

## INSTALLATION INSTRUCTIONS WOODEN PERGOLAS

(Treated Pine and Cedar)



Shown above: 12x12 Treated Pine 2 Beam Pergola

### CLASSIC PERGOLA – FREESTANDING MODELS

#### **Components:**

**Posts** - Minimum of 4 – may be more for larger pergolas

**Post Brackets** – Stainless Steel, includes Wedge bolts – one bracket for each post

**Post base trim** -Assembled - 1 per post

**Beams** – A 2 beam pergola actually has 4 pieces. The beams sandwich the top of the posts so there are two 2x8' on each side. On longer pergolas, the beams may come in 2 pieces and need to be spliced over the middle post(s)

**Runners** – Number varies by size, spaced approximately, 16" o.c.

**Top Runners** 2x2s – Number varies by size, standard spacing is 16", closer spacing is optional.

**Corner Braces.** There are 8 if there are 4 posts. There are 2 different braces. There will be additional braces as well, with additional posts.

**Hardware.** See the parts list that comes with the pergola for quantities on each component. Kit includes a #2 square head bit for use with screws provided.

**Additional options** Lattice, walls, etc. Are not in this booklet, but will have additional pages added.

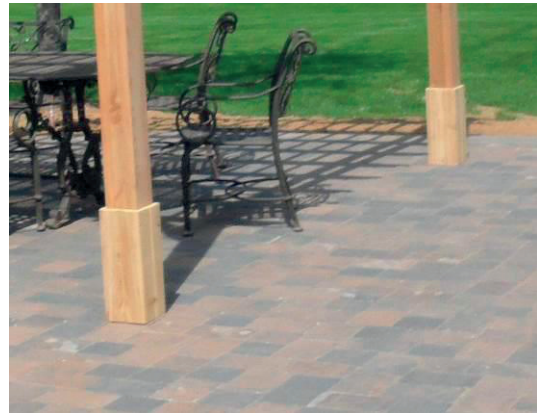
**Tools needed:** Ladder, Level, Tape Measure, Drill or Screw Gun. If attaching to concrete, an impact drill may be needed for drilling into the slab with a ½" masonry bit.

### ***Section 1 – Pergola Base***

1. Ideally the pergola should sit on a level concrete or wood base. This can be a full slab, or footers that are poured specifically for the pergola. If installing on a deck be sure that there are supports (joists) directly under the posts of the pergola.
2. If the slab is an existing one, be sure that the post will be on a solid spot. If the thickness of the slab is 6 or more inches, no additional work should need to be done. Be sure to position the posts so that they are a minimum of 4 inches from the edge of the slab to the middle of the posts, to prevent cracking.
3. If pouring a new slab, it is best that the slab at is least 12" wider and longer than the stated size of the pergola. Our pergola sizes are to the outside corners of the posts, for instance, a 12' x 16' pergola ideally should be on a slab that is at a minimum of 13' x 17'. When pouring the slab make sure that the slab is thicker under the location of the posts. (minimum is 12" or to local codes if applicable)
4. If pouring individual footers, Sona-Tubes can be used. (as shown at right) It is important that the tops of all footers (4 or 6, depending on the size of the pergola) be level, and at least larger than double the size of the post. For example, if the posts for the pergola are 5x5s, the footer should be 10 to 12" in diameter. This allows for sufficient strength and also for a "margin of error." The posts do not have to sit perfectly on the center of the footers. The depth of the footer should be a minimum of 12" deep, or to your local code.



5. If the patio is made of something other than concrete, it may be necessary to remove the bricks or patio stones and set the pergola on a concrete footer. Patio stones can be reset after the pergola is installed, by butting them to the post and setting the post base on top to give a finished look. (At right). On stamped concrete, follow the instructions as with plain concrete.



