






**COMPLIMENTARY
WOODWORKING PLAN**

COFFEE TABLE PLAN

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Features:






-  Simple Construction
-  Elegant Appearance
-  Lower Surface
-  Elliptical & Round Versions

Tools Needed:

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



Included in Plan:

-  Grid Diagrams detailing contoured parts
-  Parts Lists
-  Cutting Diagrams
-  3D Assembly Diagrams
-  Step by Step Instructions

This simple coffee table can be built in either a round or elliptical shape. You have a lot of freedom to choose the size of table you wish to build as well as the finished appearance through your choice of router bits used to finish the edges. Built of solid wood, you also have great control over the style through your choice of wood. Solid oak gives a somewhat formal appearance while pine gives a more casual, rustic appearance. It would also look spectacular if built of cherry or walnut. It is an ideal project to showcase that special piece of lumber with the unusual grain pattern. The prototype shown is built from western red cedar. The surface consists of a single large slab of cedar which is a very spectacular piece of wood. The coffee table surface is the perfect means of displaying this highly unusual find.

To build this project, start by choosing between the elliptical or the round variations. Your next choice is in stock thickness. Since this table has no skirt, it is best built of 1 1/2" thick stock throughout. If building from softwood, cost is not really an issue. Hardwood, however, costs substantially more if building in this thickness. Feel free to build the top from 3/4" or 4/4" stock. Since the height of the table surface should be 16" above the floor, you may have to choose the alternate leg style to achieve this. The standard leg is designed for use with a 1 1/2" thick table top and the long leg is designed for use with a 3/4" thick table top. Dimensions given in the parts list are for the standard leg length. The long leg is detailed in its own grid diagram.

Since the round version and the elliptical version differ in materials quantity, the materials list and parts list are presented separately for each version. Choose your version and be careful to consult the correct lists. The basic project is presented firstly as an elliptical table. The changes necessary to build the round version are presented later in the plan.

Qty **Materials: Elliptical Table**

| | |
|--------|-------------------------------------|
| 24 1/2 | linear feet of 2X6 solid wood stock |
| 9 1/2 | linear feet of 1X6 solid wood stock |
| 4 | 2" #8 wood screws |
| 4 | 3 1/2" #10 wood screws |

Parts List

Elliptical Table

all dimensions in inches

| Part # | Description | Qty | Length | Width | Thick | Material |
|--------|-----------------------------|-----|--------|-------|-------|----------------|
| 1 | legs | 4 | 14 1/2 | 5 3/8 | 1 1/2 | 2X6 solid wood |
| 2 | Upper surface center board | 1 | 48 | 5 1/4 | 1 1/2 | 2X6 solid wood |
| 3 | Upper surface second boards | 2 | 47 1/4 | 5 1/4 | 1 1/2 | 2X6 solid wood |
| 4 | Upper surface third boards | 2 | 37 1/2 | 5 1/4 | 1 1/2 | 2X6 solid wood |
| 5 | Lower surface center board | 1 | 39 1/2 | 5 1/4 | 3/4 | 1X6 solid wood |
| 6 | Lower surface second boards | 2 | 36 1/2 | 5 1/4 | 3/4 | 1X6 solid wood |

Step 1:

Cut to size the boards that comprise the upper surface, according to the parts list. (#2,#3, #4). Note that you can make up the top using whatever board widths you prefer, modifying to suit the stock you have. Your rough shaped blank should be a total length of at least 48 inches long, and 24 inches width at the center. Repeat with the boards for the lower surface, #5 & #6.

