

Stonehaven Plan #SFP-1101

I didn't design or even build this indispensable workhorse but I'm convinced I couldn't have done any better.

It's been used and abused though every home renovation and shop project I've done for the past 30 years. ***It's a sawhorse, a step stool, a seat, a tool table, a drilling platform and cutting board all in one.***

It's 13 1/2" high, which is perfect for my 6 foot height. I can comfortably reach 8' foot ceilings for installing or crack filling drywall, and cutting in when painting. It's a knee and back-saver that I can sit on instead of crouching, when working closer to the floor.



THESE PLANS INCLUDE:

- ✓ Detailed drawings
- ✓ Photographs
- ✓ Assembly suggestions
- ✓ How I use and abuse it

RECOMMENDED TOOLS:

Power tools: Table saw, mitre saw, jig saw, electric/cordless drill/driver (1" forstner or spade bit, and #8 countersink bit.)

Hand tools: A variety of basic hand tools are useful (Hammer, screwdrivers, square, level, utility knife) a couple of long clamps would also be helpful.

Materials List

This work step is made entirely of 3/4" Plywood (Good Both Sides)

3/4" Shop Grade Plywood

All the pieces can be cut from a **31" x 24" sheet of plywood**. Many building centres sell 24" x 48" pre-cut "project panels" which would be perfect for this project.

Hardware

- (10) pcs – 1 1/2" - 2" x #8 screws
- (4) - Nail-on furniture glides

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~Enjoy!

Rick at StonehavenLife.com

Tip: Even though this work step is very stable, keep your weight near the centre of the step when standing to avoid tipping - and **don't overreach**. It's safer to step down, scoot it along the floor with your foot, then step back up when you have it in the position you need it. - Rick

A Little History

As I said earlier, I didn't design this, I inherited it back in 1981. As far as I know, it was built by a carpenter. His keyboard-playing son tossed it in our 1969 GMC Step Van because he needed something to sit on when he joined our band and hit the road. Besides being the most dangerous vehicle seat ever, it was used it for everything from rigging lights to propping up amps. I ended up with the van when the band called it quits, and the step stool was still in it.

About These Plans

This is actually a "reverse engineering" plan. The dimensioned drawings are based on measurements taken from the real thing. It's **24" long x 12 1/2" wide x 13 1/2" high**, including the furniture guides on the legs. The legs have a 5 degree cant, so they're 2" wider at the base than at the top. It's a simple construction and incredibly sturdy and stable, even outdoors.

I've also included a cutting layout to get all the pieces out of a small 31" x 24" sheet of plywood. The top can be ripped to its final size in one cut.

The legs need to be cut slightly long and then trimmed to size with 5 degree angles on the top and bottom edges.

The Cross Brace also needs the ends trimmed to final size with 5 degree angles on each end.

Suggested Method of Operation

Rip all the pieces shown on the cut list from the plywood sheet as shown in the layout diagram. The individual components will need to be further cut or drilled before sanding and assembly.

Top

Sand the edges of the top once it's cut to size. The 5" hand hold would be easiest to make using a 1" forstner bit to make the rounded ends, although you could also do this with a jig saw. Once the holes are drilled, cut out between them with a jigsaw and sand the edges of the opening (keep in mind you're going to be sticking your hand in here a lot, so ease the edges and save your knuckles).

Cut List

(1) Top – 12 1/2" x 24"

(2) Legs – 11 3/4" x 13" *

(1) Cross Brace – 4 1/4" x 19 1/2" *

(*oversize to be trimmed later)



Fig. 1 - Front view showing cross brace position.



Fig. 2 - Curved cutouts add clearance and reduce weight.



Fig. 3 - Legs have 85 degree angles on each end.

Legs

Since the leg blanks are almost square, mark the top and bottom edges for easy reference. These will need to be trimmed at an angle.

Set the table saw blade to 85 degrees.

Set the fence to trim just enough off the top edge of both legs to get make the angle without shortening the length.

Adjust the fence to about 12 5/8". Flip the leg over to the other side and cut the bottom edge. Do both legs without adjusting the fence to make sure they're exactly the same length. The actual length isn't critical.

