



www.BobsPlans.com

Octagon Picnic Table Plans

Parts Drawings & Hole Layout Drawings



This document contains the detailed Parts Drawings, Hole Layout Drawings and Parts Cutout Drawings for the **Octagon Picnic Table Plans** offered at www.BobsPlans.com.

The Instructions for assembling this project and other important information regarding this project may be found at the above website.

Please Note: All information and drawings in this document are copyrighted. This document may only be downloaded from www.BobsPlans.com by visitors to www.BobsPlans.com solely for the purpose of building this project. Please do not distribute this document to any person or organization.

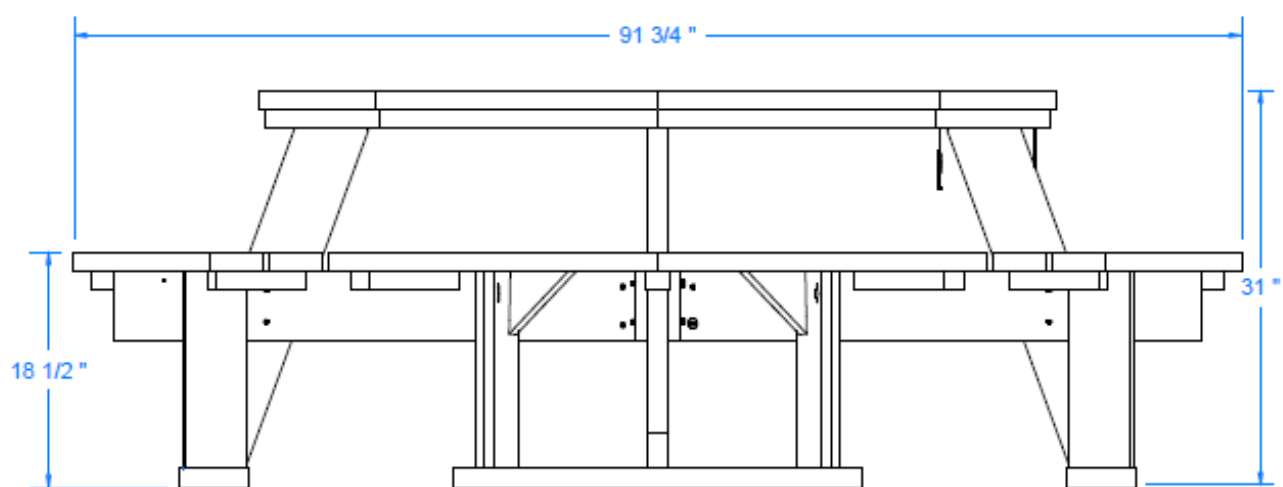
If you know someone that is interested in building this project, please refer them to www.BobsPlans.com.

Revised: 4/19/2014

Copyright © Robert E. Reedy, Vandalia, Ohio, USA
All Rights Reserved

Octagon Picnic Table Plans

Dimensions



Octagon Picnic Table Plans

Table of Contents

Parts Drawings - Top Octagons	1
Parts Drawings - Top Gussets	2
Parts Drawings - Legs	3
Parts Drawings - Connector Rails	4
Parts Drawings - Seats	5
Hole Locations – Pocket Holes	6
Hole Locations – Top Gussets	7
Hole Locations – Small Gussets	8
Hole Locations – Legs, Connector Rails, & Seat Bases	9
Cutout Drawings - 1	10
Cutout Drawings - 2	11
Cutout Drawings - 3	12
Assembly Instructions – Top Octagons	13
Assembly Instructions – Top Gussets	14
Assembly Instructions – Legs	15
Assembly Instructions – Connector Rails	16
Assembly Instructions – Top Trim	17
Assembly Instructions – Seats - A	18
Assembly Instructions – Seats - B	19
Attach Seats – Top Gussets	20
Completed Table	21

Materials You'll Need

Wood 2 by 6 by 8ft	17
Wood 2 by 4 by 8ft	2
Wood 5/4 by 6 by 8ft	4
Rust Resistant Hex Head Bolts (5/16" by 4")	20
Rust Resistant Flat Washers (5/16")	40
Rust Resistant Lock Washers (5/16")	20
Rust Resistant Nuts (5/16")	20
Rust Resistant Wood Screws (No. 9 by 2")	About 320
Rust Resistant Wood Screws (No. 9 by 2 1/2")	About 30

Octagon Picnic Table

Parts Drawings - Top Octagons

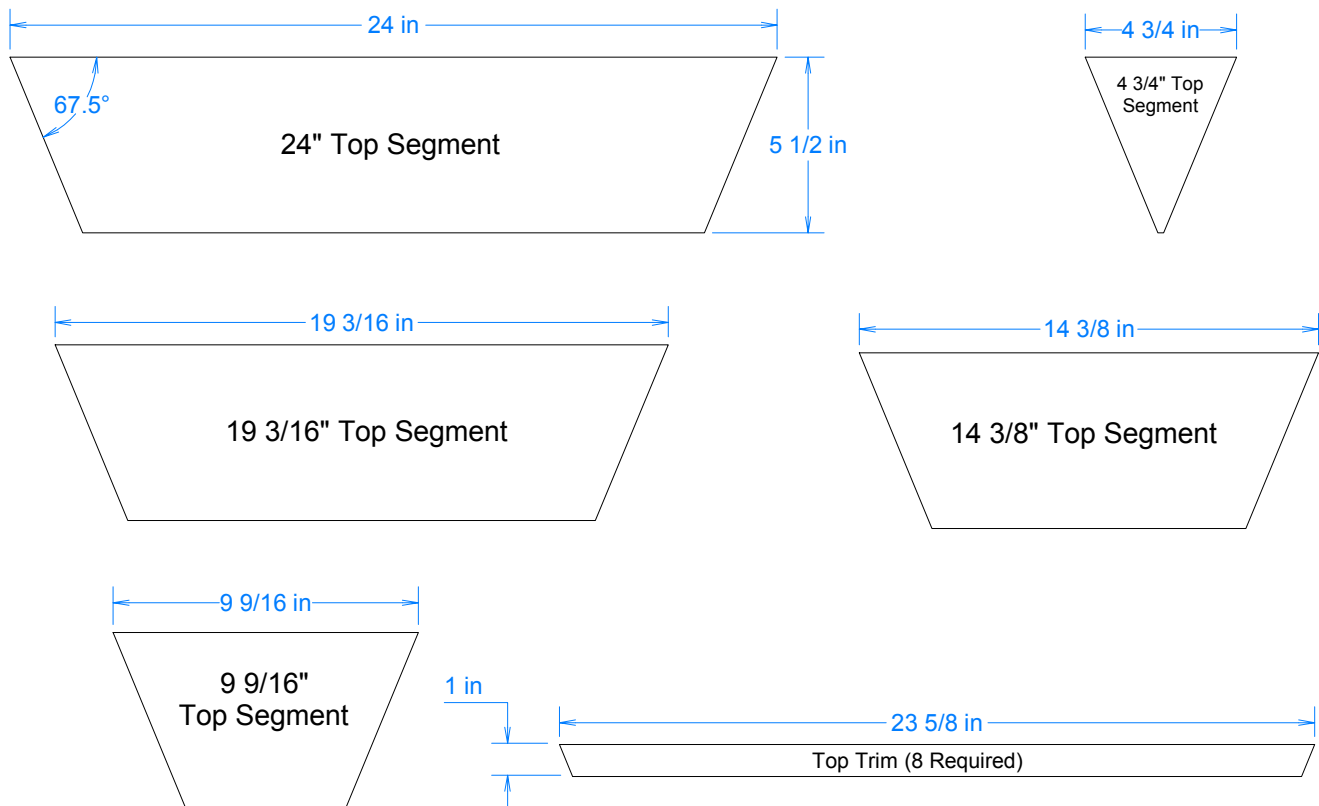
Page 1

All Octagon Segments are made from 5 1/2" Wide by 1 1/2" Thick wood.

The Top Trim segments are also made from 1 1/2" Thick wood.
The finished dimensions of the Top Trim segments are
23 5/8" long, 1" wide, and 1 1/2" high.

All angles for the Octagon Segments and Trim Segments are 67.5 degrees.
(You'll need to set your saw or miter gusage at 22.5 degrees.)

You'll need eight each of the parts on this page.



Octagon Picnic Table
Parts Drawings - Top Gussets
Page 2

All Gussets are made from 1 1/2" Thick wood.

You'll need:
Four 23 1/8" Wide Gussets
Four 27 1/4" Narrow Gussets

Note: To get the 67.5 degree angle, you'll probably need to set your miter guage to 22.5 degrees.



