

Go From This:



To This:



Parts Required:

- Styrofoam Box (Omaha Steak or Kansas City Steak Co.)
 - Outside: 16" D x 21 5/8" L x 14" H
 - Inside: 13 1/4" D x 18 5/8" L x 11" H
- 2 x Inside "L" Frame Rests: 1" x 2" x 11 1/4 " Pine
- 2 x Outside Handles: 1" x 2" x 11 1/4 " Pine
- 4 x Air Hole Frames: 3" x 8" x 3/16" Luanne board
- 8 x #6-32 x 2" machine screws
- 4 x #10 x 2 1/4 " deck screws
- 2 x Aluminum Screen: 3" x 8"
- 1 x Entrance board: (see drawing)
- 8 x Hive body frames (with foundation)

Picture of Parts Required

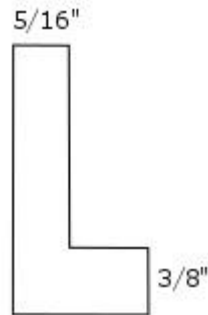


Tools

- Screw Driver (Philips)
- Drill bits: 1/8", 11/64", and 1" Forstner bit
- Table saw
- Jig Saw
- Drill
- Ruler
- Razer knife
- Sharp pointed marker

Making Inside Frame Rests

- Start with a board $\frac{3}{4}$ " x $1 \frac{1}{2}$ "
- Setup Table saw to cut out wood leaving a $\frac{5}{16}$ " x $\frac{3}{8}$ " - "L"



- Cut two to a length of $11 \frac{1}{4}$ "

Making outside Handles

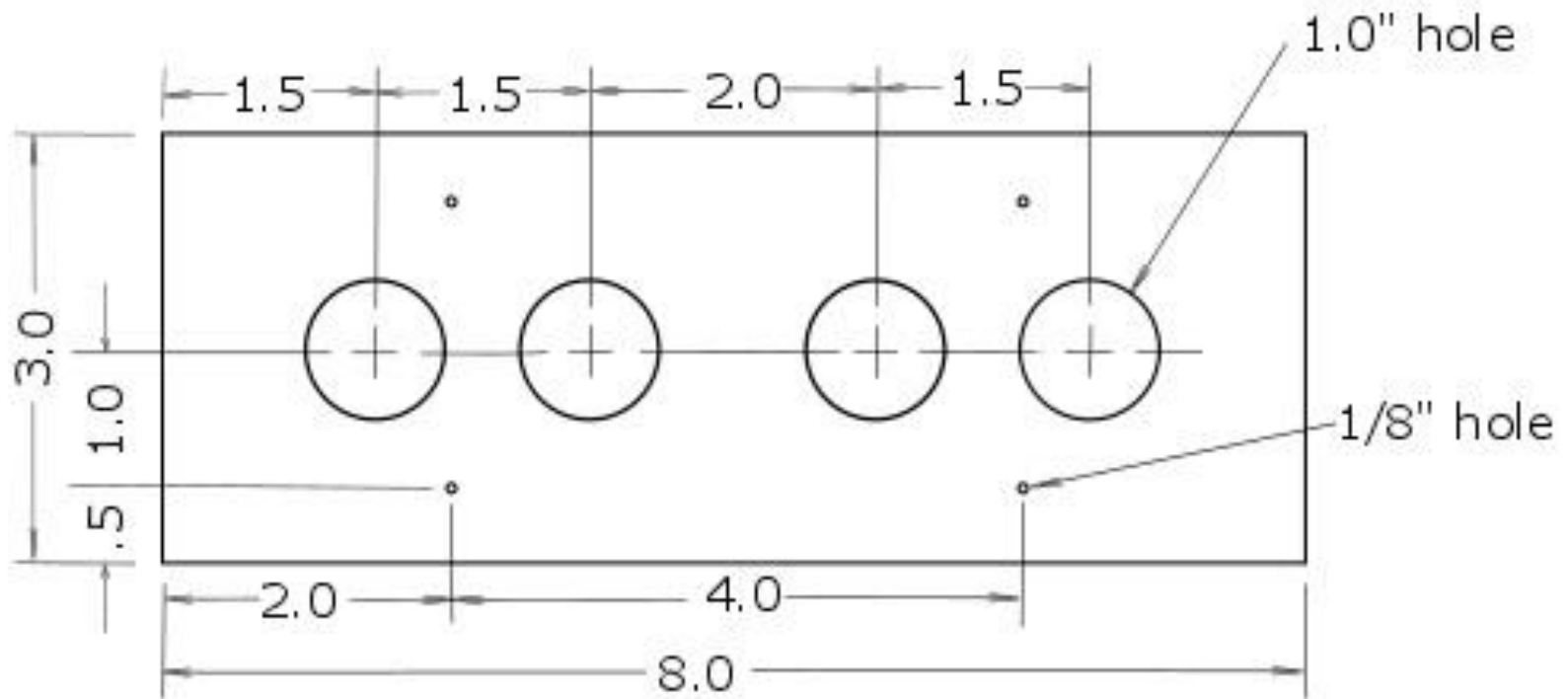
- Start with a $\frac{3}{4}$ " x $1 \frac{1}{2}$ " pine board
- Cut two to a length of $11 \frac{1}{4}$ "
- On the inside of the "L"s, mark 2 hole locations $\frac{5}{8}$ " from edge, and $2 \frac{1}{2}$ " from ends.
- Set one "L" on top of the handle and drill two $\frac{1}{8}$ " holes through both pieces. Mark these as 'set #1'
- Repeat for the second frame rest and handle. Mark as 'set #2'.
- To add hole clearance, drill out just the Inside Frame Rest "L"s, using the $\frac{11}{64}$ " bit.

