-	23		Poplar
W	Shelf	(1)	3/4	x	15 1/2	-	22 7/8		Birch Ply
X	Door stiles	(4)	3/4	x	2	-	32 1/8		Poplar
Y	Door upper rail	(2)	3/4	x	2	-	5 7/8		Poplar
Z	Door lower rail	(2)	3/4	x	2 1/2	-	5 7/8		Poplar
AA	Door panel	(2)	1/4	x	6 7/8	-	19 5/8		Birch Ply
Complete Bookcase									
BB	29" bookcase top	(1)	3/4	x	4 3/4	-	50 1/2		Poplar
CC	Top trim -front	(1)	3/4	x	1 1/2	-	98		Poplar
DD	Top trim -ends	(2)	3/4	x	1 1/2	-	11 3/4		Poplar

'09 top 10 innovations

Consumer demand drives innovation. And it's clear from this year's list of Innovation Award winners that consumers are demanding more versatility and less waste.

If the tools we've selected as the most innovative for 2009 are any indication, it's time to update the old "right-tool-for-the-job" adage to be "the right tool for several jobs." It is indeed versatility that earned many of these revolutionary products their places in this list. But there are also several products among our top 10 that are here because they do one thing very well: reduce waste.

So, in a nutshell, this year's list of innovations is all about tools that do more and products that waste less. And both of those help you stretch your budget further.



10C Crew Universal Charger



INNOVATION: A single charging station that can charge virtually any battery.

IN A PERFECT WORLD, (at least as defined by tool manufacturers), each of us would be loyal to a single brand of tool, and every cordless tool we own would use the same size and type of battery. That way, we could maintain all of our batteries with a single charger.

But in reality, most of us have several brands of cordless tools that use various battery chemistries. The downside to that is the number of chargers you need to keep on hand to charge all those batteries. Fortunately, 10C Technologies has created a single charging station that will accept virtually any cordless tool battery.

The 10C Crew Universal Charger can charge up to four different brands, sizes, and chemistries of batteries simultaneously in about 15 minutes. The system is composed of a four-port central station that accepts adapters for DeWalt, Milwaukee, Ridgid, Ryobi, Hilti, Panasonic, Bosch, Hitachi, and Makita, with more on the way.

What's more, the 10C Charger even has restorative powers that can, to some degree, revive tired batteries. The 10C Charger currently sells for \$320 without adapters. Each adapter costs between \$15 and \$25, depending on brand and voltage. For more casual tool users, 10C Technologies also offers a single-bay charger that accepts the same adapters for just over \$100, called the 10C Pro. Apart from being able to charge just one battery at a time, the technology is identical.

To learn more about 10C Technologies' universal chargers, visit 10CTech.com or call 800-984-3086.

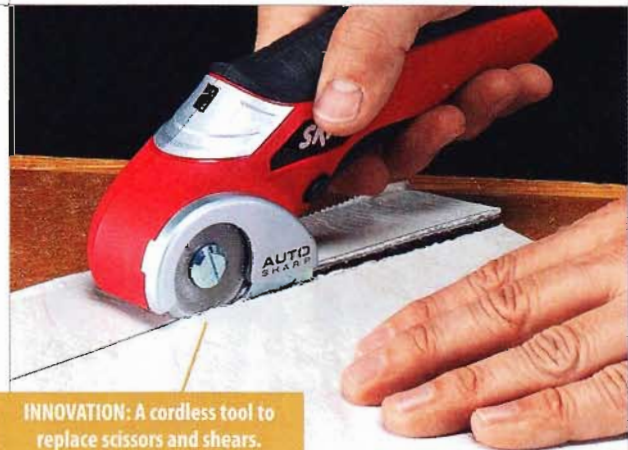
Skil Tools Power Cutter

IT'S TOO BAD THE PHRASE "cutting edge" has been so over-used, because it really does apply, both literally and figuratively, to the Skil Power Cutter (\$55). This unique tool promises to render scissors obsolete and utility knives outmoded.

The Power Cutter has an incredible range of use, making quick work of cutting through cloth, leather, cardboard, paper, plastic packaging, plastic laminate, vinyl flooring, and wallpaper. It's also perfect for cutting house wrap, carpet, and even landscape fabric.

A 10-sided (decagon), 1½"-dia. blade, is powered by a 3.6-volt lithium-ion battery. An automatic sharpening system keeps a keen edge on the blade at all times. The onboard "fuel gauge" tells you when it's time to recharge the built-in battery. And once it's topped off, the battery will hold its charge for up to 18 months.

While I can't say I've discovered every use for the Power Cutter, I will say that it has earned its keep around my house



INNOVATION: A cordless tool to replace scissors and shears.

for breaking down cardboard boxes for recycling and for opening those maddening blister packs that most tools and toys now come encased in. Most recently, it has become a permanent fixture on the "crafts" table.

For more information about Skil Tools' lithium-ion Power Cutter, visit SkilTools.com or call 877-754-5999.

Milwaukee Hackzall

MILWAUKEE MAY HAVE intended this pint-sized version of the Sawzall for the professional user, but I see the 12-volt lithium-ion Hackzall (\$180) finding favor with DIYers for a number of reasons.

First of all, it takes lot of the intimidation factor out of a reciprocating saw. Secondly, the Hackzall is a perfect platform for lightweight, compact lithium-ion batteries. Manufacturers have used lithium-ion technology as an excuse to build even bigger (i.e. costlier) cordless tools, but it's at this end of the spectrum, the low- to mid-voltage range, that I think lithium ion really earns its stripes.



INNOVATION: Reciprocating saw versatility in a DIY-friendly size.

I also believe DIYers and homeowners benefit more than pros from the long charge life of lithium-ion batteries. Pros charge their tools and then use them immediately, so the amount of time a battery holds its charge while idle doesn't mean much to them. But those of us who may only use a tool like the Hackzall a few times each year can appreciate a battery that holds its charge for up to 18 months.

One quality I think both pros and DIYers will value is the compact size of this tool. It will go places where a full-sized reciprocating saw can't.

To learn more about the Milwaukee Hackzall, visit MilwaukeeTools.com or call 800-729-3878.



INNOVATION: Cordless drills with automatic transmissions.

Ridgid and Ryobi AutoShift Drills

AS TWO CHIPS OFF THE SAME tool block (parent company Techtronic Industries), Ridgid and Ryobi cordless drills will share honors this year. That makes sense considering they also share the innovation that earned them this recognition.

Both the Ryobi model P814 (\$199) and Ridgid model R86014 (\$229) feature AutoShift Technology.

The way it works is quite simple: The drills begin all operations in high-speed mode, but as soon as they encounter resistance beyond what the high-speed gearing is suited for, they automatically shift the transmission to the high-torque mode.

Not only is this easier on you, but it's also easier on the drill. By ensuring that the drill is in its optimum setting whatever the task, you run less risk of overworking the motor or transmission.

The Ridgid drill allows you to turn the AutoShift feature on and off, whereas the Ryobi drill is permanently in this mode. Both drills are powered by 18-volt lithium-ion batteries.

To learn more about the Ryobi AutoShift drill, visit RyobiTools.com or call 800-525-2579. You can get additional information about the Ridgid AutoShift drill at Ridgid.com or by calling 800-474-3443.



Crocodile Circular Saw

THE PREDACIOUS NAME and fearsome countenance of the Crocodile Circular Saw (\$100) seem to imply that the tool is meant for razing, wrecking, and demolishing. This is by design, of course, and has a fair measure of accuracy. But it would be a mistake to dismiss this saw as nothing more than a rough-cutting dismantling tool.

It is, in fact, a very powerful and precise saw that has versatility that belies its ferocious packaging. According to the manufacturer, the saw was designed from the ground up to be ideally suited to cutting materials that a conventional circular saw isn't ideal for, such as drywall, plastic, conduit, and all varieties of tile.

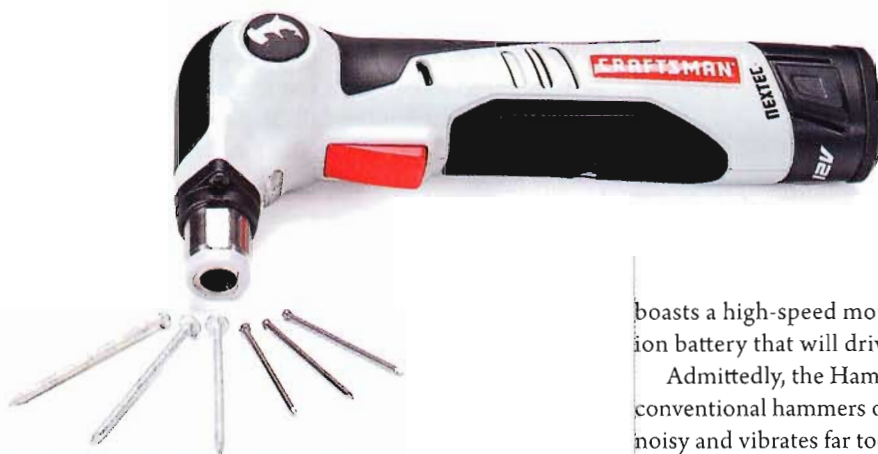
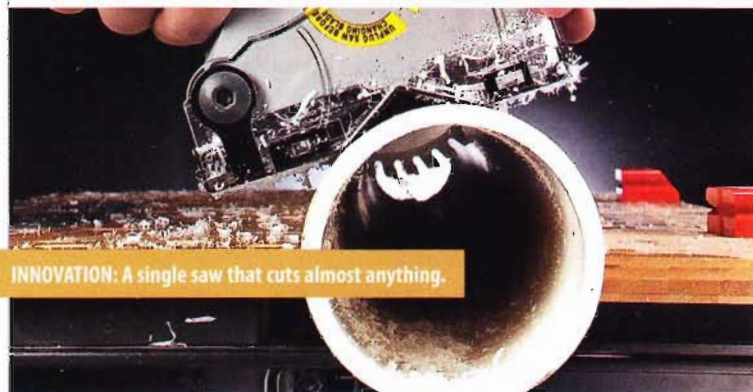
To that end, the Crocodile Circular Saw Kit includes two interchangeable blade guards (one for cutting flat materials

and surfaces, and a V-notched version for cutting pipe), and nine blades, including:

- (1) Finishing Blade (for drywall, wood, and plastic)
- (5) Metal-Cutting Blades (for conduit, steel, and sheet metal)
- (1) Diamond Blade (for tile, ceramic, stone, and marble)
- (2) Tungsten Carbide Tip Blades (for laminates, plywood, paneling, PVC, and aluminum)

Additionally, the kit comes with an edge guide, a two-foot level with a laser pointer, and a nylon carrying bag. Altogether this is a very complete tool that will take up where your circular saw leaves off.

For more information, visit ClarkeUSA.com or call 800-227-9603.



NEXTEC Hammerhead Auto Nailer

THUMBS REJOICE. Craftsman's Nextec Hammerhead Auto Nailer (\$100) is a huge leap forward in hammer design, which has otherwise gone unchanged for decades.

The Hammerhead takes the swing out of nailing and replaces it with a piston-like head that delivers 2,000 impacts per minute. The tool weighs in at less than two pounds but

INNOVATION: Lithium-ion powered piston drives nails.

boasts a high-speed motor, powered by a 12-volt lithium-ion battery that will drive nails up to 3½" long.

Admittedly, the Hammerhead isn't likely to render conventional hammers obsolete. It is, in my opinion, too noisy and vibrates far too much for continuous use. But it's incredibly useful in tight spaces where swinging an ordinary hammer is out of the question, like in between floor joists or wall studs, or inside a cabinet.

As I mentioned, the noise and vibration are considerable, so be sure to always use hearing protection, and wear a decent pair of work gloves to dampen the pounding (especially for the hand that holds the nail to get it started).

Find out more about the Craftsman Nextec Hammerhead Auto Nailer by logging on to Craftsman.com or by calling 800-377-7414.

Kwikset Smart Series

HOME SECURITY TECHNOLOGY took a giant leap forward with Kwikset's SmartSeries Home Security products. The line includes three lock sets that give you complete control over who has access to your house.

The SmartKey lock system allows you to re-key your dead-bolt at any time without removing the lock from the door or enlisting a locksmith. SmartCode lets you avoid keys altogether and use a code to unlock your door. The code can be between four and eight digits long. SmartScan goes one step further than SmartCode by replacing your key with your fingerprint. You can store up to 50 fingerprint signatures in the SmartScan and add and remove them as necessary to allow temporary access to non-family members. Of course, a conventional key will open both SmartCode and SmartScan locks in the event that you forget your code or misplace your fingerprints.

Retail prices for Kwikset SmartSeries Home Security products ranges from \$60 to \$250. For more information, visit Kwikset.com or call 800-327-5625.



INNOVATION: Technologically advanced home security solutions.



INNOVATION: Real-time monitoring of your power consumption.



Black & Decker Power Monitor

KNOWLEDGE IS POWER. And knowledge of your power consumption can be a great way to change your habits and lower your monthly utility bill. That's what you get with the Power Monitor (\$100) from Black & Decker.

The Power Monitor installs in just minutes. A weather-proof sensor mounts on your electric meter, and the display unit can be placed on any flat surface or mounted to a wall anywhere in your house.

As soon as both pieces are in place and powered up, they start providing feedback immediately about the number of kilowatts your home is consuming. Once programmed with your local utility rates, the Power Monitor can also display what that means in terms of dollars and cents, showing how much you're spending at any moment. It can also calculate your month-to-date cost and estimate a monthly bill. The Power Monitor can even help you identify how much each appliance in your home costs to operate.

Black & Decker claims that families using the Power Monitor have reduced their energy consumption by up to 20 percent simply because they are more conscientious about their power usage.

Visit BlackAndDecker.com or call 800-544-6986 to learn more.



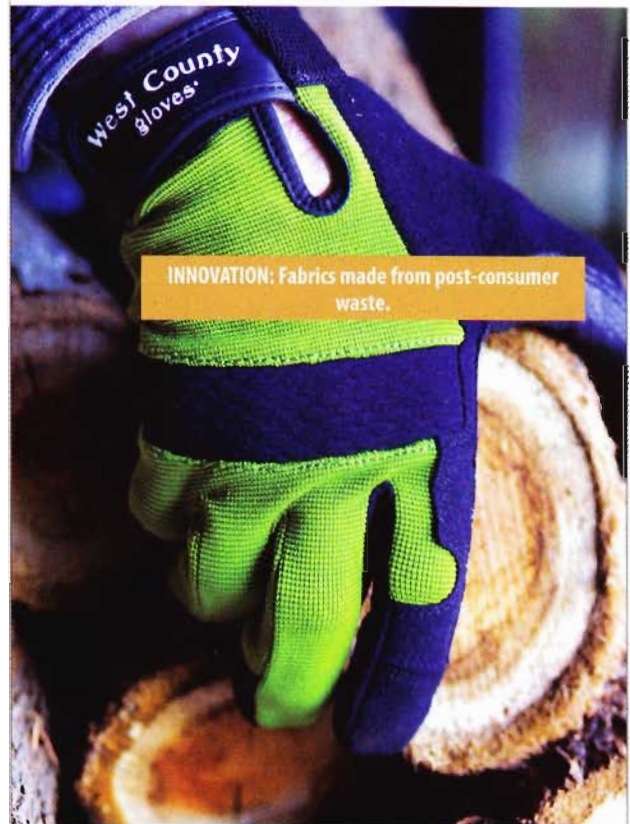
West County Gloves

A GOOD PAIR OF GLOVES can reduce blisters, splinters, and other hand injuries. A pair of West County Gloves can reduce waste. The gloves are made from 20 percent post-consumer waste — in other words, old water bottles.

West County reports that this yields a 75 percent decrease in energy use and about 40 percent less carbon dioxide production compared to conventional glove manufacturing. The gloves sell for between \$20 and \$35 per pair.

So wear your gloves, drink your water, and recycle the bottle. It's good for you.

To learn more about West County Gloves, visit WestCountyGardener.com or call 800-475-0567.



INNOVATION: Fabrics made from post-consumer waste.



INNOVATION: Self-opening dishwasher that saves energy.

Miele La Perla Dishwasher

ONE OF THE MOST FREQUENTLY repeated tips for reducing electrical consumption in your home is to use the air dry setting on your dishwasher. And if you want the dishes to dry more quickly, prop the door open slightly at the end of the cycle. That sounds simple enough, but who has time to monitor the dishwasher and be around to open it up at just the right moment?

Enter Miele's G 2002 La Perla (\$2,600) dishwasher which has, among many other new features, a Drying Plus cycle that opens the dishwasher door automatically for faster air drying.

Other innovative features of the La Perla line include a Turbo mode, which reduces rinsing and drying times by 10 to 15 percent, and a Sensor Dry feature that measures the room temperature and then adjusts the water temperature and drying time accordingly. The *coup de grâce*, though, is the Auto Close feature, which gently but firmly closes the door on the dishwasher, much like the trunk of a luxury automobile. This prevents the slamming and racking that can shorten a dishwasher's life.

Visit Miele.com or call 800-843-7231 for more information about La Perla dishwashers or to locate a retailer in your area.

Today's TVs and components demand a new approach to the traditional entertainment center. This cabinet has pre-made doors, decorative glass, and metal legs that bring an easily customizable look to your living room.



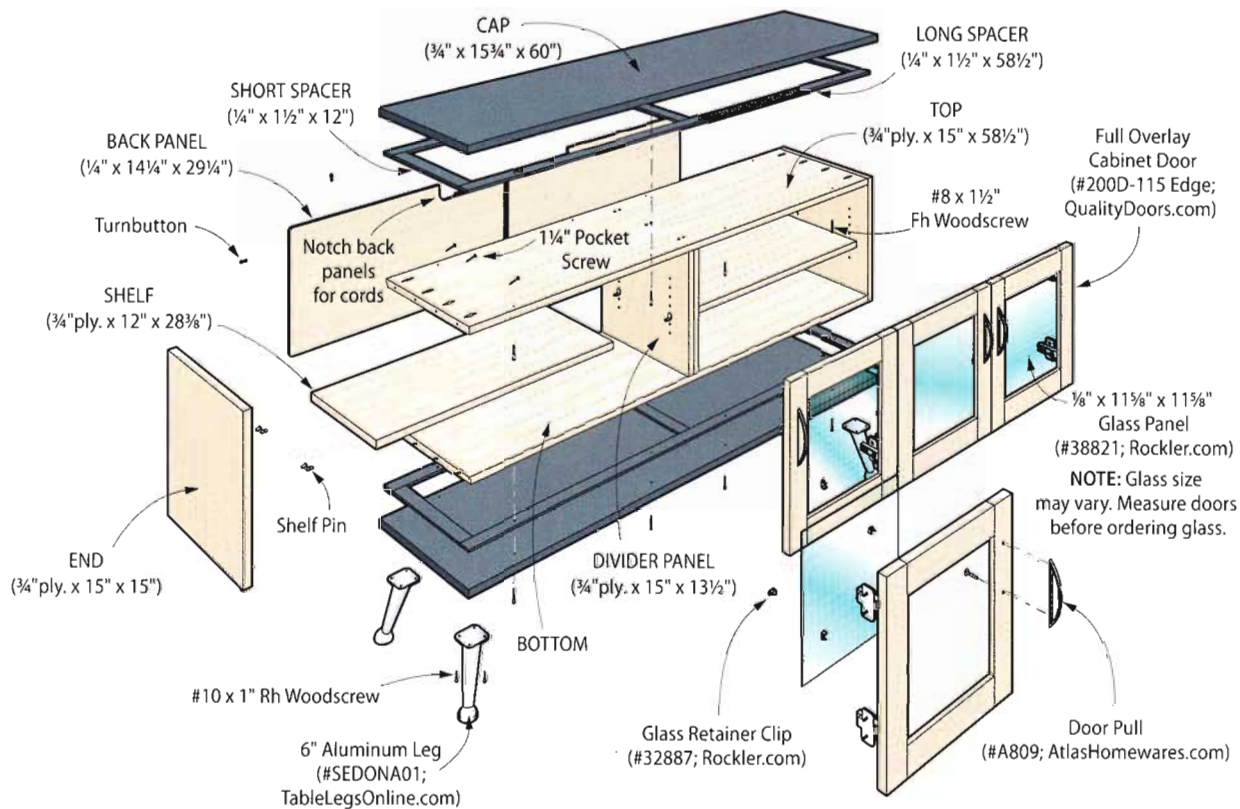
he entertainment center tends to be the focal point in any living room or den. We often arrange our furniture around our entertainment setups for optimal viewing, and even let our home theater components dictate the placement of our decor. Since it serves as the focus of the room, the entertainment center should be a piece of furniture that's worthy of the attention, even when you're not watching television. It helps if the cabinet can hide the clutter and tangle of wires that we've come to expect with today's home theater setups. Over the next few pages, we'll show you how to create a project that certainly meets that need — and more.





made to order

ENTERTAINMENT CENTER



Custom Design

This stylish entertainment center has an edge over the ones you can buy at furniture stores. Like many *Workbench* projects, it allows you to adapt the size and style to suit your situation.