Octagon Picnic Table

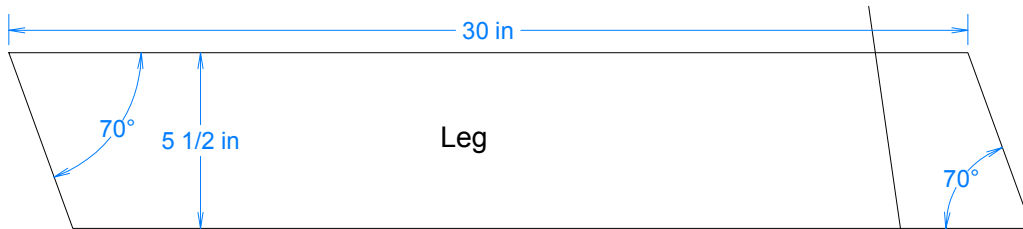
Parts Drawing - Legs

Page 3

Legs are made from 1 1/2" Thick wood.

First cut four Legs 30" long by 5 1/2" wide with 70 degree angles on each end as shown below.

You'll need to set your miter guage to 20 degrees to get the 70 degree angles.

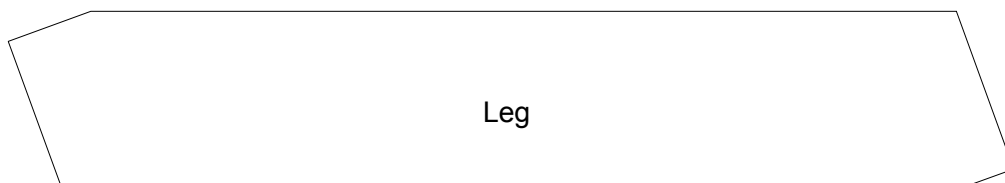


Outer Seat Board

Next, cut off two corners from each Leg as shown below.



The finished legs should look like this.



Revised: 4/19/2014

Copyright (c) 2013, Robert E.Reedy, Vandalia, Ohio, USA
All Rights Reserved

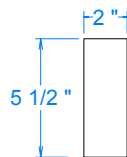
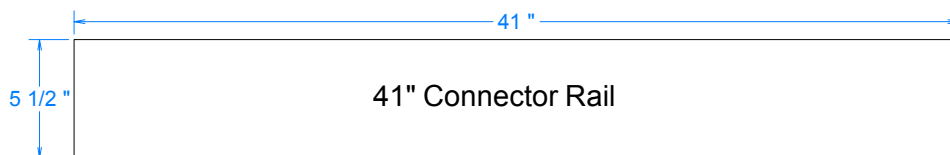
Octagon Picnic Table
Parts Drawing - Connector Rails
Page 4

You'll need:

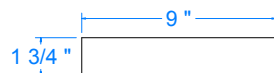
Four 41" Connector Rails
Two 85 1/2" Connector Rail
Two Connector Rail Gussets
Eight Rail-Seat Gussets

Connector Rails are made from 1" thick wood.

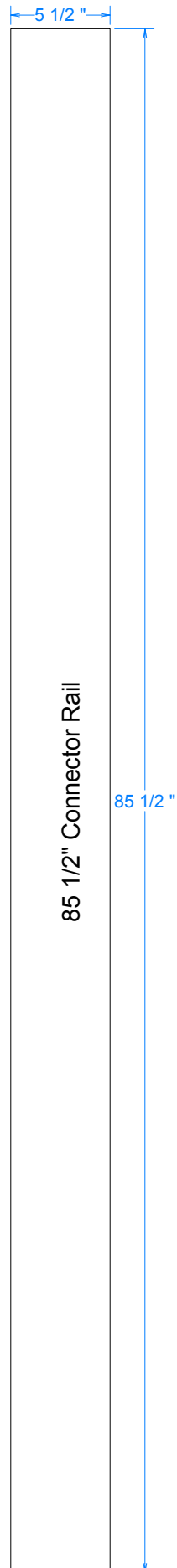
Connector Rail Gussets and Rail-Seat Gussets are made from
1 1/2" thick wood.



Connector Rail Gusset



Rail-Seat Gusset



Octagon Picnic Table

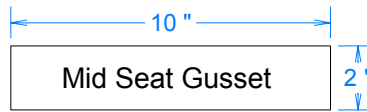
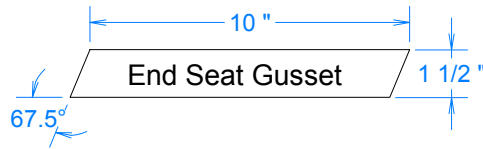
Parts Drawing - Seats

Page 5

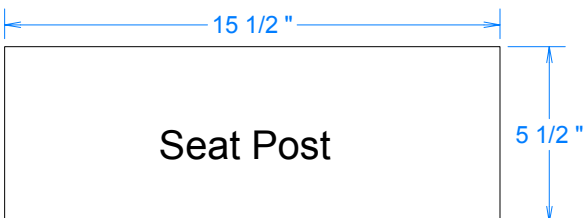
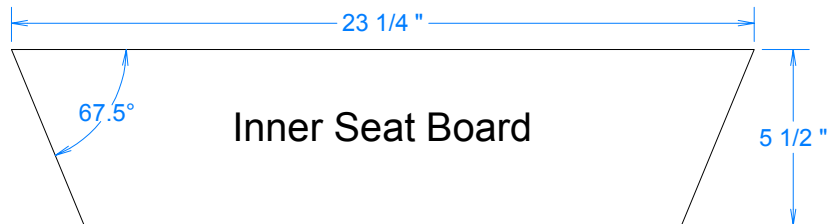
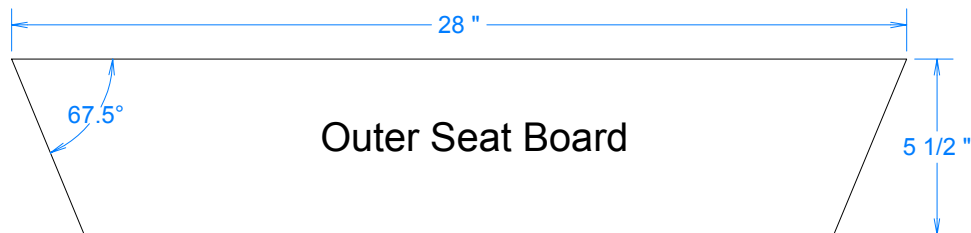
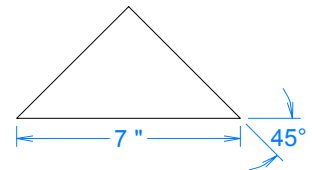
All Seat parts are made from 1 1/2" Thick wood. You may need to set your miter guage or saw to 22.5 degrees for the 67 1/2 degree cuts.

You'll need:

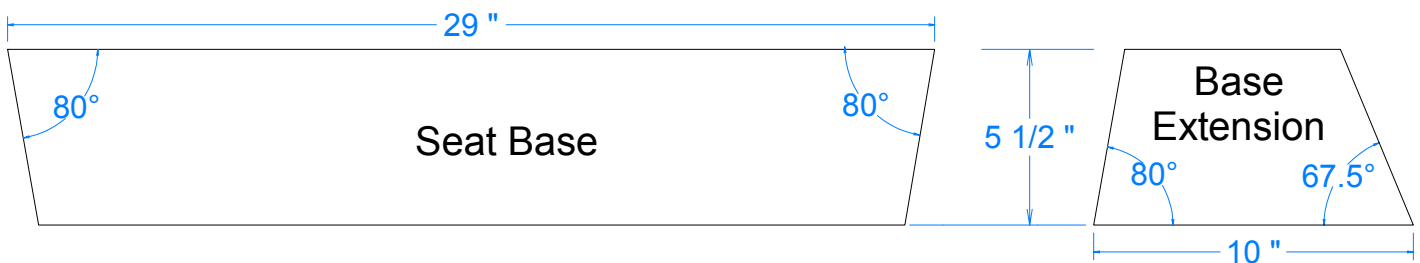
- Eight Outer Seat Boards
- Eight Inner Seat Boards
- Eight Seat Posts
- Eight End Seat Gussets
- Eight Corner Seat Gussets
- Four Middle Seat Gussets
- Four Seat Bases
- Eight Base Extensions



Corner Gusset



Cut Bevel 22 1/2 degree bevel along the edges of the Seat Posts .



