



# **COMPLIMENTARY WOODWORKING PLAN**

## **Adirondack Chair**

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# Classic Adirondack Chair Plans

*D. Roy Woodcraft*  
idea sin wo od

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## Features:

-  Supreme Comfort
-  Elegant Appearance
-  Contoured Seat & Back
-  Rigid Construction
-  Folds to 10" height
-  Simple Construction

## Tools Needed:

- Jig Saw
- Drill
- Belt Sander (recommended)
- Table Saw (recommended)
- Basic Hand Tools



## Included in Plan:

-  Grid Diagram detailing contoured parts
-  Parts List
-  Cutting Diagrams
-  3D Assembly Diagrams
-  Step by Step Instructions
-  Footrest Plan Included

# Classic Adirondack Chair

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## Materials List

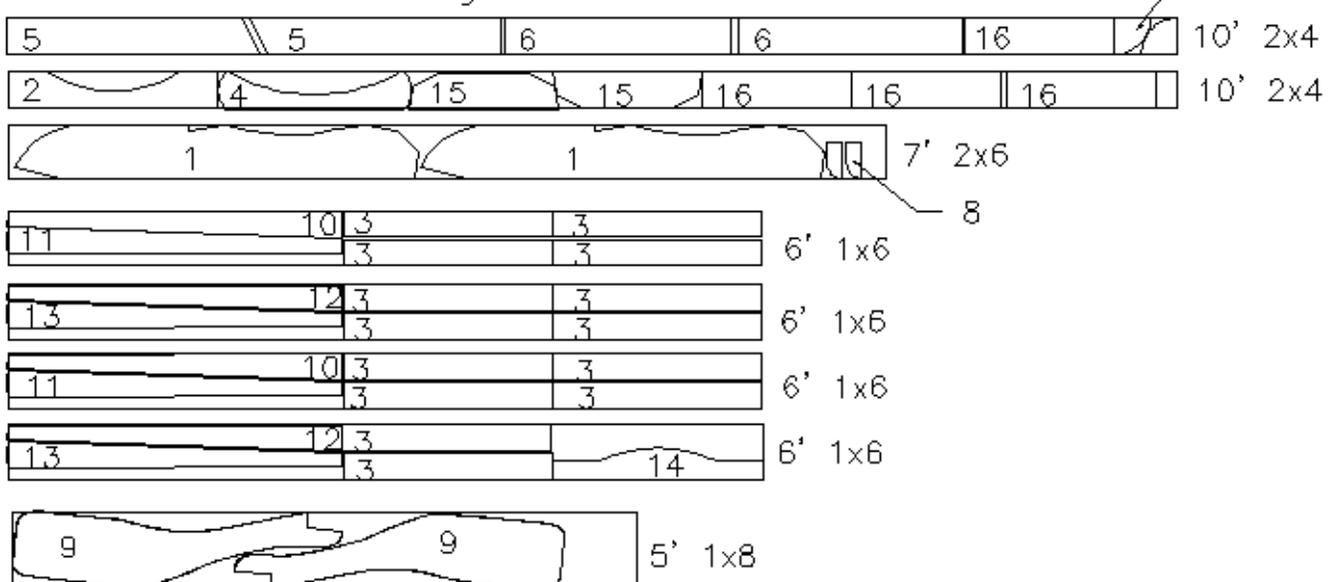
QTY	Length	Material	Description
2	10'	2 X 4	Cedar
1	7'	2 x 6	Cedar
4	6'	1 X 6	Cedar fence boards
1	5'	1 X 8	Cedar
50	1 1/2"	brass	Deck screws
32	3"	brass	Deck screws

## Parts List

All measurements in inches

Part #	Dimensions	QTY	Description	Notes
#1	38 1/2 x 5 1/4 x 1 1/2	2	Sides	Cut to shape per template
#2	20 x 3 1/2 x 1 1/2	1	bottom back brace	Cut from 2 X 4
#3	2 1/2 x 20	7	Seat slats	rip from 1 X 6
#4	18 3/8 x 3 1/2 x 1 1/2	1	top back brace	Cut to shape per template
#5	24 1/4 x 2 x 4	2	back legs	Cut from 2 X 4
#6	21 1/2 x 2 x 4	2	front legs	Cut from 2 X 4 per template
#7	3 1/2 x 3 1/2 x 1 1/2	2	front angle blocks	Cut from 2 X 4
#8	3 1/2 x 1 1/2 x 1 1/2	2	rear angle blocks	Cut from 2 X 4
#9	31 1/2 x 7 1/4 x 3/4	2	arms	Cut from 1 x 8
#10	tapered as per step 7	1	centre slat	Cut pairs from 32 x 4 x 3/4
#11		2	2nd slat	
#12		2	3rd slat	
#13		2	4th slat	
#14	3 x 20 x 3/4	1	rear seat slat	cut to shape per template
#15	14 1/4 x 2 x 4	2	footstool side	cut from leftover 2 x 4 or 2 x 6
#16	12 3/4 x 2 x 4	4	footstool legs	cut from leftover 2 x 4
#17	2 1/2 x 20 x 3/4	7	footstool slats	rip from 1 x 6

