

The Barley Harvest

TALL CHAIRS

Adirondack / Muskoka Chair Plans

PLEASE READ:

This set of plans is for **four** different chairs, but there is only **one** leg pattern for the front and back legs. It is best to make the full length leg profiles, and mark the 30" and 26" heights on the sides of your templates, to use as cut lines for the shorter chairs. Otherwise you can cut at the 30" height and reduce 4" for the counter height, or add 6" for the deck height. If building the Armless Chair, it may be best to make a separate template for the front legs, which are bolted **inside** the seat side panels. This leg is trimmed at the top dotted line of the seat overlay. Pay attention to the dotted lines on the front and back legs, as well as the bolt holes for the side braces. The Deck and Bar chairs use the lower holes, and the Counter chair uses the upper holes, for the side braces. You may reduce the footrest part **G** to 5" by cutting at the dotted line, for the Counter Chair, or keep it at 7" if you prefer. You may also build any height chair in the armless design, since the only difference is the width of the seat slats and the leg height. Any installation difference will be referenced in the instructions steps.

You can also use different stock than in the materials list below. I always use big box store pine 1x10 for the slats, and have used 2x10's for the legs. Not all big box stores will carry cedar or redwood in 10" (25.4cm) nominal widths, so you may have to look around. With the added strength of the side cross braces, back leg spreaders and the footrest, you should be able to use 1 1/4"(3.2cm) stock for the legs, or even 1" (2.54cm) plywood. You can always add extra back leg braces on thinner stock legs.

If you use thicker stock for the back and seat slats, you will need to adjust Part **B** to fit, and may have to use thinner spacers, as there may be pinching.

Materials List

3/4" x 9.5" (1.9cm x 24.2cm) redwood, cedar or pine boards. Two, 8' (2.44m) boards should make one chair depending on knots and layout.
1 1/2" x 9.5" (1.9cm x 24.2cm) redwood, cedar or pine boards. Two, 8' (2.44m) boards should make one chair depending on knots and layout.
12, 5/16" x 3" (8mm x 5cm) carriage bolts, nuts, washers and lock washers. (2 1/2" (6.4cm) will work if you can find them)
40, 1 1/2" (3.8cm) # 8 exterior wood screws
8, 2 1/2" (6.4cm) # 8 exterior wood screws
6, 2" (5cm) # 8 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 dimensions first, but trace or spray glue the patterns onto the stock for best use of space) For stock needs, the size of curved parts is from the widest point to a flat surface, not the width of the finished part.

Part Description	Quantity	Size (standard)	Size (metric)
A Side seat panel	2	19 1/2" x 4 7/8" x 3/4"	49.5cm x 12.4cm x 1.9cm
B Bottom back support (one part to be trimmed 3/4" (1.9cm) on each end)	2	19" x 3 1/4" x 3/4"	48.3cm x 8.2cm x 1.9cm
C Front seat slat (straight cut, no template needed)	1	19" x 2 5/8" x 3/4"	48.3cm x 6.6cm x 1.9cm
C Front seat slat for Armless Chairs (straight cut, no template needed)	1	20" x 2 5/8" x 3/4"	50.4cm x 6.6cm x 1.9cm
D Front leg	2	43 5/8" x 4 3/4" x 1 1/2"	110.7cm x 12cm x 3.8cm
E Back leg	2	47 5/16" x 8 3/4" x 1 1/2"	120cm x 22cm x 3.8cm
F Side leg brace	2	27 3/4" x 3 7/8" x 3/4"	70.5cm x 9.6cm x 1.9cm
G Footrest for Deck and Bar Chairs	1	24 x 7 x 1 1/2"	61cm x 17.8cm x 3.8cm
G Footrest for Armless Chair	1	22 x 6 5/8" x 1 1/2"	56cm x 16.8cm x 3.8cm
H Back leg brace (2 for the Deck Chair)	1	19" x 3 1/4" x 1 1/2"	48.3cm x 8.2cm x 3.8cm
I Top back support	1	23 1/8" x 4 1/8" x 3/4"	59cm x 10.8cm x 1.9cm
J Arm support	2	4 1/2" x 2 5/8" x 3/4"	11.4cm x 6.6cm x 1.9cm.
K Arm	2	22 1/2" x 4 5/8" x 3/4"	57.2cm x 11.8cm x 1.9cm
L Center back slat	1	25 3/4" x 3 1/2" x 3/4"	65.5cm x 9.0cm x 1.9cm
M Second back slat	2	25 9/16" x 3 1/2" x 3/4"	65cm x 9.0cm x 1.9cm
N Third back slat	2	24 5/16" x 3 1/2" x 3/4"	61.7cm x 9.0cm x 1.9cm
O Outer back slat	2	22 1/8" x 3 1/2" x 3/4"	56.2cm x 9.0cm x 1.9cm
P Seat slats for Arm Chairs (straight cut, no template needed)	7	19" x 1 3/4" x 3/4"	48.3cm x 4.5cm x 1.9cm
P Seat slats for Armless Chair (straight cut, no template needed)	7	20" x 1 3/4" x 3/4"	50.8cm x 4.5cm x 1.9cm
Q Back seat slat for Arm Chairs	1	19" x 3 5/8" x 3/4"	48.3cm x 9.1cm x 1.9cm
Q Back seat slat for Armless Chair (for the BIG BOY chair, extend each end 1 1/2"(3.8cm)	1	20" x 3 5/8" x 3/4"	50.8cm x 9.1cm x 1.9cm

