



1 -Cut out all templates, and trace or spray glue onto 1/8" (3cm) hardboard for permanent templates. Cut out, sand the edges smooth, & label all pieces. Trace all templates onto the final stock of pine or cedar, and cut each one out with a sabre, table, or band saw. Double check the dimensions from the sizing chart. If you have a jointer/planer, you may want to clean up all straight edges. Any curved surfaces should be sanded with a drum sander before rounding over all outside edges, with a router or sandpaper. Using a 5/16" (8mm) bit, clamp the duplicated parts together, and drill the holes for the legs and back supports.



2 - A taper jig on the table saw, works best for the back slats and back supports E. A shop built sled is the quickest, easiest and safest taper jig. Use a scrap length of 6" (15.8 cm) wide plywood, longer than back slat I, and fasten clamps at each end. Extend the pattern lines to be cut, to the ends of the board using a straight edge. Line up the pencil marks with the edges of the sled and run it through the blade.



3 - For all back slats, cut to the rough dimensions of part I, the longest slat. Then trace on template I, and taper the one side for all parts I, J, K & L. The templates for J, K & L can be traced onto the tapered stock, so all parts are the same width at the bottom. Only one template of each is necessary. Just flip each over for the opposite direction of the curve. When you have cut & planed or sanded all slats, assemble & clamp as shown, so you can sand the curve smooth and even.

Assembly: (click on the images below, for expanded views)



1 -If you are building a few chairs, you may want to begin assembly by using scrap boards to make an assembly box to clamp parts A, the side panels, to make it easier to attach part B & C, so the frame is square. Mine is 4" (10.2 cm) high by 24" (61 cm) long....the important dimension is the width of 19 1/2" (49.6 cm). When you clamp parts A to each side, it will equal the 21" (53.4 cm) width of parts B & C as well as all the seat slats.



2 -This is an alternative option using standard assembly squares and clamps. Clamp parts A to your assembly squares, being sure that the fronts are even and square. Raise the parts at the front with a board, to ease in screwing on part C.



3 - Begin assembly by screwing the bottom back support part B, to the slot in each part A, the side panels. Use 2 screws on each side of part B using the hole locations provided on the templates. Be sure to drill pilot holes into parts A.



4 - Next attach the front slat C, with 2 screws on each side, to the front edges of parts A, flush with the bottom edges. This will give you a carcass to work with. Double check for square by measuring corner to corner, both ways. You can now remove the clamps and assembly square.



5 - Using a square, screw one of the seats slats M above part C, so it is even with the upper edges of the pattern on parts A. This will leave a 3/16" (5 mm) space. Do the same for the next slat. All slats are 21" x 1 3/4" x 3/4" (53.4 cm x 4.5 cm x 1.9 cm), and templates are not required.



6 - The rest of the seat slats can now be assembled and attached using one screw on each side. Evenly space all slats M using 2 strips of 1/8" (3 mm) hardboard as spacers, or one strip of 1/4" (6mm). Add part N, the back seat slat. The spacers should evenly space all slats back to part B. Be sure to double check the squareness when screwing in each slat.



7 - Next, bolt on the front legs D, on the OUTSIDE of parts A. Use washers on the insides and hand tighten for now, to allow some movement when attaching the rockers. Use the 2 1/2" (6.35cm) bolts.



8 - Bolt on the back supports E, on the INSIDE of side panels A, being sure they are flush to the mated bottoms of the side panels parts A.

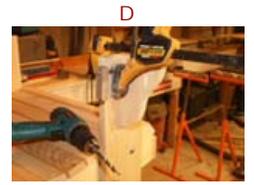
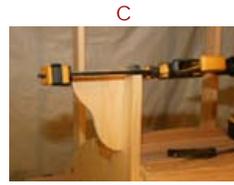
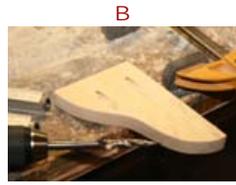
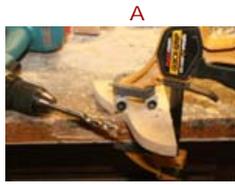


9 - Screw on the upper back support H, centered on the tops of parts E, flush at the front with supports E. Use an 18" (45.7 cm) scrap spacer, as shown, to be sure the back supports are parallel to each other.



10 - With two screws, attach the arm supports F, centered flush with the top of the front legs D. If you have a pocket screw kit, you may want to follow the images below and the pocket screw kit instructions, to attach the arms from the underside, instead of from the top of the arms. Use shorter screws, practice on scraps, to be sure you don't screw through the top of the arms.

I need to use pocket screws to take off the arms parts G....just to get the chair out of my shop !



11 - Screw the arms G in place, as they rest on the front leg supports. Double check to be sure the arms are parallel to the ground. If not using pocket holes, put 2 screws through the arms into front legs D, and 1 into supports F. They should overhang the back edge of the front legs by 1/4" (6mm), leaving about 19 1/2" (49.6cm) between the arms. Put 2 screws in from the inside of parts E, into the notch at the back of the arm. Check to be sure the arms are parallel to the work surface.