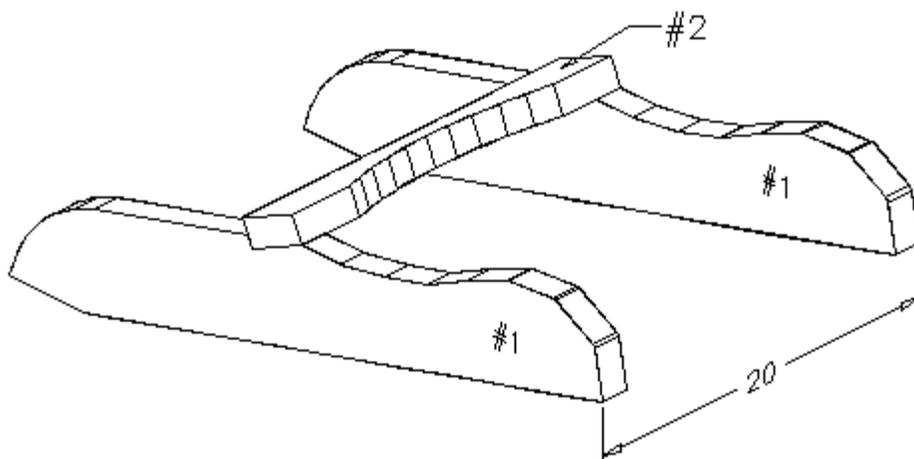
## Cutting Plan



## Step 1:

Cut out all parts as per the contour diagram. Note that the outline for part #1 has been shortened by 8" in order to fit the page. Note also that parts #2, #4, and #14 have a mirror line shown. Flip the template over along this line to make a part that is twice the length of the template.

Sand the outer surfaces of the two sides (parts #1) and the bottom back brace (part #2). Place the two sides on the floor, spaced as shown. Attach the bottom back brace to the sides using glue and 3" brass deck screws. Ensure the assembly is square.

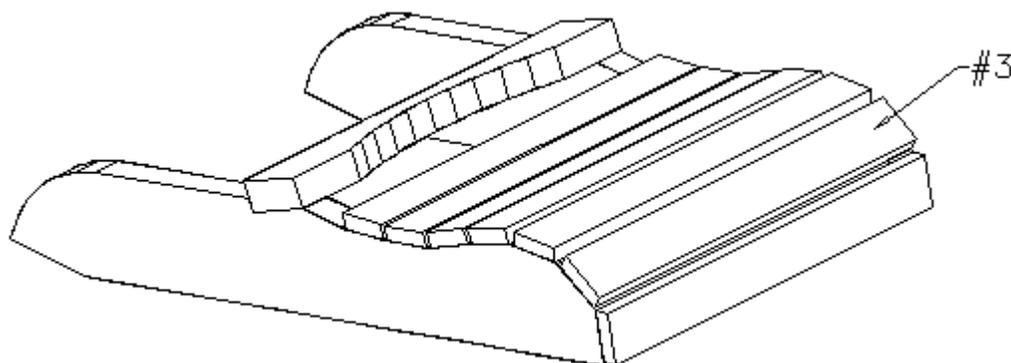


## Step 2:

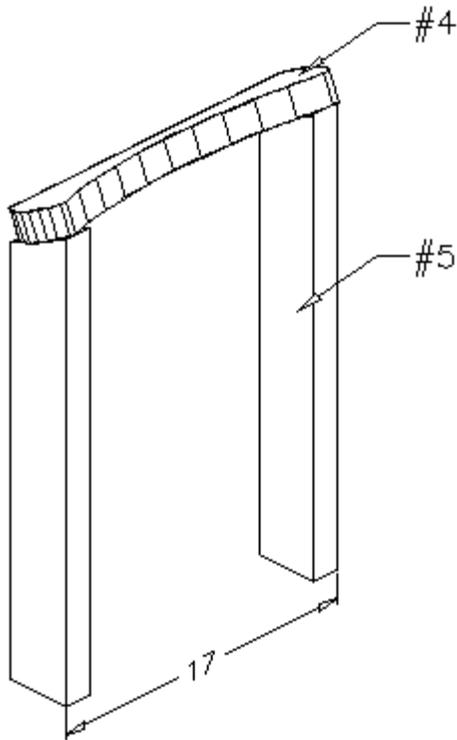
Sand the outer surfaces of the seat slats, (parts #3), including the ends and the edges. Round over the edges slightly with the belt sander. Attach the slats to the sides using 1 1/2" brass deck screws, countersunk flush with the surface. Ensure that the heads of the screws all line up visually.