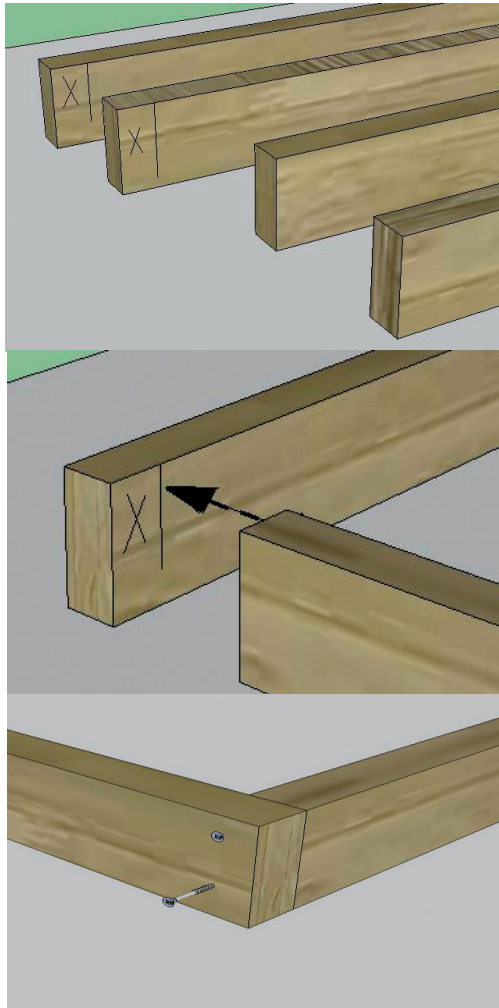
6. If setting the pergola on a wooden deck, be sure that the base is anchored to the deck understructure or joists, and not simply to the decking boards. Attach using a 4" long lag bolt instead of the wedge bolt. (lag bolt not included). If there are no joists or band boards where the posts will set, blocking between the joists may be needed.



With proper planning, the posts of the pergola can be used for attaching railings for the deck, as shown.



## Section 2 – Posts

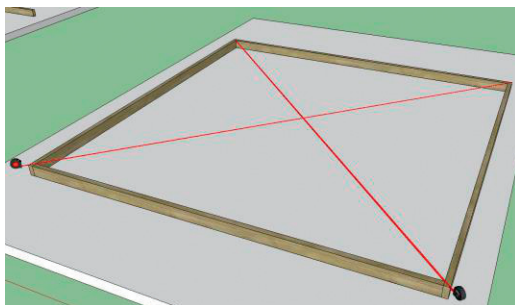


### Setting up the template:

1. Your pergola kit includes a wooden template that is used to mark your post locations. Notice that two of the 2x4 boards have a marking near the ends. Build a box that will reveal the outside corners of the posts when properly placed.

2. Arrange the template pieces so that they are positioned in the exact location of where the pergola will be placed. The boards with the marking on the end will be across from each other. The marks will show where the other boards will be attached to create this box.

3. Connect the corners of the template pieces by driving two 2 ½" screws through the side of the template boards.



4. When the template is in position, square the template. Do this by measuring diagonally from one corner to its opposite corner, then measure diagonally between the other two corners. These two dimensions **MUST** be the same. Adjust the template until the diagonal measurements are identical.



5. Once the template is “square,” mark the post locations using the **INSIDE** corners of the framed box on a concrete slab with a pencil. After all the post locations are marked on the concrete slab, remove and set the wooden template aside.

6. Set the Brackets: The brackets are stainless steel. Next, drill a hole into your concrete footer or slab. Using a ½" masonry bit, drill a 4" hole through the center of the large hole in the middle of the post base. Make sure all of the concrete dust is cleared from the hole. Use a vacuum if needed. Add the washer and put the nut on the bolt so the threads are just above the nut. Do not set the bolt too deep in the hole, as this will also protect the threads should it need to be tapped with a hammer. Tighten the bolt, and the base of the bolt will expand. If installing the pergola on concrete, use the supplied wedge bolt. If attaching the pergola to a wood deck, use a 4" lag bolt (not included) instead of a wedge bolt.