Cutting Diagram: Elliptical Table

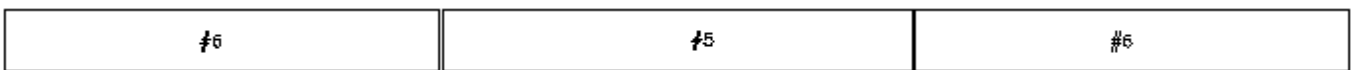
two 8 foot 2X6 solid wood



8 1/2 foot 2X6 solid wood



9 1/2 foot 1X6 solid wood

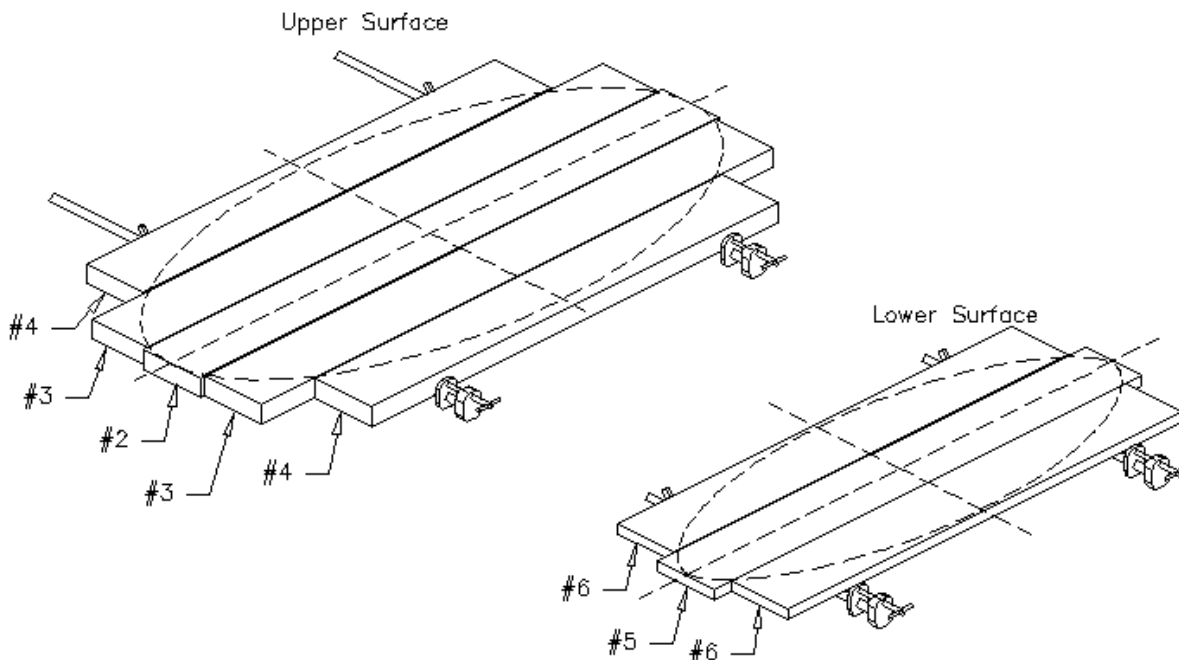


Lay out your boards on pipe clamps as illustrated. Dowels, splines or biscuits between the boards are not necessary for strength. Biscuits will definitely assist in alignment of boards so use your biscuit joiner if you have one. If not, the boards can be pulled into line using C clamps and short lengths of 2X4. Clamp the 2X4 crosswise across the assembly when gluing up. Take care to alternate the growth rings in the wood to minimize future warping. Any minor cupping in the wood will tend to cancel out between boards when the growth rings are properly alternated as in the illustration.



Step 2:

Line up the boards along their center lines. Glue up the boards using yellow cabinet makers glue. This type of glue is preferable due to its quick set-up time and gap filling qualities. It allows you to glue board edges with edges prepared only by the table saw. The use of a jointer is certainly a benefit but I've glued up many such panels using only the table sawn edges. Wipe up squeezed out glue using a sopping wet rag. A third clamp placed at the center of the panel,



on the top, will tend to cancel the tendency of the panel to bend downward.

Step 3:

