



Construction Trades Virtual Learning

Project Book 2

Lesson 19

April 30, 2020

Construction Trades

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Objective/Learning Target:

What You Will Know

- How to gather materials, lay-out, gather tools for and build a curved picnic table

Building a Curved Picnic Table

What skills and tools do you think we will use to build the curved picnic table?



Curved Picnic Table cont.

What's New

Carriage Bolts

- Round head and square neck
- Threaded metal fastener; used with nut and washer



Deck Screw

- Treated to make it more resistant to corrosion



Curved Picnic Table cont.

Roundover Bit

- Produces a simple, rounded edge
- Can cut as edge with a stepped shoulder



Strap Hinge

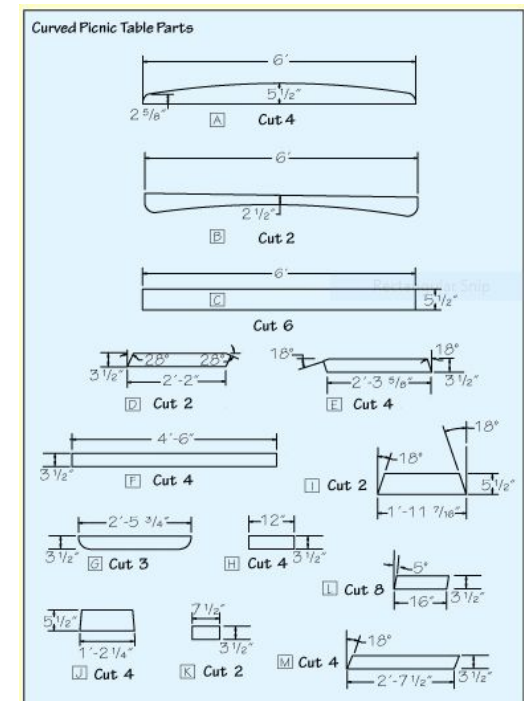
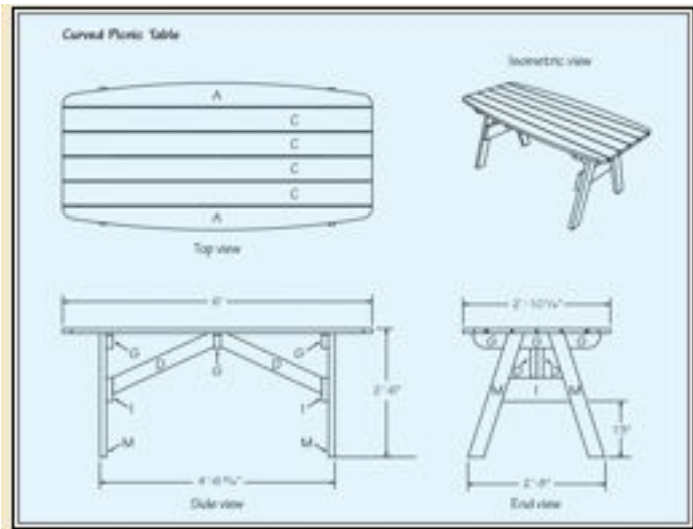
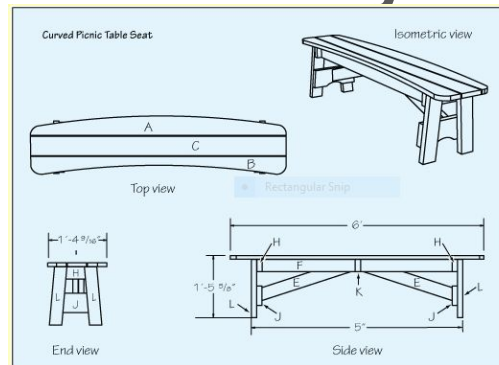
- Used to attach components that must swing open and shut



Curved Picnic Table cont.

Cut List

- How many pieces should be on your cut list?



Curve Picnic Table cont.

Procedure - Shape the two outside boards on the tabletop and bench seat

- Scribe a line about 2" long parallel to the sides at each end.
- Place marks on the scribed lines 1" from the ends of the board.



Curved Picnic Table cont.

Procedure - Shape the two outside boards on the tabletop and bench seats cont.

- Spring the 1 x 2 board boards the edge of the board at the 3'-0" centerline. When the edge of the 1 x 2 is even with the edge of the $\frac{3}{4}$ x 6 board, the desired arc had been created.



Question

- Why should the legs be marked?

Curved Picnic Table cont.

Procedure - Shape the two outside boards on the tabletop and bench seats cont.

- Position the compass where the squared line meets the squared edge on what will be the straight ledge of the board.

Tip

- This piece will be used as a pattern, so be especially careful to cut these lines accurately



Curved Picnic Table cont.

