

# Paper Towel Holder

*This holder is as easy to take apart as it is to put together. When you need to replace an empty roll of towels with a fresh one, just remove the two small pins, and slip the dowel rod out. If you prefer washable cotton towels to disposable paper ones, stitch together a loop of cotton material, and then slip the loop over the dowel.*

## Materials List

White pine is recommended for this project.

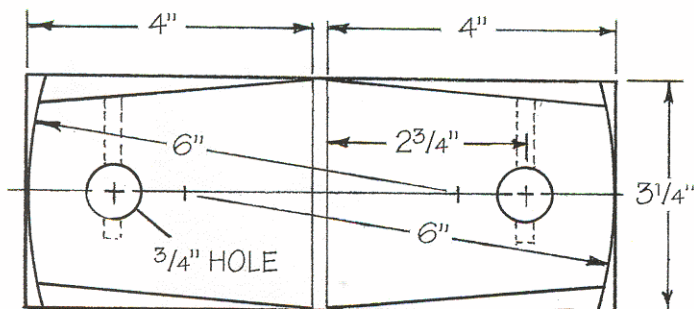
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|-----|-------------------------|------------------|
| (1) | 3/4" x 3-1/4" x 20-3/4" | Back and arms    |
| (1) | 3/4" x 13-1/4"          | Birch dowel      |
| (1) | 1/4" x 5"               | Birch dowel pins |

## Suggested Tools

36" straightedge  
Try square  
Compass  
Jigsaw  
Router  
45° 7/16" chamfer bit  
No. 2 Phillips screwdriver  
3/8" drill  
9/32" and 3/4" drill bits  
No. 8 pilot bit and counterbore with stop collar

## Hardware & Supplies

Yellow wood glue  
No. 8 x 1-1/4" flathead wood screws  
Spray lacquer



ARM LAYOUT

## Construction Procedure

1. Strike a line directly down the center of the 3/4" x 3-1/4" x 20-3/4" piece, from end to end (see Arm Layout).
2. At this center line, measure and mark points 4" and 6" in from each end. Then, with a try square, mark lines across the wood at the 4" points.
3. With a compass, scribe a 6" radius at each end of the piece, using the 6" mark as a pivot point.
4. Measure 3/8" from each long edge, and strike lengthwise lines at these points. Draw diagonals from the points where the 3/8" lines cross the 6" radii to the edges where the 4" cross-lines are marked.
5. Use a jigsaw to cut the curved edges of the marked radii and the diagonal edges. To create the two arms, make two straight cuts on the lines marked at the 4" points; the remaining 12-3/4" section will serve as the rack's back.
6. Measure 2-3/4" from the square end of each 4" arm, and mark at the center line (see Arm Layout).
7. At these points, drill a 3/4" hole through each piece.
8. Using a 45° 7/16" chamfer bit in the router, chamfer all but the square-end edges of the two 4" arms, including the curved ends. Then center two chamfers, each 11" in length, in the face edges of the 12-3/4" back.
9. Sand all three pieces. Also sand down the 3/4" dowel so that it slips through the 3/4" holes in the arms.





**10.** Position the arms on the face of the back piece so that their exterior faces are flush with the back's ends. With a pilot bit and counterbore, drill holes  $\frac{3}{8}$ " in from the back's ends (drilling from the back side) and into the square ends of the arms. Set the stop collar at a depth of  $1\text{--}1\frac{1}{4}$ ".

**11.** Fasten the arms to the back with wood glue and No. 8 x  $1\text{--}1\frac{1}{4}$ " flathead wood screws.

**12.** When the glue has dried, chamfer the corners off the back piece with a router.

**13.** Center the dowel in its mounting holes. To create holes for the dowel pins, drill a  $\frac{9}{32}$ " hole, 2" deep, through the top of each arm,  $2\text{--}3\frac{3}{4}$ " from the square ends. Both holes will penetrate the  $\frac{3}{4}$ " dowel.

**14.** Cut the  $\frac{1}{4}$ " dowel in half to make locking pins for the  $\frac{3}{4}$ " dowel.

**15.** Remove the  $\frac{3}{4}$ " dowel, sand all the wood lightly, and finish it with three or more coats of clear spray lacquer.

