

# Mission Style Wall Mirror



## Instructions for building the Mission Style Wall Mirror

By RJ Brown

W<sup>5</sup>: WoodWorking on the World Wide Web

- 1.) I used quarter sawn white oak to build the Mirror shown, but have also made them from plain sawn white and red oak and cherry. The important thing is to make sure your stock is fairly straight grained. This is especially important on the cornices since they are cut to very thin proportions along much of their length.
- 2.) Plane your stock to 3/4" thick then and cut all individual pieces to the dimensions shown on the parts list. After planing the stock, I used my jointer to square up one edge, then ripped the pieces on the table saw to 1/16" wider than the specified widths and made a final 1/16" pass on the jointer to clean up the saw marks. Cut all the pieces to length with your miter saw, RAS, or table saw and miter gauge.
- 3.) I have a morticing attachment for my drill press and used a 3/8" bit to cut the mortices. Alternate methods would be to drill 3/8" diameter holes with a Forstner bit then clean up with a chisel, or use a morticing chisel to cut them by hand. Since the mortices are cut all the way through the stock you'll probably have to cut from both sides. I had to do this since my morticing drills would not extend through the width of the stock. Be careful when cutting or drilling into the opposite side to insure good alignment of the mortices.
- 4.) I used my Delta tenoning jig to cut the tenons on the rails but you can use your band saw or dado blade to do this. Use your table saw and miter gauge to make the shoulder cuts around the stock before cutting out the tenon waste. And take extra caution when cutting the tenons – starting out with the tenons too fat is always better than cutting them too thin. You want a snug fit that still can be assembled by hand. While cutting the tenons, be sure to test each one in its appropriate mortice to get the best fit. Once the mortice and tenons have been cut in both stiles and both rails, do a dry fit to make sure the pieces can be assembled.
- 5.) I cut the bevels on the tenon ends with my power miter saw but this could be done with a belt or drum sander as well.
- 6.) I took a simple approach to supporting the mirror glass in the frame by cutting a 1/8" kerf along the inside opening, 1/8" back from the face. You can cut this kerf on the table saw, and the rails can be cut along their entire length. However, you'll want to make a stop cut on the stiles so the cut doesn't show at the top and bottom of the frame. Now, I realize this is not the best method for mounting the glass; if it gets broken, how are you going to install a new one? My thinking is if this ever does occur, I'll simply route out a rabbet on the back at that time and drop in a new glass. You