Do not install the rearmost slat (part #14) at this point as it would get in the way later.

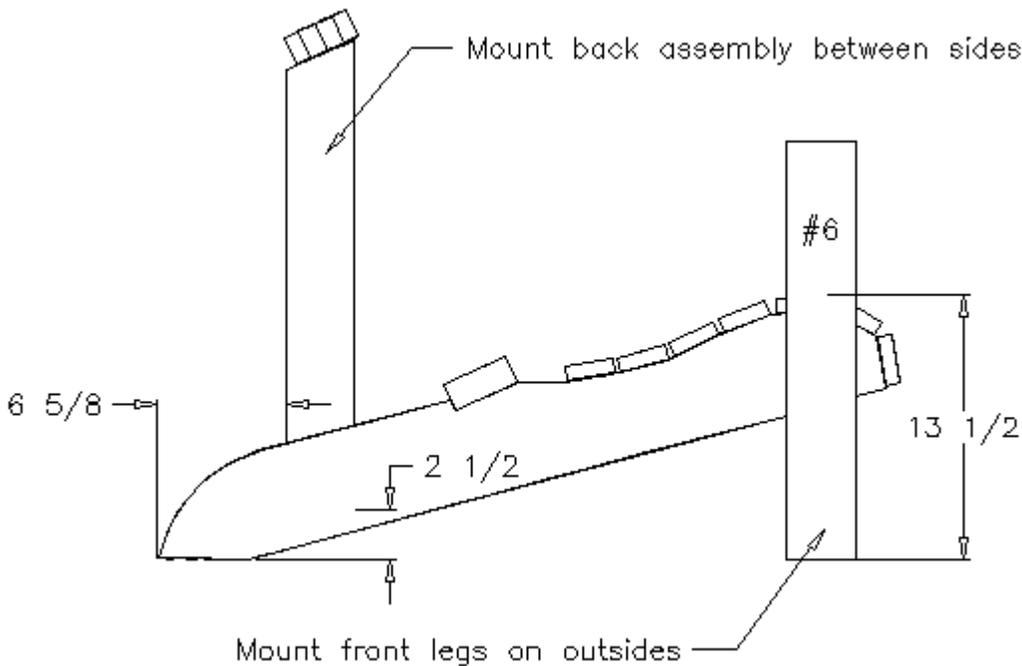
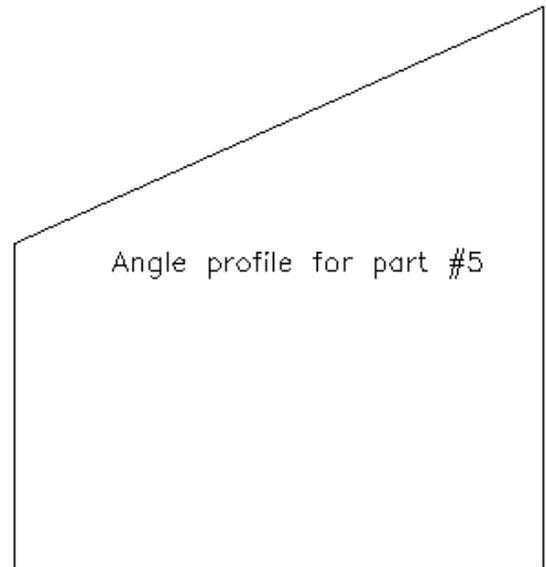
Note that these seat slats as well as the back slats are best left unglued. This greatly simplifies future refinishing, allowing the slats to be removed for power sanding.



**Step 3:** Cut the angled ends on the back legs (parts #5) as per the angle template.



Sand the outer surfaces of the parts and attach the top back brace (part #4) as shown, using glue and 3" screws.



## Step 4:

Elevate the front of the chair to a height of 13 1/2" as shown. Attach the front legs using C-clamps. Ensure the legs are straight and plumb and that the chair does not rock. The front legs should be mounted within a couple of inches from the front edge. Although mounting them 6" from the front looks better,

the chair has a tendency to tip a bit when getting in and out of it. Mount the legs permanently from the inside using two screws each.

