

Panel Saw Plans



Panel Saw Setup



Panel Saw Usage

This Panel Saw can be stored away in a corner of your shop when not in use and quickly set up on two saw horses when needed. It features:

- Four independent Tracks that clamp to two 2x4s.
- Twelve risers that keep the workpiece elevated $\frac{3}{4}$ " above the tracks for saw blade clearance.
- Four Panel Clamps that clamp the workpiece in position. Each Panel Clamp has a $\frac{3}{4}$ " base that supports the workpiece at the same height as the risers.

The risers are positioned so both sides of the workpiece are supported after the cut is made.

- If your cut will be along the length of the workpiece, position the Tracks so they are equally spaced (the exact spacing is not critical). Then, position the risers so the workpiece will be supported near the cut but the risers are not in the path of the blade.
- If your cut will be across the workpiece, position the two inner Tracks so one is on either side of the cut. Be sure the risers are not in the path of the cut.

After the Tracks and risers are properly positioned:

- Clamp the Zero Clearance Guide to the workpiece for your saw to follow.
- Set your saw blade height so the blade cuts completely through the workpiece but does not touch the Tracks.

When finished, simply dismantle the setup and store the components until next time they are needed.

Saw Horse Panel Saw Plans

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Saw Horse Panel Saw Materials List

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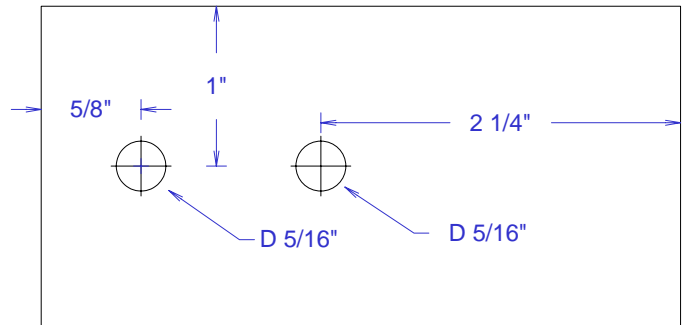
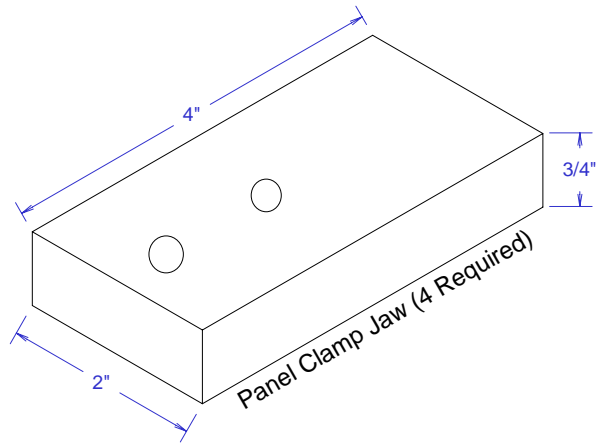
Qty	Item	Length	Width	Thickness	Material
4	Track Base	54"	2 ¼"	¾"	Hardwood or Pine
8	Track Sides	54"	¾"	¾"	Hardwood or Pine
4	Panel Clamp Jaw	4"	2"	¾"	Hardwood or Pine
4	Panel Clamp Base	4"	2"	¾"	Hardwood or Pine
4	Upper Clamp Pad	2"	¾"	1/8"	Hardwood or Pine
4	Lower Clamp Pad	2"	1 ½"	¼"	Hardwood or Pine
12	Panel Riser	6"	2 ¼"	¾"	Hardwood or Pine
12	Panel Riser Slide	6"	¾"	5/8"	Hardwood or Pine
12	Dowel Pin	1 ¼"		5/16"	Dowel Pin
4	Rail Clamp Jaw	4"	2"	¾"	Hardwood or Pine
4	Rail Clamp Pivot	2"	1 ½"	¾"	Hardwood or Pine
2	Rails	6'	3 ½"	1 ½"	Two by Four (Pine)
1	Zero Clearance Base	96"	*10"	½" or ¾"	MDF Board
1	Saw Guide	96"	3"	½" or ¾"	MDF Board

* This dimension is determined as per the instructions on page 10.

Hardware

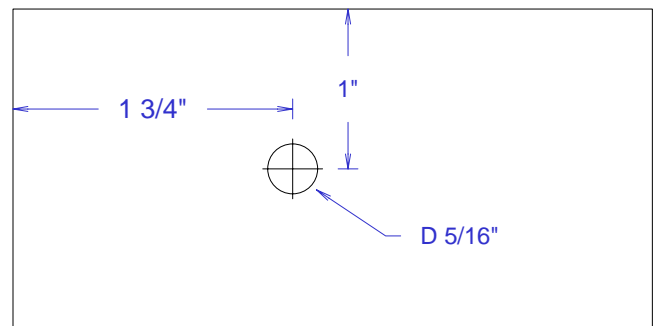
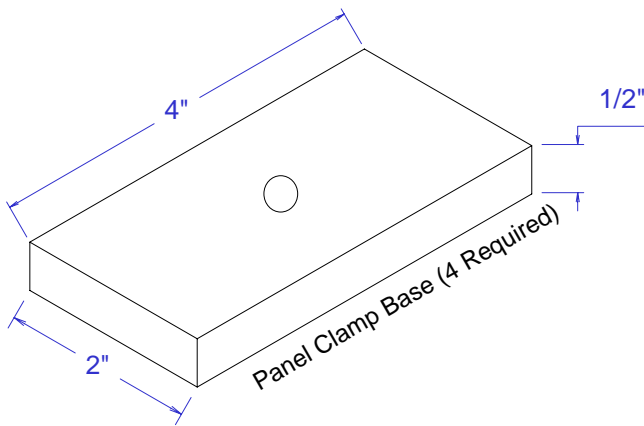
QTY	Item	Size
4	Levelers	Height: 1 ½", Width: 1", Threads: 5/6" - 18 TPI
4	T-Nuts	Threads: 5/6" - 18 TPI
12	Carriage Bolts	Length: 4 ½", Threads: 5/6" - 18 TPI
12	Star Knobs or T-Knobs	Width: 2", Threads: 5/6" - 18 TPI
12	Flat Washers	5/16"
32	Flathead Wood Screws	Length: 1 ¼", Size: #6

Panel Clamp Parts Drawings



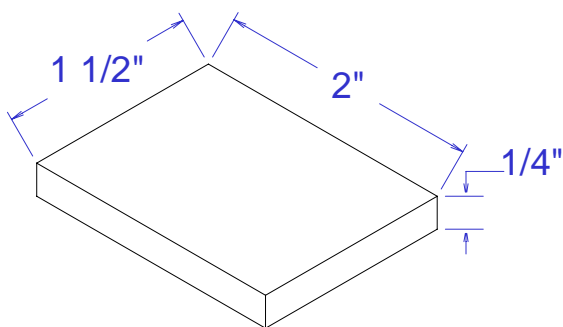
Panel Clamp Jaw (Hole Layout)

Drill the 5/16" diameter holes in the Panel Clamp Jaws according to the layout drawing above. Both holes are drilled completely through the workpiece.

