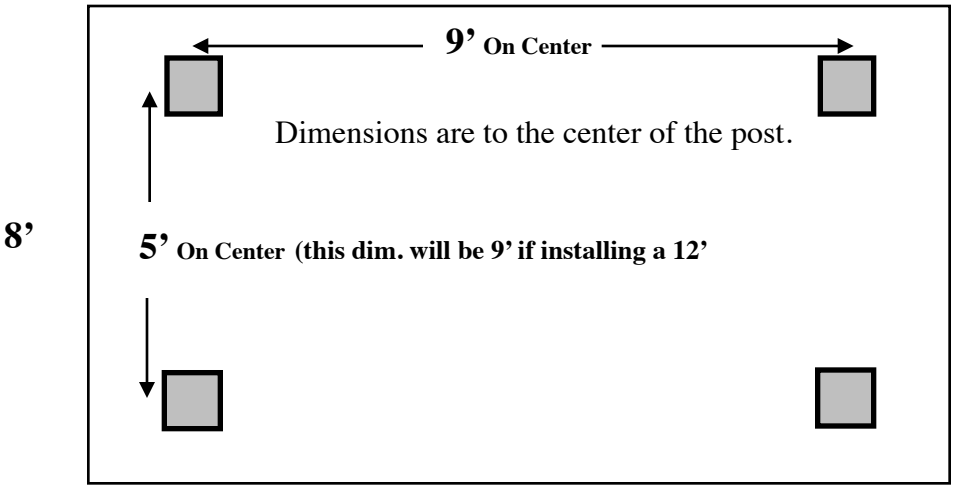
Portland Willamette Spa Kit
Installation Instructions

8x12 Unit
12x12 Unit

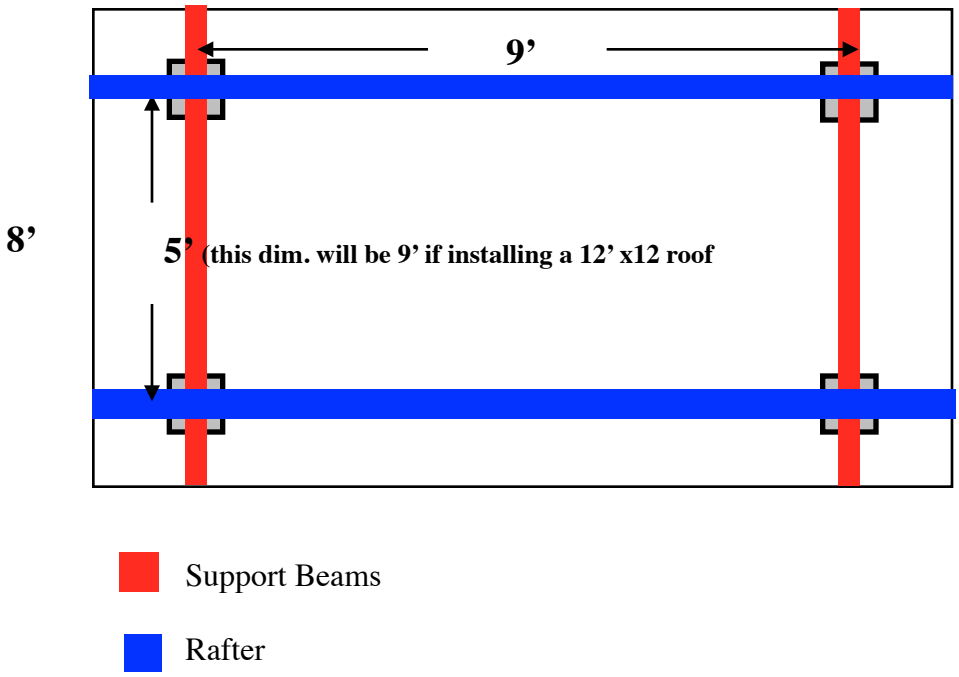
SUGGESTED LAYOUT

Suggested post placement

12’



Rafter & Support Beam layout



Before you begin……

It is recommended that you spend a few minutes reading through these recommended steps instructions and familiarize yourself with parts and sequence of assembly.

There are several boxes of parts, be sure there is no damage to any of the boxes.

