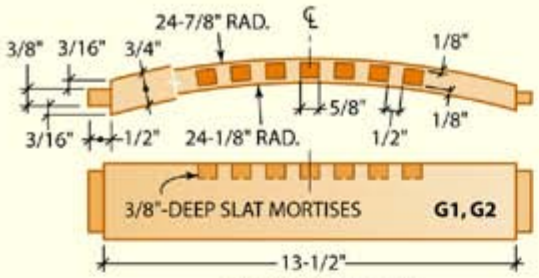
159

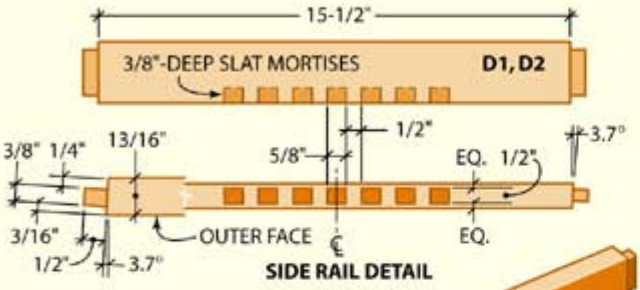
CLASIC ROCKER

ARTS & CRAFTS ROCKER

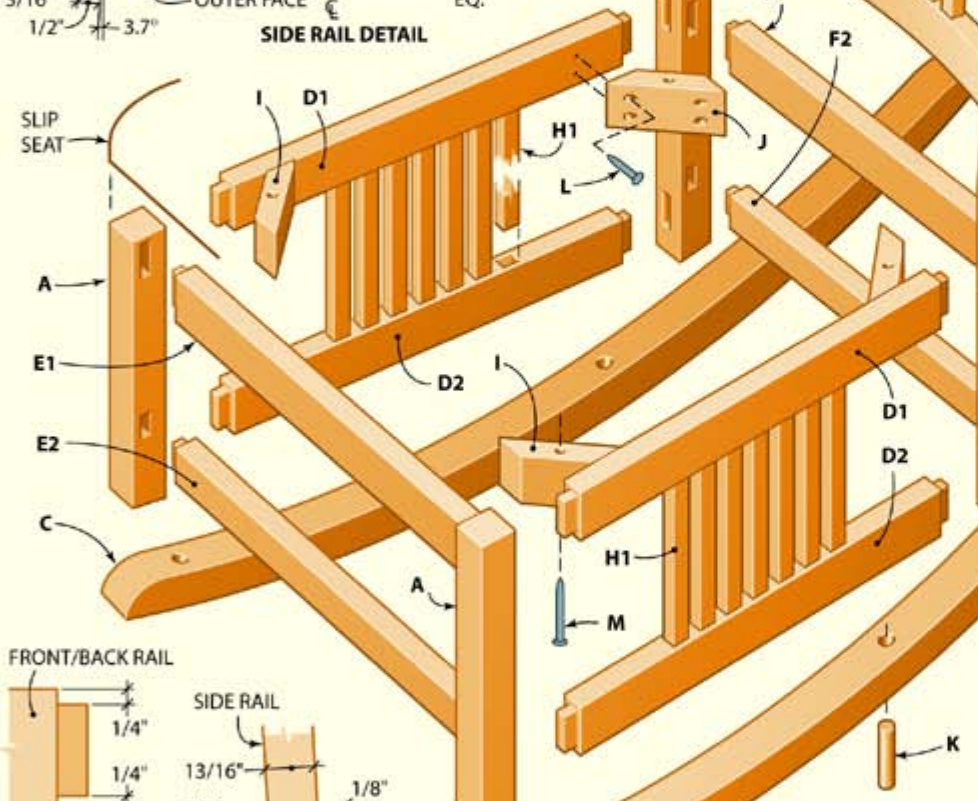
18-5/8" WIDE X 35-1/2" DEEP X 40-3/4" HIGH

