

# CLASSIC ADIRONDACK CHAIR

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The Adirondack chair is an American icon that evokes images of lazy summer days at the lake or seashore. Even a few minutes in this comfortable seat puts your mind into vacation mode, helping to erase the stresses of everyday life. You'll enjoy the best durability when you build your chair, or chairs, from a decay-resistant wood. Suitable domestic softwoods include western red cedar, cypress, and redwood. Shipping costs usually dictate the species available in your area. White oak is an excellent domestic hardwood for exterior projects. Suitable tropical hardwoods include genuine mahogany (not lauan), teak, and ipé. (Also see finishing options on page 2.) If you wish to make a batch of these chairs, you'll find that this plan is ideal for a small production run. Making hardboard templates from these full-sized patterns will have you cranking out parts so fast you'll almost feel guilty. A router equipped with a fresh flushtrim bit will virtually eliminate sanding chores. The screw-together assembly is straightforward but solid. Your chair will be a comfortable seat for years to come.



Overall dimensions: 33<sup>5</sup>/<sub>8</sub>" d x 30<sup>5</sup>/<sub>8</sub>" w x 38" h

## Start with the paired pieces

### 1 MAKE YOUR OWN TEMPLATES

using the full-sized patterns that accompany this plan. To do this, spray-adhere the patterns onto 1/4"-thick hardboard, plywood, or medium-density fiberboard (MDF). Bandsaw to the waste side of the line, then sand to the line using a spindle sander or a rasp followed by sandpaper.

#### TIP ALERT

If you have trouble separating taped pieces, inject a small amount of lacquer thinner into the seam between the boards to dissolve the adhesive. If that fails, try tapping tapered softwood shims between the pieces to wedge them apart.

**2 MAKE THE REAR LEGS (A)** by joining two pieces of stock, face to face, with double-faced tape making sure to align one edge of each board. Run the assembly over your jointer to ensure that the edges align perfectly. Attach the rear leg template with double-faced tape, setting the template's straight edge along the jointed edge of the stock pieces. Bandsaw the perimeter, except for the angled cut at the front of the legs, then rout the bandsawn perimeter with a flush-cut pattern bit. Mark the 27° angle at the front of the leg with a pencil, then remove the template. Make the angled cut with your miter saw. Separate the pieces.

**3 SHAPE THE ARMS (B)** by face-taping the blanks together and jointing one edge. Align and adhere the template's straight inner edge with the stock's jointed edge. Bandsaw, pattern-route, and separate as above.

**4 MAKE THE INTERMEDIATE SPLATS (C) AND OUTER SPLATS (D).** Face-tape the blanks together and joint one edge. Align and adhere the template, bandsaw, and pattern-route the parts. Referring to the **Cut List**, trim to finished length with your miter saw, then separate.

**5 FACE-TAPE BLANKS FOR THE BRACKETS (E) AND JOINT ONE EDGE.** Crosscut one end square then align and adhere the template, with the jointed edge and square end. Bandsaw, pattern-route, and separate the parts. Use hold-down blocks to keep your fingers safe when routing this small part.

## Cutting the rails, slats, splats and front legs

**1 MAKE THE BACK RAIL (F) AND THE REAR SEAT SLAT (G).** Joint one edge of the blank, then align and adhere the straight edge of the template to the blank. Bandsaw along the curve and pattern-route. Referring to the **Cut List**, mark the square end cuts, remove the template, and make the square end cuts at your mitersaw.

**2 SHAPE THE MIDDLE SPLAT (H)** by adhering the template to a blank, bandsawing, and pattern-routing. Referring to the **Cut List**, trim this part to finished length with your mitersaw.

**3 FACE-TAPE TWO BLANKS FOR THE FRONT LEGS (I),** and crosscut to length with your mitersaw. Holding the template in place, mark the center points of the bolt holes and drill these holes at your drill press.

#### TIP ALERT

Tips for smooth pattern-routing: Cut about 1/16" to the waste side of the pattern line so that you'll be routing away only a small amount of stock. Pay attention to your feed direction so that the bit is cutting "downhill" along the grain. At the router table, this usually means that you'll feed the stock in the usual right-to-left direction down into one-half of concave curves, and from the peak downward on convex curves. To cut the other half of these curves, reposition the template onto to the opposite face of the stock.