Since the cabinet is really just a simple plywood box with a few embellishments, you can easily change the depth to match the components you plan to store inside. We made our cabinet 15" deep, which will accommodate most components. (You can download the detailed builder's drawings with our dimensions at WorkbenchMagazine.com).

Thanks to the cabinet's doors, which you'll order pre-made, it's easy to dramatically alter the look of the cabinet by simply purchasing parts that fit your style. The pre-made doors also make this fairly simple project look very sophisticated.

There are plenty of companies that will build custom doors to your dimensions—including some that offer their products through home

centers. Keep in mind that it can take several weeks to receive them, though, so place your order as soon as you've chosen the door style that will work best in your home.

Some styles can be ordered with glass inserts instead of traditional wood panels. We wanted to put in

a different type of glass, though, so we used doors that were prepared to accept glass inserts but didn't have any installed. Then, we ordered "Art Deco" glass panels separately from Rockler (#38821; Rockler.com). We liked the look of this glass because it adds interest to the front of the cabinet but

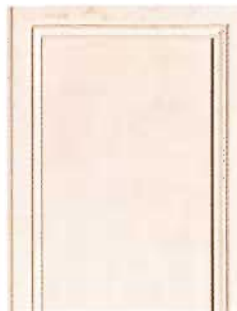
CABINET DOOR OPTIONS

There's nothing complicated about customizing your entertainment cabinet. It all comes down to your personal preference for the door style. Intricate doors can look more traditional, while simple doors can be complemented with sleek hardware to create a contemporary look. Here are three door choices from Quality Doors (QualityDoors.com).

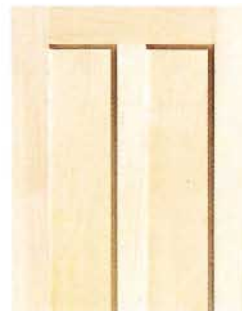
SOUTHWEST



WOODVIEW



SHAKER DOUBLE



still partially obscures the components stored inside.

Pre-made cabinet door manufacturers also offer many finish options, but we recommend ordering the doors unfinished. That way, you won't have to hassle with mixing a custom stain to match the cabinet color to the doors.

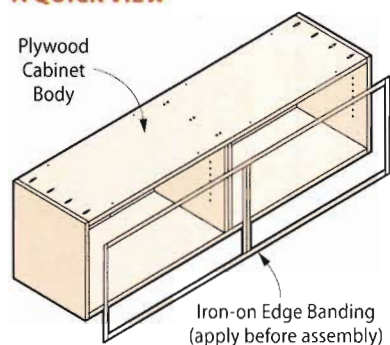
Cabinet Construction — As you can see in the *Illustration* below, the main cabinet body is just a box made from $\frac{3}{4}$ "-thick oak plywood. The box has a center divider constructed from two pieces of the plywood. The divider adds stability to the project and provides a place to attach the doors' hinges, plus it separates the space to keep the cabinet's contents organized. If you'd like to further compartmentalize the space, you can add shelves inside the cabinet as shown in the *Illustration* at left.

The front edges of the plywood pieces are covered with iron-on oak edge banding. The banding is sold in rolls that you can purchase at home centers, and it's very easy to apply.

It's All in the Details — This project's stylish and convenient features really set it apart. Many entertainment cabinets only let you reach your components through the front, since the back is often permanently attached. But the back of this cabinet consists of two separate pieces held on with turnbuttons, so they can be removed individually. That way, you'll just have to remove a small back panel when you want to reach components on one side of the cabinet.

In the *Photo* on pages 44 and 45, you'll notice that the entertainment

A QUICK VIEW



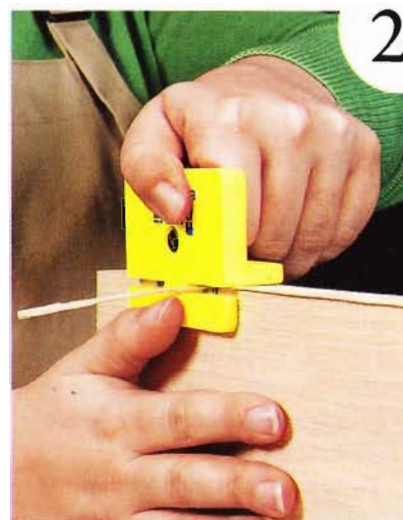
You'll apply iron-on banding to all the edges on the front face of the cabinet. This gives them a finished look and prepares them to readily accept stain. Before you begin, make sure the plywood is free of dust to ensure good adhesion.

cabinet has two "caps" that were finished with dark stain to create a striking contrast with the rest of the cabinet. You can also see an interesting shadow line between the cabinet and the top and bottom caps. We created this feature by adding $\frac{1}{4}$ " x $1\frac{1}{2}$ " oak spacer boards, which are slightly recessed from the cabinet's edges for an upscale touch.

Cut the Cabinet Body Pieces — You'll start the project by preparing the main body of the cabinet. First, cut the top, bottom, ends, and divider pieces from $\frac{3}{4}$ "-thick oak plywood. We've provided cutting diagrams at WorkbenchMagazine.com to help you with this step.

Apply Edge Banding — Before you assemble the pieces you've just cut, you'll use iron-on banding to cover the front edges of the divider panels, top, bottom, and sides. Clamp each workpiece with the front edge facing up to make it easier to apply the banding. Then position the banding on the edge of each workpiece, and run a household iron over it (*Fig. 1*). The manufacturer's instructions will tell you what iron setting to use.

An edge trimmer like the one shown in *Fig. 2* will come in handy to cut away the excess edge banding. Home centers sell edge trimmers alongside the edge banding. There are also double edge trimmers available that can trim both edges at the same time — just squeeze



the sides together to get a close cut. Once you've trimmed the banding, gently sand its edges.

Assemble the Cabinet Body — As soon as you've applied the edge banding, you can start assembling the project. You'll first attach the ends to the top and bottom with pocket screws. Drill the holes using a pocket-hole jig. (For more on pocket-hole joinery, visit WorkbenchMagazine.com).

As you prepare to assemble the cabinet body, the divider pieces offer the perfect solution to help you line up the top and ends. Set the ends upright against the bottom piece, and then place a divider piece against each of the end panels. The top will rest on the dividers, which will stabilize it while you drive in the pocket screws (*Fig. 3, page 48*).

3

It can be difficult to align workpieces while you're driving pocket screws. The divider panels can help make this step a little easier. Simply slide in the panels against the cabinet ends, and use them to hold the top piece in its place.



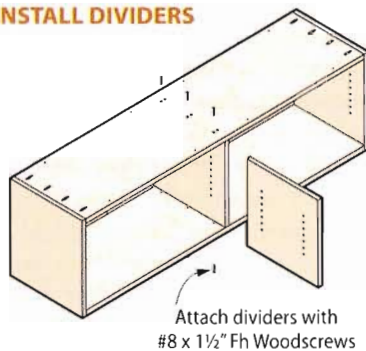
Then use the same process to attach the cabinet's bottom panel.

Create the Shelves — If you'd like to include shelves inside the cabinet, cut them from $\frac{3}{4}$ " oak plywood and apply iron-on banding to the edges that will face the front. These shelves will be held in place by shelf pins, and you can make them adjustable by drilling a series of shelf pin holes in the ends and divider. It's sometimes difficult to get these holes aligned, though, so your best bet is to make a template from one of the divider panels.

To do this, use shelf pin holes drilled in one of the panels to help you drill matching holes in the end pieces as shown in Fig. 4. Then line up the template piece on top of the other divider piece, and use it to drill matching holes in that, too.

Attach the Divider — After the shelf holes have been drilled, you can

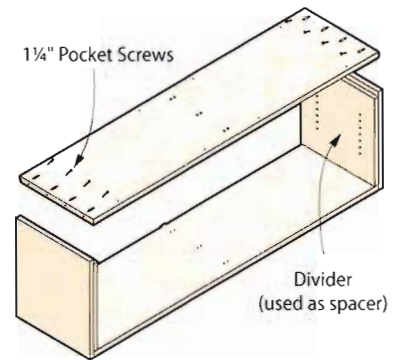
INSTALL DIVIDERS



insert the divider pieces. Stack the panels face to face, and then center them in the width of the cabinet. As you slide them into place, make sure the edges with banding are facing the front. Then secure them by driving screws through the top and bottom pieces and into the divider as shown in the *Illustration* below.

Prepare the Back Panels — The next step is to create a rabbet around the inside edge of the cabinet's back face. Rout a $\frac{3}{8}$ " rabbet that's $\frac{1}{4}$ " deep all the way around the compartments, as shown in Fig. 5. Screw turnbuttons to the back of the cabinet to hold the back panels in place inside the rabbet.

ATTACH TOP TO ENDS



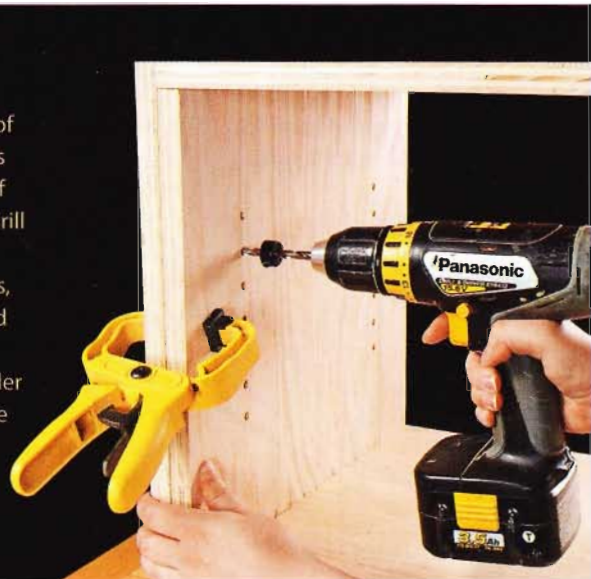
Now cut the two back panels to size from $\frac{1}{4}$ "-thick hardboard. Use a jigsaw to cut notches into these pieces. The notches will provide ventilation to your components and allow the cords to exit through the back of the cabinet.

Install the Doors — Before you mount the doors, drill holes in them for the door pulls. You'll also need to get the doors ready for the textured glass panels. Screw glass retainer clips to the inside of each door to hold the panels in place.

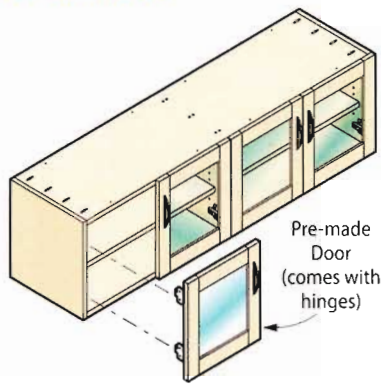
Once the doors are prepared for glass, you can attach the hinges. Line up each pre-made door in its proper position on the cabinet. Make a mark where each of the hinges will be secured (Fig. 6), and then attach the doors on those marks as shown in the *Illustration*, above right.

4

You can use one of the divider panels to align your shelf holes. After you drill holes into one of the divider panels, clamp it to an end piece. Next, drill through the divider piece and into the end. Repeat this process for the other end piece.



ATTACH DOORS



Finish the Cabinet — To get a natural look, we finished the main cabinet body, doors, and shelves with clear polyurethane. We decided to add the doors and shelves before we reached this step, though. That way, we could sand pieces or make final adjustments as needed. If you choose this method, it's best to remove all the hardware and shelves before you finish the cabinet. Then you won't have to worry about getting finish on the hardware as you work.

Prepare the Caps and Spacers — After you've assembled the cabinet body, cut the caps from $\frac{3}{4}$ "-thick oak plywood. Then, crosscut the spacer pieces. You'll need six short spacer boards and four long ones. Apply iron-on banding to all edges of the caps that will be visible.

The caps and spacers get stained before you screw them to the cabinet. But keep in mind that you won't have to stain every side of the spacer pieces — just the ones that will be seen. To keep this straight, position the caps and spacers as if you're getting ready to attach them, and then mark the sides that will be hidden. Apply stain liberally to the sides without marks, and wipe off the excess. We used "Java" gel stain from General Finishes (GeneralFinishes.com) to achieve the dark, rich color.

Attach the Caps and Spacers — Next, put the spacers and caps on the cabinet, starting with the top ones. Position the short spacer boards between the long spacer boards, as shown in the *Illustration* below. The spacers will be inset $\frac{3}{4}$ " from the ends of the cabinet, and flush with the front and back of the cabinet. Secure the spacers by gluing and nailing the boards down. Then spread glue on the spacers for added durability, and line up the top cap. Drill pilot holes, and then drive screws through from the underside of the cabinet (*Fig. 7*).

After the top spacer and cap are secure, you can attach the bottom ones. Again, position the spacer boards so they're flush with the front and back and inset $\frac{3}{4}$ " from the ends. You can drive the screws for the bottom spacer

5

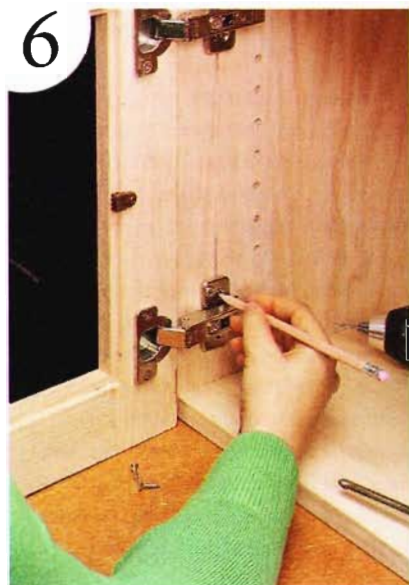
The cabinet's two back panels will rest inside the $\frac{3}{8}$ " rabbets you'll rout around the compartments.



and cap through the cap itself, since the underside of the cabinet won't be seen.

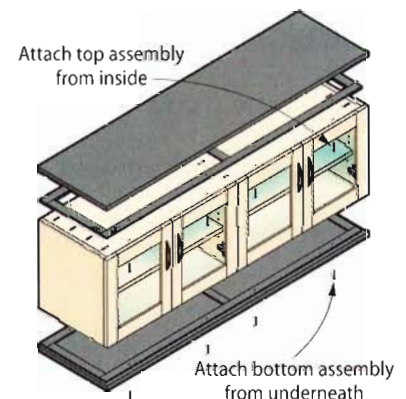
Add the Finishing Touches — Now you're ready for the final steps, like attaching the legs. We chose the 6"-tall "Sedona" style from Table Legs Online (SEDONA01; TableLegsOnline.com) and attached them with 1" screws.

Then you can put the shelf pins and shelves back in and attach the hardware to the doors. Carefully secure the textured glass panels with retainer clips. Now all that's left is to set up your home theater equipment in your personalized cabinet. 

