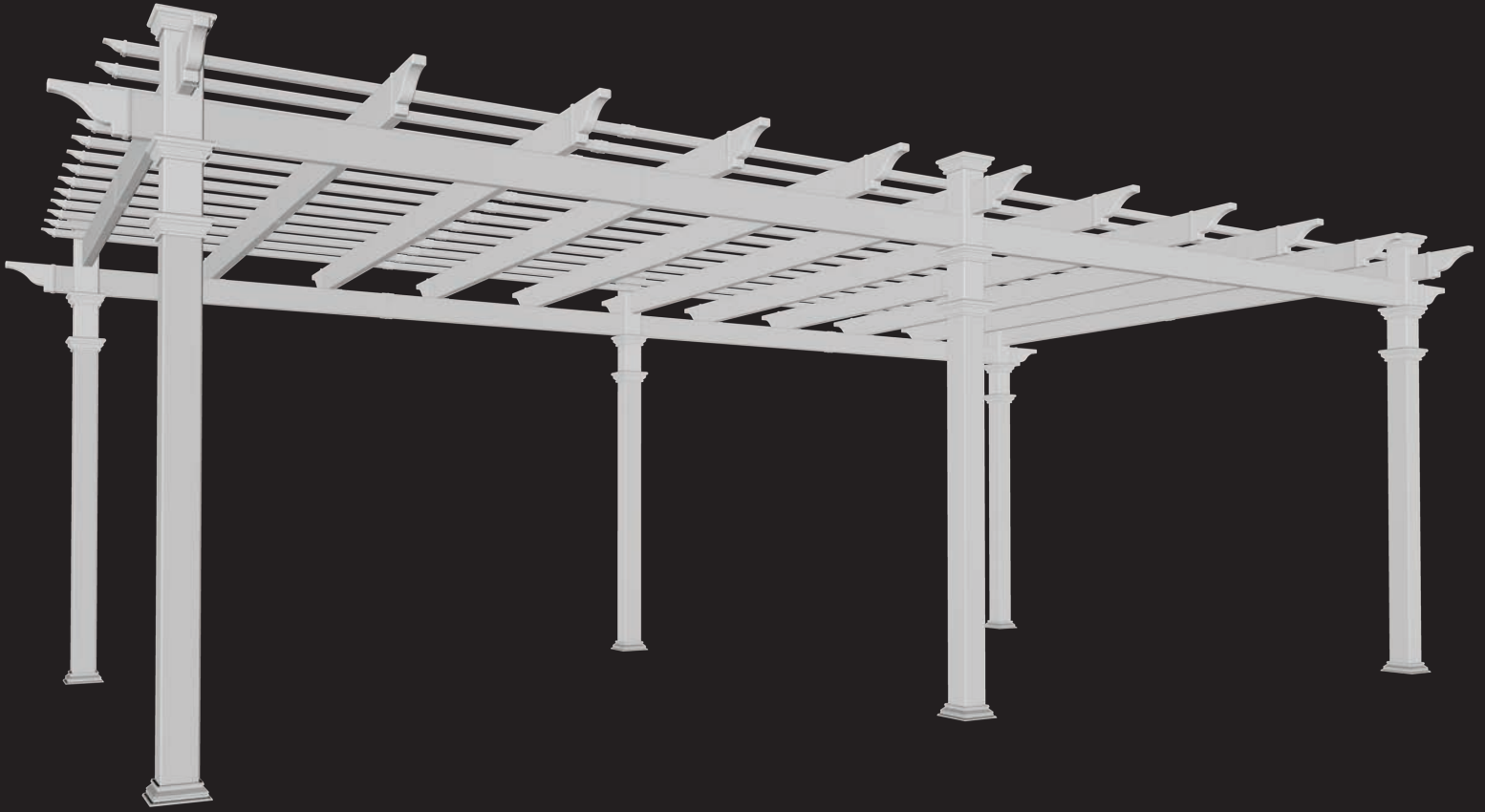


# 12 x 24 Grande Flat Top Pergola



## ASSEMBLY GUIDE