Curved Cutouts

The curved side cutouts cut down the weight and allow you get in closer to some obstructions than a straight edge would. And they also allow more clearance for clamps, saw blades, and fingers. The bottom cutout is slightly deeper and will clear extension cords, shop vac hoses, sills and other things that end up in the way of where you need to be.

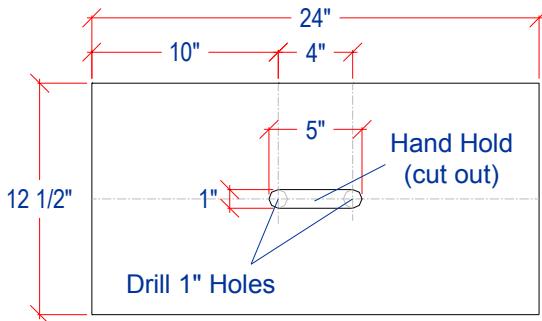
The drawings show the depth and location of the cutouts. Make templates for the side and bottom curves out of thin cardboard (cereal boxes work great) so they'll all be consistent, and trace the lines onto the blanks. Cut them out with a jigsaw and sand the edges.

Cross Brace

The ends of the Cross Brace need to be angled as well. This is easiest to do with a mitre saw but can be done on a table saw. Set the mitre table to 5 degrees and trim one end just enough for the angle. Flip the piece end to end (keeping the same edge against the fence) and measure 19" along the longest edge from the angled end and mark the length. Make the cut .

Work Step ~ Mini-Workbench

4



Work Step / Mini Saw Horse

- 24" l x 12 1/2" w x 13 1/2" h
- 3/4" Plywood Construction

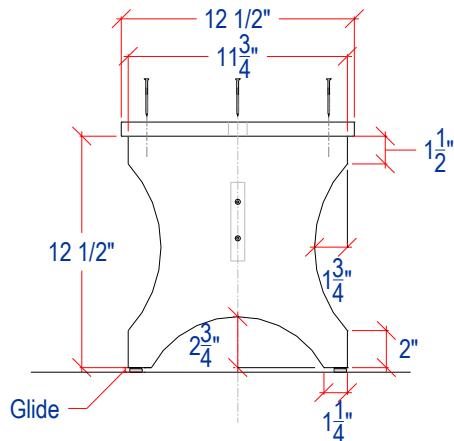
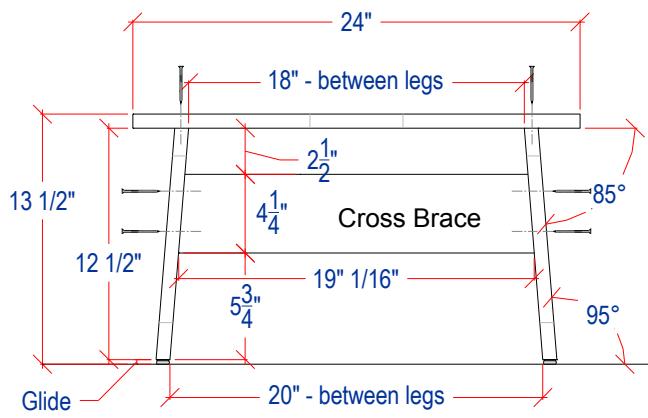


Fig. 4 - Dimensions taken from original work step.

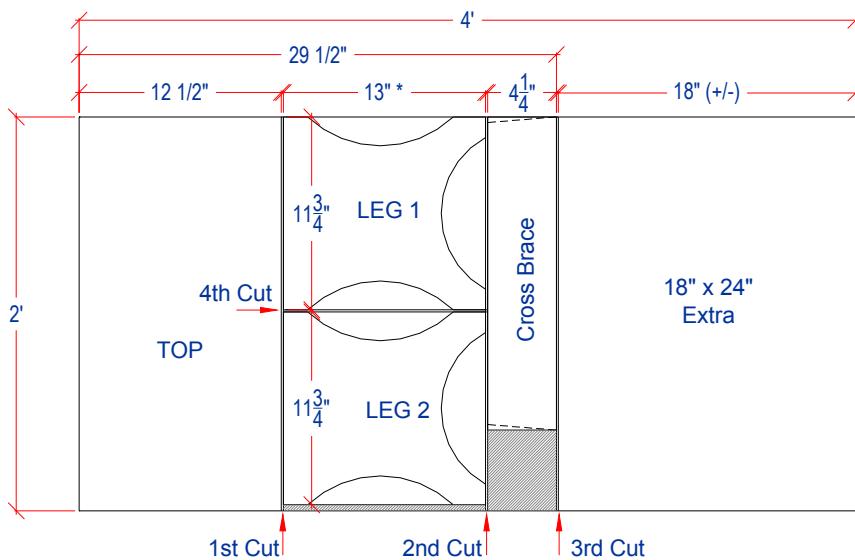


Fig. 5 - Cutting layout for 24" x 48" plywood panel.

