

12-PAGE BONUS SECTION! PROJECTS AND TIPS FOR A CLUTTER-FREE HOME

family handyman



BUILD IT

ENTRYWAY STORAGE

Stash shoes, coats, bags and more in this modern hall tree

Easy Home Gym Upgrades

15+ DIYs and Ideas for the Holiday Season

HOW TO
MAKE
HIDEAWAY
HOOKS **P. 16**

DECEMBER/JANUARY 2026

A woman with curly hair, wearing a black puffer jacket over a white polo shirt, brown pants, and black boots, stands smiling in front of a large blue and white commercial truck. The truck is parked on a paved surface under a clear sky.

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YOU BUILT THIS!

Secret Storage

A *Family Handyman* reader added handy hidden kitchen pullouts

We used to have a door and shelves under the steps adjacent to our kitchen, but you had to crawl in to reach anything. The under-stair storage project from the Winter 2021 issue solved everything! I used our actual cookware, slow cookers and recycle bins to determine the height of the boxes while I was building them to make sure the pullouts were the sizes we needed. —Bill Sustachek, Racine, WI

Build it yourself! Find the original step-by-step instructions for this under-stair storage project on our website.



The Book Every DIYer Needs

Don't pay a professional hundreds of dollars for household repairs you can do yourself. Instead, learn essential DIY skills in our book *Before You Call a Pro*. Buy it now for only \$10 (and free shipping) at FamilyHandyman.com/C2403.



Got Goofs?

Check out this hilarious reader blunder, then send us your own!

While I was visiting my parents for Thanksgiving, my mom complained that the dishwasher was not draining. I volunteered to help fix it, so my dad and I spent a couple of hours taking apart the small pieces, trying to figure out why it wasn't draining.

After not finding a smoking gun, we just assumed the pump had failed. My parents bought a new dishwasher and, lo and behold, the new one had the same problem.

A couple of days later, my dad awoke at 2 a.m. with an epiphany: He had recently installed a new garbage disposal. When he went to check it, he realized the plug blocking the drain port was still in place. He hadn't mentioned the brand-new disposal as we were troubleshooting or even to the tech who came to install the new dishwasher.

—Joshua English, Broadlands, VA

Share your funny Great Goofs with us at FamilyHandyman.com/submissions.

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BONUS SECTION

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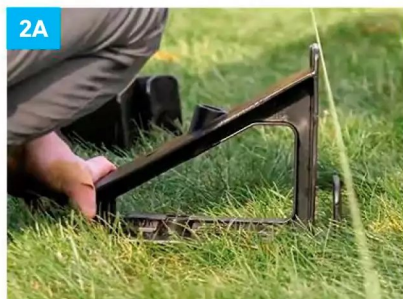
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VIA EZ ICE

Make Your Own Backyard Ice Rink

Your house will be the hit of the neighborhood when you add this fun wintertime project

Whether the goal is to perfect skating skills, host neighborhood hockey shootouts or enjoy daily pickup games with the whole family, a backyard ice rink is a winter lover's dream come true. Sure, it's possible to completely DIY your own, but an easy-to-assemble kit such as the EZ Ice Pro Home Arena System (above) makes putting together an at-home ice rink a breeze. —Kirsten Schrader

1 MEASURE OUT THE SPACE
Make sure the diagonal from one corner to the other is the same in both directions.

2 SET THE BRACKETS IN THE GROUND
Once the brackets are in place around the perimeter, it's time to start placing and interlocking the walls.

3 RUN THE LIGHTS
Adding underliner lights is optional, but it will make the whole set up look a lot more professional. Run them around the inner edge and make lines across if you want it to look like a real hockey rink.

4 PUT DOWN THE LINER
The liner will hold the ice in place. Just roll it out. Then use foam bumpers to hold it in place. Fill the rink with water and complete the bumpers. Once it's cold enough, you're ready to skate. ●

Saturday Morning PROJECTS

Watch this backyard ice rink project come to life in an episode of *Saturday Morning Projects* on *At Home with Family Handyman*. Find out where to stream the series for free at FamilyHandyman.com/tv.

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What's New

Now Trending • Gear Up • Mini Makeovers

The latest
we've heard,
seen, tested
and tried

NOW TRENDING

A Fresh Start

The "Sunday reset" is all about tidying up your home for a successful start to the week, and that includes the laundry room. "Take a few minutes to wipe down surfaces, refill detergent, empty the lint trap and clear away clutter," says professional organizer Lauren Saltman. "These small steps make a big difference come Monday morning." —Erica Young





Pamper Your Pets

Ten editor-tested, pet-approved upgrades
for feeding, grooming, playtime and more

Always-Clean Litter Box

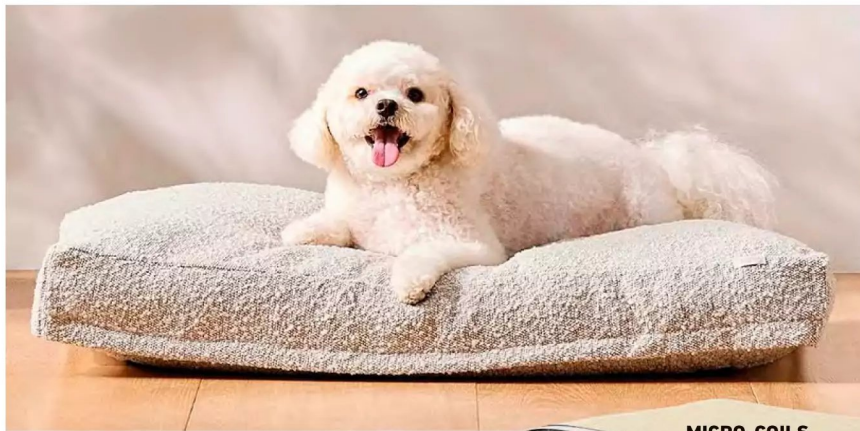
Common kitty wisdom states that you should own one litter box for every cat in your family, plus one extra. As a mom of four fur babies, I simply didn't have the space for multiple boxes and couldn't stand by to scoop their poop the moment it happened. I was hoping Whisker's Litter-Robot 4 would be the answer to my prayers.

This podlike self-cleaning litter box is the Rolls-Royce of automated cat toilets, if you will. Once kitty finishes their business, the rubber-lined drum quietly spins to sift away the clean litter, dumps the clumps into a sealed compartment and returns the clean litter to the main chamber. With built-in Wi-Fi, the Litter-Robot 4 has a companion app that notifies you when your cat has

used the box, how full the waste bin is and if you need to add more litter. It even logs the weight of the cat inside, helping you track bathroom habits and spot changes that could signal health issues.

My main goal in getting a self-cleaning litter box was to eliminate the hassle of daily scooping, and boy, did it deliver. With four cats, I need to empty the waste tray about every three days. Whisker sells special odor-proof bags you can use to line the drawer, but I just use standard 13-gallon kitchen trash bags, which fit perfectly. To clean, I pull out the drawer, cinch up the bag and toss it in the trash. Easy peasy. —Allison T.S. Robicelli, product tester Whisker Litter-Robot 4, \$699; chewy.com, litter-robot.com

VIA WHISKER



From Ruff to Rested

Henry, my picky German shepherd, has gone through several dog beds over the years—usually ripping them to shreds or preferring other furniture. Until, that is, he tried the luxury dog bed from Saatva, one of our favorite mattress brands. It's the only bed I've seen with micro-coils to promote healthy sleep and spinal alignment.

When I pulled it out of the box, I had never seen Henry jump on a bed so fast. The coils provide a little bounce and extra support and stop the bed from flattening, so it will keep its shape for the long haul. The plush gusseted cover is removable and coated with pet-safe, liquid-repellent protection. Saatva doesn't recommend throwing the cover in the wash, but I've had the bed for a few weeks now and it still looks brand-new and has been easy to spot-clean.

I left the bed at my mom's house so her lab mix Addy, who has joint pain, could try it out too. She preferred the Saatva bed to the memory foam one my mom bought for her! While other dog beds on the market are less expensive, the Saatva is the only bed I've seen multiple dogs prefer over every other dog bed at their disposal, making it worth the investment for my pup. —Mary Henn, shopping editor *Saatva Dog Bed*, \$275; saatva.com

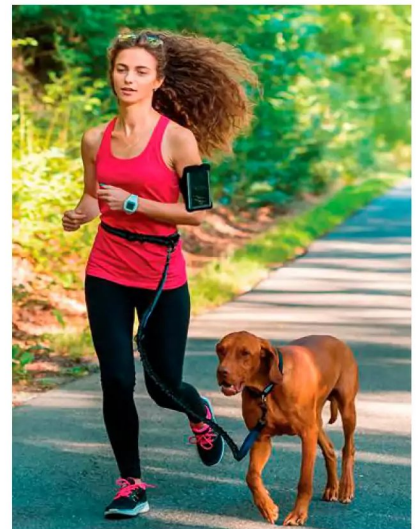


Dog Bowl Goals

If you have a dog, it's safe to assume you already have a food and water dish. But could the Yeti Boomer dog bowl be worth the price tag for an upgrade? Ernie, my enthusiastic eater, put it to the test.

The Boomer stands out from traditional bowls thanks to its durable, dent-resistant design and weighted, slip-proof base. It promises to withstand everything from rust to roughhousing and is even dishwasher safe. Available in two sizes as well as a variety of fun colors and customizations, I chose the Seafoam bowl so my dog and I would have matching Yeti gear.

To test, I placed kibble in Ernie's regular travel bowl and watched him push it across the kitchen floor as he ate. I did the same with the Boomer dog bowl and watched in satisfaction as it did not budge. Ernie also enjoyed that it didn't put up a fight. —Nancy Snyder, senior shopping editor *Yeti Boomer 8 Dog Bowl*, \$60; *Ace Hardware*, *Dick's Sporting Goods*, yeti.com



A Better Way to Walk Your Pup

I took the SparklyPets Hands-Free Dog Leash to the trails for a long hike with my German shepherd, Henry, who is leash-trained but always gets a little more excited when we're out in nature.

The leash fits around your waist to relieve arm and shoulder tension and to free up your hands so you can get to your phone, keys, water bottle or stroller. It comes in two parts: an adjustable belt that latches to the leash in seconds and the actual bungee-cord dog leash that absorbs shocks. The leash itself has two handles to grip, one at the top and one for a closer hold on your pet.

Henry weighs close to 100 lbs., and I never worried about him unlatching while we were on the move. My only complaint is that I haven't gotten my hands on a hands-free leash sooner (pun intended). —Mary Henn, shopping editor *SparklyPets Hands-Free Dog Leash*, \$20; *Amazon*





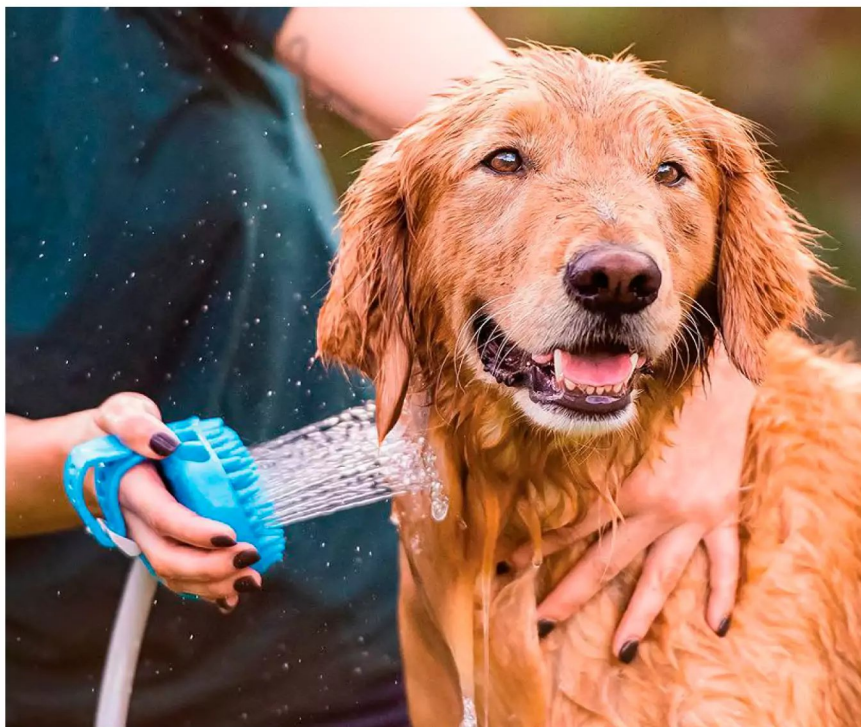
Subscription for Super Chewers

I find myself in an endless cycle of purchasing dog toys only to see Ernie, my toy-destroying dog, rip them apart in record time. So I didn't dare try BarkBox until I heard about the Super Chewer subscription.

Each Super Chewer BarkBox is designed for heavy chewers and includes two clever themed toys, bags of treats and chews. My dog's first box, the adorable Maw Paw's Farm box, included a Mad Cow "rip and reveal" toy and a Corn to Run "tug and fetch" cream-scented toy.

He loved the soft, fresh treats, which were clearly made with quality ingredients. The two large soft chew sticks were a great addition, but not savored for long.

A few weeks later, I am happy to report that the BarkBox toys have gone through vigorous testing. The result: two enticing, and still very intact, toys. BarkBox receives two thumbs up from me and multiple tail wags from Ernie. —Nancy Snyder, senior shopping editor *Super Chewer BarkBox*, Starting at \$24; barkbox.com



Backyard Pet Spa

Trying to bathe my 50-lb. pit bull on my own usually means I get a bath too. The Aquapaw Pro Pet Grooming Tool combines a sprayer and scrubber in one, making bath time easier with fewer hands on deck.

The tool slides over your hand and works as a scrubber, brush, massager and shower. The best part is the on/off button—no more running back and forth from the hose or wasting water. It also has a pressure adjuster for your pup's comfort and an 8-ft. hose that connects to a garden hose or showerhead.

Bath time pulled Ernie from backyard lizard hunting, but he didn't seem to mind once I started massaging his fur. The brush/rinse combo provided a gentler way to ease him into bath time than a regular hose ever could. —Nancy Snyder, senior shopping editor *Aquapaw Pro Pet Grooming Tool*, \$30; Amazon, Target

Laundry's Best Friend

Shedding is a constant nuisance for pet owners, especially when fur clings to clothes and fabric. So when I heard the FurZapper works in the laundry, it sounded to good to be true. I tested it on fur-coated clothes and blankets, and two years on, I still use it to keep the furry blizzard under control.

These sticky, spongy disks go right into your washer and dryer. In the wash, they circulate and dislodge hair, sending it down the drain. In the dryer, the heat boosts their stickiness, helping pull off even more pet hair, which collects in the lint trap. For best results, give the disks room to move by not overloading your machines, and skip fabric softener or dryer sheets, which can reduce their effectiveness.

Each time I use a FurZapper, I see noticeably cleaner clothes and more debris in the lint trap. While it's not a miracle worker, it's simple, affordable and genuinely effective. —Amy Shojai, pet care and behavior expert *FurZapper Pet Hair Remover*, \$13; Amazon, Chewy, Walmart





All-in-One Grooming

Unlike tools that advertise hair removal from floors, furniture and more, the Hicozy Dog Grooming Vacuum promises to nip shedding at the source. It brushes and trims your pet while collecting loose fur and comes with six professional grooming tools: a slicker brush, a de-shed brush, an electric trimmer, scissors, a nozzle brush and a cleaning brush. The 2-liter dust cup with HEPA filter also means more grooming and less dumping.

While it picked up some of my pit bull's short hair, it wasn't as much as I had hoped. But when I groomed Charlie, my sister's long-haired papillon, I was amazed by how effective it was at detangling, smoothing, deshedding and trimming her coat while sucking away excess hair. And both dogs enjoyed themselves after their initial concern about the noise passed.

The Hicozy didn't work wonders on my short-haired master shedder, but I recommend it for long-haired dogs to keep shedding at bay and save on trips to the groomer. —**Nancy Snyder**, senior shopping editor *Hicozy Dog Grooming Vacuum*, \$90; Kohl's, Target

No Stain, No Problem

When I became a puppy parent, ordering a bottle of enzyme cleaner was a no-brainer. Bio-enzymatic cleaners such as Rocco & Roxie's Stain & Odor Eliminator use natural enzymes to break down ammonia crystals in pet urine and feces, eliminating stains and odors for good. After a month of house-training my dog, I was shocked by how well it worked and pleasantly surprised by the fresh, woodsy scent.



The real test came when my puppy and I took the long way out of the apartment complex. CeCe couldn't hold it, resulting in an accident on the carpet right outside my neighbor's door. I quickly went home, got the spray and generously saturated the area. After gently blotting it with a paper towel, the area was damp but didn't smell like dog urine.

I returned to the stain a few hours later and was surprised that I couldn't even tell where my puppy had peed. I never got any complaints from the neighbors, either—a total win in my books. —**Madi Koetting**, shopping editor *Rocco & Roxie Stain & Odor Eliminator*, \$24; Petco, Target



Easy-Clean Brush

Regularly brushing your pet removes excess hair before it ends up all over your home and keeps your dog or cat comfortable in peak shedding seasons. I've tried dozens of brushes over the years with mixed results, so I was intrigued when I discovered the Hertzko Self-Cleaning Pet Slicker Brush on Amazon, impressed by its near-perfect rating based on over 96,000 reviews.

The brush features fine, slightly bent wire bristles that penetrate deep into your pet's coat without scratching the skin. Its standout feature is the self-cleaning mechanism: Just press a button on its sturdy plastic handle, and the bristles disappear into the brush head, leaving the pet hair behind for easy disposal.

Rocky, my very hairy cat, likes to be brushed but has been finicky about other wire-bristled brushes. After about 30 seconds, he was clearly enjoying it. He liked it so much, I ended up brushing him for a solid 10 minutes! —**Allison T.S. Robicelli**, product tester *Hertzko Self-Cleaning Pet Slicker Brush*, \$14; Amazon ●



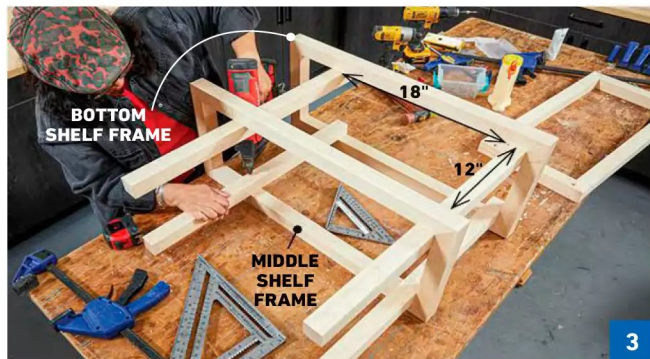
New Year, New Gym

Kick off 2026 with a home workout space that energizes and inspires you. Start here for an easy DIY to keep your gear organized, then explore ideas for quick upgrades that refresh the room.

BY FAMILY HANDYMAN EDITORS



TMB STUDIO



BUILD IT

Workout Storage Caddie

Create a custom mobile organizer
with room for weights, mats and more

BY CARMEN DE LA PAZ

1 CUT THE WOOD AND ANGLE IRON

Preseal the wood with a coat of polyurethane and let it dry. Use a miter saw to cut the long (A and C) and short (B) sides of the shelves, legs (D), cross supports (E) and kettlebell supports (F). Use an angle grinder with a cutoff disk to cut the angle iron (G) to length for the dumbbell support on top of the unit.

2 BUILD THE OUTER FRAME

Join the mitered ends on the long (A) and short (B) sides to create frames for the bottom and middle shelves. Use wood glue and 18-gauge brad nails to pin and hold the miters tight, then, to strengthen the joint,

toescrew a 1 $\frac{5}{8}$ -in. screw from the underside into each corner.

NOTE: Pre-drill each hole to prevent splitting.

Do the same with the long (C) and short (B) sides of the top shelf.

3 INSTALL THE LEGS

Join the top, middle and bottom shelf frames to the legs (D) using wood glue and 2-in. screws. Start by installing two legs into the inner corners on one end of the bottom and middle shelf frames, ensuring the legs are flush to the bottom of the bottom shelf frame. Install the second set of legs (D) square to the first and 18 in. over on the same frames.

