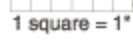


An antique-inspired quartersawn oak rocker for two



You can use quartersawn red oak for this project, rather than the flat-sawn stock of the original. This gives the piece more visual interest, and is more dimensionally stable than flatsawn stock. You can also add curves to the back panel and seat support rails. The end result transformed the original rustic, nailed-together antique to a formal piece of furniture built with lasting joinery.

### **Start with Templates**

Not everyone will want to build this piece using templates, but I'm a stickler for accuracy and symmetry. Templates for the side panels and the rockers ensure both pairs of parts are identical. I also made templates for the curve at the top of the back panel and for the curved rails under the seat.

Make your templates using 1/2"-thick Baltic birch plywood. Other types of plywood will work, but Baltic birch is free of gaps between the plies, and lasts for years of repeated use. After drawing the final shape on the plywood, cut as close to the line as possible using a bandsaw or hand-held jigsaw. Cut as accurately as you can and then smooth the curves by power sanding. I used a sanding drum on my drill press. Just remember that any imperfections left on the edge of the template will be transferred to your final parts by the flush-trimming router bit that duplicates them. Time spent on templates now enhances accuracy later.

Using the templates, determine the width of boards needed to make the rough part blanks. I started with rough-sawn lumber and dressed it myself, but you can use ready-milled lumber if necessary. Either way, arrange the unglued boards on your workbench, mix and match them for best appearance, then place the templates over top to verify that each arrangement is wide enough. Here's a wood-saving tip for the rockers: since a single 4"-wide piece makes up the bulk of each rocker, glue small pieces of wood only on the ends, to make up the tips of the rockers for the extra material you need there. This saves lumber and sawing and ensures that the top edges of the rockers are perfectly flat where the side panels meet them. Use the rocker template to line up the parts to be edge glued.

Glue all the boards you'll need for the seat, back panel, side panels and rockers. After the glue has cured for 24 hours, level the panels using a hand-plane or thickness planer if you have access to one that is wide enough. You can also use a belt sander if you haven't developed hand-planing skills yet.

### **Template Routing**

Use the plywood templates again to draw the final part shapes. Cut just outside the line, about 1/16" away, using a bandsaw or jigsaw. If you're using a jigsaw, don't try to come within a hair of the pencil line, as your jigsaw blade can often drift inward at the bottom and take too much off.

After trimming close to the line, attach the template to the panel using double-sided carpet tape. One piece in each area of the template is sufficient--the tape is so strong that it won't slip while routing. You might even have to gently pry the template off the panel with a screwdriver after pattern routing. Make sure the panel edges extend beyond the template edges in all areas. Next, use a 1/2"-dia. flush-trimming bit in a table-mounted router to trim the edges of the panels to the template's edges. Proceed slowly in curved areas where the bit is cutting against the grain. Make repeated passes until you can't hear the bit cutting any more wood.

Pattern routing is a great technique to make all the curved parts, with one exception: don't rout the ends of the rockers, the combination of hard end grain and tight curves will result in severe kickback. Stay clear of the ends by a good inch or more and sand to the pencil line with a sanding drum or belt sander after the pattern has been removed.

| Part                     | Material            | Size                      | Quantity |
|--------------------------|---------------------|---------------------------|----------|
| Side panels              | quartersawn red oak | 1" x 25" x 38"            | 2        |
| Back panel               | quartersawn red oak | 1" x 25" x 35"            | 1        |
| Seat                     | quartersawn red oak | 1" x 15" x 35 3/4"        | 1        |
| Front seat strip         | quartersawn red oak | 3/4" x 1" x 36 1/2"       | 1        |
| Curved rails             | quartersawn red oak | 1" x 4 1/2" x 35"         | 2        |
| Support stretcher        | quartersawn red oak | 1" x 3" x 35"             | 1        |
| Rockers (excluding tips) | quartersawn red oak | 1 3/4" x 4" x 42"         | 2        |
| Rear rocker tips         | quartersawn red oak | 1 3/4" x 2" x 6"          | 2        |
| Front rocker tips        | quartersawn red oak | 1 3/4" x 3 1/2" x 9"      | 2        |
| Footboards               | quartersawn red oak | 1 1/2" x 2 1/2" x 38 3/4" | 4        |
| Template stock           | Baltic birch ply    | 1/2" x 60" x 60"          | 1        |
| Dowels                   | fluted              | 1/2" x 1"                 | 26       |
| Dowels                   | oak                 | 1/2" dia. x 14"           | 1        |

## SEAT AND SIDES

These parts fit together with dado joints, and include a front seat strip that extends across the front of the sides to improve appearance. Prepare these parts, but leave the front strip off for now. It's easier to make the seat first, without this front seat strip in place, and then add it later. Just be sure to hand-plane or sand the narrow piece flush with the rest of the seat when you finally join the two.