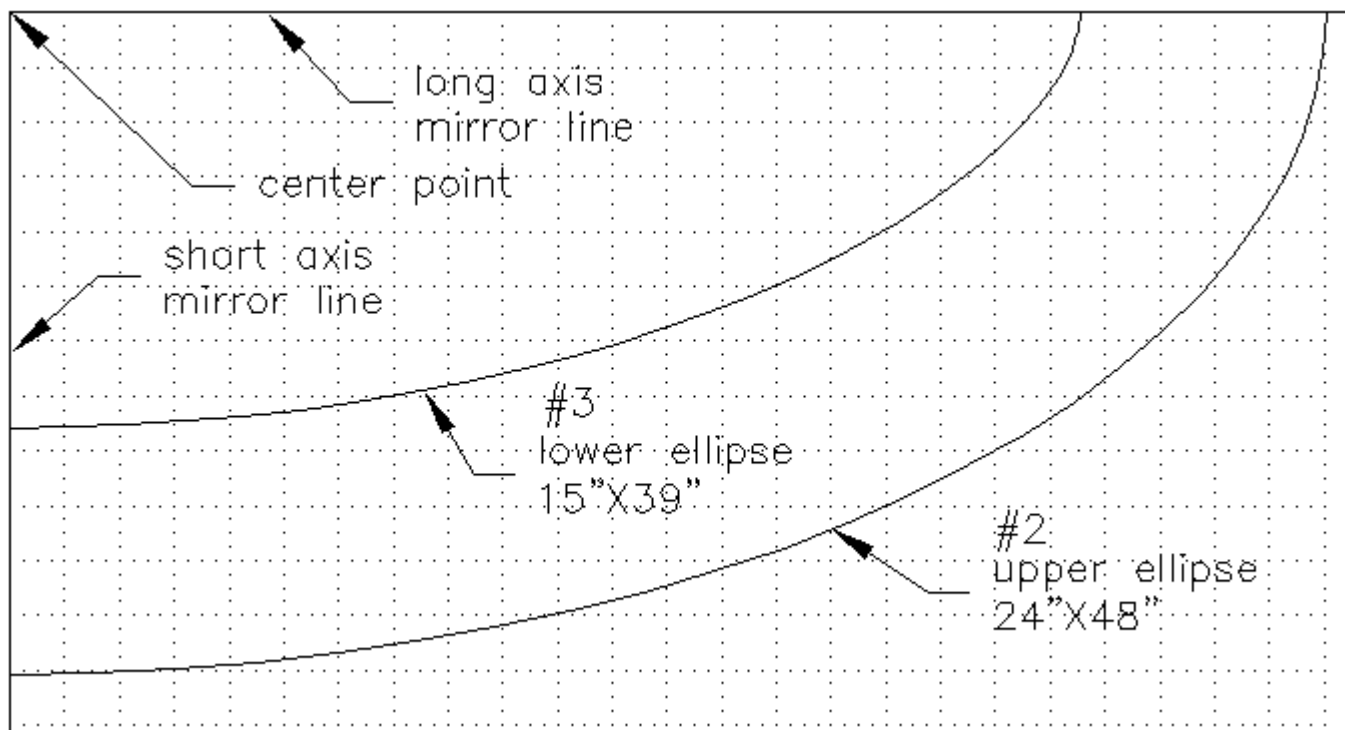
Create full sized templates for tracing your contoured parts using this grid diagram. If building multiple tables or if you wish to save templates for future re-use, trace the contours onto stiff cardboard or onto 1/8" thick hardboard. You can also draw the grid directly onto your stock, then using the 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 5th 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 the ellipses each have a two mirror lines. Create a template for the quarter ellipse only, to ensure that the resulting parts are symmetrical. Draw the center lines on your stock, ensuring that they are at 90 degrees to each other. Align your quarter template along the two lines. Trace the template on one side of the center line, flip the template along the center line and draw the opposite side. The quarter ellipse template will need to be traced four times to give you a complete, symmetrical ellipse outline.

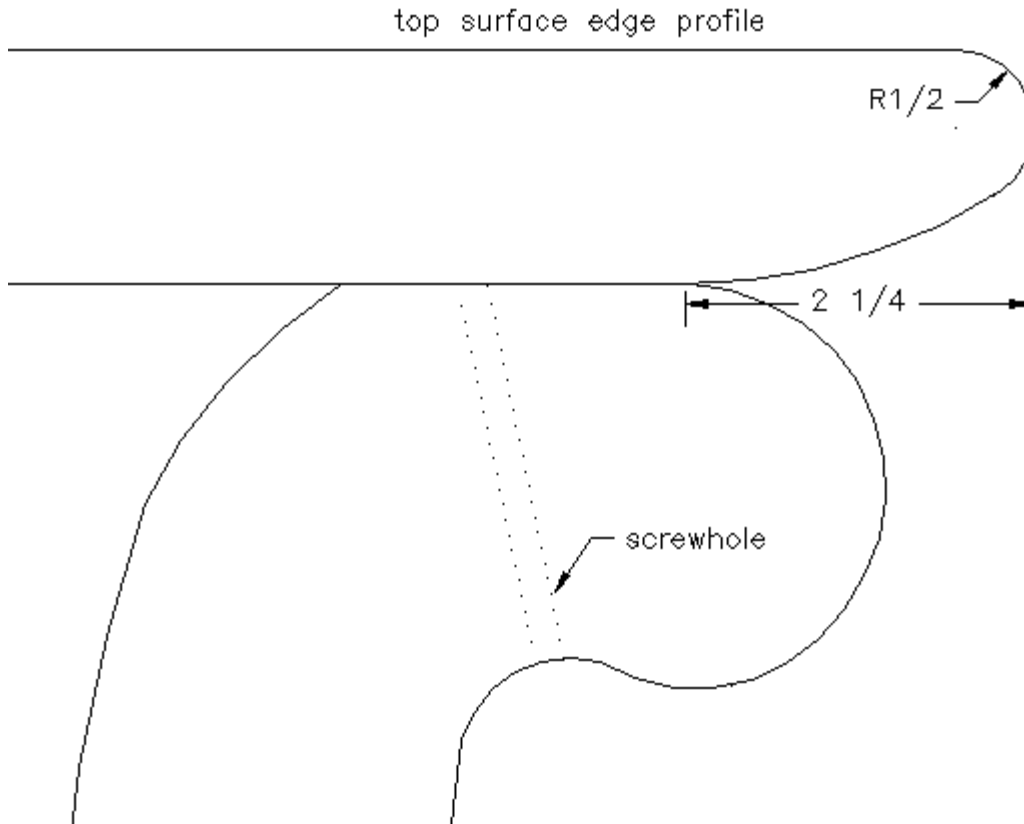
Once you have your outline drawn on your stock, cut the surfaces to their shape using a jig saw or band saw. Smooth and refine the edges using a belt sander.