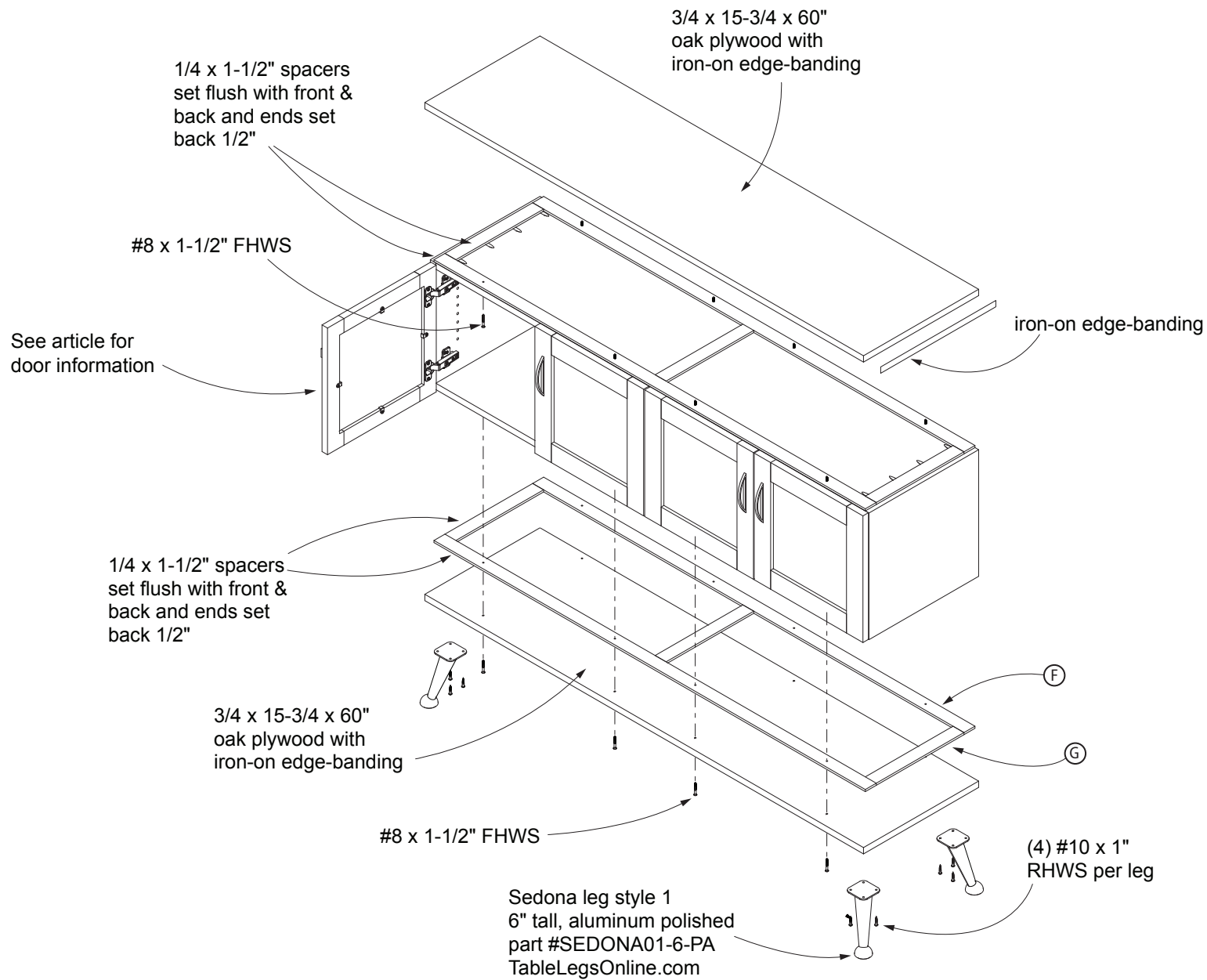


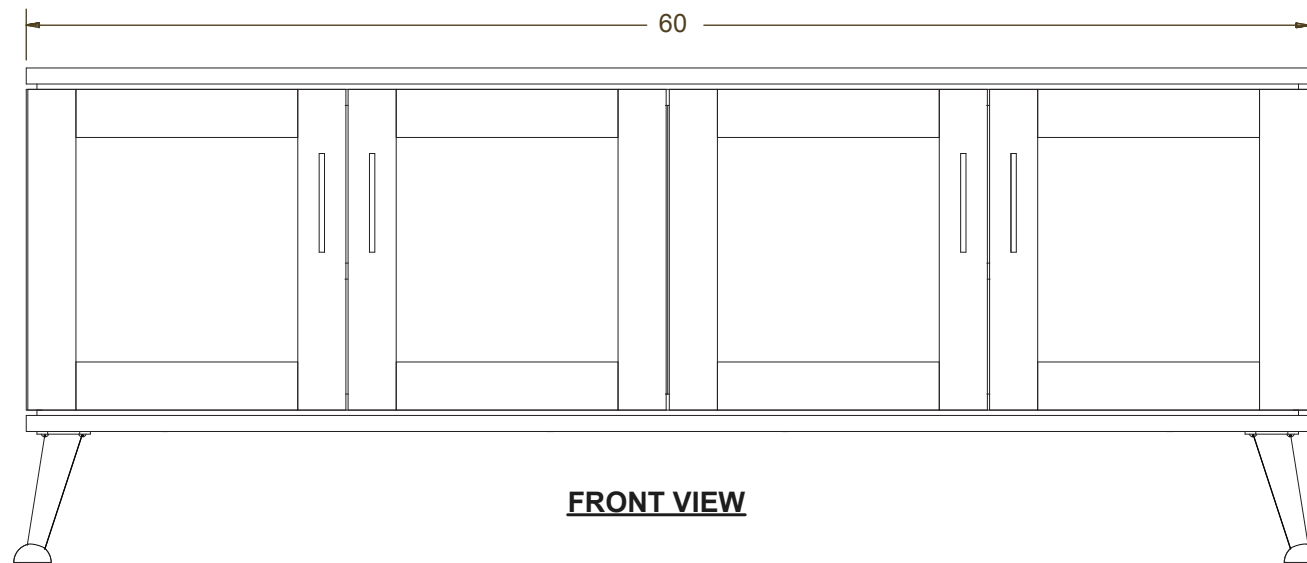
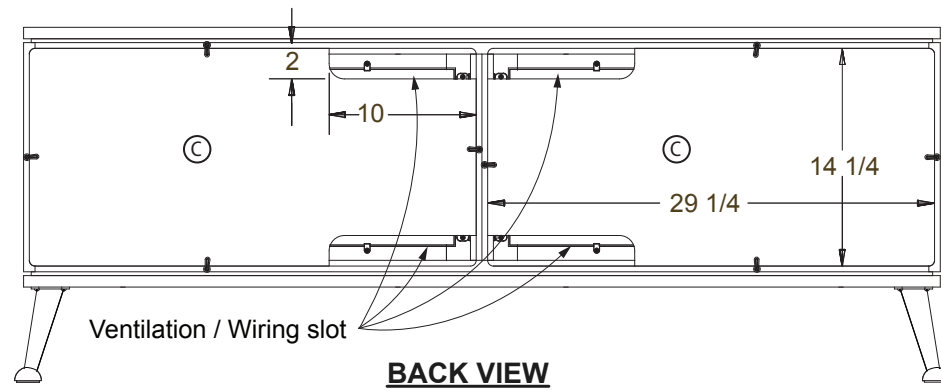
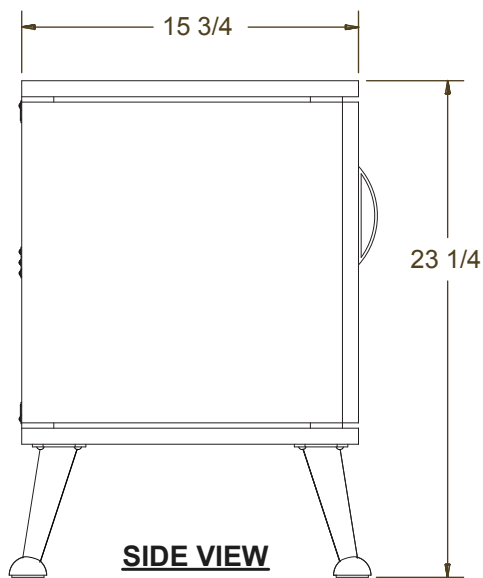
— Written by Alyssa Schmitt, illustrated by Erich Lage, project designed by James R. Downing

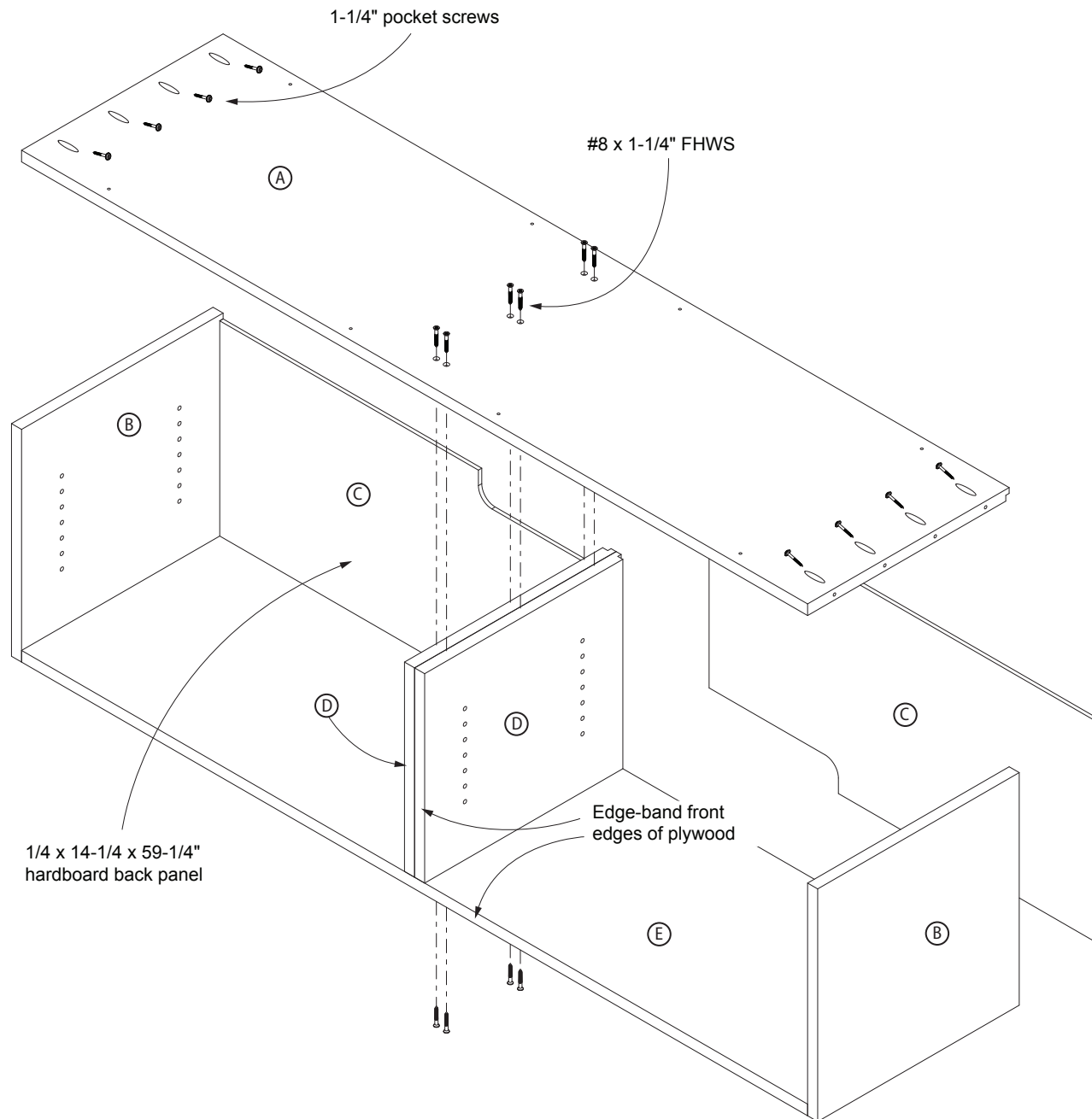
ADD CAPS AND SPACERS

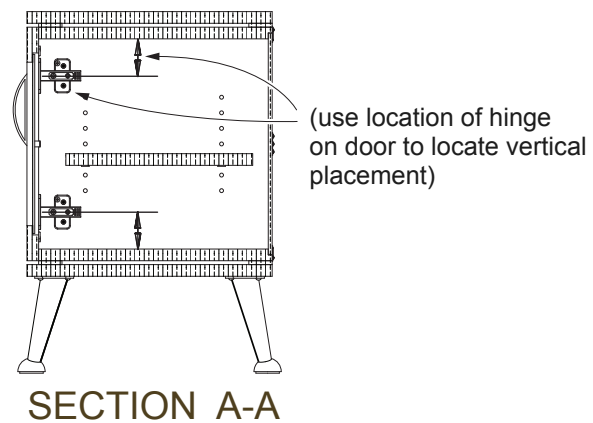
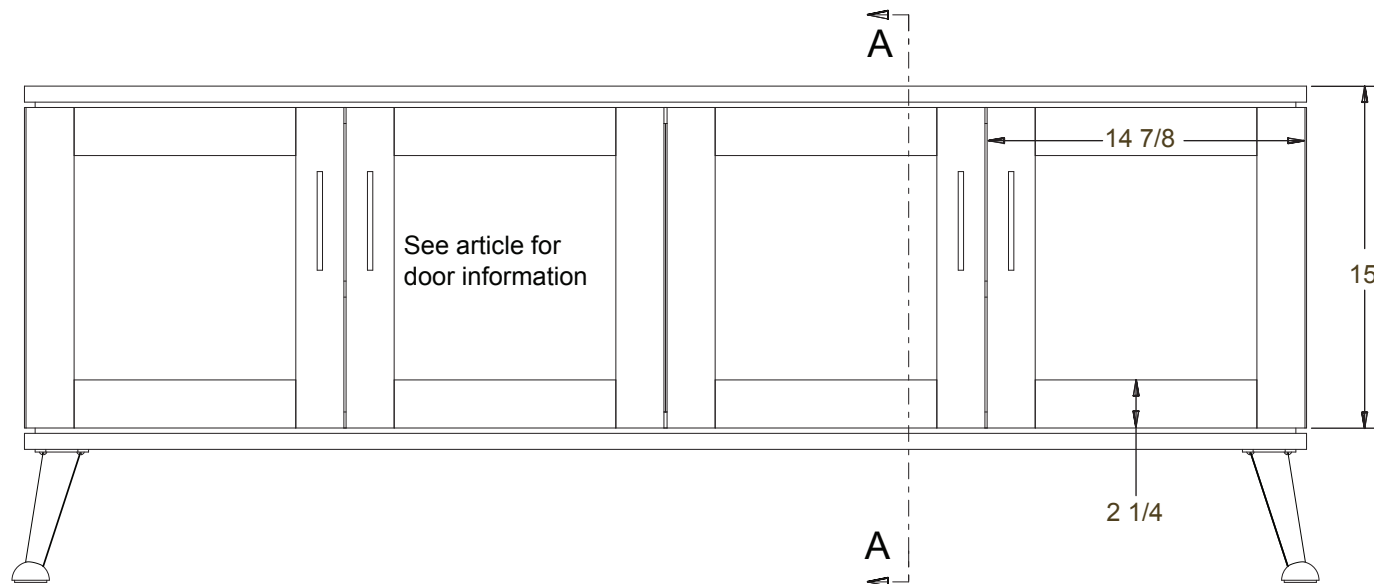


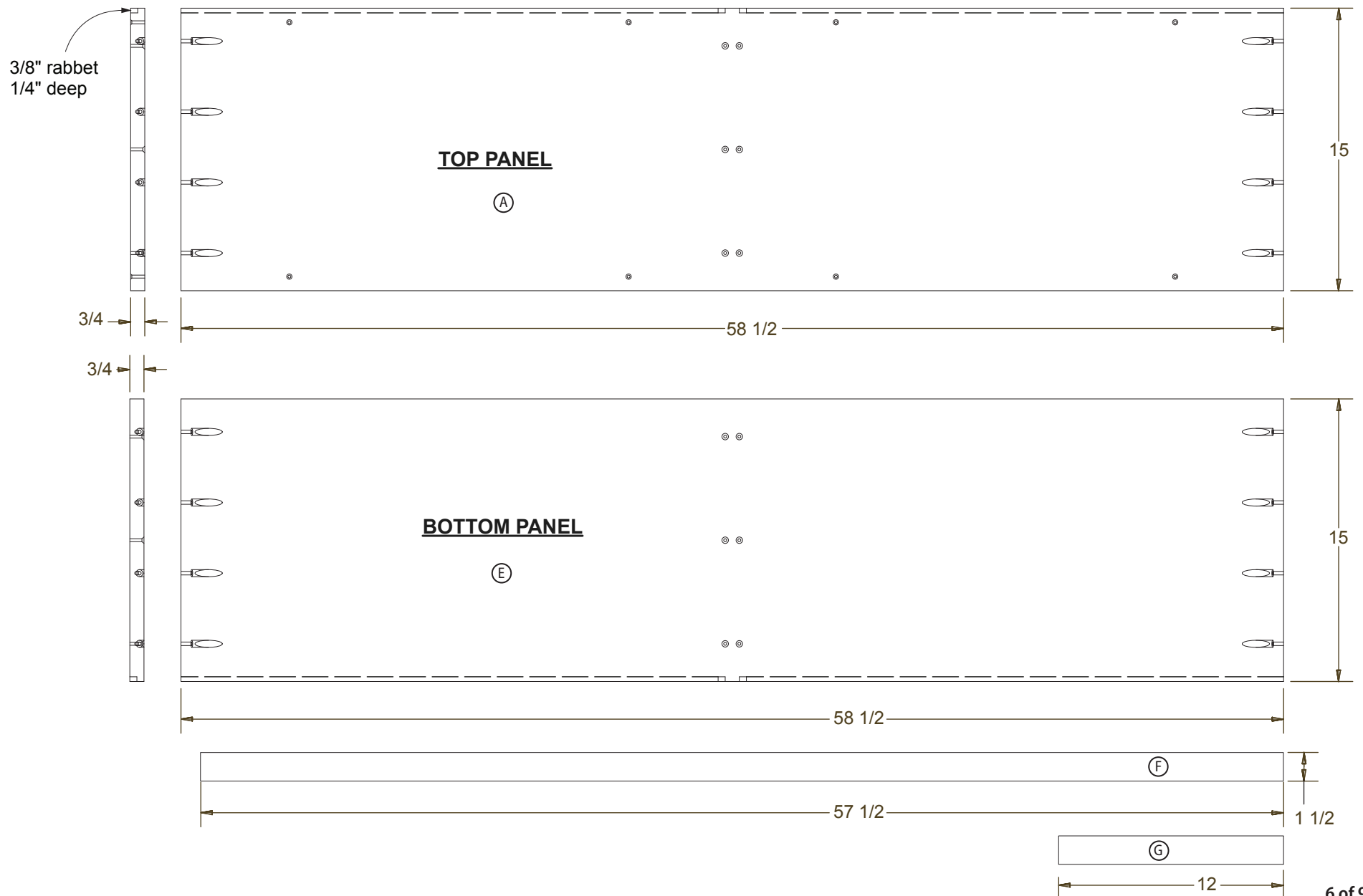




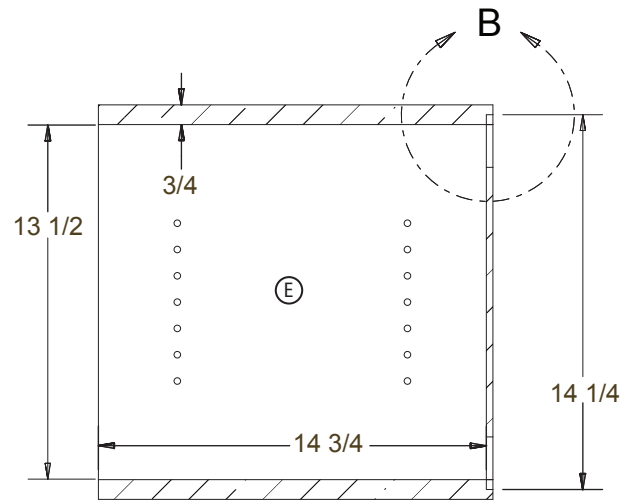
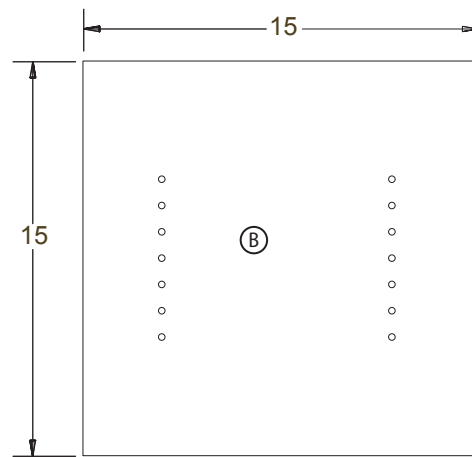