### *Section 3 – Anchoring Brackets*

13. Once fully inserted, tighten the nut until snug. This causes the bottom of the wedge bolt to expand. DO not tighten fully yet. Install all wedge bolts. If the template is kept in place, tighten the wedge bolts fully, as the template insures that the brackets are in line with each other. If the template was removed, use the edge of the template to make sure the brackets are aligned and then tighten.



*On wood deck-* Use the same technique as above, but instead of the wedge bolts, use a 4" lag bolt, with a washer. It is not necessary to pre-drill a hole when using a lag bolt into wood. For added stability, add a 3" deck screw in the 4 smaller holes in the bracket base, once the brackets are aligned.

#### ***Section 4 - Setting Posts***

14. Slide the post bases - either the standard 16" tall bases or the 36" deluxe base trim. (shown) Do not attach the bases to the posts yet. Move the bases up on the posts so to have access to attach the brackets in the next step.
15. Be sure that the tops of the posts have the notches running the same way, and slide the posts into the brackets. If needed, cut the bottoms of the posts for leveling being sure that there is a hole in the bottom of the posts. This allows the post to sit flat on the bottom of the bracket and not be held up by the bolt and nut of the anchor. Drill the hole in the bottom of the post as needed.
16. The bottoms of the posts have 45 degree cuts, which remove the corners. Insert each post into the bracket, making sure that the notches at the top of the posts are aligned correctly. Be sure that the posts sit flat on the base of the bracket. If not, the anchor bolts may not be fully set. The bottom of the base has a hole that the bolt is to fit into. Use a drill to make the hole deeper so the bottom sits on the bracket base without resting on the top of the bolt. Using 2½" stainless steel screws, attach each of the posts to the brackets. (12 screws per posts)
17. Slide the post bases all the way down. Do not attach the bases to the posts yet.



### Section 5 - Setting Beams

18. If using the original post locations, a line is drawn on each of the four 2x8 beams. This is a mark that will align with the outside edge of each post as shown. If the posts are moved, they will need to be measured at the bottom where the outer edge of the beam will be located. Simply set the beams against the bottom of the posts (above the bases) and measure to make sure that both ends extend beyond the posts by the same distance. Use the dimension on the first post and transfer the new line to the other 3 beams. Be sure that the new line is the same distance on all the beam ends from the factory marked line on the beam. Erase the original line using an eraser, or lightly sanding.



19. A helper (or two) will be needed when setting the beams. The marks will face the posts. Lift into place, setting in the notch at the top of the post, and make sure that the ends over hang the same on both ends. Attach using one screw on each post for now. (more will be added later) Repeat with the other side of the post, and make sure that the ends are aligned.



Using 2½" screws  
4 per side

20. Measure the distance from the ends, and do not align visually. Even the slightest difference will not allow the runners to sit in the notches on the top of the beams. When all 4 beams are in place, test to make sure all the runner notches are aligned.



NOTE: If the pergola is longer than 16 feet, set a total of 8 beam pieces. The flat ends will butt together in the center of the middle beams. Attach to the post with 3 screws on each side of the seam. When testing the notch alignment, add runners at the notches on either side of the middle seam.

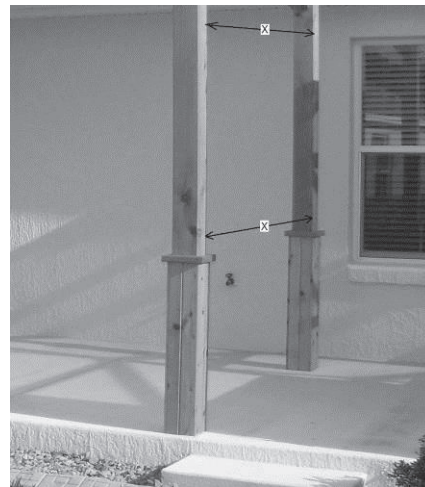


21. Now you would be ready to install the return beams. These go in between the header. Keep it flush on bottom of 2x8 header center of post. Attach it with 4 3½" screws.