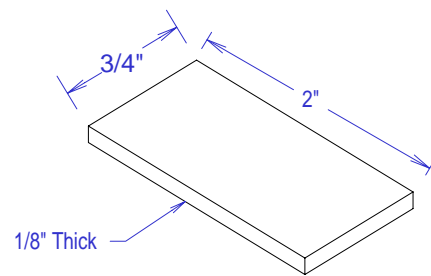


Panel Clamp Base (Hole Layout)

Drill a 5/16" diameter hole completely through each Panel Clamp Base as shown above.



Lower Pad (4 required)

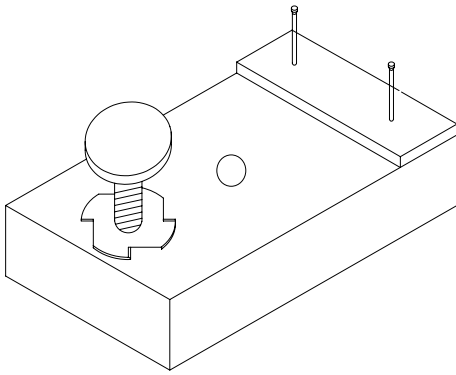


Upper Pad (4 required)

You'll need four upper pads and four lower pads. No need to drill holes in these. They are attached with glue and small brads.

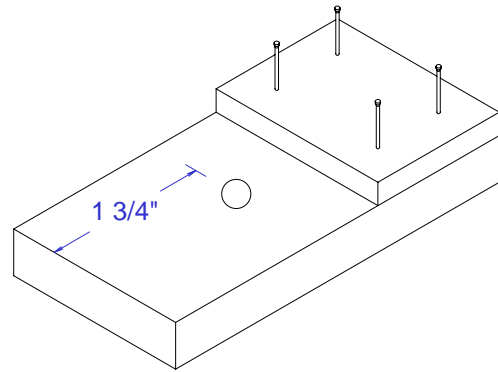
Panel Clamps Assembly

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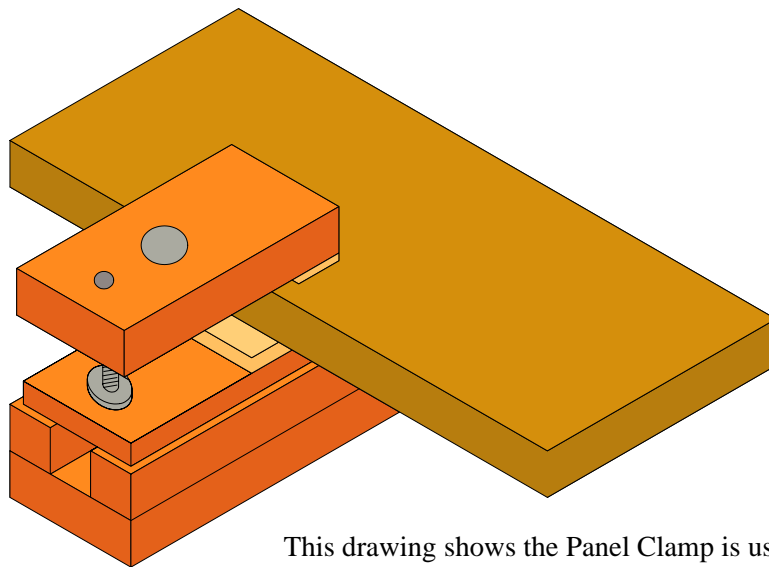
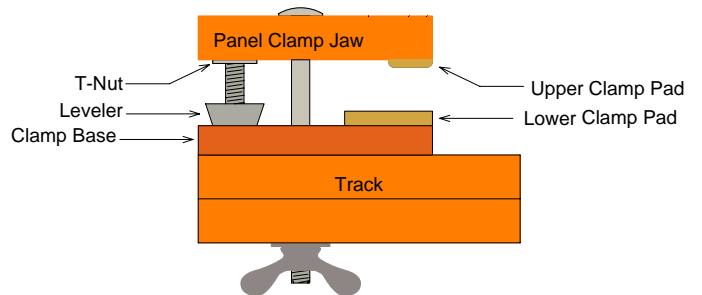
Attach the Upper Pads to the Panel Clamp Jaws with glue and small brads.

Next, tap the T-Nuts into the 5/16" hole and insert the levelers as shown.



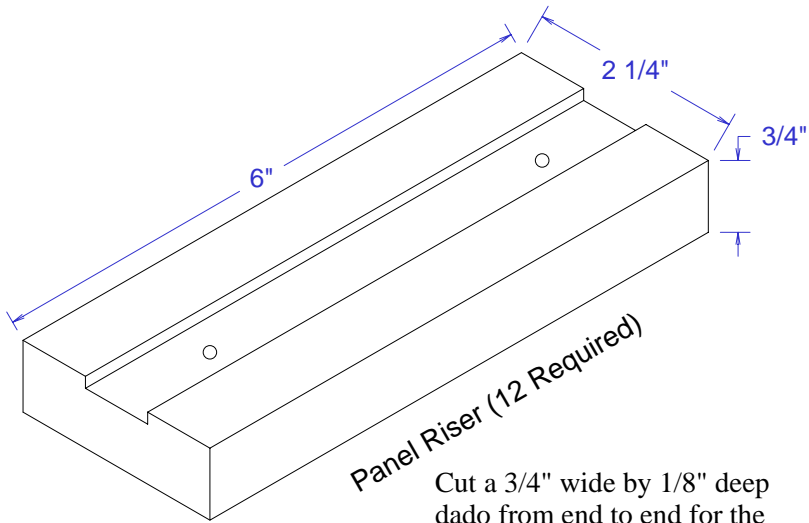
Attach the Lower Pads to the Panel Clamp Bases with glue and small brads. Note: Since the 5/16" hole is not centered in the Panel Clamp Base, be sure to position the pad so the hole is 1 3/4" from the end as shown.

The Panel Clamps are assembled as shown to the right. The levelers are necessary so you can use the clamps with different thicknesses of panels.

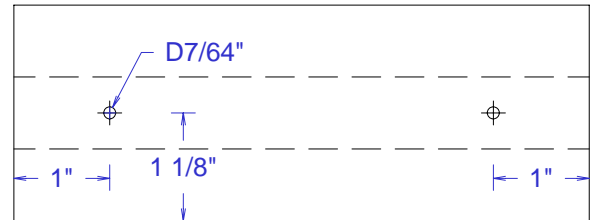


This drawing shows the Panel Clamp in use.

Panel Risers



Cut a 3/4" wide by 1/8" deep dado from end to end for the guide.

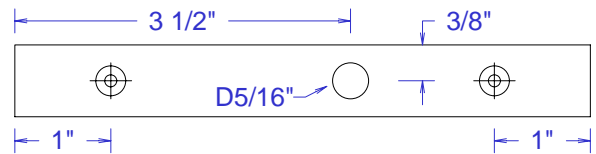


Panel Riser (Bottom View)

Drill a 7/64" pilot hole 1/2" deep and 1" from each end and centered side to side for #6 wood screws.