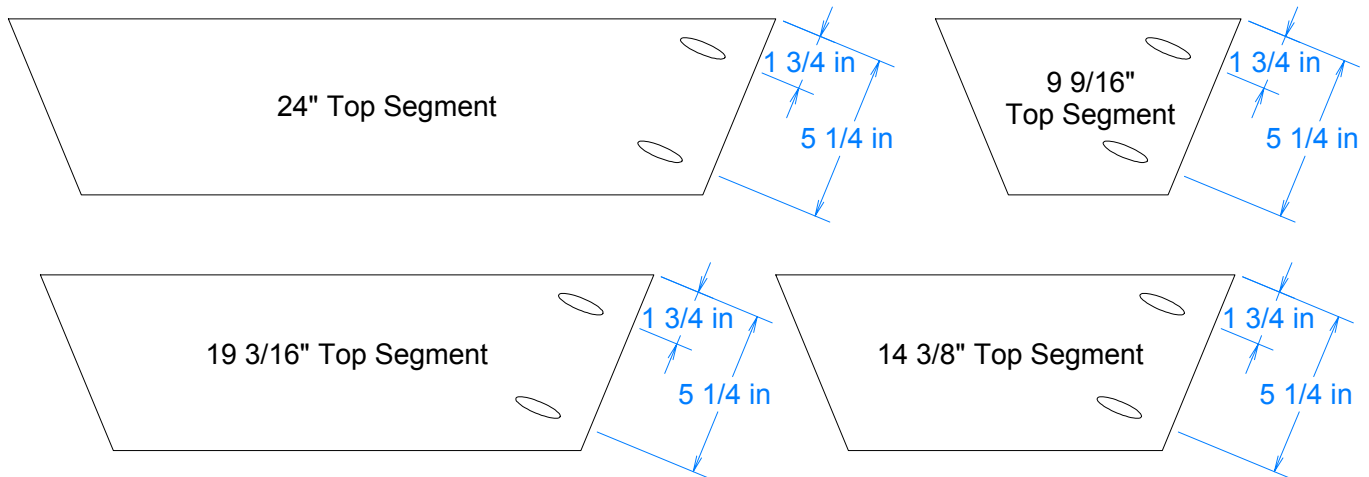
Octagon Picnic Table

Hole Layout - Pocket Holes

Page 6

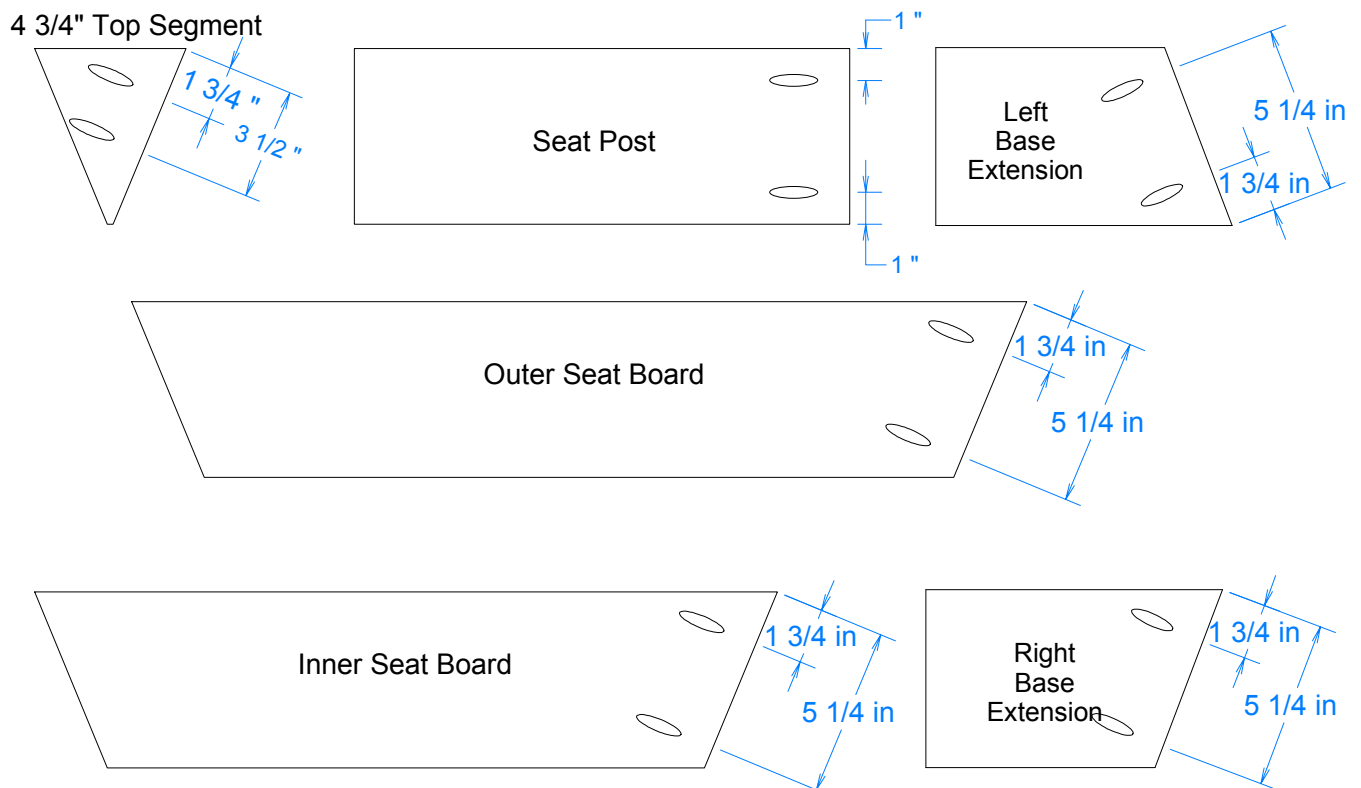
Set your pocket hole jig for 1 1/2" thick material.

Drill the pocket holes in each of the four largest Top octagon Segments as shown in the drawings below.



Drill the pocket holes in each of the smallest Top Octagon Segments and the seat parts in the drawings below.

There are four Left Base Extensions and four Right Base Extensions. The drawings below indicate the pocket hole positions for each.

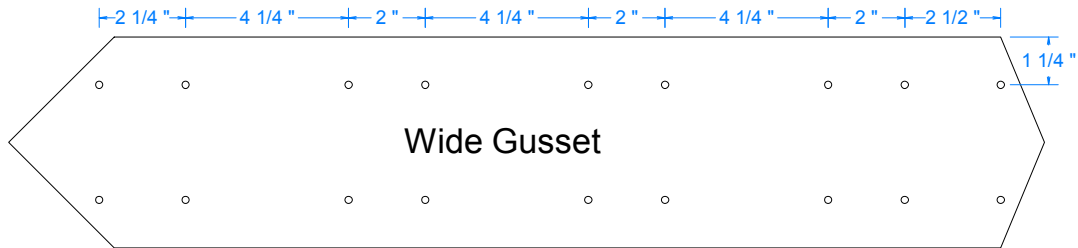


Octagon Picnic Table

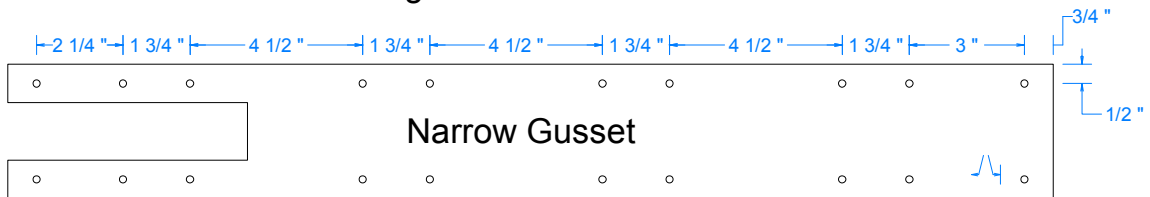
Hole Layout - Top Gussets

Page 7

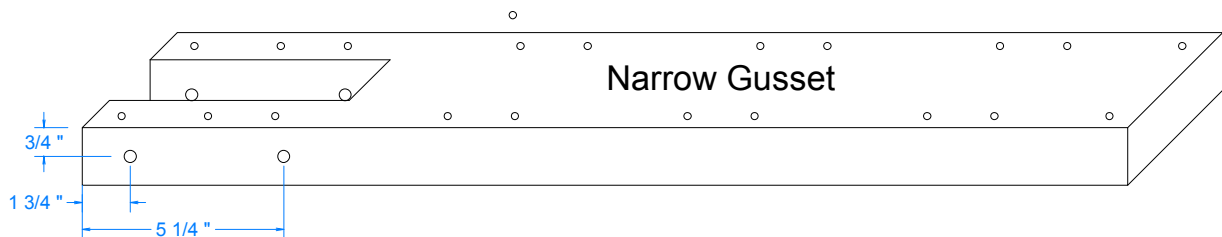
Drill eighteen 3/16 holes through each Wide Gusset as shown in the drawing below.



Drill twenty 3/16 holes through each Narrow Gusset as shown in the drawing below.



Drill two 5/16 holes through the side of each Narrow Gusset as shown in the drawing below.