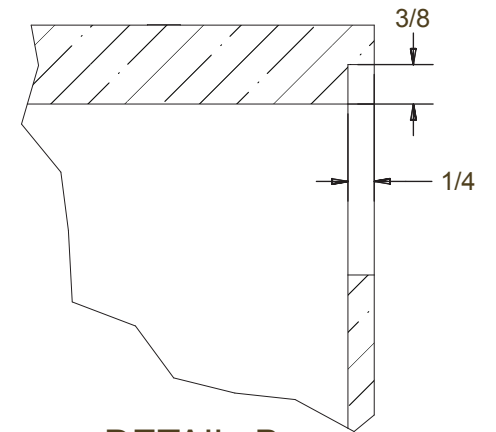




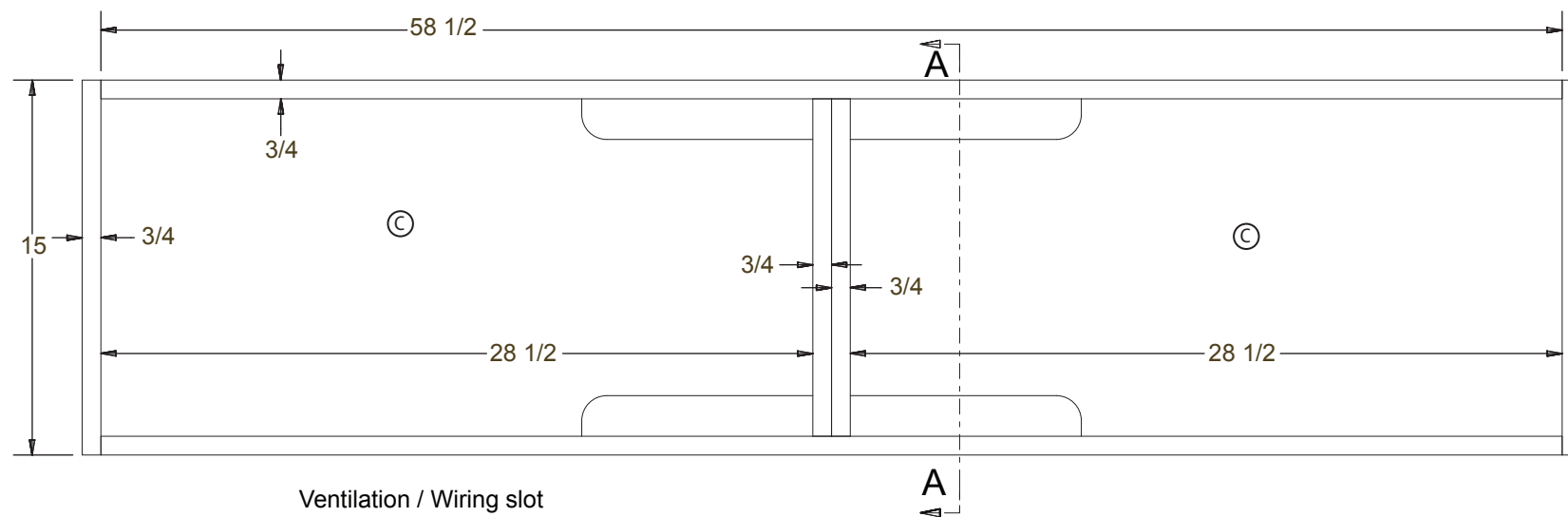
6 of 9



SECTION A-A



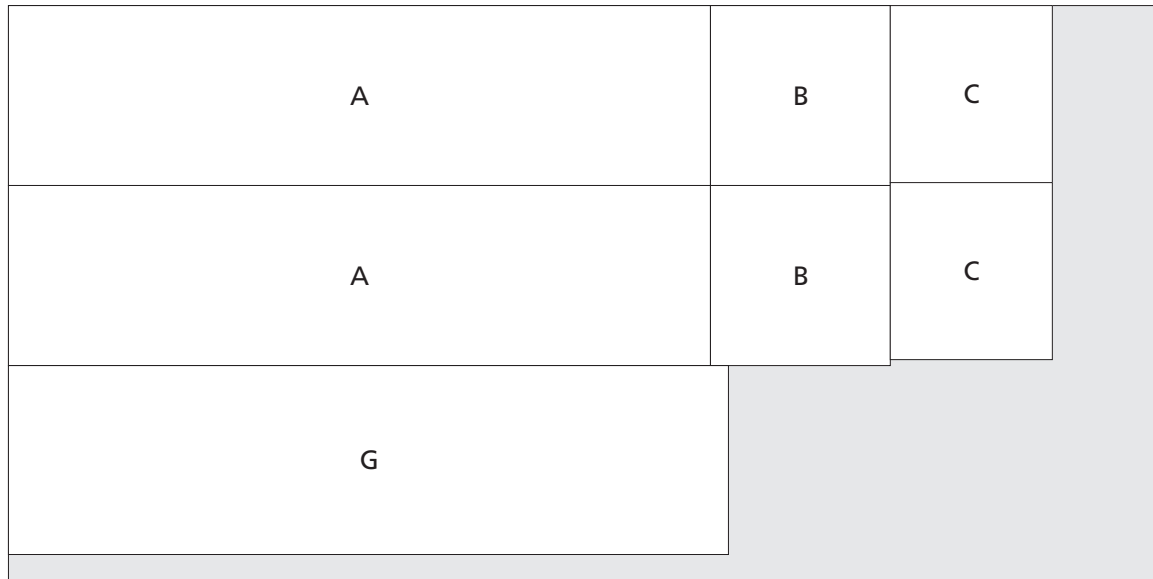
DETAIL B



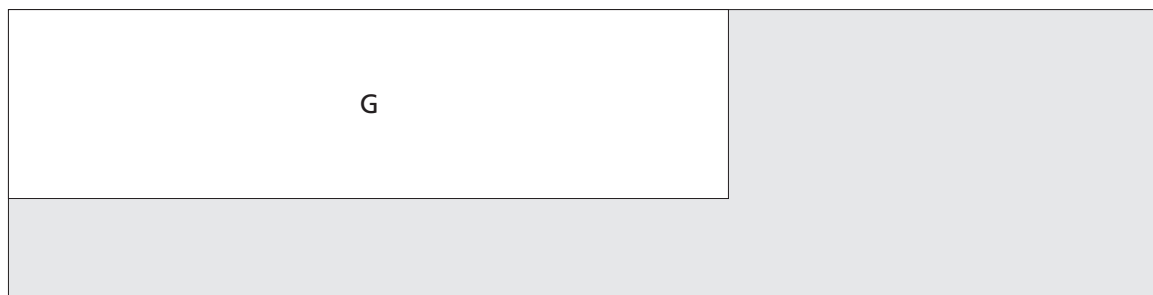
Ventilation / Wiring slot

FRONT VIEW

Cutting Diagram



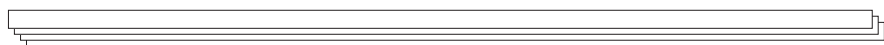
3/4 x 48 x 96" Oak Plywood



3/4 x 24 x 96" Fir Plywood (or MDF?)



1/4 x 24 x 96" Hardboard



(4) 1/2 x 1-1/2 x 72" Oak strips

MATERIALS AND HARDWARE LIST

Project: **TV Cabinet**

Issue:

311

CODE	DESCRIPTION	QTY.	Dim1	Frac.	Dim2	Frac.	Dim3	Frac.	Material
Heading									
A	Case Top & Bottom	(2)	15	x	58 1/2	-	3/4		Oak Ply
B	Case Ends	(2)	15	x	15	-	3/4		Oak Ply
C	Case Dividers	(2)	14 3/4	x	13 1/2	-	3/4		Oak Ply
D	Case Back	(1)	14	x	59 1/2	-	1/4		Hd Bd
E	Top & Bottom long spacers	(4)	1 1/2	x	59	-	1/2		Oak
F	Top & Bottom short spacers	(4)	1 1/2	x	12	-	1/2		Oak
G	Top and Bottom	(2)	15 3/4	x	60	-	3/4		Oak Ply
• 3/4" oak iron-on edge banding • (4) 3/4 x 14-7/8w x 15"h custom made doors w/o glass • (4) 1/8 x 10-3/4 x 10-7/8" "squares" textured glass. Rockler #38821 • (32) Glass retainer clips. Rockler #32887 • (4) 6" Polished aluminum legs. TableLegsOnline.com # sedona-6-pa • 1-1/4" pocket screws • #8 x 1-1/2" flat head wood screws • (1) #10 x 1" round head wood screws									



HOME ENTERTAINMENT Ideas ...

You don't have to leave your home to see movies and hear music at their best. Here's a guide full of all the products, accessories, and setup tips you'll need to help you get the most entertainment value from your home.

Let's face it: We're a nation that's obsessed with entertainment. Movie opening weekends make headlines, album releases become eagerly anticipated events, and the newest iPhone innovations have the blogs buzzing for weeks. It should come as no surprise, then, that we're constantly looking for ways to bring the latest entertainment into our homes. Flat-screen televisions and iPod docking stations are now common household must-haves, complemented by state-of-the-art speaker systems.

The choices can be daunting at times. It's fun to imagine installing your dream home entertainment system, but the reality

of making it come together isn't always an easy task. Over the next few pages, we'll show you some new and notable products that you may want to pick and choose from when you're setting up your own system.

In addition to helping you select your equipment, we'll offer some tips on how to adapt the electronics setup so it will suit your space. Some people have the flexibility to design their living rooms around their desired entertainment systems, customizing the rooms for their components' placement. Those of us with existing homes, however, are left with the challenge of deciding how big the TV



Sony BRAVIA XBR Series TV

should be and how to organize our entertainment systems in the space we have.

And once you've got the equipment set up, you're faced with another challenge: It can quickly clutter your family room or den. You can waste a lot of time trying to find the cable to a particular component among a tangle of other cords. It can also be a hassle to arrange the wires so they don't interfere with your decor. These tasks can take time away from actually enjoying the entertainment system, so we've also included some organization products and tips to minimize the inconvenience.

SCREEN TIME

The television is a logical starting point for boosting your home entertainment system, and one of the most critical factors is picking one that's the right size for your room. If you get a TV that's too small, you'll lose the optimal home theater immersion experience. But if you get one that's too big, you'll risk missing some of the action on the screen.

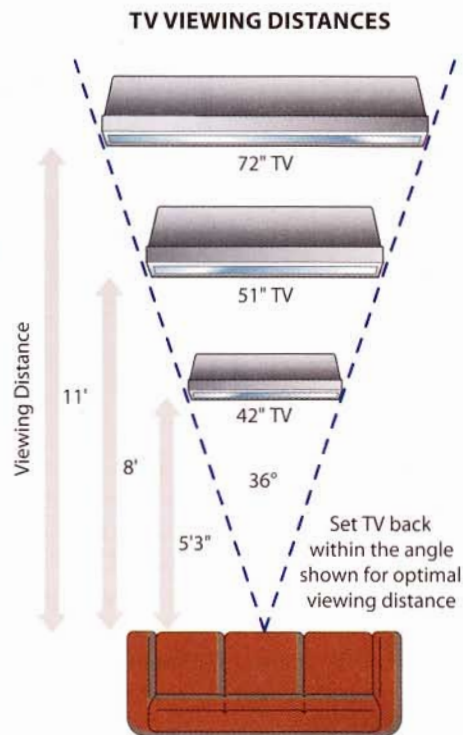
The Illustration (above right) shows the proper viewing distances for different TV sizes. You can use this as a starting point to determine which size will best fit the room and where to place the TV once you've purchased it.

You'll also have to take your furniture placement into account. Your room may have only one logical way to place all of your furniture so viewers can comfortably see the screen. Other rooms may offer several options, which increase your placement possibilities. The Illustration (below right) shows the angles that offer the best view of the screen.

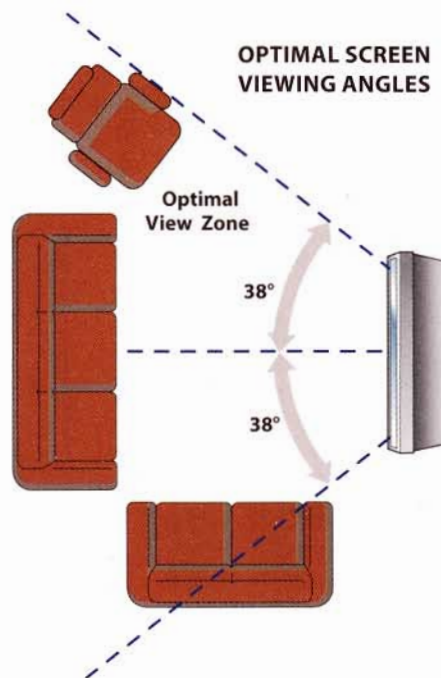
In February of this year, there's a big shift in television to digital technology. Television stations will be required to broadcast in digital. The digital transition will benefit viewers by providing better picture and sound quality.

One common area of confusion during this transition is mistaking digital television for high-definition. HDTV is just one part of digital technology, and it offers superior picture clarity and high-quality sound. In other words, all HDTVs are digital, but not all digital televisions are high-definition.

You don't have to buy an HDTV to view digital broadcasts — any TV with a digital tuner will work, and you've probably seen the converter boxes that make your old set compatible with the change in broadcasting. But if you've been waiting for an excuse to splurge on a new TV, this may be your chance.



You won't have to strain your eyes to see the TV if you follow the viewing distance guidelines shown above. The further the distance is between your couch and the TV, the larger the screen should be.



While it's important to consider the size of your screen, don't forget to consider the best viewing angles. Arrange your seating inside the zone shown above to ensure the best visibility.



Some Blu-ray disc systems, like this one from Sony (BDV-IS1000), include both the player and a speaker setup in one convenient package. This greatly simplifies speaker shopping.



There are plenty of other factors that go into a new TV purchase. For example, you'll have to decide whether you want a plasma or an LCD TV. Both types can offer high definition, plus a slim design that can be mounted to a wall if you choose. But there are some differences in the technology, as shown in the box below.

In addition to deciding between LCD and plasma, there are plenty of other TV features to choose from. Take the VIERA Cast feature found in Panasonic's VIERA TVs (Panasonic.com), for example. VIERA Cast is a built-in menu system that lets users watch

YouTube videos or access online photo albums and financial information on a plasma TV without hooking it up to a computer.

In fact, it's becoming more common for TVs to offer capabilities beyond just displaying traditional video content. TVs in the Sony BRAVIA XBR series, like the one shown on page 51 (SonyStyle.com), let you customize your entertainment center with optional modules. You can add an Internet Video Link Module (\$300), for example, which streams on-demand content like movies and TV shows. Or you can get the BRAVIA DVD

Link Module (\$200), which conveniently attaches to the back of compatible BRAVIA HDTVs, so you can save space in your entertainment cabinet.

BREAK THE SOUND BARRIER

The television is the focal point of your home theater setup, but a great sound system helps immerse you in the content you're watching on the screen. Sound systems can be one of the most confusing aspects of a home theater setup, however. There are plenty of options, from system components that are sold in sets to custom setups with concealed speakers and hidden wires.

Surround sound is highly desirable for a movie theater experience in your living room, and it's easier than ever to achieve. HDTV makes it possible to broadcast 5.1-channel Dolby Digital audio coding. When it comes to surround sound, 5.1-channel Dolby Digital is a common format for DVDs, and it's used for digital TV, too. 5.1-channel Dolby digital has five sound channels, plus a subwoofer. When a format has numbers after it, such as 5.1, 6.1, or 7.1, the first number refers to the number of channels that can be sent to separate speakers, and the .1 refers to the subwoofer.

LCD vs PLASMA

Buying a television used to be much simpler. But now you're faced with many decisions—most notably whether you should purchase a plasma or an LCD television. They both offer desirable qualities for today's home theater setups, but some differences between the two are worth mentioning.

Plasma screens are made up of tiny pixels that are lit to make the image. The pixels each contain red, green, and blue phosphors, and these colors combine to create the correct color for the image.

A liquid crystal display (LCD) is made up of layers, including a liquid crystal layer between polarizing layers. Liquid crystal can control the light that gets through to create an image.



Panasonic VIERA PZ850 Series TV

When it comes to display quality, plasma TVs are known for superior color contrast and depth. And plasma TVs can show deeper blacks and provide better viewing angles than LCDs.

Plasma TVs are susceptible to screen burn-in, though, and LCDs tend to be more energy-efficient than their plasma counterparts.

"A great sound system can immerse you in the content that you're watching on the screen."



Bose CineMate

Some companies sell "home theater in a box" systems that make it easy to get all of the audio components at once. Sony now offers Blu-ray home theater systems that include the player plus five speakers, like the one shown on page 52 (BDV-IS1000, \$1,000; SonyStyle.com). These systems include a media port that allows you to connect devices like iPods.

If you'd like even more simplicity, the CineMate system from Bose (\$500; Bose.com) shown above can be hooked up with ease. The 2.1-channel speaker system decodes 5.1-encoded DVDs and could

hardly be any easier to install. It comes with a right speaker and a left speaker, which are placed within three feet of the TV. When you're ready to start using the system, an interface module receives information from the included universal remote (see page 54 for more on universal remotes), and the Acoustimass module produces the low frequencies.

For some people, an audio system should offer more than just high-quality sound and easy setup, though. They want sound that seemingly comes from nowhere instead of speakers on stands or mounted on walls.

There are some creative ways to get great sound without dealing with speakers that break up your room's decor. The Onsia In-Wall Sound Panel (\$300; Onsia.com) shown below is an innovative way to hide your speakers away completely inside your room's walls.

Here's how the installation works: After you've decided where you'd like to place the speakers in your walls, cut out the drywall at those locations. Then place the flat-panel speaker in the wall, and apply mesh covering over it. Once you apply drywall compound and paint over the area, you'll have a speaker system that's completely concealed.

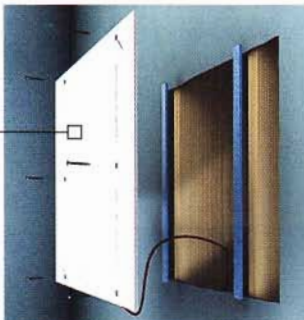
You can buy kits that include the speaker, compression foam, drywall mesh, and screws. The illustrations below show how the installation process works. The products offer you the flexibility to decide how many speakers you want and where you want to place them. You can add a conventional subwoofer to your entertainment center to capture lower frequencies.

Onsia has another speaker solution that's worth mentioning: the In-Frame Sound Panel (\$150) shown below right. You may already have framed art in your living room or den that could be transformed into a speaker. All you have to do is cut the flat-panel speaker to size, apply the artwork to the panel, and then frame the assembly.

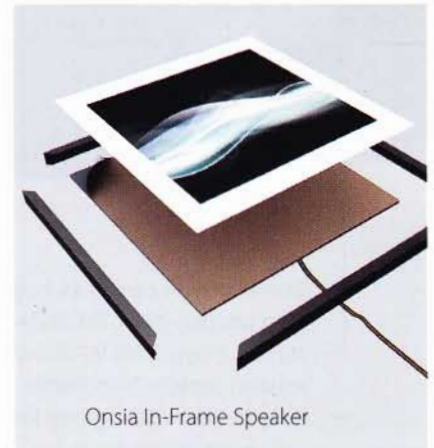
JUST PUSH PLAY

Television broadcasts have never looked better, but your entertainment center just wouldn't be complete without a component that lets you play your favorite movies. The way we store and watch movies and TV shows seems to be constantly changing, with benefits for consumers.

Blu-ray discs (BD) are an increasingly popular addition for viewing movies at home. The discs make it possible to record and play high-definition video. And they can store much more content: One 50GB Blu-ray disc can hold more than nine hours of high-definition



The Onsia In-Wall speaker is perfect for homeowners who don't want speakers cluttering their living rooms. The first illustration shows how the speaker fits into a hole cut in your drywall. Then install mesh covering, apply drywall compound, and paint over it to hide it completely.



Onsia In-Frame Speaker



video or about 23 hours of standard-definition video.

The ES Series Blu-ray disc player from Sony shown below (BDP-S5000ES, \$2,000; SonyStyle.com) offers an Ethernet connection so that you can use a feature called BD-Live to download updates. The player also has a feature that corrects wobbling discs.

If you have a PlayStation 3, you already have a Blu-ray player. The consoles come with one built right in. And with the combination of gaming capabilities and high-definition video, it's a great value.

New content storage technologies are often met with a mix of reactions: excitement about the improved features, and fear that old data collections, in this case DVDs, will become obsolete. Luckily, you won't have to worry about tossing your expensive DVD collection just yet. Manufacturers make Blu-ray disc players that are backward-compatible, which means they'll still play your

DVDs, too. In many cases, the Blu-ray disc players can make your existing DVDs look even better. Before you buy a player, check to make sure the model offers this feature.

With the Internet providing on-demand content at any time, we're becoming used to watching videos whenever we want. We've already shown you a TV that can play YouTube videos. What about a Blu-ray player that can stream movies?

LG has teamed up with Netflix, the movie rental service, to make it possible with the Network Blu-ray Disc Player shown below (BD300, \$400; LGE.com). The service's subscribers can specify which movies and TV episodes they want to see, and the player will display those choices on their TV screens. Users with unlimited Netflix subscriptions can watch as much content as the company has available and still get DVDs through the mail. If you want to watch TV anywhere, at any time, you may want to consider Slingbox. The device streams content from your TV to your

Mac or Windows computer or a supported mobile device.

The Slingbox hooks up to a source (such as a DVR, a digital cable set top box, or a satellite receiver). You can then watch programs — including your recorded DVR content — over an Internet connection through the SlingPlayer software you can install on your computer or mobile device.

The Slingbox PRO-HD (\$300; SlingMedia.com) lets you watch and control content through multiple sources, such as your DVR, digital cable, or DVD player. This means you can take a laptop to a room without a TV to receive the programs wirelessly there — or anywhere else you can get a broadband Internet connection.

UNDER CONTROL

Of course, it would be difficult to enjoy all of these great home entertainment components if you didn't have a way to control them. Many entertainment centers have opaque doors that make it tough to control devices via remote control. An infrared repeater system takes care of the problem for you. The system

uses a receiver mounted outside your center to send signals to several different components at once. That way, you won't have to leave your cabinet door open to use your remote control.

Having control over your components can lead to clutter in the living room, though. If your end tables (or the spaces under your sofa cushions) are becoming littered with your remote controls for various electronics, it may be time to consider purchasing a universal remote. These allow you to control most of your components with just one device.

When you're getting ready to purchase a universal remote, remember that not all remotes can control all of your components. That's why you should make a list of the components you'd like your universal remote to control.

