

The Barley Harvest

GRANDPA

Adirondack / Muskoka Chair Plans

Materials List

3/4" x 9.5" (1.9cm x 24.2cm) redwood, cedar or pine boards. Six to eight, 8' (2.44m) boards should make one chair depending on knots and layout.
8, 5/16" x 2" (8mm x 5cm) carriage bolts, nuts and washers.
50, 1 1/2" (3.8cm) exterior wood screws

Parts List

(the measurements for the templates are listed below, but it is not recommended that you cut your stock to these lengths first, but trace the patterns onto the stock for best use of space)

Part	Description	Quantity	Size (standard)	Size (metric)
A	Side panel	2	37 3/4" x 6 5/8" x 3/4"	95.5cm x 16.71cm x 1.9cm
B	Bottom back support	1	21" x 2 5/8" x 3/4"	53.2cm x 8.5cm x 1.9cm
C	Front seat slat (straight cut, no template needed)	1	21" x 2 5/8" x 3/4"	53.2cm x 6.7cm x 1.9cm
D	Front leg	2	24 1/8" x 5" x 3/4"	61.5cm x 13.0cm x 1.9cm
E	Back support	2	33 1/2" x 3 5/8" x 3/4"	85.0cm x 9.3cm x 1.9cm
F	Arm support	2	6 1/2" x 4 1/4" x 3/4"	16.5cm x 11.0cm x 1.9cm
G	Arm	2	29 1/2" x 7 3/8" x 3/4"	74.5cm x 19.0cm x 1.9cm
H	Top back support	1	21 3/8" x 4" x 3/4"	54.0cm x 10.5cm x 1.9cm
I	Center back slat	1	35" x 3" x 3/4"	89.0cm x 7.7cm x 1.9cm
J	Second back slat	2	34 3/4" x 3" x 3/4"	88.5cm x 7.7cm x 1.9cm
K	Third back slat	2	33 7/8" x 3" x 3/4"	86.3cm x 7.7cm x 1.9cm
L	Outer back slat	2	32" x 3" x 3/4"	81.7cm x 7.7cm x 1.9cm
M	Seat slats (straight cut, no template needed)	7	21" x 1 3/4" x 3/4"	53.2cm x 4.5cm x 1.9cm
N	Back seat slat	1	21" x 3 3/8" x 3/4"	53.2cm x 8.5cm x 1.9cm

Instructions:

The parts diagram is 1 square equals 1 inch (2.54 cm). Make up a few sheets of 1" x 1" (2.54 cm x 2.54 cm) graph paper, or make one and have it copied at a blueprint copy shop. Copy all template pieces to the 1" x 1" graph paper, as shown in the plans. The easiest way is to count off the squares and mark the corners and intersecting points on the graph paper, then join the dots. Don't forget that the PDF can be enlarged on the computer, so you can get a good close-up of the templates to help in transferring, as well as the pictures during assembly. Click on the magnifying glass icon on the Adobe tool bar, then click on the part of the plan or picture you want to enlarge. Double check the dimensions from the sizing chart above. Label all pieces.

Templates & Drilling: (click on the images below, for expanded views)



1 - Cut out all templates, and trace or spray glue onto 1/8" 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. Line up the pattern line to the edge of the jig, using an adjustable square, and run it through the blade. My sled is shown on-line at www.plansinwood.com/taper_jig.html



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 -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 -Clamp parts A to each side of the assembly box, being sure that the front ends are even to the front end of the assembly box. Here I use an adjustable square to set the fronts of parts A, 6" (15.3 cm) from the assembly box.



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. 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. Be sure the bottoms of the side panels A, rest flat at the back. The best way to ensure the front legs are square, is to tighten the top bolt first, square the leg, and tighten the lower bolt. There will always be a slight play in the bolt holes.



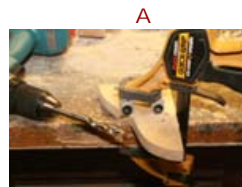
8 - Bolt on the back supports E, on the INSIDE of side panels A, again being sure they are square to the work surface on the front edge.



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.



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.



13 - Next, screw on slats L, 1/4" (6mm) from the ends of part H, and the curve in B. Then screw on slats J and K, fanned evenly between I and L. You may want to pre-drill holes in each slat and put in place with a small nail temporarily, to balance the distance between slats, before screwing in place.



14 - 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.



15 - Re-attach part N, the back seat slat. 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. Use an oil based paint like Varathane Colors, for the final coat. You can either countersink and plug the screw holes before final painting, or use brass screws left exposed if staining.

Enjoy!!!

Phil Barley



www.plansinwood.com