## Fabricate the upper crosspiece

**1 JOINT ONE EDGE OF A BLANK FOR THE UPPER CROSSPIECE (J),** then align and adhere the straight edge of the template. At this time, bandsaw only along the curves at the ends of the piece, not the curve along the length of the blank. Pattern-route the ends of this piece only.

**2 TILT YOUR BANDSAW TABLE TO 27°** and cut the curve along the length of the blank, staying to the waste side of the line, as shown in **Photo A**. Save the offcut because you'll use it later to help mark the screw locations on the splats. Smooth the cut with a spindle sander, spokeshave, or a fine-cut rasp and sandpaper making sure that you do not alter the angle of the cut as you smooth it.



With the bandsaw's table tilted to 27° adjust the upper blade guide so it is close to the wood, helping the blade to run true.

## Make the front rail and seat slats

**1 RIP AND CROSSCUT THE FRONT RAIL (K),** referring to the **Cut List**. Note, this part is the same length as the back rail (F) and the rear seat slat (G).

**2 CROSSCUT THE SEAT SLATS (L).** These too are the same length as the front rail (K), the back rail (F), and the rear seat slat (G). Use a stopblock and your miter saw/table saw for consistent, accurate cuts .

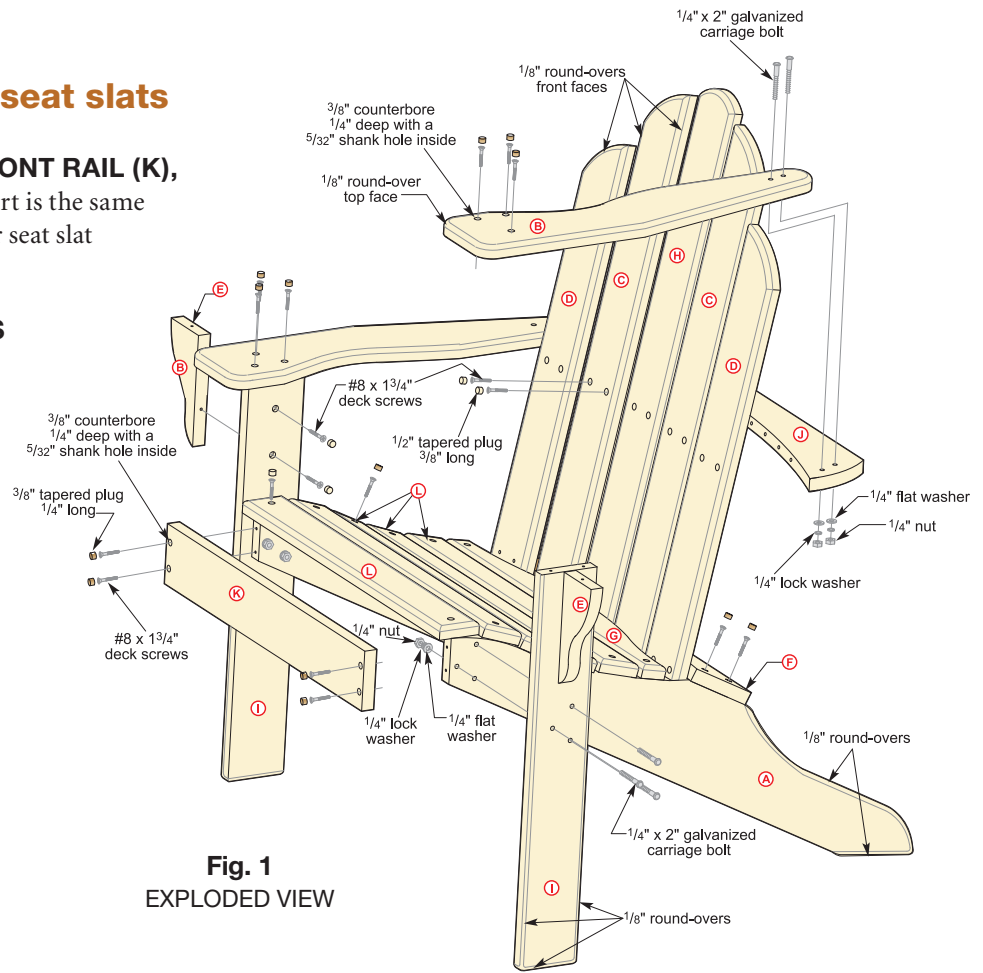
## Drill counterbores and round over edges

