

shelf utility rail

WITH JENNI YOLO

TIME: *About 3-4 hours
(including drying time)*

YOU WILL NEED:

- 2 1x4s, 8' long
- 1 box of 1 ½" trim screws
- 1 box of 2 ½" wood screws
- 1 quart of paint
- 1 2" paint brush
- 1 8' section of copper tubing
- 2 copper tubing caps
- 1 tube of Rub N' Buff
- 1 foundation makeup brush (to apply Rub N' Buff)
- 1 package of six or more "S" hooks
- 1 20-gauge brad nailer
- 1 carpenter's pencil
- 1 tape measure
- 1 miter saw
- 1 90-tooth ultra fine blade (for miter saw)
- 1 power drill
- 1 drill bits
- 1 ½" spade bit (to drill hole for tubing)
- 1 clamps (to hold triangles as you core them)
- 1 tube cutter
- 1 level
- 1 stud finder
- 1 marker
- 1 ruler
- 1 small tube of caulk
- 1 tube of wood filler
- 1 sheet of 150-grit sandpaper
- 1 pair of safety goggles

MEASURE THE SHELF SPACE AND MARK STUDS

1. Measure the space where you'll be mounting your shelf. It's important to get this measurement precise, so the shelf fits snugly in place. Locate and mark studs in the wall so that you can mount your shelf directly into them.

TIP: *You can also mark the stud measurements on the shelf itself so that you don't place brackets at the exact stud mounting points.*

CUT AND ASSEMBLE THE SHELF

2. Mark both 1x4s to the measurement you chose above and cut with a miter saw. Make sure your miter saw is set up properly and use the 90-tooth ultra fine blade for this. Keep the unused ends of the 1x4s to use for our triangular brackets. Create shelf structure by setting one 1x4 horizontally on top of the other vertical 1x4. Clamp the shelf to your work bench if possible. Use the brad nailer to nail them together, as this will keep them attached until we screw them together with our trim screws. Drill pilot holes with a drill bit just a bit smaller than your wood screws. Pilot holes are very important here to avoid your wood splitting. Start on one end and drill your first pilot hole about two inches in from the edge. Drill additional pilot holes every 12 inches until you reach the other side of the shelf. Screw a 1 ½" trim screw into every pilot hole.

CUT AND PREPARE BRACKETS FOR TUBING

3. Once assembled, measure the interior dimensions of the shelf and mark these on your reserved 1x4 pieces. Connect these measurements with straight lines to create a triangle using your pencil and ruler and then cut the triangles out using your miter saw. These will be your triangle brackets. Cut as many as you like, but at least two. They hold the copper tube rail, but don't provide support to the shelf itself. We like to have one every foot or so.

4. With each triangle, start at the 90 degree angle corner and measure one inch from both the top and back side and mark with your pencil. This is where you'll drill a hole for the copper tubing with the ½" spade bit. Use a clamp to secure your triangle so it does not move when drilling the hole. Attach ½" spade bit to your drill. Position your spade bit tip at the mark you made on each triangle and drill a hole through each.

PAINT THE SHELF AND BRACKETS

5. Apply the first coat of paint to the shelf and all the triangles. Allow to dry for 30 minutes. Apply a second coat of paint to the shelf and all triangles. While the second coat dries, you can cut and buff your copper tubing.

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CUT COPPER TUBING AND BUFF

6. Mark copper tubing with a marker to the same measurement as the 1x4s. Cut copper tubing to length with a tube cutter. Apply the Rub N Buff to the copper tubing with a makeup brush. This will give a higher end brass/gold look to the rail. You could also skip this step if you prefer a more industrial copper look. Once applied, let the tubing sit for 10 minutes.

TIP: *The Rub N' Buff has a strong odor, so it's best to do this in a well ventilated area.*

FINISH ASSEMBLY AND MOUNT TO WALL

7. Thread all triangles onto your copper tubing. Set the tube with triangles threaded into the shelf. Space out your triangles however you want them—we suggest starting at the center and spacing one out every 12 inches in both directions. Use brad nailer to put one nail into each bracket. Drill pilot holes for each triangle, half an inch from the back and half an inch from the top to avoid hitting the tube. Use 1 ½" trim screws to fasten triangles to the shelf in each pilot hole. Now is a great time to do any touch up painting and fill in any gaps in the wood with caulk. I use a small tube of caulk or wood filler with a fine nose to get it into small crevices. Paint over areas with caulk.

8. Move your shelf to the mounting area. Hold up the shelf and ensure it is level using your level (it's best to have a second set of hands here). Mark all studs again above the rail. Start on one end and drill the 2 ½" screws through the shelf and into each stud all the way across to mount the shelf to your wall. Drill them a bit deeper (a millimeter or two past the wood surface) into the shelf so you can add wood filler for a smooth finish. Add wood filler to each screw hole, allow to dry, and then sand as needed with 150-grit sandpaper. Paint over screw holes.