For the top shelf, install the legs tucked into the opposite

Tools

1/8" drill bit for metal
1 3/4", 2" and 3" Forstner bits
18-gauge brad nailer
18-gauge staple gun
Angle grinder with cutoff and flap discs
Biscuit/plate joiner
Countersink drill bit
Deburr/countersink bit for metal
Detail sander
Drill
Drill press
Mallet
Miter saw
Paintbrush
Trim router with 1/4" round-over bit

Materials

Item	Qty.
#10 wood biscuits	
1/8" x 1 1/2" x 1 1/2" x 4' angle iron	
1/2" x 3/8" crown staples	
1x6x4' maple	1
1", 1 5/8" and 2" screws	
1 1/2" 18-gauge brad nails	
2" casters with brakes	4
2" nylon webbing	
2x8x8' maple	1
Assorted sandpaper	
Handle	
Polyurethane	
Shop rags	
Spray paint	
Wood glue	



corners. This will create a storage area for a yoga mat on the middle and lower shelves on the other side of the caddie. Space the top and middle shelves 10 in. apart and the middle and bottom shelves 12 in. apart.

4 INSTALL THE CROSS SUPPORTS

To hide the screws used to secure the legs to the shelves and give each shelf shear strength, install a cross support (E) between the legs (D) at each end of each shelf by toescrewing 1 $\frac{1}{4}$ -in. screws into the underside of the supports.

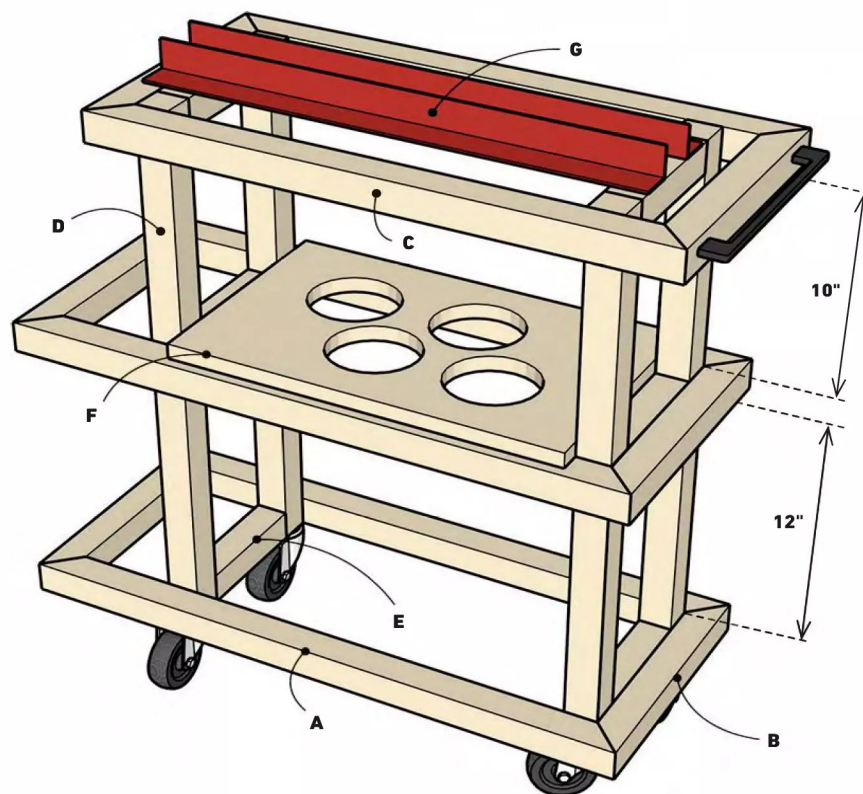
5 BUILD THE KETTLEBELL SUPPORT

Use wood glue and a biscuit joiner to join the two kettlebell support pieces (F). Clean up any glue squeeze-out with a damp shop rag, then let the glue cure.

Next, determine the ideal placement for your kettlebells based on their size. Using a drill press, drill holes with a Forstner bit or hole saw for each kettlebell to sit in. I found that a 1 $\frac{3}{4}$ -, 2- and 3-in. hole worked well for a 5-, 10- and 15-lb. kettlebell, respectively.

Soften the top edges of each drilled hole with a $\frac{1}{4}$ -in. round-over bit on a router. This will also chamfer the upper edge of the circle and allow the kettlebells to sit snugly in place.

Figure A
Project Overview



Cuts

Key	Qty.	Dimensions	Part
A	4	1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 28 $\frac{1}{2}$ "*	Long side of shelf (bottom and middle)
B	6	1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 12"	Short side of shelf
C	2	1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 25 $\frac{1}{2}$ "*	Long side of shelf (top)
D	4	1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 26 $\frac{1}{2}$ "	Leg
E	6	1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 6"	Cross support
F	2	$\frac{3}{4}$ " x 5 $\frac{1}{2}$ " x 18"	Kettlebell support
G	2	1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 22"	Angle iron

*-to long side of 45-degree miters



6 INSTALL THE KETTLEBELL SUPPORT

Using an 18-gauge brad nailer with 1½-in. brad nails, secure the kettlebell support (F) to the long sides (A) of the middle shelf frame between the legs (D).

7 INSTALL THE NYLON WEBBING

Using an 18-gauge staple gun with ½ x ⅝-in. crown staples, install the 2-in.-wide nylon webbing, stapling on the underside of the bottom shelf frame. Install three longer lengths first, starting in the middle of the short side (B) of the bottom shelf, leaving a minimal gap between them. After the longer lengths have been secured, weave shorter rows over and under the longer lengths to create a hatch pattern, leaving a ⅜-in. gap

between rows and securing with staples as you go.

8 INSTALL THE CASTERS

Secure the casters to the cart's underside, ensuring that the screws are positioned where they seat well into the end grain of each leg (D).

9 INSTALL THE ANGLE IRON

Soften the sharp corners of the angle iron with a sanding flap disc on an angle grinder. Spray-paint the angle iron and let it dry.

Place the painted angle iron on top of the gym caddie and mark where you will predrill holes for installation, either into the short sides (B) of the upper shelf or the cross supports (E). Predrill your holes on the drill press with a

⅝-in. metal drill bit and counter-sink with a metal deburring bit to allow the screws to lie flush when installed.

Make sure the spacing of your angle iron (G) works well with your dumbbells and secure with 1-in. screws.

10 INSTALL THE HANDLE

Center your chosen handle side to side and top to bottom on the short side (B) of the top shelf opposite the yoga mat storage and secure it with screws.

Flex Your DIY Muscle

Visit our website to watch Carmen build this caddie.



PAINT IT

Power Up Your Palette

Design pros weigh in on their favorite paint colors for home gyms and yoga studios



Red/Orange

Bold red or orange walls are ideal for intense workouts such as high-impact cardio or circuit training. "They will help evoke energetic feelings, giving you that extra psychological boost to power through your reps," says Old Crow Painting's Travis Nolan. His pick: Emotional from Sherwin-Williams, a blend of both hues.



Sage

Jamie Gold, author of *Wellness by Design* (Tiller Press), finds sage green soothing thanks to its biophilic quality. Nature-inspired paint colors such as Saybrook Sage from Benjamin Moore make a calming backdrop perfect for yoga lovers flowing through sun salutations or settling into Savasana.



Blue

Blue tones can elicit calm, composure and concentration, ideal for focusing on fitness. "For a home gym, where you know you're going to make your body temperature rise, a shade of blue visually keeps [the space] feeling cool," says interior designer Maureen Stevens. Benjamin Moore describes Lake Placid, a pale blue, as evoking "the cool serenity of a winter lake"—brrr!



White

For a peaceful and relaxing environment, Nolan recommends white, which can be "accented

with lots of greenery and gemstones." Fittingly, Sherwin-Williams offers a Yoga Whites collection specifically for this purpose. MC Design founder Megan Dufresne also favors white, saying, "White walls minimize distraction, allowing you to do what you came there to do—work!" Her go-to: Swiss Coffee from Dunn-Edwards.



Lavender

Stevens loves Benjamin Moore's Peace and Happiness, a calming lavender, for yoga or meditation rooms. "Lavender is uplifting, optimistic and inspiring," she says. Its soothing nature makes it an excellent choice for those who prefer quiet, restorative workouts.

CUSTOMIZE IT

Floor Exercise

In a home gym, flooring needs to work as hard as you do. Choose among these five popular materials for a tailored balance of durability, comfort and style.

1. Turf

Artificial turf brings the field indoors, providing the needed resistance and traction for sled pushes, agility drills and functional training. Turf is tough and can handle repeated high-impact use, but it can be harder to clean and more expensive to install than other options.

2. Rubber

Rubber flooring is a home gym staple thanks to its excellent durability and shock absorption. It supports heavy equipment and can be installed over most surfaces, including concrete. It's available in rolls, mats or interlocking tiles of various thicknesses.

3. Vinyl

Wood-look vinyl planks help your gym blend seamlessly into your living space. They're resistant to moisture and mildew, easy to clean and durable enough for

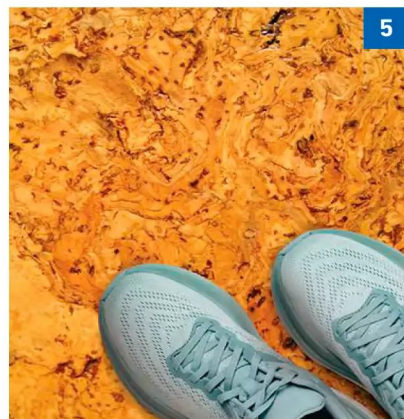
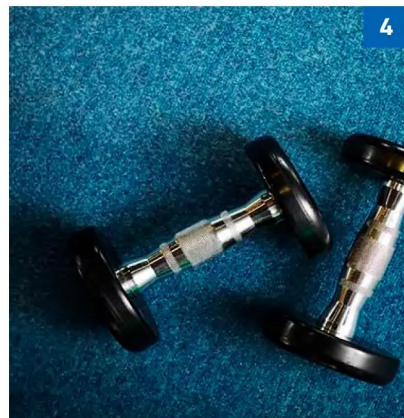
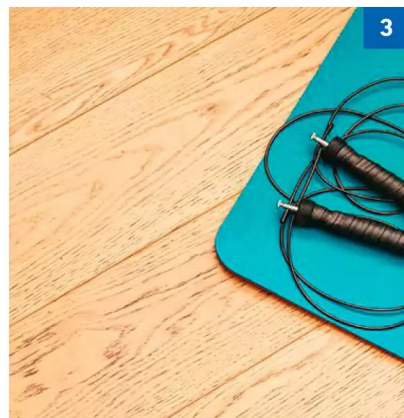
most home gym equipment. That said, vinyl is not especially shock absorbent, so it's less ideal for jumping or plyometric exercises.

4. Carpet

Low-pile, commercial-grade carpet offers good traction and stability while blending seamlessly with home decor. It can support most exercise equipment, but it tends to trap sweat and moisture and has minimal shock absorption. Carpet pads or anti-fatigue carpet tiles can help provide additional support.

5. Cork

Floating cork flooring is shock- and sound-absorbent, making it ideal for intense workouts. Cork resists mold, mites and mildew, so it works especially well in garage or basement gyms. For heavier equipment that could leave dents, consider doubling up with glue-down cork tiles or trying another flooring type. ●





SMART AND STYLISH Entryway Storage

Keep on-the-go gear organized with a functional statement piece for your hallway, foyer or mudroom

BY ETHAN O'DONNELL

A few years back, on a road trip through Colorado, my wife and I stayed at a beautifully remodeled historic hotel. While waiting to check in, I found myself studying the furniture (as I often do) and was struck by how a large, well-designed piece transformed the lobby. While it was quite a different piece of furniture, that memory inspired the modern hall tree we've built here: It's practical yet elegant, with ample shelving, roomy drawers, hidden hooks and a hand-rubbed finish that highlights the wood's natural character.

Normally I recommend finishing as many parts as possible before assembly, but this time the sheen and coverage of the wipe-on polyurethane varied enough that I had to sand back some pieces and reapply it for a consistent look. While prefinishing didn't save me much time in this case, your project may differ, so finish it when it makes the most sense for your workflow.

1 CUT THE PARTS
Use a table saw to cut all the parts from the cutting list (see page 18). Cut so the grain runs the length of plywood pieces as usual, except for the seat cabinet sides (B), where the grain should run vertically.

Install the dado blade and cut ¼-in.-deep x 23/32-in.-wide dadoes in the seat cabinet top/bottom (A), sides (B) and dividers (C); tall cabinet top/bottom (F) and

sides (G); and drawer box fronts (R) and sides (S) (see Figure A). Then cut rabbets of the same depth and width along the top and bottom edges of the seat and tall cabinet sides (B and G).

2 ASSEMBLE THE SEAT CABINET
Dry-fit the seat cabinet parts as shown in Figure B. Note: You may have to trim the back (E) and false backs (D) for a good fit.

What It Takes

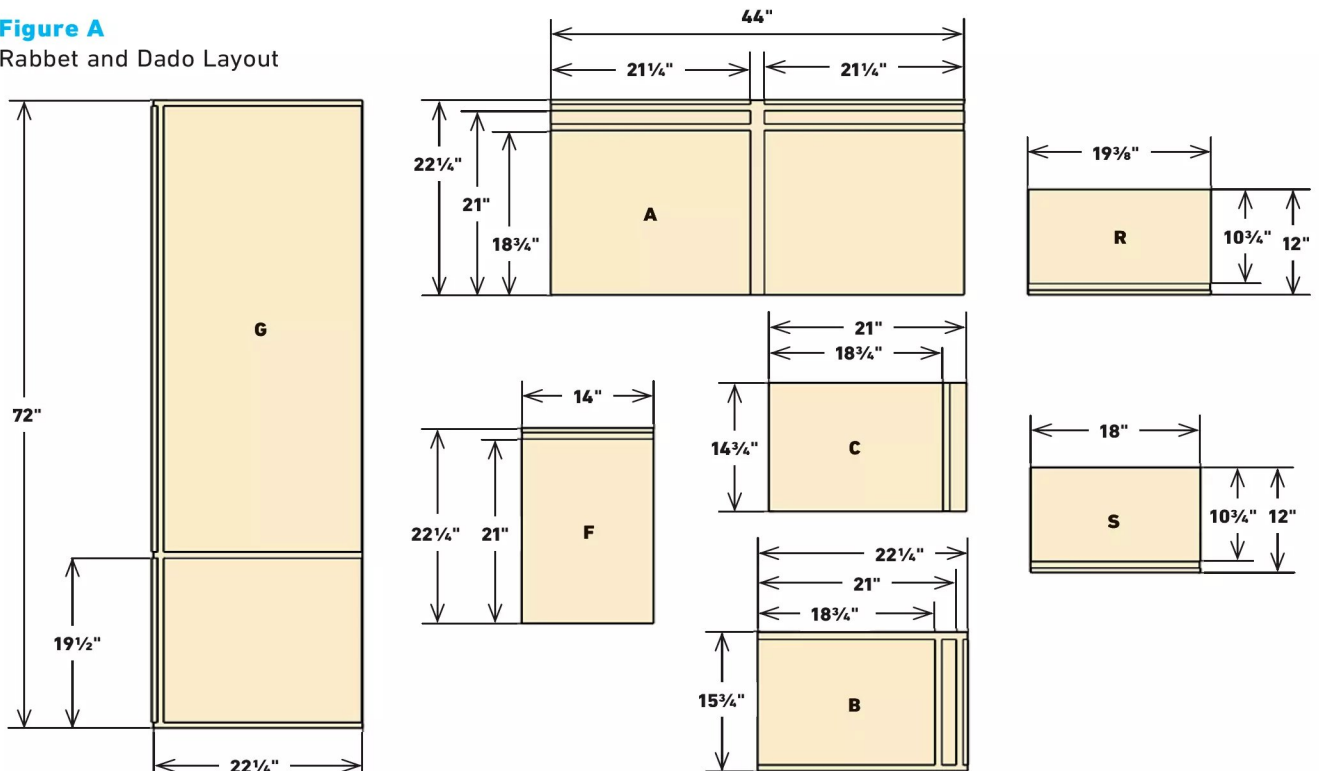
Time	Cost	Skill Level
Multiple days	Around \$2000	Intermediate

Tools

- 3/32" drill bit
- 1/4" drill bit
- 13/8" Forstner bit
- 18-gauge brad nailer
- 23-gauge pin nailer
- Band saw
- Belt/disc sander
- Biscuit joiner
- Clamps
- Dado blade
- Drill press
- Drill/driver
- Hacksaw
- Level
- Miter saw
- Painting supplies
- Pocket hole jig
- Random orbital sander with sandpaper
- Router with flush trim bit
- Shelf pin jig
- Socket wrench
- Speed or framing square
- Table saw



Figure A
Rabbet and Dado Layout



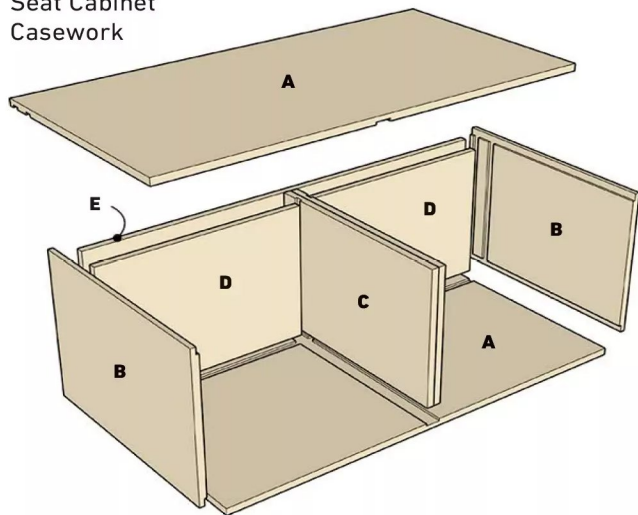
Materials

Item	Qty.
#20 biscuits	
1/4" x 3 1/2" bolts	4
5/16" x 2" bolts	4
5/16" T-nuts	4
1/2"x4x8 walnut plywood	1
1/2" overlay hinges	4
1/2" screws	
3/4"x4x8 birch plywood	1
3/4"x4x8 walnut plywood	3
1x4x8' birch	1
1x6x8' walnut	2
1" 23-gauge nails	
1" screws	
1 1/2" 18-gauge brad nails	
1 1/2" pocket hole screws	
1 5/8" screws	
2x8x8' walnut	3
2" x 1/4" lag screw	1
2" screws	
18" undermount drawer slides with locking devices	2 pairs
Assorted sandpaper	
CA glue	
Closet rod with hardware	
Double-sided tape	
Drawer pulls	
Fender washers	
Paint	
Painter's tape	
Primer	
Shop rags	
Wipe-on polyurethane	
Wood filler	
Wood glue	

Cuts

Key	Qty.	Dimensions	Part	Material
A	2	3/4" x 22 1/4" x 44"	Seat cabinet top/bottom	3/4" walnut plywood
B	2	3/4" x 15 3/4" x 22 1/4"	Seat cabinet side	3/4" walnut plywood
C	2	3/4" x 14 3/4" x 21"	Seat cabinet divider	3/4" walnut plywood
D	2	3/4" x 14 3/4" x 21 1/2"	Seat cabinet false back	3/4" birch plywood
E	1	3/4" x 14 3/4" x 44"	Seat cabinet back	3/4" walnut plywood
F	2	3/4" x 14" x 22 1/4"	Tall cabinet top/bottom	3/4" walnut plywood
G	2	3/4" x 22 1/4" x 72"	Tall cabinet side	3/4" walnut plywood
H	1	3/4" x 14" x 21"	Tall cabinet fixed shelf	3/4" walnut plywood
J	1	3/4" x 14" x 71"	Tall cabinet back	3/4" walnut plywood
K	1 or 2	3/4" x 13 1/4" x 19 3/4"	Tall cabinet adjustable shelf	3/4" walnut plywood
L	20	1 1/2" x 1 1/2" x 6"	Slat wall spacer/hook	Solid walnut
M	9	1 1/2" x 1 1/2" x 70 1/2"	Slat	Solid walnut
N	2	3/4" x 1 5/8" x 72"	Slat wall frame side	Solid walnut
P	2	3/4" x 1 5/8" x 28 1/2"	Slat wall frame top/bottom	Solid walnut
Q	5	1 1/2" x 6" x 6"	Foot	Solid walnut
R	2	1/2" x 12" x 19 5/8"	Drawer box front	1/2" walnut plywood
S	4	1/2" x 12" x 18"	Drawer box side	1/2" walnut plywood
T	2	1/2" x 10 3/4" x 19 3/8"	Drawer box back	1/2" walnut plywood
U	2	3/4" x 17 3/4" x 19 7/8"	Drawer box bottom	3/4" birch plywood
V	2	3/4" x 14" x 21 5/8"	Drawer front	3/4" birch plywood
W	1	3/4" x 14" x 71"	Door	3/4" birch plywood
X	1	3/4" x 23 1/4" x 45 1/8"	Seat plywood	3/4" walnut plywood
Y	1	3/4" x 1 1/2" x 46 5/8"	Seat front trim	Solid walnut
Z	2	3/4" x 1 1/2" x 24"	Seat side trim	Solid walnut
AA	1	3/4" x 18 1/2" x 28 1/2"	Shelf plywood	3/4" walnut plywood
BB	1	3/4" x 1 1/2" x 30"	Shelf front trim	Solid walnut
CC	2	3/4" x 1 1/2" x 19 7/8"	Shelf side trim	Solid walnut
DD	1	3/4" x 1 1/2" x 28 1/2"	Shelf back trim	Solid walnut

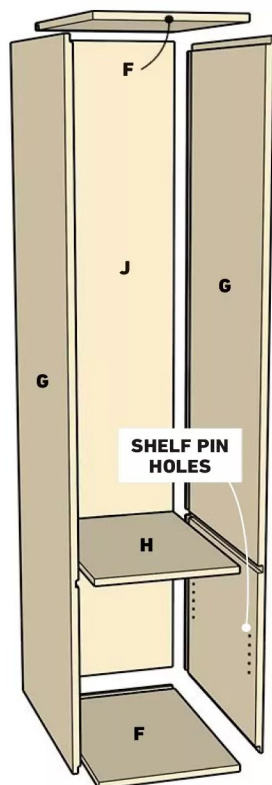
Figure B
Seat Cabinet
Casework



Assemble the seat cabinet using wood glue and clamps. For fasteners, use 1 $\frac{5}{8}$ -in. screws through the top and bottom (A) and along the top edge of the sides (B), and use pocket hole

screws along the inner edge of the false backs (D) where they meet the dividers (C). Don't use more than an inconspicuous 1 $\frac{1}{2}$ -in. 18-gauge nail or two on the sides (B). Clean up any glue squeeze-out with a clean wet rag as you go.