Logitech's Harmony line of universal remote controls offers options for different levels of control. For example, the Logitech Harmony One universal remote control (\$250; Logitech.com) shown



LG Network Blu-ray Disc Player

Blu-ray players can do a whole lot more than just play discs. The Network Blu-ray Disc Player from LG shown above streams content from Netflix, and the Sony ES Series Blu-ray Disc Player at right can get updates online.



Sony ES Series Blu-ray Disc Player



above lets you replace up to 15 different remotes. You can watch TV or a DVD or listen to music with just one touch of a button. The Logitech Web site offers pages of online product support to walk you through the setup process.

If you're looking for a way to control almost every aspect of your home entertainment equipment, there's a whole-house system that allows you to get entertainment in any room. Using keypads in each room, the HomeShare system from Sony (Sony.com/HomeShare) lets you control devices like your iPod or play Blu-ray discs through control panels like the one shown above — even if you're not in the same room as the players.

The system can handle more than just entertainment systems: It can also allow users to select a room to communi-

"It would be difficult to enjoy your equipment if you didn't have ways to keep it under control."

Sony HomeShare



cate with over an intercom or monitor the front door via a video camera.

Keeping things under control isn't just about managing how your entertainment setup works. It's also about making sure your system is organized, so you're not constantly searching for the right cable or wire.

If you'd like a simple but clever product to help keep your cord clutter to a minimum, you can try the Cable Capture storage system (\$6.50 per unit; CableCaptureOnline.com) shown at right. The product allows you to store up to eight feet of cable on each Cable Capture component. Lift the unit's flexible hood to wrap the cable around the center, and then push the hood back down to conceal the cord inside.

The Cable Capture components can also be linked together and attached to your

entertainment center with an optional docking unit. If you need to take out a specific cord, simply remove the component that contains it and reattach the remaining components.

Of course, you could always completely conceal some of your wires. We already showed how you can hide speakers in a wall or picture frame. You can also hide the wires to your audio and video components in plain sight — right on your wall.

The FlatWire speaker wire (FlatWireStore.com) shown at right is incredibly thin and can be attached to your wall with adhesive. Then place mesh tape over the wire, cover it with joint compound, and sand and paint to hide it from view. When applied correctly, the wire practically disappears. You can also purchase FlatWire for video and data.

Another option is getting rid of cables by using wireless technology to connect your devices. The Belkin FlyWire (\$1,500; Belkin.com) will wirelessly connect components like Blu-ray disc players, receivers, set-top boxes, and video game consoles to your HDTV. It might just end your days of digging around behind an entertainment center to plug in wires. 

— Written by Alyssa Schmitt

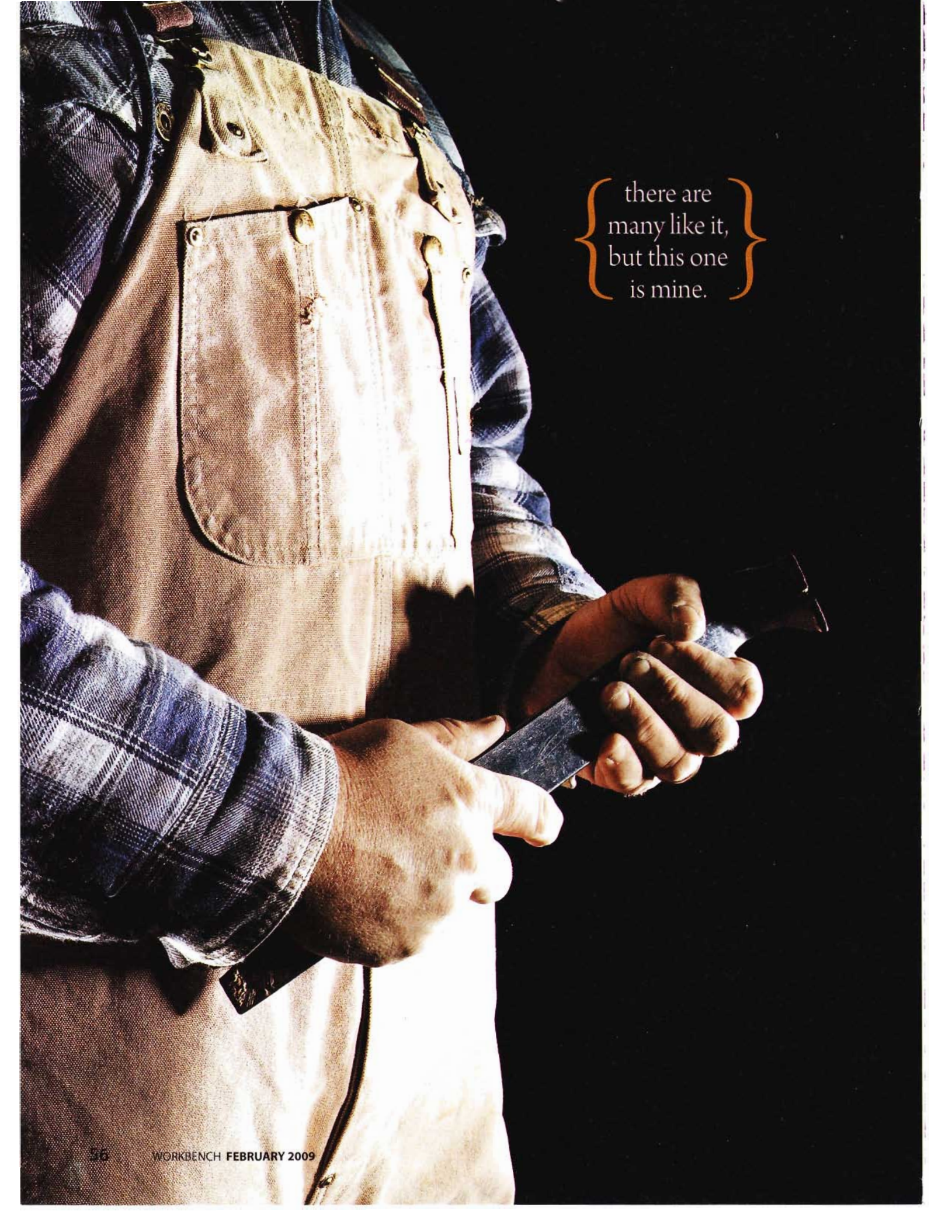


FlatWire Speaker Wire

Cable Capture



Belkin FlyWire

A close-up photograph of a person's torso and hands. The person is wearing a blue and white plaid shirt under a tan, heavy-duty work apron. The apron has a large, rectangular patch pocket on the left side with visible stitching and metal rivets. The person's hands are holding a large, dark-handled knife, possibly a cleaver or a large utility knife, with the blade pointing downwards. The background is dark and out of focus.

{ there are
many like it,
but this one
is mine. }

our INDISPENSABLE DIY TOOLS

You can have these tools — when you pry them from our cold, dead hands.

"Must-Have" tool lists are popular grist for how-to magazines and Web sites. And most of them predictably include tools that are inarguably handy to have around: cordless drills, jigsaws, circular saws, and so on. But are those the tools people are really relying on around their homes? The tools they couldn't do without?

A quick survey around the August Home Publishing offices revealed that the tools most people consider to be indispensable are actually quite a bit more humble than the flashy, expensive tools that make most "must-have" lists. Here's a small sampling of the tools that were nominated for our list and the stories we heard from the nominators.

1

Putty Knife

Minnie Johnson

PRODUCTION ASSISTANT, WORKBENCH

"I use it to patch holes with drywall compound, remove loose caulk, scrape paint and bug guts from windows, pry trim from painted walls, and remove staples. I keep it in my kitchen drawer, so I always know where it is."

\$5 • HARDWARE STORES AND HOME CENTERS

2

Hex "Y" Wrench

Louise Ritchhart

ASSISTANT EDITOR, WORKBENCH

"About 30 years ago my dad gave me this three-sided, rubber-coated gizmo that has three different-sized Allen wrenches. I think it was intended for

bikes, but over the years I realized that almost all "assemble-it-yourself" furniture could be put together with one of my gizmo's wrenches. I can throw away the cheap wrenches that come with the furniture and use my gizmo, which actually provides very good torque."

\$10 • MOST BICYCLE SHOPS OR AMAZON.COM

3

Cat's Paw

Stephanie Bruner

SENIOR EDITOR, GARDEN GATE

"I've got some kind of little bitty pry bar/nail puller thing that I absolutely love. It gets in under tiny nails and tacks (as an old-house owner, I spend a lot of time prying out nails that serve no identifiable purpose). And when used totally inappropriately, it can also get under painted-down stuff like old window hardware and loosen it for removal."

\$10 • HARDWARE STORES AND HOME CENTERS

4

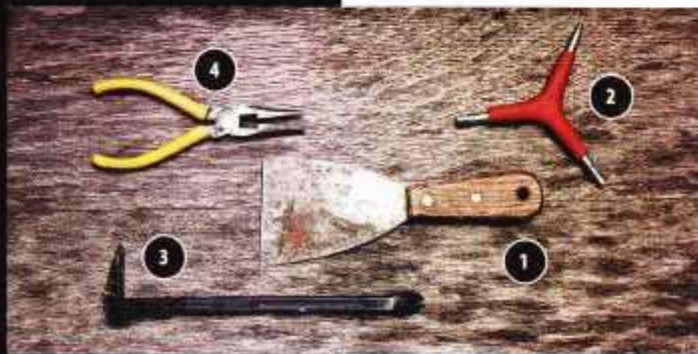
Needle-Nose Pliers

Carrie Topp

ASSOCIATE ART DIRECTOR, GARDEN GATE

"I love needle-nose pliers for everything from simple home fixes to making jewelry. It's also a great wire cutter."

\$5 • HARDWARE STORES AND HOME CENTERS



5

Block Plane

Dennis Perkins

ASSOCIATE EDITOR, SHOPNOTES

"My block plane is perfect for small touch-ups to just about any workpiece. From fine-tuning a tenon to trimming the end grain of an assembled dovetail or box joint, this plane can do it all."

\$55 • HARDWARE STORES AND HOME CENTERS

6

Tool Belt

Dave Stone

MANAGING EDITOR, WORKBENCH

"I actually have two tool belts — a regular two-pocket belt, and a single-pocket one that I use when I just need to carry a hammer and nails. I rarely head up a ladder without one or the other."

\$35 • HARDWARE STORES AND HOME CENTERS

7

Flat Bar

Dave Stone

MANAGING EDITOR, WORKBENCH

"The flat bar has been a great tool for working on my old house. From removing shingle siding to prying off sheathing to pulling nails, it's fantastic for demolition because it's persuasive without being too heavy-handed. Plus, it's often handier to have in the tool belt than a hammer because it can do things a hammer can't and will fit into tight spaces that a hammer won't. Add to that the fact it's all steel and indestructible, which means I don't have to worry about beating on it, dropping it, or using it for tasks I wouldn't subject a good hammer to."

\$2 • HARDWARE STORES AND HOME CENTERS

8

Plumb Bob, String Line, String Level

Kim Downing

ART DIRECTOR, WORKBENCH

"My first choice is a plumb bob along with a string line and string line level. These have been the most valuable tools available to me for laying out walls and keeping things aligned. Without them, everything would be crooked and misaligned and frankly make my work look very shoddy."

\$5 • HARDWARE STORES AND HOME CENTERS

9

Jeweler's Screwdrivers

Phil Huber

SENIOR EDITOR, WOODSMITH

"A set of small screwdrivers comes in handy all the time. The smallest are for eyeglasses, but I use them as little pry bars or for tiny screws on appliances, kids' toys, and the like."

\$5 • HARDWARE STORES AND AMAZON.COM

10

Pocket Socket Wrench

Phil Huber

SENIOR EDITOR, WOODSMITH

"I have a Craftsman adjustable wrench that opens and closes along its length. It has an offset handle and it's in my 'home-repair' tool bag that I keep close by for everyday projects and repairs. It actually takes the place of several wrenches, metric and Imperial."

\$21 • SEARS STORES OR CRAFTSMAN.COM

11

Ratcheting Screwdriver

Bill Link

SENIOR EDITOR, WORKBENCH

"A ratcheting screwdriver with interchangeable driver bits is priceless. But I especially like this one because it has a 'speed mode' in which the bit spins 3.5 times for every turn of the handle. It makes quick work of driving long screws like the ones that hold cover plates on light switches and electrical outlets. And the handle is just fat enough to gain some extra torque."

\$20 • SEARS STORES OR CRAFTSMAN.COM

12

6" Steel Rule

Steve Johnson

SHOP CRAFTSMAN

"I count on this tool for the obvious reason that it's much more accurate than a tape measure, especially for getting small dimensions or measuring in tight spaces. But I use my ruler in a lot of unconventional ways, too, like scraping off excess glue, peeling up stickers or tape, and even filling small holes as a makeshift putty knife."

\$5 • HARDWARE STORES AND HOME CENTERS

13

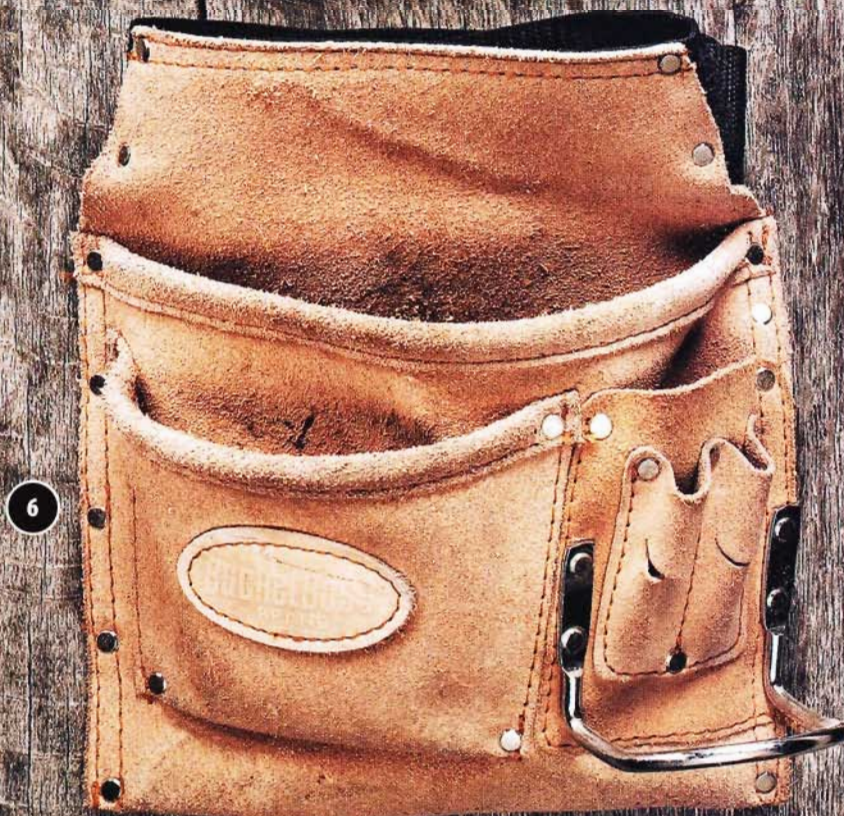
Multi-Tool

Dennis Kennedy

SENIOR PHOTOGRAPHER

"This little tool replaced my old-fashioned pocket knife. It's a pocket knife, needle-nose pliers, screwdriver, wrench, wire cutter, and prying tool all in one. I use this tool every day in at least three or four different ways."

\$5 • HARDWARE STORES AND HOME CENTERS





SIDE 1

Our garage cart's space-saving design maximizes storage potential by utilizing all four sides. Its center panel features deep shelves on one side for larger items, with an open end that allows extra-long items to overhang. You can customize your cart by adjusting the shelves' spacing, so they work perfectly for the items you need to stow. Edging along the outer edge of all the shelves prevents stored items from rolling off.

rolling STORAGE TO GO

When your garage space is limited, it's not easy to corral the clutter. This clever, multi-sided cart offers lots of room for storage in a compact footprint. All-plywood construction makes it sturdy and simple to assemble from materials costing less than \$150—a small price for reclaiming your garage.



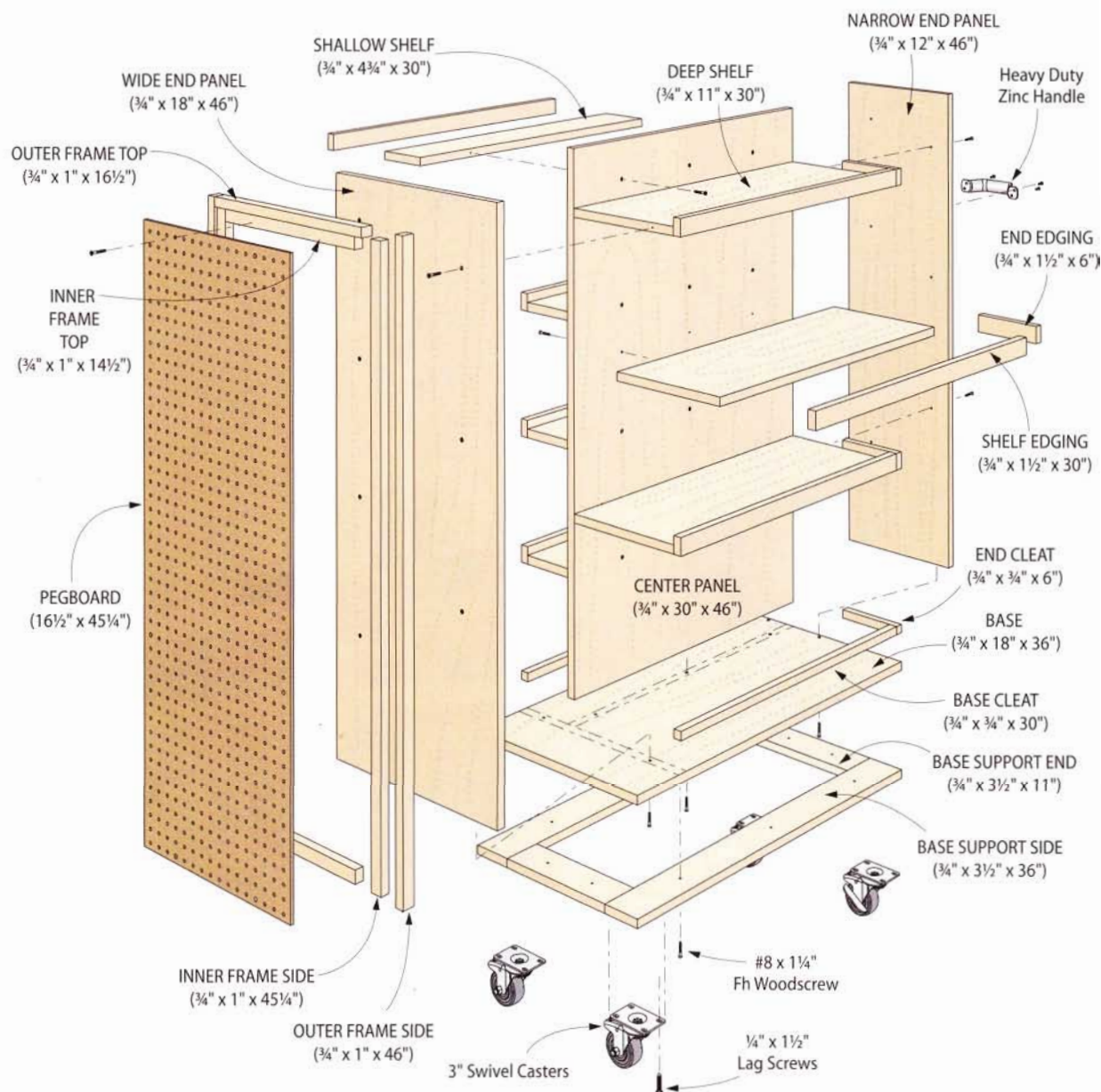
SIDE 2

Even the cart's end panels add function. One of them features a pegboard panel that can be fitted with the accessories you need most, from tool hooks and wire baskets to a paper towel holder and pencil sharpener. You'll notice that the base extends a few inches beyond the pegboard panel to help protect items hung there.