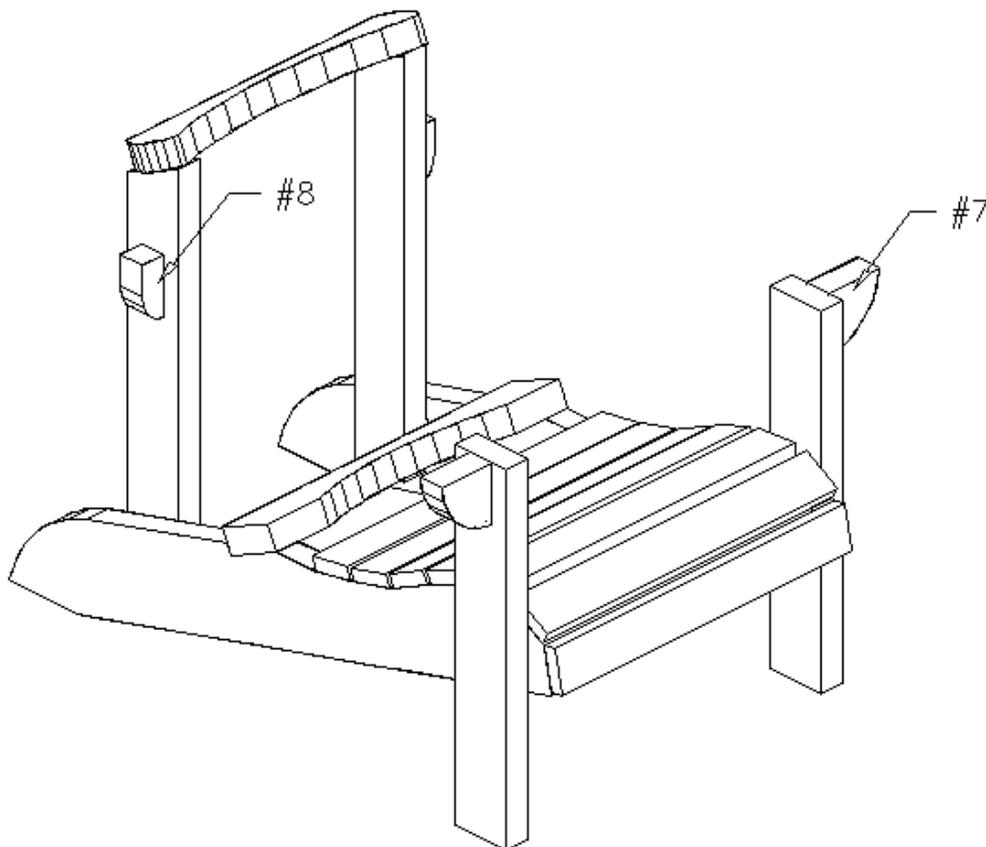
Position the back assembly as shown and mount with C-clamps. Ensure that everything is straight and square. Mount the back assembly from the inside using two screws into each support.

## Step 5:

Install the front angle blocks (parts #7) on the front legs as shown, using glue and two screws, countersunk.

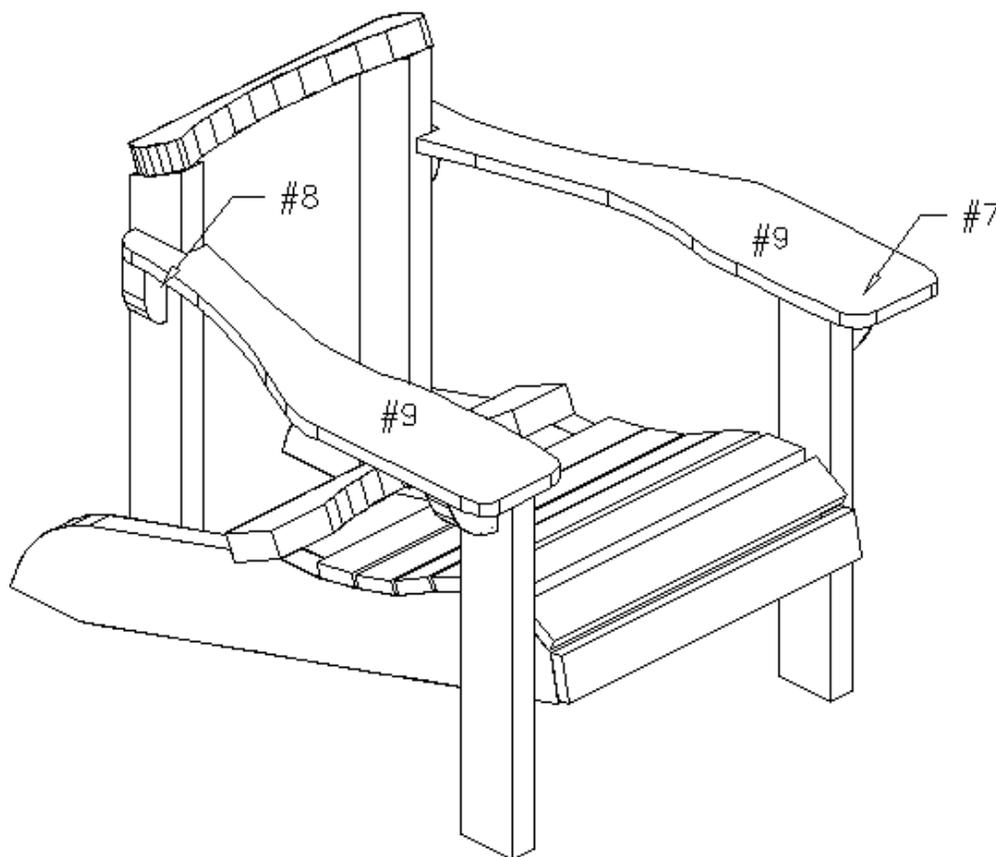
Using a one of the arms as a straightedge, determine the location of the the rear angle blocks (parts #8). Ensure that the arm is level. Attach the angle blocks with glue and screws.