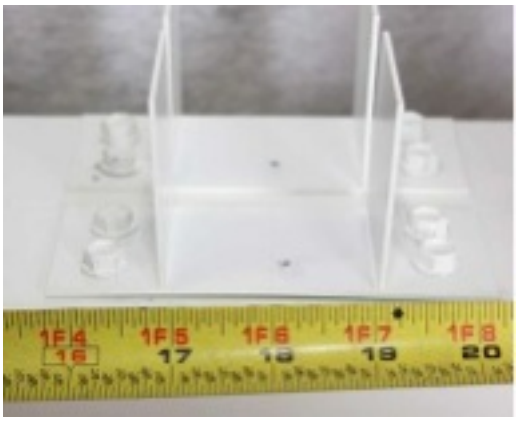
You will need these items:

6x6 plastic junction box for motor control box and power supply.
Wire mold to hide wires.

During construction, consider where you might run the wiring for the electric motor. If you run wires through the shapes, you will need to drill extra holes.

Installing Rafter Brackets On The Support Beam

1. Open boxes labeled Beam, and in the box is a small package of parts. These are the rafter brackets that need to be installed on the support beam.



2. Remove those parts and lay them on solid work surface, like a saw horse.

3. Install rafter brackets on the support beams at both ends. Locate the bracket 18 inches from the end of each beam to the center indented line on the rafter bracket. Attach with 4 self tapping screws per photo (right). It is best to lay the two beams side by side with the ends flush. This way you can be sure that the brackets are aligned and in the same place on both beams.

4.Keep the bracket straight and centered on the beam. Do the same to the other beam, keep all brackets in line with each other.

NOTE: If you are installing the 12x12 roof, your will have 3 rafters. One will have a pre-drilled hole for the motor. This rafter will need to be installed in the middle of the other two. If this is the case you will have another set of rafter brackets. A three rafter (12x12) configuration will require a rafter bracket in the center of each support beam.

Installing The Post Gusset Bracket.

1. **Open boxes** labeled post and open the boxes that are labeled gusset kit. The gusset kit has four (4) brackets and each have two pre-drilled holes. Attach the bracket with the self tapping screws to the posts with matching holes. One gusset bracket per post.
2. **Stand the post** and determine your optimum roof height. The posts come 10 ft. long and can be cut with a chop saw that has a metal cutting blade. Overall roof height will be 12” higher than determined post height.

Standing The Posts And Attaching The Support Beams.

1. **Insert the post with the large slots on top into the post base**. The slots should be facing each other and on the short side of the footprint layout if this is a 12x8 roof. Keep in mind the rain runoff from the roof will be the same direction as the support beams. If the post cannot stand by itself, you will need another hand or some other way to hold the post upright. Note that the 5” Deluxe post slides over the mounting plate sleeve and that the mounting plate is different than the 3” post mounting plate. Be sure to slide the decorative post cover over and onto the post and tape in place above the mounting plate. before other assembly. The decorative trim will slide over the mounting plate after installation. Do not bolt the posts to the mounting plates at this time. **(DO NOT ANCHOR THE POST MOUNTING PLATES AT THIS TIME)**

2. **Place the support beam into the slots** so the bracket that you attached earlier is directly above the post (this is critical). Adjust the location of the post bottom so the post itself is plumb vertical and the post is directly under the bracket.

3. **Drill the support beam through the post pre-drilled holes** in the post with a 3/8” drill bit. When you have one hole drilled, insert one of the 4” bolts (4 1/2” bolts if using the Deluxe 5” posts) into the hole to keep the two parts aligned. Drill two holes through one side of the post. Do not drill all the way through the post. When you drill the first hole on the other side, insert the bolt all the way through the first hole before drilling the second hole.

4. **Assemble the post and beam** with the 4” bolt, (4 1/2” bolt if using the Deluxe 5” posts.) washers under the bolt head and lock nut. Tighten the nuts so it is almost snug, leave a little room to finish tightening once the roof is installed and working smoothly. Repeat for other posts.

Preparing The Rafters For Installation.

1. **Unpack the rafters and put them on a work surface.** These are the parts with the moving brackets and will have some other parts packed inside. Be careful of these sliding out as you unpack the rafter.