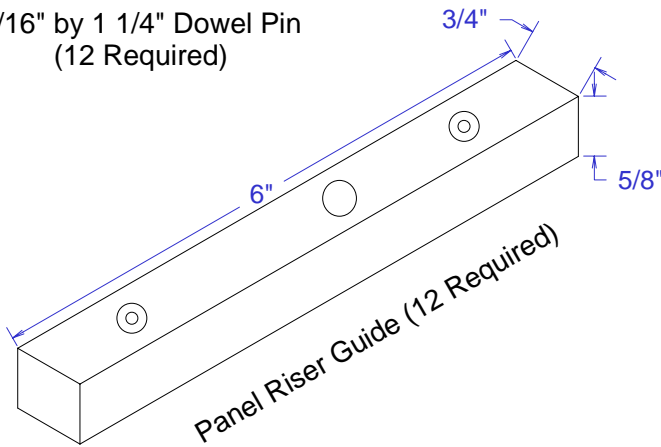


5/16" by 1 1/4" Dowel Pin (12 Required)



Panel Riser Guide(Top View)

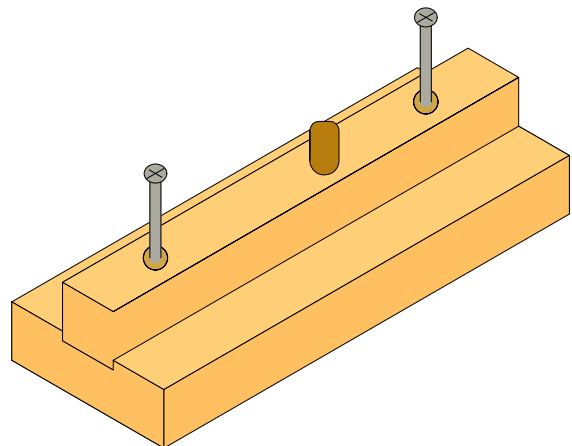
Drill and countersink a hole 1" from each end and centered side to side for #6 wood screws. Countersink should be 5/16" diameter and shank hole size 9/64".



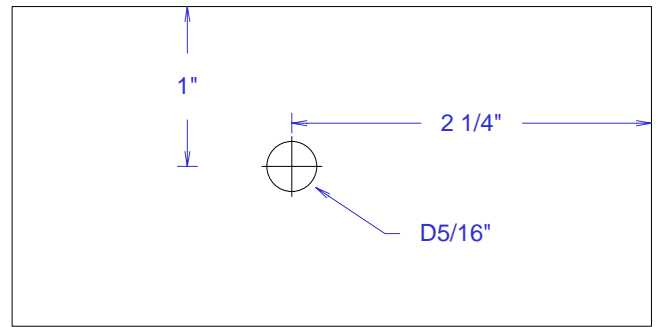
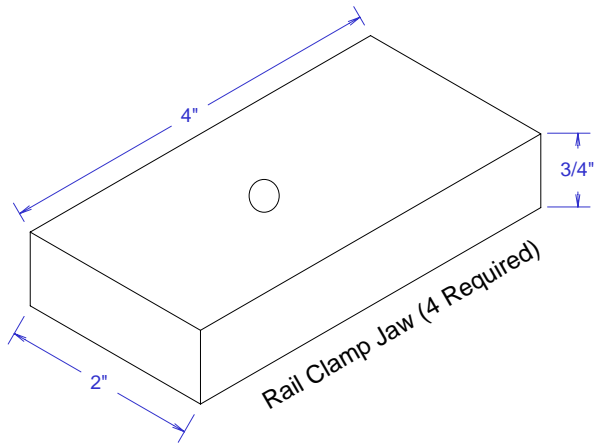
Next, drill a 5/16" hole 3 1/2" from one end for the 5/16" dowel pin. This hole should be 1/2" deep. Placing the hole in this position allows a change of one inch from the end of the riser from the holes in the track by turning the riser end for end.

Apply glue to the mating surfaces and secure the Panel Riser Guides to the Panel Risers as shown to the right.

Apply glue to 1/2 the length of the 3/8" dowel pin and insert it through the center hole as shown.

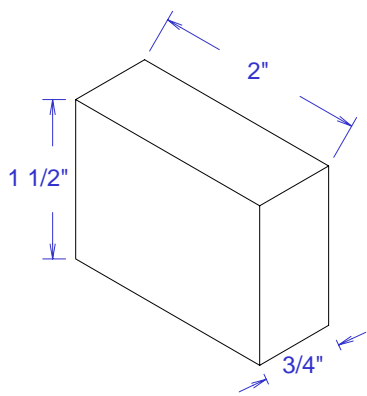


Rail Clamps

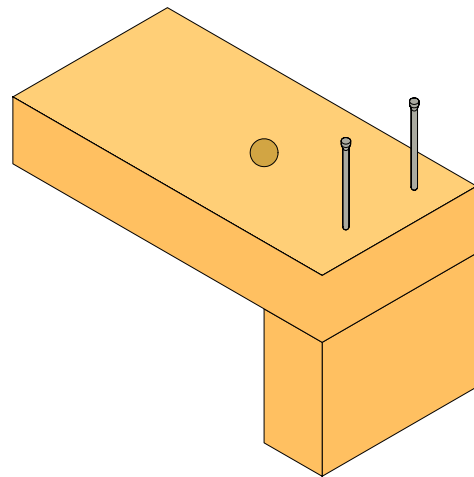


Rail Clamp Jaw (4 Required)

Drill a 5/16" diameter hole in the Rail Clamp Jaws according to the layout drawing above. Holes are drilled completely through the workpieces.