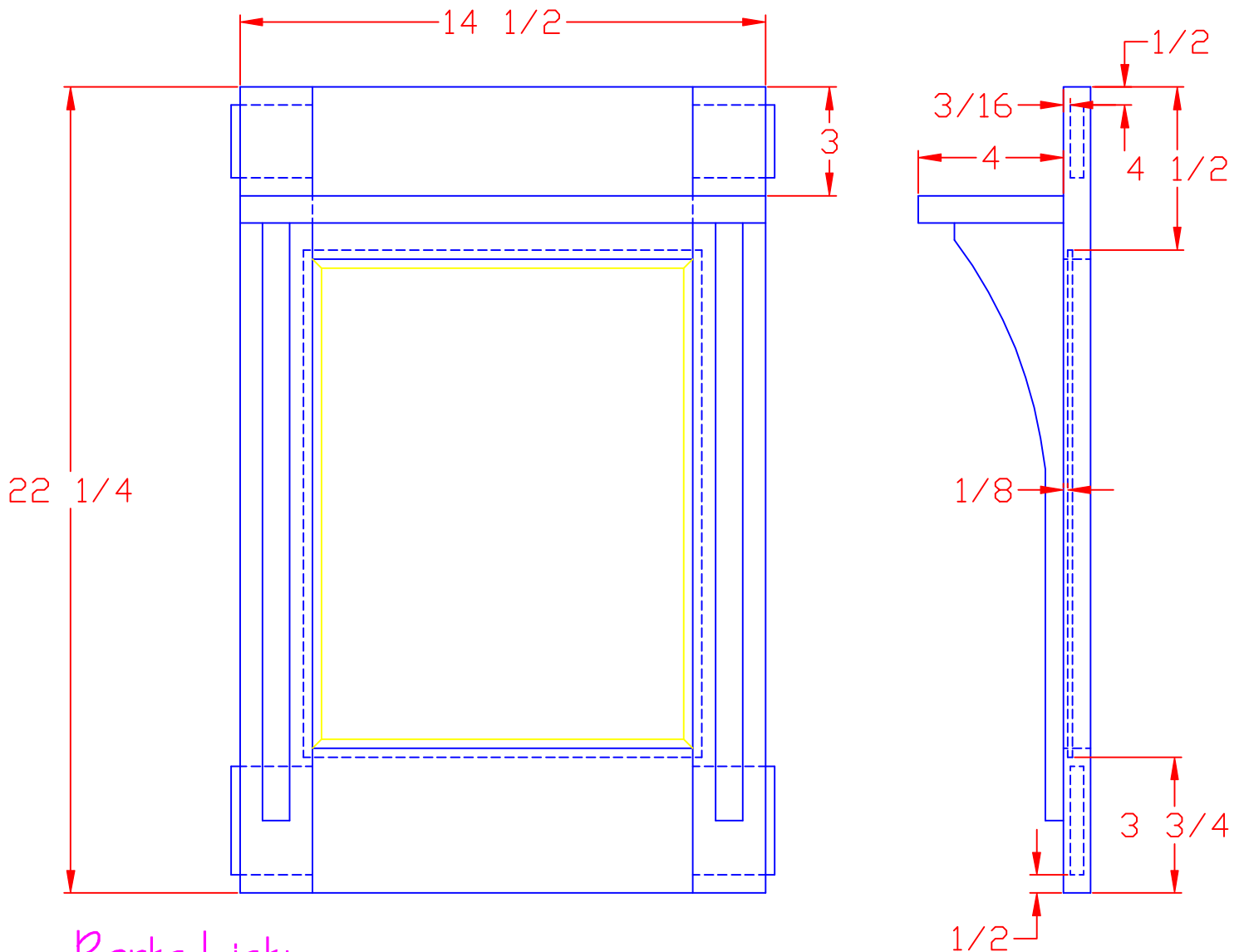
may choose to make a rabbet cut from the back instead of the kerf cut before assembling the frame. Either use a dado blade on the table saw or a rabbeting bit in your router to make the cuts. You could then use glass brads to hold the glass against the face of the rabbet cut. Another good reason to do this the right way now is to make it easier to apply the finish. Since I had the mirror captured in the frame I had to tape and mask it to keep the finish off.

- 7.) I don't own a band saw (yet), so I used my saber saw to cut the waste away on the cornices pieces. I then cleaned the cut up with a 1" diameter drum sander chucked up in my drill press. The cornices are mounted to the frame with four #10 biscuits, and glue. No glue is used where the cornices cross the rails to prevent cross-grain problems.
- 8.) The shelf is also mounted with biscuits and glue. I cut three #10 biscuit slots along the back of the shelf and the top rail, and one each atop the cornices. As with the cornices, there is no glue where the shelf crosses the stiles – only on the rail and top of the cornices.
- 9.) Be sure to do a dry-fit of the entire assembly before gluing to insure proper fit of all the pieces. When you're satisfied that everything is a-okay, do the final assembly. When putting the rails and stiles together, I generally insert the tenons partway through the mortices before applying glue. This keeps the ends of the tenons from coming out all smeared with glue. After the frame is glued and clamped, use biscuits and glue to install the cornices and shelf and then clamp.
- 10.) I used golden oak Danish oil to finish the quarter sawn white oak, applying it as instructed by the manufacturer. After the oil finish dried, I applied a single coat of satin oil wax.

