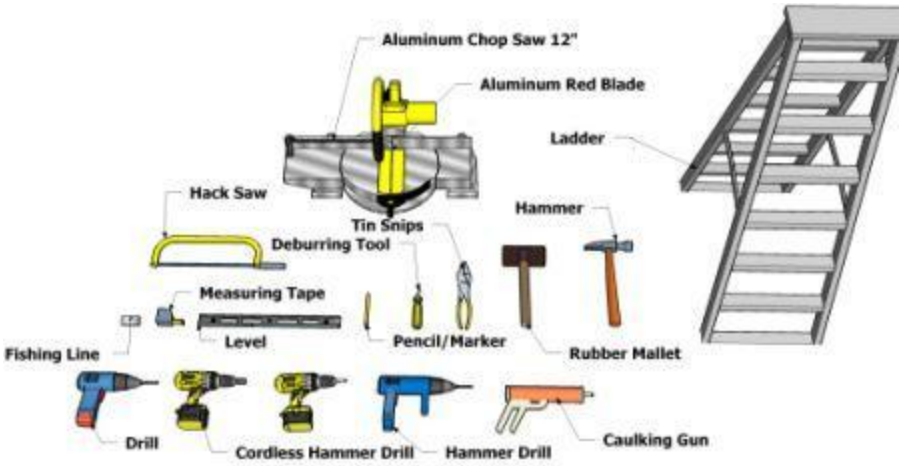
Solara Installation Instructions

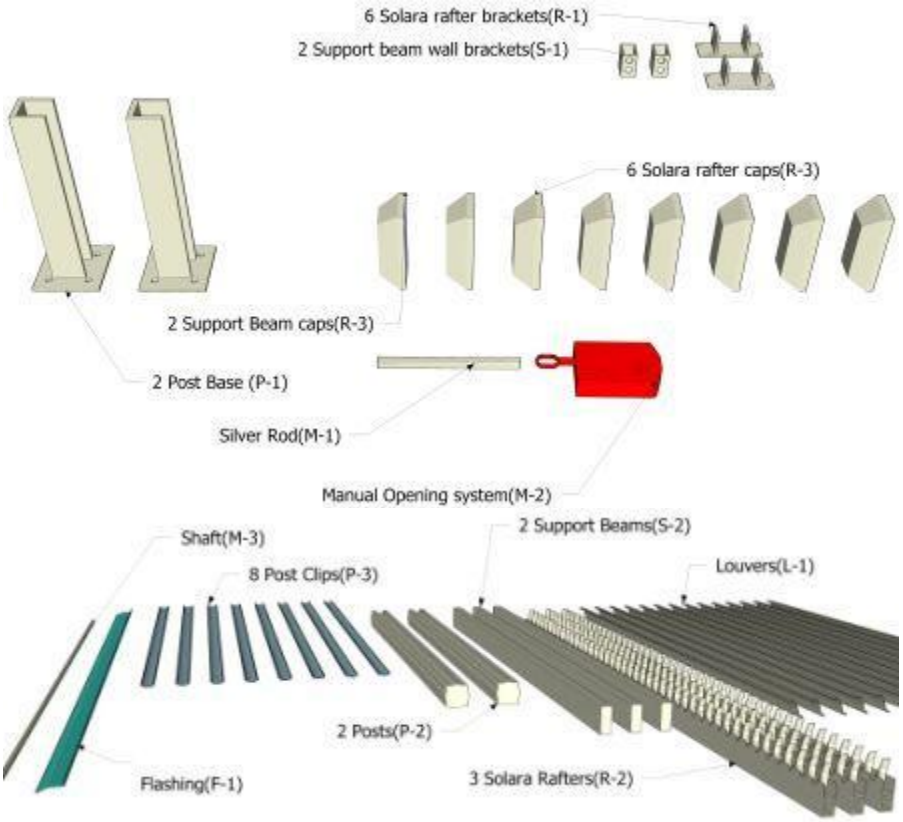
Page A:

Tools

The Aluminum Chop Saw will be used for cutting the post and the shaft



Material List



Page B

The steps to install the Solara Smart Shading System

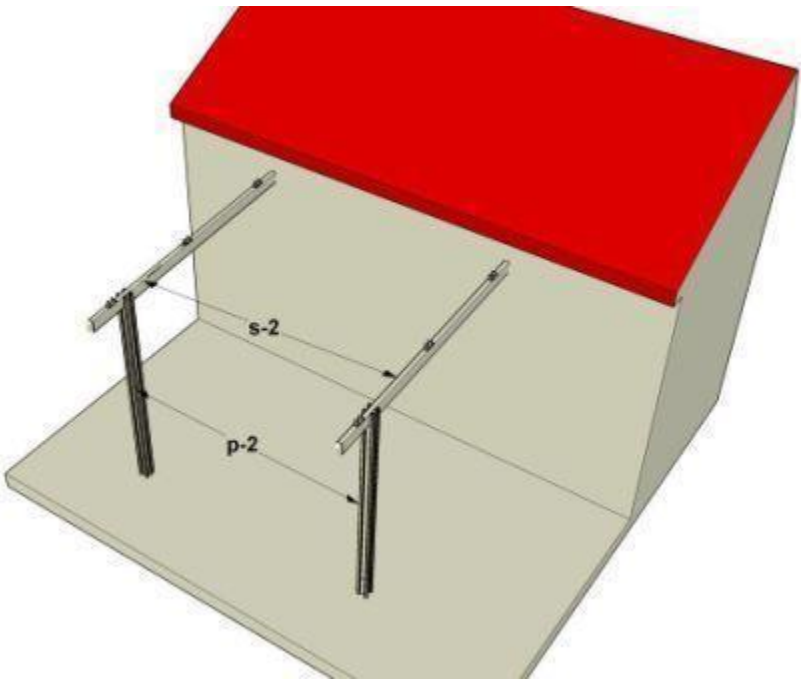
We divided the installation in 6 major steps. Reference your project to the drawings below, this way you'll know you are on the right track. These instructions show the louvers running perpendicular to the home but they can run parallel to the home or be freestanding if desired.

Step 1:

Measuring and marking

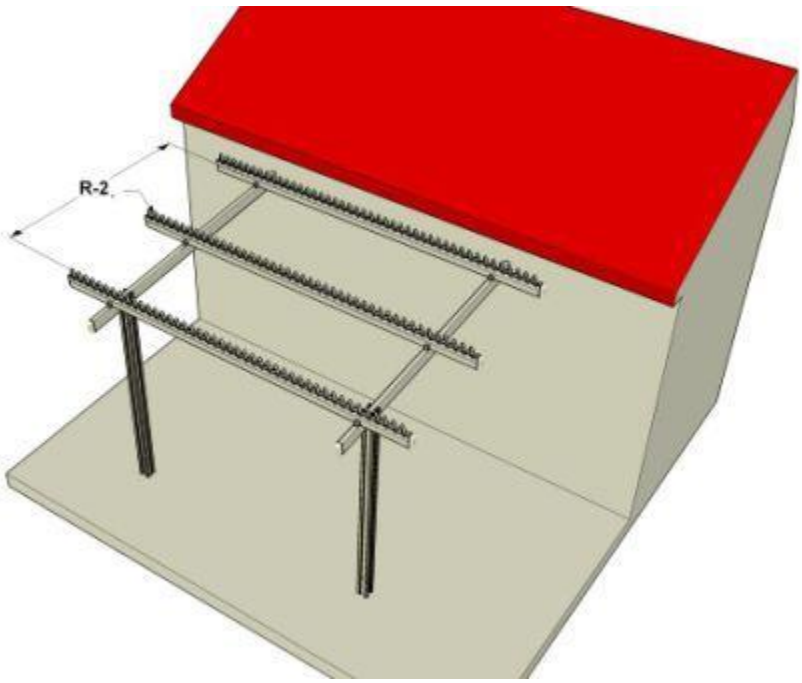
Step 2:

Building the structure



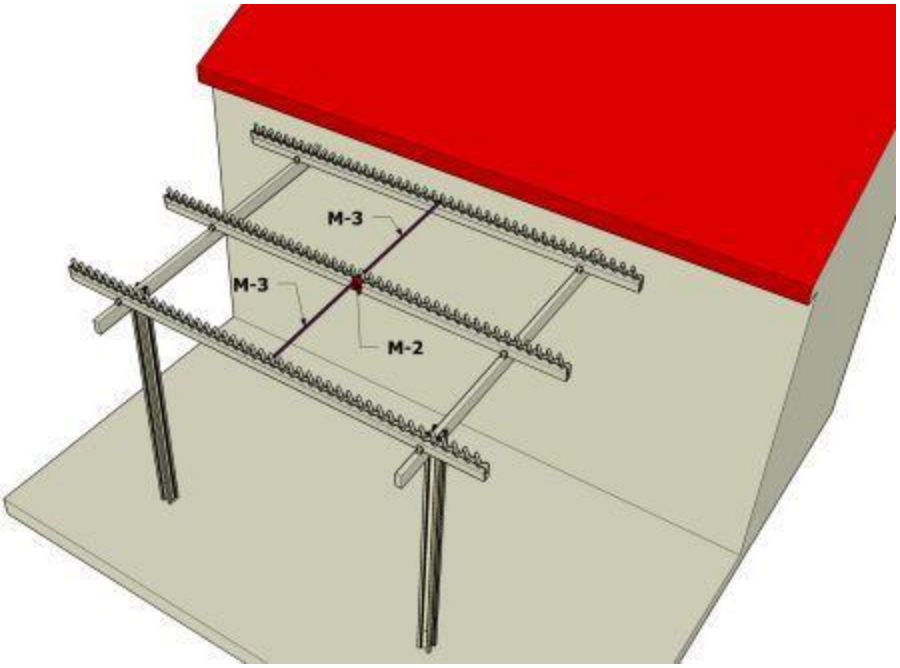
Step 3:

Solara Rafter



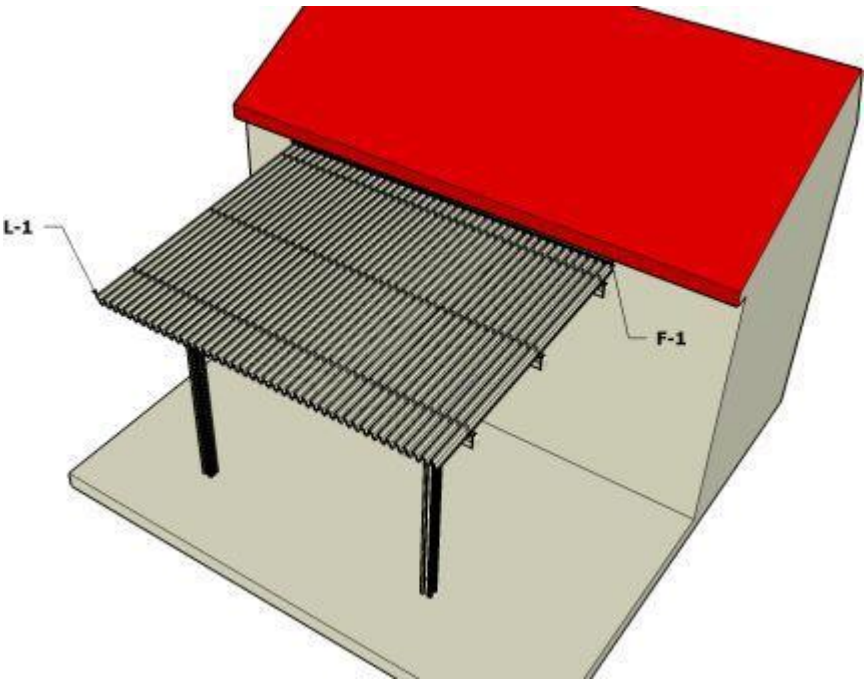
Step 4:

Mechanism



Step 5:

Louvers and Flashing



Step 6:

Clips and Caps

Measuring & Marking

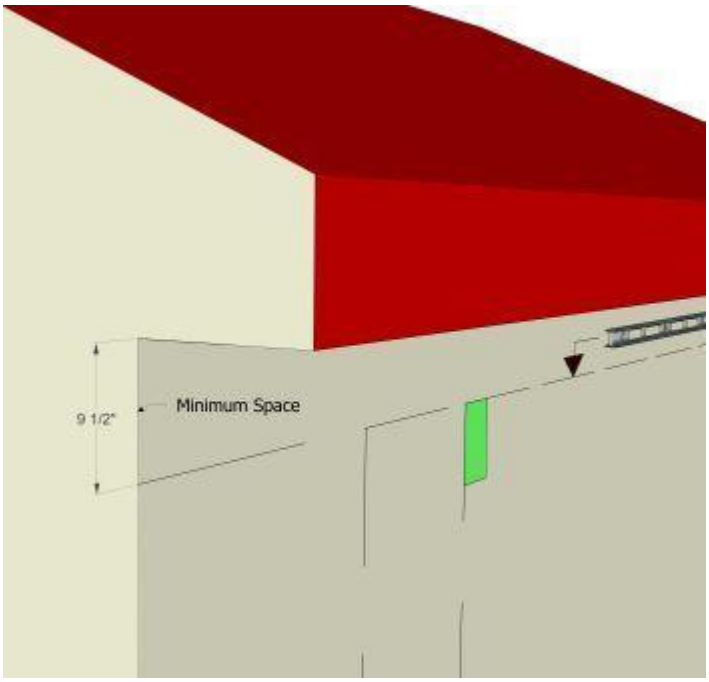
To mark the measurement where you want the patio cover to be is one of the most important steps. Please make sure you're accurate in this step. The patio cover size is 10'x12', length 12' (rafters R-2) and width 10' (louvers L-1). Then you will have the Solara rafter's overhang of 1' and the louver (L-1), and support beam (S-2) overhang of 1'.