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



1 - Cut out all paper patterns, on the outside of the lines shown, and spray glue onto 1/4" (8mm) hardboard or MDF for permanent templates. Sand all patterns to the **INSIDE** of the lines on the paper, to get exact templates. You can also trace the parts onto the hardboard and label all pieces for future builds.

Trace all templates onto the final stock and cut each one out with a sabre, table, or band saw. If you have a jointer/planer, you may want to clean up all straight edges. You can also use two sided tape to clean up your parts on the router, with a following bit as shown. Any curved surfaces should be sanded with a drum or oscillating sander, before rounding over all **outside** edges, with a 1/8" (3mm) router bit or sandpaper. For example, I don't round over the inside curve of part **I** the top back support, since it butts cleanly to the back slats. You may prefer to round all edges.

With this plan, I don't round over the legs with sandpaper until the complete chair is assembled, to retain clean lines at butted parts, like the legs against the seat sides....your choice.



2 - A taper jig on the table saw, works best for the back slats. A shop built sled is the quickest, easiest and safest taper sled. Use a scrap length of 6"(15.3 cm) wide plywood, longer than back slat **L**, and fasten clamps at each end. My first sled is shown on-line, but note that the back slat part lettering, is not the same.

www.plansinwood.com/taper_jig.html



3 - For all back slats, cut to a little longer than the rough dimensions of part **L**, the longest slat. Then trace on template **L**, and taper the one side for all parts **L**, **M**, **N** & **O**. The templates for **M**, **N** & **O** 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, you may want to assemble & clamp as shown, so you can sand the curve smooth and even.



My larger sled with an adjustable fence and T-track as seen here on the left, is much better for this project, if you use the table saw for the legs. It allows for edge jointing as well as faster production if selling chairs in quantity. For the fixed sled, trace on your patterns from the templates, and extend the lines to the end of the stock as shown, to use as reference points when lining up the angles to the edge of the sled.

For the back slats, you only need to set up the fence with the center slat template butted to the end stop, and in line with the edge of the sled. Cut all slats the same, then trace on the patterns for the shorter back slats, and trim to length. You do not need to have a sled like mine, as any sled you make with an adjustable fence does not need a runner, and can slide against the table saw fence, like my old sled. You will need a runner on the sled to cut the legs, as the table saw fence will be in the way.

Click the underlined links for Instagram videos. There are lots of YouTube videos as well, on making a sled with an adjustable fence.





4 - Using a 5/16"(8mm) brad point bit, clamp or tape the duplicated parts together, and drill the holes for the legs. It is important to use a drill press if possible, or the bolt holes may not line up during assembly. Once the holes are drilled, you can insert the carriage bolts part way, to help in sanding any mated parts as shown above.



5 - Rip and cut all seats slats to the dimensions above, and using the matching recessed bit to the screws, mark all seats slats centered 3/8"(1cm) from each end. Drill pilot holes to avoid splitting the wood, at the drill press or carefully use a hand drill.



