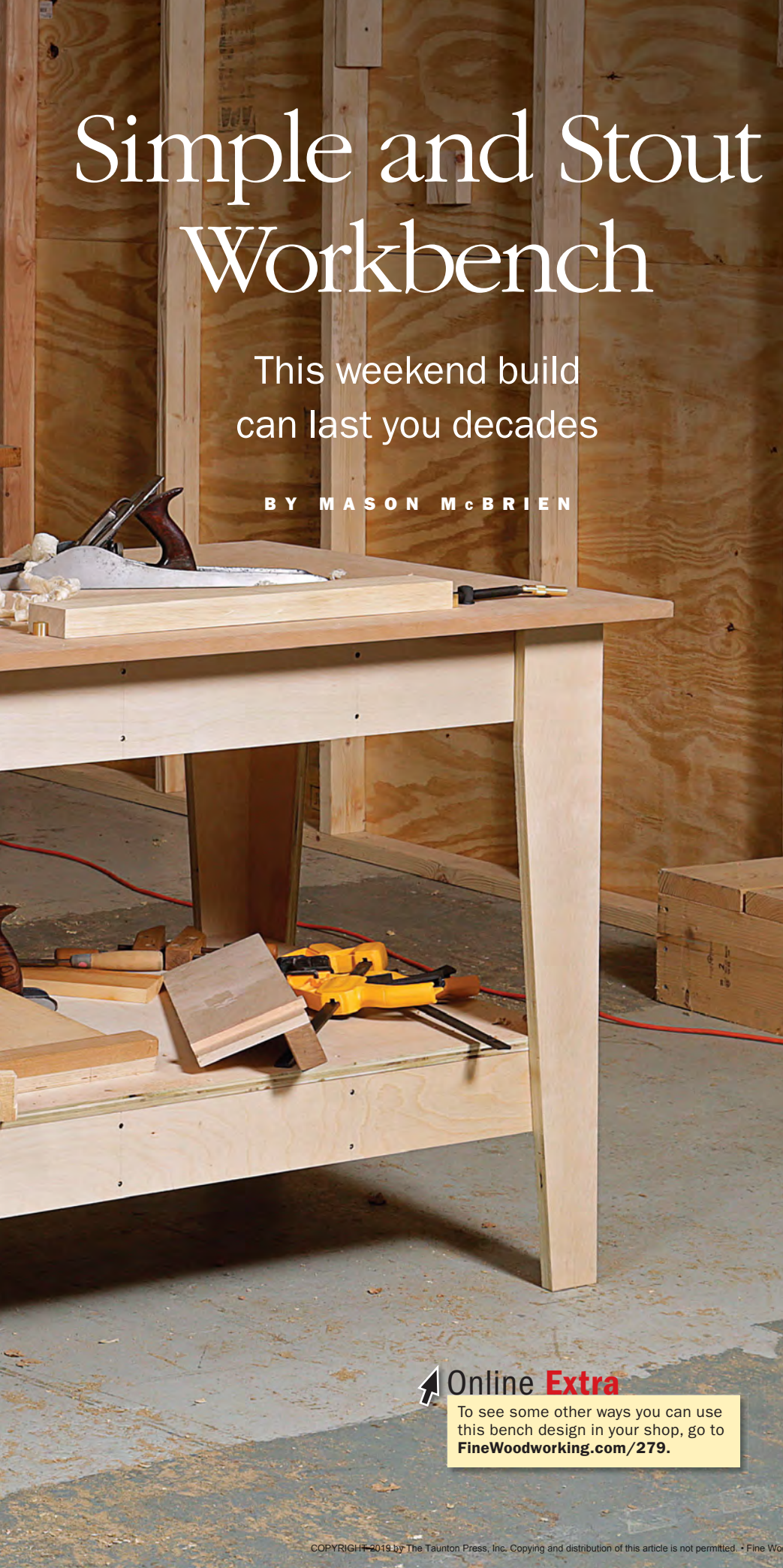




# Simple and Stout Workbench

This weekend build can last you decades

BY MASON McBRIEN



It's hard to do good work without a good bench. But I want to spend my time designing and building furniture, not workbenches, so I like one that's quick to build without sacrificing quality. My go-to for this comes from the Center for Furniture Craftmanship, where I used to teach. These student benches are no-nonsense affairs that, in some cases, have stood up under decades of considerable use. They not only work well but are a breeze to make, use inexpensive materials that are easy to get, and can be sized to fit nearly any space.