When mounting angle blocks, prevent splitting by drilling a pilot hole before driving the screws. Another trick to prevent splitting is to tighten a clamp over the anticipated split area.

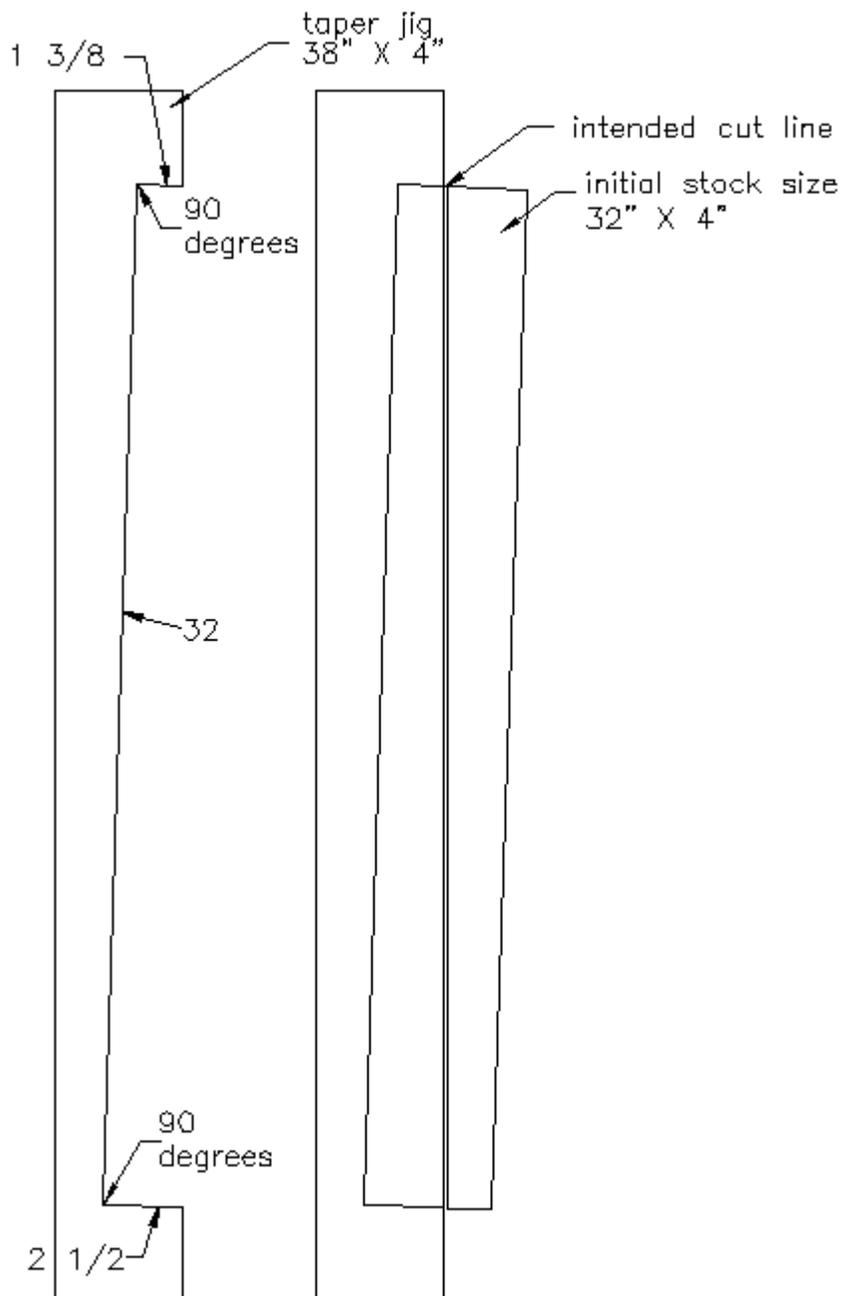


## Step 6:

Install the arms as shown, using 3 screws each. Use one screw into the rear angleblock, one into the front angleblock, and one into the front leg. Glue on this part is optional but I would tend to leave it out in order to make refinishing easier later.