6 - **NOTE:** It is easier and safer to cut the angle shown below, **before** cutting the curves for the the footrest for any style chair in any depth. Use an angle finder on the front leg (it should be 7 degrees) to match the pencil mark as shown, and transfer that angle to the pattern edge. I found that my table saw sled at 3/4"(1.9cm) thick, raised the footrest perfectly to cut the angle at the bandsaw. You could use a jig saw or hand saw as well. Click the first image to expand.

[Facebook video link](#)



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, making it easier to attach part **B** & **C**, so the frame is square. Mine is 4"(10.2cm) high by 19 1/2"(49.5cm) long by 20 1/2"(52.1cm) wide.....the important dimension is the **inside** width of 19"(48.25 cm) no matter the thickness of your stock. When you clamp parts **A** to each side, it will equal the 19"(48.3 cm) width of parts **B** & **C** as well as all the seat slats. Cut scrap triangles and glue, clamp and screw into each corner checking for square. You can also clamp assembly squares to Parts **A**, but the box is good for multiple assemblies. Here, I placed a scrap length of wood between the side panels before clamping, to avoid warp.

ARMLESS CHAIRS: If you are making the Armless Chair of any height, the part lettering is the same, but there is a separate pattern for **Q**, and the seats slats are 20" (50.4) wide' as indicated in the parts list. The assembly below is the same, except you leave a 1/2"(12.7mm) overlap on each side of the side panels **A**. Remember to drill your pilot holes further from the ends of the slats, centered on parts **A**. If you want a wider seat for the **BIG BOY BAR CHAIR**, attach the front legs on the **OUTSIDE** of parts **A**, and widen the seat slats to 23" (58.4cm) and part **Q** by adding 1 1/2"(3.8cm) to each end. The distance between parts **A** remains the same for all chairs.



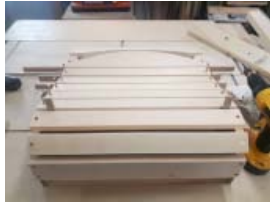
2 -Clamp parts **A** to each inside of the assembly box, being sure that the back ends are even to the back end of the assembly box. With the side panels raised on the front of the box, it makes for easier assembly of part **C**. Next clamp the front slat **C**, with 2 screws on each side, to the front edges of parts **A**, flush with the bottom edges.



3 - Turn the box around and attach part **B**, flush to the ends of parts **A**, the side panels. Use two 1 1/2"(3.8cm) screws on each side of part **B**, centered in the side panels. Be sure to drill pilot holes into parts **B**. Double check for square by measuring corner to corner, both ways. You can now remove the clamps and assembly square.



4 - The rest of the seat slats **P** can now be assembled and attached using one screw on each side. It is easier to assemble the first slat as shown, then the second in the same manner, using 1/4"(6mm) hardboard as spacers. Place the spacers between the remaining slats and part **Q**, hold all snug against the second slat and screw in part **Q**. Screw in the remaining slats and remove the spacers. The spacers should evenly space all slats back to part **B**, leaving a 1/2"(12mm) space depending on accuracy or cuts.



5 - Next, with the seat on it's side, bolt one of the front legs **D**, on the **OUTSIDE** of parts **A**. Hand tighten using washers and lock washers, on the insides. Now bolt on the back leg on the outside of part **A**, and hand tighten the bolts. Now turn the chair over and do the same for the opposite side. For the **Armless Chair**, bolt the front legs on the **INSIDE** of parts **A**, when using the 20" (50.8cm) seat slats. If you want a wider seat for the **BIG BOY** chair, attach the front legs on the **OUTSIDE** of parts **A**.

[Facebook video link](#)



6. Now fit parts **F**, the side leg braces onto the bolts, in their respective locations, and hand tighten the nuts with washers. With the chair frame on a flat surface, the best way to ensure the legs are flush at the bottom, is to tighten the top bolts first, then tighten the lower bolt. There should be a slight play in the bolt holes to allow the bottoms to fit flush. Tighten the side braces next.