Step 1:

The highest point that you mark should be 9.5". In other words when you make the top mark please make sure its 9.5" from the eave. (Leave space for the Solara rafters and louvers which will be 9.5'' from the bottom of the rafter to the top of the louver when open at 90 degree)

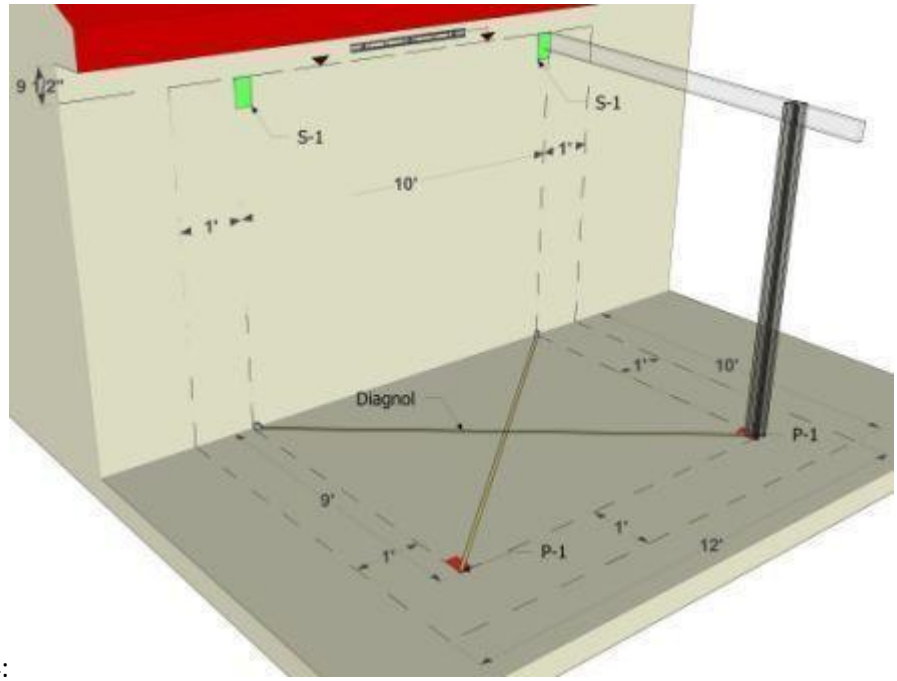
Step 2:

Mark the first point where the Support beam(S-2) will be attached, in the same level mark the second bracket for the support beam. (Make sure you take in consideration the overhang)



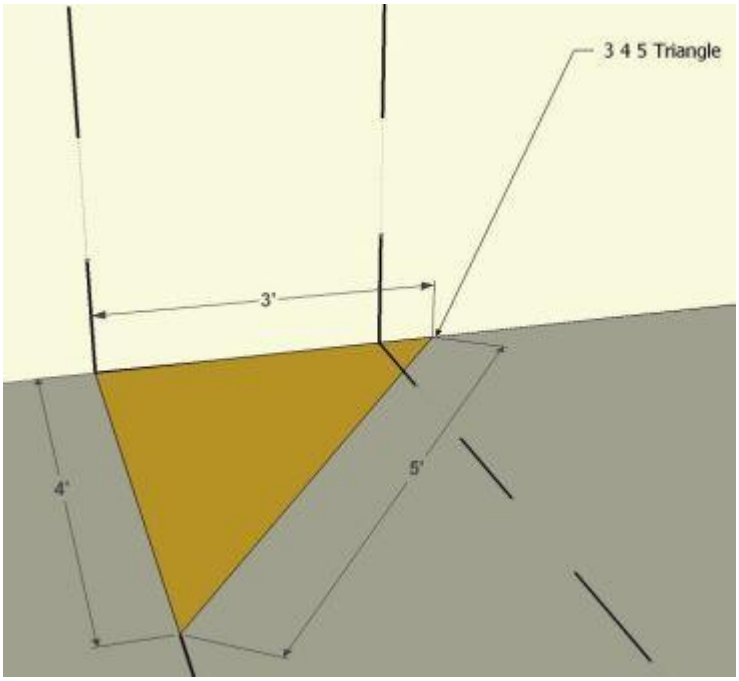
Step 3:

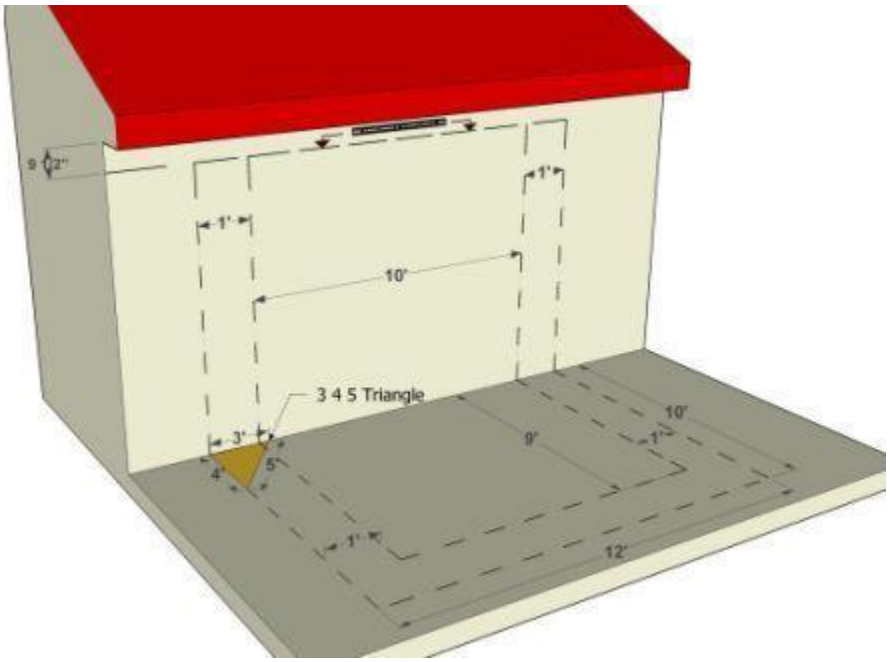
Take a straight line from that point to the floor from both of the points you marked.



Step 4:

To make a straight line between the wall and the floor (posts) we will use the 3-4-5 Right Triangle, this Triangle will help you find the straight line that you are looking for to line up the posts to the support beam (3'x4'x5'). After you have that straight line you will measure 9', that is the place where the posts (P-2) will end.

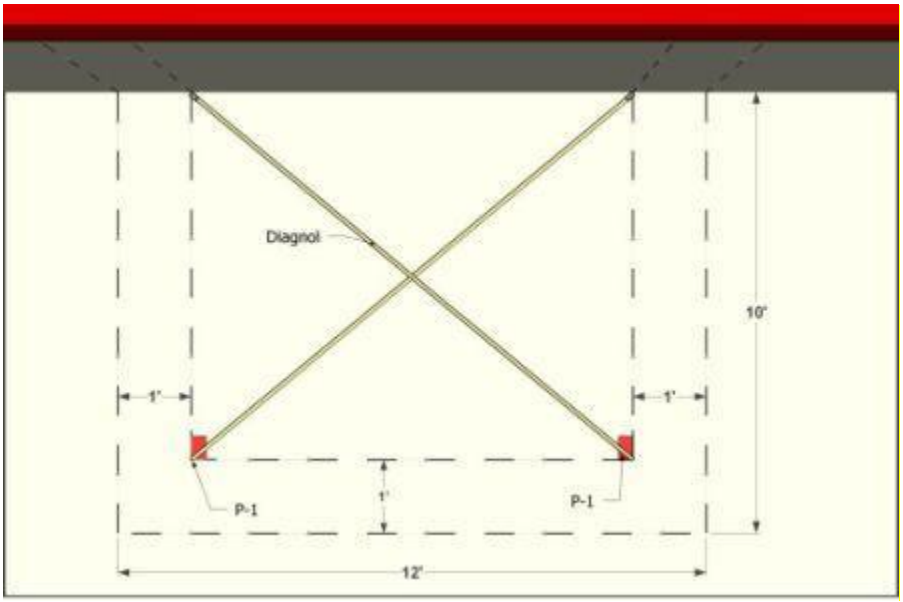




Step 5:

To make sure that we've done everything right we will check diagonally (meaning that the diagonal lines are equal.

*Everything you mark should be based on your engineering standards and permits

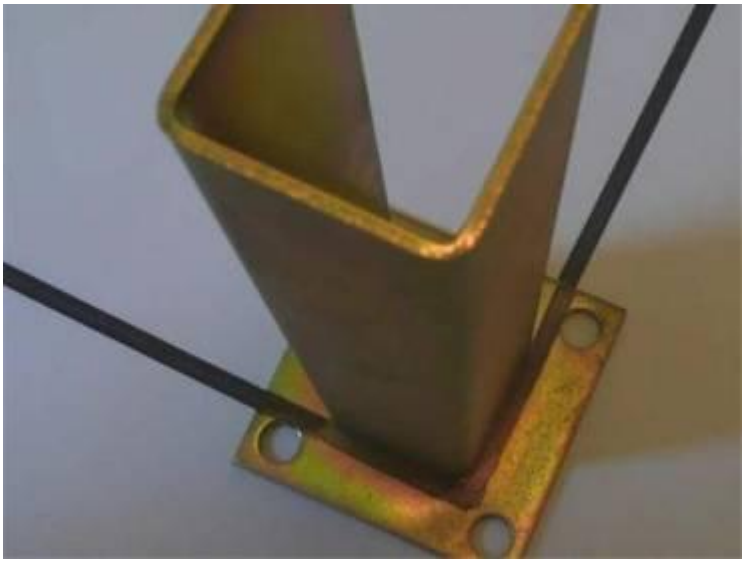


Page 2

Connecting the post base to the floor

Step 1:

Mark two straight lines as shown in picture

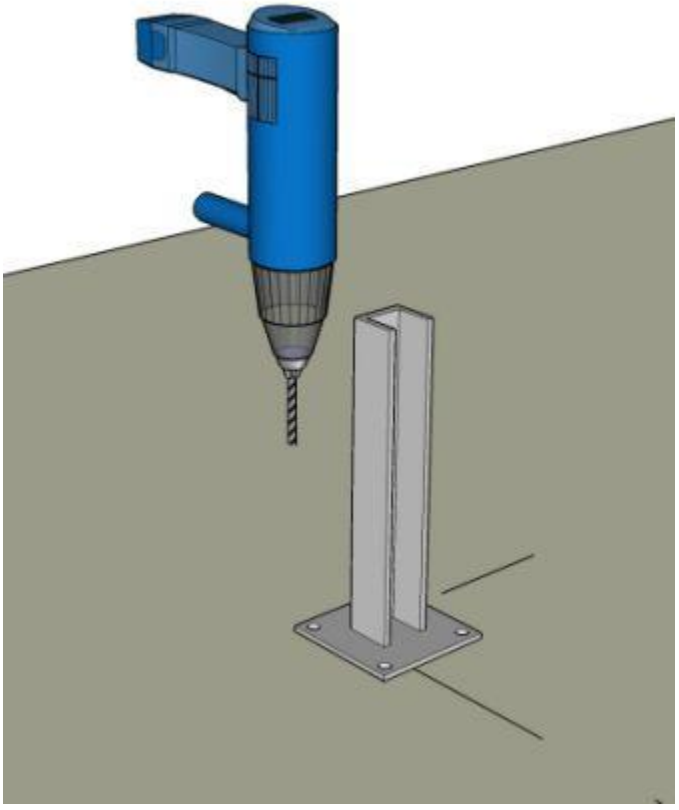


Step 2:

Line up the post base (P-1) with the previous lines you marked

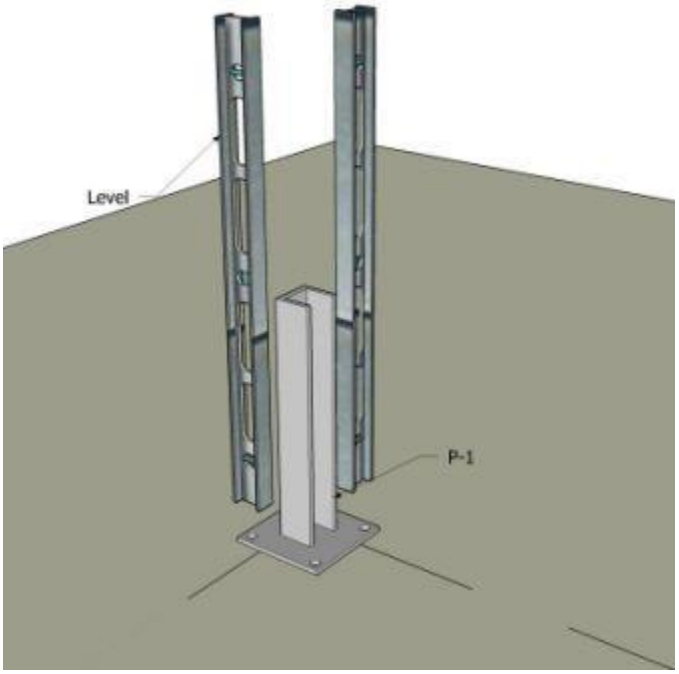
Step 3:

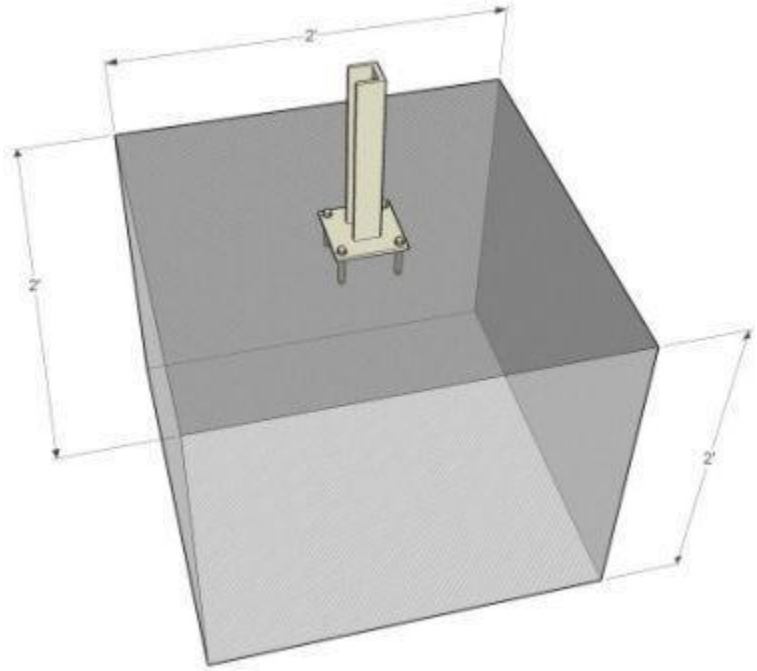
Mark the holes on the floor and drill in the concrete (use hammer drill with concrete fastener)



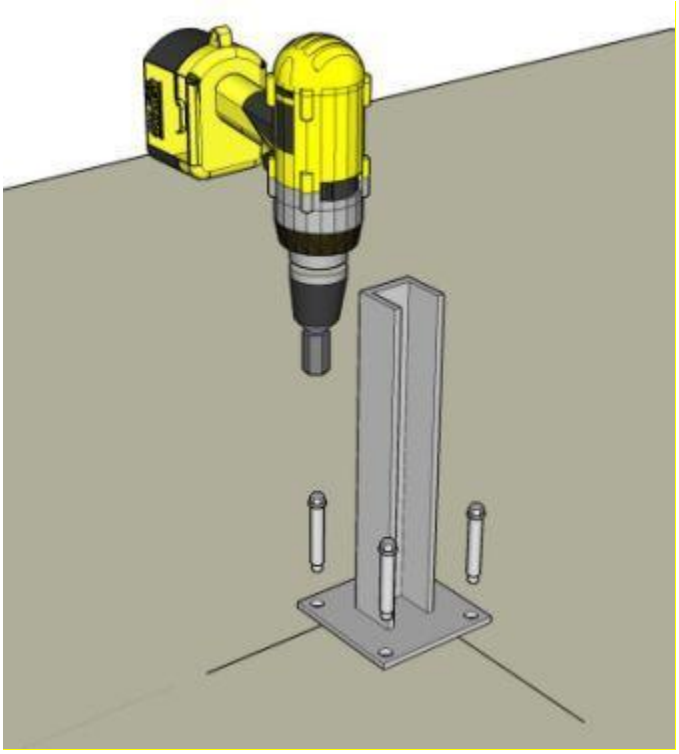
Step 4:

Level the post base (P-1) and connect it with the screws





*if you don’t have a concrete slab that match the engineering requirements you will have to do footing (a footing in compliance with your local building code)

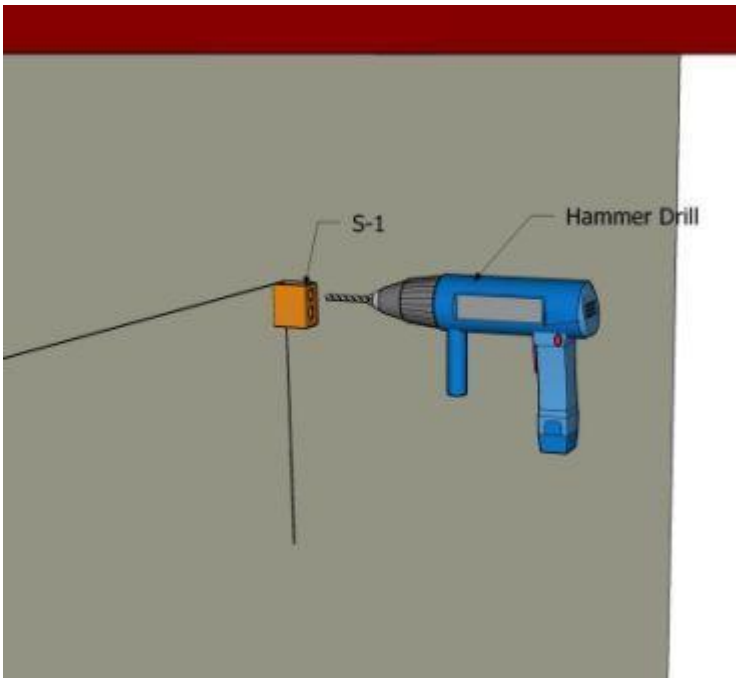


Connecting the Support Beam Brackets to the Wall

Step 1:

Mark up the bracket (S-1) with the lines that you previously marked

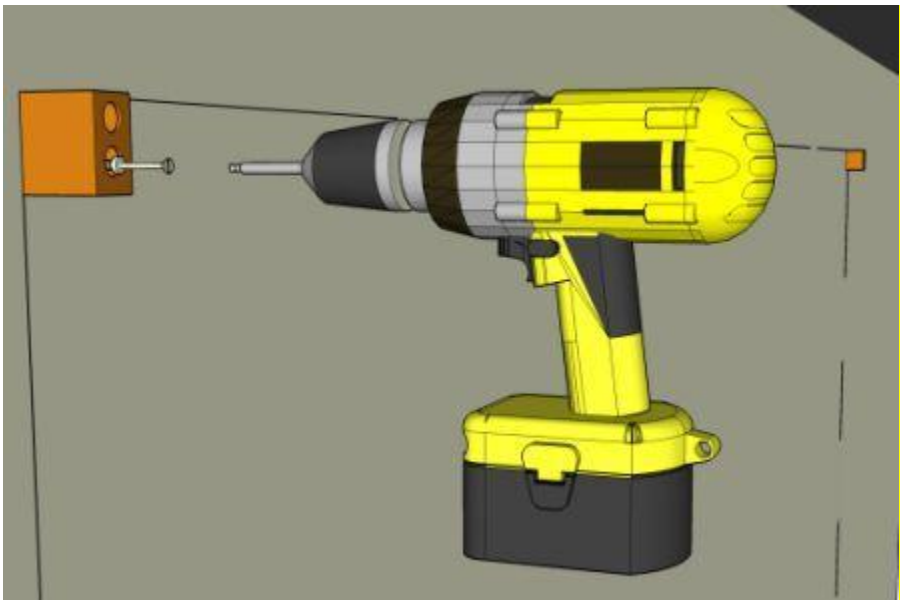
Drill one hole



Step 2:

Install one screw

Attach with fastener as per local code



Step 3:

Level the bracket (S-1)

Step 4:

Install the other screw to the wall

Do the same with the other brackets (S-1).

*Make sure that you are connecting the bracket according to the engineering standards.

Page 4

Marking the Posts

In this step we will connect the post (P-2) and create a slope to drain the water, this is the slope we recommend (1’ for this particular size) 5%, the bigger the slope is the better water proof you’ll get.

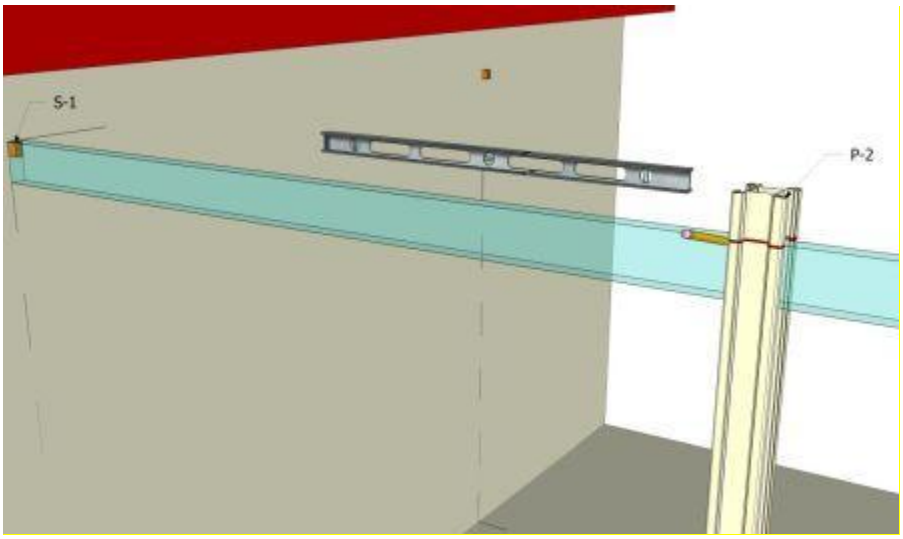
Make sure that you understand where the bottom of the post is (without the pre-cut notch) as well as where the top of the post is (with the pre-cut notch).

Step 1:

Slide the post (P-2) inside the post base (P-1) with the pre-cut notch towards the floor (top of the post facing the floor)

Step 2:

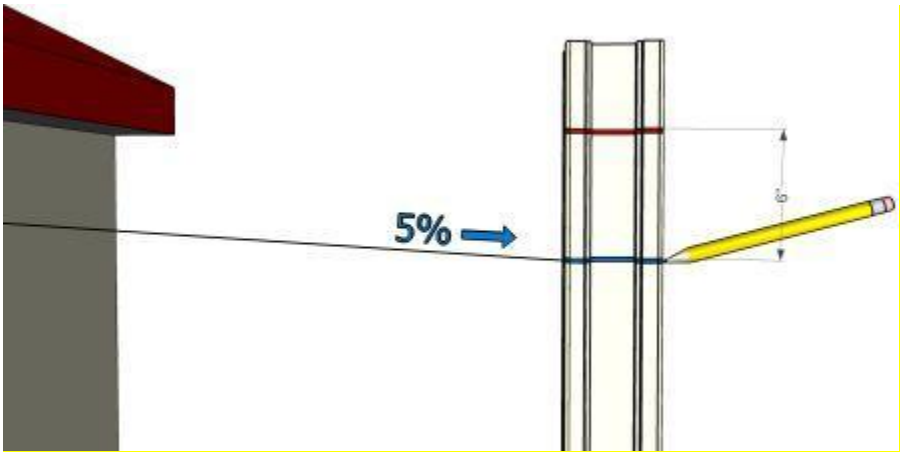
Mark a straight line in the same level as the support beam bracket (S-1)

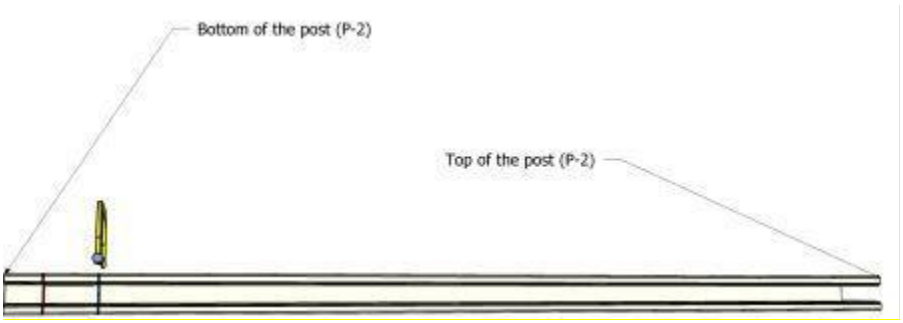


Step 3:

To create a slope mark another line 1’ below the first line marked.

*Always cut the post (P-2) on the side without the pre-cut notch (bottom of the post).