Octagon Picnic Table

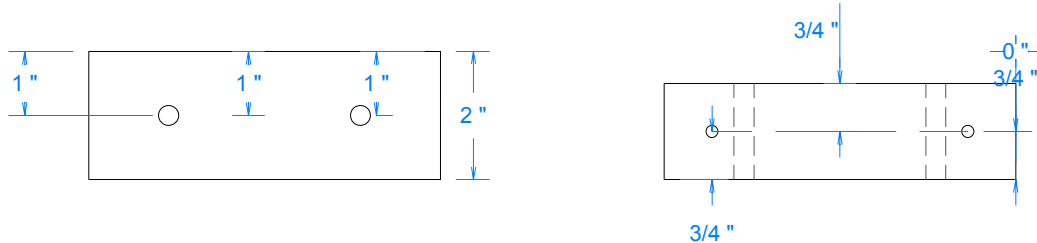
Hole Layout - Small Gussets

Page 8

Connector Rail Gussets

Drill two $\frac{5}{16}$ " holes through the 2" wide surface of each Connector Gusset as shown in the left drawing below.

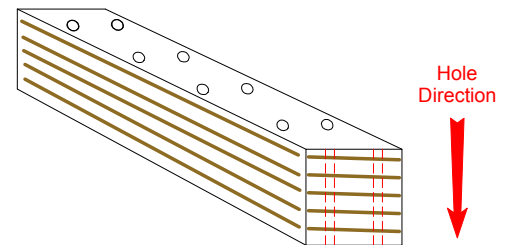
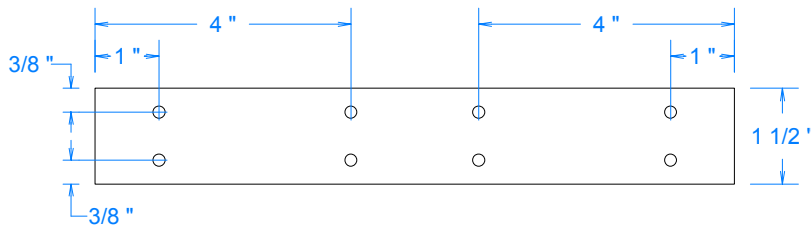
Drill two $\frac{3}{16}$ " holes through the 1 $\frac{1}{2}$ " wide surface of each Connector Gusset as shown in the right drawing below.



Middle Seat Gussets

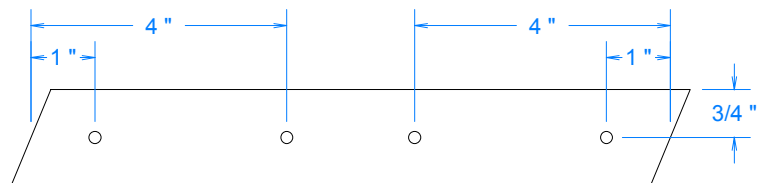
Drill eight $\frac{3}{16}$ holes through each Seat Gusset as shown in the drawings below.

To ensure the screws don't cause the wood to split, orient the wood grain as shown below.

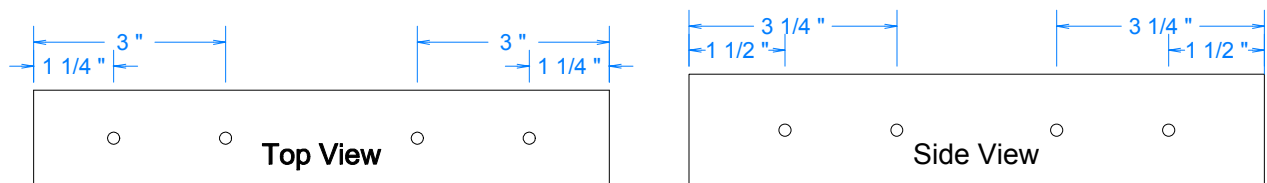


End Seat Gussets

Drill four $\frac{3}{16}$ holes through each End Seat and Rail-Seat Gusset. Holes are centered side to side.



Rail-Seat Gussets



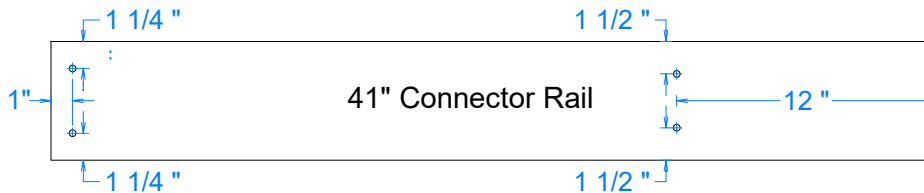
Octagon Picnic Table

Hole Layout - Legs, Connector Rails, & Seat Bases

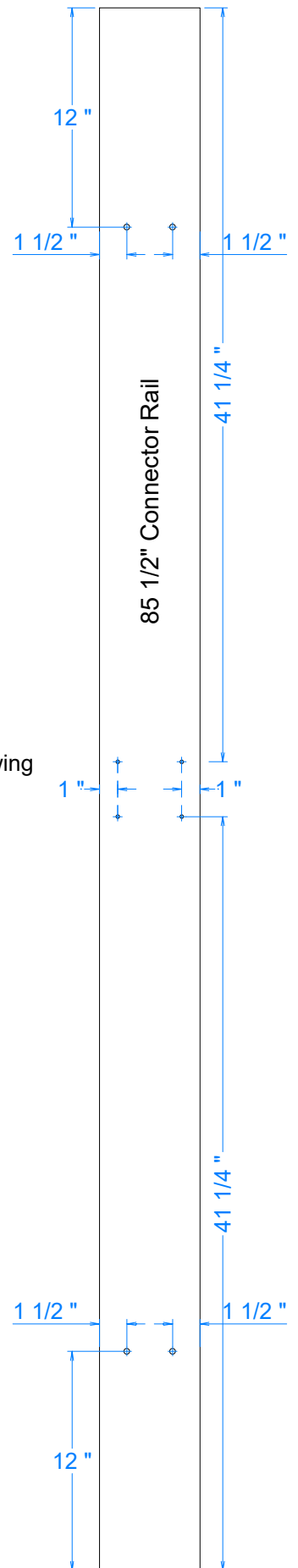
Page 9

Drill two 5/16" holes 12" from each end and 1 1/2" from each edge of the 85 1/2" Connector Rail as shown in the drawing to the right.

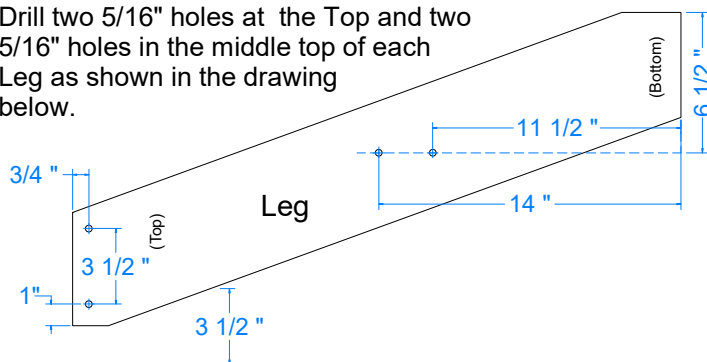
Drill four 5/16" holes through each 41" Connector Rail as shown in the drawing below.



Drill four 3/16" holes through each 85 1/2" Connector Rail as shown in the drawing to the right. (A total of four 3/16" holes in each 85 1/2" Rail.)
(These holes are for securing the umbrella spacer blocks.)



Drill two 5/16" holes at the Top and two 5/16" holes in the middle top of each Leg as shown in the drawing below.