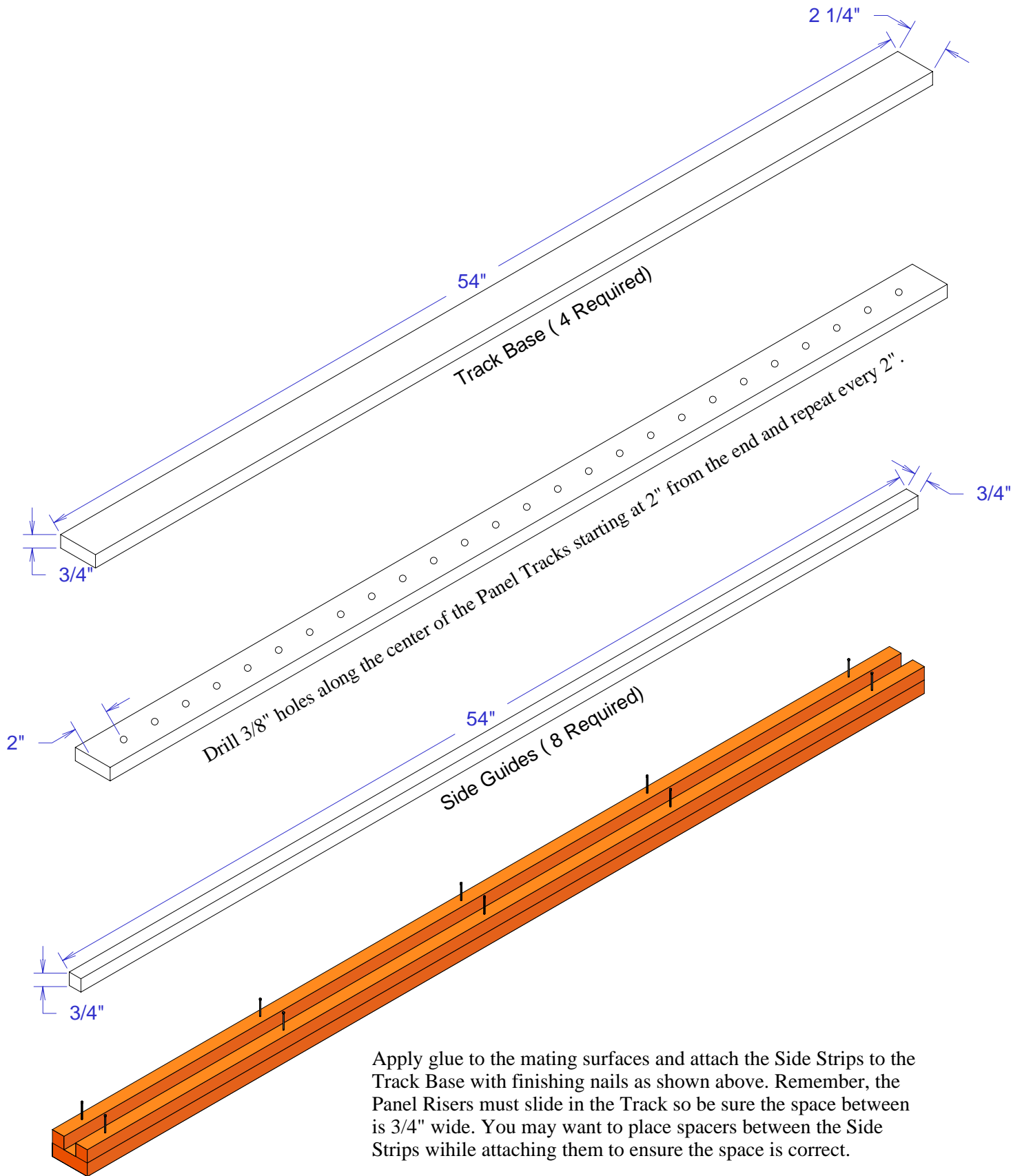


Rail Clamp Pivot (4 required)



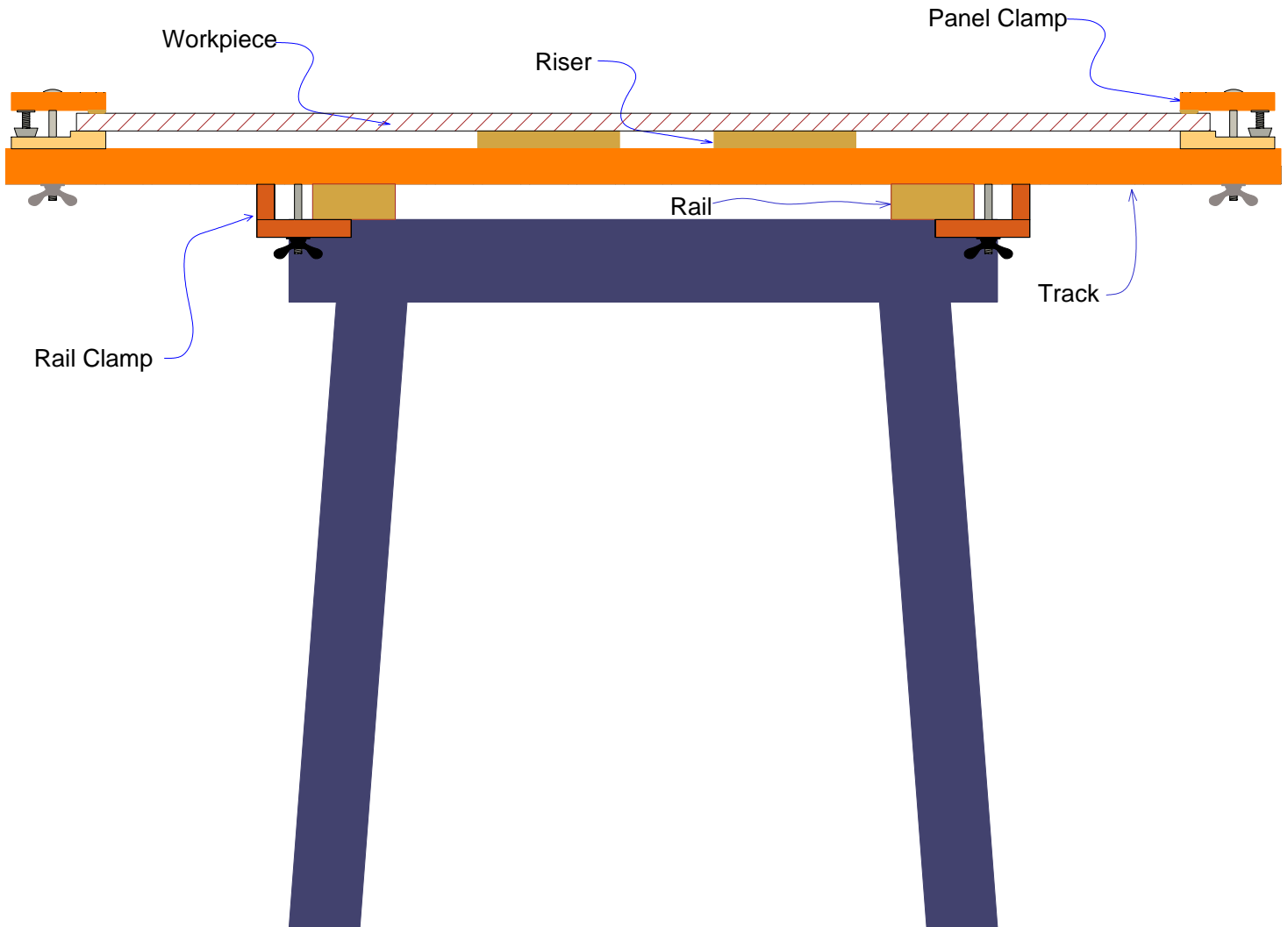
Assemble the Rail Clamps with glue and finishing nails as shown.