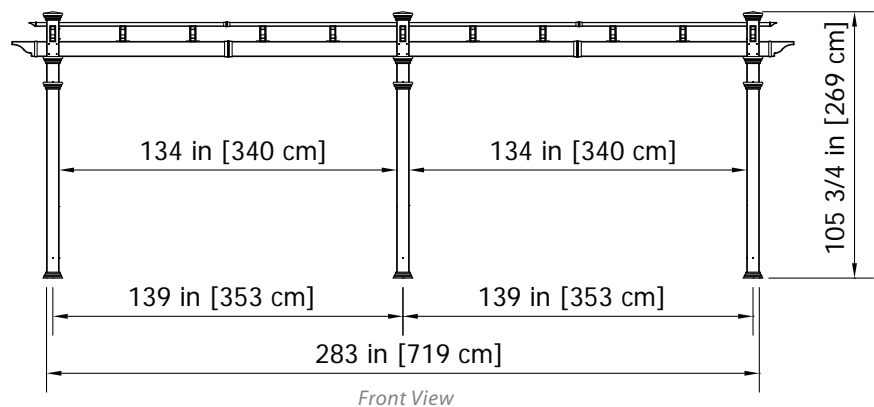
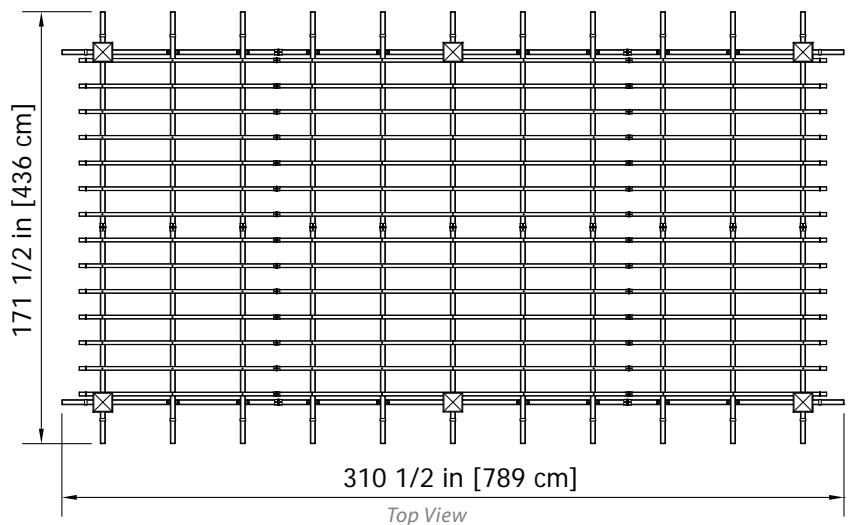
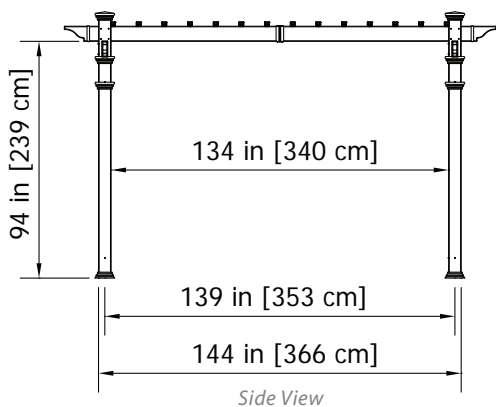


