

The Simple Home Shop Workbench

Six 2 x 4's, a sheet of particleboard or MDF, a sheet of tempered hardboard, some hardware and a few hours is all you'll need to make this rugged, affordable workbench!

Crafting any type of woodworking project in a shop without a good, solid workbench is a lot like trying to create a memorable meal in a kitchen with no countertop space. However, if you're like most woodworkers, you're probably much more interested in getting to work on your projects than you are in building your bench. If this describes your situation, this workbench is just what you've been looking for...because it's both simple to build and cheap!

We built this example in a single afternoon...for around \$50! It features nearly 14 square feet of workspace, plus a storage shelf below for portable tools, materials, etc. Its dimensions were arrived at for the sake of working comfort and convenience, while allowing us to put it together quickly and affordably. Let's get started.

1: Preparation – buy your materials. For this bench, you'll need the stock mentioned above plus the hardware described in the List of Materials. We recommend that you sort through the 2 x 4 stack at your lumberyard to get straight, true stock that's as knot-free as possible. Also, avoid using Southern yellow pine, since it's hard, brittle and splits easily. Instead, use fir or hemlock.

If you're planning to do a lot of really heavy work...or are seeking a "classier" look, you could use oak, ash or hard maple instead of construction-grade 2 x 4's...although this approach will increase your costs substantially. We made our Sub-Top from particleboard, although MDF would be more durable – though more expensive.

Be sure to use TEMPERED hardboard for the Top Covering, as it's considerably more durable than non-tempered hardboard and can be easily replaced after a few years of hard use.

2: Cut the 2 x 4's to length. The cutout diagram included here shows you how to get the most out of your 2 x 4 stock. Begin by crosscutting all your pieces to length, according to the diagram. Start with the Legs (**A**), then cut the Rails (**B**). Next, cut out parts **C**, **D** & **E**. Don't cut the Sub-Top to size yet.

3: Assemble the Top Frame by nailing the Main Frame Members (**C**) to the Rails (**B**) with 16d common nails. Use yellow woodworker's glue at each joint before you nail it for maximum strength. Also, don't forget to use a square or triangle to be sure everything is straight and true as you put your components together.

TIP: To prevent splitting, it's a good idea to drill 1/16" pilot holes for your 16d nails.

4: Mount the legs (A) to the top frame assembly. Start by clamping the Legs squarely into position. Again, check for squareness as you go. Next, drill two 1/4" diameter holes (positioned diagonally) through each Leg and into the Rails (**B**) or Main Frame Members (**C**). Use 1/4" carriage bolts with washers and nuts so you can disassemble the Bench if necessary for moving it...or re-tighten the Bench components from time-to-time, should it start to loosen. If you have no plans for disassembling or moving the Bench, reinforce all joints with yellow woodworker's glue.

5: Attach the Leg Rails (B) to the Legs (A), using the same technique as above – clamp, drill, glue (if desired) and bolt. Next, attach the Stretcher (D) to the back of the Legs with glue and 16d nails.

6: Cut out the Sub-Top (F) by first laying the Top Frame upside-down on the bottom of the particleboard or MDF Sub-Top (F), then tracing around it. Be sure to use a carbide-tipped Saw Blade, as particleboard and MDF are both filled with glue and other materials that will quickly dull a conventional steel blade.

The long piece of scrap that you have left after cutting out the Sub-Top will be used for the Shelf (G). Mount the Sub-Top to the assembled Bench frame using yellow glue and 8d common nails.

7: Mount the Shelf. Measure the width of the Shelf stock and use this dimension to mark the location of the Shelf Support (E). Attach the Shelf Support with glue, lag screws and washers. Cut the Shelf to length and attach it to the Shelf Support and Rails with glue and 8d common nails.

8: Cut the Top Covering (H) out of your Tempered Hardboard and attach it to the Sub-Top using 4d common nails. **IMPORTANT:** Do **NOT** use glue...so you can remove and replace the Top Covering at a later date, if necessary..

Once attached, use a hand-held belt sander, router or rasp to make the edges of the Top Covering even with the Main Frame pieces (C) and Rails (B). While you're at it, round all exposed corners (and edges, if you like), to prevent bruising or similar injuries, should you bump into them while working.

You now have a workbench that will provide years of durable service. And, when you're ready for the next step up in benches, this one will become a handy second bench for added working convenience.

List of Materials

(finished dimensions in inches)

A Legs (4)	1-1/2 x 3-1/2 x 35
B Rails (5)	1-1/2 x 3-1/2 x 27
C Main Frame Members (2)	1-1/2 x 3-1/2 x 68
D Stretcher	1-1/2 x 3-1/2 x 65
E Shelf Support	1-1/2 x 3-1/2 x 59
F Sub-Top (MDF or Particleboard)	5/8 x 30 x 68
G Shelf (MDF or Particleboard)	5/8 x 18 x 62
H Top Covering (Tempered Hardboard)	1/4 x 30 x 68

Hardware

1/4" x 3-1/2" Carriage Bolts (16)
1/4" x 3" Lag Screws (4)
1/4" Flat Washers (20)
1/4" Nuts (16)
16d Common Nails
8d Common Nails
4d Common Nails