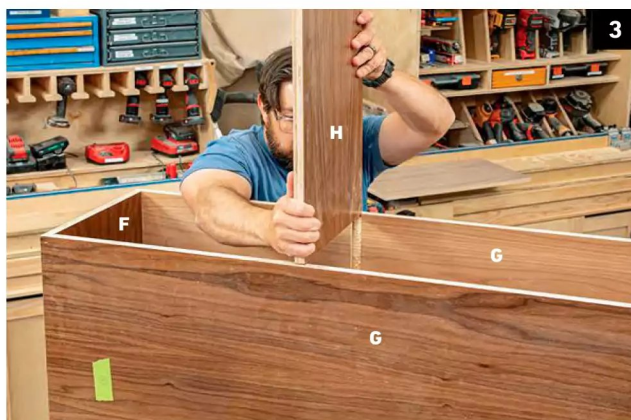
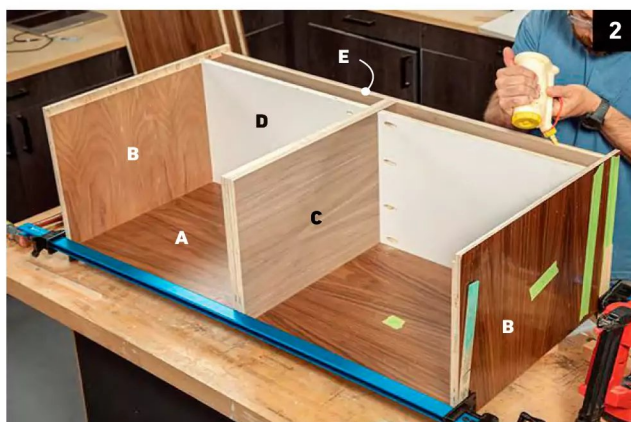
Figure C
Tall Cabinet Casework



3 ASSEMBLE THE TALL CABINET
Using a shelf pin jig, drill a handful of shelf pinholes at the front and back edges of the tall cabinet sides (G), centered between the cabinet bottom (F) and the fixed shelf (H).

Dry-fit the top/bottom (F), sides (G), fixed shelf (H) and back (J) as shown in Figure C. Then use wood glue, clamps and a few 1 $\frac{1}{2}$ -in. 18-gauge brad nails to assemble the cabinet, again cleaning up any glue squeeze-out with a clean wet rag as you go.

4 EDGEBAND
To cover the plywood edges on the fronts of the seat and tall cabinets, rip



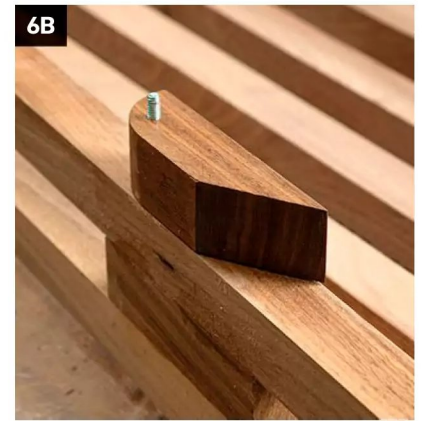
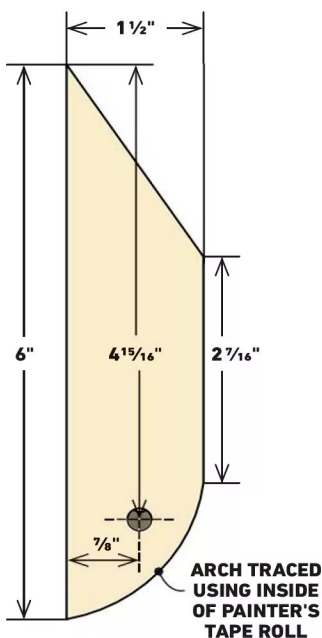


Figure D
Slat Wall Hook



$\frac{1}{4}$ x $\frac{3}{4}$ -in. strips of walnut and cut them to length. Sand the kerf marks smooth so the strips sit flat against the plywood. Use wood glue and 23-gauge nails to secure the strips flush to the inside edge of the casework plywood, the excess width hanging on the outside of the cabinet. Rout off the excess using a router with a flush trim bit, then smooth the sharp edges with 220-grit sandpaper.

5 MAKE THE SLAT WALL HOOKS
Cut 56 $\frac{1}{2}$ -degree miters on the top end of four slat wall spacer blocks (L). Then, on the drill press, drill a $\frac{1}{4}$ -in. hole $\frac{7}{8}$ in. from the front edge of the hook and $4\frac{15}{16}$ in. down from the point of the miter. Use the inside of a roll of painter's tape to trace an arch from the bottom of the block to the point that leaves a flat back face of $2\frac{7}{16}$ in. (see Figure D). Use a band saw or a stationary belt/disc sander to remove the radiused material.

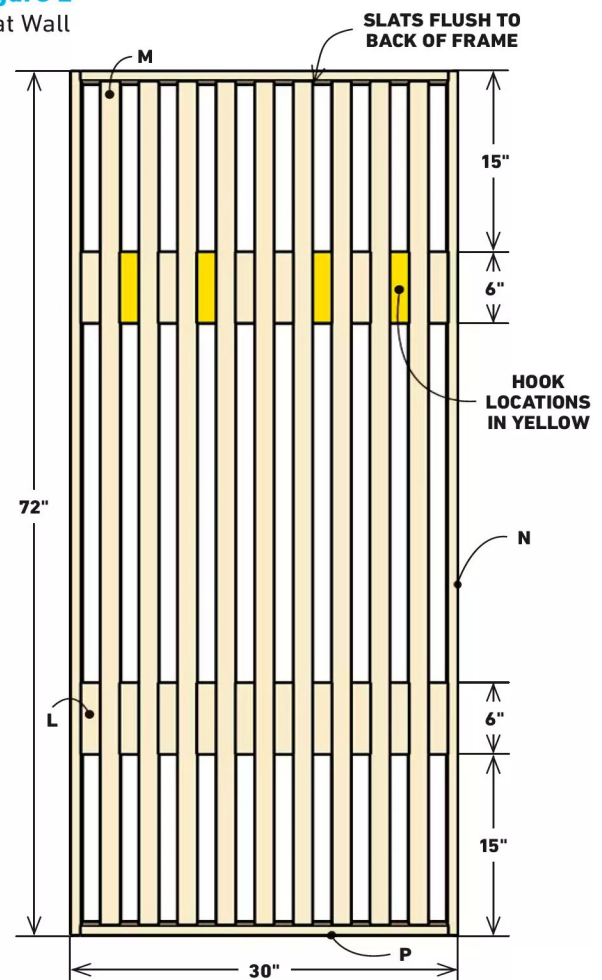
6 ASSEMBLE THE SLAT WALL
Lay out the slats (M), slat wall spacers (L) and slat wall hooks on a workbench (see Figure E). Mark biscuit locations on the seams between the slats (M) and fixed spacers (L) so the faces line up flush, with the spacers located $14\frac{1}{4}$ in. from the top and bottom of the slats (M).
Transfer the location of the $\frac{1}{4}$ -in. hole drilled into each hook to the slats (M) on either side, making sure it lines up with the spacers

(L) on either side.

Drill $\frac{1}{4}$ x $1\frac{1}{8}$ -in.-deep holes in those marked locations, and cut #20 biscuit slots in the marked slats (M) and slat wall spacers (L).

Use a hacksaw to cut the heads off of four $\frac{1}{4}$ x $3\frac{1}{2}$ -in. bolts. Thread the cut bolts through the holes in the hooks and into the holes in the slats on

Figure E
Slat Wall



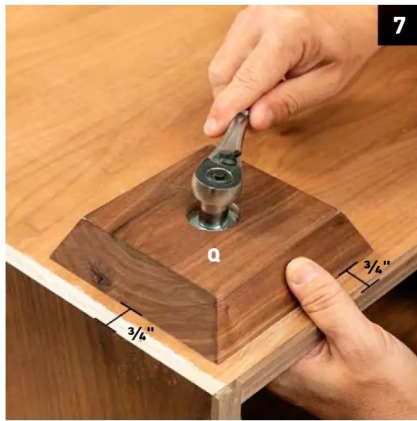
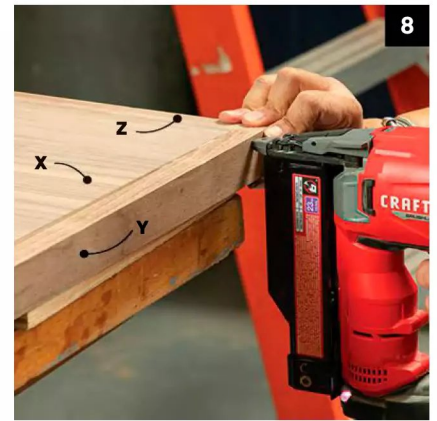
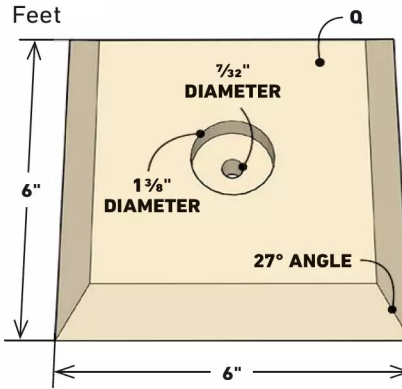


Figure F



each side. Glue up the slats (M) and spacers (L) using #20 biscuits, wood glue and clamps, making sure not to put any glue in joints where the hooks are.

Let the glue set up, then secure the slat wall frame pieces (N and P) around the slats, spacers and hooks using wood glue, clamps and 1 1/2-in. brad nails.

7 MAKE AND INSTALL THE FEET

At the table saw, cut a 27-degree angle along all four edges of the five foot blocks (Q). Then use a 1 3/8-in. Forstner bit to drill a 3/8-in.-deep hole centered on the bottom of each foot. Switch out the Forstner bit for

a 7/32-in. drill bit and drill the rest of the way through the foot (see Figure F). Sand the feet, apply a coat of finish and let it dry.

Install the four corner feet 3/4 in. from the front, back and sides on the bottom of the seat cabinet bottom (A). Use 2 x 5/16-in. bolts with fender washers to attach the feet into 5/16-in. T-nuts installed in the seat cabinet bottom (A). The middle foot will be centered on the seat cabinet bottom (A) and land on the seat cabinet dividers (C)—use a 2-in.-long x 1/4-in.-wide lag screw and fender washer to attach it. Use a bit of double-sided tape to hold the

feet in place as you tighten the bolt/lag screw with a socket wrench.

8 BUILD THE SEAT TOP AND SHELF

The seat top and shelf are both built with 3/4-in. plywood (X and AA) framed with 1x2 solid walnut. The seat (Y and Z) and shelf trim (BB, CC, DD) pieces have mitered front corners and are secured flush to the top edge of the plywood with wood glue and 18-gauge nails.

The seat plywood (X) is capped with trim (Y and Z) on only three sides, whereas the shelf is capped on all four. The shelf side trim (CC) is cut 1/8-in. short so it can be installed

snugly against the slat wall (see Figure G).

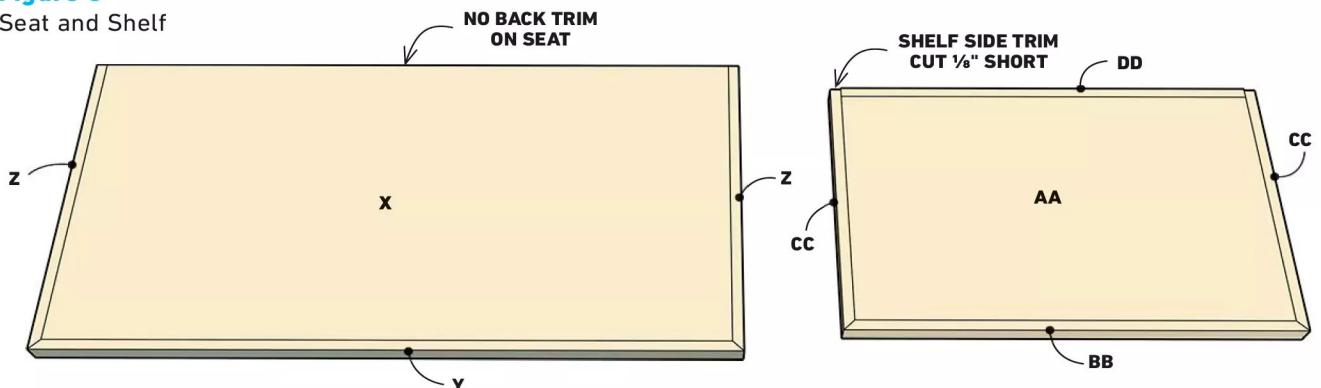
TIP: Most plywood has one side with nicer veneer. Face the better side up for the seat plywood (X) and down for the shelf plywood (AA), as these sides will be seen from eye level.

9 BUILD AND INSTALL THE DRAWER BOXES

Use wood glue and 18-gauge nails to join the drawer box sides (S), front (R) and back (T) as shown in Figure H. Let the glue set for the minimum cure time, then slide the bottom (U) into the 3/4-in. dados on the sides (S) and front (R). Pin the bottom (U) in place with a few 18-gauge nails through the dado.

Figure G

Seat and Shelf



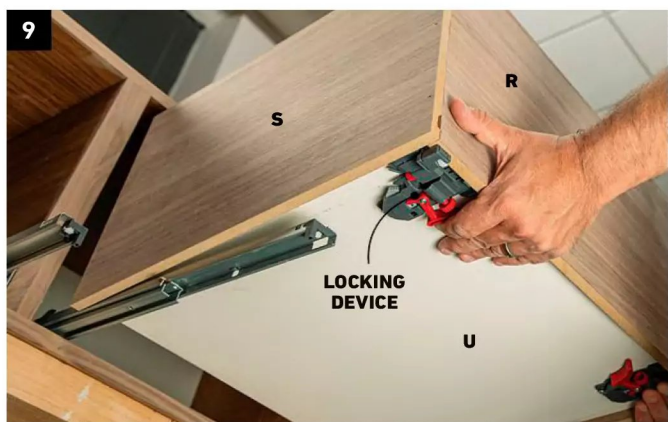
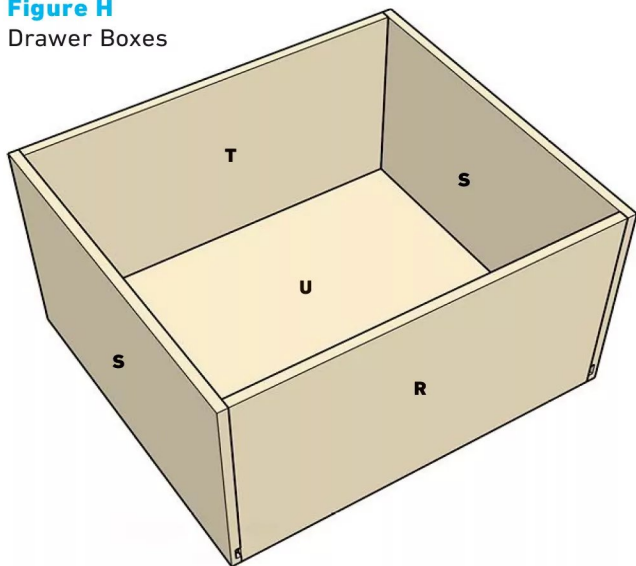


Figure H
Drawer Boxes



Secure ¼-in.-thick solid wood edgework on the top edges of the glued-up drawer box with glue and 23-gauge nails. Rout off the excess with a flush trim bit. Be careful not to tip the router as you ride it across the narrow top edge of the box.

Secure undermount slides to the sides (B) and divider (C) of the seat cabinet using ½-in. screws in the machined mounting holes. Make sure the slide fronts are set back about ⅛ in. from the front edge of the opening.

Install the locking

devices required with undermount slides on the underside of the drawer bottoms (U) and drill bore holes at the back of the box, per your specific drawer slides' instructions, to keep the box from coming off the slides. Then clip the finished drawer box on the slides.

10 ASSEMBLE THE CASEWORK

This piece is big and difficult to move through doorways, so assemble the casework in the room where it will stay.

Use wood glue, clamps and a few 23-gauge nails



to attach the finished seat top to the seat cabinet, ensuring the back edges are flush.

Clamp the completed slat wall and tall cabinet with the back edges and tops flush. Join them with 1 ⅝-in. screws

through the inside of the cabinet side (G) into the side frame (N) of the slat wall.

Center the attached tall cabinet and slat wall on top of the seat cabinet and flush with the back of the seat.



Join them with 2-in. screws from inside the drawer openings through the seat cabinet top (A) and seat plywood (X) into the bottom of the tall cabinet (F). From the top, screw down along the bottom frame of the slat wall (P) through the seat top (X) and into the top of the seat cabinet (A) to secure the slat wall to the seat, making sure the side of the tall cabinet and slat wall are square.

Center the upper shelf between the top of the slat wall (P) and the top of the slat wall spacers (L). Screw through the back of the slats (M) into the shelf back trim (DD) and through the tall cabinet side (G) into the shelf side trim (CC). Ensure it is attached level side to side and front to back.