## Taper Jig:



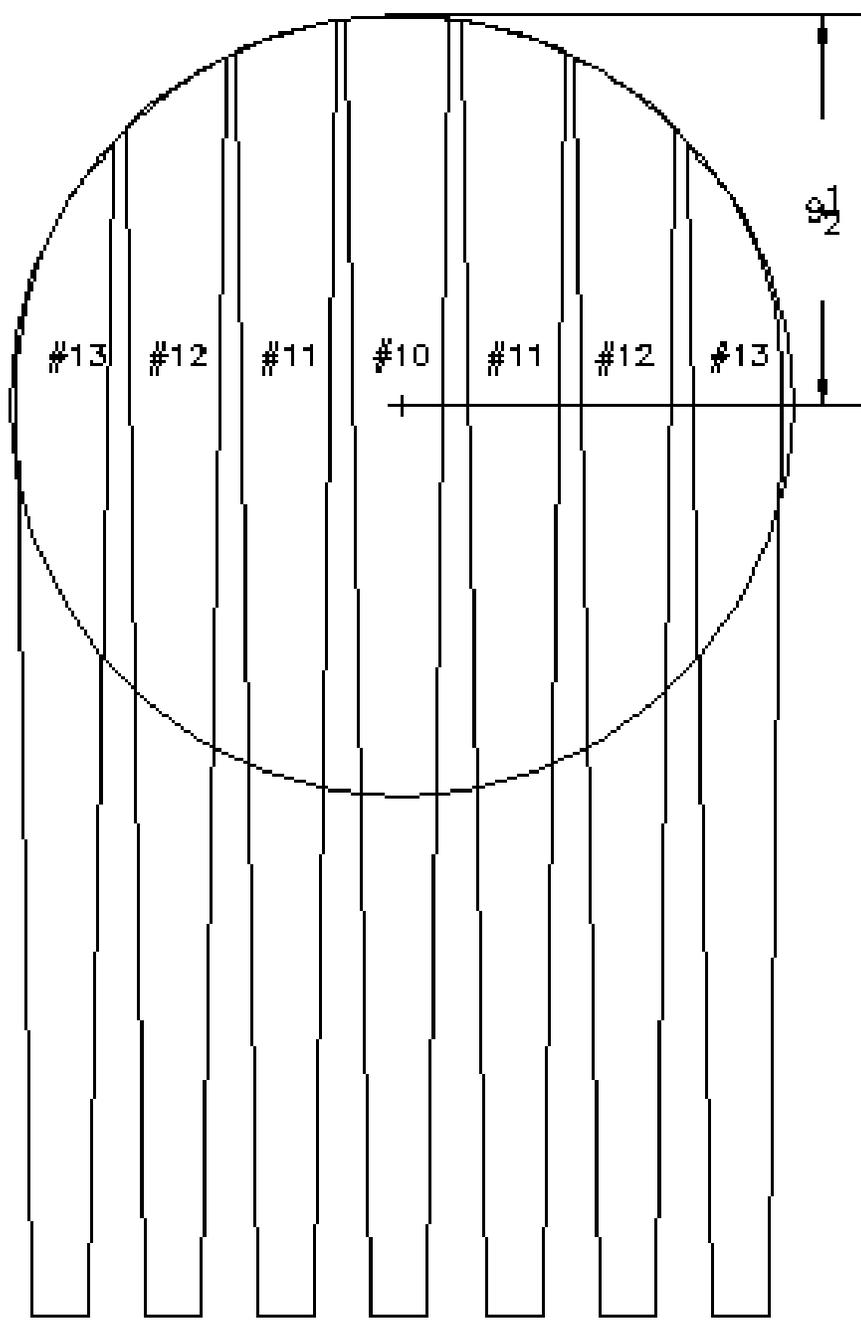
## Step 7:

The taper jig shown is useful for cutting perfect tapered slats for parts 10, 11, 12, 13. It is made from a scrap piece of  $\frac{3}{4}$ " stock cut to 38" X 4". The shape shown is cut into the centre of it in order to accept each 32" X 4" piece of slat stock. The jig is used on the table saw with the fence set to 4" from the blade. The stock is placed into the jig and ripped into two.

When cutting the jig, make sure the ends of the opening are 90 degrees as shown. The resulting slats will have slightly skewed ends, which won't matter. The lower end of each slat will be out of view and the upper ends will be trimmed to shape in a later step. A snug fit into the jig also helps in controlling the cut.

Use the jig to cut the four pieces of slat stock into 8 slats. Since only 7 are required, you will always have an extra if building an odd number of chairs.

## Slat Top End Profiles:



### Step 8:

Cut the illustrated profiles onto the tops of the slats. Slat 10, being the centre slat, remains full length and can be rounded to the correct profile using a belt sander. Slats 11 thru 13 are pairs, requiring two of each profile. When all the slats are cut, they will give a semi-circle profile when placed about 1/4" apart.