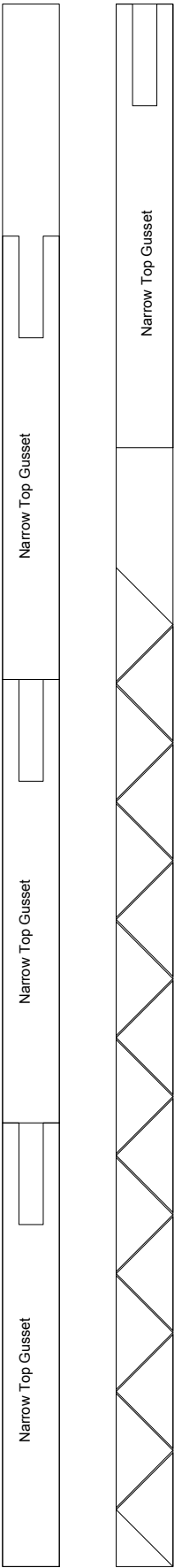
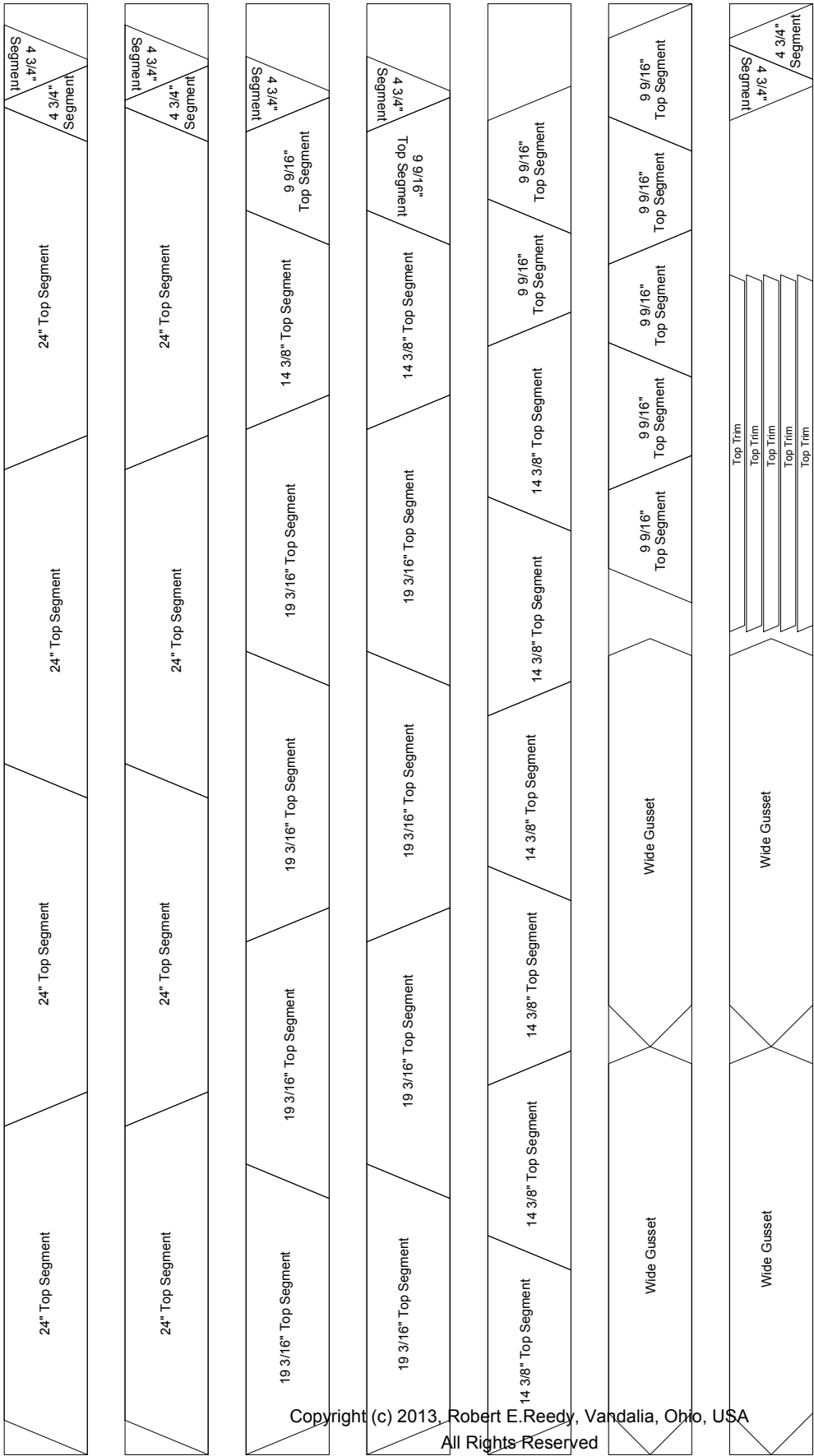


Octagon Picnic Table
Cutout Drawings - 1

2 by 6 by 8t.

Page 10

2 by 4 by 8t.



Page 11

The diagram illustrates the assembly of a seat base. The main component is the **Seat Base**, which has a large rectangular area on the left and a series of four smaller rectangular sections on the right. Above these sections are four **End Seat Gusset** components, each shown as a trapezoidal shape with a diagonal line. To the right of the End Seat Gussets are two **Rail Seat Gusset** components, shown as rectangular shapes. Further to the right are two **Mid Seat Gusset** components, also shown as rectangular shapes. At the far right, there are two **Top Trim** components, shown as long, thin rectangular shapes. The diagram uses perspective to show how these components fit together to form the complete seat assembly.

Octagon Picnic Table
Cutout Drawings - 3

Base Extension	Base Extension	Base Extension	Base Extension	Base Extension	Base Extension	Base Extension	Mid Seat Gusset	
							Mid Seat Gusset	Mid Seat Gusset
							Mid Seat Gusset	Mid Seat Gusset

85 1/2" Connector Rail

85 1/2" Connector Rail

Connector Rails are made from 1" thick material.
(This is sold as 5/4 thickness or Deck Boards.)

41" Connector Rail	41" Connector Rail
--------------------	--------------------

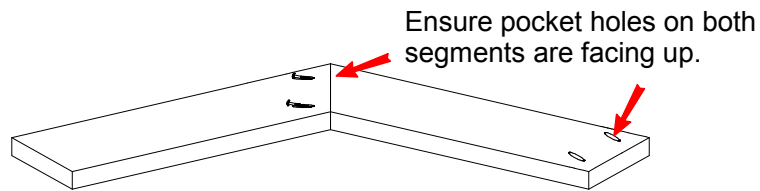
41" Connector Rail	41" Connector Rail
--------------------	--------------------

Octagon Picnic Table

Assembly Instructions - Top Octagons

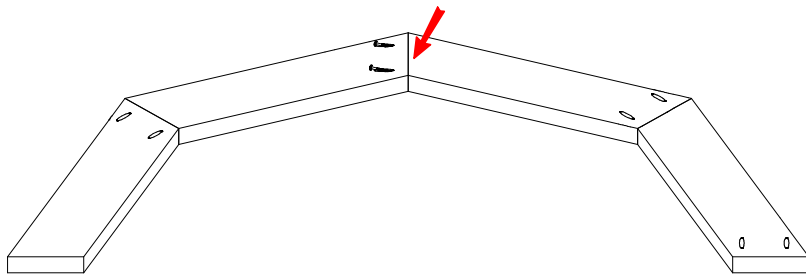
Page 13

You need to make five octagons for the top. The steps below show you how to assemble the octagons.



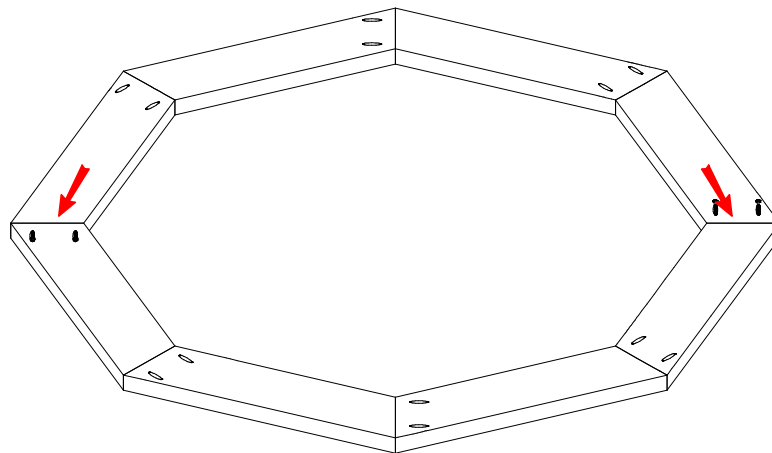
Step 1:

Apply glue to mating surfaces and place two of the same size segments together as shown above. clamp both pieces securely, and secure the joint with 2" pocket hole screws. This creates a one quarter section of an octagon. Create the remaining 3 quarter sections in the same way.



Step 2:

Place two of the same size quarter sections together as shown above. Secure the joint with 2" pocket hole screws as in Step 1. This creates a one half section of the octagon. Assemble the remaining two quarter sections in the same way.



Step 3:

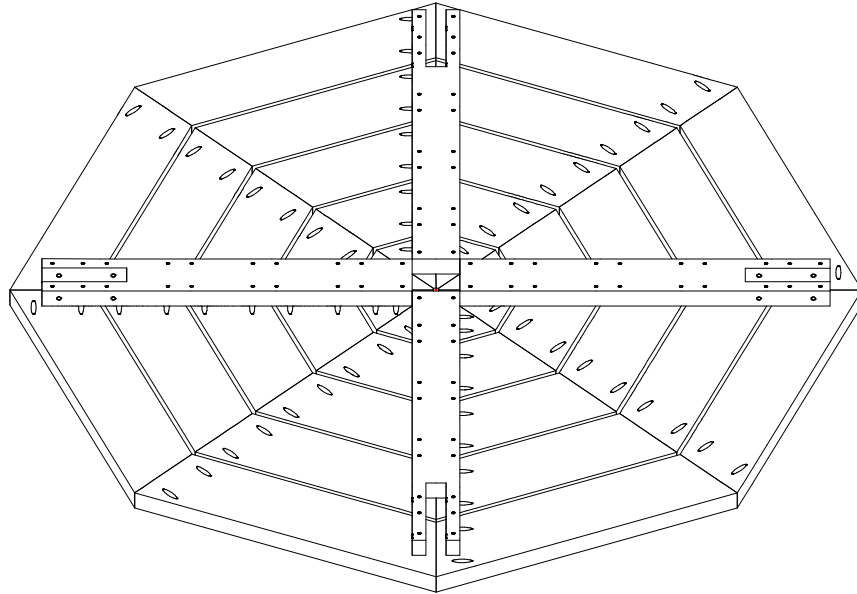
Place the two half sections together as shown above. Secure the two joints with 2" pocket hole screws as shown above. This completes one of the five octagons.