The base is made with common birch plywood, although cheaper CDX plywood would work just as well. You don't have to include the shelf down below, but adding it makes this bench nearly bombproof. The top is  $\frac{3}{4}$ -in. MDF, which is more durable than you might think. When I was at the school, some benches still had their original tops. Still, if yours wears out over time, it can be replaced easily.

As a bonus, the form is also quite versatile. At the school, some benches had melamine tops and were used for drafting, finishing, layout, and vacuum pressing. Some had insert plates that turned them into router tables. Shrink the design, and you have a sharpening station. I'm making a full-size workbench here, but the design is a blank canvas, so feel free to adapt it however you see fit.

## Rigid plywood base

For a workbench this size, the base comes from two sheets of plywood. When I break down the plywood, I start by laying it on a large piece of rigid foam on the floor and use a circular saw. Running a full-size sheet through the tablesaw can be tricky and starting on the floor makes the process easier.

You can cut the benchtop to size this way too. And if you don't have a table-saw or bandsaw, you can batch out all your parts this way. Later, the foam serves as a flat work surface, letting me assemble the bench without needing another bench—a common problem with other bench designs.

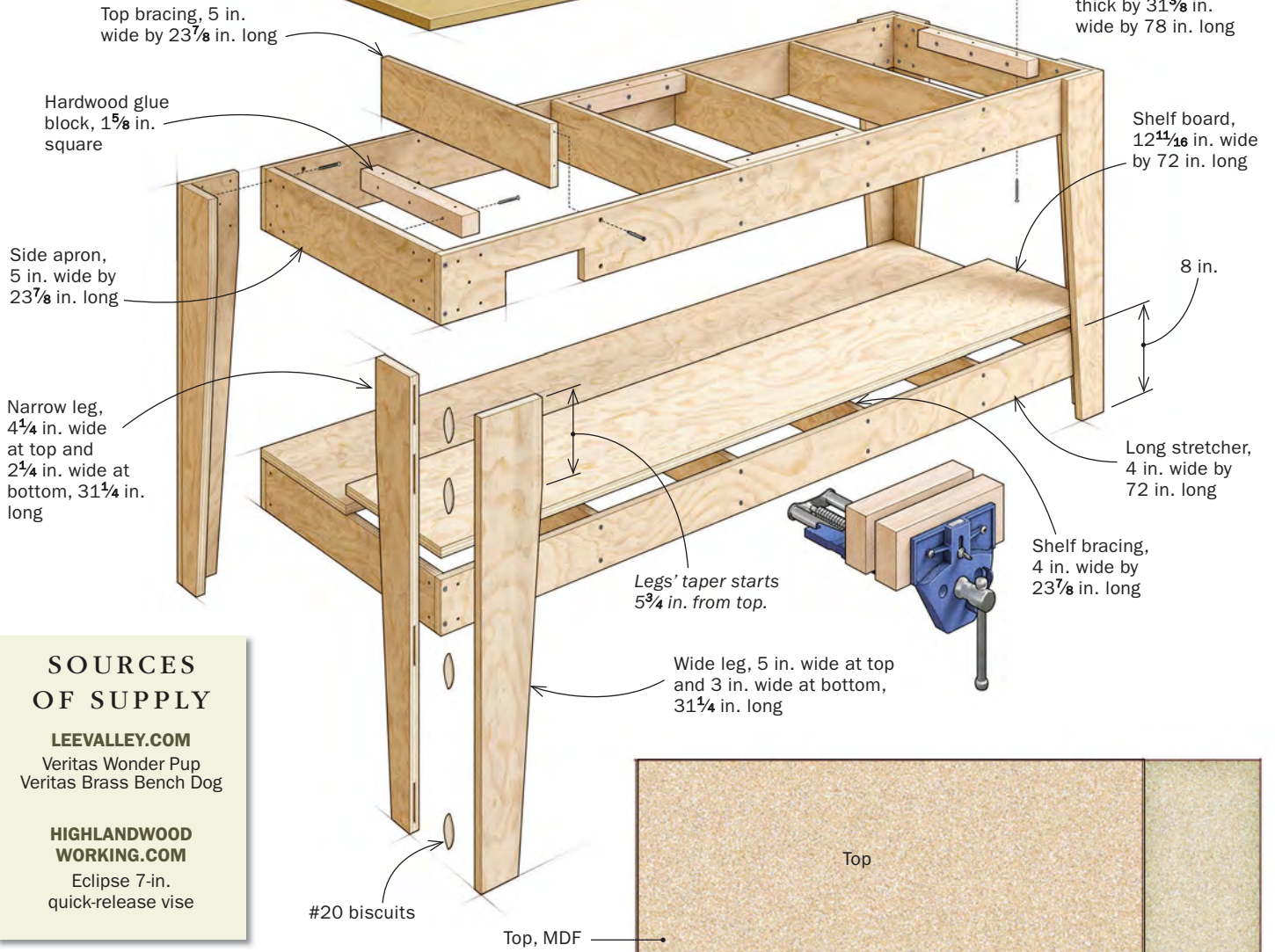
To keep things simple, many components on this bench share dimensions. But each leg is a two-part assembly biscuited and glued together into an L shape.