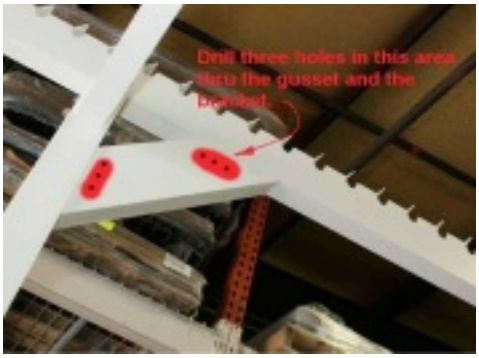
2. **Use the 8" square pin to check alignment for all of the rafters.**Put the rafters together (side by side) on a flat surface, making sure rafters are facing same direction. Go ahead and run a file inside the square parts in case there are burrs. Do not force the square shaft through, it should be a slide fit. When the shaft is all the way through the brackets should be inline and you should be able to twist the shaft and make all of the parts rotate.

Installing The Rafters.

1. **Place the rafters inside the brackets located on the support beams** centered over the posts. Center the rafters so the overhang is the same on off both posts. Do not screw the rafter to the bracket. **IMPORTANT:** If you ordered a 12x12 cover one rafter is drilled to mount the motor. This rafter must be installed as the center rafter.

Installing The Post Gussets.

1. **Measure to locate gusset bracket position on rafter for installation**. Place short gusset against post over previously attached gusset bracket and beam, making a pencil mark at the end of each gusset on rafter. Mill finish gusset bracket is mounted 2-1/2" below pencil mark on rafter. Remover gusset and mount gusset brace on bottom of rafter. (recommend pre-drilling gusset brackets with 2 holes, 3/16” drill bit, for easier installation). Slightly lift the rafter up and place gusset over brackets. Then, lower the rafter back into position. Attach the gusset bracket using the self drilling screws. Do this for all posts so in the end you have four gusset brackets installed under the rafters, one at each post.

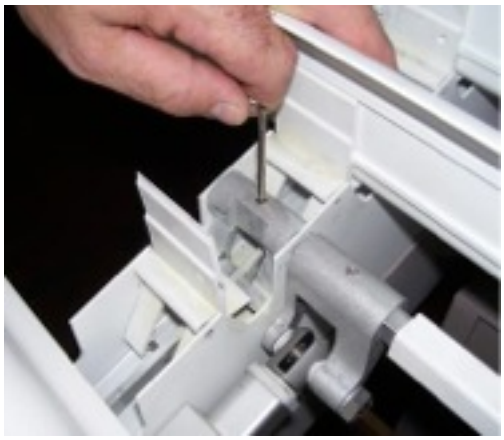


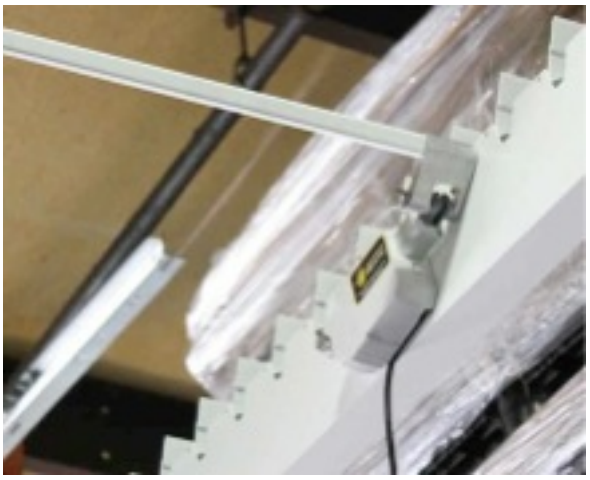
2. **Install the painted gusset over the two gusset brackets**, one is on the post, the other gusset end is positioned under the rafter. Lift the rafter up to fit the gusset onto the brackets. You will need to tap the gusset into place so it is flush against the post and the bottom of the rafter. Drill holes and insert 3 screws to attach the gusset to the bracket. Make sure the gusset is flush at both ends.