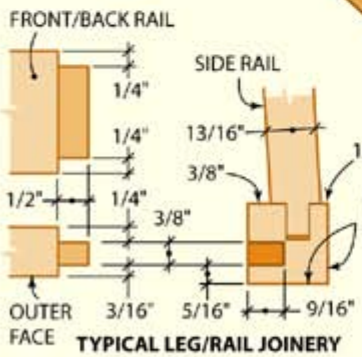


CURVED RAIL DETAIL

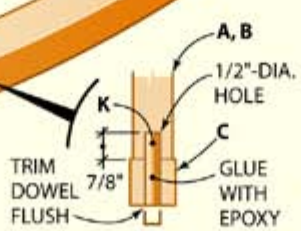


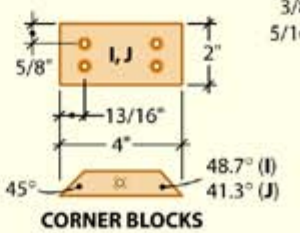
SIDE RAIL DETAIL



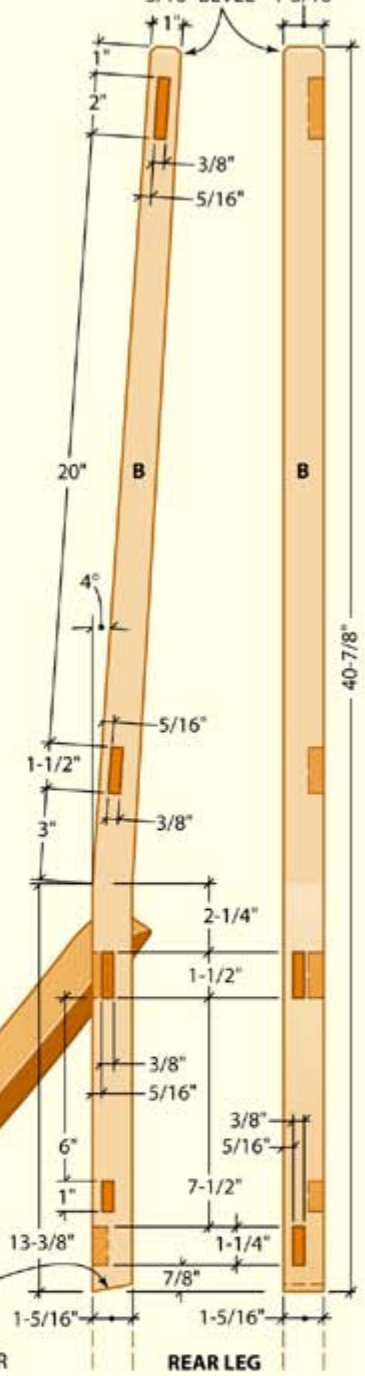


TYPICAL LEG/RAIL JOINERY

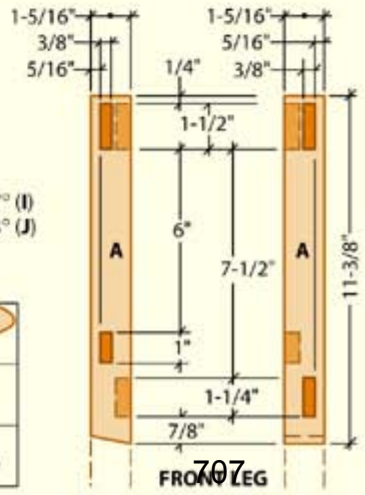




CORNER BLOCKS



REAR LEG



FRONT LEG

Materials List--Rocker		
Key	**No.**	**Size and description (use)**
A*	2	1-5/16 x 1-5/16 x 11-3/8" oak (front leg)
B*	2	1-5/16 x 3 x 40-7/8" oak (rear leg)
C	2	1-1/2 x 5-1/2 x 35-1/2" oak (rocker)
D1	2	13/16 x 2 x 16-1/2" oak (side top rail)
D2	2	13/16 x 1-3/4 x 16-1/2" oak (side bottom rail)
E1	1	13/16 x 2 x 16-1/2" oak (front top rail)
E2	1	13/16 x 1-1/2 x 16-1/2" oak (front bottom rail)
F1	1	13/16 x 2 x 14-1/2" oak (rear top rail)
F2	1	13/16 x 1-1/2 x 14-1/2" oak (rear bottom rail)
G1	1	1-3/4 x 2-1/2 x 14-1/2" oak (back top rail)
G2	1	1-3/4 x 2 x 14-1/2" oak (back bottom rail)
H1	14	1/2 x 5/8 x 7-3/4" oak (side slat)
H2	7	1/2 x 5/8 x 20-1/4" oak (back slat)
I	2	13/16 x 2 x 4" oak (corner block)
J	2	13/16 x 2 x 4" oak (corner block)
K	4	1/2"-dia. x 3"-long dowel (rocker pin)
L	16	1-1/2" No. 8 fh woodscrew
M	4	2-1/2" No. 8 fh woodscrew
* Leave leg bottoms several inches longer to be trimmed when rockers are installed.		

