



Utility Cart

Before building this cart, I had planned to keep it in my kitchen to store over-sized bowls, pans, and appliances. Now that it is finished, I have found lots of other uses for it. I move it outdoors to use as a mobile potting bench; indoors it works as a portable bar when we have parties, and in the laundry room it houses my laundry basket and makes a good table for folding clothes just out of the dryer. I may have to build several more!



Materials List

Lumber:

- 1 piece laminated 1 x 4 pie, 20" square
- (OR 11 linear feet 1 x 4 pine)
- 24 linear feet 1 x 4 pine
- 18 linear feet 2 x 2 pine
- 7 linear feet 1 x 2 pine

Hardware:

- Approx. 100 #6 x 1-1/4" flathead wood screws
- Approx. 100 #6 x 2" flathead wood screws
- 4 casters*

Special tools and Techniques:

- 2 or 3 bar clamps (optional)

*See "Notes on the Materials," below.

Cutting List

Code	Description	Qty.	Material	Dimensions
A	Top	1	Laminated pine	20" square
B	Short Frame	2	1 x 4 pine	20" square
C	Long Frame	2	1 x 4 pine	21-1/2" long
D	Leg	4	2 x 2 pine	34" long
E	Leg Reinforcement	4	2 x 2 pine	17" long
F	Shelf Support	4	1 x 2 pine	20" long
G	Shelf Slat	10	1 x 4 pine	20" long

Notes on the Materials

When you select casters for this project, make certain that the ones you choose can hold the weight of whatever you want to store on the cart. They must also be small enough to be installed on the bottom of legs cut from 2 x 2 pine.

The top of the utility cart is constructed of laminated 1 x 4 pine boards. Most building supply stores sell sections of pine that have already been laminated. Otherwise, if you want to laminate the boards yourself, you need approximately 11 linear feet of 1 x 4 pine and at least two heavy-duty bar clamps.

Laminating the Top

1. If you purchased pine that is already laminated, simply cut one piece, 20 inches square, and proceed to "Framing the Top," below.
2. To make the laminated top (A) cut six lengths of 1 x 4 pine, each 20 inches long. (Together these add up to only 10 linear feet, but you must purchase a little extra length to make up for the material lost with each saw cut.)
3. To ensure a solid bond in the lamination process, it is a good idea to rip a minuscule amount from each edge to be laminated before gluing the wood lengths together. Place the lengths of wood side-by-side, and spread glue on the edges to be joined. Clamp the pieces together securely using at least two bar clamps, and leave them overnight.
4. Trim the completed top (A) to 20 inches square.

Framing the Top

1. The top (A) is simply a 20-inch square section of laminated pine that is framed by 1 x 4 pine boards. Cut two short frame pieces (B) from 1 x 4 pine, each 20" long.
2. Glue and screw the two short frame pieces (B) to opposite edges of the laminated square top (A), as shown in *Figure 1*. The edges of the short frame pieces (B) should be flush with the top surface of the laminated square top (A). Use 1-1/4"-long screws, and space them about four inches apart. Countersink the screws.

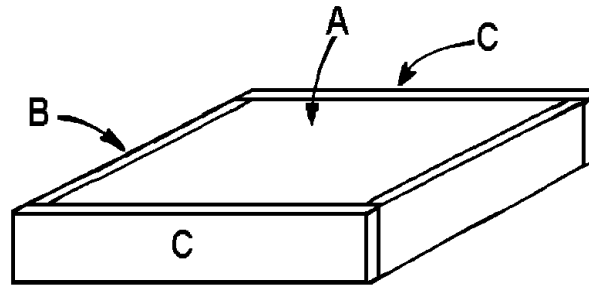


Figure 1

3. Cut two long frame pieces (C) from 1 x 4 pine, each 21-1/2" long.
4. Glue and screw the two long frame pieces (C) to the remaining two edges of the laminated square top (A), as shown in *Figure 1*. The long frame pieces (C) cover the exposed ends of the short frame pieces (B). Again use glue and 1-1/4"-long screws placed about every 4 inches. Countersink the screws.