Step 4:

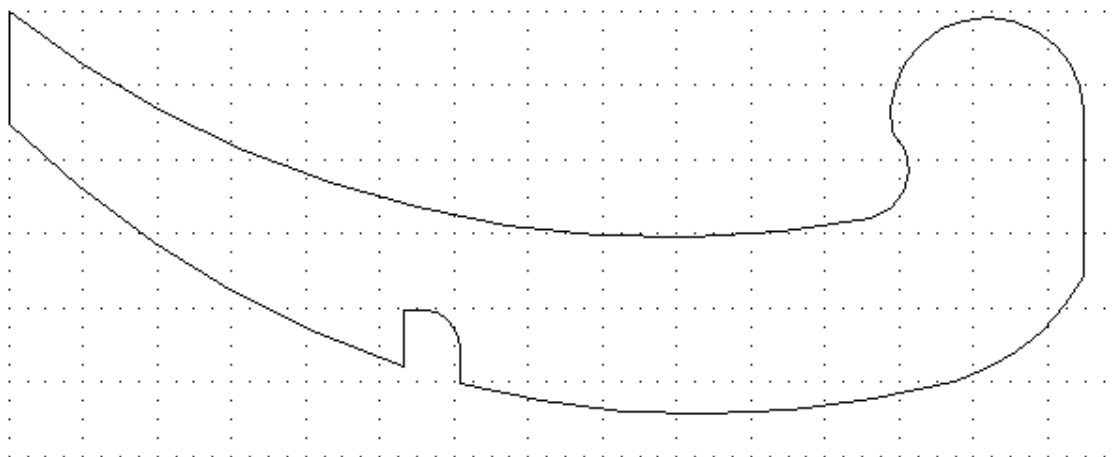
Using a 1/2" radius router bit, round over the upper edges of the upper and lower surfaces. Using a plane or a very coarse belt sander, shape the lower edge of the upper surface as shown. The edge should be contoured to make it look semi-circular, tapering off beneath to a point about 2 1/4" from the edge. The finished appearance will make the table look thinner than it's actual thickness. The lower surface of the table has a square bottom edge. Complete final sanding of both the upper and lower surfaces of the table.

Spend extra time sanding the upper surface to a high standard as it will be highly visible. My cedar slab table produced a wavy appearance when sanded, which looks very much like the beach. This was totally unexpected and it became part of the unique personality of the table.



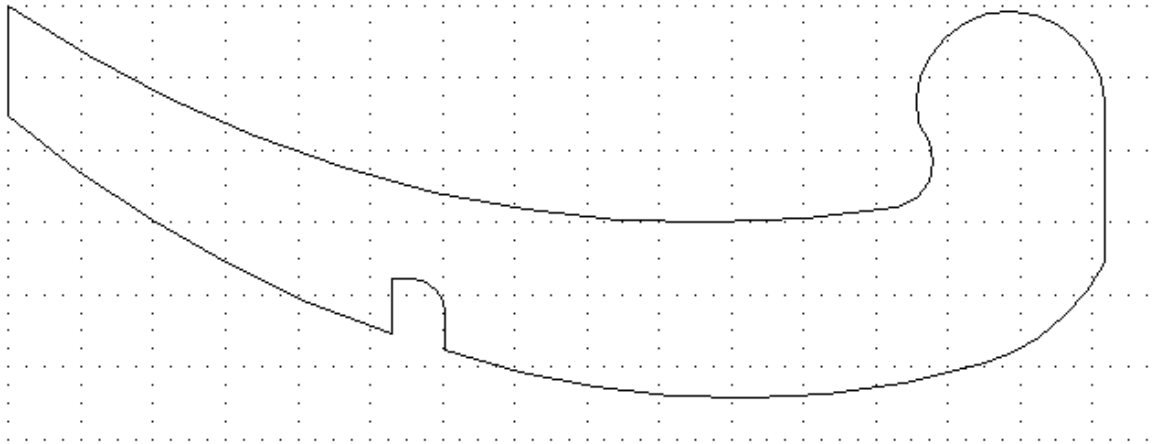
Step 5:

Create a template for the leg profile, referring to the appropriate grid diagram. Note the two different leg lengths represented on two separate grid diagrams. The standard length leg is 14 1/2" long, which gives a 16" table top height when used with the 1 1/2" thick top surface. The long leg is designed for a 3/4" or 1" thick table top. The notch in the leg should be adapted to fit the actual profile of the lower surface. Use your router to create the same profile onto the end of a scrap of wood.