Assemble the remaining four octagons in the same manner.

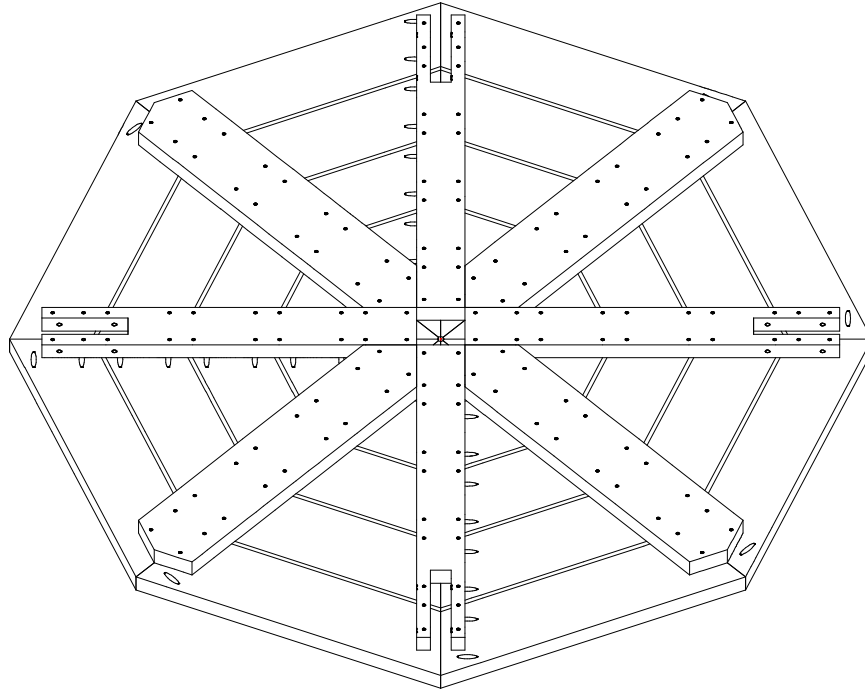
Octagon Picnic Table

Assembly Instructions - Top Gussets

Page 14



Apply glue to mating surfaces and assemble the Top Octagons and Narrow Gussets as shown above. Ensure the octagon segments are equally spaced from each other and the gussets are centered over the octagon joints and also centered side to side. Secure the gussets to the octagons with 2 1/2" rust resistant screws

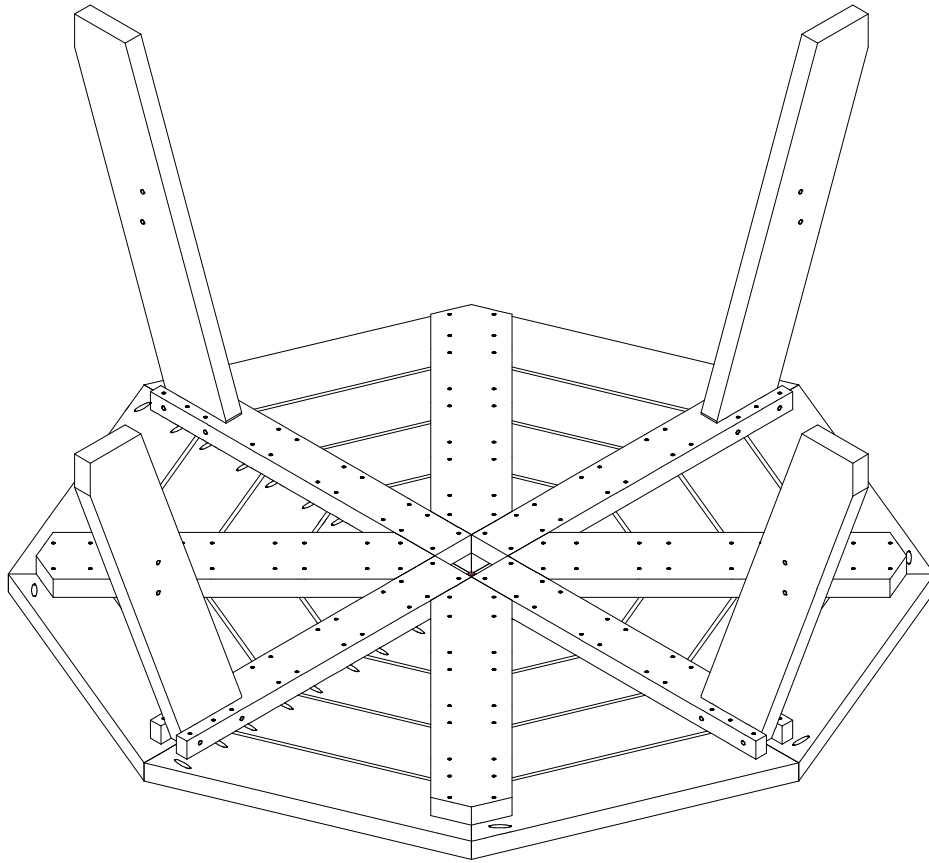


Apply glue to mating surfaces and attach the Wide Gussets to the octagons with 2 1/2" rust resistant screws as shown above. The Wide Gussets should be positioned against the Narrow Gussets where the Narrow Gussets come together in the center of the Top.

Octagon Picnic Table

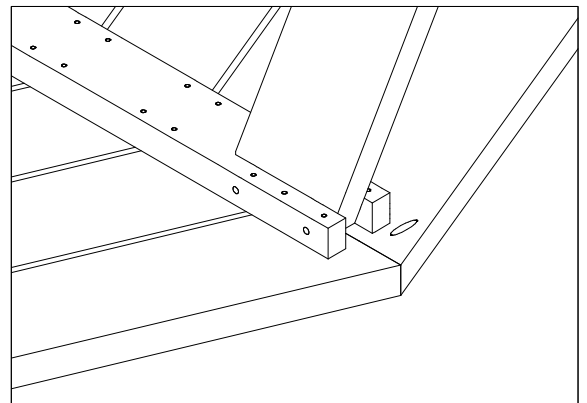
Assembly Instructions - Attach Legs

Page 15



Attach the legs to the Narrow Gussets with 4" bolts, two flat washers, one lock washer, and nut as shown in the drawings.

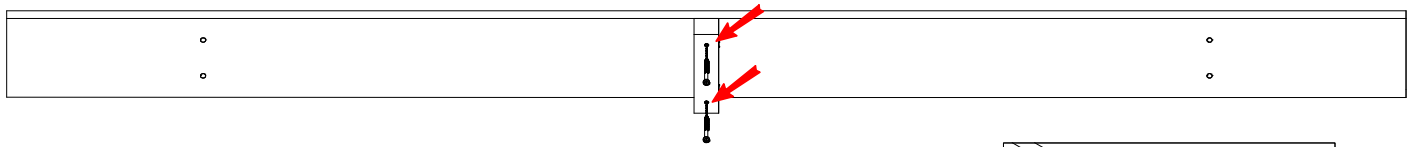
Do not completely tighten the nuts until the Picnin Table is completely assembled.



Octagon Picnic Table

Assembly Instructions - Connector Rails

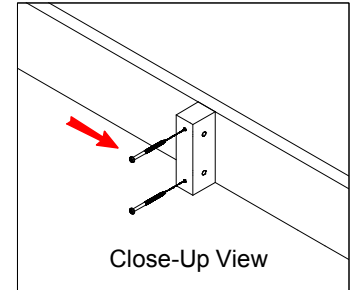
Page 16



Apply glue to mating surfaces and attach a Connector Rail Gusset to each Long Connector Rail with two 2 1/2" wood screws as shown in the drawings above and right.

The Connector Rail Gussets must be centered from end to end of the Connector rails.