Assembly

Not actually having put this together, I can only suggest how best to do it. Clamping angles like this is always a bit of a creative challenge. I'd start by attaching the cross brace to the legs. You'll want to do this on a nice flat (& preferably level) bench or floor.

Here's what I'd do:

- Cut a couple of 12" pieces of scrap 1 x 2 lumber. Cut a 3/4" x 3/4" notch in the centre of one edge of each one on the table saw. You can use a dado blade or make multiple passes with a standard blade, shifting the piece 1/8" along your mitre gauge for each pass.
- Mark a vertical centre line on each side of the legs.
- Clamp the 1 x 2's to the inside faces of the legs with the bottom of the notch 6 3/4" from the top of the leg (which is where the bottom of the cross brace will be). The notch should be centred on the vertical line.
- Set the cross brace into the notches and clamp it all together with a couple of long clamps. Make any adjustments you need to get everything the way you want it. Mark the holes for the screws that fasten the legs to the cross brace and drill them with a countersink bit.
- Loosen the long clamps and put wood glue on the ends of the cross brace. Set it back in the notches and clamp it again. Use a square to check that the cross brace is square to the legs.
- Fasten the assembly together with 2" #8 screws at each end. Once the screws are tight and every looks OK, remove the notched pieces and clean off any excess glue.

Adding the Top

This should be pretty easy. Set the top in place, and measure the clearance at the top of the legs to centre it. Mark the underside at the corners of the legs in case it shifts or gets bumped.

Facing the long edge, use a square to transfer the centre line of the legs to the top for the screws. Since the leg is angled, you might need to shift the line just slightly towards the ends of the top to compensate. Drill the holes for the screws and countersink them enough that you can fill the holes with wood filler.

Take the top off and add glue to the upper edge of the legs. Place the top in position and put one screw in one leg. Check to make sure everything is lined up and drive in the other screws.

Finishing

Fill the screw holes in the top and sand it all smooth. Filling the holes gives you a good cutting surface and eliminates the chance of hitting a screw with the knife blade. Give the whole thing a paint job.

Attach the furniture glides as close to the outside edge of the legs as possible, and you're good to go.

Why (and How) I Use my Work Step

You can tell by the pictures that this work step gets used a lot. There are paint spatters, gouges and rosebuds in the top. It's scarred from the thousands of knife cuts I've made on it. The glides are worn from sliding it along wood, tile and concrete floors. I don't know what I'd do without it.

- I either pick it up by the hand-hold or just shuffle it along with my foot when I need to move it while I'm working.

It's a whole lot faster to kick this along the floor when I'm painting or crack filling, than to move a stepladder, especially when both hands are full.

- I put an old towel under it to prevent damage when using it on a finished floor or other scratchable surface.
- It's a portable workbench for hammering, sanding, filing, sawing, drilling or driving screws.
- You can use one hand and a foot to steady framing lumber when cutting it. Or you can clamp it down to free up both hands.
- Crouching to work takes a toll my knees and back, so I sit on it when I'm working on low stuff for any length of time. I even used it in the bathtub when I was tiling the shower walls.
- It makes a great tool table instead having to keep reaching for stuff on the floor.
- It's great in small rooms like bathrooms or closets where a stepladder would always be in the way.
- I use it as a cutting surface to cut cedar shims, batts of insulation, cardboard, and other stuff up to 24" long.
- I can drill holes all the way through lumber without damaging the step, by drilling through the hand hold.
- It's great for quick jobs when you just need a bit of extra height - like changing light bulbs, clearing cobwebs, and cleaning windows.
- It's easy to clamp almost anything to it using just about any size of spring clamp, C-clamp or quick clamp
- Works as well outdoors as inside. The arched bottom cutouts and small contact points make it easy to find a stable footing.