## Online Extra

To see some other ways you can use this bench design in your shop, go to [FineWoodworking.com/279](http://FineWoodworking.com/279).

## STRIPPED-DOWN BENCH IS ALL YOU NEED

All parts are plywood and  $\frac{3}{4}$  in. thick unless otherwise noted.



### SOURCES OF SUPPLY

#### LEEVALLEY.COM

Veritas Wonder Pup  
Veritas Brass Bench Dog

#### HIGHLANDWOOD WORKING.COM

Eclipse 7-in. quick-release vise

## THREE SHEETS MAX

By lining up parts of similar width and length, McBrien expedites breaking down the sheets.

Base, $\frac{3}{4}$ -in. plywood			
Straightedge			
Long apron			Side apron
Long apron			Side apron
Top bracing	Top bracing	Top bracing	Top bracing
Wide leg	Wide leg	Wide leg	
Wide leg	Extra		
Narrow leg	Narrow leg	Narrow leg	
Narrow leg	Extra		
Extra			



Shelf, $\frac{3}{4}$ -in. plywood			
Shelf board			Extra
Shelf board			Extra
Long stretcher			Side stretcher
Long stretcher			Side stretcher
Shelf bracing	Shelf bracing	Shelf bracing	Shelf bracing
Extra			

# Breaking down plywood

**Use the factory edge to rip a straightedge.** For safety, McBrien starts on the floor with a circular saw when cutting a full sheet of plywood. He clamps a second sheet to the one he's cutting and uses the second's factory edge to rip a straightedge, which he'll use as a fence for the next cuts (inset). He supports the sheets with a layer of rigid foam.



Because they're made out of  $\frac{3}{4}$ -in. plywood, one side piece is  $\frac{3}{4}$  in. narrower than the other so the two look even when assembled. I like to taper the legs, too, giving me more foot room when I'm working at the bench.

Don't skimp on the width of the parts, by the way; the wide parts give the bench lots of resistance against racking. Also, the upper bracing goes a long way to stabilize the top and prevent sagging. In my experience, these benches are often stouter than traditional workbenches.

## No-nonsense top

Although the top is simply a single layer of  $\frac{3}{4}$ -in. MDF, it performs excellently for almost all common woodworking tasks. With its bracing and glue blocks, the surface becomes incredibly rigid—a necessity for efficient pounding and hammering. Its 3-in. overhang all around gives plenty of purchase for clamps.

At the end of the build, I break the benchtop's sharp edges with a rasp for comfort. Then, to protect the MDF from liquids and moisture, I add two or three coats of oil-based urethane.