Preparing The Pieces

Use a ripping guide and circular saw to bring your stock down to the required widths (Photo 1). To make the cuts safely and accurately, clamp the wide stock to some scrap blocks on your worktable and use two hands to control the saw. Rip the slat and rail blanks slightly oversize, and use a plane and sandpaper to smooth the sawn surfaces. Then use a speed square as a guide to crosscut the stock to size (Photo 2). When cutting the chair legs, leave the blanks several inches longer than specified. You'll trim the legs to finished size after assembling the frame.

Use a circular saw and ripping guide to rip the stock. Clamp the work to your table so both hands control the saw.

Next, make a template for the rockers from a piece of 1/4-in.-thick plywood or hardboard. Trace the outline of the template onto the rocker stock. By nesting the two rockers on the blank, you'll minimize waste. Cut the rockers from the blank with a sabre saw (Photo 3), keeping the blade on the waste side of the line.

Clamp one of the rockers to the worktable and use a sharp spokeshave to smooth the inside curve (Photo 4). Turn the rocker over and use either a plane or the spokeshave to smooth the other side.

Make a template for the rear leg, trace the shape onto the

leg blanks and cut out the legs with a sabre saw. Clamp two legs together, plane away the saw marks and bring them to final shape. On the back sides, you'll have to use a spokeshave and sandpaper in the area where the straight bottom portion of the leg meets the tapered top section.

Clamp a speed square to the chair rail stock, and use it to guide the saw and ensure accurate crosscuts.

After marking the rocker shapes with a template, use a sabre saw to cut to the waste side of the lines.

Use a spokeshave to smooth the inside surface. A spokeshave or plane will work on the other side.

Chair Joinery

Mark the locations of rail mortises in the chair legs, and use a plunge router with a spiral up-cutting bit and edge guide to cut the mortises (Photo 5). You could also bore a series of holes using a doweling jig to guide the drill. In either case, use a sharp chisel to finish the mortises.

Carefully lay out the tenons on the ends of the straight chair rails. Note that the side rails have angled tenons and tenon shoulders. Clamp a rail against the edge of the worktable with one end facing up, then use a backsaw to cut the tenon cheeks (Photo 6). Keep the saw kerf on the waste side of the layout line.

After making all the cheek cuts, make a guide from a 2-in.-thick block of wood for cutting the tenon shoulders. For the side rails, cut the end of the guide block at the specified angle (Photo 7). Lay out and cut the shoulders at the top and bottom edges of each tenon. Finally, use a sharp chisel to pare the tenon cheeks so the tenons fit their respective mortises.

Lay out the curved back-rail shape, including the tenons, on the appropriate blanks, then cut the tenons using the same technique. Clamp one of the blanks, inside face up, to the worktable and make a series of cuts with your circular saw to define the inside face of the rail (Photo 8).

Use a plunge router and edge guide to cut the mortises. Clamp a second leg to the workpiece for extra support.

Clamp a chair rail to the side of your worktable and use a backsaw to make the tenon cheek cuts.

Make a guide by cutting the side-rail angle on 2-in. stock. Clamp it to the rail and hold the saw against its end.

Use your circular saw to make a series of cuts that stop about 1/16 in. above the inside curve of each back rail.

Keep the cuts about 1/16 in. above the layout line. Then chop away the large waste chunks with a chisel (Photo 9). Smooth the concave surface with a spokeshave, working from both ends toward the center to keep the grain from tearing (Photo 10).

Turn the blank over, chop away most of the waste from the convex surface of the rail (Photo 11) and smooth with a block plane or spokeshave.

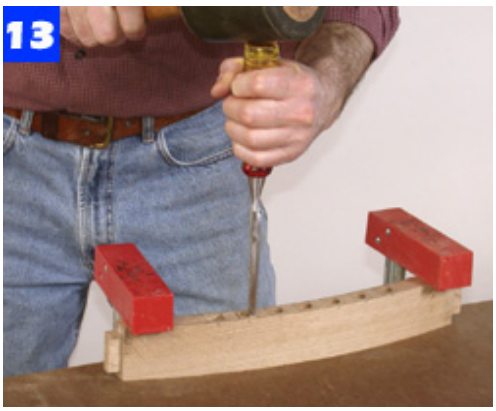
Lay out the slat mortises in the side and back rails, and use a 1/2-in.-dia. drill bit, depth stop and doweling jig to bore away most of the waste from each mortise (Photo 12). Finish the mortises with a chisel (Photo 13) and chamfer the top of each rear leg as shown in the drawing.

Then, use a sharp chisel and a mallet to chop away the waste from the inside curve of the back rails.

Smooth the curve with a spokeshave. Work from both ends toward the center to avoid tearing out the grain.