11 BUILD AND INSTALL THE DOOR AND DRAWER FRONTS

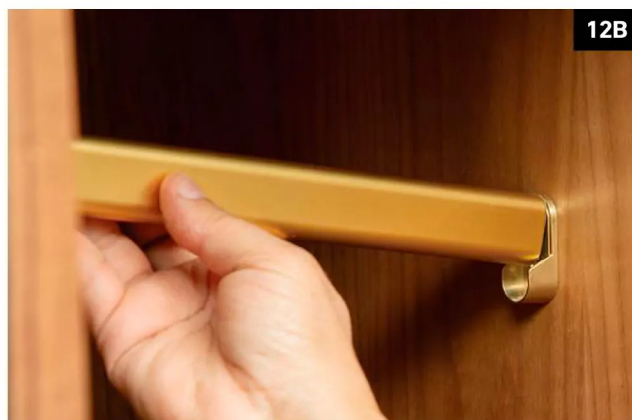
Edgeband the door (W) and drawer fronts (V) with $\frac{1}{4}$ x $\frac{3}{4}$ -in. paint-grade birch. For a seamless look, use wood filler to fill the seams between the edgebanding and the

plywood before priming and painting.

To install the door (W) on the tall cabinet, drill four $1\frac{3}{8}$ x $\frac{1}{2}$ -in.-deep holes with a Forstner bit for $\frac{1}{2}$ -in. overlay frameless European hinges. Drill two holes centered 3 in. from the top and bottom and equal distance ($21\frac{1}{16}$ in.) between them for the other two. Attach the hinges square to the door (W) using predrilled #6 x $\frac{1}{2}$ -in. screws, and install the hinge clip to the tall cabinet side (G) so it aligns with the hinges using the same $\frac{1}{2}$ -in. screws.

NOTE: There are many $\frac{1}{2}$ -in. overlay frameless hinges on the market—follow the installation instructions for the exact hinges you choose.

To install the drawer fronts (V), click the drawer boxes into their installed slides and predrill four holes in the corners of the drawer box fronts (R) from inside the boxes. Then mark the $\frac{1}{2}$ -in. overlay on the edge of the seat cabinet face and stick the drawer fronts (V) in place using a few



pieces of double-sided tape. Open the drawer and join the drawer fronts (V) and drawer box fronts (R) with 1-in. screws through the predrilled holes.

12 FINISHING TOUCHES

Use wood filler on visible nail holes and touch up the paint or polyurethane where needed. Install the door handle and drawer pull hardware and the closet rod, leaving at least 4 in. above the top of the rod for taking hangers in and out. Place the adjustable shelf (K) on the shelf pins in the lower compartment of the tall cabinet.

If the hall tree won't be sitting against a wall, add a stop behind the hooks (L) so they

don't rotate all the way around. Attach a 4-in. piece of leftover $\frac{1}{4}$ x $\frac{3}{4}$ -in. edgebanding to the back of the slats (M) behind where the bottom edge of the hooks (L) rotates when pulled down. Secure the stops with CA glue and a couple of 23-gauge nails.

Finally, to keep the hall tree from tipping if a child were to climb on it, tie the top of the slat wall or tall cabinet into a wall stud in the final location using a metal angle bracket and the appropriate screws. •

Form Meets Function

Visit our website to see how all the project components come together.

A person wearing a blue jacket and jeans is using a green shovel to clear snow from a sidewalk. The person's legs and feet in brown leather boots are visible in the lower left. The shovel is positioned in the snow, and the background is a bright, snowy landscape.

ULTIMATE GUIDE TO **Snow Removal**

A winter wonderland doesn't have to be stressful. Here's how to make winter storms easier on you and your home.

BY KARUNA EBERL

Protecting Your Home

Clearing snow is an essential part of winter home maintenance

After you've shoveled the sidewalk and driveway, tackling the roof, doorways and patio might sound like drudgery, but these steps are all important for preventing damage to your home. "Snow looks harmless when it's fresh and fluffy, but once it settles and stacks up, it can cause serious issues," says Reuben Saltzman, a second-generation home inspector and CEO of Structure Tech Home Inspections in Minnesota. Here's how to prevent and mitigate those problems.

When to Clear the Roof

The general rule is to clear snow off of your roof once it reaches 6 in. deep. That helps prevent leaks, structural damage and, in extreme cases, collapse. This is especially vital if your home has an older roof that's sagging or that might not be built to modern snow-load codes. Pro tip: Remove snow sooner rather than later, before it gets packed down and becomes more difficult to move.

How to Safely Remove Roof Snow

A roof rake, which is a long tool that you use while standing on the ground, is the safest tool for this task. If your roof is too high to reach with one of those, the safest solution is to call in a pro, since a snowy roof can be dangerously slippery. However, if you're determined to DIY the job, use a sturdy ladder and tie yourself off



with a safety harness and rope. "Better yet, have a second person with you to hold the ladder," says Dan Staupe, a roofing expert with Compass Exteriors in Minnesota. "It's important to remove the snow, but please don't put yourself in danger!"

All About Ice Dams

Ice dams are ridges that build up on the edges of a roof, preventing water from properly draining off. They can also lift shingles and create leaks into soffits, walls





“Ice dams can severely damage your roof and your home.”



and ceilings. To prevent them, clean your gutters before winter, consider installing heated roof cables and remove snow from the roof regularly.

Since ice dams are caused by heat from the inside of your roof melting the snow (which then refreezes), you’ll probably also need to insulate and seal air leaks in the attic. “But also ventilate it to allow the cold air to circulate,” Staupe says. “I know it seems like a lot of effort, but it’s entirely worth it. Ice dams can severely damage your roof and your home.”

If your roof has developed an ice dam, clear the shingles above the dam using a roof rake. As the sun hits them, it will speed up the melting process. Never try to chip or pry off an ice dam, as that can damage the roof.

“You can also lay a sock filled with calcium chloride perpendicular to the dam to help melt

a drainage path, but that’s a Band-Aid,” Saltzman says. A pro can also remove an ice dam using steam.

Why You Should Bother with Snowdrifts

Snowdrifts around entrances and on patios aren’t just annoying and hazardously slippery, they can also damage the house. All that moisture melting and re-freezing will eventually infiltrate your siding, thresholds, door frames and even the foundation. “We also see a lot of damage at patio doors and back entries, areas homeowners often forget to clear,” Saltzman says.

To cut down on drifts, plant shrubs and trees or install fences as windbreaks. Awnings can also help keep snow away from entrances. “Of course, good old shoveling is also essential, so it won’t accumulate into a drift,” Staupe says.



Shovel Smarter

There's more to shoveling snow than a display of brute strength. Follow these nine expert tips for safe snow removal.

1 DON'T WAIT

It's much easier to move light and fluffy freshly fallen snow. "Once it gets heavy or packs down, you're fighting it," says Steve Kesselman of Puget Construction & Landscape in Bellingham, Washington. During larger storms, this might mean taking a pass or two while the snow is still falling, rather than waiting until the end.

2 SPREAD ICE MELT EARLY

Most ice-melt products are designed to be spread before the sidewalk gets slick, so use it just before the storm starts. "If you're out of salt, one trick is to use fresh coffee grounds on icy steps or walks," says Kesselman. "It gives you some grip and can speed melting more than using nothing at all."

3 DIVIDE AND CONQUER

Start by clearing a swath straight down the middle of the sidewalk. "This gives you a path to walk on, plus it makes the whole project feel less daunting, since you're dealing with two more-approachable areas rather than one huge one," says Kesselman.

4 WORK IN LAYERS

With deep snow, don't try to shovel all the way down to the pavement in one fell swoop. Instead, skim half of the snow off the top, then shovel the rest. "This is especially helpful for people who might not be able to lift a full scoop of thick, wet snow," says Kesselman. Also, don't forget to wear layers of clothing, plus winter gear including boots, a hat and warm gloves or mittens.

5 CHOOSE THE RIGHT SHOVEL

Metal blades are effective on icy sidewalks, but always use plastic ones when shoveling wooden decks or other damageable surfaces. Look for a shovel with a sturdy, ergonomically bent handle to ease strain on your back.

6 PLACE HANDS CORRECTLY

How you place your hands is as important as the handle's design, says Dani Singer, personal trainer and director of Fit2Go Personal Training. "Shorten your hand leverage to reduce arm and back strain, and if the handle is straight, slide your front hand close to the blade," he says.

7 LIFT WITH YOUR CORE

Try to push the snow instead of lifting it, and when you must lift, use your legs, not your back, says Singer. "Your lower back's job is stabilization, not lifting," he says. "Keep the spine neutral, ribs stacked over hips, and brace before you move." Also, keep your torso upright, drop by bending your knees, like a squat, and drive through your legs to stand, rather than folding at the waist.

8 DON'T TOSS SNOW

Avoid throwing snow, especially behind you, as that twisting motion is an easy way to hyperextend and injure yourself. Instead, face the place where you want to drop the snow straight on. "If you must turn, pivot your feet and hips together and set the snow to the side," says Singer. "Stay braced until the shovel is empty and you are back in a stable stance."

9 PACE YOURSELF

"Snow removal will wear you out faster than you think," says Kesselman. Start with the most important areas, and take frequent breaks. Stretch before you start, and if you feel any pain or other health concerns, stop, rehydrate and warm up. Also, if you have heart health issues, consult your doctor before doing any shoveling.



How to Start a Two-Stage Snow Blower

If you own this type of machine, here's the right way to start it up safely

BY ROBERT MAXWELL

Snow blowers come in two basic types: one-stage and two-stage. One-stage blowers use an auger to pick up snow and discharge it through a chute. Two-stage blowers add an impeller, which shoots snow clear of

the machine (and your driveway) for faster removal.

Before the first snowfall, do a quick preseason tuneup to ensure your machine operates smoothly (see Figure A). Then follow these steps to start a two-stage blower.



1 CHECK THE OIL Park the blower on a flat, level surface. Pull out the dipstick, wipe it clean with a paper towel then reinsert it. Remove it again and examine the high and low markings carefully. If the oil level is between them, you're good. If it's low, add more oil of the type specified in your owner's manual.

FROM TOP: HERMAN BRESSER/GETTY IMAGES, BANKSPHOTOS/GETTY IMAGES

LUBRICATE ALL METAL LINKAGE JOINTS WITH MOTOR OIL

LUBRICATE THE CHUTE CABLE, GEARS AND LINKAGE WITH THE PROPER LUBE

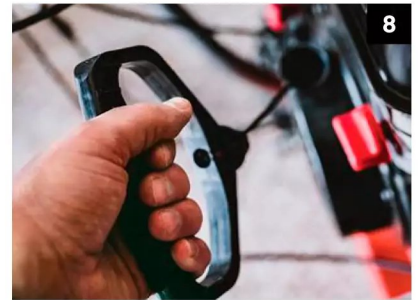
CHECK THE CONDITION OF THE BELTS

LUBRICATE THE AXLE WITH MARINE GREASE

COAT THE SECOND-STAGE IMPELLER WITH SILICONE SPRAY

WAX THE INSIDE OF THE CHUTE WITH A PREMIUM POLYMERIC CAR WAX

Figure A
Preseason Maintenance



2 CHECK THE FUEL LEVEL
Open the fuel cap to see how much fuel is in there. Add more, if needed. Your snow blower may have a fuel indicator gauge to check as an alternative.

3 FIND THE FUEL VALVE
Look for a valve labeled “fuel valve” or “fuel shutoff.” Turn it to the “on” position.

4 POINT THE CHUTE IN A SAFE DIRECTION
Locate the crank handle that controls the direction of the chute. Crank it until it’s in a position that will shoot the snow away safely and not back toward you or into your garage when the auger is engaged.

5 TURN ON THE ENGINE
Find the engine switch and turn it on.

6 OPEN THE CHOKE
Look for a sliding knob labeled “choke” and pull it all the way out. This is the open position. Some models may have a switch or a dial. Make sure it’s in the “choked” or on position.

7 ADJUST THE THROTTLE
The engine speed controller is also known as the throttle. Turn it to the maximum speed.

8 START THE BLOWER
If you have an electric model, turn the key. If it’s not electric start, pull the cord. You may need to pull briskly until the machine starts up.

9 CLOSE DOWN THE CHOKE
Let the snow blower run for a few minutes with the choke fully open. The colder the air temperature, the longer you’ll need to let

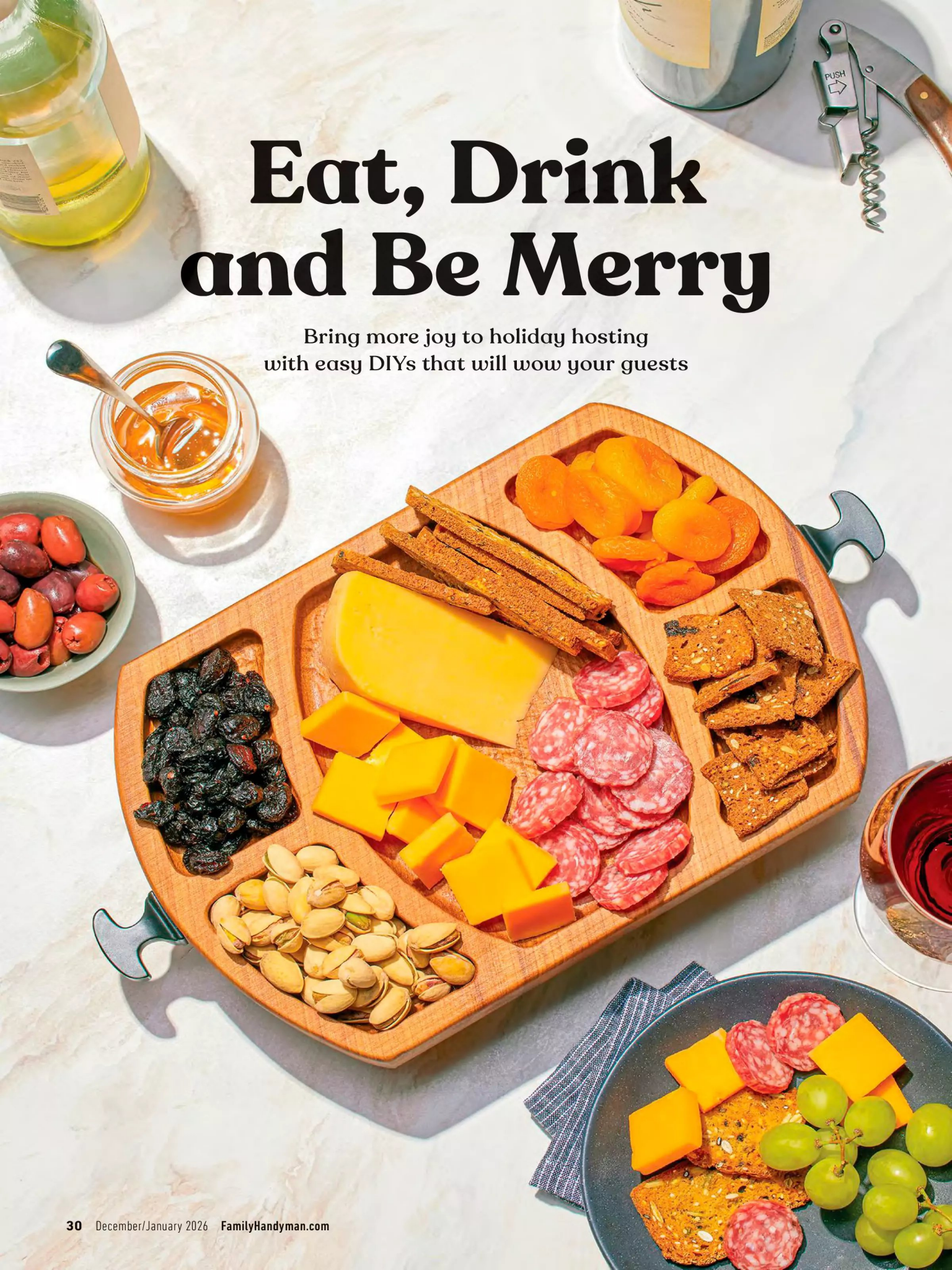
it warm up. When you notice the snow blower beginning to run a little ragged, slowly close the choke halfway.

Wait another minute or so, then fully close the choke. If the machine starts running rough, you closed the choke too soon. Open it back up to the halfway position and wait a little longer.

10 START BLOWING SNOW
Once the machine is warmed up, pull in the clutch handle. Put it in forward gear, then engage the auger. The controls are within easy reach when you stand behind the machine, but operation varies from one model to the next. If you’re unsure how to run your blower, read the manual or watch a YouTube tutorial for your model. Slowly squeeze the traction control handle, then start blowing snow! ●

Eat, Drink and Be Merry

Bring more joy to holiday hosting
with easy DIYs that will wow your guests





Lazy Susan

This rotating tray fit for a feast displays your craftsmanship from all angles

BY CARMEN DE LA PAZ

Most people think of a lazy Susan as a simple circle that spins on a table. I decided to take the idea up a notch by turning it into a charcuterie board. With elaborate boards popping up everywhere—from restaurants to weddings and house parties—why not make one that spins?

Shaping the tray is easy with an acrylic router template, and installing the lazy Susan mechanism is simpler than you might expect. Follow this foolproof process and you'll have a beautiful tray for nuts, fruits, cheeses and cured meats, ready to steal the show at your next gathering.

1 SET UP THE ROUTER TEMPLATE

Cut the wood slightly larger than your acrylic router template. At its widest points, my template was roughly 12 by 8 in.

Position the template on the wood and trace it with a pencil so you have an established starting position. Clamp the wood and template to your bench so it won't shift as you rout.

2 BORE OUT THE POCKET SECTIONS

Use a router with a straight-cut bit to incrementally bore out the tray's pocket sections, introducing the moving bit with a plunge cut. Keep the base plate flat to the template and avoid tipping it. Straight-cut router bits do not have a bearing to guide them, so get as close as possible to the edge of the template while being careful not to nick the acrylic.

3 ROUT THE POCKET SECTIONS

Change to a dish carving router bit with a top bearing to refine the shape. Set the depth of the router bit so the bearing rides along the profile of the template.

Test the depth on a scrap of wood first. Don't let the base plate dip into the center of the pockets—it can create dings in your wood that will need to be evened out later.

4 ROUT THE OUTSIDE PROFILE

To make routing the outer edge of the tray easier, first trim the excess wood outside the template with a band saw or jigsaw.

Then, starting from the top face of the tray and using a pattern bit with a top bearing, rout the outer edge of the tray, running the bearing along the outside edge of the template. Adjust the placement of the clamps so you don't run into them as you work.

When the outside top edge has been routed, switch to a flush trim bit with a bottom bearing. Secure the tray face down and follow the profile you made when routing from the top.

Tools

- 1/4" round-over router bit (bottom bearing)
- 3/8" drill bit
- 1/2" straight-cut router bit
- Acrylic router template
- Band saw or jigsaw
- Clamps
- Dish carving router bit (top bearing)
- Flush trim router bit (bottom bearing)
- Lineman's or needle-nose pliers
- Nail set
- Pattern router bit (top bearing)
- Rotary tool with carving bits
- Router
- Screwdriver

Materials

Item	Qty.
3/4" scrap hardwood for base	
1 1/2" x 12" x 9" hardwood	
4" lazy Susan mechanism (square)	
CA glue	
Cabinet knobs (optional)	2
Assorted sandpaper	
Food-safe walnut oil	
Shop rags	



5 ROUND OVER THE EDGES

With a $\frac{1}{4}$ -in. round-over bit, round over all the edges along the top and bottom of the tray's outer profile. When rounding over the top, keep the router base plate riding flat along the top of the section divider wall, without letting it dip into the sections.

6 CLEAN UP THE POCKET SECTIONS

Use a rotary tool with a carving bit to clean up any uneven spots on the top edge and bottom of the interior sections. The goal of this step is to create a consistent texture, even out bumps and divots, carve off burn marks from the interior walls and produce a handcarved feel.

7 SAND THE TRAY

Sand the whole tray by hand—top and bottom, as well as inside each section. Start with 150-grit sandpaper, then move on to 220- and 320-grit to ensure a smooth surface. Hand-sanding prevents oversanding an edge, making it uneven or drastically changing the shape. Sand away any remaining tool marks as well.