Installing The Motor

1. **Install the motor on the rafter with the drilled hole**. When installed, the motor label should be visible. Before attaching motor, turn the end of the motor shaft tight, then back it out ¼ turn. **IMPORTANT:** When connecting the motor, the louver brackets in the rafter must be in the fully open and the motor shaft should not be extended. Roof open, motor shaft in. Insert the plastic grommets into the pre drilled hole, use the long bolt and nut from the box with the motor and controller. Tighten snug, not too tight. The motor should still swing, but should not rattle. Slide the square shaft through the motor bracket, all the way through the rafter so it sticks out of the

rafter on the other side about 1”. With a small allen wrench and the ¼- 20 set screw, tighten the two screws to the square shaft so it cannot slide out. Motor side only.





Installing The Connecting Rod(s)

1. **Install the painted connecting rods to the square pins between the rafters**. The connecting rod will need to be cut to a shorter length depending on your installation. (about 1/2” resulting in a difference of 1/4” at each end.) Measure from the outside dog-bone to the inside of the other rafter, near the square hole. Deduct about ¼” from that measurement. Cut the connector rod. Use a small flat file on the inside of both ends of the connecting rod to removed burrs and sharp edges from the cut. This will make it easier to slide on to the square shaft that connects the rods through the beams. Your connecting rods should be straight across the width of the roof. When it is on both square shafts, tighten the small ¼-20 set screw on the other side away from the motor.

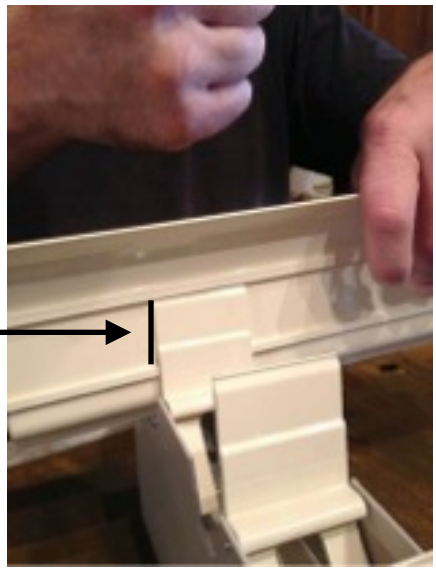
Wire The Motor.

1. here are several ways to hide the wiring, you can fasten to the outside of the aluminum with wire molding, or drill into the rafters and run the wire inside the hollow beams and rafters.
2. Remove the back from the remote Receiver. You will notice two light green blocks with screws. Locate the one with only two screws. Loosen the screws. Run the leads from the black motor cable through the provided hole.
3. Attach the blue wire to the positive and the black wire to the negative.
4. Plug the white power supply cord into the RCA connector and be sure it is seated in the provide slot.
5. Snap the back onto the remote Receiver.

Note: The power supply and remote receiver can be hidden in a conveniently located outdoor junction box.

Install The Louvers

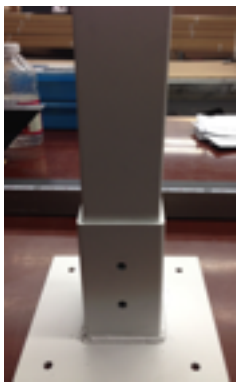
1. **The louver is designed to snap onto the bracket** in the rafter. Put the louver on the tip of the bracket, the two pieces should be flush with each other. The louver is easily popped on with your hand or rubber mallet. The louvers will go on easily if the rafters are straight and square with each other. Note: Before installing the louvers you can place a pencil mark on the underneath side of each louver locating the where the louver is to be placed in the louver bracket. This will insure that all of the louvers will have the same overhang in the most simple fashion.



2. C**ycle the roof open and closed several times after the louvers are all installed**. Now that the louvers are installed, it's time to cycle the roof open and closed several times in order to make sure the rafters and connecting rods are in proper alignment. Operating the roof will eliminate any kink in the assembly. When the roof is opening and closing smoothly, proceed with screwing the rafters to the rafter brackets. Do not move these rafters after cycling the roof. If the rafters are moved, cycle the roof again before screwing the rafters to the bracket

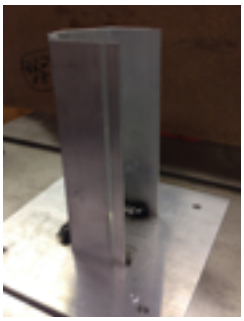
Anchor Post Mounting Plates

1. If anchoring to an existing slab, you can use 3/8” diameter Hilti Kwik Bolts, at least 3” long. Once the roof is installed, plumb all posts straight. Then, drill through the mounting plate into the concrete slab, deep enough to insert the bolt. Use a 1” diameter washer under the nut.
2. If mounting to a wood or composite deck, use a 6x6 , fit in between the floor joists under the deck. Drill through from the top into the 6x6. Use 4” long lag bolts to fasten the post base to the deck. Use a 1” washer under the head of the lag bolt.