Use a chisel to remove most of the waste from the convex side. Then smooth with a plane or spokeshave.

Use a 1/2-in.-dia. bit, doweling jig and depth stop to bore out most of the waste from each slat mortise.



Securely clamp a rail to the worktable, square the mortise walls and remove the remaining waste.

Assembly
Install the slats in a bottom side rail (Photo 14), then fit the top rail over the slat ends. Repeat for the opposite side and set the two subassemblies aside. You don't need any glue if the slats fit snugly.

Assemble the slats with the curved back rails. Then, apply glue to the upper and lower back-rail tenons and leg mortises, and join the back parts. Clamp the joints and compare opposite diagonals to check that the frame is square (Photo 15).

Apply glue to the front-rail/leg joints, assemble the parts and clamp. When the glue has set, join the side-rail/slat subassemblies to the front and rear legs (Photo 16). Stand the chair on a flat surface to check that the legs are even. If necessary, adjust the clamps to pull the frame into alignment.

Lay out the corner-block angled ends and cut them to length with a backsaw. Bore and countersink pilot holes as shown in the drawing, and install the blocks with 1-1/2-in. flathead screws (Photo 17).

Lay the chair on its side and clamp one of the rockers to the legs, positioning it as shown in the drawing. Mark the location of the rocker on two of the legs (Photo 18), remove the rocker and cut the legs with a backsaw. Repeat for the other rocker. Test the fit between the legs and the rockers, and make any necessary adjustments so the rockers fit tightly against the leg ends.

When you're satisfied with the fit, clamp the rockers to the chair and drill a 1/2-in.-dia. hole through the rockers into the bottom end of each leg (Photo 19). Cut a dowel for each joint about 1/2 in. longer than the hole depth. Use a sharp chisel to cut a small groove down the length of each dowel to allow any trapped glue to escape.

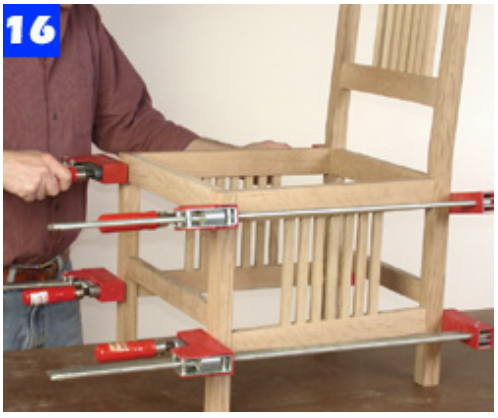
To ensure a strong joint, we used epoxy for the leg/rocker joints. Mix the epoxy according to the instructions and spread some in the holes and on the dowel surfaces. Tap the dowels into the holes and allow the epoxy to cure. Saw the protruding dowels about 1/16 in. above the rockers, and pare the remaining waste with a sharp chisel.

Finishing
Sand all of the chair surfaces with 120-, 150-, 180- and 220-grit sandpaper, dusting off thoroughly when changing grits.

To achieve a traditional medium brown finish, we stained our chair with Behlen Solar Lux American Walnut. This solvent-based stain dries very quickly, so for application

Install slats in the rails. You don't need glue unless the slats are too loose. Then add the remaining rails.

Spread glue and assemble the back frame. Clamp and compare diagonals to check that the assembly is square.



Join the front and rear leg assemblies to the side rails. Set the chair on a flat surface and clamp the joints.

with a brush or rag it is best to add Behlen's retarder to slow drying and prevent lap marks. Follow the manufacturer's directions for application.

Allow the stain to dry thoroughly before applying a surface finish. We used three coats of Waterlox Original Sealer/Finish. Liberally coat all surfaces using a brush or rag. Allow the finish to soak into the wood for about 30 minutes, then wipe off any excess and let it dry overnight. Lightly sand the surface with 320-grit sandpaper and remove sanding dust before applying a second coat. Apply the third coat the same way. After overnight drying, burnish with 4/0 steel wool and polish with a soft cloth.

Take your chair to an upholsterer to have a slip seat made. While we chose a leather seat, you can use any material that suits your decor. Fasten the seat to the chair with screws driven through the corner blocks into the seat base platform.

Cut corner blocks and countersink pilot holes. Install the blocks to the chair rails with 1-1/2-in. flathead screws.

Clamp a rocker to the chair legs and mark the position of the rocker joint. Carefully cut the legs and test the fit.

Clamp the rockers in place and bore a 1/2-in. hole through the rockers into the legs. Epoxy a dowel into each hole.