Procedure - Make the concave cut for the bench tops

- Place the pattern aligning the curve with the 3" mark at the centerline and the ends

Tip

- This piece will be used as a pattern, so it is important to make sure the placement of the board is precise and the tracing is done accurately



Curved Picnic Table cont.

Procedure - Make the concave cut for the bench tops cont.

- Sand any irregularities on the cuts to smooth the edges
- Round over all cut edges of the 5/4" x 6 boards using the router with a 3/16" radius roundover bit.



Curved Picnic Table cont.

Procedure - Cut the supports for the tabletop

- Measure back 3 ½" along an edge from each end on one of the pieces and make a mark.
- Set the point of the compass to the mark established in step 2 and swing an arc at the end of the board.



Curved Picnic Table cont.

Procedure - Cut the legs for the table

- Measure 2'-7 ½" from the long point fo the cut end and cut a parallel 18 degree angle.



Curved Picnic Table cont.

Procedure - Cut the tale angle braces

- Measure back 1 ½” along the edge of the board from the long point of the angle cut in step 4 and place a mark.

Tip: This piece will be used as a pattern so it is important to make sure the measurements are correct before the piece is cut.

Measure twice, cut once



Curved Picnic Table cont.

Procedure - Assemble the legs

- Drill a 1" diameter countersink hole $\frac{3}{8}$ " deep at the previously made mark

Question: What can you do to make sure you drill to the proper depth?



Curved Picnic Table cont.

Procedure - Assemble the legs cont.

- Measure in 1 $\frac{3}{4}$ " from each end of one spreader and place a mark.
- Draw an 18 degree line through each mark parallel to the end of the spreader.



Curved Picnic Table cont.

Procedure - Assemble the legs cont.

- Secure this alignment with two clamps, one on each leg

Tip: Once the piece is clamped, re-measure to make sure all the pieces are spaced properly before assembly.



Curved Picnic Table cont.

Procedure - Assemble the legs cont.

- Drill two $\frac{3}{8}$ " diameter holes through the assembly using the center points of the countersunk holes as guides

Tip: It is important to drill these holes correctly or the carriage bolts will not fit into the holes properly.



Curved Picnic Table cont.

Procedure - Assemble the tabletop

- Lay the tabletop boards face down on a flat surface approximately $\frac{1}{4}$ " apart with the two curved pieces on the outside and the ends of the boards aligned.
- Position one cleat over the tabletop boards roughly 6" away from an end. Locate the center of the table and position the second cleat $\frac{3}{4}$ " off center.



Curved Picnic Table cont.

Procedure - Assemble the tabletop cont.

- Place marks along the line 1" in from the edges of each board.

Tip: The screws that will be placed at these marks will still be seen when the picnic table is complete. Consider how you want the table to look as you position the screws.



Curved Picnic Table cont.

Procedure - Align the braces and legs

- Align the mark on the spreader of the leg assembly to the brace connected to the center support. Make sure the brace is on the same side of the centerline as it is attached to the center table support
- Secure the spreader to the brace with 2 ½" deck screws.



Curved Picnic Table cont.

Procedure - Align the braces and legs cont.

- Clamp the leg assembly to the temporary cleat.

Tip: Once the pieces are clamped, re-measure to make sure all the pieces are spaced properly before assembly.



Curved Picnic Table cont.

Procedure - Align the braces and legs cont.

- Place marks along the line 1" in from the edges of each board. The curved boards on the sides of the table will only have one mark in each end. The mark should be centered.

Tip: Be sure not to press too hard with the pencil when marking the wood. Cedar is a soft wood and the pencil can leave a dent if pressed too hard.



Curved Picnic Table cont.

Procedure - Cut parts for the benches

- Measure back $1 \frac{3}{4}$ " along the edge of the board from the long point of the angle and place a mark.
- Draw a line through the mark square to the angle cut.



Curved Picnic Table cont.

Procedure - Assemble the upper frame of the benches

- Attach one 2 x 4 x 12" seat frame end to each end of the 2 x 4 x 4'-6" seat frame side with two 2 1/2" deck screws through each end.
- Butt the other 2 x 4 x 4'-6" seat frame side against the seat frame center support and secure the seat frame end to the side with one 2 1/2" deck screw.



Curved Picnic Table cont.

Procedure - Assemble the bench legs

- Adjust the legs until the outside edge aligns with the outside edges of the spreader.
- Drill pilot holes. Secure the spreader to the legs with one 2 1/2" deck screw in each leg, 1" from the outside edge and 1" from the bottom of the spreader.



Curved Picnic Table cont.

Procedure - Assemble the bench legs to bench frame

- Align the corners of the leg assembly with the corners of the frame assembly and clamp in place.
- Fasten on completed leg assembly to the frame with one 2 1/2" construction screw in each leg.



Curved Picnic Table Conclusion