7 - Next, install the rear leg brace **H**, depending on the chair you are building. Clamp the braces below the lines, centered on the legs. Use two 2 1/2"(6.4cm) screws on each side. It looks best to use matching plugs to cover these screws. Otherwise, if you have a pocket screw kit, drill holes on the underside of parts **H**, into the inside walls of the rear legs.

DECK CHAIR - There are 2 leg braces for this chair. Mark lines 5"(12.7cm) below the bottom back curve of parts **A**, and the second 2 1/2"(6.4cm) below parts **F**, the side braces.

BAR CHAIR - There is one brace for this chair, 8"(20.3cm) below side panels parts **A**.

COUNTER CHAIR - There is one brace for this chair, 3 1/2"(8.9cm) below side panels parts **A**.



BAR CHAIR



DECK CHAIR UPPER



DECK CHAIR LOWER



COUNTER CHAIR



8 - Now you can attach the footrest part **G**, to the tops of the extended side braces **F**, with 2 1/2"(6.4cm) screws from the top and plugged, or with shorter pocket screws from the bottom, as shown.

NOTE: for the counter height chair, you may want to use the 5"(12.7cm) smaller footrest pattern, part **G**, which is the last image above. This will allow the chair to slide closer to an island when not in use.



9 - Unscrew part **Q**, the back seat slat as shown, to clamp and use as a spacer to be sure the back supports are parallel to each other. Screw on the upper back support part **I**, centered on the tops of parts **E**, flush at the back to allow a straighter back. You should have about 1/2"(12.7mm) of play to adjust the angle to what you want. Use two 1 1/2"(3.8cm) screws centered as shown, on each side.



10 - With two screws, attach the arm supports **J**, centered flush with the top of the front legs **D**. If you have a pocket screw kit, you may want to follow 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 don't recommend it though, as these are heavy chairs, and longer screws from above, hidden with plugs if you wish, will be stronger when the chairs are lifted by the arms.



11 - Place each arm so the notch at the back is aligned with the front edge of part **E**, and mark a line to cut out a small notch to set the arm flush with the front of part **E** as shown below.



12 - Screw the arms **K** 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 two 2"(6.45cm) screws through the arms into front legs **D**, and one 1 1/2"(3.8cm) screw into supports **J**. They should overhang the inside edge of the front legs by 1/4"(6mm), leaving about 18 1/2"(47cm) between the arms. Put one 2"(6.45cm) screw in from the inside of parts **E**, into the notch at the back of the arm and one 1 1/2"(3.8cm) screw in the narrower part of the arm. You may want to add glue to the arm connections, as the extra strength will help if the chairs are lifted by the arms.





13 - With the the back seat slat **Q** removed, the back slats can now be assembled, starting with the middle slat **L**, centered at the top on part **I**, and at the bottom, in the curve on part **B**. Extend the slat 1/4"(6mm) past part **B**, so the wood doesn't split. Pre-drilling the holes may be required on some stock, and an easy task if you have a drill press. I find it easier to level the chair as shown, after installing the center slat bottom screw only.



14 - Next, using the 1/4"(6mm) spacers between the slats, mark the vertical center of each slat and the horizontal center of **I** & **B**, then screw in place at your hash marks. Test fit Part **Q** to be sure it fits evenly. If your back slats are slightly too wide, the notches on each side of part **Q** may need trimming out. Screw on the slats after marking the centers and pre-drilling holes in each slat. If you are using plugs to hide the screws, be sure to add them **NOW**, to the bottom of the back slats, trim with a Japanese flush saw, and sand smooth. Re-attach part **Q**.