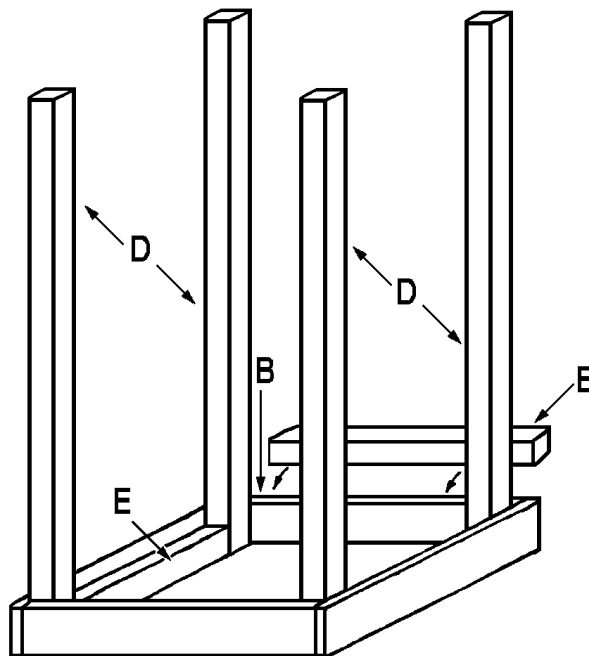


Figure 2

Adding the Legs

1. Cut four legs (D) from 2 x 2 pine, each 34" long.
2. Turn the laminated top (A) with its attached frame pieces (B and C) upside down on a level surface. Glue and screw one leg (D) in each of the four inside corners of the top as shown in *Figure 2*. Screw through the face of each frame piece (B and C) into the leg (D) using 2"-long screws at each end. The legs are a little wobbly at this point, but they will be reinforced in the next step.
3. Cut four leg reinforcements (E) from 2 x 2 pine, each 7" long.
4. Fit each leg reinforcement (E) between one pair of legs, making sure that each is flush against the top (A) and the frame pieces (B and C). Glue and screw them in place. Use 2"-long screws, and space them about 4 inches apart. Screw through the leg reinforcements (E) and into both the top (A) and the frame pieces (B and C).

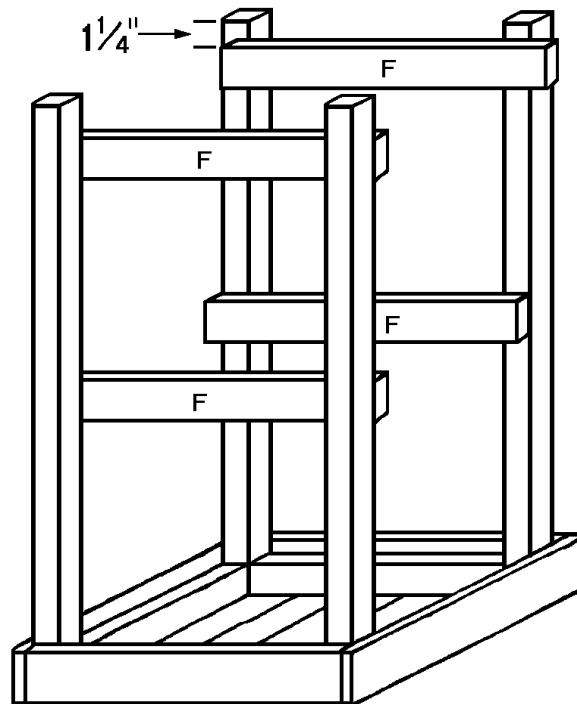


Figure 3

Adding the Shelf Supports

1. Cut four shelf supports (F) from 1 x 2 pine each 20 inches long.
2. With the assembly still upside down, measure 1-1/4" down from the ends of two adjacent legs (any two). Attach one shelf support (F) on the inside, connecting those two legs as shown in *Figure 3*. Use glue and one 2"-long screw on each end of the shelf support (F).