Drilling the “L”s



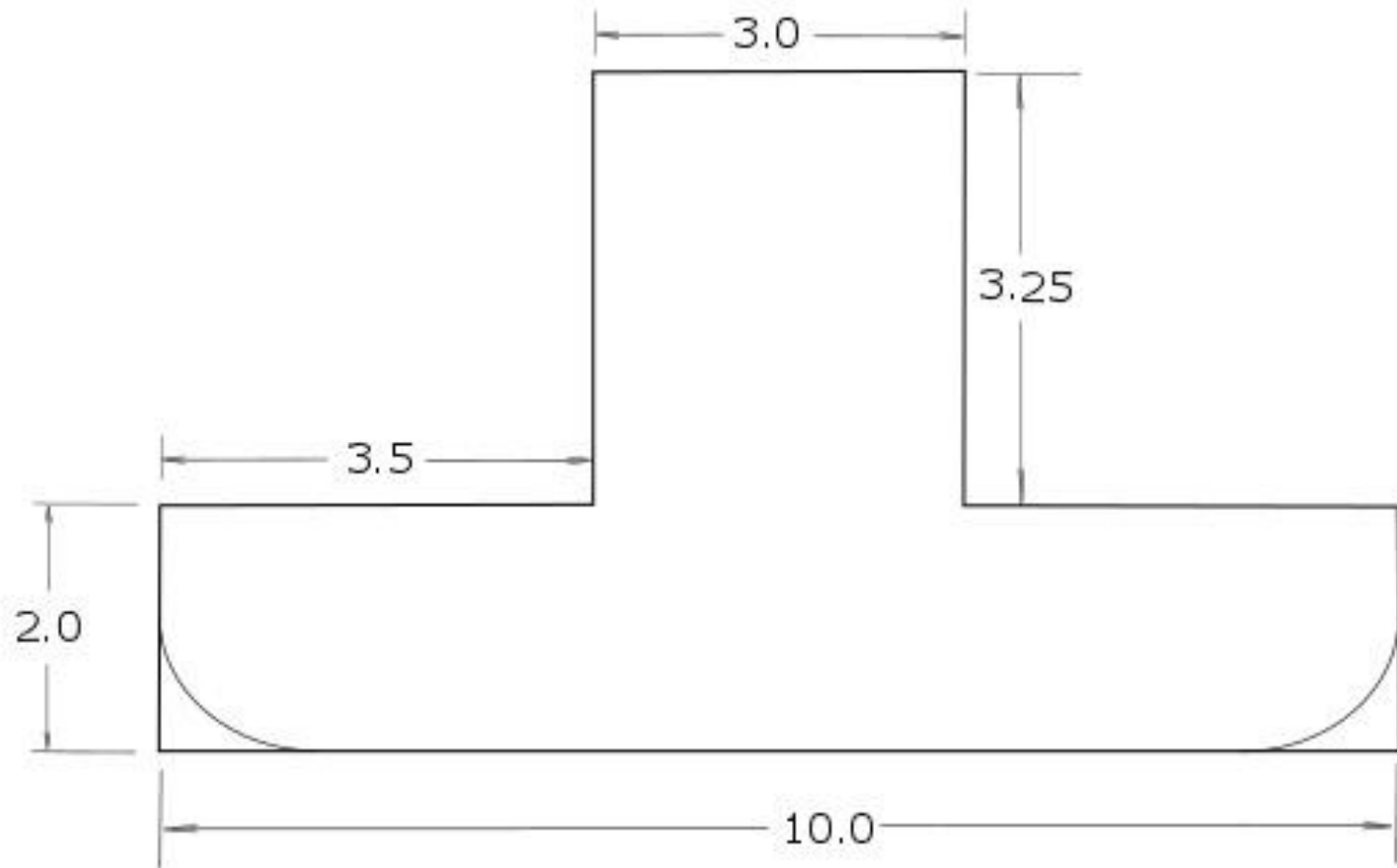
Making the Air Vent Frames

- Using Luanne plywood (3/16"), cut 4 pieces 3" x 8".
- Stack the 4 boards together and drill the holes through all the boards.