**1 DRILL 3/8" COUNTERBORES FOR THE WOOD PLUGS** that conceal the fasteners used for assembly. Referring to **Figure 1**, drill these counterbores into the back rail (F), rear seat slat (G), front legs (I), front rail (K), and seat slats (L). You'll need to drill counterbores in other pieces, but you'll mark and drill them during assembly.

**2 MARK THE EDGES THAT ARE ROUNDED OVER,** referring to **Figure 1**. A number of the parts are mirror images of each other, so marking will prevent confusion. The back legs (A), arms (B) and front legs (I) are in this category.

**3 USING A 1/8" ROUND-OVER BIT** rout the round-overs on your router table as shown in **Photo B**.

**4 SAND THE PIECES BEFORE ASSEMBLY,** as shown in **Photo C**.



**Fig. 1**  
EXPLODED VIEW



Spreading a rubber router mat on your workbench keeps the pieces from sliding as you sand.



Softening the edges make them more comfortable and also helps prevent splintering. Use a 1/8" round-over bit chucked into your table-mounted router.

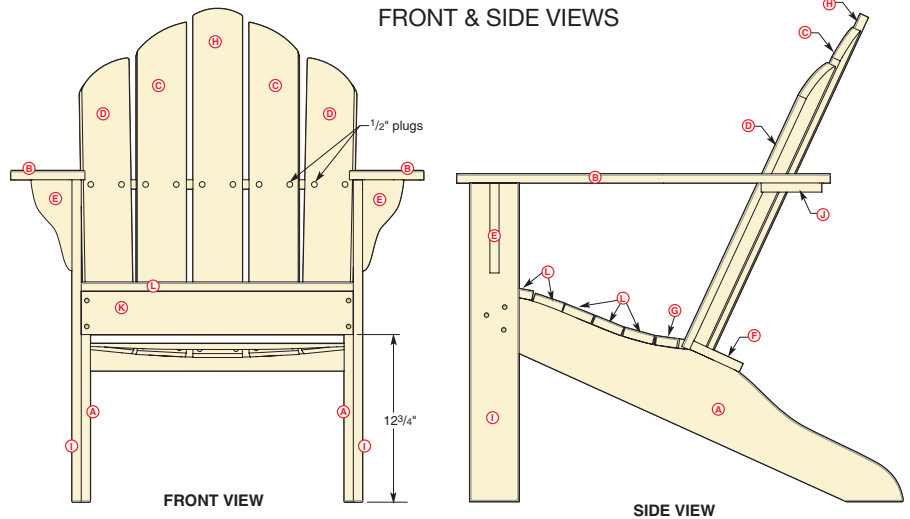
## You're ready to begin assembly

**1 ATTACH THE FRONT RAIL (K) TO THE BACK LEGS (A)** with waterproof glue and 1 $\frac{3}{4}$ " deck screws. To do this, flush the top of the front rail with the upper edge of the back legs (A), and clamp the parts together. Use a combination pilot hole and countersink bit to drill assembly holes centered in the counterbores of the front rail, then drive the screws.

**2 MARK THE LOCATION FOR THE BACK RAIL (F)** by measuring 17" from the front rail, as shown in **Photo D** and make pencil marks on the top of each leg (A). Clamp the parts together so that the front edge of the back rail is on the line just marked, then drill the pilot holes, apply glue, and drive the screws.