Panel Saw Tracks



Clamp Usage

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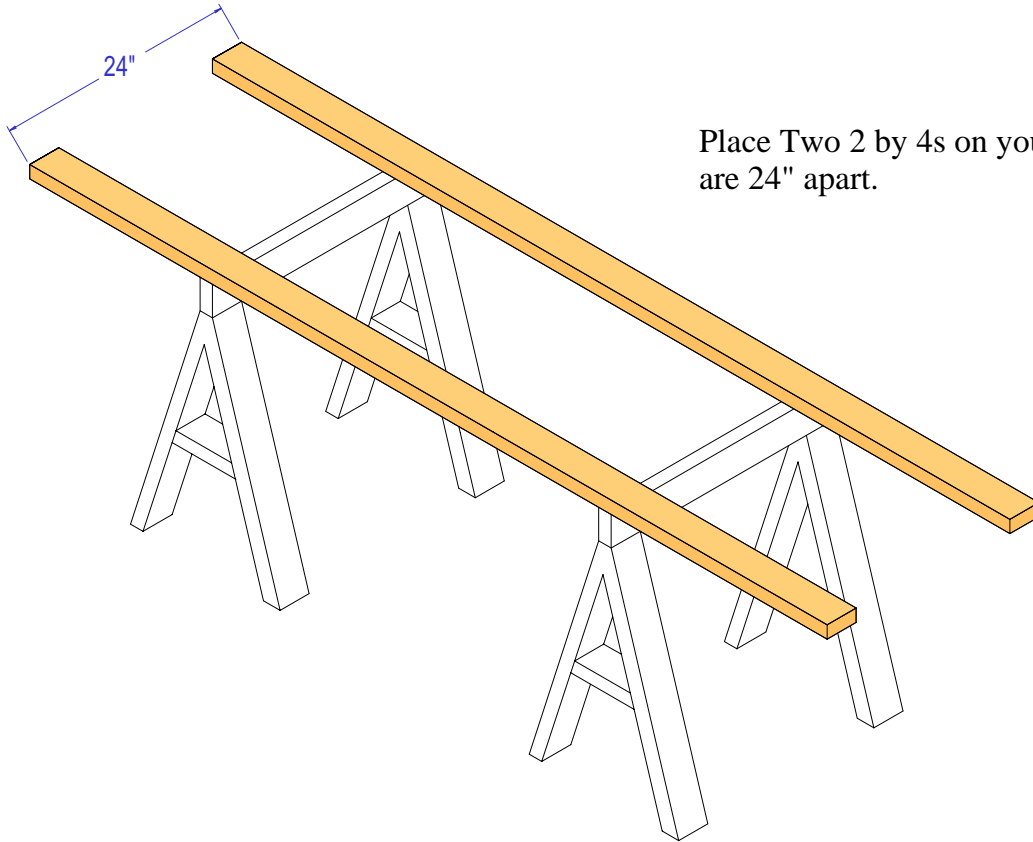
The drawing above illustrates clamping the workpiece (panel) to the tracks and clamping the tracks to the rails. The levelers on the Panel Clamps can be adjusted for panels of varying thickness.

The purpose of the risers is to raise the panel above the tracks so the saw blade does not come into contact with the tracks. The risers provide 3/4" clearance between the bottom of the panel and the tracks. Be sure your blade does not protrude far below the workpiece to damage the Tracks.

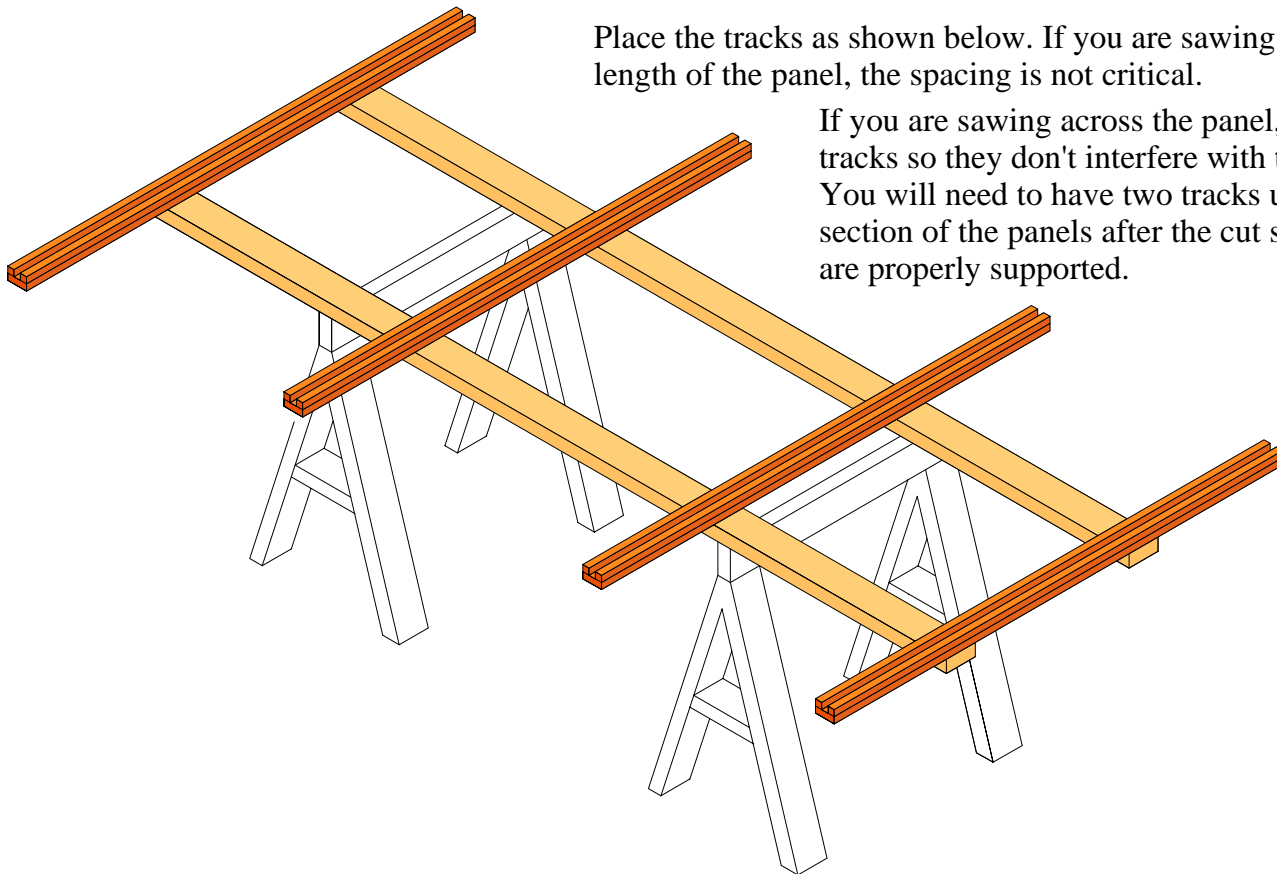
The panel needs to be supported on both sides of the saw kerf so the pieces don't drop after the cut is made. For this reason, you should place the risers so they are as close to the kerf as possible and the kerf is between risers.

Rail & Track Setup

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Place Two 2 by 4s on your saw horses so they are 24" apart.