Use this as a template to trace the actual profile onto the leg.

#1 leg (short, 1 1/2" table top)



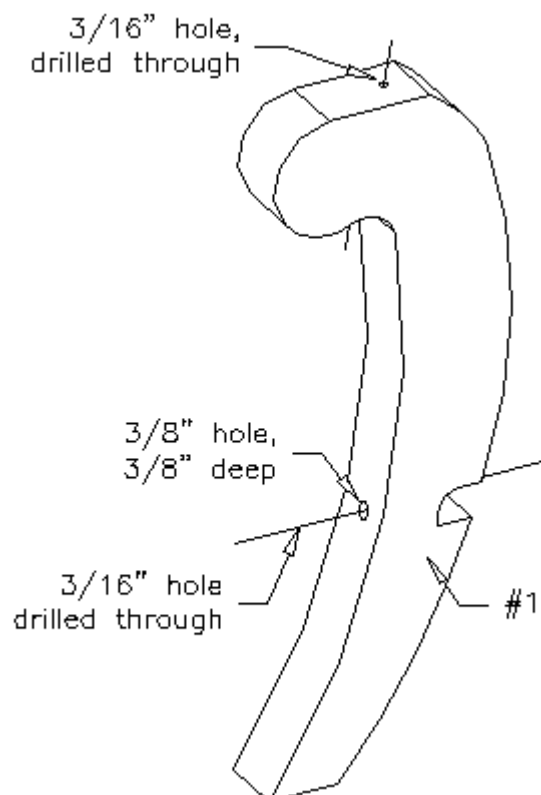
#1 leg (long, 3/4" table top)



Step 6:

Cut the legs to shape using a band saw or jig saw. Smooth and refine the edges with a belt sander or drum sander in a drill press. Using either a 3/8" or 1/2" radius router bit, round over the edges of the legs, keeping square the edges within the notch and the flats at the top and bottom of the leg.

At the height of the notch, drill a 3/8" diameter hole, about 3/8" deep. This hole will receive a wooden plug later. Within the hole, drill a 3/16" diameter hole through



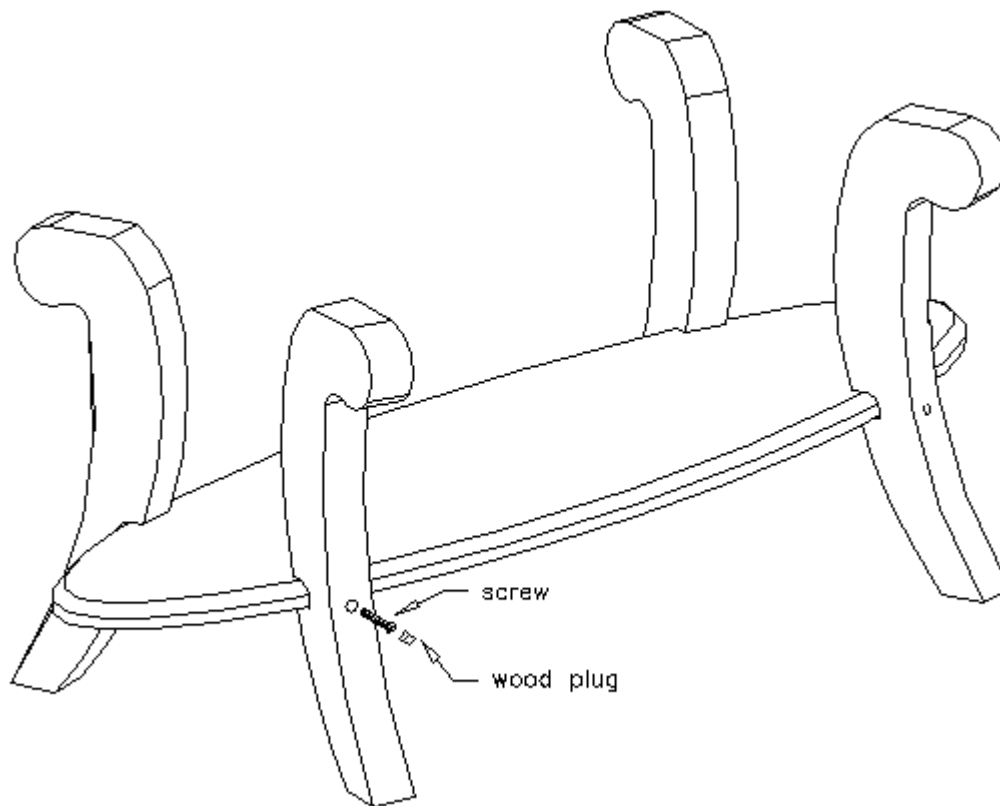
through into the center of the notch. At the top of the leg, drill a 3/16" hole from the center of the "throat" through to the top, at a slight angle, as shown.