**3 PROP UP THE BASE ASSEMBLY (A, F, K)** on your workbench so that the lower edge of the front rail is 12 $\frac{3}{4}$ " high. (**Figure 2**). Make pencil marks on the inner face of each front leg (I) 12 $\frac{3}{4}$ " from its bottom end. Clamp the front leg (I) to the base assembly, aligning the front rail with the pencil marks. Ensure the face of the front rail is flush the edge of the front legs. Using the holes in the front legs as guides, drill the holes for the back legs as shown in **Photo E**. Assemble with bolts, flat washers, lock washers, and nuts. Install the lock washers between the flat washer and the nut as they will ensure that the pieces stay tightly together, even if the lumber changes in thickness due to seasonal humidity cycles.

**4 ATTACH THE BRACKETS (E) TO THE FRONT LEGS (I)** with glue and screws as shown in **Photo F**.



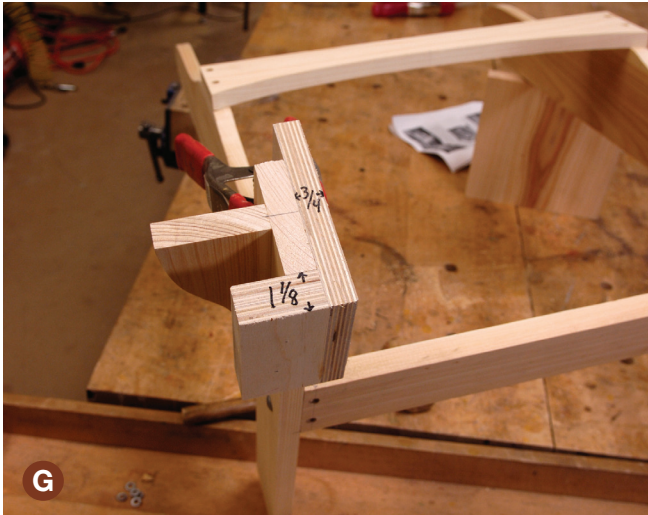
The holes you drilled earlier in the front legs serve as guides for the holes through the back legs. Assemble with galvanized hardware to prevent rust and corrosion.



Clamp the brackets, centered, to the front legs with their top ends flush. Drill pilot holes to prevent splitting, apply waterproof glue, and then drive the screws.



Measure 17" from the back of the front rail onto the top of the back legs. After assembly, check the base with a framing square.



**G**

An arm alignment jig, like the one seen here, helps position the arms squarely. You can make the jig in minutes from scrapwood.



**H**

Prevent splitting by always drilling pilot holes for the assembly screws.

## Attach the arms and upper crosspiece

### 1 MAKE AN L-SHAPED ARM ALIGNMENT JIG

similar to the one seen in **Photo G**, and clamp it flush with the top of the front leg (I).

**2 ALIGN THE INSIDE EDGE AND END OF AN ARM FLUSH WITH THE JIG** as shown in **Photo H**, then drill  $\frac{3}{8}$ " counterbored pilot holes and drive screws.

**3 CLAMP THE UPPER CROSSPIECE (J) TO THE UNDERSIDE OF THE ARMS (B)** making sure the rear edge is flush with the ends of the arms and centered side-to-side.

**4 MARK THE BOLT HOLE LOCATIONS ON THE ARMS (B).** Center the holes side-to-side at 1" and 3" from the arm's end. Drill the marked locations through the clamped arm (B) and upper crosspiece (J) assembly.

**5 REMOVE CLAMP FROM THE UPPER CROSSPIECE (J)**, then spread glue, reassemble, and snug the bolts to complete this assembly.

## Attach the back splats

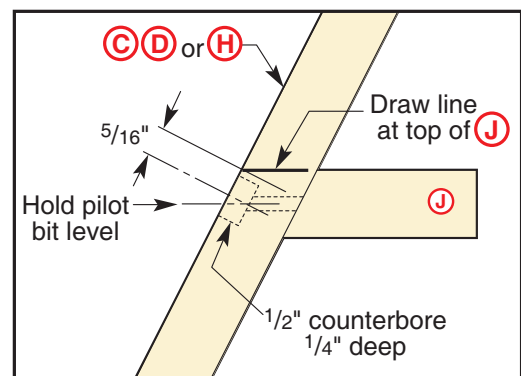
**1 CLAMP A PIECE OF SCRAP WOOD TO THE BOTTOM OF THE BACK RAIL (F)** to serve as a support for the splats during assembly.