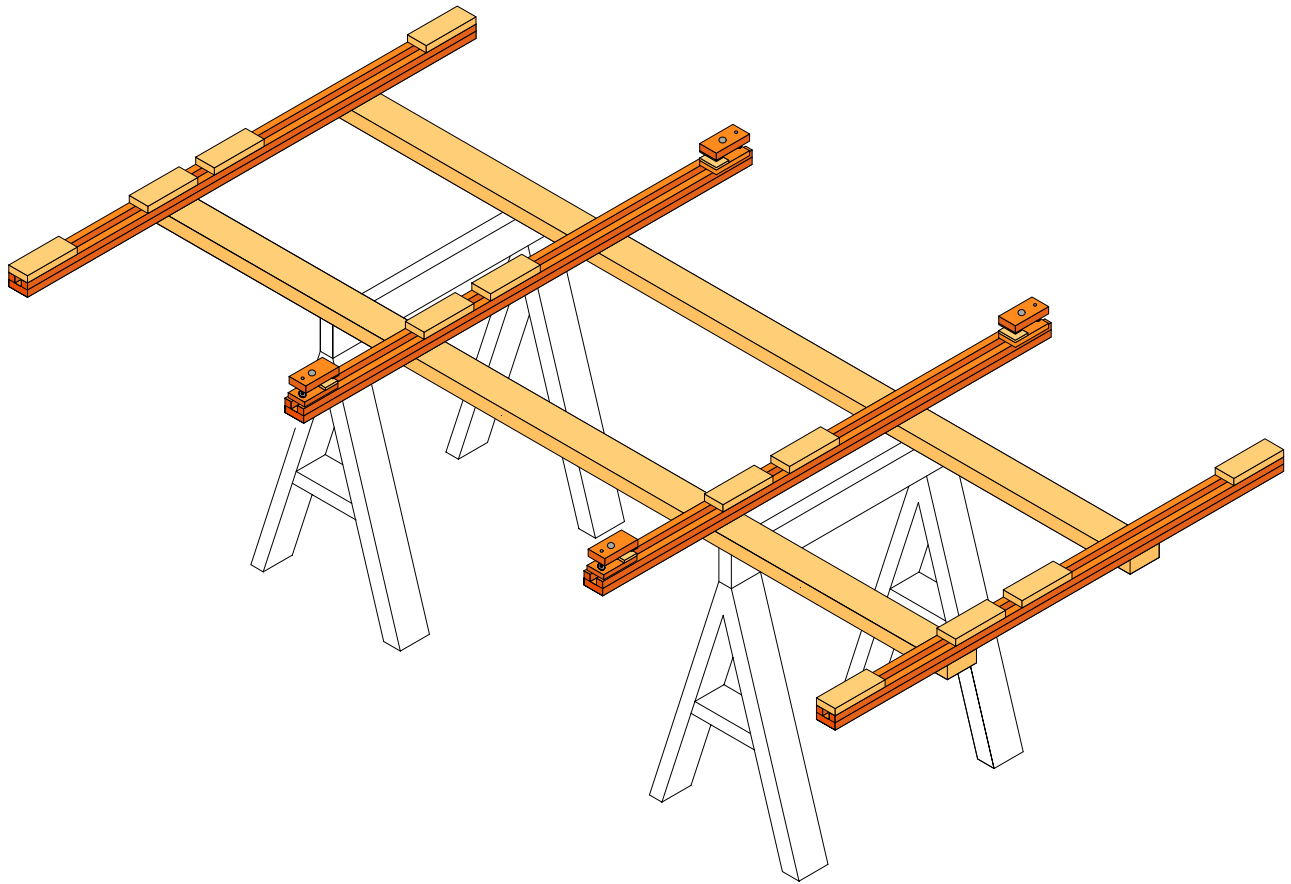
Place the tracks as shown below. If you are sawing along the length of the panel, the spacing is not critical.

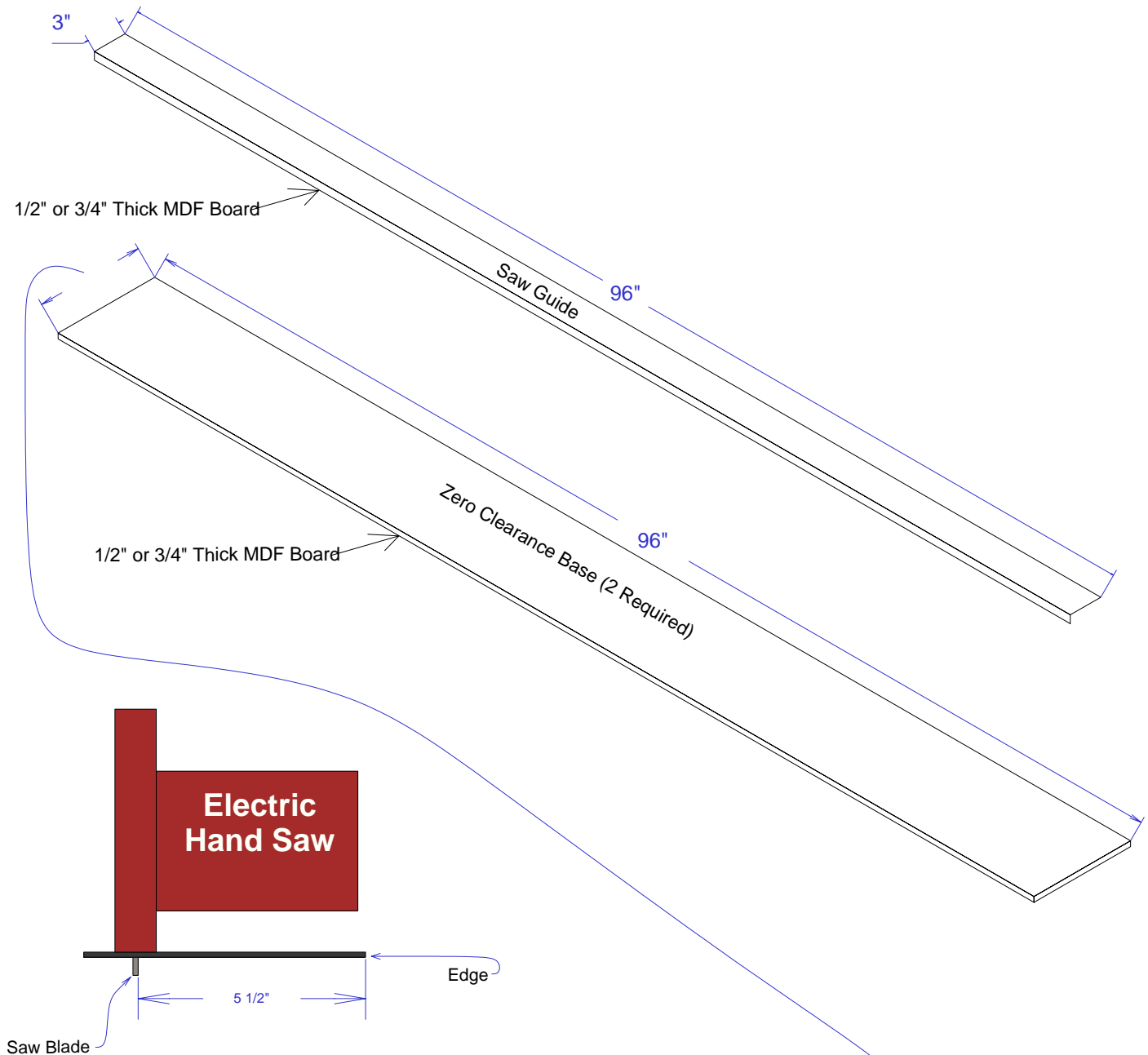
If you are sawing across the panel, space the tracks so they don't interfere with the saw kerf. You will need to have two tracks under each section of the panels after the cut so the panels are properly supported.