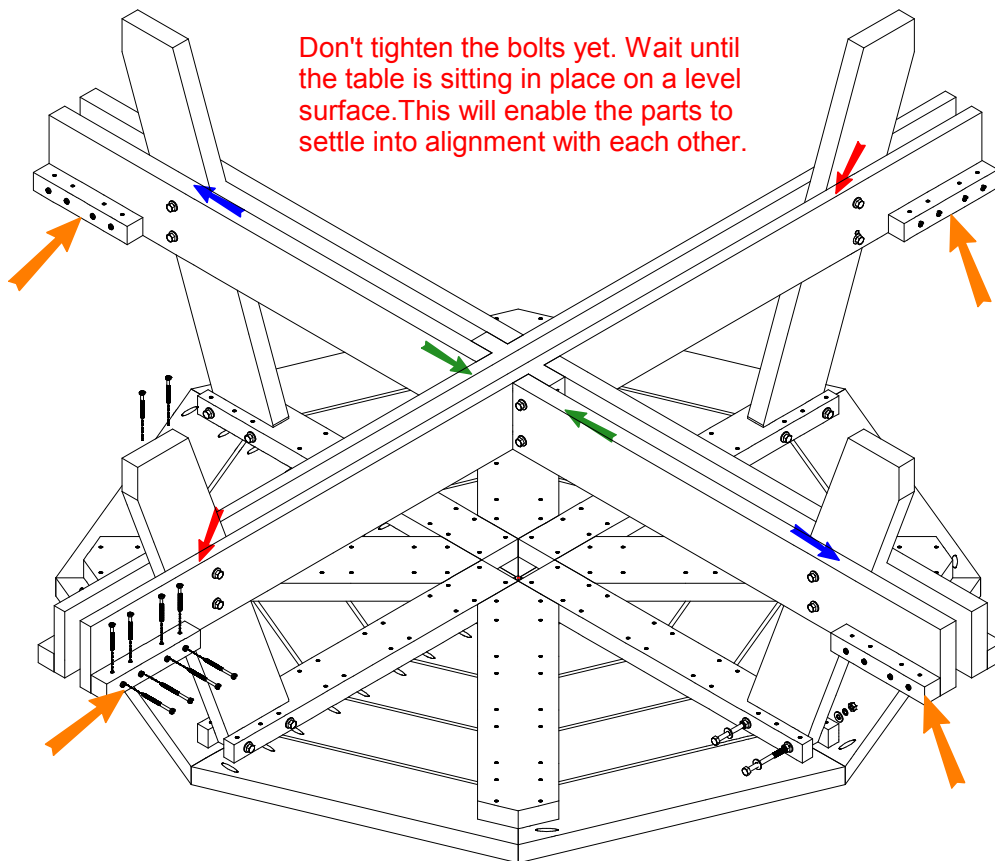
The connector rails are attached with 4" by 5/16" hex head bolts. Use flat washers with both the bolt head and nut. A lock washer goes between the nut and flat washer.



Attach the Long Connector Rails to the Legs as indicated by the red arrows below.

Next, attach one end of the Short Connector Rails to the Legs as indicated by the blue arrows below.

Finally, attach the other end of the Short Connector Rails to the gussets as indicated by the green arrows below.



Attach the Rail-Seat Gussets to the Connector Rails with 2" screws through the 1 1/2" thickness of the Rail-Seat Gussets as indicated by the orange arrows. The bottom of the Rail-Seat Gussets must be flush with the bottom of the Connector rails.

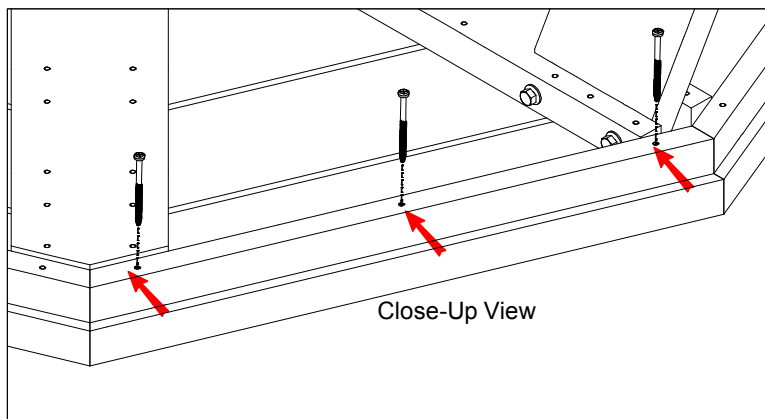
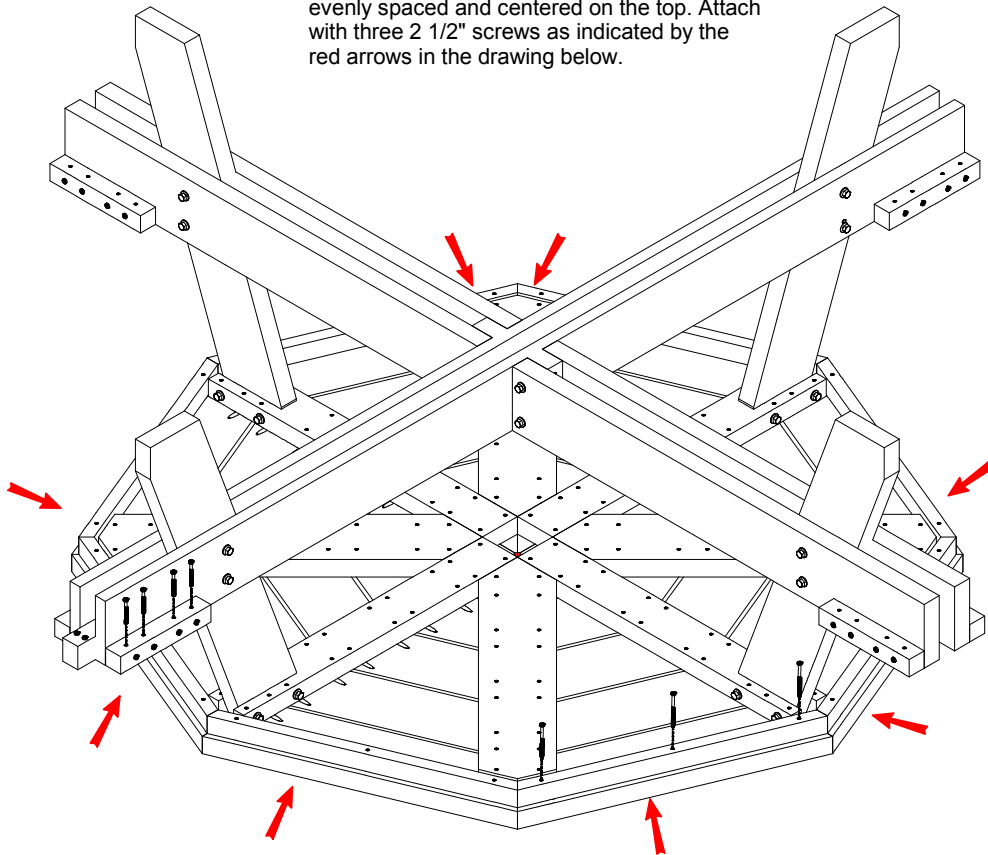
Octagon Picnic Table

Assembly Instructions - Top Trim

Page 17

Don't use glue on the Top Trim Pieces as you may need to remove the Legs at some time in the future.

Position the eight Top Trim pieces so they are evenly spaced and centered on the top. Attach with three 2 1/2" screws as indicated by the red arrows in the drawing below.

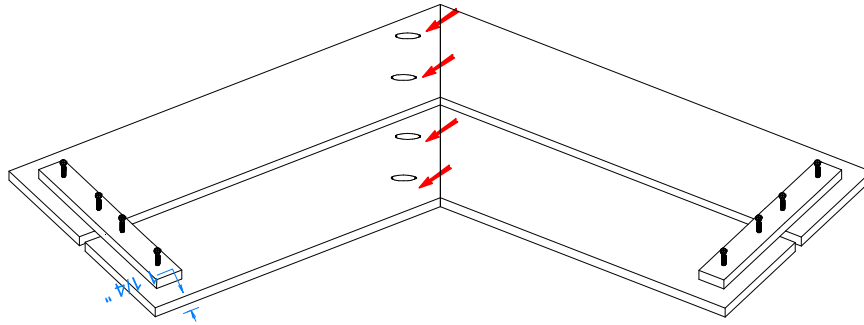


Octagon Picnic Table

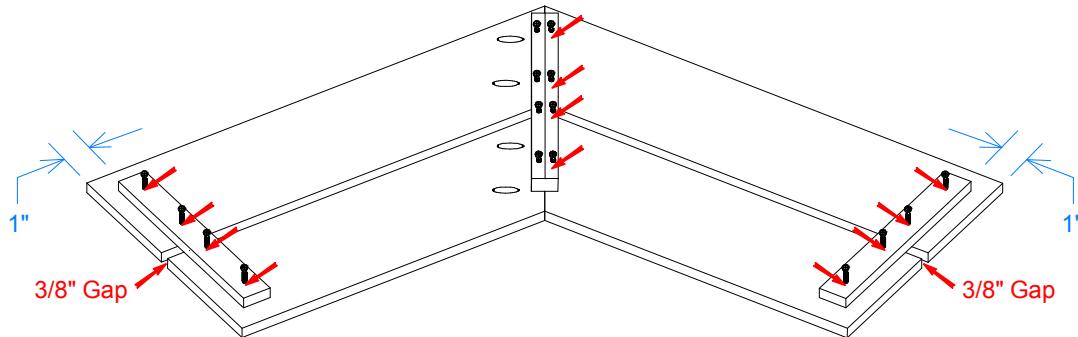
Assembly Instructions - Seats A

Page 18

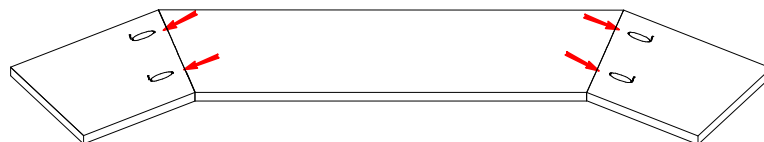
Apply glue to mating surfaces and attach the seat boards with 2" screws through the pocket holes as shown below.