8 OIL THE TRAY

Apply several coats of food-safe walnut oil to condition the wood. Lightly sand with 320-grit sandpaper between coats.

9 CUT THE BASE

Cut the base 1 in. larger than your lazy Susan mechanism

(e.g., for a 4 x 4-in. mechanism, cut your wood 5 x 5 in.). Cut a 45-degree angle 1 in. in at each corner. Be sure your base will not be visible under the top tray when it spins; this is particularly important when dealing with rectangular trays.

10 LAY OUT THE HARDWARE SCREWS

After cutting the base, use a pencil to draw an "X" connecting the midpoint of each 45-degree cut to the midpoint of the opposite cut. Center the mechanism over the "X" and mark the screw hole locations along the lines. Remove the mechanism and use a nail set to make starting points for the screws.



11 DRILL THE ACCESS HOLE

With the mechanism placed on the base, spin it a quarter turn and mark the location of one upper-plate screw hole. Drill one $\frac{3}{8}$ -in. hole at this mark. You will use it to access the upper-plate screws when you join the tray to the base.

12 ASSEMBLE THE LAZY SUSAN

Apply a coat of walnut oil to the base and tray with a clean shop rag, thoroughly covering the marked screw locations. Center the mechanism on the bottom of the tray and mark the placement for the upper-plate screws. With both the base and the top marked, secure the lower plate of the

mechanism to the base using $\frac{1}{2}$ -in. screws.

With the tray face down, center the base-mechanism assembly on its bottom. Secure $\frac{1}{2}$ -in. screws into the marked locations with a screwdriver through the $\frac{3}{8}$ -in. access hole, making sure the screws are well seated and do not pierce into the routed sections of the tray. Work your way around the base, spinning the base to find each screw placement through the access hole.

13 INSTALL THE KNOBS (OPTIONAL)

To install knobs on each end of the tray, cut off the head of the screw provided with the knobs.

Mark the center on each end of the tray, and drill a hole slightly larger than the screw thickness. Fill the predrilled hole with CA glue and insert the screw so the uncut end sticks out. Wait a few minutes for the glue to cure, then screw on the knob.

14 APPLY A FINAL COAT OF WALNUT OIL

Once everything is assembled, apply a final coat of walnut oil. Let the oil penetrate for 12 to 24 hours before using the tray.

Our Spin on a Lazy Susan

Visit our website to watch Carmen build this project.



Copper Napkin Rings

Etch a custom design and bring handcrafted flair to your holiday table

BY CARMEN DE LA PAZ

Family gatherings, holiday get-togethers, dinner parties ... no matter the occasion, customizing your dining table should be a fun challenge, not a chore. The trick is to be creative and personal without going over-the-top kitschy. And in my opinion, napkin rings are one of the easiest ways to set the stage for any table.

This handmade version features copper etching with a patina finish. The warm, rustic rings use precut copper pipe, so once you gather your supplies, you can finish a set in less than an hour and a half.

The best part? Once you know how copper etching works, you'll find plenty of new ways to use the technique in other projects. These napkin rings are a perfect introduction and guaranteed

to spark conversation at your next dinner party. Don't forget to say, "Yes, I made them!"

1 PREP THE COPPER PIPE

To ensure that the napkins fit easily and to leave ample room for a design, use copper pipes that are at least 2 in. long and 1 ½ in. in diameter.

The copper needs to be free of dirt, oil and fingerprints before it is etched. Oil residue is often left behind on pipes during manufacturing, and even the oil on your fingers can compromise the etching process, so wipe down each pipe with alcohol and a cotton rag or use packaged alcohol swabs.

2 MASK THE INSIDE OF THE COPPER PIPE

To prevent the inside of the copper pipe from being eaten away

and weakened by the etching process, mask the area with a "resist"—a material that resists (or seals out) the ferric chloride, such as paint, permanent marker or duct tape.

If you choose paint or permanent marker, let it dry completely before exposing it to the ferric chloride. If using duct tape, make sure it adheres well at the edges to prevent the ferric chloride from seeping underneath. The ferric chloride will attack all parts of the copper that haven't been protected or sealed. This is the biggest secret to etching—block what you want to keep and expose what you want to be etched.

3 DRAW YOUR DESIGN

Draw a design on the copper pipe with a permanent marker. I prefer to start with a fine-tip

Tools

Item	Qty.
Artist paintbrush	
Buckets	2
Permanent marker	
Plastic gloves	
Protective eyewear	

Materials

1½" x 2" copper pipe
Citric acid (powdered)
Clean shop rags
Clear spray sealer
Copper patina solution
Denatured alcohol or alcohol swabs
Duct tape
Ferric chloride
Fine-grit sandpaper

permanent marker and build up the thickness of the lines. The ink protects the areas you wish to highlight, while ferric chloride consumes the exposed copper, resulting in an embossed/debossed effect.

If you prefer not to draw your design by hand, a flexible stamp with permanent ink also works to lay out your design.

4 “FLOAT” THE COPPER For the best results, it is important to suspend the copper pieces in the etching solution. The etching process creates sediment that sinks to the bottom and could otherwise affect the project.

Start with a plastic tub or bucket large enough to hold all the copper pieces while they are suspended and deep enough to allow the pieces to be completely submerged. Then use duct tape to span the bucket and thread the pieces onto it so they will be submerged in the solution but suspended off the bottom.

Don a pair of plastic gloves and safety glasses. In a separate plastic tub, thoroughly mix enough ferric chloride to submerge the copper pieces and a tablespoon of citric acid. The citric acid will increase the potency of the solution, reducing the time required for it to etch. Let the

copper pieces soak in the ferric chloride solution for 1 hour.

5 REMOVE AND RINSE After the copper pieces have soaked for 1 hour, examine the depth of the etching. For more pronounced etching, leave the pieces in the solution for another 30 minutes. Check back every 30 minutes until you are satisfied.

Once you are happy with the etching depth, remove the copper pieces from the solution and rinse them under running water. Catch the rinsing water in a bucket or tub—any etching solution that flows down the drain will eat at pipe fittings and drain lines.

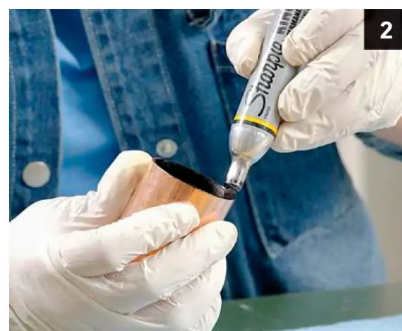
6 CLEAN AND SAND With alcohol, remove the permanent marker from the inside of the copper pipe and the surface of your design. Lightly sand along your design with fine-grit sandpaper (400-grit or finer) to reveal all the etching.

7 APPLY THE PATINA SOLUTION Apply the patina solution with a small brush and let it react with the copper for a few hours. Use the fine-grit sandpaper to sand back the high spots of your design and reveal the highs and lows between the shiny copper and the patina. If desired, apply multiple layers of patina solution for a more dramatic effect.

8 APPLY A SEALER To finish the napkin rings, seal the patina and copper with clear spray paint or polyurethane. This will prevent the patina from rubbing off on your napkin during your meal and keep the shiny copper bright instead of oxidizing. However, be aware that the sealer may slightly dull the patina.

See Etching in Action

Visit our website to follow along with a video of the etching process.



DIY Kegerator

Keep the cheer flowing
with frosty pours on demand

BY SAMUEL ROSENMYER



Need an easy way to serve plenty of cold top-notch beer or root beer this holiday season? Build your own kegerator! A kegerator is simply a refrigerator modified to hold and dispense kegs. It keeps beer icy cold and uses carbon dioxide (CO₂) to push it right into your glass.

Beyond the cool factor, a kegerator is much more affordable and eco-friendly than consistently buying cans or bottles. It also keeps beverages fresher for longer and makes serving a lot more convenient.

To get started, you'll need a refrigerator, a DIY kegerator conversion kit, a 5-lb. CO₂ tank and, of course, a keg. I suggest looking for a reliable used refrigerator on Craigslist or Facebook Marketplace, or at used appliance stores. The refrigerator I found was from a used outlet store and was slightly scratched, so I got it for a great price. It also came with a freezer on top—perfect for chilling mugs.

Conversion kits are available online, but all the parts can also be found at brewing supply stores. The kits generally come with a faucet handle, a faucet head, a shank, a hex nut assembly,

Tools

- 7/8" bimetal hole saw
- Adjustable wrench
- Assorted drill bits
- Drill
- Flathead screwdriver
- Level
- Protective eyewear
- Spanner wrench
- Tape measure

Materials

- #10 x 7/8" sheet metal screws
- 1/2-barrel keg
- 5-lb. CO₂ tank
- Hose clamps
- Kegerator conversion kit
- Marker
- Metal drip tray
- Painter's tape
- Refrigerator
- Soapy water spray bottle
- PTFE (Teflon) tape

a black rubber washer, a beer line, a keg (Sankey) coupler, an air line and a double-gauge CO₂ regulator.

You will also need a 5-lb. tank of food-grade CO₂. In my area, Truebrü Homebrew provides full and empty CO₂ tanks, but if you can't find such a place nearby, try contacting a distributor of industrial and medical gases.

With just a little planning and setup, you'll soon be pouring cold pints on demand. Get ready to be the hero of holiday hosting!

1 REMOVE THE SHELVES

Remove the interior shelves from the refrigerator and set them aside in a safe place.

2 TAKE MEASUREMENTS

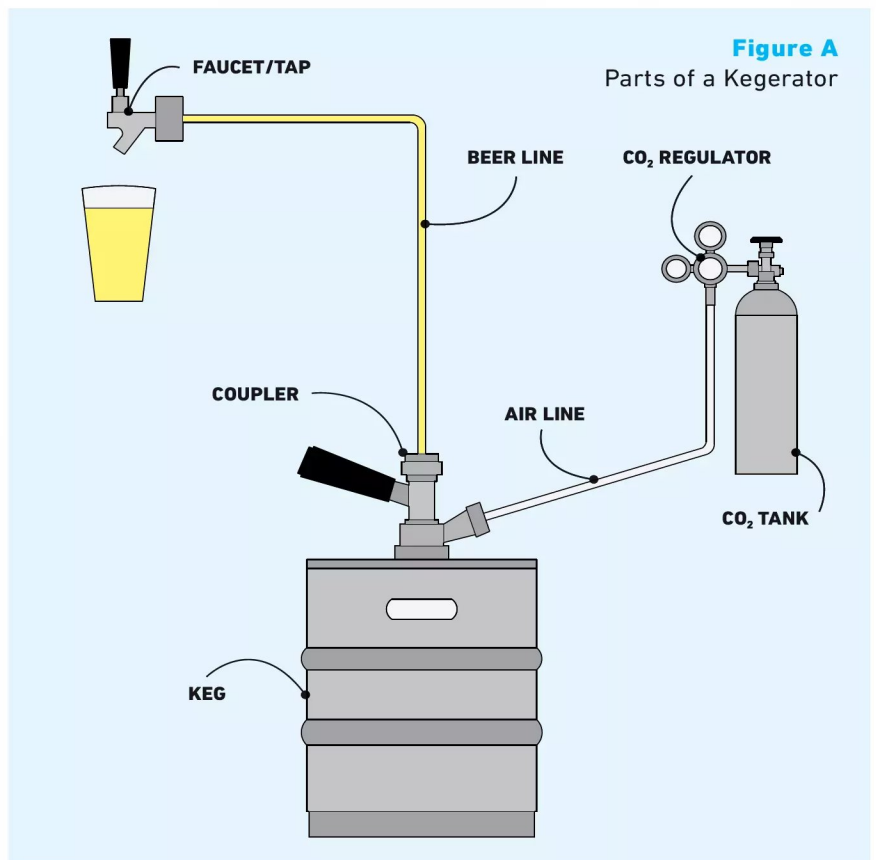
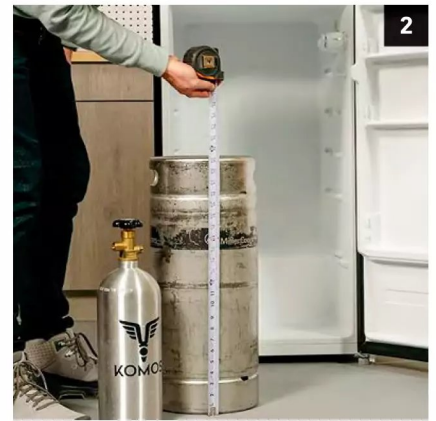
Before starting the installation, decide whether you'll store the CO₂ tank inside or outside your kegerator. Keeping it outside frees up space for larger kegs (or multiple small kegs if you want to install multiple taps). It also makes changing the CO₂ tanks easier. That said, it requires drilling an extra hole in your refrigerator, and it may not look as neat from the outside.

Given these factors, I chose to house the CO₂ tank inside the kegerator. Measure the inside of the refrigerator and all the components carefully to ensure the CO₂ tank, keg, CO₂ regulator, keg coupler, beer lines and air lines will all fit inside.

3 DETERMINE THE FAUCET LOCATION

Inspect the shelves on the inside of the refrigerator door. Choose a faucet location that provides enough space for the shank to go through the door without hitting a shelf. If your refrigerator has a freezer on top, be sure to leave enough clearance so the tap handle doesn't get bumped when you open the freezer door.

With a tape measure, determine a precise location for the faucet head, then place painter's





tape in that area and mark it. The tape helps prevent chipping as you drill.

I placed my faucet 10 in. from the top of the refrigerator door and centered from side to side. I'm planning to install a longer faucet handle in the future, and this location ensures it won't interfere with opening the freezer door.

4 DRILL A HOLE

Predrill with an $\frac{1}{64}$ -in. drill bit, then drill a $\frac{3}{8}$ -in. hole through the front of the refrigerator door using a bimetal hole saw. Drill completely through the metal and plastic, leaving a nice clean hole for the shank to fit through. Clean any debris out of the hole.

5 ATTACH THE FAUCET

Assemble the faucet by hand-tightening the faucet head to the shank. Then use a spanner wrench to tighten it further. Attach the faucet handle

to the faucet head by turning it clockwise until it is secure.

Place the black plastic flange around the faucet shank and insert the shank of the assembled faucet into the hole in the door. On the inside of the door, tighten the shank with the flanged lock nut using an adjustable wrench until it is secure but not so tight that it compresses the door panel.

6 INSTALL A DRIP TRAY

The drip tray should be centered about 10 in. below the faucet spout. Measure and mark the location, predrill pilot holes and use $\frac{3}{8}$ -in. sheet metal screws to secure it level on the door.

7 CONNECT THE BEER LINE

Insert the black rubber washers into the hex nuts located on both ends of the beer line. Attach one end of the beer line to the faucet shank and the other end to the top of the keg coupler. Hand-tighten these

first, then use an adjustable wrench to compress the washer slightly and make the connection liquid-tight.

8 CONNECT THE AIR LINE

Connect one end of the air line to the nipple on the side of the keg coupler. Use a hose clamp and a flathead screwdriver to secure the air line tightly to the keg coupler.

Take the opposite end of the air line and slide it over the nipple of the CO₂ regulator. Again, use a hose clamp and a flathead screwdriver to secure the air line in place.

9 CONNECT THE REGULATOR TO THE CO₂ TANK

Wrap PTFE tape (aka Teflon tape) clockwise around the valves on the CO₂ tank. Tighten the CO₂ regulator nut onto the CO₂ tank valve outlet by hand, then use a wrench to finish tightening it.

10 SET THE CO₂ TANK PRESSURE With the tap handle and regulator shutoff valve closed, open the valve located on top of the CO₂ tank to its fully open position. Take note of the psi dial. The CO₂ pressure should be between 10 and 14 psi. Adjust the regulator adjustment knob in the middle until the gauge displays a pressure reading within that range. You may need a screwdriver to adjust the knob, depending on your regulator.

Then open the regulator shutoff valve by turning it to the vertical position. This ensures that beer won't flow back into the air line when tapping the keg.

Check for leaks by spraying the connections with soapy water. If bubbles appear, it indicates a leak, requiring better sealing.

11 ATTACH THE KEG

Remove the keg dust cover. Ensure the keg coupler handle is set to the off position so the handle faces upward and is not depressed. Secure the keg coupler into the keg by pushing the tap into the barrel fitting and turning it clockwise until you cannot turn it any further. Then pull the handle out and push it down toward the floor until it locks in place.

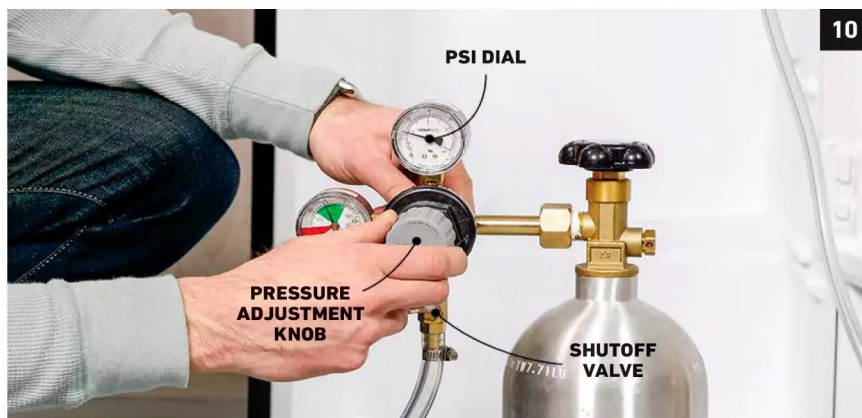
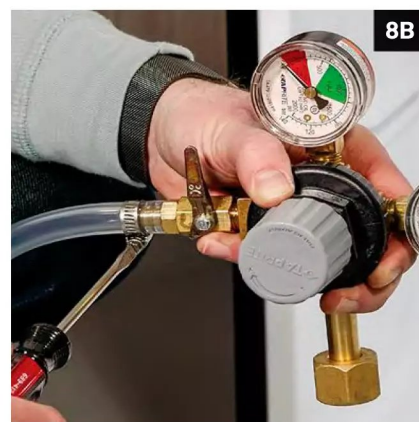
12 TEST POUR

Run a test pour into a glass by pulling the faucet handle down quickly and fully opening it to minimize excessive foam. If there is excessive foam, double-check that the psi on the pressure gauge is within the correct range.

TIP: To avoid excessive foam, let the keg settle undisturbed in your kegerator for a few hours before using it. This is also a good time to adjust the refrigerator's temperature to ensure that you are storing your kegs between 36 and 40 degrees. ●

The Perfect Pour

Visit our website to watch Samuel set up his kegerator.





Smooth Moves

The wrong power sander can leave your hands numb or ruin a finish in seconds. This guide covers what really matters when shopping, and includes my top picks for random orbital, belt and specialty sanders from real jobsite experience.

BY CATHY HARMS



Random Orbital Sanders

Learn what to look for and explore reliable models that deliver smooth, professional results on every job

Dust Control

Sanding is an inherently dusty process—you're removing a thin layer of wood with every pass. Good dust control clears dust particles from your work surface before they reach the air and your lungs. Most sanders include a bag or canister, but connecting the sander to a shop vacuum is more efficient for larger jobs. If a sander's dust port is too narrow for your vacuum hose, you can use an inexpensive adapter to fit most profiles. I like to attach my sander to a shop vacuum with a HEPA filter or to a Festool dust extractor, which captures particles down to 0.3 microns.

Comfort

Comfort matters when you're sanding for hours. A lightweight orbital sander—about 2½ to 3 lbs.—is easier to maneuver and reduces fatigue, especially overhead or on vertical surfaces. Vibration control is just as important; too much vibration can numb your hands over time and reduce precision. Look for sanders with comfortable grips and well-balanced designs that absorb shock—they'll let you work longer without strain. The right mix of low weight and minimal vibration makes long sanding sessions manageable and keeps your results smooth and consistent.