Step 7:

Choose four points near the ends of the lower surface and position the legs, as shown. Find a position for the legs that is visually pleasing, taking care to keep them evenly and symmetrically spaced. One leg at a time, remove, apply glue, and reinstall with a 2 1/2" #8 wood screw. If your lower surface is made of hardwood, you may want to drill a small pilot hole to prevent screw breakage. Repeat this with all four legs.

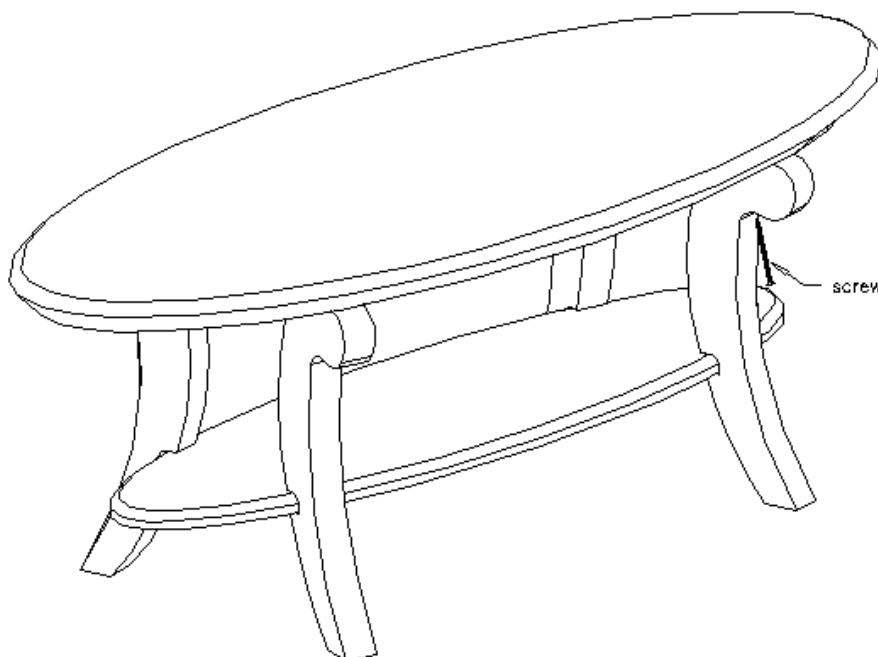
Plug the holes

with wooden plugs, glued and tapped in with a hammer. Tapered plugs are the best, cut with a plug cutter mounted in a drill press. Cut the plugs from a piece of waste stock of similar colour and grain pattern. When the glue is dry, sand the plugs flush with the surface of the leg.



Step 8:

Carefully position the table top over the legs. Note that the legs may have to be pulled a little to ensure they are upright. Into each leg, drive a 3 1/2" #10 woodscrew upward into the table top. Watch that your screws do not penetrate the table top, especially if it is only 3/4" thick. You may need to substitute shorter screws.



Round Version:

The basic assembly of the round version is the same as the elliptical version, so description will be brief. Substitute the following materials list, parts list, and cutting diagram for the earlier versions.

Qty **Materials: Round Table**

| | |
|--------|-------------------------------------|
| 25 1/2 | linear feet of 2X6 solid wood stock |
| 11 | linear feet of 1X6 solid wood stock |
| 4 | 2" #8 wood screws |
| 4 | 3 1/2" #10 wood screws |

Parts List

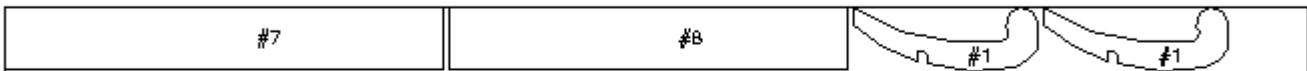
Round Table

all dimensions in inches

| Part # | Description | Qty | Length | Width | Thick | Material |
|--------|-----------------------------------|-----|--------|-------|-------|----------------|
| 1 | legs | 4 | 14 1/2 | 5 3/8 | 1 1/2 | 2X6 solid wood |
| 7 | Upper surface center & 2nd boards | 3 | 36 1/4 | 5 1/4 | 1 1/2 | 2X6 solid wood |
| 8 | Upper surface third boards | 2 | 33 | 5 1/4 | 1 1/2 | 2X6 solid wood |
| 9 | Upper surface fourth boards | 2 | 26 1/4 | 5 1/4 | 1 1/2 | 2X6 solid wood |
| 10 | Lower surface center & 2nd boards | 3 | 27 | 5 1/4 | 3/4 | 1X6 solid wood |
| 11 | Lower surface third boards | 2 | 21 3/4 | 5 1/4 | 3/4 | 1X6 solid wood |