Position the seat boards so there is a 3/8" gap between them. Apply glue to mating surfaces and attach the end and center seat gussets with 2 1/2" screws as shown below.



Assemble the Seat Bases and Base Extensions with pocket hole screws as shown below.



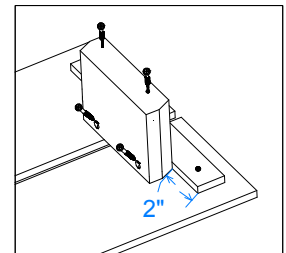
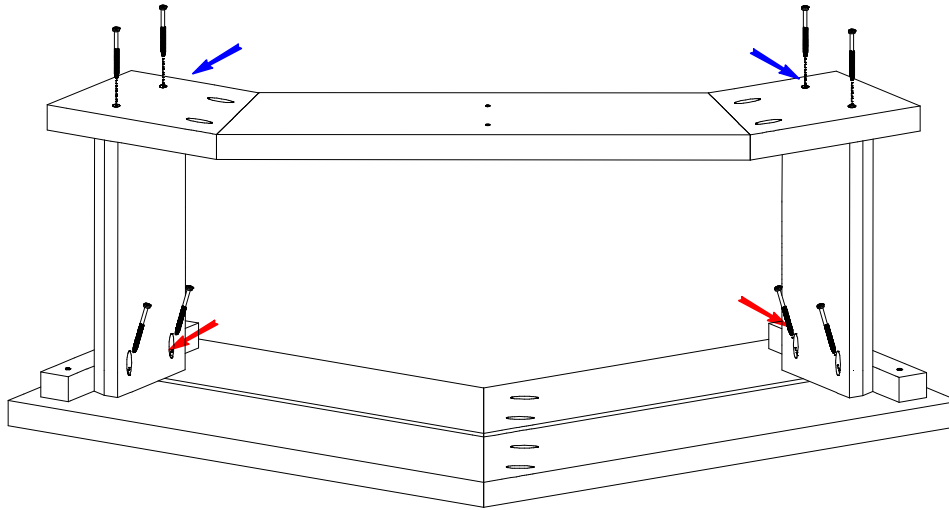
Octagon Picnic Table

Assembly Instructions - Seats B

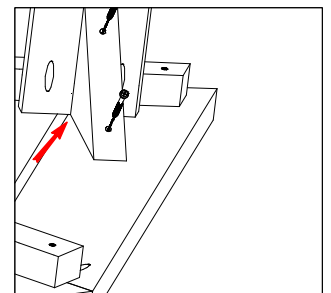
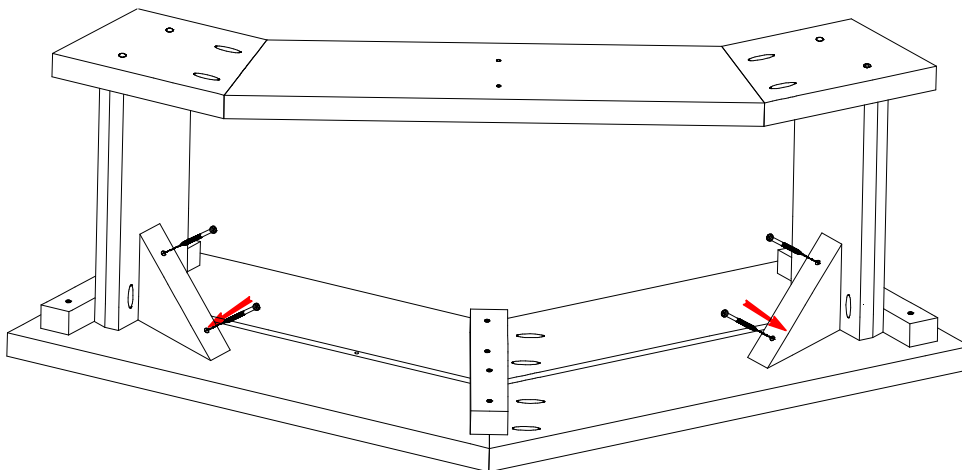
Page 19

Position the Seat Posts as shown below. The edge of the post should be 2" from the end of the gusset as shown in the close up view. Attach the Seat Posts to the assembled seat boards with pocket hole screws as indicated by the red arrows below. Choose screws of a length that will not protude past the seat surface on the opposite side.

Next, determine the location for the screw holes and drill two 3/16" holes through the Base Extensions as indicated by the blue arrows. The screw holes should be centered over the ends of the posts. Attach the assembled Seat Bases to the bottom ends of the Seat Posts with 3" screws.



Attach the Corner Gussets to the assembled seat boards and and Seat Posts with 2" screws as shown below. The edge of the gusset should be close to the gap between the seat boards but not covering it as shown in the close up view.

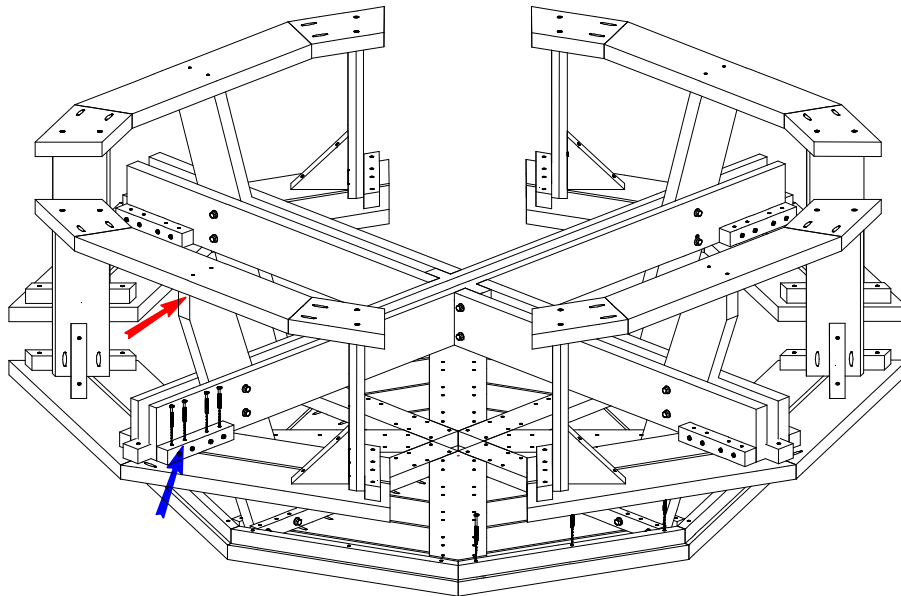


Octagon Picnic Table

Assembly Instructions - Attach Seats

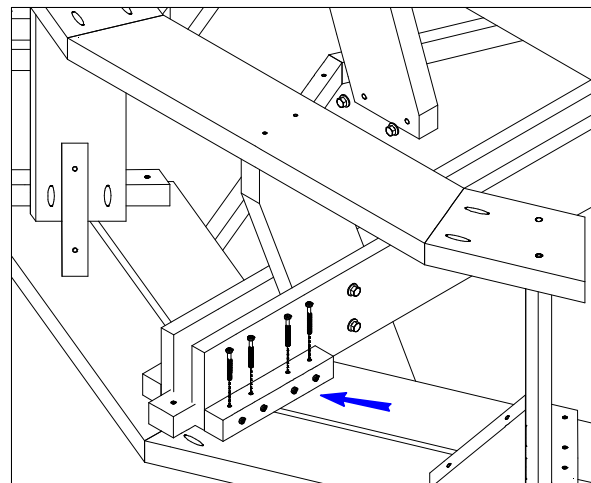
Page 20

Position the assembled seat so the Seat Base is centered over the Leg as indicated by the red arrow and the Middle Seat Gusset sits inside the opening between the Connector Rails as indicated by the blue arrow in the drawing below.



Secure the Seats to the Rail-Seat Gussets with 3" screws as indicated by the blue arrows in the drawing above and in the close up to the right.

Ensure that the screws do not protrude past the surface of the seats.



Octagon Picnic Table

View of Completed Table

Page 21

Congratulations! Your Octagon Picnic Table is complete.