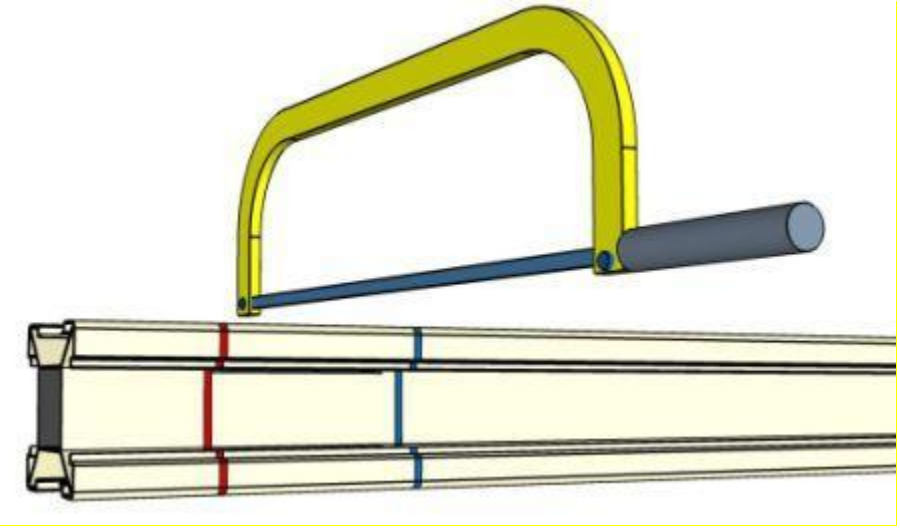




Page 5:

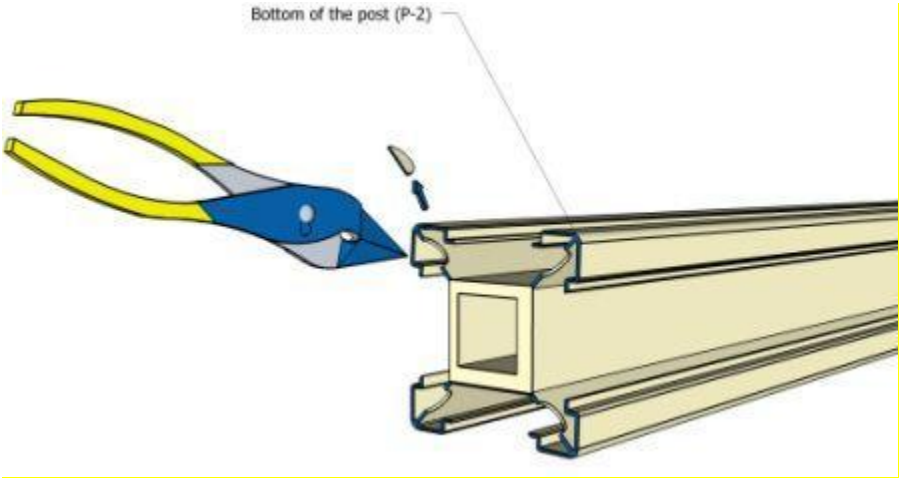
Step 1:

Cut the post (P-2) on the lower line



Step 2:

Make a notch on the post (P-2) for the screws by cutting it with the sheet metal snips

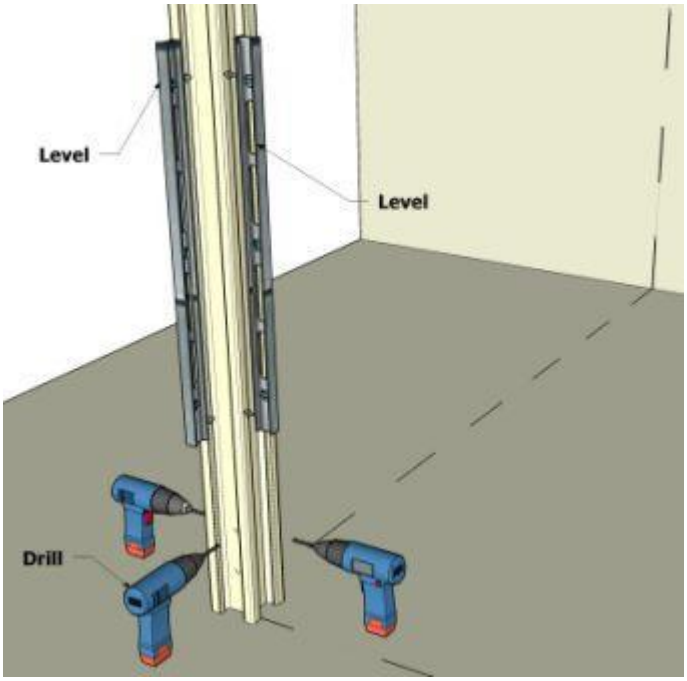


Step 1:

Slide the post (P-2) into the post base (P-1) with the notch towards the sky

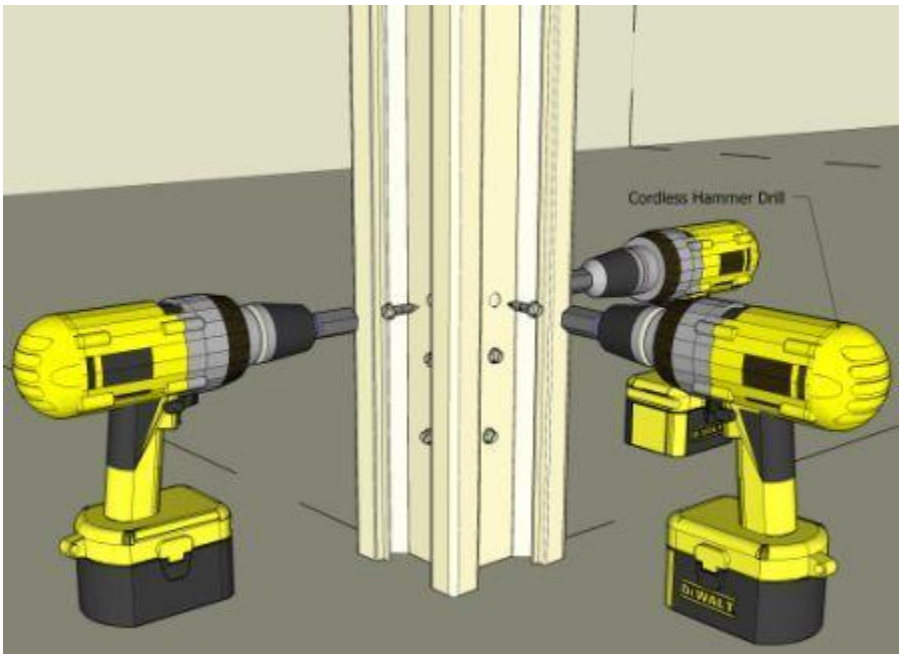
Step 2:

While you level the post (P-2) drill 3 holes in 3 sides with the drill



Step 3:

Level the post (P-2) from both sides and connect it with screws

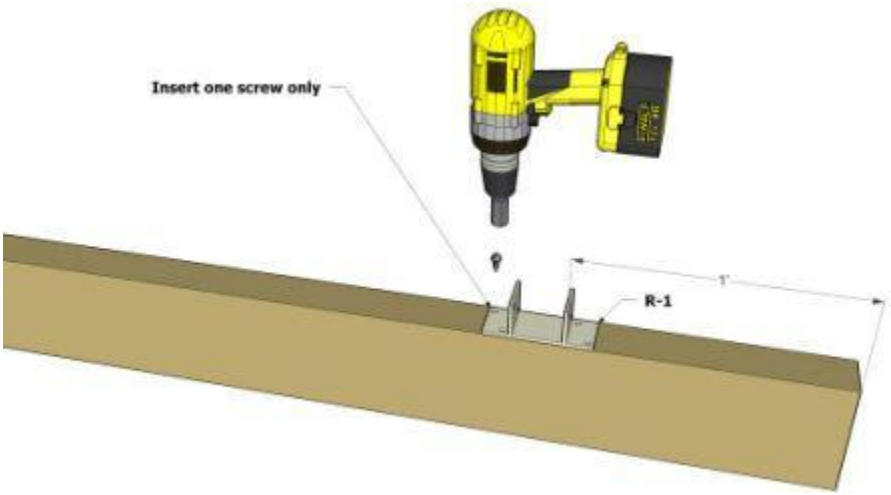


Because the post base (P-1) is in a U shape make sure you install the screws on those three sides of the posts.

Connecting the Solara Rafter Brackets to the Support Beam

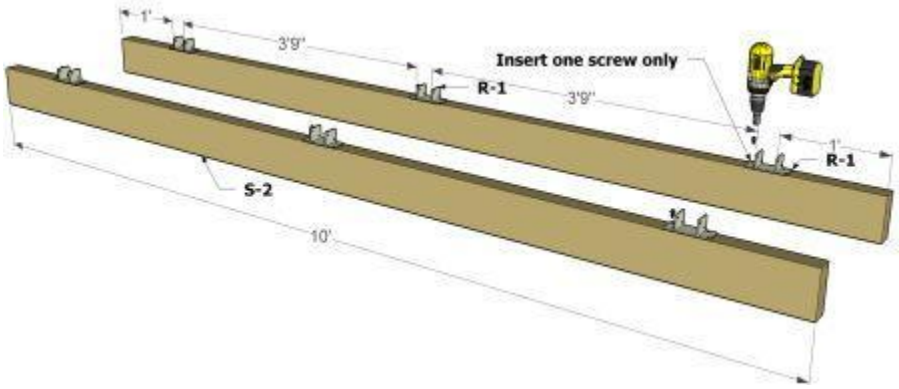
Step 1:

Measure 1’ for overhang in each side and then measure 3’9” from outside to outside so they’ll meet in the middle (before measuring put the 2 support beams (S-2) together so you’ll measure them both at once)



Step 2:

Connect the Solara Rafter Brackets (R-1) to the Support Beam (P-2) with only 1 screw so that it will pivot



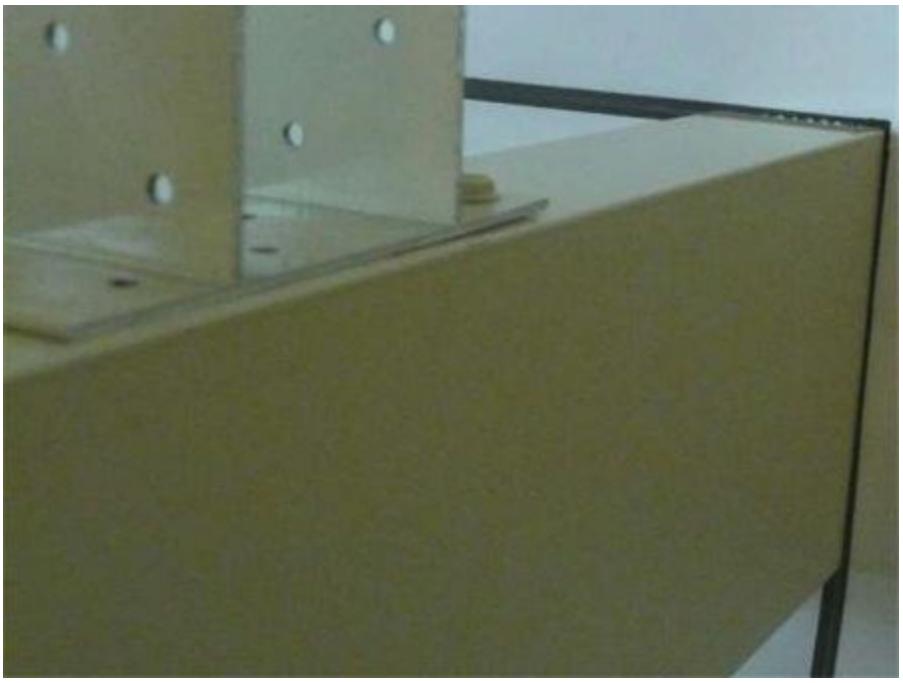
*Do not drill screws in the middle of the Solara Rafter Brackets (R-1) (where the Solara Rafter is to be inserted)

Page 8

Connecting the Support Beam

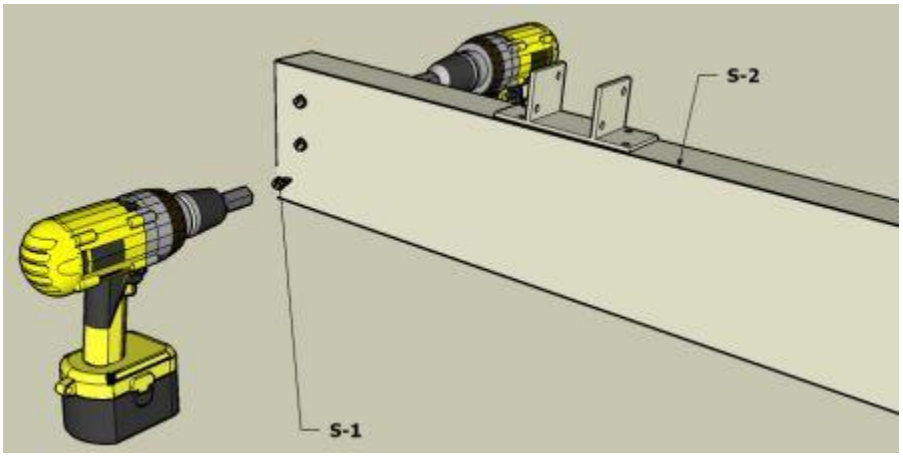
Step 1:

Slide in the Support Beam (S-2) into the notch in the post (P-2) and the support beam bracket (S-1). Make sure that you don’t scratch it, do it gently.