**2 MAKE A PENCIL MARK AT THE CENTER OF THE BACK RAIL (F) AND UPPER CROSSPIECE (J) ON THEIR TOP FACES.** Draw a second line indicating the vertical centerline of the middle splat (H) on the back surface of that piece.

**3 POSITION THE MIDDLE SPLAT (H)**, aligning the pencil marks to center it. Use a square, as shown in **Photo I**, to ensure that the middle splat is perpendicular to the upper crosspiece.

**4 MARK A LINE ON THE FRONT OF THE MIDDLE SPLAT (H)** to indicate the top face of the upper crosspiece (J). To do this, use the curved offcut from the upper crosspiece, laying it atop the arms (B). Referring to **Figure 3**, you'll next mark a parallel line  $\frac{5}{16}$ " lower to indicate the centerline of the counterbores for the plugs.

**Fig. 3**  
COUNTERBORE DETAIL



**5 DRILL THE 1/2" COUNTERBORES** 3/8" deep at your drill press, using a Forstner bit. From **Figure 3**, you can see that this procedure places the dimple at the bottom of the counterbore at the center of the thickness of the upper crosspiece (J). Put the middle splat (H) back into position.

**6 DRILL PILOT HOLES THROUGH THE MIDDLE SPLAT (H)** by placing the tip of the drill into the dimple at the bottom of the counterbore, and holding the drill level. Drive the screws. Doublecheck the splat's positioning.

**7 SCREW THE LOWER END OF THE MIDDLE SPLAT (H) TO THE BACK RAIL (F).** When you drill these pilot holes, hold your drill at a right angle to the splat so that the screw will run through the center of the back rail's thickness.

**8 PLACE 3/4" SPACERS** on both sides of the middle splat to position the intermediate splats (C). Repeat the marking and installation procedure you used for the middle splat. Complete the back assembly by adding the outer splats (D). Make sure you hold the drill at a right angle to upper crosspiece (J) when drilling the pilot holes as shown in **Photo J**.

## Make two batches of plugs

### TIP ALERT

Run a strip of packing tape over the plugs before cutting them free from the board. That will help prevent them from falling on the floor.

**1 CHUCK A 3/8" TAPERED PLUG CUTTER** into your drill press, and drill into some of the project's scrapwood

to begin making plugs (see the **Buying Guide**). Be sure to use several different pieces of lumber to achieve a range of light to dark plugs. This will enable you to closely match the various chair parts for nearly invisible results.

**2 RESAW THE SCRAP WOOD PIECE** at 3/8" thick. Gather the freed plugs and test fit one into a hole to ensure a snug fit.

**3 MAKE 1/2" TAPERED PLUGS** using the same procedure. This size is used only for the splats.

**4 INSTALL PLUGS INTO THE LOWER HOLES OF THE SPLATS (C, D, H).** Place some glue onto a scrap board, then the tapered end of the plug into the glue. Note the grain direction on each plug before dipping so you can align the plug with the grain direction of the part. Insert the plug, then give it a couple of light hammer taps to fully seat it.



Make sure the middle splat is centered and square because you'll use it as the gauge to set the rest.



Keep the drill level when drilling the pilot holes. This will ensure that the screws will be centered in the upper crosspiece, giving them a firm grip.

**5 CUT EACH PLUG EVEN WITH THE SURFACE** using your flush-cut saw (see the **Buying Guide**). There will probably still be a small nub remaining, but you can remove that with a sanding block or block plane.

## Install the seat slats

**1 POSITION A SEAT SLAT (L) ONTO THE LEGS (A),** flushing its edge with the front rail (K). This slat tips back slightly. Clamp it in place, drill pilot holes, and drive screws.

**2 TEST-FIT THE REMAINING SEAT SLATS (L) AND THE REAR SEAT SLAT (G).** A  $\frac{3}{8}$ " spacer between the slats and the back splat assembly typically spaces the parts evenly. (Consider using a  $\frac{3}{8}$ " dowel if you have one.)