SIDES 3 & 4

On the opposite side, shallower shelves are perfect for smaller items. The heavy-duty handle on the end panel lets you pull the cart with ease. A power strip and extension cord brackets are also mounted on this panel to transform the cart into a power source wherever you need it. Three-inch swivel casters make the cart easy to maneuver to your work site and roll back out of the way when you're finished.



Construction Overview — It takes slightly less than two sheets of $\frac{3}{4}$ " plywood to build this garage cart. Surprisingly, there's no dimensional lumber used in the construction: Even the narrow shelf edging and cleats are ripped from plywood. To help you lay out all the pieces, you'll find a cutting diagram at WorkbenchMagazine.com.

When you start the construction process, imagine the H-shaped assembly that's created when the two end panels are fastened to the center panel. This assembly becomes the cart's core and will be screwed to the base. Next, you'll attach the shelves with screws, and then glue on the edging pieces and cleats. Finally, brush on a clear finish. When it's dry, you can install the pegboard, accessories, and casters.

It really couldn't be simpler, which makes this a great project for even a beginner. Just follow these nine steps to build your own:

1 Print out the Garage Storage Cart cutting diagram at WorkbenchMagazine.com. If you've never worked with large sheet goods before, you'll also find a helpful article there for cutting the sheets to size. Lay out the dimensions of all of the pieces on the plywood, and then cut them out. (Note: When you cut the shallow shelves, make two of them $\frac{3}{4}$ " wider than the final dimensions shown above. You'll see why in the next step.) Cut the larger panels with a circular saw and the narrow edging pieces with a table saw.

2 Begin the assembly process by fastening the end panels to the center panel. There's an easy way to make sure the center panel hits the end panels in the right place. Just put the two shallow shelves that are $\frac{3}{4}$ " oversized underneath the center panel. Hold the assembly together with two long clamps (we used inexpensive pipe clamps).

3 Once the panels are clamped in place, mark a pencil line on the outside face of both end panels to show the position of the center panel. Drill pilot holes along these lines (Fig. A), and then attach the end panels with screws. You can then remove the spacer shelves and clamps. Now use your table saw to rip the extra $\frac{3}{4}$ " width off each shelf, so when you glue the $\frac{3}{4}$ "-wide edging on the shelves they will fit flush with the frame.

4 Now it's time to attach the H-shaped assembly to the base. Position the base panel against the bottom of the frame, making sure that the narrow end panel is flush with the end and edge of the base. Have a helper hold the base in position. Then drill pilot holes, and screw the base to the center and end panels.

5 Next, you need to glue on four base supports to strengthen the base. Position them flush with the edges on the bottom of the base. Drive in a few nails to hold the support pieces in place. Then wipe off any squeeze-out, and allow the glue to dry.

6 You're just about ready to install the shelves. But first, glue and clamp the edging to the shelves. This is easier to do now, with the shelves out of the cart. In addition to the edging on the front edge of the shelves, note that there's a short piece on the end of each deep shelf, where it butts against the narrow end panel. You'll also notice that the base gets cleats glued to the edges and ends. This is a good time to glue those cleats in place.

7 Next, decide what items you want to store on your cart, so you can position the shelves in the most useful way.

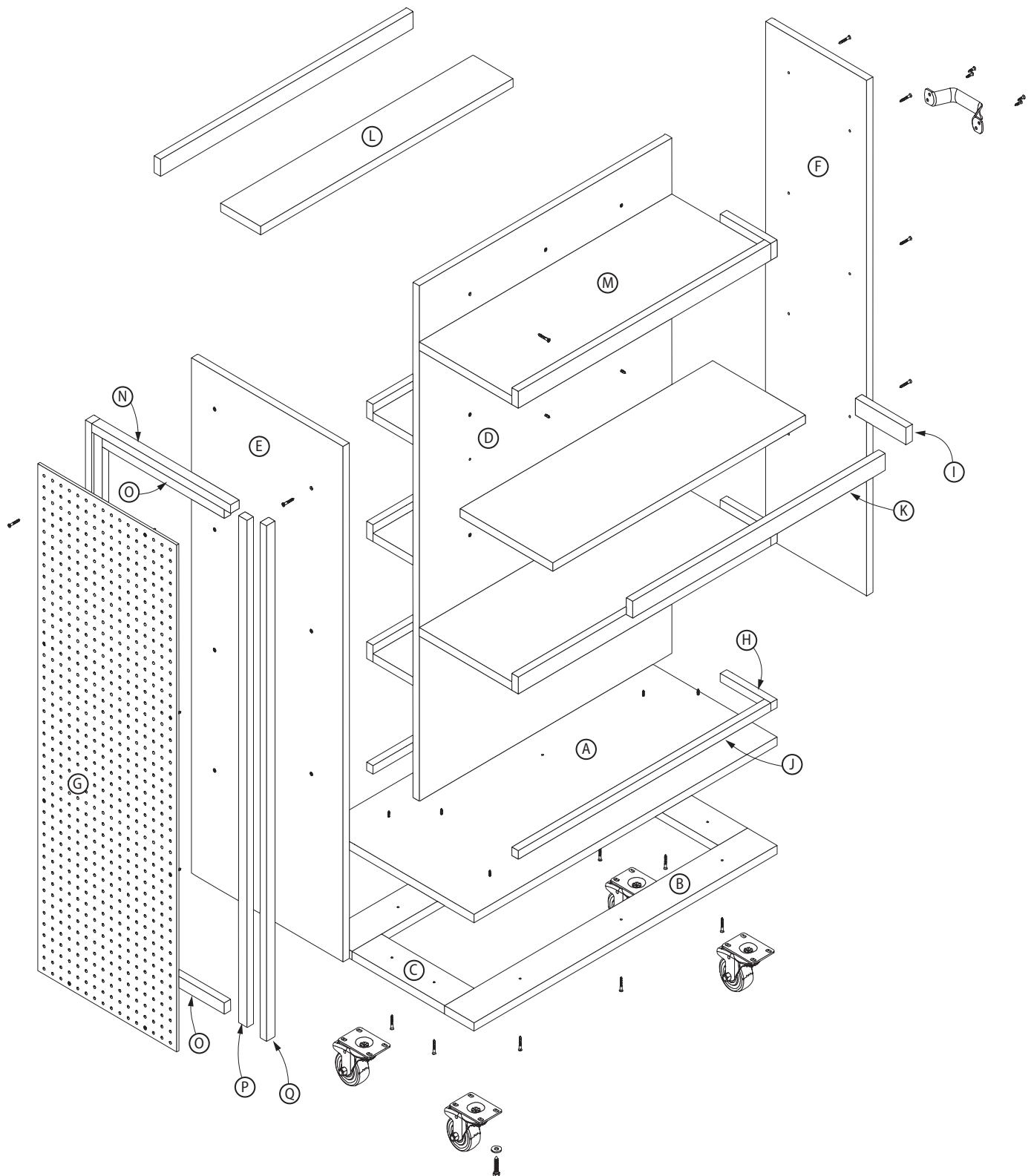


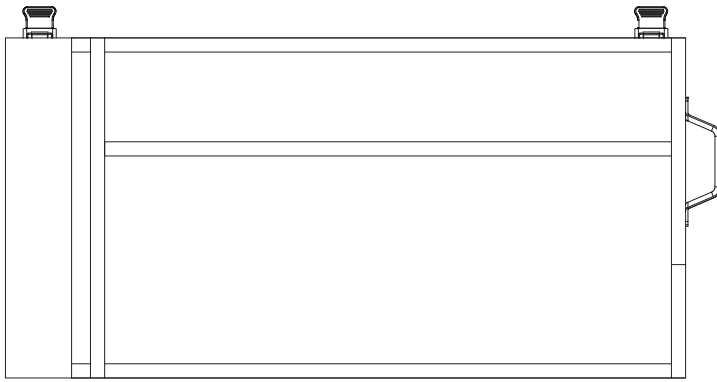
If possible, hold the actual item you want to store, and then mark where the shelf should go (Fig. B). Draw a horizontal line on the end and center panels, so you know where to drill the pilot holes. After drilling them, have your helper hold each shelf while you attach them with screws from the back. Offset the spacing of the shallow shelves and the deep shelves, so they don't hit directly opposite each other on the center panel.

8 Now you can make the pegboard panel on the end of the cart. It has an outer frame that rests flush with the edges of the wide end panel. You'll want to glue and nail this frame on first. An inner frame rests right against the outer frame. Once the pegboard is installed, this inner frame creates space for pegboard hooks to poke through. Then cut the pegboard to fit (Fig. C), and screw it in place above the inner frame.

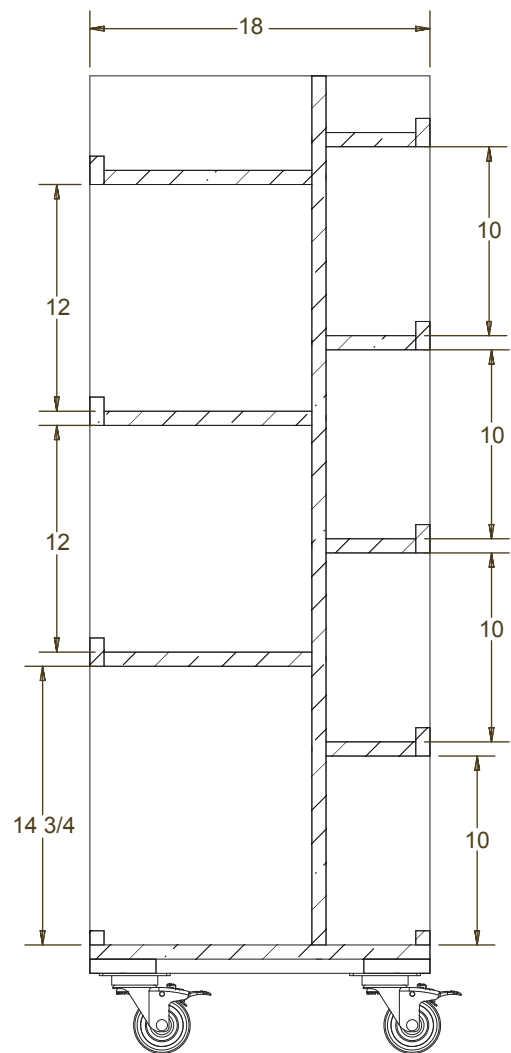
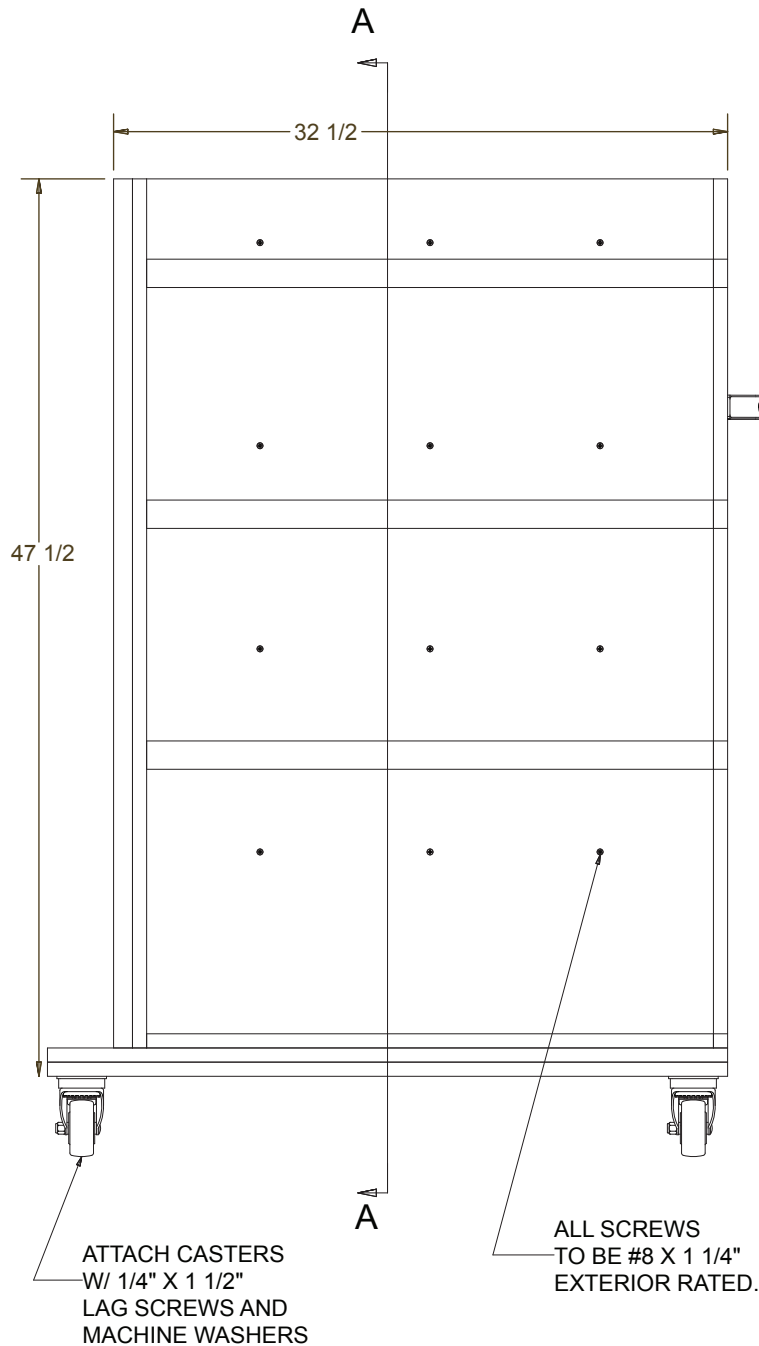
9 Brush on a coat of clear polyurethane finish to give the cart an extra bit of protection. Then you can install your choice of pegboard accessories, such as tool holders and wire baskets. Mount a power strip on the narrow end panel, as well as two brackets to hold an extension cord. Finally, attach the casters to the base supports. 

—Written by Louise Ritchhart, illustrated by Erich Lage, project designed by Mike Donovan





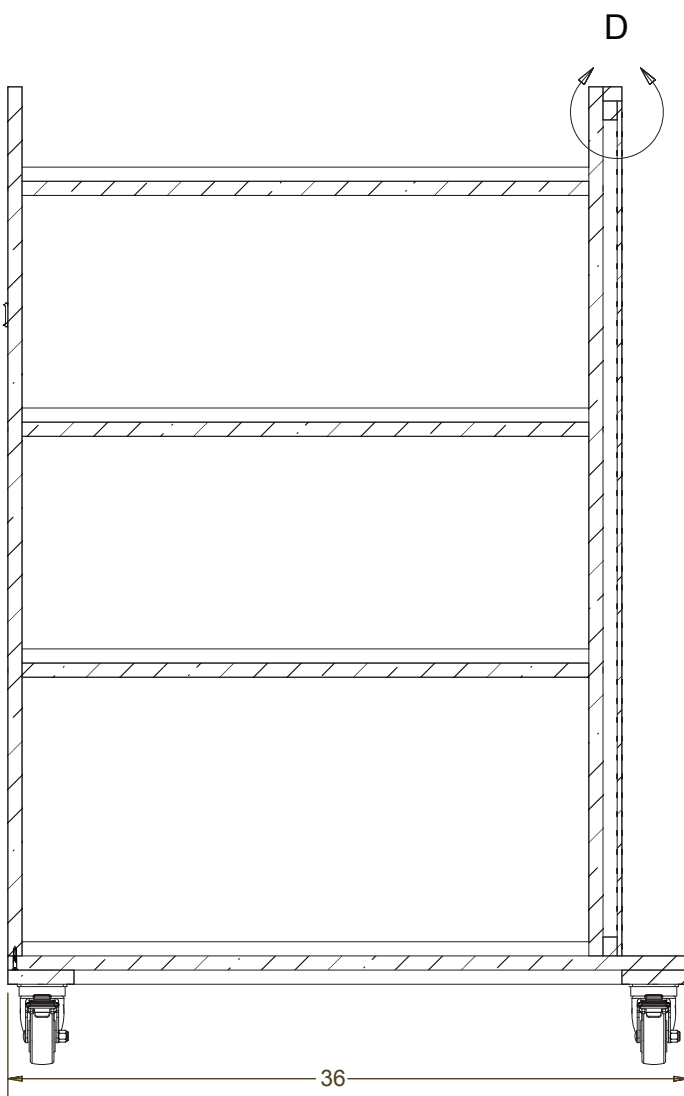
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PLYWOOD.



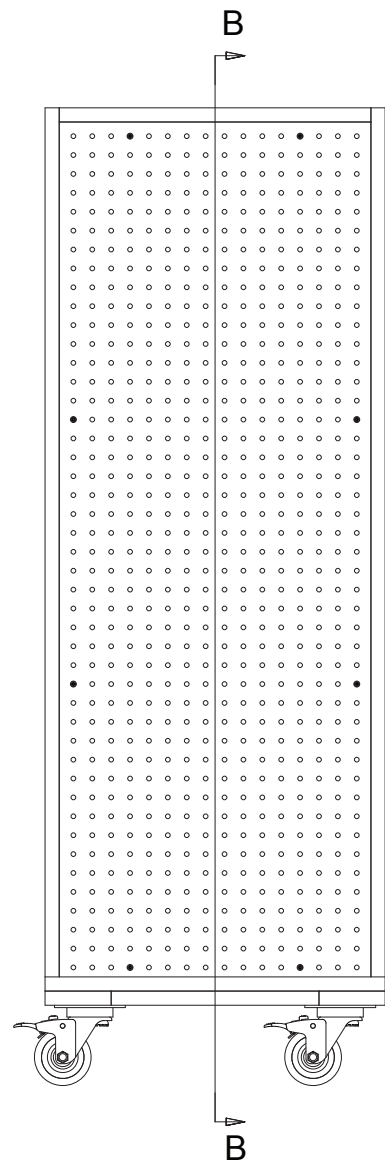
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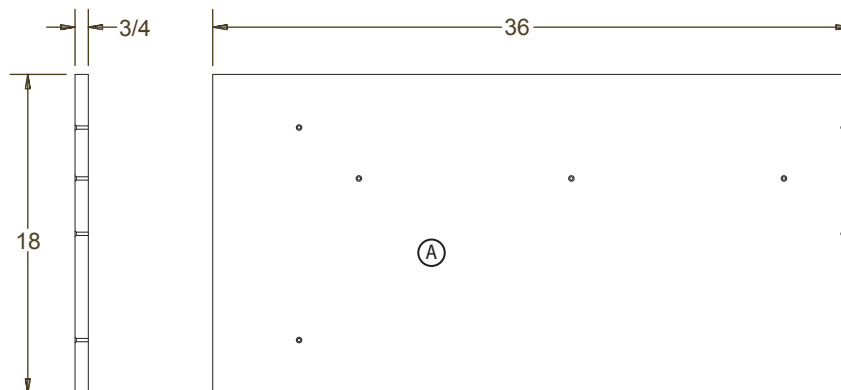


DETAIL D

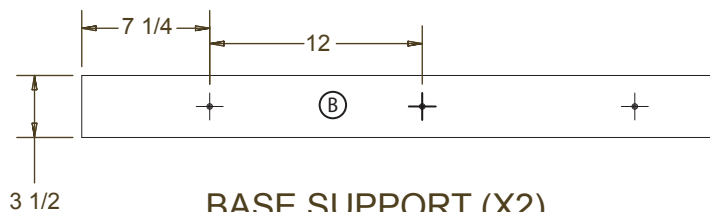
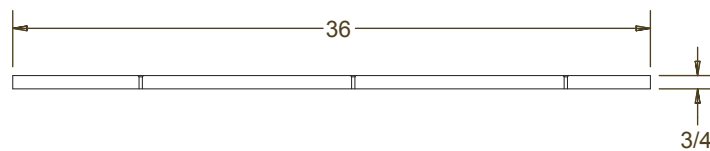