**Rips at the tablesaw.** When he has manageable sizes, McBrien finishes ripping parts to width at the tablesaw. Since these pieces are still long, he uses infeed support.



**Crosscuts at the miter saw.** Don't fret about how clean a cut your saw leaves. The ends of these boards will be hidden when the bench is finished.

# Assemble in stages



**Biscuit the leg assemblies.** After tapering, the two sides of the leg assemblies are glued together. Biscuits help with alignment and strength.

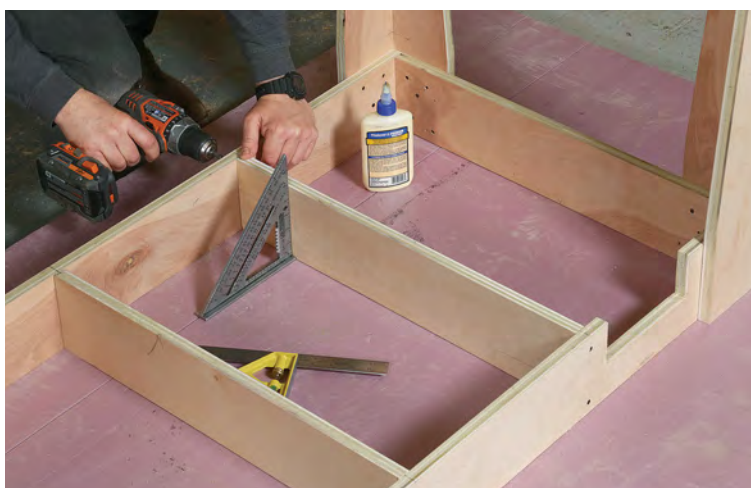


**Use tapered offcut as a caul during glue-up.** Clamping tapered parts, like these legs, can be tricky. Use a tapered offcut to direct clamping pressure square across the joint.

**Glue and screw aprons to legs.** McBrien arrays the screws in an X pattern at each joint. To avoid adding twist to the assembly, he makes sure the parts are flush to the foam when he drives the screws. Be sure to make the cutout for the vise before this step.



**Bracing comes next.** These short pieces also are glued and screwed in place. To keep parts square so the top lies flat, McBrien aligns the face of each brace with a square when driving the screws.



## Vises add versatility

Like the bench itself, the two vises I use deliver great functionality at low cost. While you can get away without one, I recommend adding a front vise to open up workholding options. You don't need anything fancy, although a quick-release mechanism is handy. You'll need to cut out part of the front apron to accommodate the vise's threads and travel rods. Make the cutout as small as possible to minimize weakening the apron. Also, if the vise ends up more than 6 in. or so from a side apron or bracing, add another strip of bracing

# SHELF



**Ledge helps hold stretchers in place.** To hold the stretchers at the right height, McBrien screws an offcut to each leg assembly. This frees up his hands for attaching the stretchers (top). The block can stay or be removed. Bracing (above) will support the shelf. Hold these boards tightly to prevent them from twisting.



**Two-piece shelf.** It's impossible to slip in a full-size shelf, so use two long, narrow boards instead. Screw these to the stretchers and bracing.