Cut out the Entrance board

- Use Luanne board 3/16" thick.
- Cut out the entrance using a saber, jig, or scroll saw.



Marking the Styrofoam Cuts

- Turn the Styrofoam box on its end with the opening facing you. On the inside lip mark the center (mine was 8 1/8"). Mark the center of the "L" frame rest and center it on the Styrofoam end.



Marking the Styrofoam Cuts

- Mark each end on the Styrofoam, all along the “L”s end (NOT across the bottom).
- Remove the “L” frame rest and from the top edge of the box mark down 1”, all across the inside between the “L” end marks.



Making the Styrofoam Cuts

- We need to cut out the area marked, to a depth of $\frac{1}{2}$ ", roughly the width of the lip. This will be accomplished with a set of cuts.
- Set your razor knife to the first notch ($\frac{1}{2}$ "), and cut with a sawing motion the "L" ends first.



Making the Styrofoam Cuts

- Set the box with the opening up.
- Extend the razor knife to full extent and cut just the lip off, to the bottom of the channel. Use a sawing action.



Making the Styrofoam Cuts

- Using the bottom of the channel and the cut off lip edge as a guide, cut $\frac{1}{2}$ " into the Styrofoam.



Making the Styrofoam Cuts

- Set the box on its end and cut $\frac{1}{2}$ " deep on the 1" down, 11 $\frac{1}{4}$ " mark. You should be able to remove the $\frac{1}{2}$ " x $\frac{1}{2}$ " x 11 $\frac{1}{4}$ " Styrofoam piece.



Mounting the Frame Rests and Handles

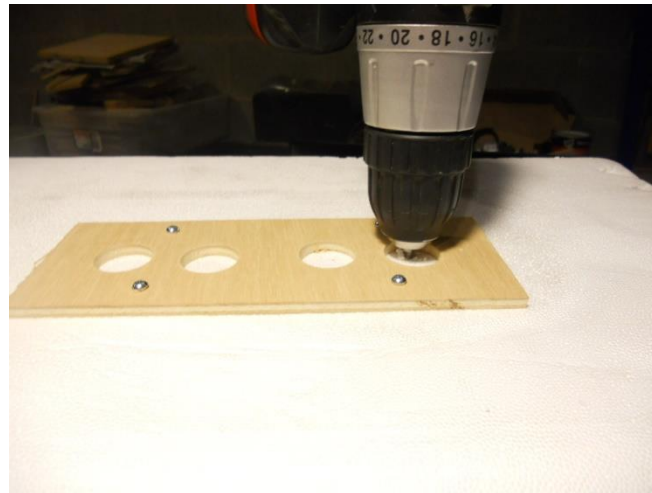
- Insert the “L” Frame rests and drive two screws (2 ¼ “) through the Frame rests, through the Styrofoam, into the handles on the outside.



- Repeat the process to add the frame rests to the other end.

Adding the Ventilation Panels

- Place on of the 4 hole air frames on the side of the box, 5 inches down from the top edge, centered end-to-end.
- Using the 11/64" bit, drill through the board and Styrofoam box side (yes it drills out the 1/8" hole already in the board).
- Put in 4 x #6-32 x 2" screws through the holes and place another 4 hole air frame on the inside (don't put the screen on at this time).
- Use a hand screwdriver and loosely tighten the screw. Don't overtighten or you will strip the wooden threads.
- Now using the inside and outside wood frames as a guide, drill out the 1" Styrofoam holes using the 11/64" drill bit. First start with 4 or more holes around the 1" hole, then rotate the bit around the 1" perimeter.



Mounting the Ventilation Panels with screens

- Clean out the holes.
- Unscrew the inside frame. Align a screen over the wood frame and using a pencil, poke holes where the screws go.
- Place the screen on the 4 screws and replace the inside panel. Snug the screws up and again don't overtighten.



- Repeat for the other side.

Creating the Hive entrance

- The bottom thickness is around 1 ½ inches.
- On one end mark a line 1 7/8" from the bottom and 3 " wide (centered).
- Using the 1/8 inch bit, drill on top of the line, as level as possible, all along the 3" mark. You can slope the drill slightly downward to prevent rain from going into the hive.
- Slowly insert the entrance board, rocking it gently side to side. Then remove it.
- Mark the bee entrance above the board slot, 5/16" x 1 ½ ". Drill it out using the 11/64" bit. Replace the entrance board.



Final preparation

- Place 8 frames with foundation in the box (one drawn out frame in the center is great)....and its ready to go.....