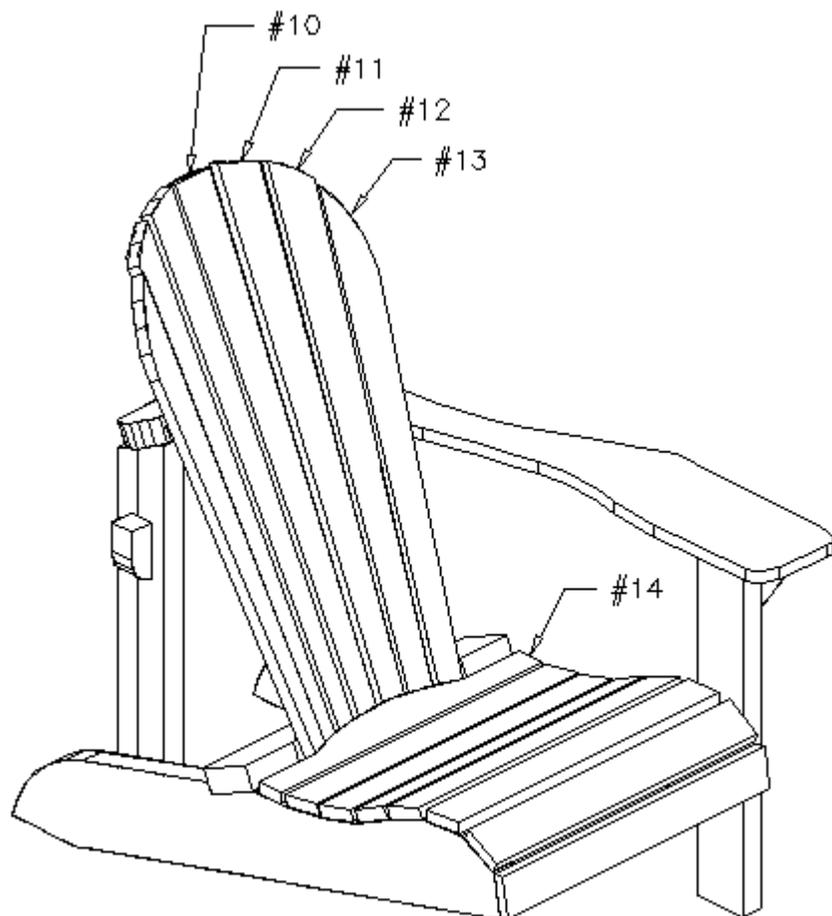
The arc can be drawn by measuring down 9 1/2" along the center slat as shown. Using this as the center point, scribe an arc as shown, using a trammel or a string & pencil. Feel free to modify the arc to suit your own taste.

### Screws:

#### To Plug or Not to Plug:

These chairs look great when the screws are plugged with wood plugs cut from matching wood.

However, the plugs make future disassembly impossible and the plugs tend to work loose over time. Therefore, I prefer to use countersunk brass deck screws. The screws should be even with the surface of the wood and neatly lined up.



some parts deleted for clarity

## Step 9:

Install slat #10 in the centre position as shown, using countersunk screws. Continue to install the remaining slats in numerical order, leaving gaps of about 1/4" in between. Line up all screws visually. Don't worry about the bottoms not lining up with each other as they won't show after part #14 is in place.

Once all slats are installed, attach the rear seat slat (part #14) using screws.