Speed

Orbital sanders measure speed in orbits per minute (OPM), usually ranging from roughly 7,000 OPM to 13,000 OPM. Higher speeds are ideal for sanding hardwoods or removing material quickly; lower speeds give a gentler touch on softer woods and veneer. Look for a model with variable speed control, which offers flexibility across projects instead of limiting you to one setting that may be either too aggressive or too light.



WORTH THE SPLURGE

Festool ETS 125 REQ-Plus Random Orbital Sander

\$296 • Upgrading from a budget sander to the Festool has been one of my smartest moves. It's well balanced, leaves surfaces virtually swirl-free and offers superb dust collection and vibration control. With the Festool, I no longer finish long sanding sessions with buzzing, numb hands.



LOW-PROFILE

DeWalt 5-In. Variable Speed Random Orbit Sander

\$99 • This lightweight, compact sander has a soft-grip rubber handle and reduced vibration for comfort and control. It includes a dust collection bag but performs best when paired with a DeWalt dust extractor or a shop vacuum adapter.



BUDGET-FRIENDLY

Skil 2.8-Amp 5-In. Random Orbital Sander

\$37 • Skil's versatile, variable-speed sander (7,000 OPM to 13,000 OPM) is comfortable and low-vibration. The clear dust canister shows when it needs emptying—helpful because the sander lacks a vacuum attachment.



MEET THE PRO Cathy Harms is an award-winning woodworker and instructor at Hope Renovations, a nonprofit that teaches women skilled trades and helps older adults age in place.



Belt Sanders

From years in the shop, I've learned what counts when picking a belt sander. Here's how to choose one that gets the job done.

Style

Hand-held belt sanders are portable, letting you move easily across large surfaces, follow curves and adjust on the fly. Benchtop models are fixed to a table or stand, running horizontally or tilted up to 90 degrees. They're ideal for shaping smaller pieces, rounding corners, fine-tuning miters and refining curves. Many models, such as the Rikon sander shown below, include a built-in disc sander for added versatility. In my shop, I use an affordable hand-held belt sander for mobile jobs and a benchtop belt/spindle sander combo for repetitive detail work.

Speed

Belt sanders differ in speed, which affects how aggressively they remove material. The Wen sander, for example, runs at a fixed speed of 820 feet per minute (FPM), providing efficient material removal for light- to medium-duty tasks. Other models offer variable speed (the Makita ranges from 690 FPM to 1,440 FPM), giving you greater control and flexibility for the job at hand. Even with a fixed-speed sander, using the right technique and sanding pressure can make a big difference in your results.

Belt Size

Narrow 2½-in. belt sanders excel at detail work, while 4-in. sanders are best for use on larger flat surfaces such as when trimming down warped boards or prepping a deck where surfaces are worn or uneven. But for most jobs, a 3-in. belt is the best all-around option. A 3 x 18-in. sander is light and easy to handle, ideal for shaping or "scribing to the line," a technique woodworkers use with a belt sander to get a base-board to follow an uneven floor. A 3 x 24-in. sander is heavier and covers more surface area, perfect for flattening wide panels.

Motor Type

Belt sanders typically use either brushed or brushless motors. Brushed motors are common and affordable, but they wear down faster because the brushes create friction, and they tend to run hotter under heavy loads. Brushless motors are more efficient, stay cooler and last longer. For serious woodworkers, a brushless model is the best choice. While it requires a bigger upfront investment, it pays off over time.

LIGHTWEIGHT

Wen 3 x 21-In. Belt Sander

\$51 • This sander's 7-amp motor drives the belt at 820 FPM for quick material removal. At just 6 lbs., it's easy to handle, and the tool-free belt changes are a convenient bonus. It's a budget-friendly choice for DIY enthusiasts and occasional users.



VARIABLE SPEED

Makita 3 x 21-In. Belt Sander

\$339 • I love my Makita sander. This 8.8-amp, 9.5-lb. powerhouse offers variable speed control and a helpful autotracking belt alignment feature. The dust bag keeps my workspace noticeably cleaner, though I still suggest wearing a dust mask.



BENCHTOP

Rikon 4 x 36-In. Belt/6-In. Disc Sander

\$180 • This belt/disc sander combo has a 4-in. belt that removes material quickly and a 6-in. disc suited for most shops. The tilting belt/disc table and easy-to-adjust belt tension and tracking make it stand out.



FROM LEFT: VIA WEN, VIA HOME DEPOT FOR MAKITA, VIA RIKON

Specialty Sanders

These sanders handle tasks my regular tools can't. When I'm tackling curves, corners or fine details, they save time, improve precision and help me achieve flawless results.



1. Oscillating Edge Belt/Spindle Sander

One of the best-value tools in my shop is the Ridgid Oscillating Edge Belt/Spindle Sander (\$299). The generous 19 x 24-in. work surface is perfect for shaping curves and handling tricky profiles. I also like the onboard accessory storage, which neatly holds the spindles, throat plate insert and washers. When I'm tackling detailed shapes, this tool delivers consistent, professional results.

2. Rotary Tool

With the right attachments, rotary tools have almost limitless uses, including cutting, drilling, carving, detail sanding and polishing. The Dremel Variable Speed 1.2-Amp Multipurpose Corded Battery Rotary Tool Kit (\$60) is compact, powerful and useful for everything from fine woodworking to model-making and craft projects. It gets into hard-to-reach areas without damaging your workpiece and can be used on wood, metal and plastic.

3. Detail Sander

For finishing trim, sanding tricky curves and reaching areas larger sanders can't, I rely on a detail sander. The small-but-mighty Skil PWRCORE 12 Brushless 12V Compact Detail Sander Kit (\$80) is easy to maneuver and gets into corners without a fight. A surprisingly handy sander perfect for pros, DIYers and hobbyists alike, it's ideal for trim work and small projects where precision and control matter. ●

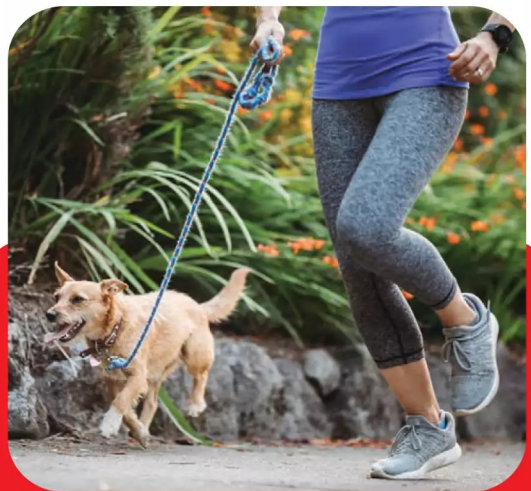
Put One Foot in Front of the Other

Every project starts with the first step—and your health is no different. But just how many steps do you really need to take each day to keep your heart strong and your body in top shape? Our friends at The Healthy teamed up with a Cleveland Clinic sports cardiologist to reveal the research-backed number that matters most.

Scan the QR code now
to Discover the Steps to a Healthier Life!



Credit : Getty Images



Toolkit

Best Pro Tips • Fix-It Focus • Handy Hints

Advice
from experts,
tips from
readers

BEST PRO TIPS

The Art of What's Left Behind

In a country that trashes more than 12 million tons of furniture every year, one resourceful woodworker is proving there's beauty—and a business—in the scraps

BY KELLY AIGLON



Milwaukee-area wood artist Ike Wynter didn't set out to launch a studio; he simply wanted to keep good material out of the landfill. "I've always been a dumpster diver," he says. While working for his family's junk-removal business, he noticed a frustrating pattern: Metal could be recycled and clothing donated, but flawed or chipped wood was destined for the dumpster.

Curiosity led him to start collecting it—boards from demolition sites, pallets from alleys, and fencing from yard waste piles. "I started picking it up and thought, *Could we repurpose this?*" he says. That instinct sparked a practice that still guides his work today. Here are just a few of the factors that led Wynter from tinkering with would-be trash to finding his niche, growing an audience and collaborating with major figures in sports and entertainment.

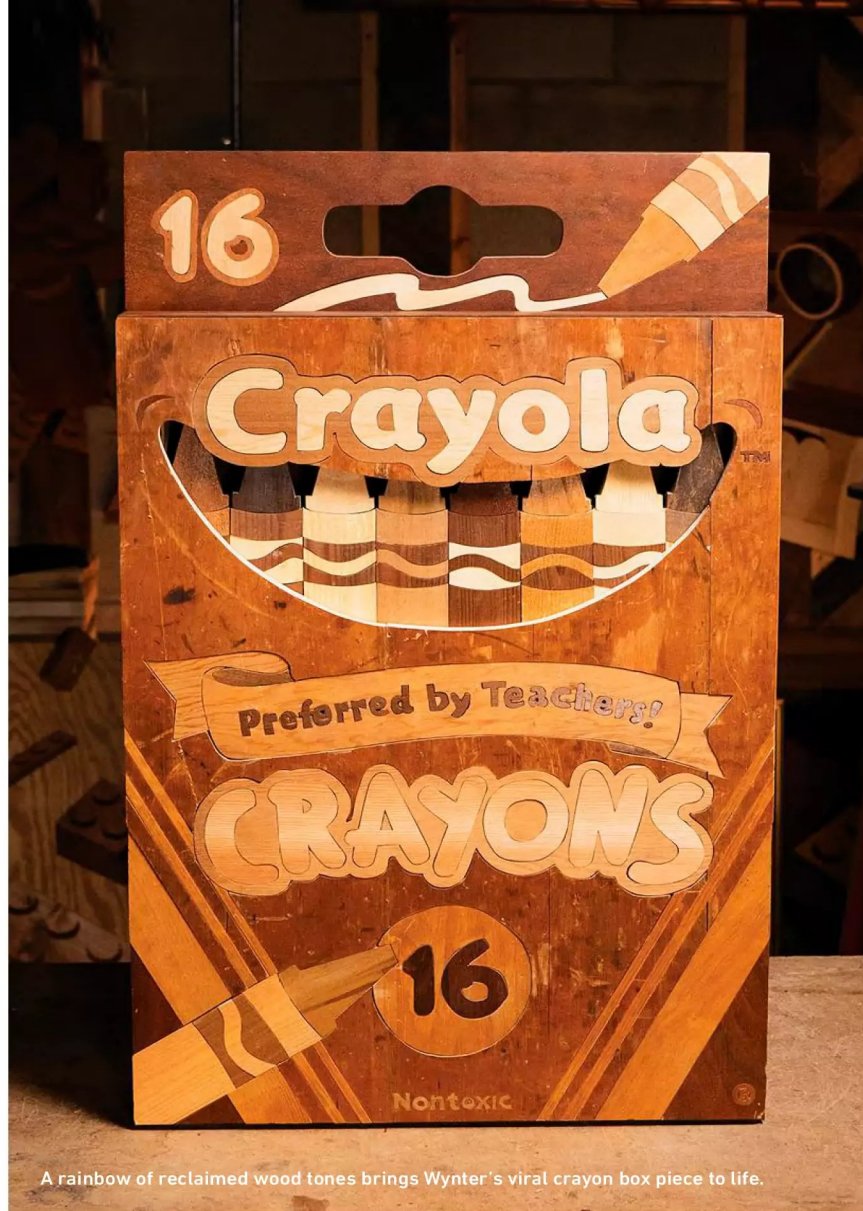
Starting Small

Between 2016 and 2020, Wynter experimented on nights and weekends. Armed with just a few basic tools, he started cutting, fitting and reimagining his collected scraps. Pallets were a favorite: "They're free, they're versatile and they're everywhere," he says. They were also tough to cut, which helped Wynter sharpen both his patience and precision.

At first, he built coffee tables—nine in a few months—but he soon discovered a passion for more artistic pieces, creating bold mosaics that highlighted the textures and colors of weathered wood.

From Hobby to Hustle

The COVID-19 pandemic gave Wynter more studio time and prompted him to share more of his artwork on social media. But a real turning point came offline: At a wedding, Ike showed photos of one of his pieces to a guest, who immediately asked the price. "I said \$750, and he Venmo'd me on the spot," Wynter says. "It wasn't about the money; it was



A rainbow of reclaimed wood tones brings Wynter's viral crayon box piece to life.

the respect that something I built from wood had that value."

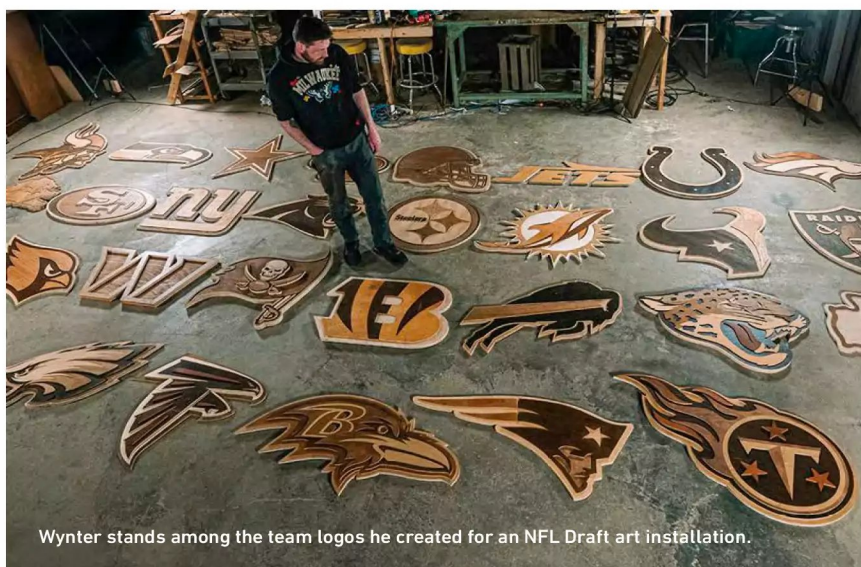
By 2021, Wynter had stepped away from the family business to briefly work with a Los Angeles nonprofit connecting kids with celebrities. That gig led to his first major commission: a heart-shaped Mike Tyson piece that incorporated the boxer's iconic face tattoo. "[The nonprofit] had followed me on Instagram and asked if I'd build something," Wynter says.

Back in Wisconsin by 2023, he committed fully to his art. His feed soon caught fire: A viral Crayola box piece opened doors to collaborations with the Milwaukee Brewers, the Milwaukee Bucks, the NHL's Stanley Cup and the NFL Draft. "Most of the time,

I make the art first, then brands reach out," he says. Posting consistently transformed him from a local artist into a national collaborator. But he's stayed grounded: "I'm not money focused. I still do it out of joy and curiosity; that's what keeps it alive."

Keep Your Toolkit Lean

While some woodshops are stacked with expensive equipment, Wynter keeps things simple. "Almost a decade in, I still use four tools," he says. A circular saw, jigsaw, miter saw and the essentials—such as a tape measure and pencil—carry him through most projects. "You don't need a giant arsenal. Simplicity keeps you creative."



Wynter stands among the team logos he created for an NFL Draft art installation.

While Wynter's toolkit has remained consistent, his material choices have evolved with each project. Pallets gave way to picket fences, then discarded dressers. Lately he's drawn to pre-painted or stained furniture. "If I found a purple dresser, that'd be gold. I don't stain or paint, but if it's already colored, I'll work it into the piece." The shift forces him to see familiar material with fresh eyes.

The Bigger Picture

Wynter's work underscores a larger environmental issue. In 2018, Americans discarded 12.1 million tons of furniture and furnishings, with more than 80% headed to landfills, according to the Environmental Protection Agency. Wood alone made up 18.1 million tons of municipal solid waste. While 95% of wood pallets are recycled, most other wood products aren't, meaning artists like Wynter are intercepting material before it's buried.

"Every day people throw away stuff I can use," he says. "It's not about saving the world, but if I can keep a little out of the landfill

and turn it into something people love, that feels right."

Making a Connection

Much of Wynter's art taps into nostalgia, forging an instant emotional connection with his audience. He repurposed fencing into a SpongeBob-inspired piece, and his viral Crayola box recalls childhood classrooms. "Nostalgia is the most powerful drug," he says. "If someone scrolling Instagram sees a piece that takes them back to a moment in life, that's a unique opportunity."

His dream commissions? Tony Hawk and Green Day, icons of his youth. "So much of my work is rooted in childhood and memory," he says.

Wynter's career may look unconventional, but the formula is simple: Keep your toolkit lean, work with what you find and let the material guide the outcome. His pieces don't just tell stories of nostalgia; they hold the history of every board, dresser or pallet that built them. For him, that's reason enough to keep cutting, joining and sharing. ●



MEET THE PRO Ike Wynter, a former junk-removal worker, is now a full-time maker. His work is rooted in sustainability and storytelling, proving even overlooked scraps can have a new life.



From Scrap to Success: 6 Tips That Pay Off

Take these cues from Ike Wynter's journey to make your woodworking hobby work for you.

- **Experiment first.**
Don't worry about perfection or profit—just start cutting. Early projects teach you what works and what doesn't.
- **Limit your tools.**
A few reliable saws and the basics will get you far and encourage you to think creatively.
- **Use what's free.**
Pallets, fencing and discarded furniture are great practice stock. They're cheap, abundant and full of quirks that challenge your skills.
- **Push your materials.**
Each year, try a new wood source or technique. Staying flexible keeps your creative process fresh and growing.
- **Build first, share after.**
Don't wait around for commissions. Make the work you want to see, then put it online. Finished pieces attract attention better than ideas alone.
- **Keep it fun.**
The fastest way to burn out is to treat every build like a paycheck. Protect the playful part of the process—that's what will keep you coming back.

Keep Your Kitchen Flowing

The sink, garbage disposal and dishwasher are interconnected. Use these tips and simple fixes to stop slowdowns.

BY FAMILY HANDYMAN EDITORS



Q: How do I know when my drains need cleaning?

Use your senses—sight, smell and hearing—to detect when drains need cleaning. Here are some common signs:

You hear the drain gurgling.

A partial clog in a sink, tub or shower drain can restrict water flow just enough to trap air, which bubbles up out of the drain and creates the gurgling sound. This is a good opportunity to use an enzyme-based drain cleaner. Follow the instructions on the container and stop using the drain for several hours to give it time to work its magic.

You smell unsavory odors.

If you can't pinpoint the source of a musty or unpleasant odor, it could be coming from a drain. Stinky clogs tend to be close to the drain opening because if they're deeper in the pipes, the water in the P-trap blocks the odor.

You see standing water.

Whether it's in a sink, bathtub or shower, or on the basement floor, standing water is a sure sign of a complete drain clog. When you see it in a plumbing fixture drain, the clog is most often in the P-trap, but it could also be deeper in the pipes. Usually this type of clog can be cleared with a plunger or a snake. If the P-trap is accessible, it's often best to disassemble it and actually clean it out.

LIGHTFIELDSTUDIOS/GETTY IMAGES



Q: Does the dishwasher really need to use all that hot water?

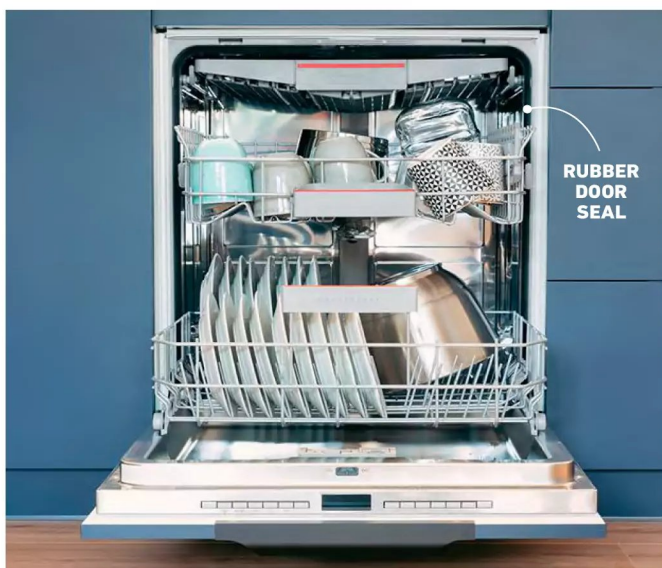
Most dishwashers heat incoming 120-degree water from the water heater to about 160 degrees to kill pathogens and dissolve detergent. The drying cycle can reach up to 170 degrees, so keep plastics on the top rack to prevent melting. While a dishwasher can run on cold water, it'll take longer and may wear out the heating element faster. Dishwashers use less water than hand-washing and they sanitize better, since water used for hand-washing isn't hot enough to kill harmful bacteria. Most cycles run about 90 minutes, but running your sink's hot water for a few minutes beforehand can shorten that time.