**3 INSTALL THE SLATS (L, G),** working from front to back, as shown in **Photo K**.

**4 INSTALL AND TRIM ALL THE REMAINING PLUGS,** then give the entire chair a final sanding. Apply a Finish.

## Finishing Options

**OPTION 1: FOR A CLEAR FINISH,** choose a film-building type (such as a spar varnish) or a penetrating oil/sealer type. Either type must be renewed periodically since the lack of pigment allows damage by ultraviolet rays. Film-building finishes are more difficult to refinish because the surface can chip or flake. You could apply a stain under either type of finish.

**OPTION 2: SEMI TRANSPARENT STAIN** has pigments, so it offers longer life between renewals. The application requires some finesse to obtain streak-free results, but if you pay attention to the manufacturer's instructions you'll get good results.



Installing the seat slats is one of the last—and also easiest—construction steps. For the first slats you may need a right-angle driver or a short screwdriver.

**OPTION 3: PAINT** is the finish type with the most pigment, so it provides the longest-lasting protection. Start the finish with a quality primer. For the best results, choose exterior enamel. Glossy paint usually lasts longer than flat paint, but the high reflectivity accentuates surface imperfections. “Eggshell” or “satin” offers some sheen without being too fussy to apply. Do NOT use house paint on outdoor furniture projects, instead use an enamel; house paints have flexibility additives to resist cracking on walls, but these additives may make the paint feel sticky on a chair or result in chalking.

## Convenience-PLUS BUYING GUIDE

	ITEM	WOODCRAFT #
<input type="checkbox"/>	<b>1. Whiteside Flush Trim Router Bit, 1/2"D, 2"CL (1/2" SH)</b>	820021
<input type="checkbox"/>	<b>2. Titebond III Waterproof Glue, 16 oz.</b>	145562
<input type="checkbox"/>	<b>3. Snappy 3/8" Tapered Plug Cutter</b>	830818
<input type="checkbox"/>	<b>4. Snappy 1/2" Tapered Plug Cutter</b>	830819
<input type="checkbox"/>	<b>5. Lynx Flushcut Saw</b>	147417
<input type="checkbox"/>	<b>6. 1"x36yd Double Face Tape</b>	15D25
<input type="checkbox"/>	<b>7. Other supplies include #8 x 1 3/4" deck screws, 10 ea. 1/4"-20 x 2" galvanized carriage bolts with flat washers, lock washers, and nuts, and finishing supplies.</b>	

Above items are available at Woodcraft stores, [woodcraft.com](http://woodcraft.com) or by calling (800) 225-1153.

Adirondack Chair Cut List		Thickness	Width	Length	Qty.	Mat'l
A	Rear legs	$\frac{3}{4}$ "	$5\frac{5}{8}$ "	$34\frac{3}{8}$ "	2	C
B	Arms	$\frac{3}{4}$ "	$5\frac{1}{8}$ "	$27\frac{1}{8}$ "	2	C
C	Intermediate splats	$\frac{3}{4}$ "	$3\frac{1}{2}$ "	$29\frac{5}{8}$ "	2	C
D	Outer splats	$\frac{3}{4}$ "	$3\frac{1}{2}$ "	$25\frac{1}{4}$ "	2	C
E	Brackets	$\frac{3}{4}$ "	3"	$6\frac{1}{2}$ "	2	C
F	Back rail	$\frac{3}{4}$ "	4"	22"	1	C
G	Rear seat slat	$\frac{3}{4}$ "	$3\frac{3}{8}$ "	22"	1	C
H	Middle splat	$\frac{3}{4}$ "	$3\frac{1}{2}$ "	$30\frac{3}{4}$ "	1	C
I	Front legs	$\frac{3}{4}$ "	$3\frac{1}{2}$ "	$23\frac{1}{4}$ "	2	C
J	Upper crosspiece	$\frac{3}{4}$ "	$4\frac{1}{2}$ "	$26\frac{1}{2}$ "	1	C
K	Front rail	$\frac{3}{4}$ "	$3\frac{1}{2}$ "	22"	1	C
L	Seat slats	$\frac{3}{4}$ "	$2\frac{1}{2}$ "	22"	5	C

C=Cedar (or choose another decay-resistant wood)

## Cutting Diagram