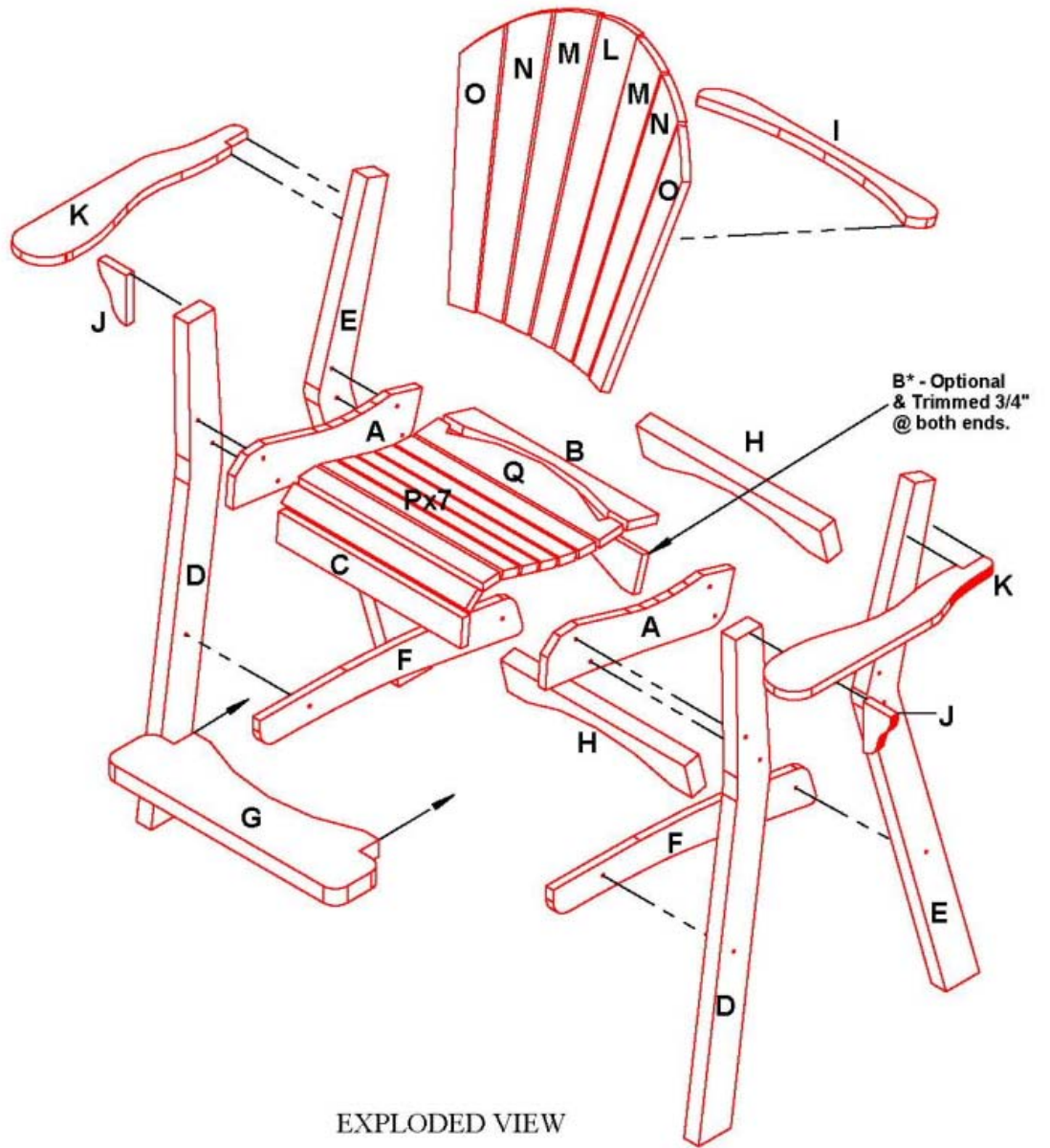
15 - Next, since the chairs are taller, I covered the bolts and gap at the back of the seat using the second 3/4"(19mm) part **B**, the bottom back support. Trim 3/4"(19mm) off each end of the part, checking to be sure that it is the same width as the opening in the back of the seat. Using a pocket hole jig, drill 2 holes in the inside of each end. I inset the part by 1/8"(3mm) from the ends of the side panels, and 1/4"(6mm) from the back seat slat using one of the spacers, to give a nice reveal feature. This part cannot be installed before installing the back legs. since your socket set or wrench may not have enough clearance.



16 - Since these chairs are heavy even in pine, I added 1/4"(6mm) phenolic plastic runners to the bottoms of the legs with stainless steel screws, to allow the chair to slide into a bar easier, when someone is in it. These will also help prevent rot if your chairs are on the ground. Strips of phenolic plastic are available at Lee Valley Tools and Rockler Woodworking.



17 - 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 a good exterior or marine paint 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, and please send me pictures !!!

Phil Barley



www.plansinwood.com