Smart Sink Installation

Replacing a kitchen sink is a quick way to give your space a fresh new look, but there are potential plumbing and installation problems to watch out for. Here are a few handy tips to keep in mind before you replace your kitchen sink to ensure a smooth, leak-free upgrade.

- **Measure the Tailpiece First.** A deeper basin might mean poor drainage if the tailpiece hangs too low. Measure between the basket strainer and the tee in the wall to ensure it clears—especially if you're adding a disposal, which can sit lower.
- **Confirm the Countertop Opening.** Measure your existing cutout before removing the sink, checking all sides and corners. Make sure your new sink fully covers the space; if not, enlarge the opening.
- **Remove All Old Caulk.** Scrape away every trace of old caulk before installation, using caulk remover for stubborn spots and wiping clean for a watertight seal.
- **Seal with Silicone.** Skip the plumber's putty—it can crack or harm some plastics. Use 100% kitchen-and-bath silicone for a lasting bond.
- **Test Shutoff Valves.** Close valves and check for leaks before starting. Replace faulty ones with quarter-turn ball valves for reliability.



Q: Why is my dishwasher leaking from the bottom of the door?

Eventually, almost all dishwashers end up with a dribbling leak from the lower corner of the door. If left untreated, it can warp and discolor the kitchen floor—a costly repair. In most cases, the leak is caused by a dirty or compressed black rubber door seal. Over time, detergent and food debris build up on the seal. When it dries out, it creates a film that makes the seal no longer watertight. Fortunately, the issue can be easily fixed by thoroughly cleaning the seal with water, some liquid detergent and an old toothbrush.

Occasionally, a door leaks because a water fill valve is stuck in the "on" position. This causes water to enter the dishwasher even when it's off or unplugged. If you open the dishwasher door and water pours out onto the floor, it's probably the fill valve. The solution? Turn off the water under the sink and replace the valve.



9 Things You Should Never Put Down a Garbage Disposal

The garbage disposal provides a quick, sanitary way to dispose of food waste, keeping trash bags lighter and landfills from overflowing. But even this hardworking kitchen appliance can struggle with certain items. Keep your disposal running smoothly and your drains clog-free by tossing these items in the trash instead:

- Corn husks
- Pasta
- Bones
- Oatmeal
- Nuts
- Onion skins
- Egg shells
- Pumpkin and fibrous vegetables
- Potato peels

Q: Can coffee grounds go down a garbage disposal?

Because coffee grounds don't dissolve in water, they have the potential to block up your plumbing. Fats from meats, dairy and cooking oils coat the pipes, thickening into large deposits. When coffee grounds go down the drain, they get stuck in this fatty buildup. Snaking the drain often isn't enough to clear the clogs—the snake bores through the deposits, creating a small hole for water to drain through, but when you retract the snake, the loosened pieces can get pulled back in and keep the sink gummed up. It will speed up your drain temporarily, but the problem will return.



Q: Why is my garbage disposal leaking from the bottom?

A dripping garbage disposal doesn't always spell disaster. Consider these common culprits to determine whether your leaky disposal can be repaired or needs to be replaced.

- **Worn internal seals:** Even high-quality garbage disposals have a shelf life. The most common cause of leaking from the bottom is failure of the seals around the internal bearings due to old age. These seals aren't usually replaceable—once they go, the unit often needs replacing.
- **Worn gaskets:** Gasket wear is common at the flange (where the disposal meets the sink) or at the drainpipe connection. Leaks can travel down the unit, making them look like base leaks. While replacing gaskets is possible, most disposals are already past their prime by then.
- **Cracks or corrosion:** Over time, interior shells can crack or corrode, leading to drips. In these cases, replacement is the only fix.
- **Loose connections:** Screws can loosen from age or poor installation, breaking the seal. This is typically an easy DIY or low-cost pro repair.



Q: The kitchen sink is clogged. What do I do?

If plunging doesn't help, clean the P-trap. First, loosen the slip nut on the trap arm assembly and wiggle the trap free. Then clean out any debris. Inspect both the P-trap and the trap arm for cracks or weak walls. If you see any wear, replace the part to avoid future problems. Reinstall the P-trap and test the line with warm water.



Q: How do I safely remove glass from my garbage disposal?

First, turn off the garbage disposal unit. If you want to be doubly protected, flip off the switch for the circuit breaker powering the unit. Trying to retrieve glass in a garbage disposal by hand is a recipe for disaster, so put on work gloves and use pliers or tongs to remove large shards. Arm yourself with a flashlight to get a better view into the hopper chamber. Then vacuum out smaller pieces with a wet/dry vacuum, following these tips:

- Use the hose attachment to access the base of the hopper. Let the vacuum run for a few minutes, until you can't hear any crunching.
- Only use a standard vacuum cleaner if the garbage disposal is completely dry. Getting the vacuum wet can lead to mold issues, malfunctioning and, in worst-case scenarios, the risk of electrocution.
- If you have a double sink, block the other drain to increase suction.
- Carefully empty the shop vacuum of glass pieces.
- Secret hack: If you don't have a shop vacuum, cut a medium potato in half, push it onto a fork and insert it into the disposal, cut end first. The small glass pieces often attach to the flesh, allowing you to lift them out. If there are many small pieces, you might have to use several potato halves.



Q: What is a dishwasher air gap, and why is it important?

The air gap is the mysterious 3-in. thing next to some faucets. It's part of the dishwasher's drain system and allows air to mix with the drain water so the water can flow away more easily. If there's no mixing with air, it takes much more force for the drain water to move. Dishwashers of all brands can be set up to use an air gap. It brings in fresh air from the kitchen, fills the vacuum and equalizes air pressure, allowing the dishwasher to drain properly. To keep it from clogging, rinse off your dishes before loading them.

Q: Do you have to run water while using a garbage disposal?

Running water helps flush food particles through the garbage disposal, into the trap and down the waste pipes without gumming up the moving parts. It's like swallowing an aspirin with a mouthful of water. It's not technically necessary, but it sure makes things go down easier! ●

Help for the Holidays

From decking the halls to packing up, these reader tips keep seasonal chores merry and manageable

Keep the Bubbles in Your Bubbly

If you have leftover champagne on New Year's Eve, slide the handle of a spoon into the top of the bottle before putting it in the fridge. The metal spoon won't exactly replace the cork, but it keeps the air in the neck cold and acts as an obstacle for escaping carbon dioxide, keeping your bubbly fizzy enough for morning mimosas. —Gregory Baptiste





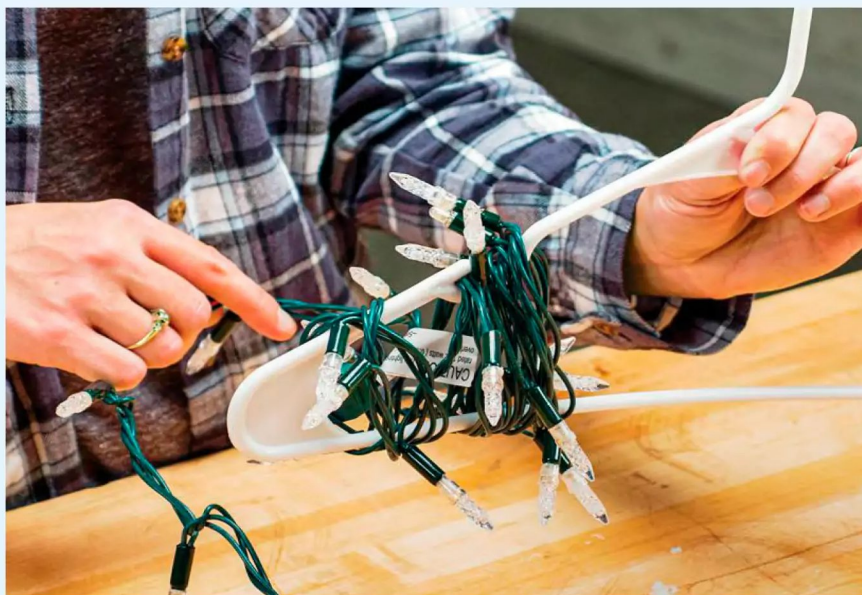
Protect Breakable Ornaments

To keep fragile ornaments safe, I store them in plastic cups inside a large plastic storage tub. You can stack lots of ornaments by placing cardboard between layers—just don't overpack each cup. For very delicate items, I add some bubble wrap and newspaper for extra protection. —Victor Kowalski



Crafty Uses for Christmas Scraps

I always have scraps left over after wrapping Christmas presents. Rather than toss them, I fill clear plastic ornaments (available at craft stores) with shreds of wrapping paper, bits of ribbon and pieces of old Christmas cards. I also cut the old cards into festive shapes for gift tags, punching a hole at the top so I can tie them on with ribbon. It's a fun way to give new life to materials that would otherwise go to waste. —Carolyn Whitmore



New Way to “Hang” Holiday Lights

Save yourself the stress of untangling a messy string of holiday lights by wrapping them around a hanger before storing them. Keep the lights neat as you wrap, starting at one end and working your way across with as little overlap as possible. If your string is quite long, you can wrap a second layer over the first, again with as little overlap as possible. This helps keep the cord organized and tangle-free for next season. —Gerald Perkins

“To help my Christmas tree last longer, I mix up a DIY preservative: 1 gallon of water, 2 cups of light corn syrup, 4 teaspoons of lemon juice and 4 teaspoons of bleach.”

—Joe Cruz



Quick Fix for Outdoor Inflatables

After a few seasons, I lost track of the patch kit for my Christmas inflatable. Luckily, electrical tape works just as well, and it comes in lots of colors to match the section you are repairing or reinforcing. I've found that doing the repair from the inside keeps things neat and makes it last longer. —Zachary Coleman



Christmas Ribbon Optical Illusion

To get the look of continuous billowing ribbon without the fuss, I cut the ribbon into shorter lengths (about 3 ft. each) and secure it to the tree with small pieces of floral wire. This way, I can tailor the look exactly to my liking and easily reposition my ladder without messing up my previous work. Green twist ties would also work well for this task. —Linda McFadden



Easy-Bind Boughs

When dismantling our artificial Christmas tree, we always used the ribbons it was originally packed with to tie up the boughs of each section. Last year, the ribbons finally wore out and we couldn't find a strong enough replacement. Instead, we came up with a terrific substitute: self-adhesive bandage wrap. The wrap is strong and reusable, it won't damage the tree and it's not very expensive. —Ken Pereira



Illuminate Your Holiday Table

To take Christmas dinner to the next level without spending a lot, try making these inexpensive centerpieces. Start by layering some greenery into a jar—I used clippings from a bush outside. Then sprinkle in a few cranberries and fill the jar with water. Top it with a floating candle, and voila! You're done! —Katie Greene



Makeshift Cooling Rack

During the holidays, I bake nonstop. When I need extra space, I pull out the ironing board, take off the cover and use it as a cooling rack. It gives me plenty of room and frees up the counters and tabletops for other baking prep. —Lydia Hargrove

“I use an old wrapping paper tube as a funnel for watering my Christmas tree. It saves my back and keeps the gifts dry!”

—Thomas Mercer



A Christmas for the Birds

I enjoy feeding backyard birds and wanted to include them in the holiday fun. I set a tomato cage on its circular top, tied the spokes into a point with green gardening twine, and attached bunches of greenery from the bottom up. Then I decorated it with a bird-friendly garland of cranberries and unsalted popcorn, pine cones and a star-shaped suet feeder. —Jill Staake

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Door Number One

A *Family Handyman* reader's handmade Advent calendar keeps a grandson busy with a new build each day



This Advent calendar was a gift for my 5-year-old grandson, Monty (shown above opening it on Day 1). Because he is Lego-obsessed, we filled each day with a small Lego build. I designed the calendar myself and built it from pine. The doors were the trickiest part. Each hinge is a 1/8-in. wooden dowel running through the left side of the door and captured by the upper and lower shelves. I left the dowels longer during installation for a better finger grip, then trimmed them flush once they were in place.
—Rick Stambaugh, North Berwick, ME ●

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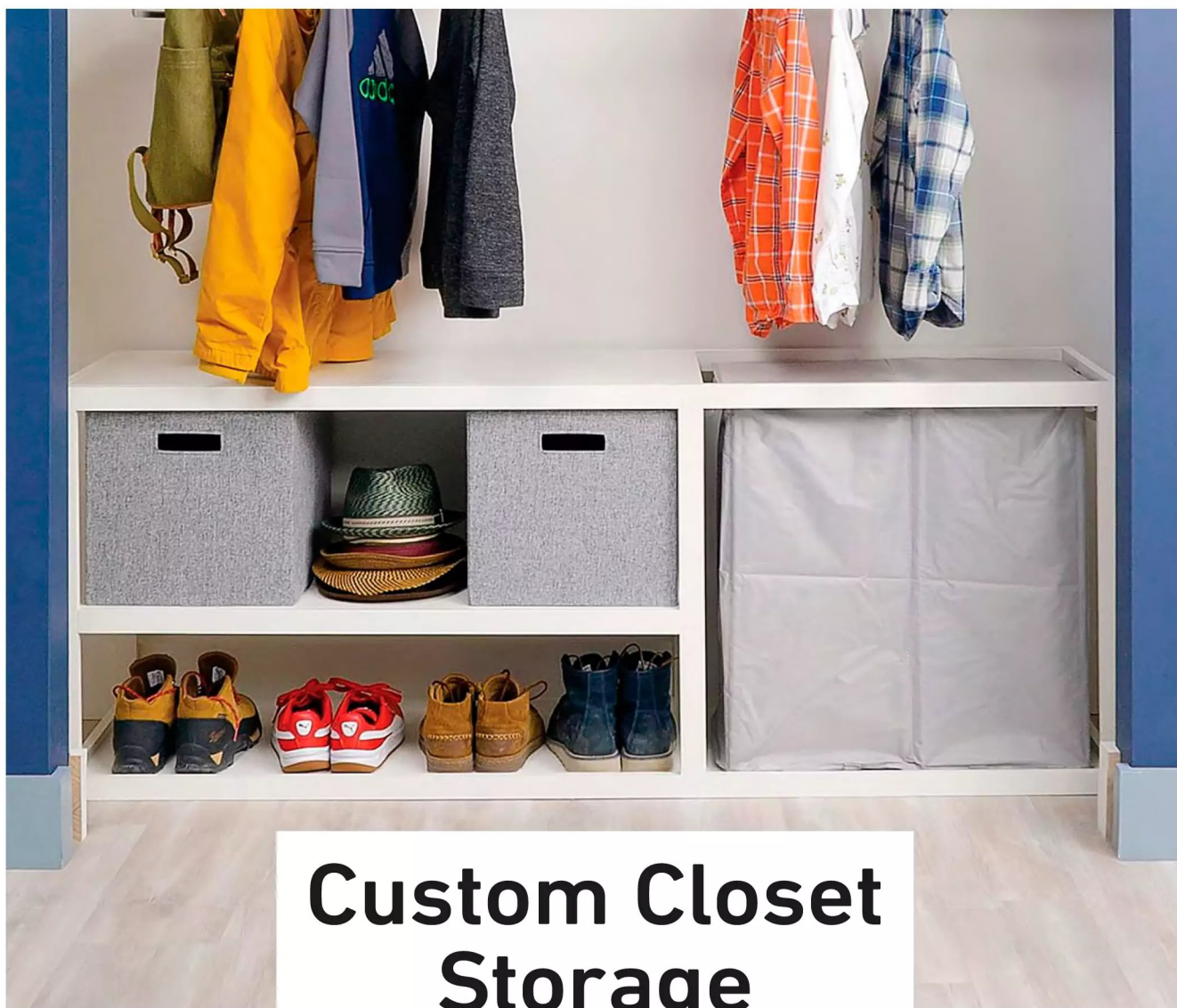
Step-by-Step Projects • Handy Hints • Great Goofs

**Bonus
Section!**
15+ ideas for
a tidy home



Whether you're sprucing up for holiday guests or starting the new year fresh, getting organized is one of the easiest ways to make any space look better and work harder. In this guide, you'll find practical projects and smart storage solutions for every corner

of your home, from a custom closet organizer to clever laundry room upgrades and quick tips for a tidier workshop. Visit our website for even more organizing how-to's, including the DIY garage pegboard project shown above.



Custom Closet Storage

Turn any closet into a clutter-free zone with this easy organizer you can build in a day

BY CARMEN DE LA PAZ

Closets are precious real estate in any home. That's why you've probably heard, "I don't have enough closet space" or "My closets are too small!" more times than you can count.

In search of ways to maximize closet space without sacrificing tidiness, I turned

to professional home organizer Rachel Winter of Happy Home Organizers. Her stand-out advice? "Don't put anything but a clothes hamper for laundry on the floor of your closet." It certainly makes sense—a clear floor instantly makes a closet look bigger and more organized. But who

wants to give up all that usable space?

Winter's insight sparked an idea: What if I built a customized closet organizer to hold a laundry hamper, storage bins and shoes, all while maintaining the illusion of a clutter-free floor? Here, I share my design and step-by-step instructions so you can

create your own and easily adapt it to your specific storage needs. "Everything in its place and a place for everything" is the perfect motto for this project.

Before You Begin

Cut and prepaint all the wood to make touch-ups easier. If you can purchase primed 1×2s,

TMB STUDIO

Tools

18-gauge brad nailer
Caulk gun
Clamps
Countersink drill bit
Drill
Level
Miter saw
Nail set
Painting supplies
Putty knife
Speed square

Materials

Item	Qty.
¾"x4x8 sanded plywood	1
1x2x8'	7
1½" 18-gauge brad nails	
2" screws	
Assorted sandpaper	
Paint	
Painter's caulk	
Wood filler	
Wood glue	

Cuts

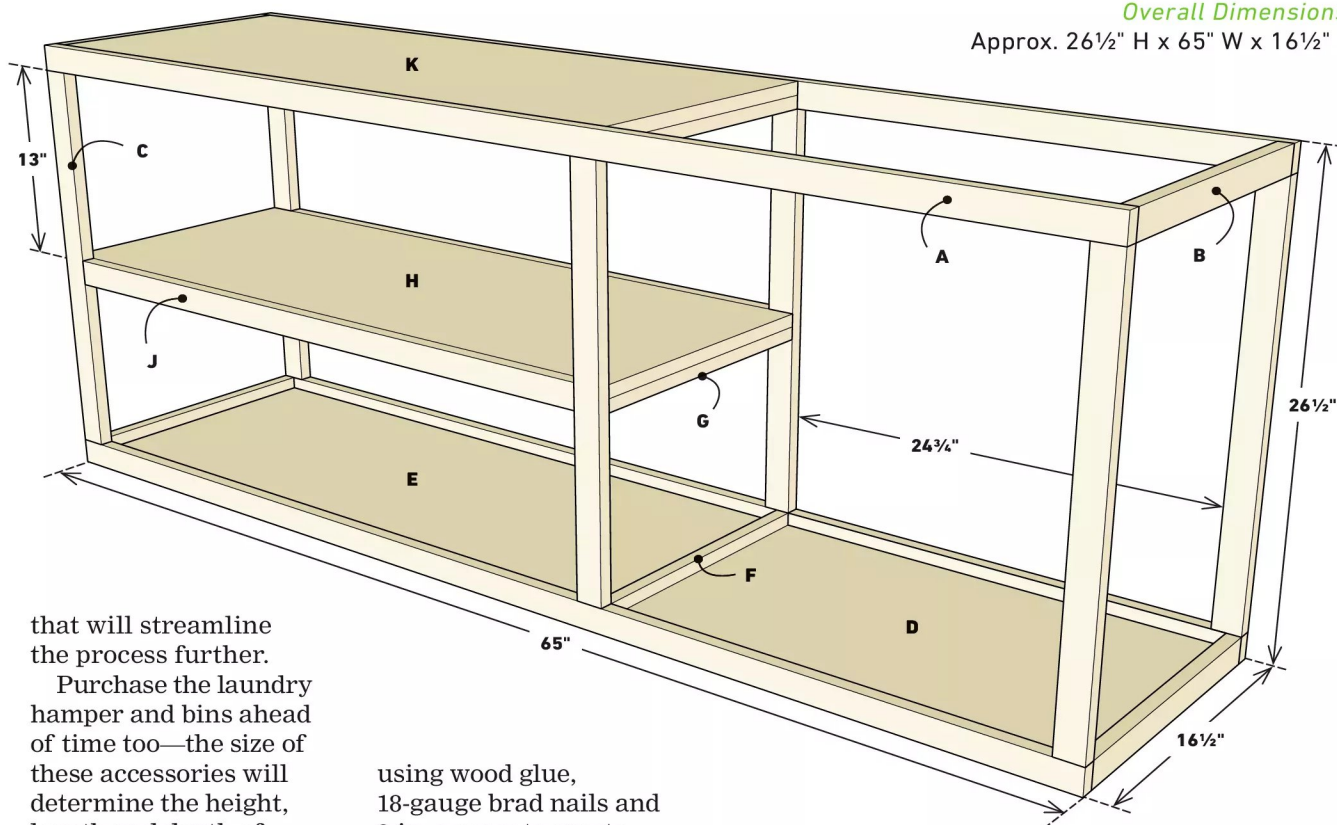
Key	Qty.	Dimensions	Part
A	4	¾" x 1½" x 65"	Long frame piece
B	4	¾" x 1½" x 15"	Side frame piece
C	6	¾" x 1½" x 23½"	Leg
D	1	¾" x 15" x 24¾"	Hamper bottom
E	1	¾" x 15" x 38"	Bottom shelf
F	1	¾" x 1½" x 15"	Bottom shelf divider
G	3	¾" x 1½" x 15"	Shelf support
H	1	¾" x 15" x 39½"	Middle shelf
J	2	¾" x 1½" x 36½"	Middle shelf trim
K	1	¾" x 15" x 38¾"	Top shelf

Figure A

Project Overview

Overall Dimensions:

Approx. 26½" H x 65" W x 16½" D



that will streamline the process further.

