

Plate rack



Materials:

- Glue
- Clear pine boards
- 3/8" dowelling
- Stain
- Water based urethane
- 1-1/2" finish nails

Tools

- Drill and drill bits
- Saw
- Hammer
- Nail set
- Rubber mallet

Steps:



Determine size of plate rack that will fit your plates



If the rack is too large the plates won't stand up, like this blue one

Lay 'em Out

First off, you need to determine how deep your rack should be. Get out one of your full size plates, and a side plate as well. Measure the diameter of each plate. Calculate the size of the upper and lower shelves by reducing the measurement of each plate by one

third.

To allow enough room for the plate to enter and exit the rack, the height of each shelf should be the diameter of the plate plus about two inches.

Also, the plates need to be set a comfortable distant apart, so dowels are spaced 1-1/4" apart, measured from centre to centre.

The outer frame is a rectangle built from 1" x 4" clear pine. Adding an oversized top piece pleases the eye, so try 1" x 6" clear pine on top, and let it run about three-quarters of an inch long at the edges for design 'oomph'.



Cut drill and finish all the pieces first



Drill the holes two drill-bit sizes larger than the dowel



Space the holes one and one-quarter inches apart, measured centre to centre

Foul Dowels

The plate rack consists of a zillion (I counted) hardwood dowels set in square lengths of clear pine trim. To connect everything properly, bear these four things in mind when drilling for the dowels:

1. The top piece of rear trim has dowel-holes in just one side.
2. The centre piece has holes in three sides.
3. The bottom piece has holes in two sides.
4. Each shelf requires a 1" x 1" length of front trim with holes in one side to catch the front end of the dowels.

TIP: When drilling the trim, mark the centre of the board to be drilled. Then mark 1-1/4" intervals along the board in each direction. Drill on the marks using brad-point bits or Forstner bits for accuracy.

OTHER TIP: Drill the holes two drill-bit sizes LARGER (about 1/32) than the actual size of the dowels because the dowels get fatter during the finishing process.



Aniline stains come in powder form in small envelopes



Stain everything first



Then coat with water-based urethane

Finish Early

After you have all the dowelling and trim cut to length, apply stain and/or water-based urethane to everything **BEFORE** assembly. I speak from experience: there's **NO WAY** you want to stain this bugger after you've put it all together, and I have the bitter memories to prove it.

Aniline stain (from Lee Valley Tools) is a great water-based stain. Just mix the powder with distilled water. Test the shade on a waste piece of project wood. If it's too dark, dilute it with more distilled water or use a damp cloth to wipe off excess. Spraying clear water on the wood first will also prevent the pigment from soaking in as much and becoming too intense. End grain in particular will absorb more stain than the surfaces so wet it thoroughly before applying stain.



Use sand paper glued to a smaller dowel to ream the holes if necessary



Put glue in the holes



Start from one end, inserting the shelf dowels into the holes



Use a rubber mallet to help seat the dowels

Together at Last

Now you're at the peak moment where you can assemble everything.

Assemble the plate shelves first. Glue all the horizontal dowels in place in the pre-drilled back pieces.

If the holes for the dowels are too tight, glue some sandpaper to a smaller dowel, put the dowel in your drill and enlarge the hole enough for a snug fit.

Next, glue the dowels into the front trim. Then glue the vertical dowels into the back pieces. Work from one end, setting each dowel as you go. Use a rubber mallet to cajole the dowels into place.



Add the end pieces to the shelf



Make a shelf for the bottom of the frame



Glue and nail the sides to the bottom shelf



Place the shelf assembly in the frame



The shelves should be inset roughly two inches from the back



Glue and nail all the pieces in place

Frame and fortune

Make the frame to fit the width and height of the shelves. The bottom piece forms a small shelf and should be five or six inches below the bottom plate shelf. Add hooks under the bottom frame to hang cups.

Put the outer frame together with glue and 1-1/2" finish nails.

Next, you have to locate the spindly rack contraption within the outer frame. The shelves should be inset about 2" from the back of the frame so that your plates don't hit the wall. Glue the two units together and then nail them in place. Add the 1" x 6" top trim board.



Use a hammer and nailset to sink the nail head below the surface of the wood



Fill the nail holes with oil based putty mixed to the correct colour

Using a nailset, sink all nail heads a little deeper than the wood surface.

Fill the nail holes with MinWax oil-based wood putty, which comes in about fifteen shades so you can mix it to smartly match your finish.



Completed plate rack



Plates stand up nicely