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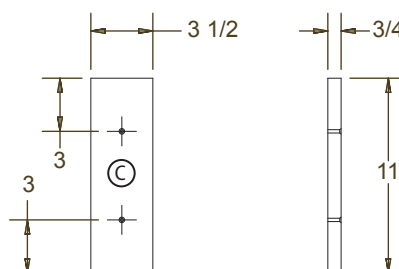


BASE

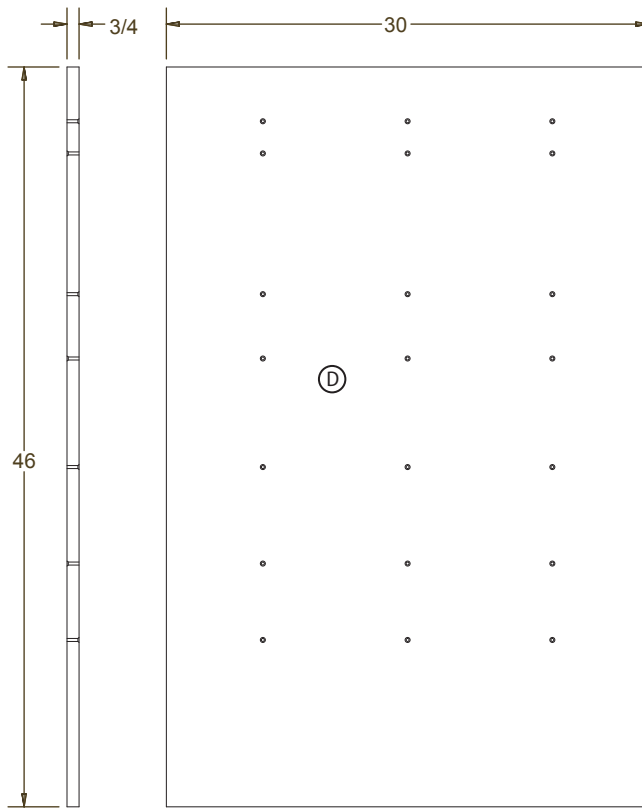


BASE SUPPORT (X2)

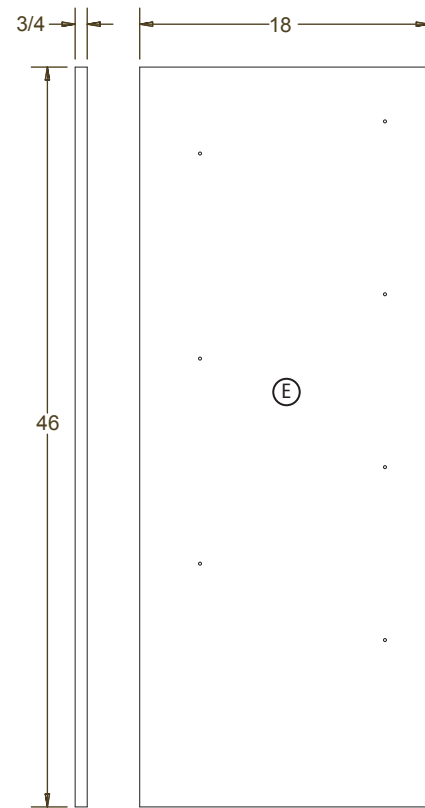
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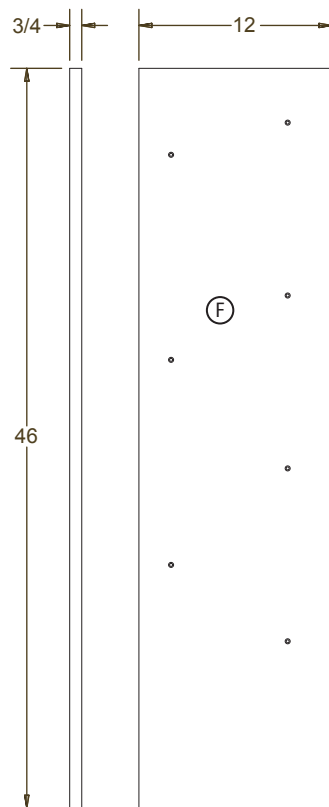
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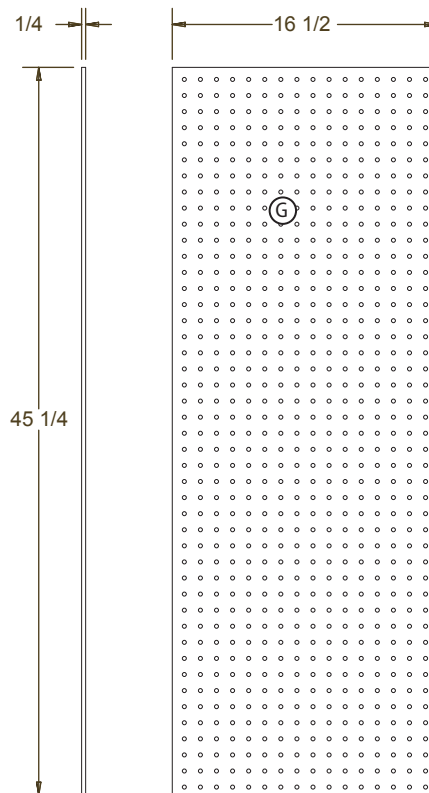
CENTER PANEL



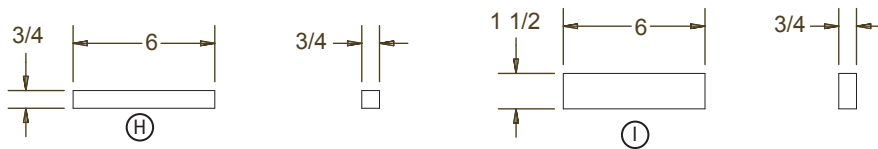
WIDE SIDE PANEL



NARROW SIDE PANEL

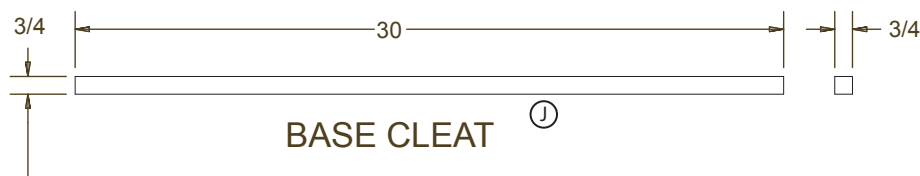


PEG BOARD

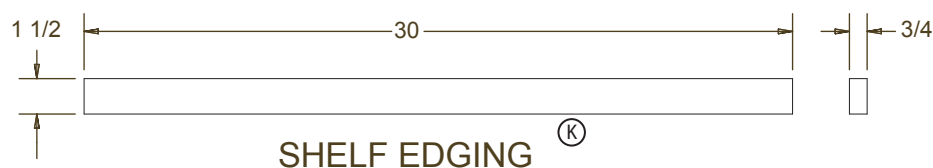


SHORT BASE CLEAT

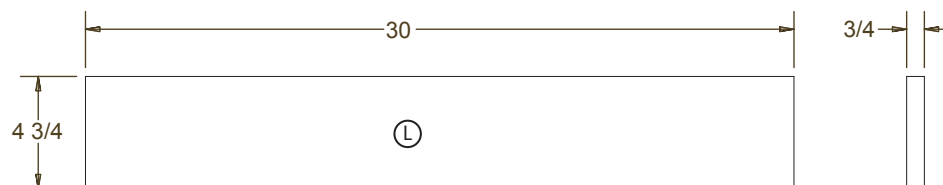
SHORT SHELF EDGING



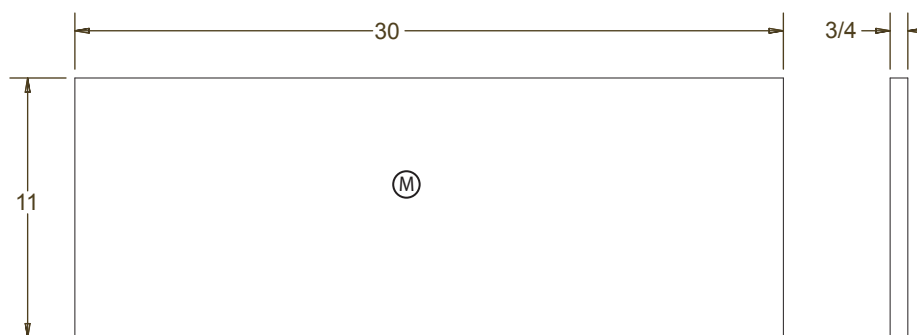
BASE CLEAT



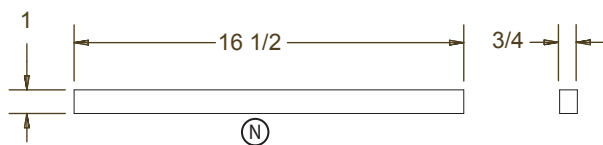
SHELF EDGING



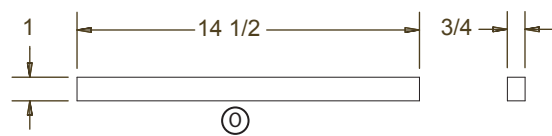
NARROW SHELF PANEL



WIDE SHELF PANEL



PEG BOARD EDGING (X1)

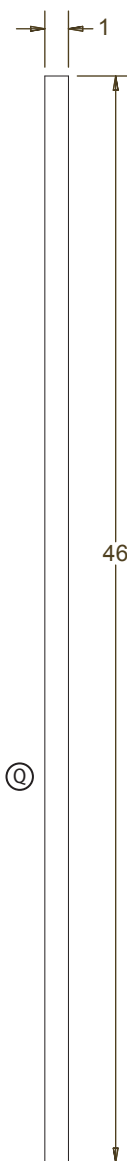


PEG BOARD SPACER (X2)

NOTE:
ALL MATERIAL
3/4" B/C INTERIOR
PLYWOOD.



PEG BOARD SPACER (X2)



PEG BOARD EDGING (X2)



time-tested color choices

Every January, home design experts expound on “color trends” for the coming year. Their forecasts are fun to hear, but a lot of work to carry out in your home. If you’d rather not schlep to the paint store every time trends change, we’ll show you how to choose classic color palettes that look beautiful, are easy to live with, and stand the test of time.



Webster's Dictionary defines "trendy" as "marked by superficial or faddish appeal."

The trouble is: What's trendy one year will not, by definition, be desirable in the near future. Some people enjoy trying to stay on the cutting edge of fashion. But many others worry that they'll fall into the trend trap, and the color they worked so hard to paint on their walls will be deemed "out" long before they're in the mood to repaint.

Fortunately, there are several good alternatives to picking hues based on transient trends. In the following pages, we won't arbitrarily promote particular color schemes. Instead, we'll help you discover palettes that fit your personality as well as your home's architecture. When you surround yourself with timeless, livable colors, you'll never have to worry about them going out of style.

Naturally Beautiful Neutrals — Choosing a neutral color scheme

is one of the time-honored ways to avoid being a trend victim. But going neutral doesn't mean that you've raised the white flag and reached for boring "builder's beige." Understated neutral palettes can be as beautiful as they are subtle. They evoke a soothing sense of calm that bolder palettes can't achieve.

Neutrals also offer a lot of flexibility in decor, creating unobtrusive backdrops for both casual and elegant furnishings. Since they go with everything and clash with nothing, you can often update furniture and art without having to repaint the entire room. Because they are so versatile, livable, and simple to use, neutral hues are favored by both homeowners and professional designers.

Shades of Gray — Black, white, and all of the shades in between are considered "true neutrals." While they don't appear anywhere on the color wheel, true neutrals are valued in decorating for their ability to create visual relief in decor. A monochromatic palette can

also look crisply modern and sophisticated (*Fig. 1, page 66*)

In recent years, the definition of "neutrals" has expanded to include very muted versions of colors found on the color wheel. These "new neutrals" are derived from the three primary colors: red, yellow, and blue. Many people find that red-toned neutrals, like beige, feel comfortable and traditional (*Fig. 2*). Yellow-toned neutrals, such as cream, inspire a fresh, uplifting mood (*Fig. 3*). The steely blue-toned neutrals, like light charcoal, can provide a tranquil backdrop for almost any setting (*Fig. 4*).

The key to designing pleasant neutral color schemes is simple: Don't mix the different tones. Decide if you want to go with red-toned, yellow-toned, or blue-toned neutrals, and then stay within that family as you make color choices. To create an interesting scheme, just vary the lightness value of the neutrals, choosing various shades from pale to deep. An easy way to



TRULY NEUTRAL

To the purist, true neutrals are the “non colors”: black, white, and grays that contain no hint of hues on the color wheel.

accomplish this is to stay within the graduated options on a single paint swatch.

Highlight Your Home’s History — Another approach to choosing colors that will stand the test of time is to consider your home’s architectural lineage. Various periods in our nation’s history saw the rise of new home styles, including classic Colonials, ornate Victorians, and clean-lined Craftsmans. Color palettes were sometimes born of necessity, such

as which pigments were readily available to create paint tints. But more often, they reflected the prevailing spirit of the times, whether practical, optimistic, or ebullient.

When you choose paint colors that are in sync with your home’s “genealogy,” you can’t go wrong. While there are far too many American home styles to describe here, several paint manufacturers have online guides to help you choose color palettes based on architectural styles. Some of our



2

2) ROSY TONES

A whisper of beige makes this wall color a red-toned neutral; it helps bring out the



3

3) COMFORT COLOR

Faint cream, a yellow-toned neutral, sets a quiet, comfortable mood that’s perfect



4

4) BARELY BLUE

With its steely tint, this blue-toned neutral creates a subdued, non-distracting atm

favorites can be found at Valspar.com, Behr.com, FHPaint.com, and PrattandLambert.com.

Some of these sites even let you digitally try out different paint shades on period-specific rooms. But to spur your imagination right now, here are four common American architectural styles and some interior hues that would fit with their unique history:

Colonial Revival — American Colonial-style homes, with their pitched roofs and evenly spaced, shuttered windows, first appeared in the early 1700s. They were simple yet attractive, and their modest colors and minimal ornamentation reflected early American ideals (Fig. 5). Earth tones were most often chosen for interiors, with pigments coming from native plants and minerals. Appropriate palettes for today's Colonial Revival homes could include white, beige, taupe, creamy yellow, almond, ochre, reddish or chocolate brown, and muted greens.

Victorian — The 19th century saw a surge of interest in lavishly accented exteriors and heavily decorated interiors (Fig. 6). Victorian decorators aimed for an opulent look and preferred bold colors, rich fabrics, and ornate patterns on walls



5] COLONIAL REVIVAL

Colonial decor was plain but functional, with wall colors made from natural materials.

6] VICTORIAN

The Victorian home was an eclectic blend of styles, with lush wall colors and fabrics.

7] ART DECO/MODERNE

Geometric shapes and cool, pale wall colors define the still-popular Moderne style.



CRAFTSMAN/ARTS AND CRAFTS

A yellow ochre tint on the walls complements the natural building materials that are a hallmark of this classic style.



NATURALLY BEAUTIFUL

It's hard to improve on the colors of nature. This green room with earthy accents feels like a walk in the woods.

and ceilings. People believed that deep, vivid wall colors made a space seem more important, so they often chose ruby reds, forest greens, and golden ambers for main rooms. Shades of gray and taupe offered visual relief in hallways and connecting rooms. Today, historic Victorian homes still look great painted in jewel-tone colors and rich earth tones, as well as softer warm shades.

Art Deco/Moderne — As the world enjoyed renewed optimism and affluence following World War I, a new design exploded in popularity. The Art Deco style was luxurious, yet streamlined and sleek. It combined simple geometric forms with cool colors to create a stylized look (Fig. 7, page 67). Interiors might contrast ebony, steel, or marble architectural elements with crisp pastels, metallic grays, and jazz-era blues. Pale main colors create subtle backdrops for vibrant accent colors. Very soft greens, grays, creams, and ivories work well on walls, while dramatic accents of black, cobalt, teal, aqua, green, coral, or red provide the trademark Art Deco contrast.

Craftsman/Arts and Crafts — In the second half of the 19th century, the pendulum swung away from the heavy ornamentation of the Victorian period. People embraced simplicity, clean lines, and fine craftsmanship. Craftsman design was straightforward and purpose-driven, and drew inspiration from natural building materials such as stone and wood. That's why color palettes drawn from nature are

IN PERFECT HARMONY

Depending on your pleasure, blue-and-white schemes remind you of a snowy scene on a winter day, a clear cobalt sky with puffy clouds, or the ocean lapping on a sugar-sand beach.

still used to complement Craftsman homes (Fig. 8, page 67). These appealing, Earth-inspired schemes might include ivory, wheat, stony beige, terra cotta, iron red, natural ochre, russet brown, mossy green, indigo, or muted lilac.

Doin' What Comes Naturally — There's another no-fail way to choose colors that defy fashion trends: Look to the natural world. We're all inspired by the intrinsic beauty of pure white sand against an aqua-blue sea, and a sunset's swirls of yellow, orange, and red. The infinite range of greens found in nature feels restful and rejuvenating (Fig. 9). It goes without saying that nature's harmonious hues don't need the blessing of any "color expert."

So if a rocky bluff's blend of stone grays and rusts appeals to you, look for ways to use those rugged colors in your home. Even a walk through your own garden can help you realize which colors you love to see year after year. Also consider palettes that are inspired by your favorite season, such as winter's cool whites and blues (Fig. 10), or spring's fresh greens and yellows. Nature's palettes always feel comfortable, so when you bring the outside in with color, you won't want to repaint every time you need a new calendar.

In the Mood — If you still haven't settled on a long-term color combo, maybe it's time to get personal. Remember that different colors have their own personalities, just like people do. And whether you are painting your kitchen, family room, or bedroom, you're probably hoping to create a particular mood. Deciding what ambience you desire can point you toward colors that you will find appealing in that space for many years to come.

The "mood method" requires you to get in touch with which colors strike you as relaxing, inviting, luxurious, or lively. This is a personal journey. For example, while soft lilac

11



SET A SOFT, SOOTHING MOOD

Warm colors can help make a space feel intimate and cozy. These subtle hues send the invitation to relax and rejuvenate.

12



AWAKEN THE MIND AND SPIRIT

It's hard to think of a more cheerful and energizing color than yellow. A bedroom with bright yellow walls and orange curtains wakes each new day with the color of sunshine.

is often recommended as a romantic color, it won't achieve that purpose in your home if you hate all things purple. The "right" colors are those that evoke the atmosphere you want to achieve, whether peaceful (Fig. 11) or cheery (Fig. 12).

Online Color Selection Aids — Pratt & Lambert Paints offers an interesting "Interior Personality Quiz" on their Web site (PrattandLambert.com) to help you figure out what color combinations are best suited to your individual outlook and needs. You can also try Dutch Boy's "Personality Quiz" (DutchBoy.com) to explore the way you interpret various colors and determine the mood you hope to set in different rooms in your home. These resources make it easy to get started on your personal color journey.

Without a doubt, trend-fighting colors can look beautiful, not boring. Color schemes that speak to your personal preferences, or highlight your home's best architectural features, will never go out of style. 📺

— Written by Louise Ritchhart



A NEW STANDARD IN SAFETY AND SIMPLICITY:

SawStop Jobsite Saw

So much has been written and reported about the revolutionary SawStop safety system that it might be easy to look past the quality and precision that are also built into this remarkable table saw.

Tool safety is the operator's responsibility. No amount of innovation will ever change that. But when SawStop first introduced its ground-breaking table saw, it marked the first (and still only) time that a tool was engineered to forgive a moment's carelessness.

The technology of the saw — which detects accidental contact with the spinning blade and then stops the blade in milliseconds — has received a great deal of attention, and deservedly so.