I hope you enjoy building this simple project. It is a good piece on which to develop the skills needed for building Mission or Arts & Crafts style furniture. The mortice and tenon joinery is a little tough to master at first, but with a little practice, and the right tools, you'll be cranking them out like Stickley himself!

Good luck and have fun! 😊

# Craftsman Wall Mirror



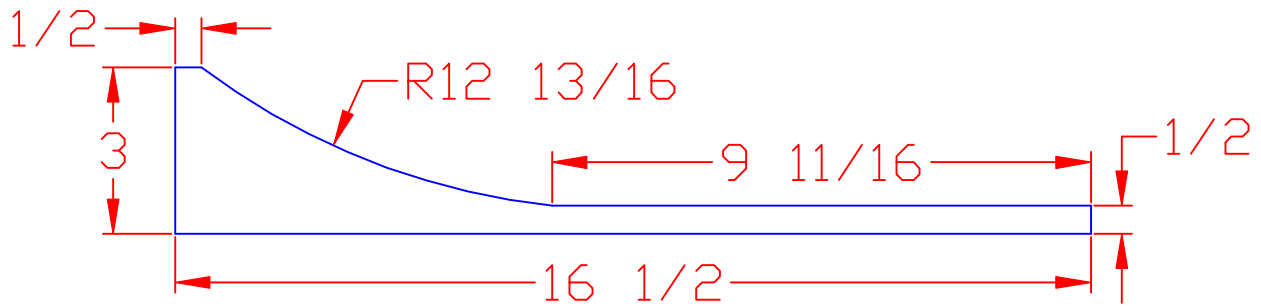
## Parts List:

Top Rail	1 - 4 3/4 x 15
Bottom Rail	1 - 4 x 15
Stiles	2 - 2 x 22 1/4
Shelf	1 - 4 x 14 1/2
Cornice	2 - 3 x 16 1/2

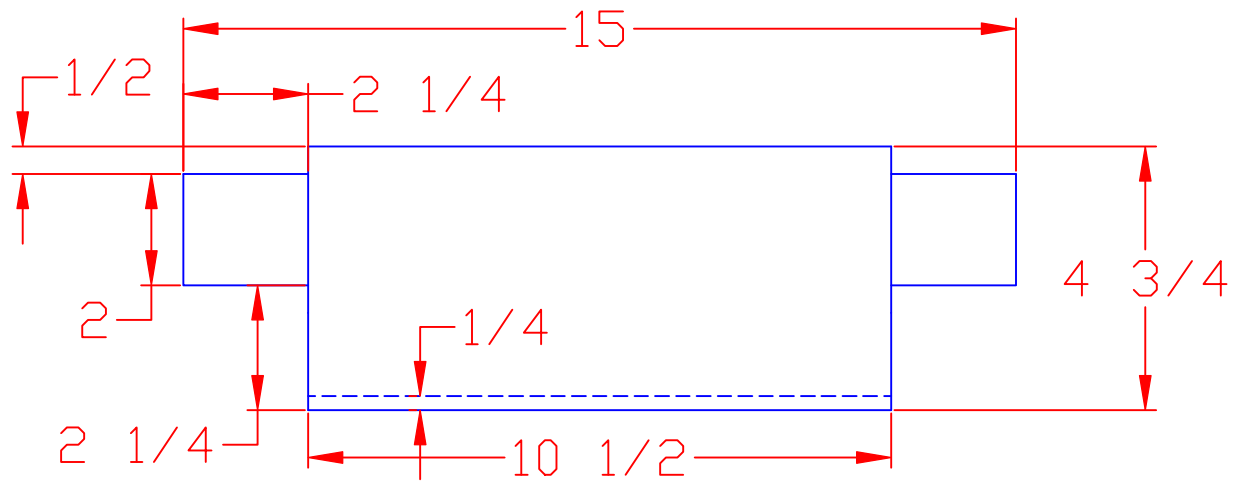
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# Cornice Detail

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# Top Rail Detail



# Bottom Rail Detail