Riser & Panel Clamp Placement

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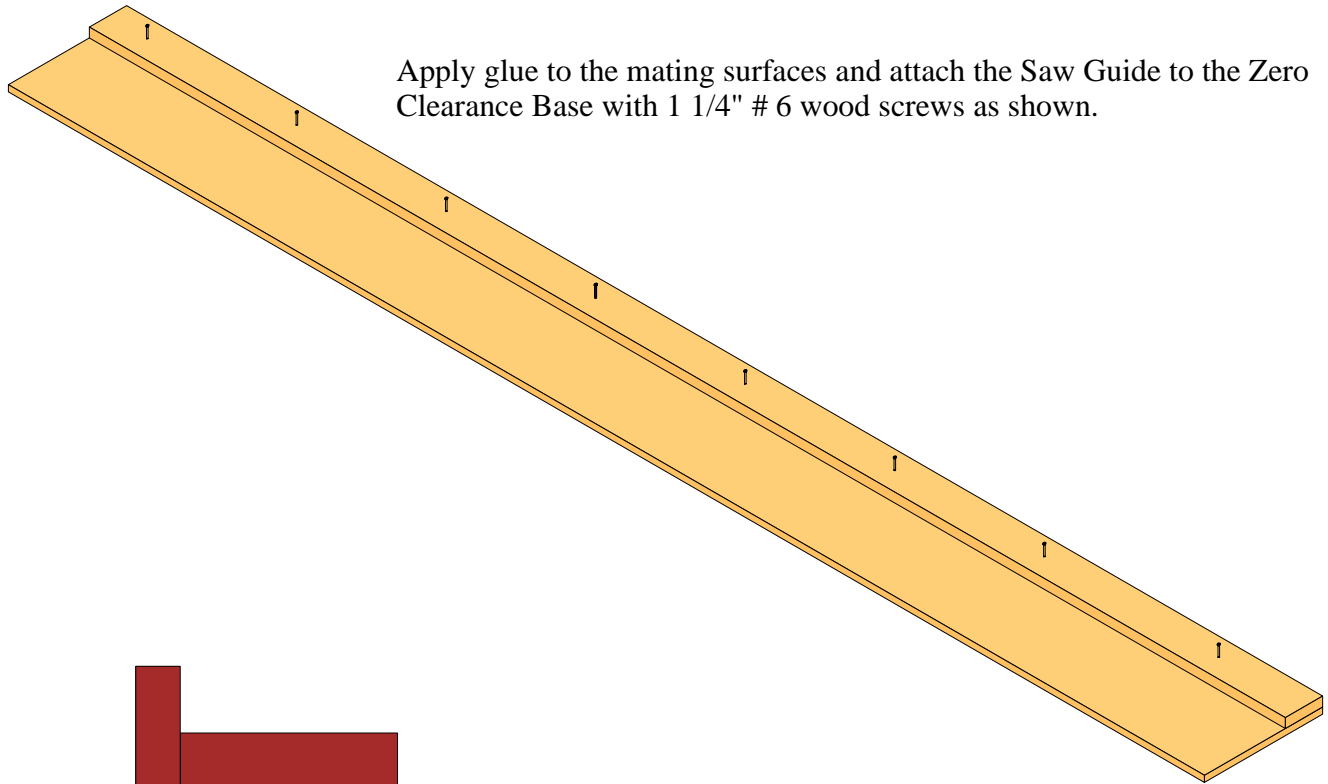
Place the Risers and Clamps so the workpiece will be supported on both sides of the cut. The dowel pins on the bottom of each Riser keep the Risers in position when the workpiece is resting on them.





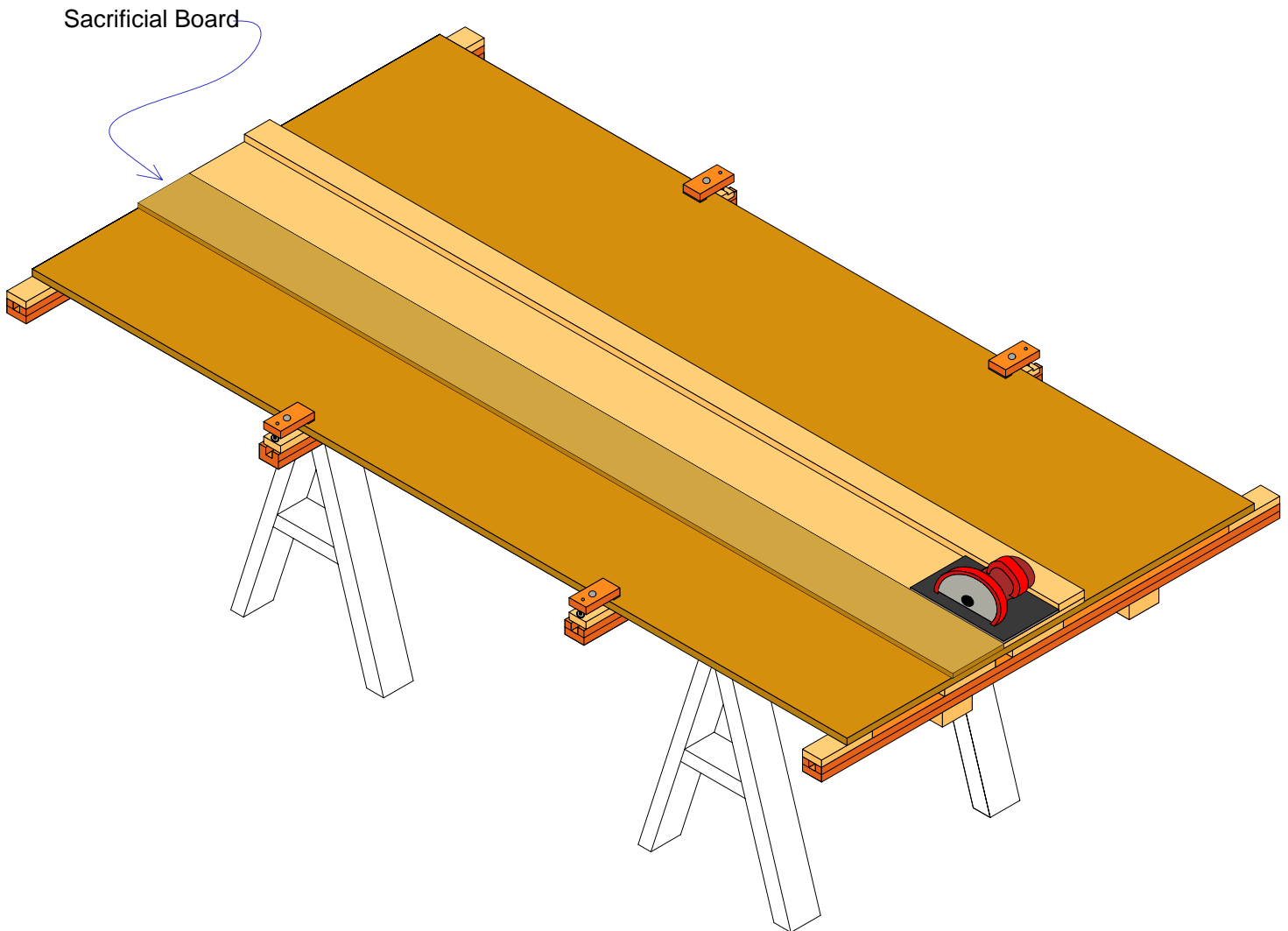
To determine the width of the Zero Clearance Base, add 3 1/2" to the distance from your saw's blade to the edge of the saw's base as shown above.