The downside of this focus on safety (if there can be a downside) is that all of the other outstanding qualities of the saw have taken a backseat.

So, with the recent availability of the long-promised contractor version of the saw, as well the jobsite cart

that's an optional accessory to the saw, it seems fitting to revisit the SawStop with a keener eye for the qualities that make a table saw so valuable in the shop and on the jobsite.

JOBSITE SAW OR ROLLING CONTRACTOR SAW?

Contractor saws in general are heavy, and this one is all the more so because of the safety system and overall solid construction of the tool. So there'll be no hoisting this saw in and out of the back of a truck single-handedly.

As sturdy and easy to use as the SawStop mobile base is, it's still best to think of this as a relatively portable contractor saw. And that's relative to other contractor saws that have no accommodation for moving them further than the other side of the shop.

ACCURACY AND OPERATION

It's reasonable to expect tools in the \$1,500-plus price range to come out of the box ready to make accurate cuts, and this one met those expectations. The saw is smooth and powerful. And even with the rather ordinary 40-tooth combination blade that came with it, we got excellent results immediately with this saw — no tweaking or tuning necessary.

All of the saw's controls and adjustments are also pleasantly fluid and positive. The fence, while not remarkable, glides easily and locks down securely. The miter gauge is adequately sized for simple operations and fits in the miter slot like a hand in a glove. Additionally, the angle and blade-height adjustments were buttery smooth with no discernible slack.

The saw delivered the sort of power we expect from the best saws in this category, laboring only slightly during the most demanding cuts.

FINER DETAILS

The premium price tag of the SawStop is almost always credited to the safety innovations, and that's likely quite accurate. But the manufacturer didn't skimp on the details, either. In much the same way that a luxury car



SOME ASSEMBLY REQUIRED

Laminated, color-coded instruction cards for each step of the assembly correspond with color-coded hardware packs to make assembling the SawStop remarkably easy.

has many amenities that lesser models don't, this saw benefits from many thoughtful touches that would be add-ons for competitive models. Among those are a genuine riving knife and a zero-clearance phenolic blade insert (Fig. 1). There's also onboard storage for the fence and miter gauge (Main Photo), as well as an effective and non-intrusive dust-collection port (Fig. 2).

ASSEMBLY PERFECTED

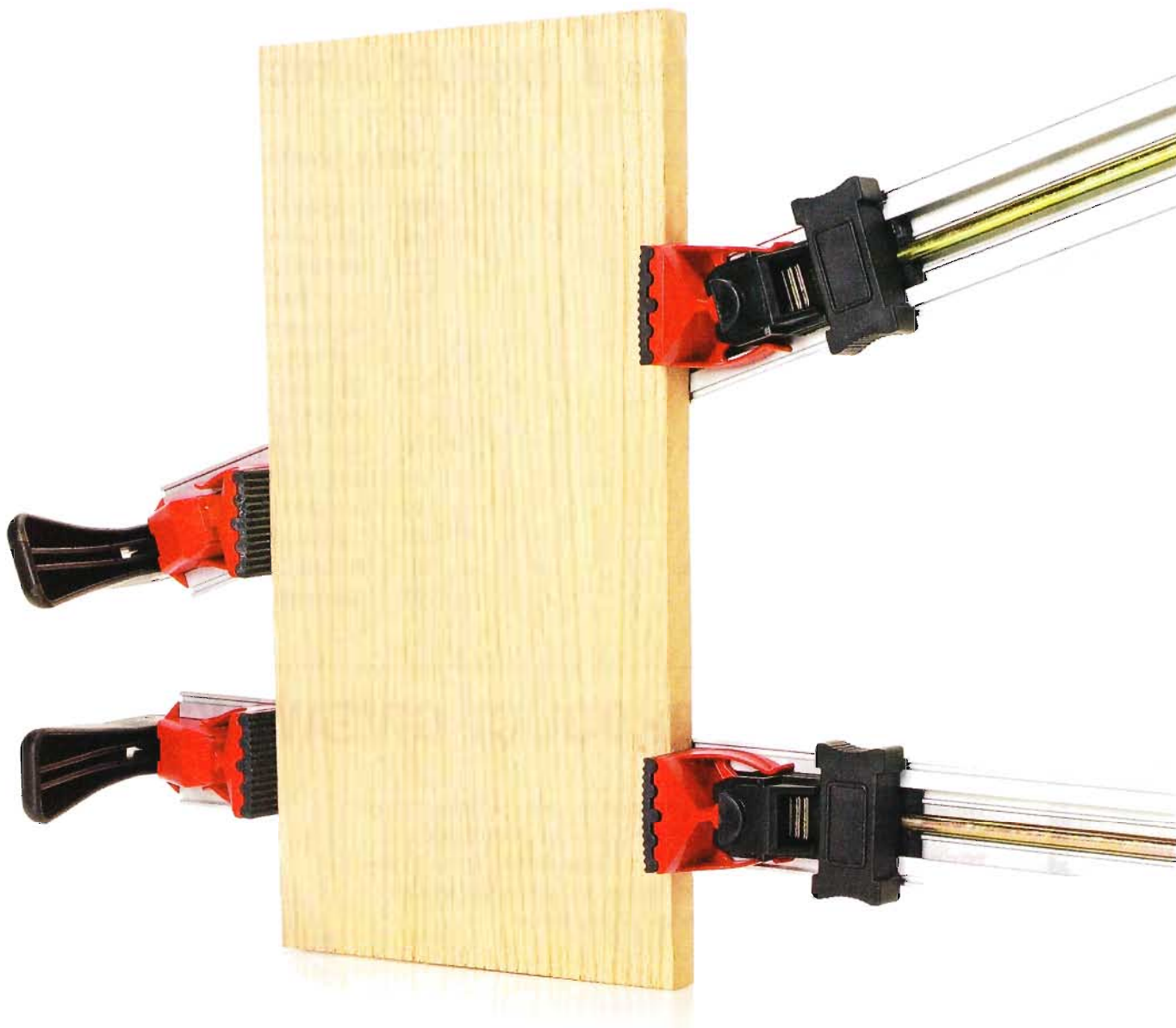
One more clear advantage that SawStop has over every other contractor saw we've ever evaluated is the documentation that comes with it. The owner's manual is clearly written and supported by excellent photography and illustration. Even the rather elaborate switch (Fig. 3) has easy-to-follow instructions. But where the paperwork really won us over was during assembly.

The instructions for putting the saw together are printed on large, laminated sheets. Each step in the process is color-coded, and the colors correspond to hardware packs that are divided into the specific items you'll need for each step. They even tell you how many of each nut and bolt you need and how many extras are included so you're not left with a handful of unused hardware, wondering if you missed something.

PARTING THOUGHTS

SawStop clearly raised the bar in terms of manufacturer's responsibility in ensuring consumer safety. But their contractor/jobsite saw is proof positive that they've put just as much emphasis on the end users' satisfaction as their safety. Learn more at SawStop.com or by calling 866-729-7867. 

— Written by Bill Link



▶ Angling Clamp & Cutting Guide

These combination clamps/cutting guides feature swiveling heads that allow you to lock them down for angled cuts up to 22½ degrees, adding enormous versatility for use with a handheld router, jigsaw, and circular saw.

Four clamp sizes (24", 36", 50", and 100") are available. All sizes feature large locking handles for powerful leverage and oversized, soft-grip clamping faces that offer a secure hold without marring the workpiece.

▶ **PRICE:** \$30 to \$100

LEARN MORE: AffinityTool.com
or 866-588-0395

Milescraft Trim Tools

Milescraft has just simplified two of the most challenging aspects of interior trim installation for the DIYer: Cutting crown molding and measuring for window and door trim.

The Crown45 jig holds crown molding in the miter saw at the very same angle and orientation that you'll be installing it in. As soon as you place the molding in position, you can easily determine if you're making the correct cut. Now you won't have to hold the pieces upside down and backward to get the right cuts.

For making dead-on accurate measurements, Milescraft offers the Trim45. This adjustable measuring guide lets you choose from $\frac{1}{8}$ ", $\frac{1}{4}$ ", and $\frac{1}{2}$ " reveals. Then you simply hold it in the corner of the window or door you're trimming and use the built-in tape measure slots to get precise dimensions for each piece of trim.

PRICE: Trim45 \$10, Crown45 \$30
LEARN MORE: Milescraft.com
or 847-683-9200





► Modern Multi Tool

Hang a Tradesberry Multi Tool off your belt (with the built-in clip), and you'll be ready to estimate, plan, measure, and even complete many home improvement projects at a moment's notice. The Multi Tool includes a calculator, clock, compass, flashlight, Phillips screwdriver, knife, tape measure, level, and laser pointer in a cell phone-sized package.

► PRICE: \$40

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Easy Entry Storage

Busy families often turn entryways into dumping grounds, but this simple-to-assemble project can help you can solve the storage challenges that are common in this high-traffic area.

Whether you come and go through your front, back, or side door, the area just inside it is bound to face some organizational issues. With parents, pets, kids, and friends banging in and out with everything from book bags to groceries, it's common for entry areas to succumb to clutter.

But our clever storage duo can help this area stay organized and look great, too. The wall unit sports two bulletin boards, a mirror for quick peeks as you head out the door, and a row of pegs for hanging coats and scarves. Beneath it, a sturdy bench provides a handy place to pull on boots, while open cubes at each end offer additional storage.

For quick assembly, the bench is a hybrid of ready-built cubes that you purchase and a seat that you make from MDF. The wall unit is created by gluing poplar frame pieces to a plywood backer. You'll paint the frames, glue in pre-cut cork and mirror tiles, and add pegs.

Gather Your Supplies—You can order the cubes at Target.com (New Port Open Cube/Distressed Black). To make the bench seat, you'll need ¾" MDF, wood glue, eight 3" panhead sheet metal screws with washers, and black paint. For the wall unit you'll need two 12" cork tiles, two 12" mirror tiles, ½" x 1½" and ½" x 3" poplar for the frame, ½" plywood for the backing board, construction adhesive, five pegs, and two metal hangers for the back.



Start with the Bench—You want the seat to be strong, so make it from two layers of MDF. To do this, start by cutting two MDF panels that are 16" x 54". Evenly coat one side of one piece with glue, carefully position the panels, and clamp or screw them together. Wipe off any glue squeeze-out, and let it dry.

Next, you'll want to seal the edges of the seat, so the two panels will appear to be one and the MDF edges won't soak up an excessive amount of paint. Just stir up a 2:1 mixture of water and wood glue, brush it on the edges, and

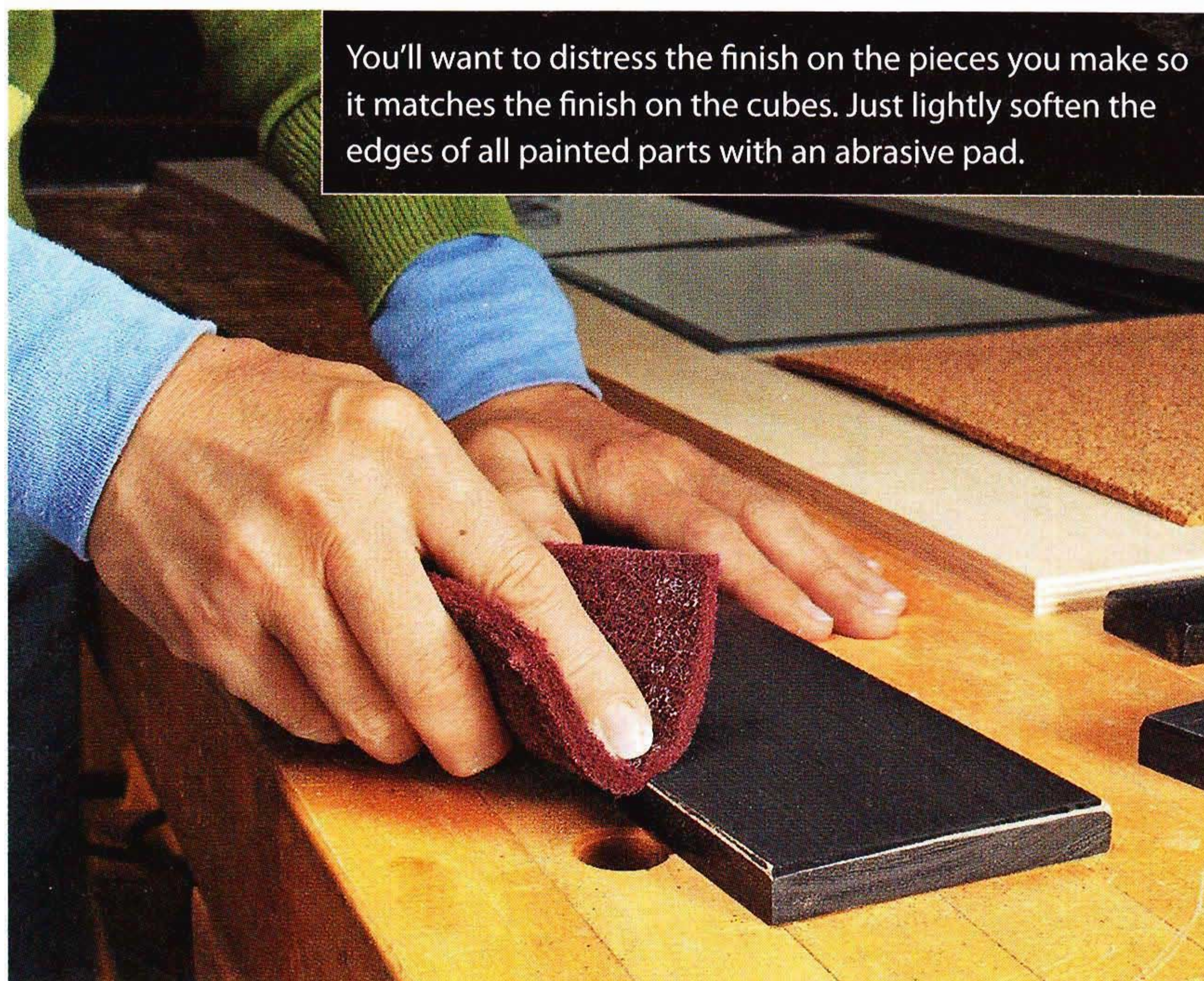
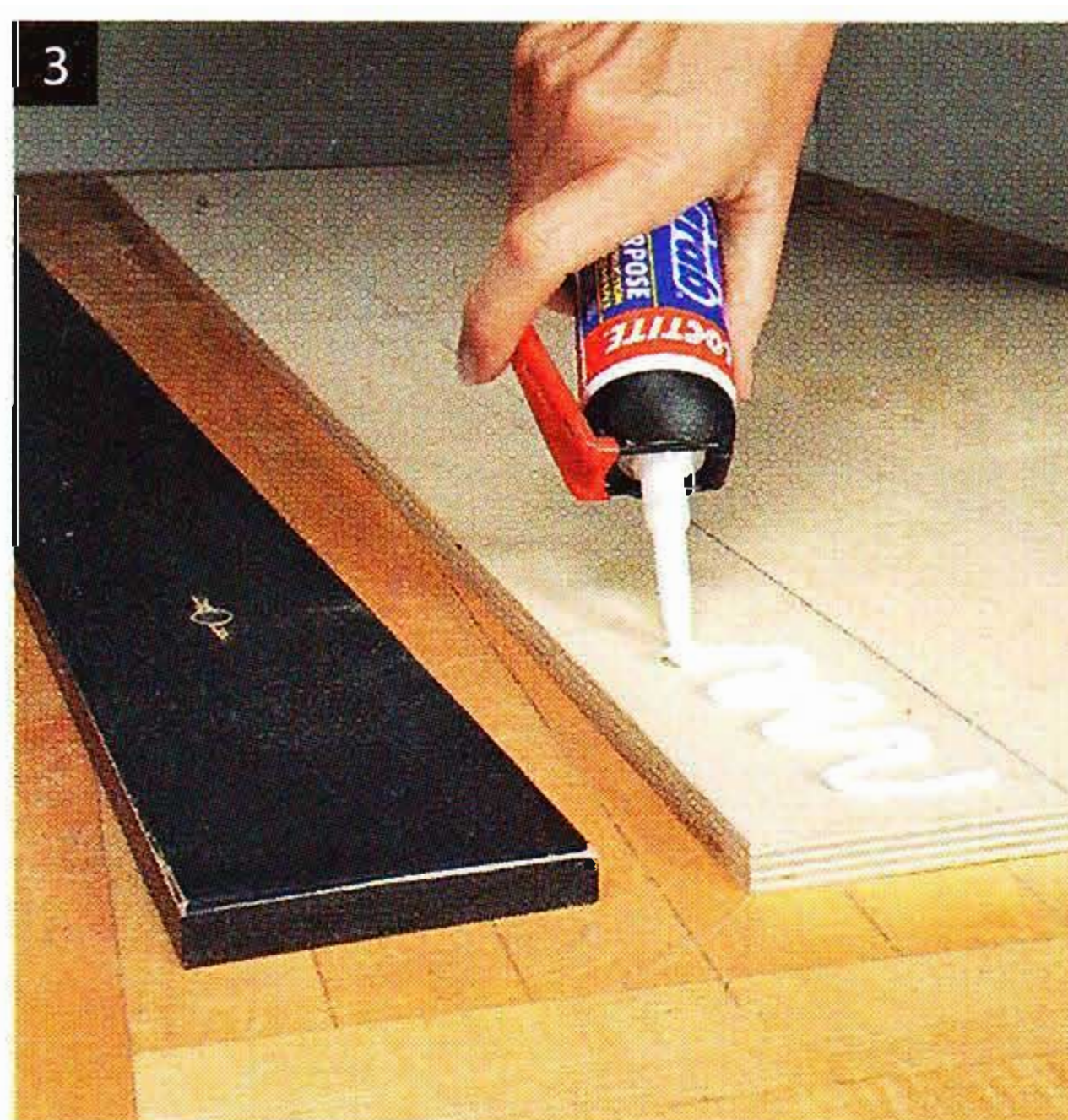
To mount the seat to the cubes, pre-drill mounting holes (above). Then clamp the cubes and seat together, and drive in screws with washers (left)



let it dry. Then you can coat all surfaces of the seat with black enamel paint, and allow it to dry.

Now you can attach the seat to the cubes. Lay the cubes on their sides, and drill four holes completely through the top of each (*Fig. 1, page 78*). Position the seat flush with the front and outer edges of the cubes, and use clamps to hold the assembly in place. Attach the bench seat with sheet metal screws and washers (*Fig. 2, page 78*).

Move to the Wall Unit — Start by cutting the plywood backer and the rails and stiles to size. The plywood backer is $\frac{1}{2}$ " x $16\frac{1}{2}$ " x 53". Cut all of the frame pieces from $\frac{1}{2}$ " poplar in these dimensions: top rail — $1\frac{1}{2}$ " x 54"; bottom rail — 3" x 54", and four stiles — $1\frac{1}{2}$ " x 12".



You'll want to distress the finish on the pieces you make so it matches the finish on the cubes. Just lightly soften the edges of all painted parts with an abrasive pad.

Then drill five $\frac{1}{2}$ "-diameter holes evenly spaced across the bottom rail to hold the pegs. Paint all of the frame pieces black, and allow them to dry.

Now that everything is cut to size and finished, you can start assembly. Mark a line $2\frac{1}{2}$ " above the bottom of the backer to indicate where to glue the bottom rail (*Fig. 3*). Note: The backer is 1" narrower than the finished frame will be, so the frame pieces will overhang it by $\frac{1}{2}$ " all around. The key to correct

assembly is to build from the inside out, so next mark a line in the center of the backer and position a mirror tile on either side of it (*Fig. 4*). Use adhesive squares to attach the mirror and cork squares, and use construction adhesive to adhere the rails and stiles as you work from the center out (*Fig. 5*).

To finish the wall unit, glue the pegs into their holes, and then attach two picture hangers to the back for mounting it to the wall.