- Next measure 17 inches from the same ends of the same two legs. Glue and screw a second shelf support (F) on the inside of those two legs at the 17" mark (*Figure 3*).
- Repeat Steps 2 and 3 to attach the remaining two shelf supports (F) to the insides of the remaining two legs.

Adding the Shelf Slats

- Each shelf is composed of five 1 x 4 pine slats that are held in place by the shelf supports (F).
- Cut five shelf slats (G) from 1 x 4 pine each 20 inches long.
- The two outermost slats of the shelf must be notched to accommodate the legs. Using the cutting diagram shown in *Figure 4* as a guide notch two of the five shelf slats (G).

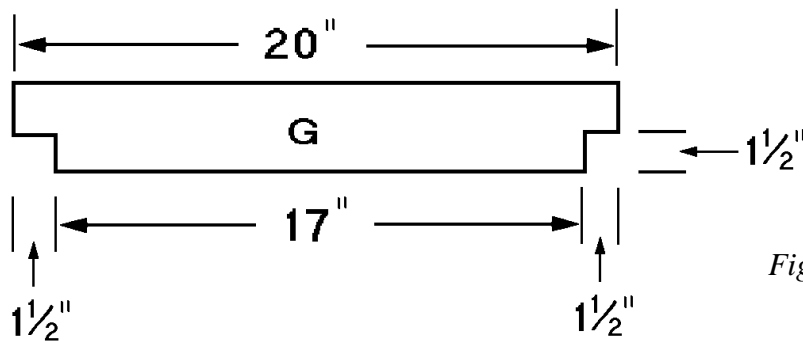


Figure 4

- Turn the assembly right side up. Place the five shelf slats so that they are supported by the lower two shelf supports (F). The notches cut into the two outer shelf slats (G) should fit around the legs, as shown in *Figure 5*. Space the remaining three shelf slats (G) evenly across the length of the shelf supports (F).

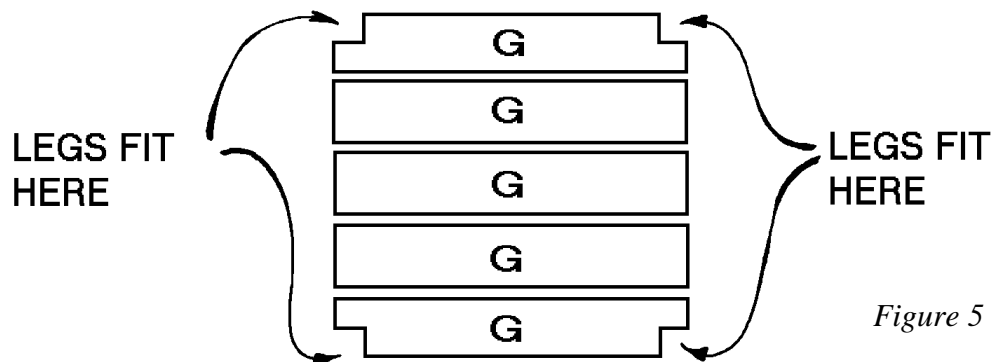


Figure 5

5. Glue and screw the shelf slats (G) to the shelf supports (F). Use 1-1/4"-long screws, and place two screws at each end of each middle slat, and one at each end of each outer slat. I left the screws showing as a decorative accent, but you can countersink the screws and fill the holes if you wish.
6. Repeat Steps 2 through 4 to complete the second shelf.

Finishing

1. Fill all screw holes with wood filler.
2. Sand the completed project thoroughly.
3. Finish with the stain or paint of your choice. I painted the legs white and finished the rest of the project with a maple-colored stain.
4. Set the cart upside down on a clean surface (to prevent the top from getting marred). Then following the manufacturer's instructions, install the casters on the bottom of the legs.

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