The Utility Stool

One day I decided I needed a better place to sit to change my shoes than an upended five gallon bucket. Cratewood at work consisted of pieces of 2x2, 2x4, and 1x6. This design has worked well (illus. 1).

The stool is light, sturdy, utterly stable, and not bad to look at. Here, the stool is 20 1/2 inches long, 12 inches across, and 17 3/4 inches high. The legs can be shorter (at 12 inches, from 17) and the top remains in proportion.

For materials, you need:

Four feet of 1x6 (3/4 by 5 1/2 actual)
Five feet of 1x4 (3/4 by 3 1/2 actual)
Six feet of 2x2 (1 1/2 by 1 1/2 actual)
Twenty-four screws (1 5/8 inch drywall work well)
Wood glue

For tools, it's handy to have:

Electric drill, wood bits, screwdriver bit
Hand plane, or electric sander, or sandpaper on a block of wood
Power miter saw or hand saw

Cuts from lengths:

Two pieces of 1x6 at 20 1/2 inches
Two piece of 1x4 at 12 inches
Two pieces of 1x4 at 18 inches
Four pieces of 2x2 at 17 inches

Sand or plane all edges and ends to reduce splinters.

WARNING: Electric drills and wood screws can be dangerous, so read, understand, and follow all manufacturers' instructions before use. Always wear eye protection.

Note: When I say to make “a pilot hole” so that a screw can pull two pieces of wood together without splitting either piece, I may be envisioning a process that you are not. So, by way of background: When this project is assembled with 1 5/8 inch number six drywall screws, for “a pilot hole” I would drill through-and-into both pieces one hole made with a 3/32 inch drill bit that extends about 1 1/2 inches from the end of the drill. I would then change bits and make a slightly larger hole (5/32 probably) in the first piece of wood (the one the screwhead will pull down), then, as mentioned, make the countersink. This two-step process makes the screw dig into the second piece of wood without binding too early inside the first piece. The screw always pulls them together.

Note: This much said about pilot holes as two-step, when I talk about pilot holes to attach the 12” 1x4s to the legs, I only drill through and into the leg for the first (outermost) hole, the one that will be the pivot-point to allow the legs to be at 90 degrees to the 1x4s. The second “pilot hole” is only through the 1x4s, since a pre-existing hole in the leg would very likely drag the leg to some other position than 90 degrees..

INSTRUCTIONS AND ORDER OF ASSEMBLY:

Drill four pilot holes in each of the 12” 1x4s, each hole 3/4 inch from the long ends, and 1/2 inch from the sides of the boards. Lightly touch the end of a 3/8 inch bit to these holes for countersinks.

With glue between the pieces, lay one 12” piece at the end of a leg and drive the screw closest to the outer corner/upper leg.

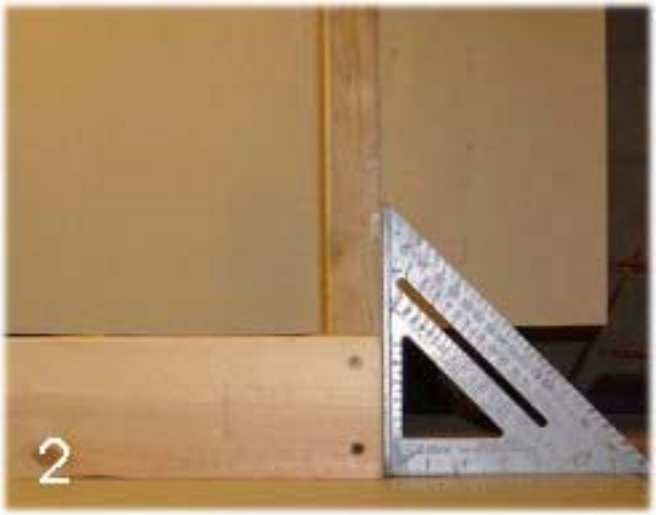
Turn these pieces upside down on a flat surface, and make the leg square to what will be the top of the 12” end piece (illus. 2).

Set the second screw through the end piece into the leg.

With glue between the pieces, drive the outer/upper screw through this 12” piece into the second leg.

Measure across the legs just near the 12” piece and make the far ends of the legs that width, too (illus. 3).

Set the second screw into that leg.



Assemble the other end, the 12” piece and the legs: make its angles match the first ends’s angles by standing both ends upside down and touching the legs together before setting the “second” screws.

Stand one leg-end assembly on edge and drill two pilot holes through the end of an 18” piece into the leg (see illus. 4). Make countersinks. Put glue in the joint. So that the board better stays in position, drive one screw part-way into the leg; drive the second screw all the way in; then finish the first screw.

Attach the second leg-end assembly to the other end of this 18” piece.

Turn this entire assembly over, lay the second 18” piece in place, and drill pilots at both ends (see illus. 5). (Note: because the height is restricted, the pilots will drill both from the outside of the frame and inward toward the corner at the same time.) Remove the 18” piece, make countersinks, and put glue in the joint. Again, set the first screw at each end part-way, drive the second, then drive the first.

Stand the frame upright and place the top boards flush with the outside of the legs and with even overhang at the ends.

Drill pilot holes through the top boards and into the center of each leg, and into the 12” end pieces (illus. 6). Make countersinks. Glue joints and drive screws.

On a surface known to be flat, stand the stool on its legs, see if it rocks, mark the long leg(s), and rasp, sand or saw them down until the stool has the same contact at all four points.

Let the glue dry overnight and the stool is finished.

John Sepich.