### ***Section 6 - Setting Runners***

22. Use a level to insure that the posts are parallel with the other posts. Check that one of the posts is plumb. Measure the distance between the posts at the bottom, by sliding the post base up and measuring the distance at the bottom of the post. Be sure that the posts are the same distance apart near the top. Double check all posts with the level before attaching runners.

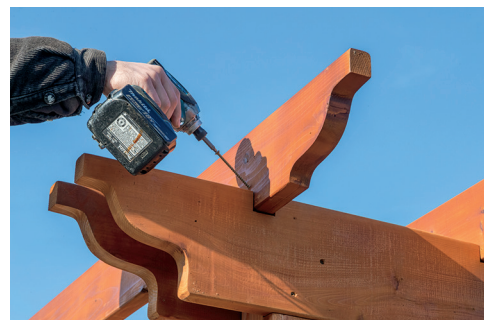


23. A helper may be needed to hold the posts in place when positioning the first runner. Make sure that the overhang is the same on both ends of the runner. Measure from the beam to the end of the runner, or to the beginning of the scroll cut on both sides. (as shown to the right) Slide the runner until the overhang is the same on both ends.



24. Attach one side using a screw on an angle as shown. Attach each runner to both beams on each side.

Using 3½" screws  
4 per runner



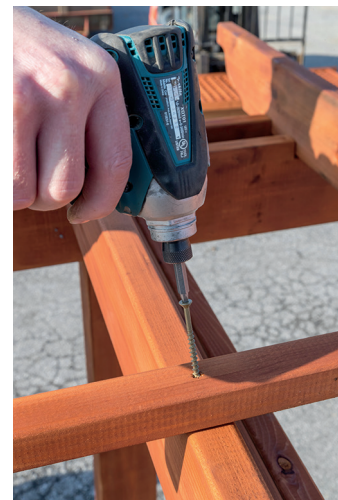


25. Check the other side of the runner.  
Be sure that the posts are plumb and the overhang is the same. Attach with another screw. Repeat this on the opposite end of the pergola, making sure that the overhangs are the same as with the first runner. Set the remaining runners in place and attach each of the runners to the front beam, while measuring each overhang. Repeat on the opposite beam. Be sure to check the overhangs on the back beam.



### ***Section 7 - Setting Top Runners***

26. Notice that there are marks on top of the main runners where the top runners are to be attached. These markings are about 16" on center, or another dimension if the pergola was ordered with additional top runners. There are also markings and pre drilled holes on each of the 2x2 runners.
27. Set the top markings on the centers of the runners, attach with 2½" screws. Check that the overhangs are the same on both sides of the top runners.



On longer pergolas, the top runners will be in two pieces. They are cut so that when properly positioned the overhangs will be the same. You will want to position all the runners so that they are correctly positioned before attaching them.

### ***Section 8 - Corner Braces***

28. There will be 8 corner braces. 4 of them will be larger. These will go up in between the 2x8 headers. The smaller ones will go right underneath the return beams.



29. Attach the braces with 4 6" black head screws. Finish all four braces.



33. Get the other braces and slide them up between the headers. Push them up until the bottom of braces are lined up.



34. When in position, attach to the posts with the black screws as in the previous steps. Next attach the beam from the inside with four screws as shown

Using  
2½"  
screws  
4 on  
each  
side

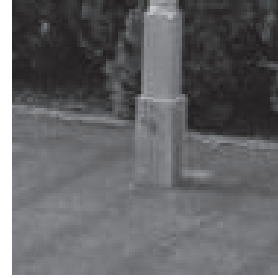


35. Repeat on the other three corners. If the pergola has middle posts, only the braces that go between the beams are needed. Measure down from the beam to the bottom of the brace on the corner braces, and set the middle post braces at that same height.



### *Final Touches*

- 36.** Attach the post bases to the posts with one 2 ½" screws on each side.  
Note: since the trim pieces are resting on the slab or footers, this step can be skipped attaching them to the posts if needed.



If additional options (Lattice top, privacy panels or corner lattice) were ordered, a separate sheet of instructions is included.