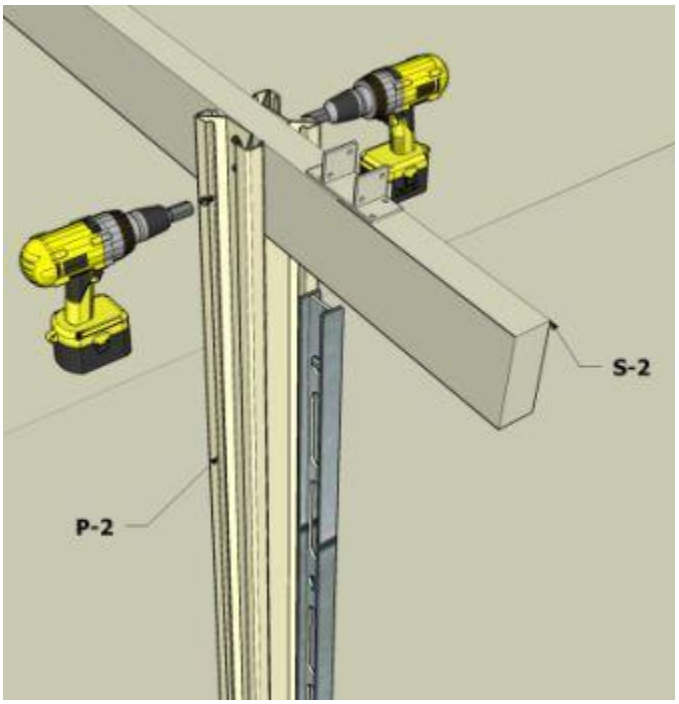
Step 2:

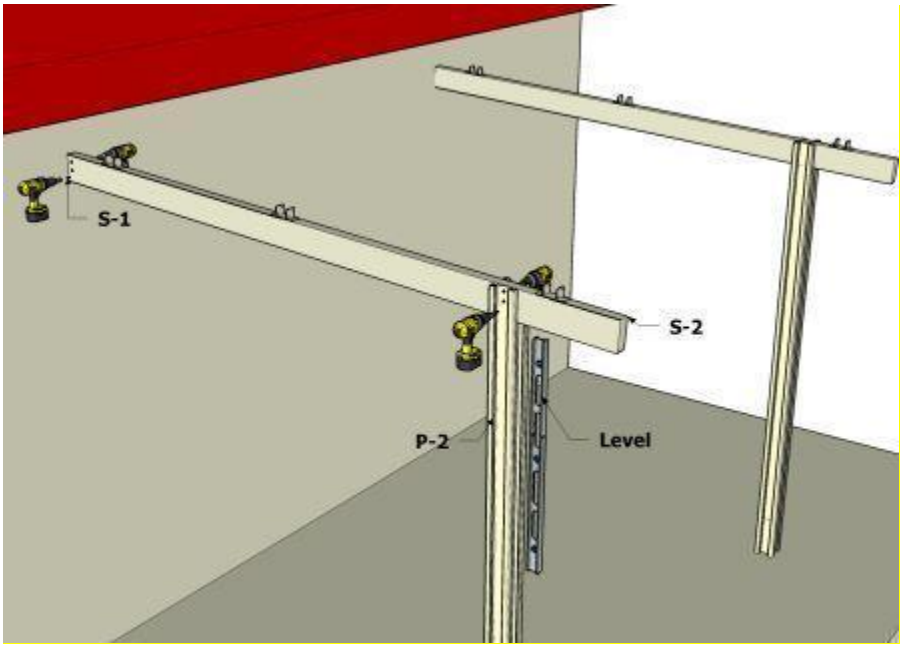
Connect the Support beam (S-2) to the wall bracket (S-1) with screws



Step 3:

While you level the posts (P-2) connect the support beam (S-2) with screws to the post (P-2)


S-2
P-2

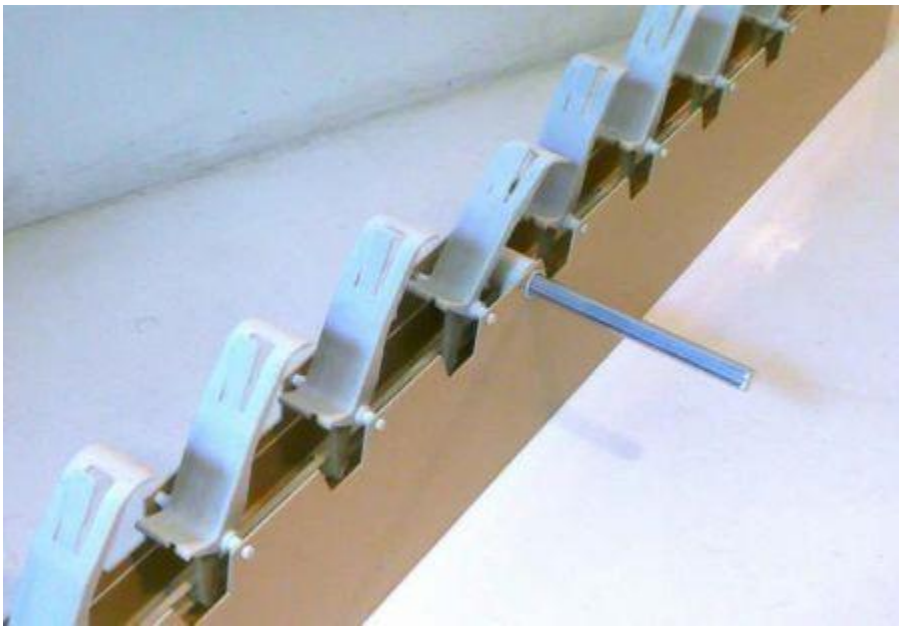

S-1
S-2
P-2
Level

Connecting the silver rods into the Solara rafters

Step 1:

On the side beams slide in the silver rod (M-1) until it is leveled with the Solara rafter (R-2) (meaning that the inside of the patio cover is leveled with the inside of the beam; only sticking from the outside)

Sometimes due to packaging reasons, the last louver bracket will not be installed and you should install it by yourself.



Step 2:

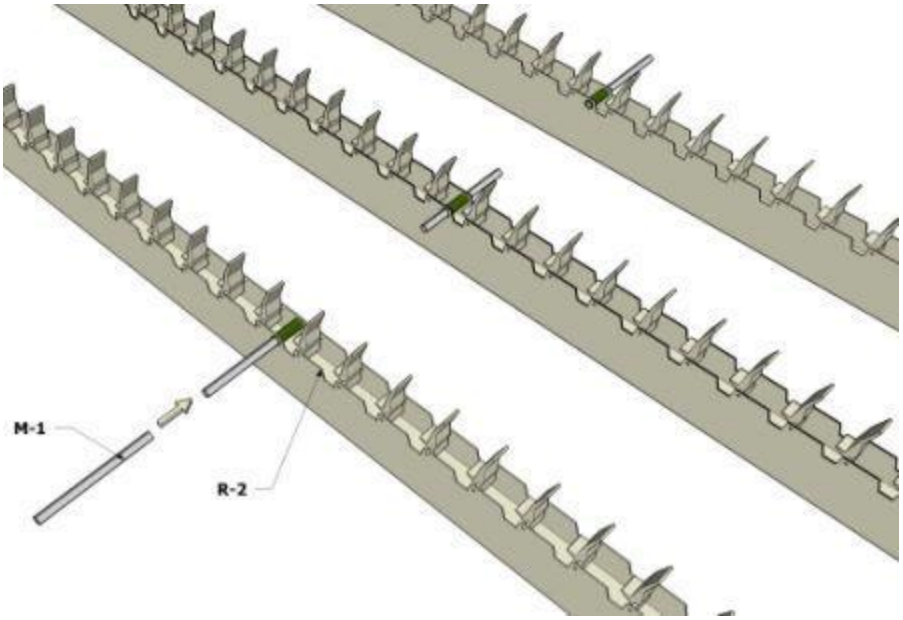
In the middle beam slide in the silver rod (M-1) through the beam (sticking out from both sides)

*There is a hole in the middle beam (only one hole) that you can slide the silver rod (M-1) in

* Do it gently and don't hit the silver rod (M-1) with anything , you may want to lubricate it with chap stick, axel grease etc.

*the silver rods (M-1) are expanding in heat for an easier installation, cool them down with ice water when you first set up on the job site and they will shrink.

*If you have a motor go to the motor installation instructions, you will have a special silver rod (M-1) for the motor



Level the Solara Rafters

On these steps we will be leveling the Solara Rafters (R-2) and connecting them to the Support Beams (S-2) It is very important that the Louver Bracket will be parallel, it will make the installation of the louvers easier and your smart shading system function better.

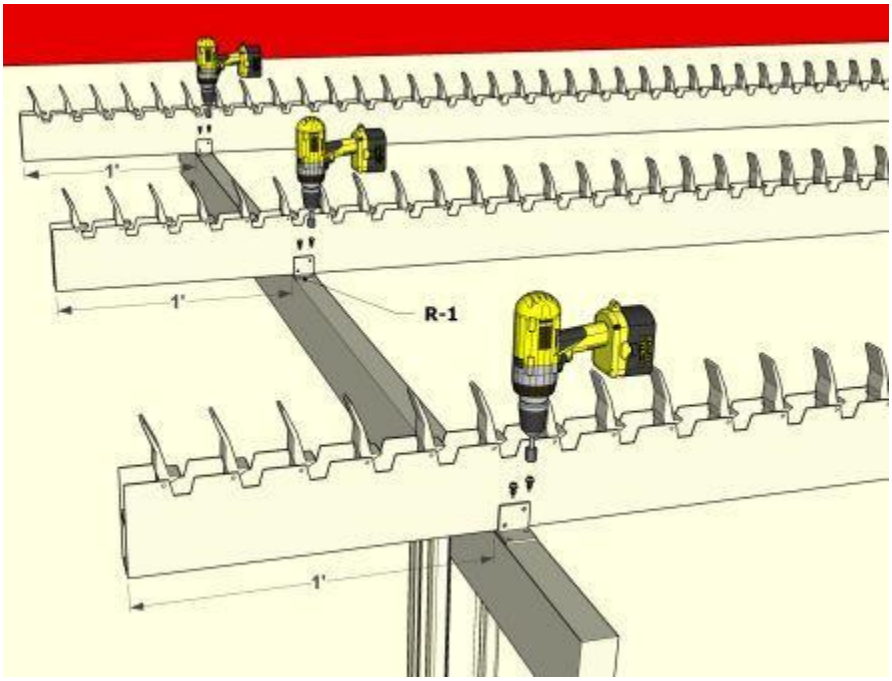
Step 1:

Slide in the Solara rafters (R-2) on top of the bracket (R-1) make sure that the middle beam is the one with the silver rod (M-1) sticking from both sides

Step 2:

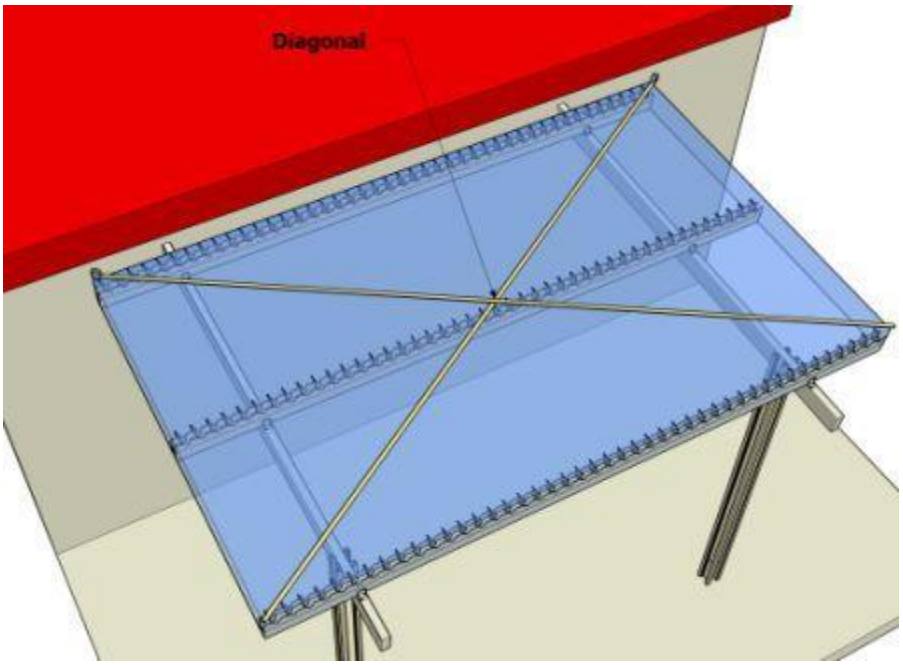
Now all of the rafter brackets (R-1) will line up in a straight line

Connect with the other 3 screws the Solara rafter brackets (R-1) to the support beam (S-2)



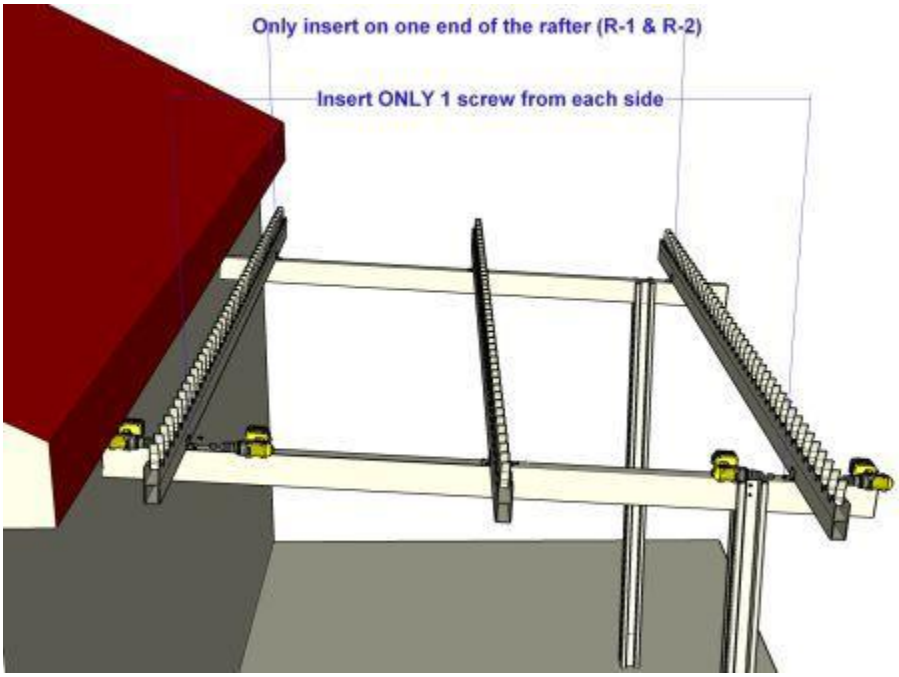
Step 3:

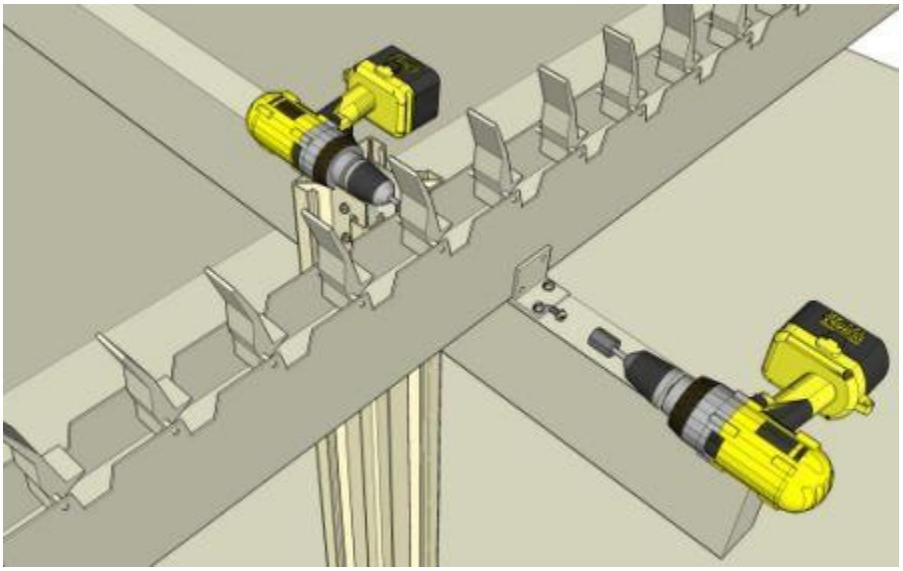
Measure the overhang that is going to be 1’ and check diagonally for square **(if the cover is not square it may not work properly).**



Step 4:

Connect with only 1 screw on each side the 2 outside Solara Rafters (R-2) to the Solara Rafter Brackets (R-1) (that will be the pivot) use only 4 screws for this step!!

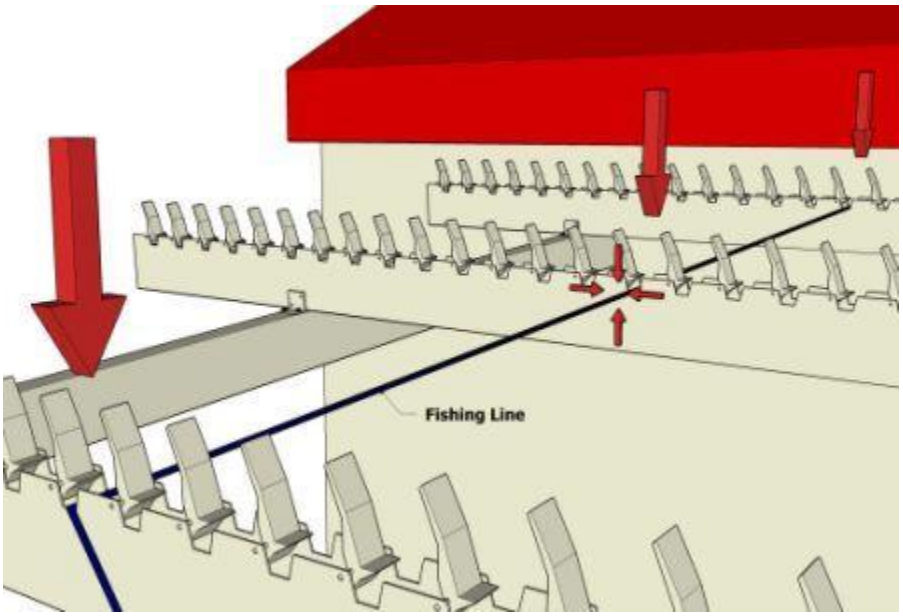




Page 11

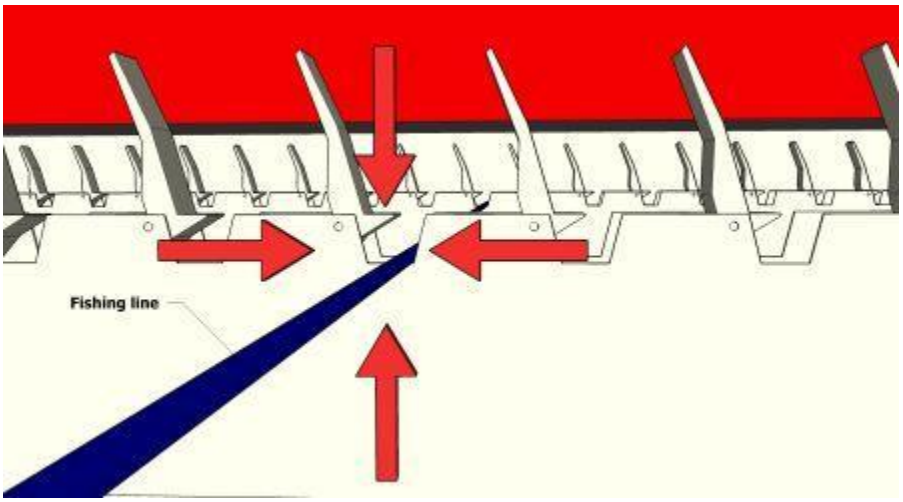
Step 1:

From the same place (inside corner of the L) in the outside rafter stretch a fishing line and tie it to both sides



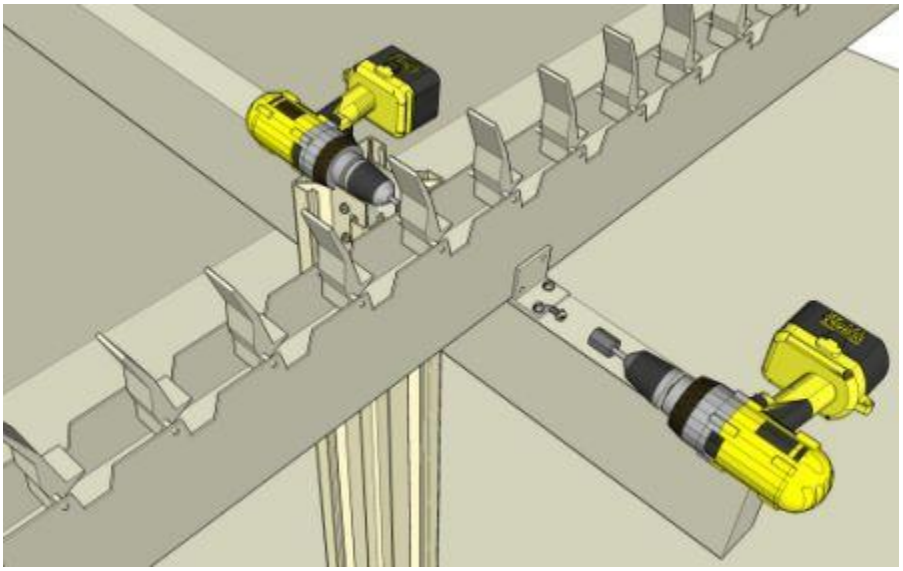
Step 2:

Make sure that the middle rafter is almost touching the fishing line on the same spot that its touching the outside rafters, you can move it a little to up or down or from side to side in order to level the rafters (R-2).



Step 3:

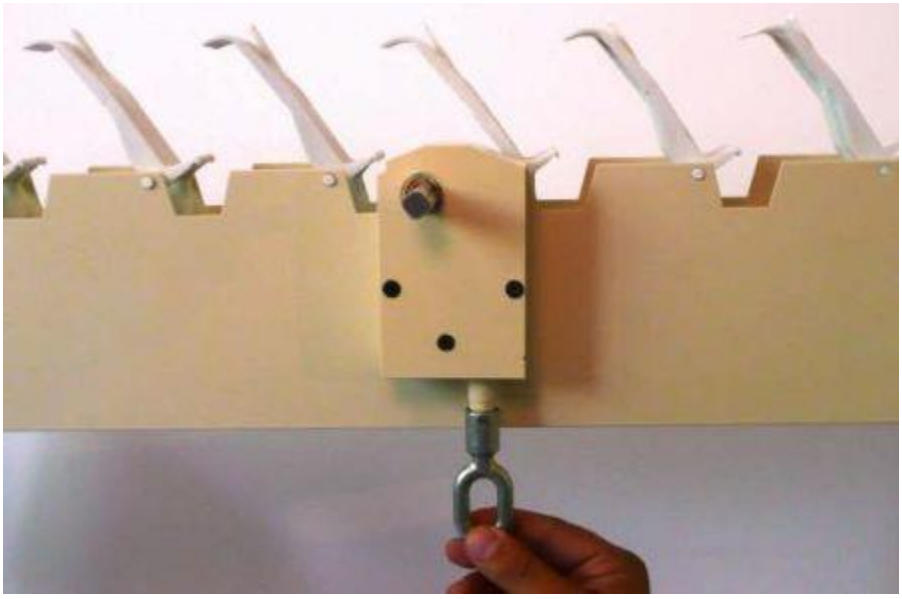
Connect only the middle Solara rafter (R-2) with only with 1 screw on each side at one end only. Use only two Screws for this step!!



Page 12

Connecting the Manual Opening System

The manual opening system (M-2) will only work on one side of the rafter (R-2), otherwise it will be in the way of the future louvers (L-1) **Use the picture below to make sure you are installing it on the proper side.**

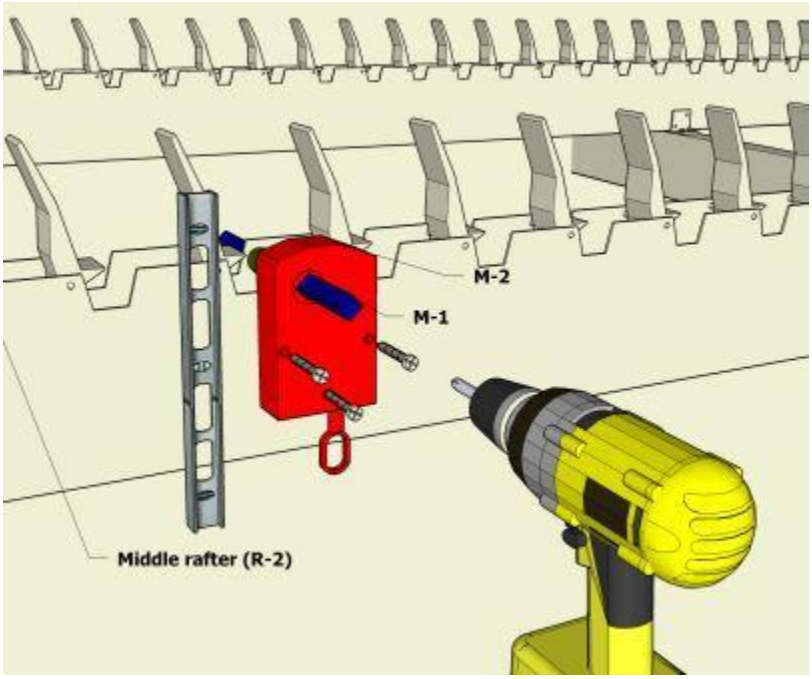


Step 1:

Slide in the manual opening system (M-2) into the silver rod (M-1) in the middle rafter (To spread the energy equally)

Step 2:

Level the manual opening system (M-2) by opening and closing it



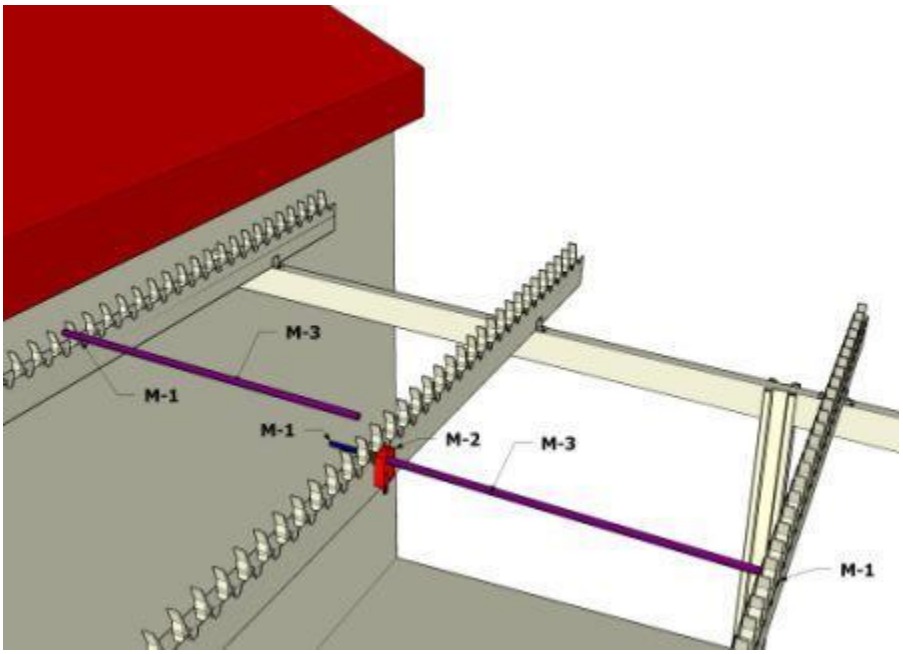
Step 3:

Drill 3 screws

Connecting the Shafts

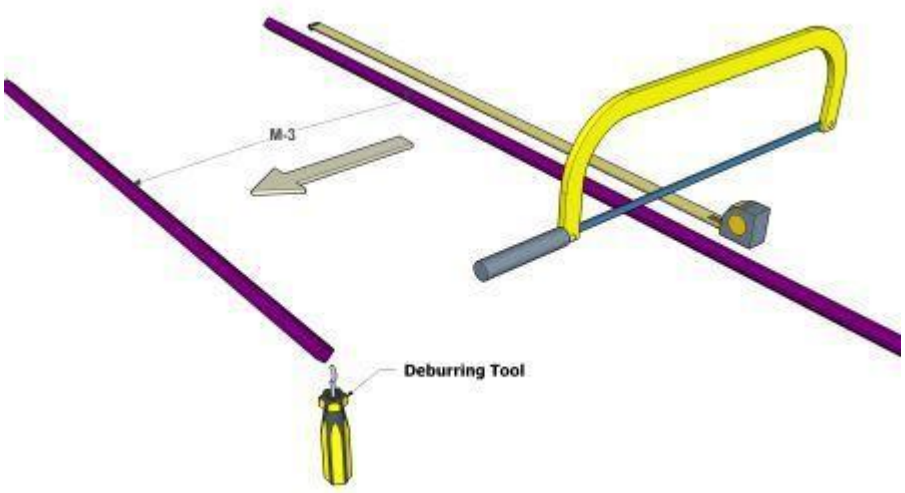
Step 1:

Measure the dimensions between the Solara Rafters (R-2) (take the dimensions from where it's about to be connected, pay attention that you are taking the dimension from the end of the manual opening system (M-2))



Step 2:

Cut the shaft (M-3) **1" less** from the dimension that you took that way it will be easier to slide it in and won't bind (if the shaft is to tight the mechanism will not operate correctly and could bind as it expands) very important.



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Step 3:

Use the de-burring tool to cut the inside edges of the shaft (M-3) and clean the left over burrs, gently clean the leftover burrs.

Step 4:

Connect the shaft (M-3) to silver rod (M-1) in the middle rafter (R-2)(Always start with the middle rafter) and then just slide the outside silver rod (M-1) inside to the shaft (M-3).

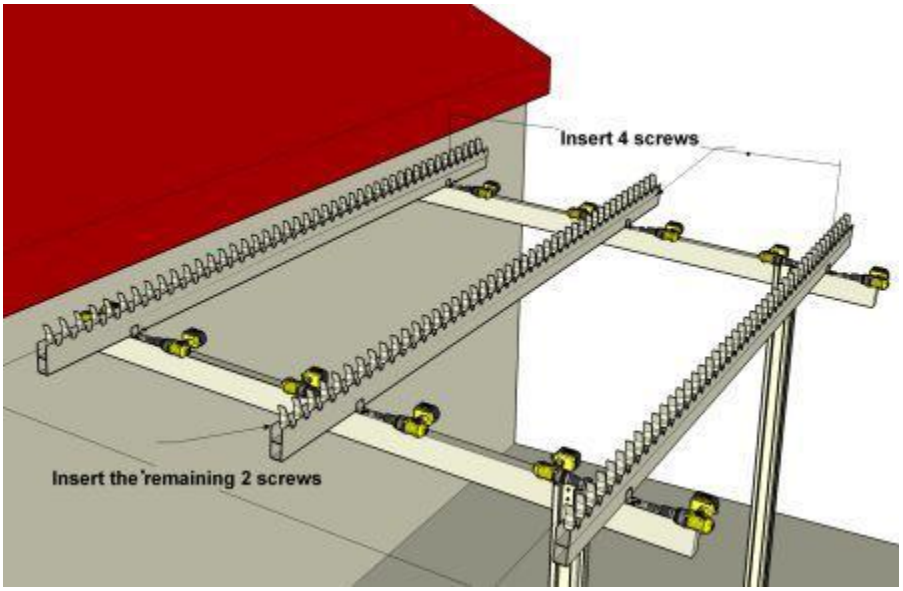
You can use the Addendum to Instructions form for more details
Make sure to leave 1/2" of silver rod (M-1)showing on each side of the shaft in case that you want to take the patio cover apart in the future
Do not use any hammers or heavy tools on the shaft (M-3) and on the silver rods (M-1)

When you are connecting the shaft (M-3) make sure that the fiber glass brackets inside the Solara Rafter (R-2) (louver brackets) are fully open.

Page 14

Step 1:

Connect the rest of the 2 screws between the Solara rafters (R-2) and the Solara Rafter Brackets (R-1) and connect 4 screws on the other side.

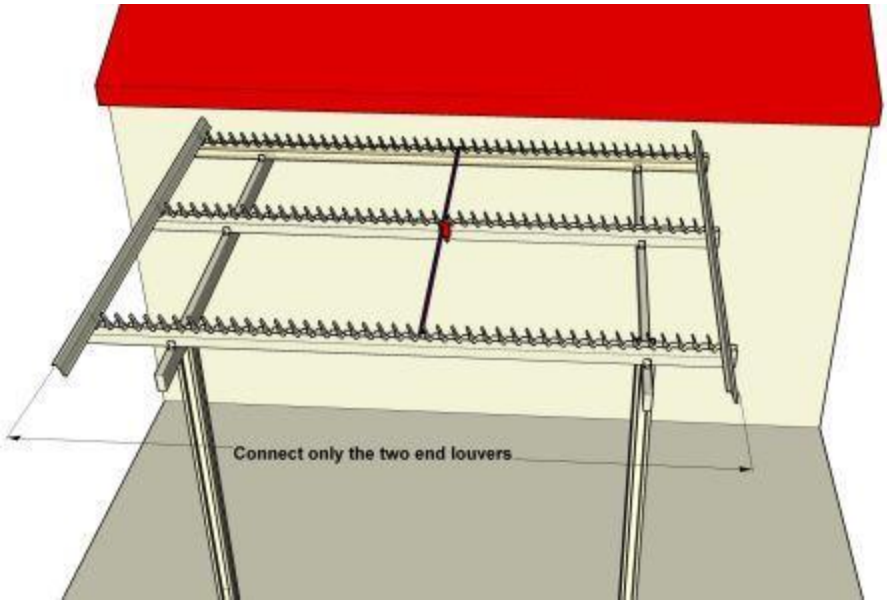


Page 15:

Connecting the Louvers under the Flashing

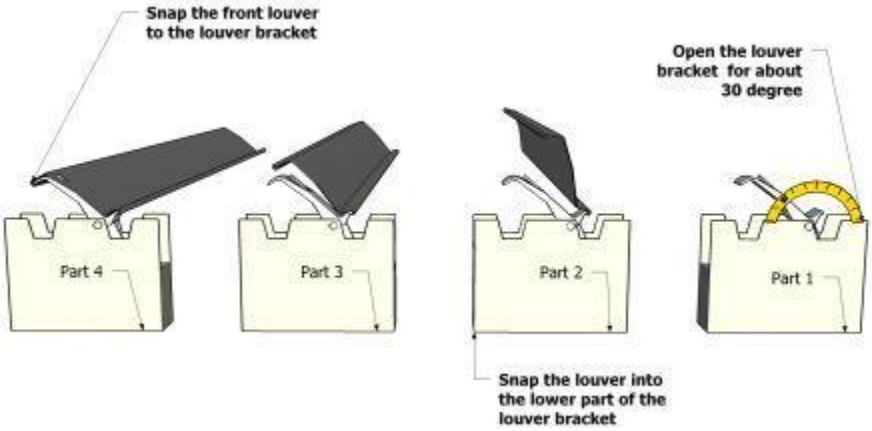
To make the connection of the patio cover with the house water proof we will install flashing (F-1), to determine where the flashing (F-1) will be installed, open the 2 end louvers (L-1) in 90 degrees. This way the flashing height will be determined.

Connecting the Outside Louvers



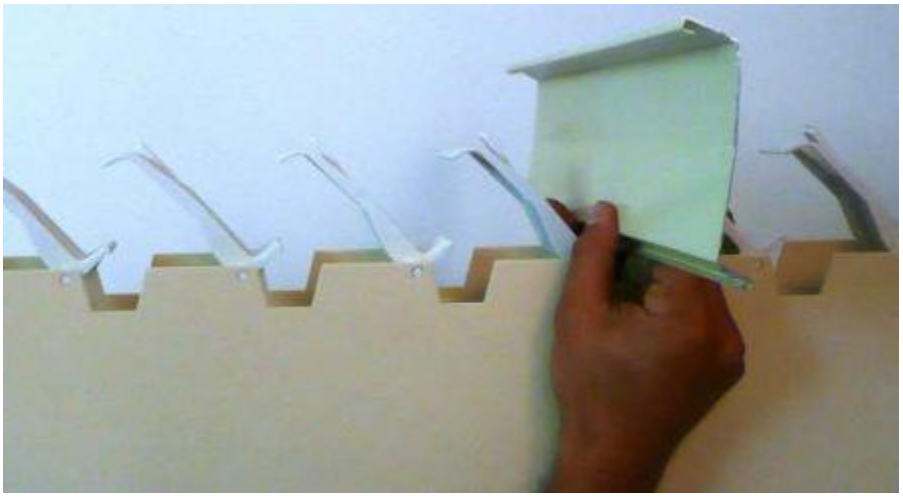
Step 1:

Open with the manual opening system (M-2) the louver brackets for about 30 degrees



Step 2:

Connect the bottom of the louvers (L-1) (the lower spot) to the louver bracket (do it on the 3 rafters at the same time)



Step 3:

Slide the louvers (L-1) so that they are going to be about 1/16” from the wall. The Louvers (L-1) are moving parts and cannot touch the wall.

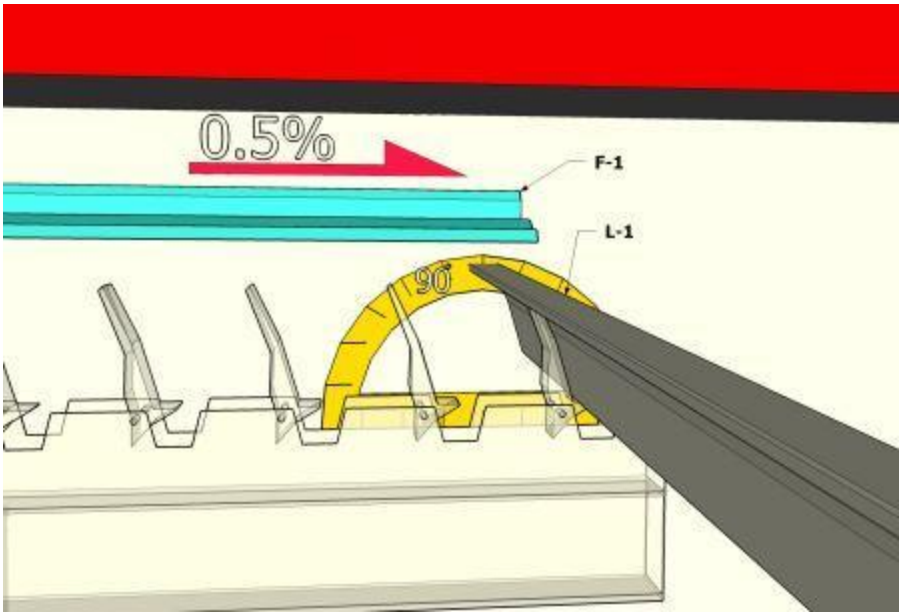
Step 4:

Snap in the front of the louver (L-1) (the highest spot) you will hear a clicking sound

Page 16

Step 1:

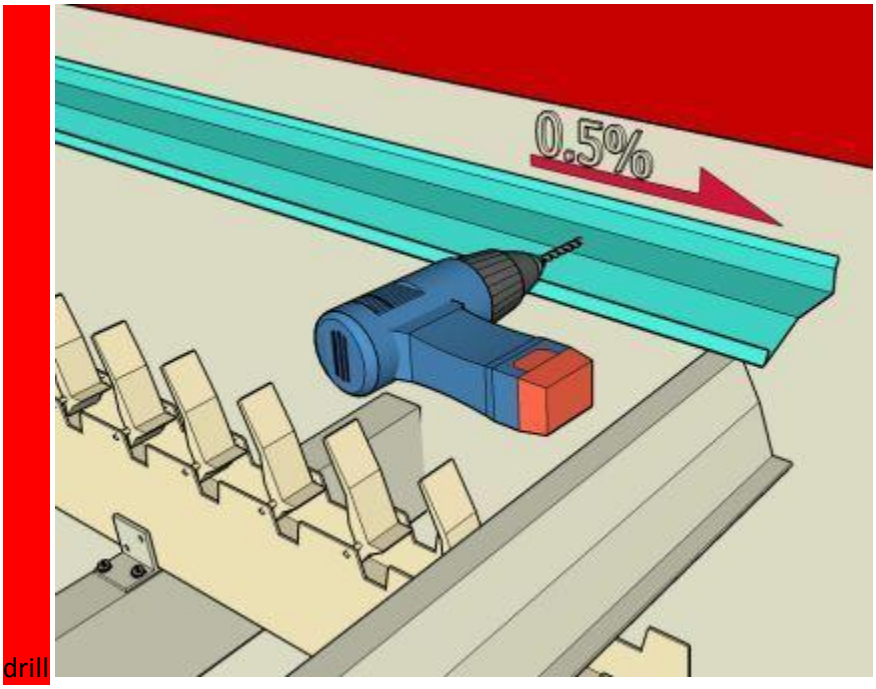
Open the Louvers (L-1) to 90 degrees and mark where the flashing (F-1) is suppose to be.