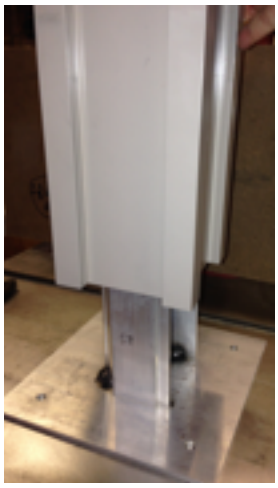
Attaching Posts To Mounting Plates

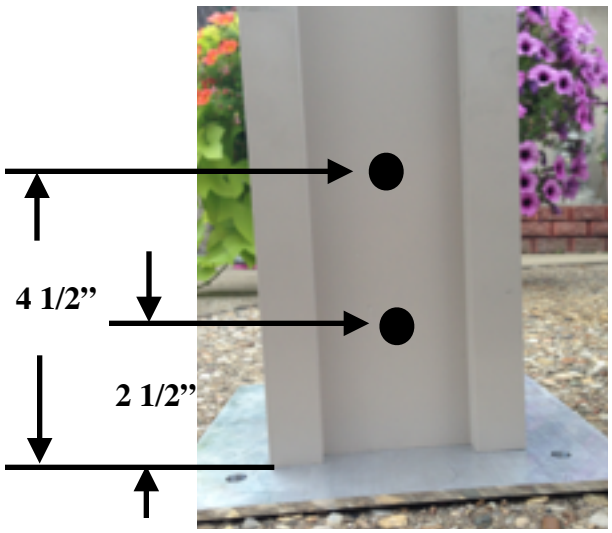
1. If using 3” post, drill through the post using the holes in the mounting plate as a guide. Do not try to drill all the way through and out the other side of the post. Drill four separate holes (2 on each side) using the mounting plate as your guide. Then, run two 4” bolts through the holes drilled and attach to the mounting plate.



2. If using Deluxe 5” Posts, the post will slide over the mounting plate Sleeve.

Notice that the mounting plate only has three sides. You will want to make sure when you drill the bolt holes that you drill through two sides of the mounting plate. To attach the 5” post to the mounting plate drill one hole in the center of the post, 2 1/2” from the bottom. Drill a second hole in the center of the post 4 1/2” from the bottom. Do not try to drill through the other side. Mark and drill the other side of the post in the same locations.