Cutting Diagram: Round Table

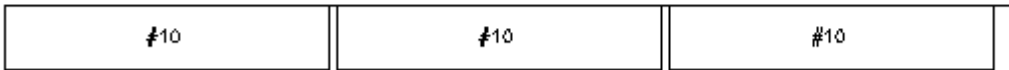
two 9 foot 2X6 solid wood



7 1/2 foot 2X6 solid wood



7 foot 1X6 solid wood



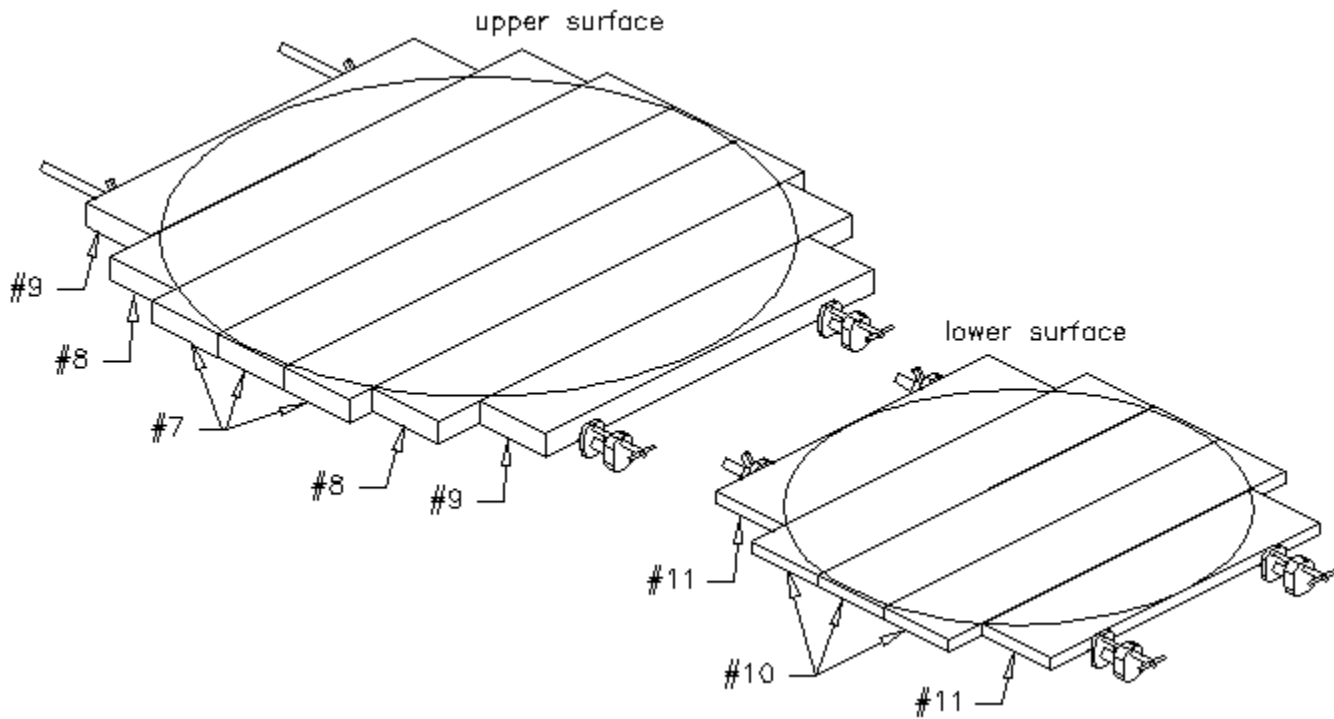
4 foot 1X6 solid wood



Top Assembly:

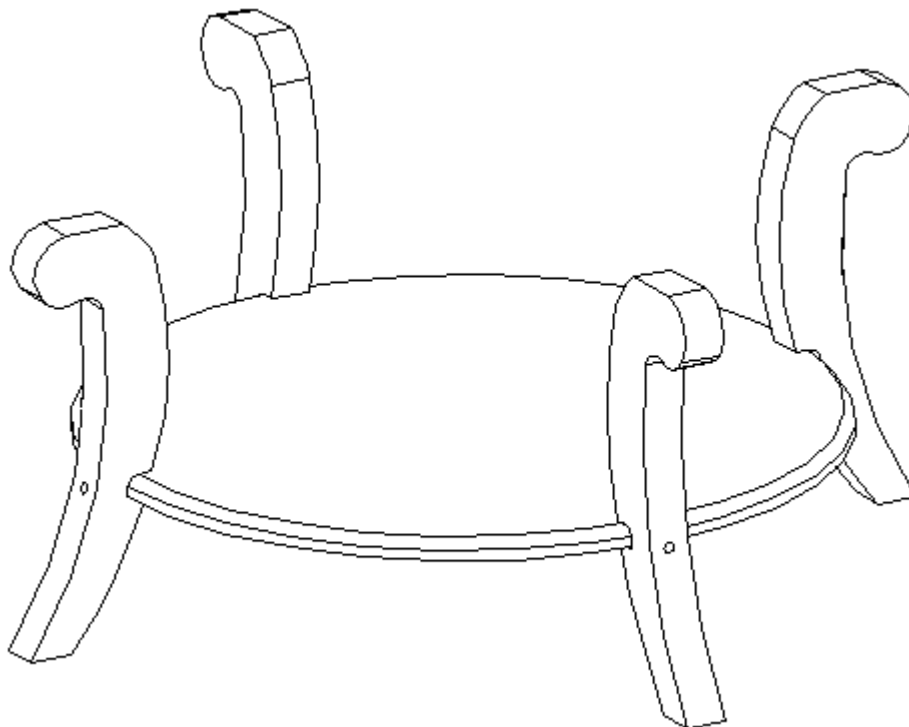
Assemble the round table surfaces as shown in the following illustration. Refer to the glue-up instructions given earlier. When the glue is dry, mark the center of the panel. Press a pin or small brad into the center of the panel and tie a string to it. Tie the opposite end of the string to a pencil, at the appropriate distance from the center, and draw the circle. The diameter of the upper surface should be 36" and the lower surface should be 26 1/2".

Cut out the circles and sand the edges, refining the shape with the belt sander. Profile the edges as described in step 4.



Leg Assembly:

Create the legs as described in steps 5 and 6. Mount them evenly around the lower surface as shown in the illustration. Install them according to the description given in step 7.

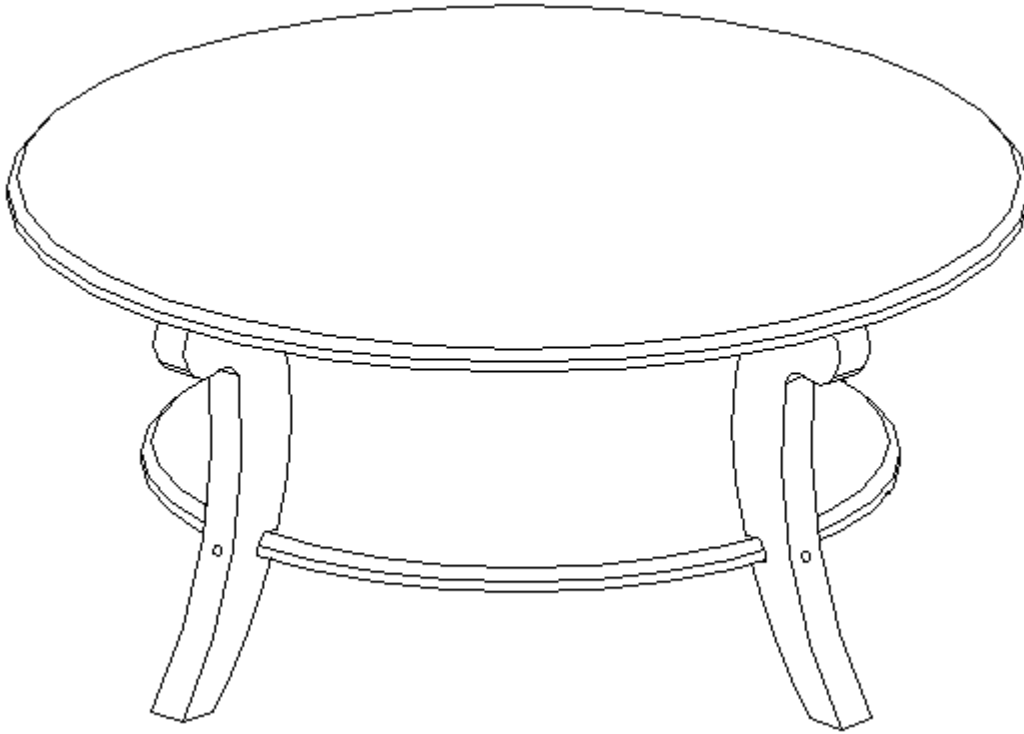


Coffee Table



©

Install the top over the legs as illustrated. Refer to step 8 for instructions.



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