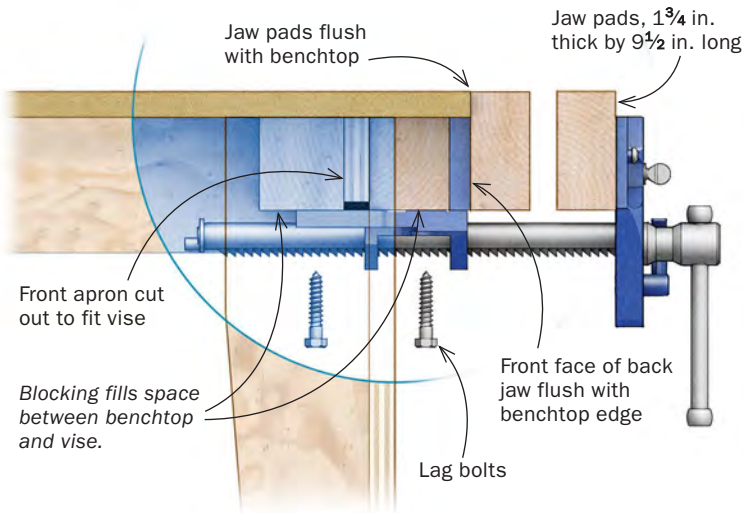


**Tip the base onto the top.** McBrien lines up the base so there's an even 3-in. overhang from the aprons.



**Glue blocks secure top to base.** MDF is poor at holding screws, so McBrien uses glue blocks to secure the base to the top. These blocks are glued and screwed to the MDF but simply screwed to the aprons and bracing in case the top ever needs to be replaced.

# Vise



**Vise needs blocking.** These blocks give you a place to drive the bolts for attaching the vise. They also bolster the front apron, which will be under a lot of stress from the vise.



**Hardwood jaw pads protect work.** Rip these wide enough so they extend just above the top of the bench. McBrien uses maple here, but any hardwood will do.



**Lag bolts and washers secure vise to bench.** These need to be thick, coarse bolts to hold the heavy vise in place. Pre-drill large enough holes for them to avoid splitting the blocking.

**Plane down the jaw pads.** You want the pads to be flush with the benchtop.



next to it for more support. To bolt the vise in place, you'll need to add blocking to the MDF top and the apron. It should be robust enough to accept coarse-threaded lag bolts, although the exact size you'll need will depend on your specific vise. To protect your work from the vise's metal jaws, screw some thick hardwood to the jaw's faces.

To mimic an end vise, I drill a row of dog holes along the front of the benchtop and pair them with a Veritas Wonder Pup. It has a post that fits into the holes and an adjustable head that screws in and out, letting you clamp a workpiece against a benchdog. I like brass dogs, also from Veritas. The duo works great for edge-planing. □

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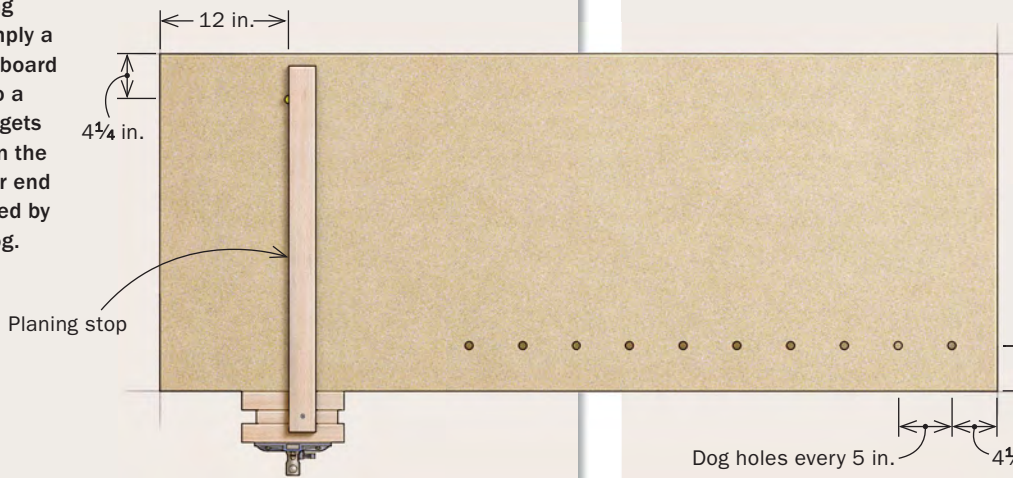
## Good dogs

McBrien drills a series of dog holes at the front of the bench and a single hole at the back in line with his vise to use with a stop. Feel free to drill a hole wherever you feel is necessary, though.



### REAR HOLE PAIRS DOG WITH PLANING STOP

The planing stop is simply a wide, thin board screwed to a cleat that gets clamped in the vise. Its far end is supported by a benchdog.



### FRONT HOLES PAIR DOG WITH VERITAS WONDER PUP

This setup mimics an end vise. The Wonder Pup is an adjustable bar that pinches stock against a benchdog, letting you edge-plane long stock on the bench—which is more secure than doing it in the front vise.