12 - Remove the back seat slat N. The back pieces can now be assembled, starting with the middle slat I, centered at the top on part H, and at the bottom, in the curve on part B. Use the drill hole locations centered on H & B and screw in place. I find it easier to level the chair as shown. I use 1/4" (6mm) spacers at the bottom, and 1/8" + 1/4" (3mm + 6mm) at the top.

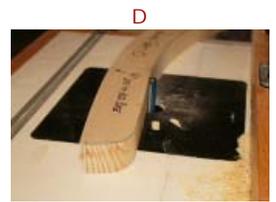
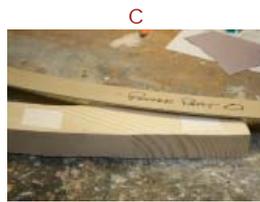
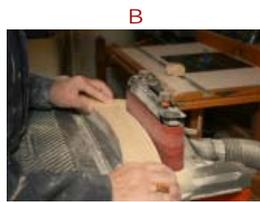


13 - If you are using plugs to hide the screws, be sure to add them NOW, to the bottom of the back slats, and sand smooth. Then you can re-install part N.



14 - Next you will need to construct the 2 rockers parts O, dependent upon your tools and stock. I used 1 1/2" (3.8cm) Home Depot 2" x 10"s (5.1cm x 25.4cm), working around the knots. You may feel more comfortable up using 4 pieces of 3/4" (1.9cm) stock, cutting each one out and pre-sanding prior to gluing up. I have a router table and 3" (7.6cm) straight bit with roller guide. After attaching the template with two-sided tape on the rough cut stock, I used the router to clean to the template edges as shown.

At this point you can make the parts full thickness, or reduce the bottom edge to the dotted line, so you can add a 1/4" hardwood runner to the bottom of each rocker. I used hobby board strips in poplar from Home Depot.



15 - Once all pieces of the rockers are cut and presanded, glue up the stock into two rockers. Mark the screw positions from the holes in the template on the inside of each rocker. Using waterproof glue, laminate the stock, clamp and screw together until set using the 2" (5cm) exterior screws. Plug the screw holes and sand smooth. When sanding the tops of the rockers, note that the template is flat after the curves at each end. The inside curvature begins after the flat areas where the legs attach. This makes it easier for you to make the mated leg parts and attach to the rockers.



16 - Once you are comfortable that both rockers are identical, place the chair on the rockers, set out 5" (12.7cm) from the front legs parts D. They should be close to the ends of the arms. Using a square adjust the positioning on the rockers to get the legs perpendicular. You may need to sand the under side of the front legs and side panels to get a perfect fit. You can center the legs straight on the rockers, or angle the rockers in at the back like I have.



17 - Once the rockers are mated in the position you want, mark a pencil line around each front leg part D and the back ends of parts A and E. This will give you a marking to drill pilot holes for the screws in the correct locations.



18 - Use a tapered scrap cut off, as a support when drilling the pilot holes completely through the rockers. Be careful not to drill on an angle, or the screws may penetrate the edges of the leg parts. An easy reference is pencil lines on the rocker that align with the legs. You may need to extend the drill bit as far as possible, so it will penetrate the bottom of the rocker.



19 - Turn the rockers over and drill for the plugs at both ends if you are not adding hard wood runners.



20 - Line up the rockers with the pencil marks at both ends and clamp the rockers firmly to the legs, with the other end of the clamp on the seat slats.



21 - Once in place, screw the rockers in from the underside. Use four # 6 x 3" (7.6cm) screws for the back legs and three # 8 x 3 1/2" (8.9cm) for the front legs. Remove the rockers, sand off all pencil marks and reinstall the rockers with waterproof glue on the underside of the legs. I found it easier to turn the chair over on the arms to install the rockers. Project the screws through the rockers enough that the points fit into the holes in the legs, then clamp tight and screw in place. If you are not adding runners, plug the holes now and sand smooth. Remember to tighten the bolts on the front legs.



22 - If you are adding 1/4" (.6cm) hardwood runners to the base of the rockers, trim the stock to the correct width, allowing for sanding the edges once attached. Using waterproof glue, clamp the runner at one end and add clamps as you continue to the other end. If you have a power stapler, it will hold better than nails. Otherwise, let the glue completely dry before removing the clamps. It may be beneficial to soak the runners first, and temporarily clamp them to the rockers, to help pre-form the shape. Once dry, trim off the ends and sand smooth.



23 - If the front legs are slightly off square like mine was, and the legs fit flush, you can add weight to the underside of the rockers as a counter balance. I cut two 3" x 1/2" (4.8cm x 1.2cm) galvanized carriage bolts to 1 1/2" (3.8cm) long, and glued them in holes at the back ends of the rockers. The chairs balanced perfectly, and the curved bolt heads act as a safety stop, if the chair is rocked backwards too far.



24 - The chair is now assembled, and ready for finishing. If you are plugging the screw holes, I recommend a tapered plug cutter, like the Veritas Cutter from Lee Valley Tools. Glue the plugs in place with exterior waterproof glue, let dry, then cut off the excess with a chisel or Japanese saw. The rest can be sanded smooth with a random orbital sander. If you are painting the chair, it is best to prime all surfaces first before assembly, to ensure longer life against moisture. You can either countersink and plug the screw holes before final painting, or use brass screws left exposed if staining.

Enjoy!!!

Phil Barley