Step 2:

Give the flashing (F-1) a 2” (0.5%) slope. The lowest part of the flashing is the side where the water will be drained to.

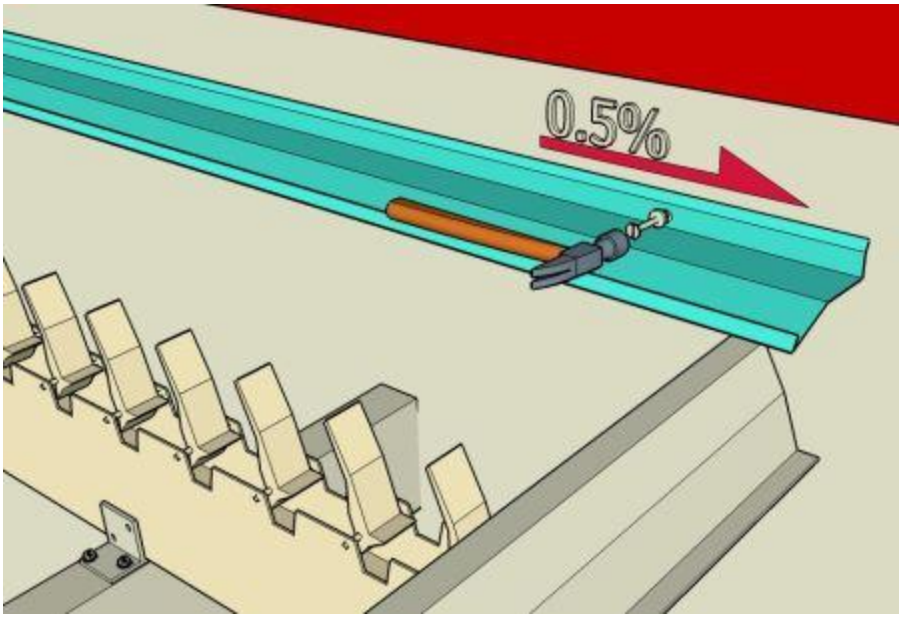
Step 3:



Drill the flashing (F-1) in the wall with the drill

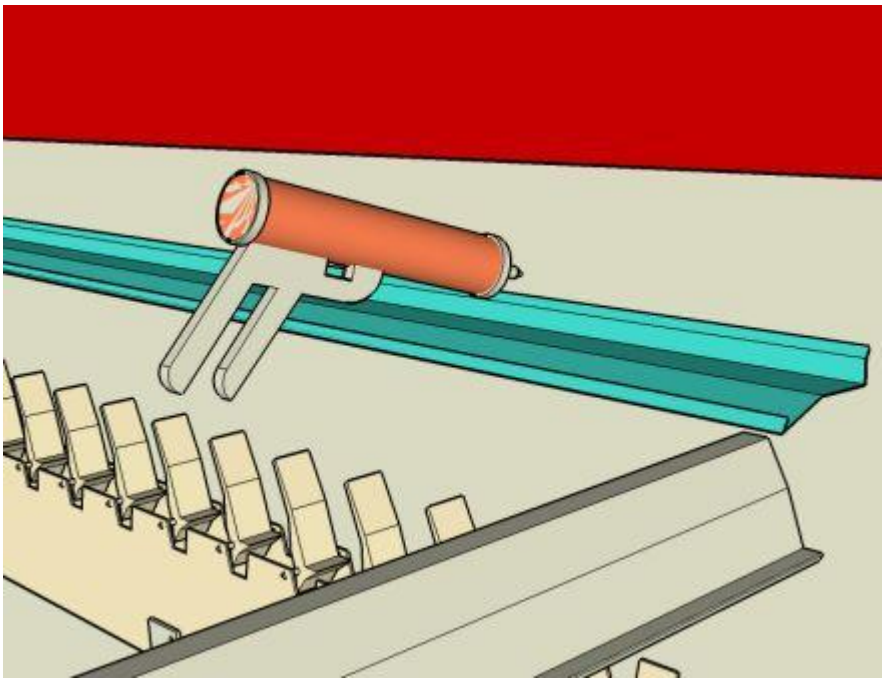
Step 4:

Connect it with screws



Step 5:

Seal the flashing (F-1) with silicone



Page 17

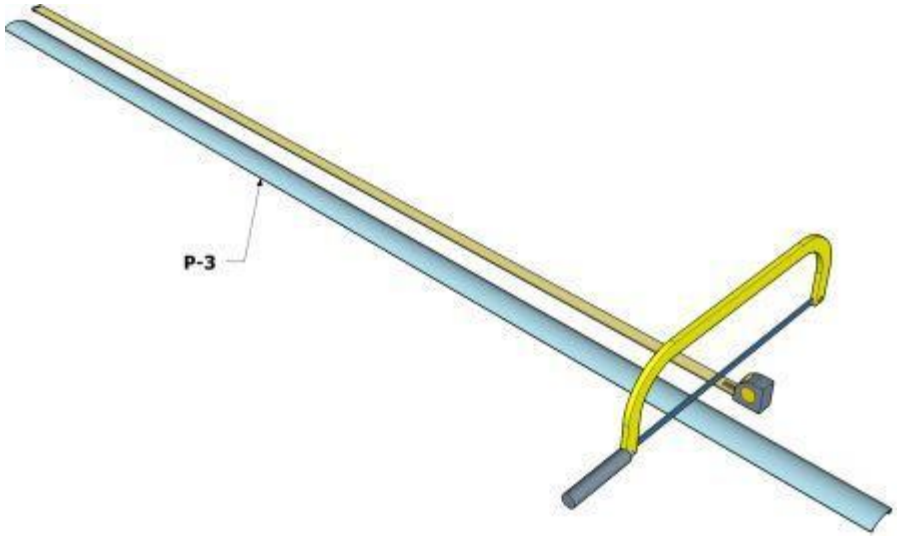
Connect the post clip to the post

Step 1:

Measure the post clip (P-3) from the four sides of each post (P-2)

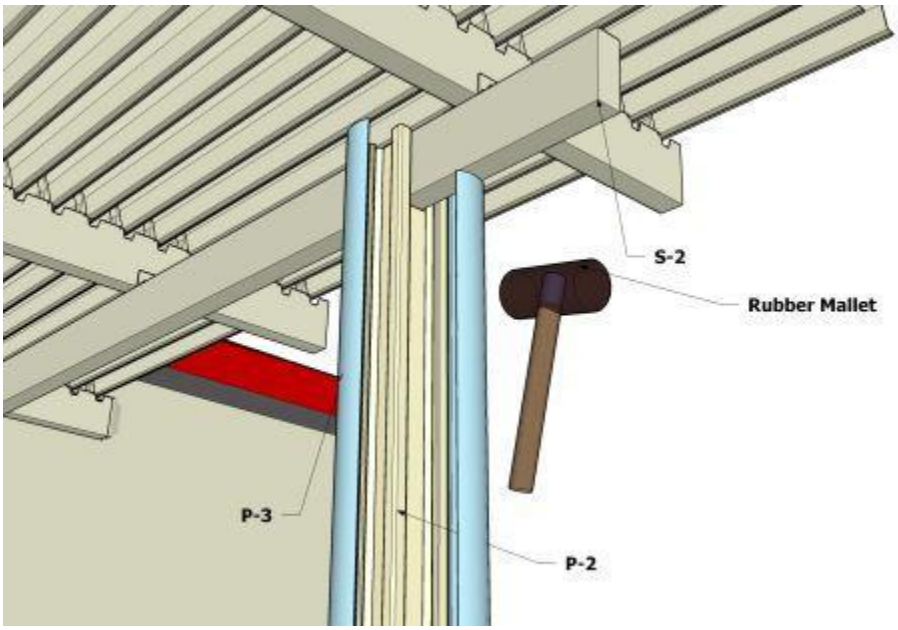
Step 2:

Cut the post clip (P-3)



Step 3:

With a rubber mallet, snap in the post clip (P-3)



Page 18

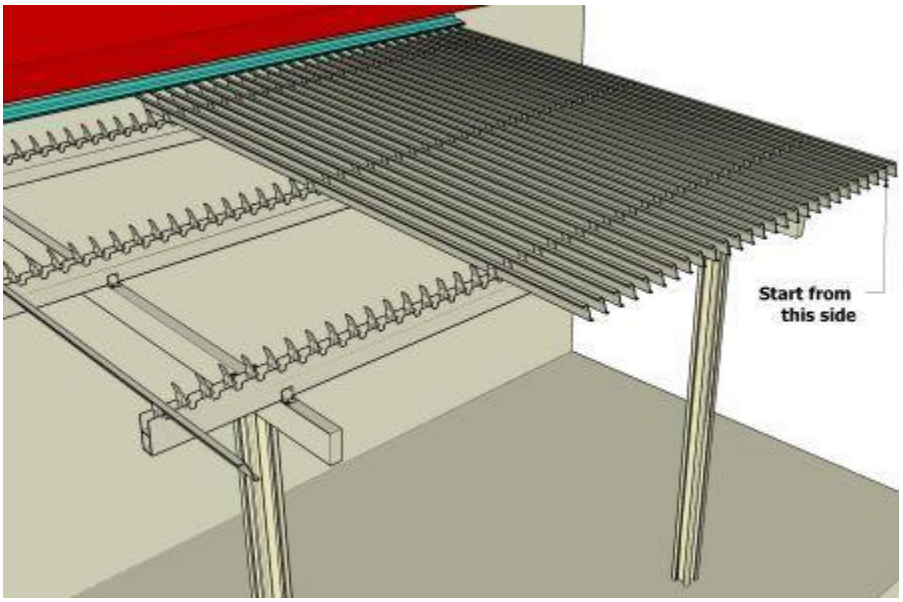
Connecting the Louvers

Step 1:

Open the louver brackets for about 30 degrees

Step 2:

Connect the louvers (L-1) as shown in page 15 (from the rear side to the front)

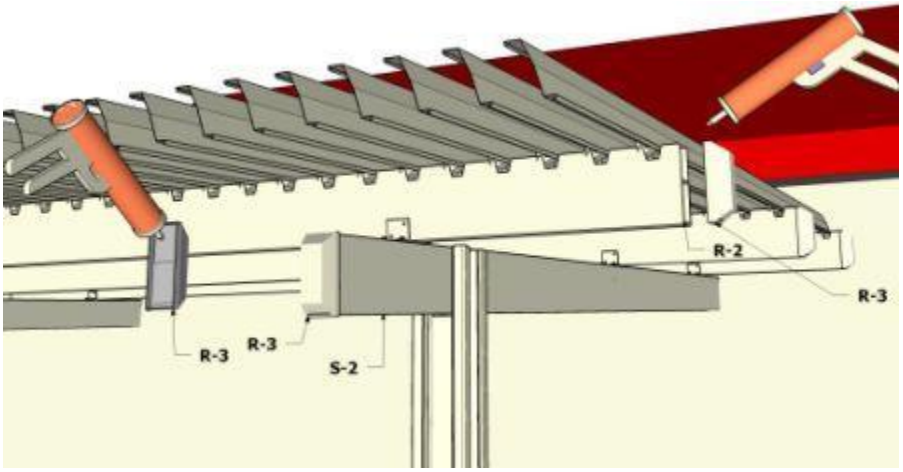


Page 19

Connect the caps

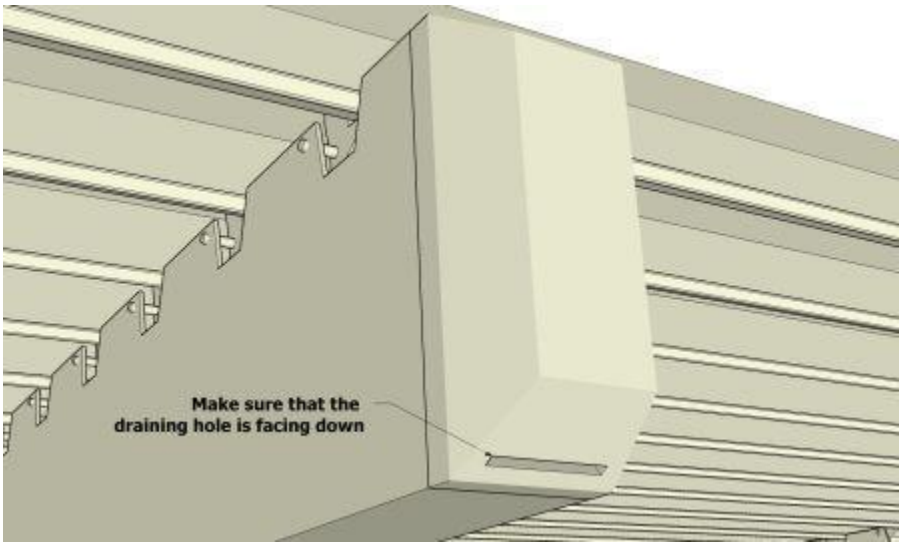
Steps 1:

Glue the caps (R-3) with silicone



Step 2:

Snap the caps(R-3) into the Solara rafter (R-2) and the support beam(S-2), make sure the notch is faced down (the notch is for draining water)


Make sure that the
draining hole is facing down