Next, cut 3/8"-deep x 1"-wide dados on the inside face of the side panels to accept the ends of the seat. For this job I used several passes with a 1/2" straight bit in a hand-held router, guided by a wooden strip clamped to the panel sides. Be sure to stop these dados 1" from the back edge of the sides, squaring up the curved ends left by the router.



Now's the time to cut the back panel, two curved rails, and support stretcher to identical final lengths. These lengths are actually pretty critical, so take your time. Too long and the seat won't go all the way into the dados, robbing support strength and racking resistance from the finished project. Parts that are too short won't join with the sides properly because the seat prevents the parts from coming together fully.

Attach the side panels using three 3/8"-dia. x 11/2"-long fluted dowels. The support stretcher uses only two. First, drill 1"-deep holes in the end grain of the back, curved rails and the support stretcher using a dowel drilling jig and a hand-held drill. Transfer those holes to the side panels using dowel centers and drill 5/8" deep holes following the marks they leave behind.

Attach the back panel to the side panels with dowels too. Don't space dowels along the entire end of the back panel because it restricts seasonal wood movement and will result in a cracked back. Instead, position the first dowel 2" from the top of the back panel and then four more dowels just 2 1/2" apart from there. This way, only a partial section of the back panel is glued to the side panels, in the area where the upper back supports the most weight.

For the same reason, be sure to follow the detail that shows how the back panel sits behind the rear edge of the seat, not on top of it. Most of the expansion of the back panel occurs below the stretch of dowels, so the back must be able to move up and down behind the seat, where movement is hidden.

## ROCKERS AND FOOTBOARDS

Once all of your parts are made and the joinery is complete, round over all hard edges with a 1/4" radius roundover bit. Do this everywhere with a couple of exceptions: the top edges of the curved rails should remain sharp so that they butt up tightly against the underside of the seat and the bottom edges of the side panels should be left sharp where they will meet the rockers.



After routing, sand all parts well before assembly. Start with 120 grit and work up to 220 grit, using a random orbit sander for large surfaces and hand-held paper on the edges. After sanding, assemble the bench using PVA glue. If your joinery is accurate and tight, this glue is the best option, but you must work quickly. All parts have to go together at the same time. If your joinery is questionable, use a slow setting two-part epoxy. It fills gaps with strength that PVA can't match. You will need at least eight 48"-long pipe clamps for this job. Place one at the ends of each curved rail and the support stretcher, one at the front and back of the seat and the remaining clamps along the joinery between the back and side panels.

### Rockers and Footboards

Fit the rockers to the bench after assembly. Drill four holes into each rocker along its center for the #12 x 4"-long screws that thread into the sides. Counter bore first for the screw heads and then continue the clearance hole all the way through for the screw shanks. Make the clearance holes slightly larger than the screws to allow room for wood movement along the width of the side panels. The rockers present another cross-grain construction challenge where they meet the side panels.



Next, transfer the rocker holes to the underside of the side panels and drill small pilot holes for the screws to bite into. They should be small enough to hold the screw threads, but not so small that a huge amount of torque is required to drive the screws.

Don't cut the footboards to final length until the rockers have been attached to the bench. They should overhang the rockers by about 1/2" on each end and have all four edges routed with a 1/4"-radius roundover bit. Drill 1/2"-dia. dowel holes through the footboards so the dowels go into the center of the rockers, making sure to leave a small gap between the footboards to allow for seasonal movement. When your footboards and rockers have been completely sanded and all of the sharp edges softened, glue them to the rockers using the dowels as pins. I left mine proud and chamfered the top end of the dowels for a decorative touch.

### FINISHING TOUCHES

I used two different colors of tinted Danish oil, mixed to get the hue I wanted--a medium walnut tint with some cherry added to give warmth to the brown. Since varnish is one of the ingredients of Danish oil (though a small percentage), the two finishes are absolutely compatible. Blend one part satin oil-based polyurethane into three parts of the Danish oil mixture to add more sheen and protection. Apply three coats using a soft rag, and wipe off the excess. Allow each coat to dry thoroughly before applying the next.

Let the finish cure for two to four weeks then apply a coat of paste finishing wax--it takes that long for all the solvents to evaporate and for the finish to reach its full hardness. Then make yourself a cup of tea and enjoy your new rocking loveseat with someone special.