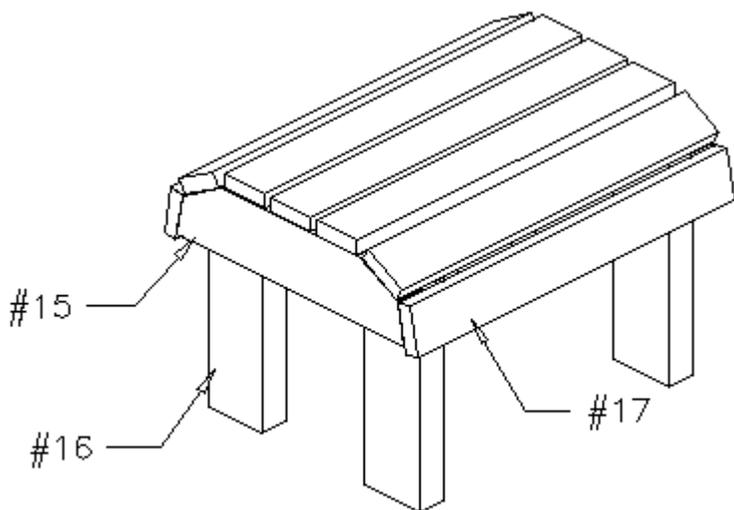
## Step #10

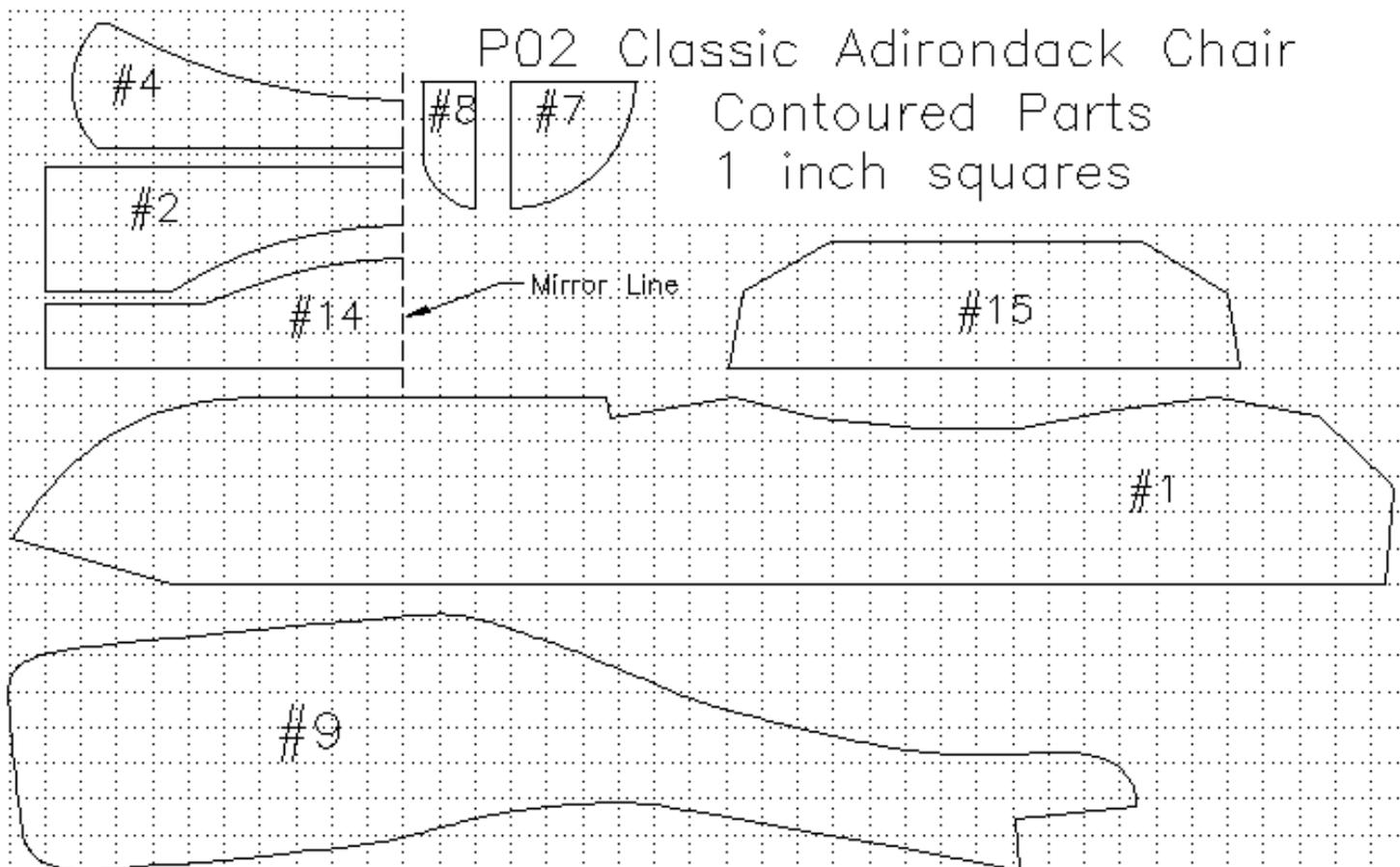
Assemble the footstool as shown. Cut the tops of the legs (parts #16) to match the profile of the sides (parts #15). Install them from the inner face of the sides using screws. Note that the sides could be cut from leftover 2X4, 2X6, 1X4, or 1X6. The legs could also be made from 1X4 but a much more solid stool will result from the use of 2X4.

Position all of the slats, visually positioning them for an even appearance. Attach them with countersunk screws.

## Step #11

Stain, paint or varnish the completed pieces as desired. If the chairs will be used on dirt or grass, seal the ends of the legs with sanding sealer, shellac or white glue, to prevent moisture absorption and premature rot.





## Contour Diagram:

Create full sized templates for tracing your contoured parts using this grid diagram. If building multiple chairs or if you wish to save templates for future re-use, trace the contours onto stiff cardboard or onto 1/8" thick hardboard. You can also draw the grid directly onto your stock, then using the parts as templates.

Start by drawing your grid onto the template stock in pencil. Plot a series of dots at the points where the object line crosses the grid line. Keep track of which grid line you are at with one hand while you plot your points with the other hand. It can be helpful to number every 5<sup>th</sup> grid line on both the drawing and on the template grid to help you keep track of your position.

When you have the series of dots that represent the outline, connect them either freehand or by tracing french curves around the dots.

Note that some of the parts have a mirror line. Create a template for the half part only, to ensure that the resulting parts are symmetrical. Draw the center line on your stock and align your half template along the line. Trace the template on one side of the center line, flip the template along the center line and draw the opposite side.