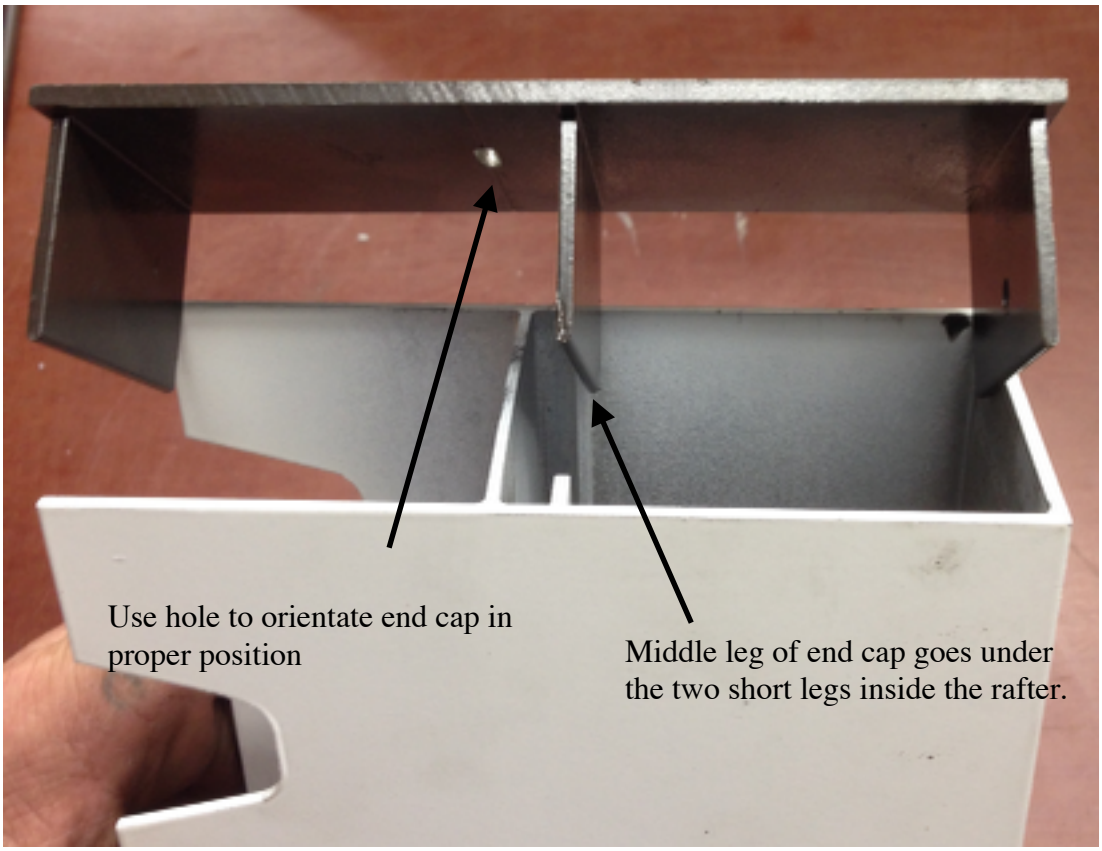
3. Run the bolts through and fasten using the low profile nuts that are included.

4. Next, place the inserts in the posts over the bolts. There are four inserts, one for each of the four sides.

5. Lastly, un-tape the the post trim and slide over the inserts and position so it covers the mounting place plate.

Additional Steps

1. Tighten gusset screws.
2. Tighten post and beam assembly bolts.
3. Bolt posts to mounting plates using 4 1/4” long bolts. (4 1/2” long bolts if installing 5” deluxe posts)
4. Install end caps in support beams. Hole in end cap should be located at bottom (see below on how to properly align flat end caps on rafters)
5. Pergola style end caps slid over ends of support beams and/or rafters. Used provided screws to permanently attach.



CAUTION – MAKE SURE THE LOUVERS ARE NOT OPERATED WHEN ICE OR SNOW OR ANY OBSTRUCTIONS ARE PRESENT BECAUSE DAMAGE WILL OCCUR.

8x12 Louvered Spa Cover
Parts List

2 - 12 ft. Rafters (3 -12 ft. rafters come with the 12x12)
2 - 8 ft. Support Beams (12 ft. if you ordered the 12x12)

2 - 3” standard post kits **Note:** Post kits are ordered separately (5” Deluxe post kits are available)
Each Kit Includes:
2 posts and 2 mounting plates
4, 4” bolts for attaching to post base plates
4, 3 1/2” bolts for attaching support beams to post.
(Two post kits are required for 4 posts)

5” Deluxe Post Kits include:
2 - 5” Deluxe post and 2 mounting plates
2 - trim kits
8 - Post Trim Inserts (4 per post)
8 - 4 1/2” bolts for attaching posts to mounting plate and attaching support beam to post.

43 - Louvers
4 - Gussets and 8 gusset brackets
8 - Flat end caps (standard) (10 if you ordered the 12x12)
1 - Motor
1 - Remote
1 - Remote Receiver
1 - Power Supply
2 - Connecting Rods (3 comes with the 12x12)
1 - Touch up paint pen
1 - Bag of painted screws

Suggested Tools That Will Be Needed

Drill and drill bits
Masonry (hammer) Drill and Masonry Drill bits
4 ft. Level
Rubber Mallet
Tape Measure
Hammer
Chalk Line
6 ft. step Ladder
Chop saw with a metal cutting blade
Pencil
Wrenches or socket set
Metal File