Example: If the saw blade to edge distance is 5 1/2", add 3 1/2" to this measurement to determine the width of the Zero Clearance Base. In this case it would be 9".



Apply glue to the mating surfaces and attach the Saw Guide to the Zero Clearance Base with 1 1/4" # 6 wood screws as shown.

After the glue has dried, set your saw up as shown above and trim the left edge of the Zero Clearance Base by running the saw along the Saw Guide. This will make the Zero Clearance Base exactly the right width to provide a splinter free cut.



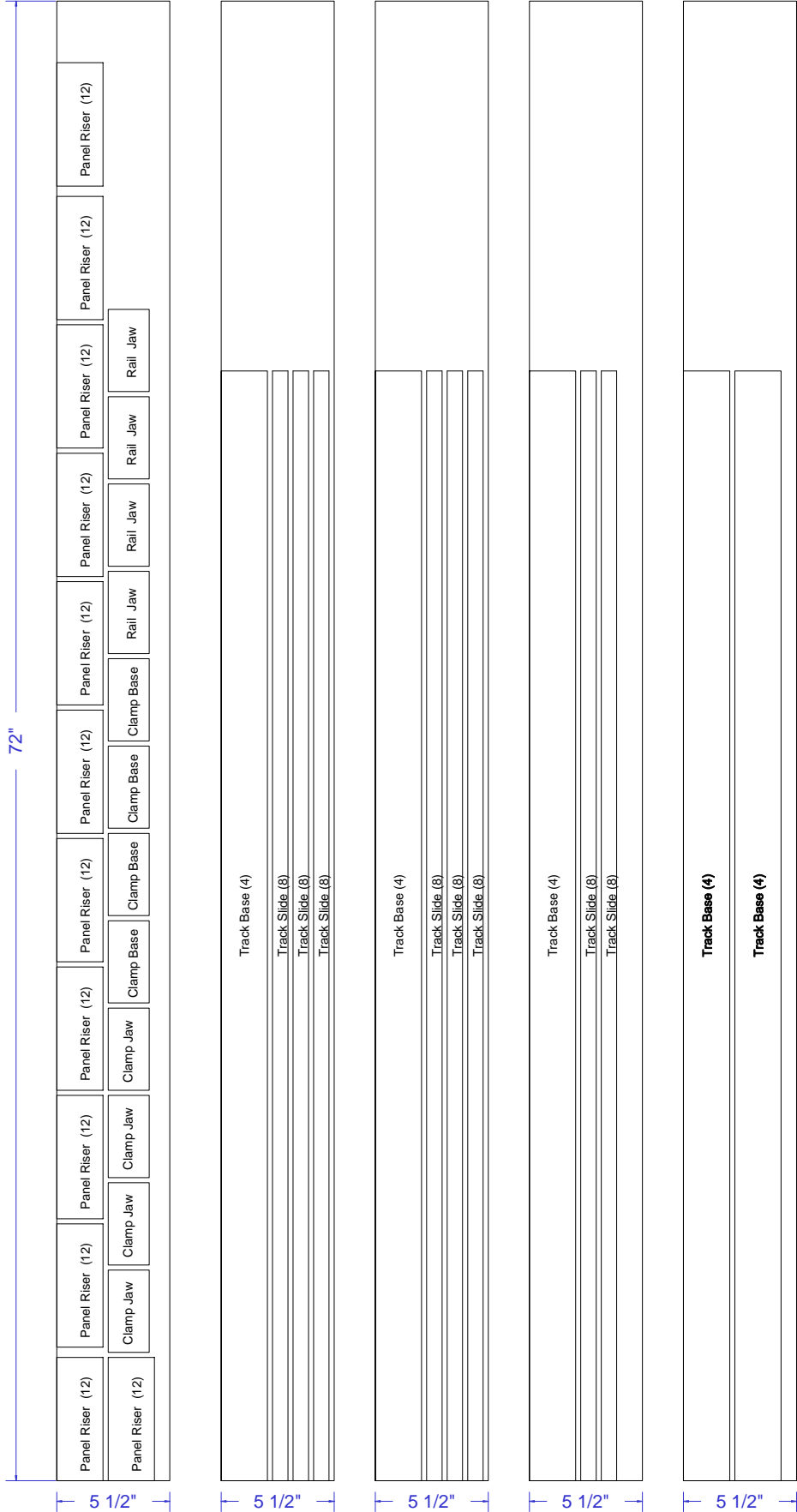
To use your Panel Saw, first, draw a line on the workpiece for the cut. Then, align the left edge of the Zero Clearance Guide to the cut mark and clamp the guide in place with a couple of C-Clamps. The clamps will need to be placed over the thickest part of the Saw Guide so they do not interfere with the saw travel.

The Zero Clearance Guide will provide a splinter free cut on the right side of the kerf because it holds the fibers down and keeps them from splintering. To have a splinter free cut on the left side of the kerf, place a piece of 1/2" thick material against the Zero Clearance Guide and clamp it in place with C-Clamps. This "sacrificial board" will hold the fibers down along the left side of the kerf while the cut is made.

If you find it awkward to use the 96" Zero Clearance Guide for cutting across the width of panels, you may want to make a 48" long one for that purpose.

These cut-out drawings show how to cut the majority of the parts from five 6" by 72' boards. The smaller parts that aren't pictured can easily be cut from the left overs.

The Zero Clearance Guide should be made of material that is not prone to warping. For this reason, I used MDF board for the prototype.



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Spoke Wheel



Panel Saw



Trellis



Wheelbarrow



Pocket Hole Jig



Tenoning Jig



Table Saw Sled



Drill Press Table