Purchase the laundry hamper and bins ahead of time too—the size of these accessories will determine the height, length and depth of your project. Be sure to allow some extra space for ease of access. For reference, our laundry hamper was 24 in. wide, 25 in. tall and 14 in. deep, and our fabric storage bins were 12¾ in. wide, 12¾ in. tall and 14¾ in. deep.

1 BUILD THE TOP AND BOTTOM FRAMES

Join the long (A) and side (B) frame pieces

using wood glue, 18-gauge brad nails and 2-in. screws to create frames for both the top and bottom of the completed unit.

2 DIVIDE THE BASE

Install the bottom shelf divider (F) between the long frame pieces (A) of the bottom frame so the hamper side is 24¾ in. wide and the other side is 38 in. wide. The latter will serve as the bottom shelf. Note: Adjust

these measurements accordingly if your hamper has different dimensions than ours.

3 INSTALL THE CORNER LEGS

Using wood glue and 2-in. screws, join the top and bottom frames with four legs (C), installing one in each corner (see Figure A).

4 INSTALL THE BOTTOM PLYWOOD

Install the hamper bottom (D) and bottom shelf (E) plywood in the openings on either side of the bottom shelf divider (F) using nails, wood glue and screws to secure the pieces flush to the bottom edge of the long (A) and side (B) frame pieces.



5 INSTALL THE MIDDLE LEGS

Install the last two legs (C) between the long frame pieces (A) on the front and back of the organizer so they are aligned with the hamper-side edge of the bottom shelf divider (F). Use a level to ensure they are plumb.

6 INSTALL THE SHELF SUPPORTS

Determine the shelf height at which your fabric bins will fit. Install the shelf supports (G) $\frac{3}{4}$ in. lower than this to account for the thickness of the middle shelf (H). On our organizer, the tops of the supports (G) were installed $13\frac{3}{4}$ in. below the bottom edge of the upper long frame pieces (A).

Glue, nail and screw the shelf supports (G) in place, level between the legs (C) on the left of the unit and the legs near the center of the organizer.

7 INSTALL THE MIDDLE SHELF

Install the middle shelf (H) flush to the outside edges of the shelf supports (G). Use a small

level to ensure the shelf is level. Secure it with nails and wood glue.

8 INSTALL TRIM ON THE MIDDLE SHELF

To cover the raw edges of the middle shelf (H) on the front and back of the organizer, install the middle shelf trim pieces (J) flush to the top of the shelf (H) and between the legs (C).

9 INSTALL THE TOP SHELF

Install the top shelf (K) flush with the top of the unit above the middle shelf (H). It may be easier to install this piece with the entire unit upside down. Use wood glue, brad nails and screws to secure the top through the long (A) and side (B) frame pieces at the top of the organizer.

10 FINISHING TOUCHES

Fill all nail and screw holes with wood filler and all visible seams with painter's caulk. Let the filler and caulk dry, then sand back the filler to create an even and level surface. Retouch the paint for a smooth finish.

Desktop Cord Organizer

Keep your devices charged and messy cords out of sight with this clever DIY box

BY SAMUEL ROSENMAYER



With so many devices needing daily charging, from smartphones and smartwatches to headphones, laptops and tablets, it can feel like a full-time job just keeping the cords under control. To put an end to the tangle and clutter, I built this elegant mahogany box

that not only organizes the chaos but also adds a little style to any desk or countertop.

There are plenty of wood options to choose from for this project. If you want to keep costs down, pine from your local hardware store works well, and you can always apply a darker stain. Since

I knew I would see this box every day, I decided to splurge on mahogany for its natural character.

I designed the box to keep cords tidy on my desk, but you could also build a larger version to organize cables for a TV or home theater system. In that case, consider adding

a few more front openings for cords to pass through.

Before you start, measure your surge protector—sizes vary, and you'll want it to fit easily inside the box. Pick up some inexpensive cable ties as well; they'll help you bundle the cables neatly inside the box and save space.



Cuts

Key	Qty.	Dimensions	Part
A	2	3/4" x 5 1/2" x 12"	Sides
B	2	3/4" x 3 1/2" x 4 3/4"	Ends
C	1	3/4" x 3 1/2" x 12"	Bottom
D	1	3/4" x 5" x 12"	Lid

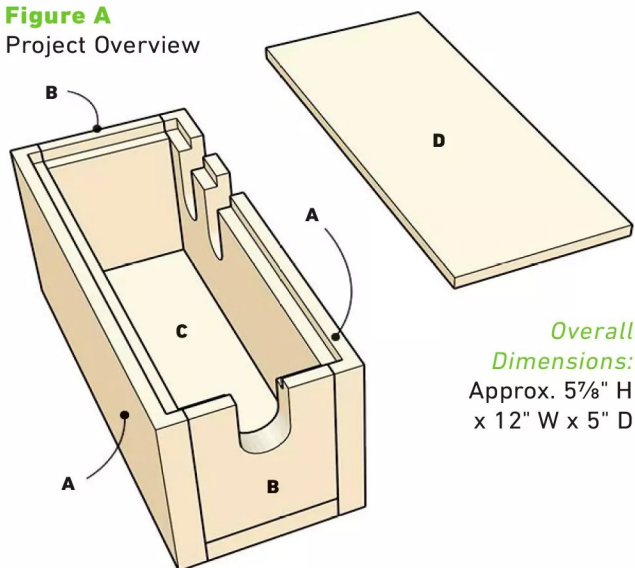
Tools

1" spade bit
1 1/4" spade bit
18-gauge brad nailer
Band saw
Chisel
Drill
Mallet
Router with straight cutting bit
Speed square
Tape measure

Materials

1 1/2" 18-gauge brad nails
Assorted sandpaper
Beeswax wood finish
1x6x6' mahogany
Wood glue

Figure A
Project Overview



Overall Dimensions:
Approx. 5 7/8" H
x 12" W x 5" D

1 CUT ALL THE PIECES

Using a tape measure and speed square, measure and cut the sides (A), ends (B), bottom (C) and lid (D) with a table saw or miter saw.

2 RABBET THE SIDES AND ENDS

Use a router and a straight-cut bit to rout 3/8-in.-deep x 3/8-in.-wide rabbet joints along the top inside edge of each side (A) and end (B). Use a straight piece of scrap wood clamped down as a straightedge to ensure your rabbet cuts are straight. When routing the rabbets on the two sides (A), start and stop the rabbet 3/8 in. before each end. Rout the rabbets edge-to-edge on the two ends (B).

3 RABBET THE LID

Rout the same 3/8-in.-deep x 3/8-in.-wide rabbet joint along all four edges on the underside of the lid (D).

4 CHISEL OUT THE CORNERS

The router bit leaves a rounded edge where you start and stop the rabbet on the sides (A). To make the lid sit flush, you must square out these corners. Use a square to lay out the square corners and a sharp chisel with a mallet to remove the material at the ends of the rabbets.

5 DRY-FIT

Hold all the pieces in place to check if any adjustments need to be made. Once everything fits as you'd like it, sand all the sides of all six pieces, including the rabbets, starting with 120-grit sandpaper and working up to 220-grit.

6 MAKE THE CORD OPENINGS

I chose to put three cord openings in the box: two on one side (A) for my day-to-day cables to run out of, and one at the end (B) for the surge protector cord.



I cut them all using the same process: marking the openings and drilling a hole with a spade bit at the end of each opening, then cutting from the top of the piece down to the hole's edge on the band saw, using the fence to keep the cut straight. I used a 1 1/4-in. spade bit to make a wider opening in the end (B) and a 1-in. spade bit in the side (A). I adjusted the height of the two openings on the side (A) to 2 1/2 in. long—versus the 2-in.-long opening on the end (B)—to account for the possibility of more and larger cords coming through these slots in the future. Feel free to add as many openings as needed for your particular cords.

Sand the edges of all cord openings down to 220-grit sandpaper, just as you did for the rest of the project.

7 ASSEMBLE THE BOX

Assemble the sides

(A), ends (B) and bottom (C) of the box using wood glue, clamps and 1 1/2-in. brad nails.

When the glue has set, remove the clamps and mix together some wood glue and leftover sawdust from routing until it has the consistency of thick peanut butter. Use this “putty” to fill the nail holes, working quickly before the glue hardens.

After you have given the glue in the “putty” time to cure, re-sand the entire project with 220- and 320-grit sandpaper to smooth out the filled holes and ensure everything is ready for the finish.

8 APPLY A FINISH

Remove any remaining sawdust with a microfiber cleaning cloth before applying a wood finish of your choice. I chose to use a natural beeswax and oil finish because of its matte finish and how well it brings out the wood's natural beauty.



Laundry Room Solutions

Try these fast and easy projects to create an orderly, efficient space with room for all your supplies



wire shelving and set it over the front of your utility sink. It's the perfect place to dry sponges, foam brushes and roller covers. Hang the paintbrushes from S-hooks so they can drip into the sink. When you're done with the shelf, hang it over the side of the tub so it's ready for your next painting project.

3 SUPER SIMPLE SHELF
Make laundry day easier with a convenient shelf for all of your detergents, stain removers and other supplies. You can build this simple organizer from 1×10 and 1×3 boards. If you have a basement laundry room, you may need to cut an access through the shelves for your dryer exhaust.

4 PAPER TOWEL HOLDER
In a cramped laundry area, paper towels always fall into the sink. Solve the problem by slipping a bungee cord through the roll and hanging it from wire shelving. Works great!

5 SKINNY LAUNDRY ROOM CART
To take advantage of oft-wasted space between or next to the washing machine and dryer (and to stop socks from falling into it), build a simple plywood cart on fixed casters to hold detergents, dryer sheets and other laundry supplies.

6 SPONGE HOLDER
Wet sponges never dry properly, and they become moldy and smelly. To give your nose a break, screw a sieve to the back of the sink to hold the sponges. They dry nicely, they're out of the way and they last way longer.



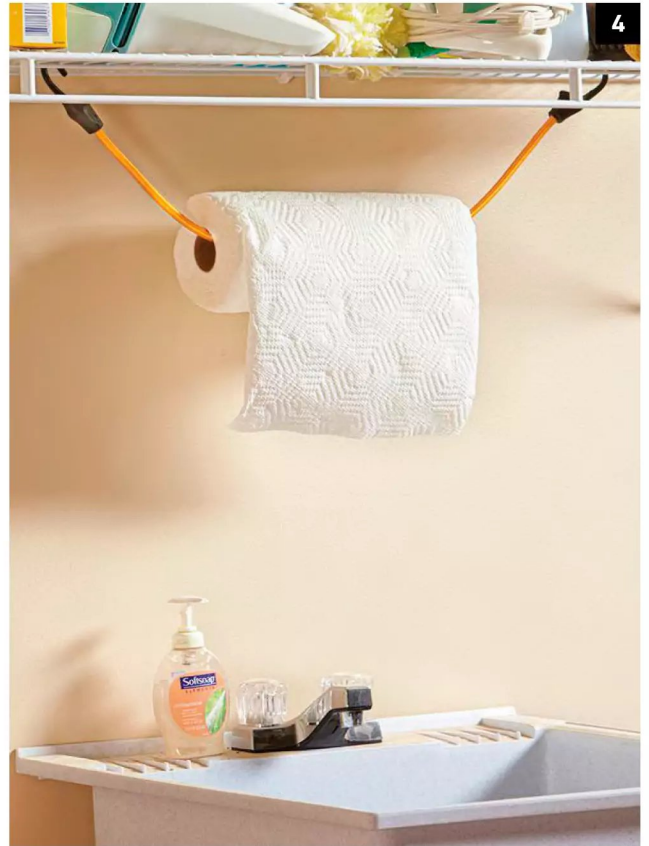
1 INSTANT LAUNDRY ROOM CUBBIES

If you have a small laundry room without cabinets or shelves, buy a few inexpensive plastic crates at a discount store and create your own wall of cubbies. Just screw them to the wall studs using a fender washer in the

upper corner of each crate for extra strength. The crates hold a lot of supplies, and they keep tippy things such as irons from falling over.

2 UTILITY SINK SHELF

To make paint cleanup a breeze, cut a section of leftover



Handy Hints

An organized workshop makes every project run smoother. Check out these smart solutions for taming clutter.



DIY Ladder Caddy

If you're constantly switching between two drills—one for pilot holes and the other for driving screws—while hanging suspended ceiling grids, use this easy fix to avoid climbing up and down the ladder. Take a scrap of $\frac{3}{4}$ -in. plywood (10 x 24 in.), and cut an opening in it to fit over the stepladder (7 x 14 in.) and cutouts to hold your drill and your driver. Wedge a scrap piece of 2x4 between the ladder top and the holder to stabilize it when one tool is in use. This seat-of-the-pants solution will save you a lot of time and labor, and it's handy for a variety of ladder-related tasks.



Grease Gun Holder

A grease gun is big and, uh, greasy. So don't slime up your garage cabinets with it. Slice up a few sections of 1-in. and 3-in. PVC pipe and screw them to a plywood backer to make this slick grease gun holder. Then slap up a 2-in. coupler and cap to hold a backup tube of grease.



Tame Tangles

Is the extension cord tangled all the time? Use this figure eight method to avoid it. Simply loop the cord over and under itself in a repeating pattern. This method prevents pesky tangles and ensures neat and organized storage.



Avoid Losing WD-40 Nozzle

Thread a cable tie around the body of a WD-40 can, tightening the tie to ensure it holds the straw nozzle in place. Now, you'll always have the nozzle handy.



Magnetic Toolbox Labels

Tired of trying to guess which toolbox drawer holds the right tool? Try this smart fix: Buy magnetic business cards from an office supply store. Peel off the front film, stick a piece of card stock (old business cards work well) on top of it and label each drawer for easy access.

"An old toilet paper holder makes a handy tape dispenser for the shop. You can use either a surface-mounted holder or a recessed version."

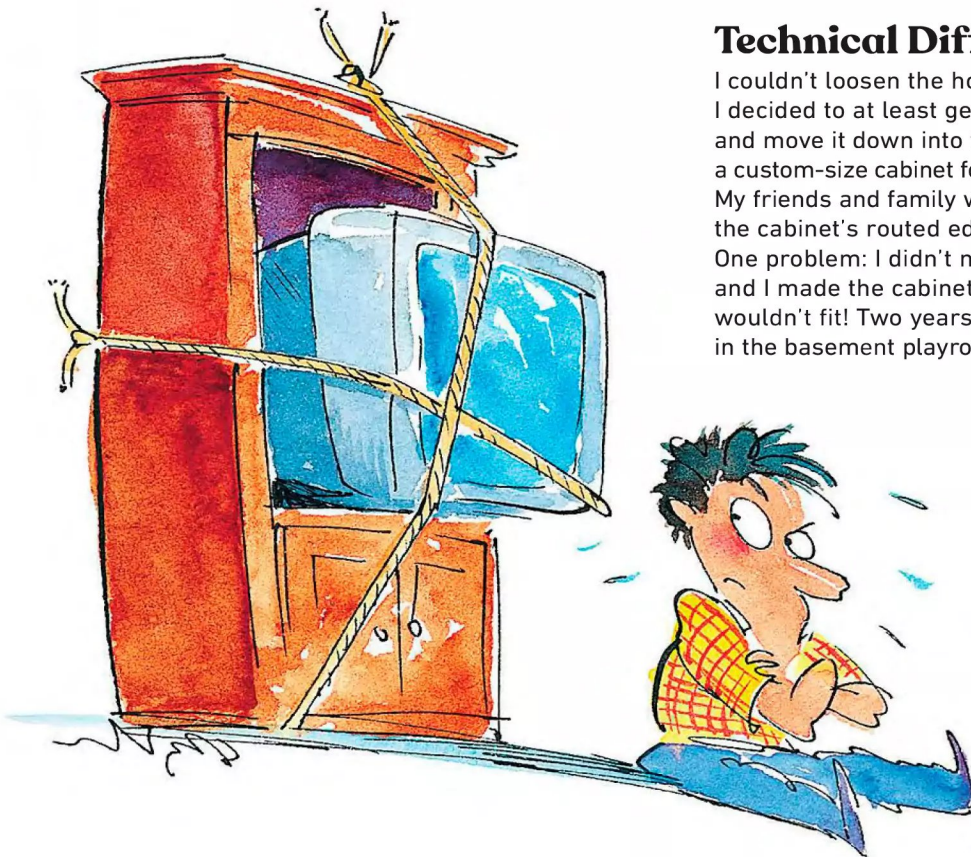
Share your Handy Hints with us at FamilyHandyman.com/submissions.

Great Goofs

DIY projects don't always go as planned.
These readers learned the hard way!

Technical Difficulties

I couldn't loosen the hold TV had on our family, so I decided to at least get it "out of sight, out of mind" and move it down into the basement playroom. Needing a custom-size cabinet for the TV, I built one from scratch. My friends and family were quite impressed—what with the cabinet's routed edges and decorative moldings. One problem: I didn't measure the depth of the TV set, and I made the cabinet too shallow. The darn TV just wouldn't fit! Two years later, we still don't have a TV in the basement playroom. —Cindy Keefe



Good Money Down the Drain

While my handy father was visiting, I asked him to install shelving in our attached garage. He measured everything and went and picked up the supplies. We couldn't find the stud finder, so he decided to just tap on the wall and find the studs the old-fashioned way. Soon the shelving was up, and it looked great! He'd saved me a pile of money. Later, my kids noticed water stains on the wall behind the new shelving. We also noticed that when the toilet was flushed upstairs, the leak would reappear. I called a plumber and he discovered that a screw had gone through the PVC waste pipe behind the wall. My savings went "down the drain" after I paid the plumber and drywaller to fix the goof. —Mary Ann Allen



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- Quick-release fence with stops at 0° and 45°
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- Footprint: 15 1/2" x 10 1/2"
- Shipping weight: ≈ 57 lbs.



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- Shipping weight: ≈ 116 lbs.



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- Shipping weight: ≈ 32 lbs.



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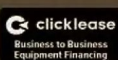


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