# Table of Contents

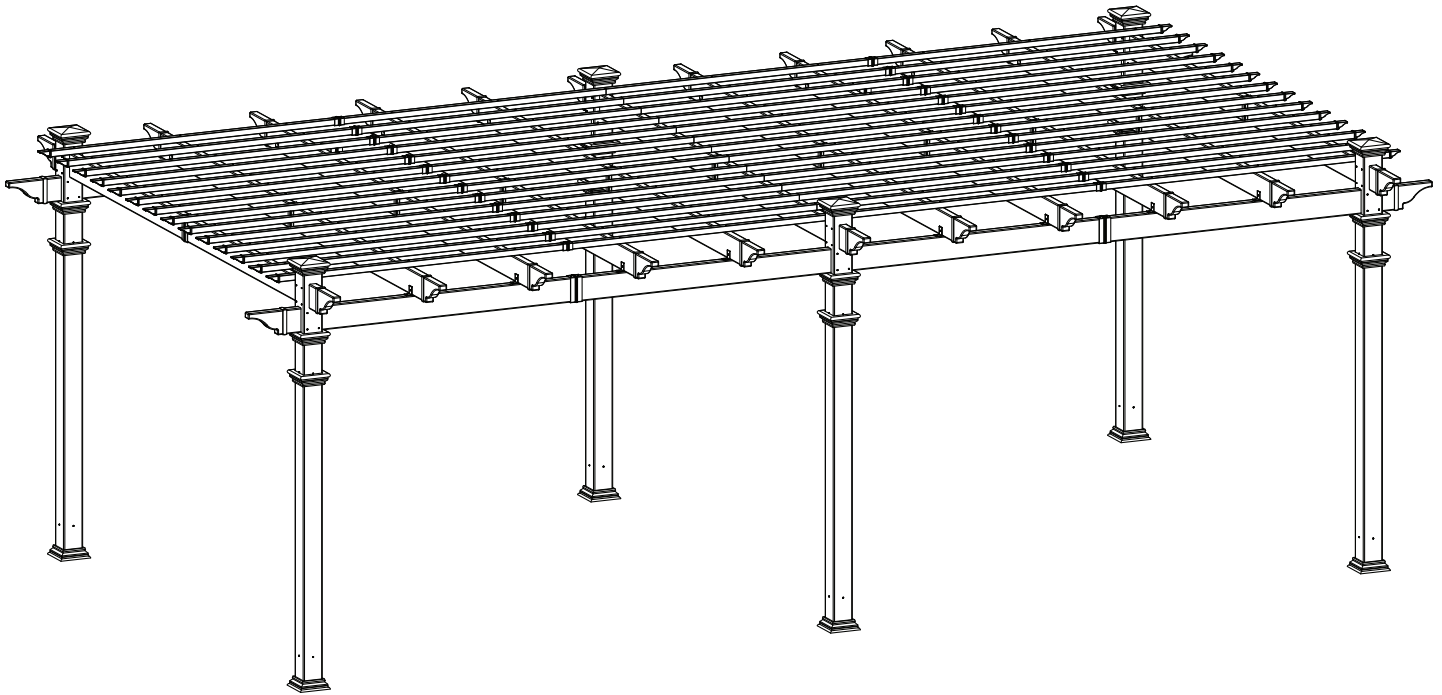
## 12 x 24 Grande Flat Top Pergola

PAGE

Introduction & Overview.....	3
Pergola Materials Overview.....	4
Pergola Materials Breakdown.....	5
Pergola Additional Materials List.....	6
Wood Post Layout & Installation for In-Ground Application.....	7
Wood Post Layout & Installation using Bolt Down Post Brackets for Concrete or Wood Surface.....	8
Vinyl Column Assembly and Installation Over Wood Posts.....	9
Rafter Assembly.....	10
Main Support Beam Assembly.....	11
Main Support Beams & Rafter Placement.....	12
Fastening End and Post Caps.....	14
Shade Slats Assembly.....	15
Shade Slats Installation.....	16



## Introduction & Overview



### Getting Started

First off, allow us to say thank you for the investment you have made in one of our fine pergola kits. This kit is designed to be assembled and installed ideally by two people with basic carpentry knowledge and tools. Do not attempt alone, especially during the installation stage. Should you decide to moderately modify the dimensions of your pergola from the standard kit size, a circular saw with a sharp fine-tooth blade is all that is needed to cut, shorten or modify the vinyl components. When assembling components place on a non-abrasive surface (ie: shipping box) to avoid scratching. We recommend a 15' x 15' area for unobstructed assembling. You should not need to use excessive force when assembling any components.

### Planning & Preparing

This Pergola is made to stand independent of your home and you can either locate it near your house or let it stand alone in the garden. By keeping it unattached from your home you will not have to deal with moving existing gutters or matching eave heights. If you plan to build your pergola close to the house, please keep the outer extremities of the pergola a minimum of 4 inches back from your eaves.

What looks like the toughest part of this project is actually the easiest, the graceful, solid-looking columns. We've designed these columns to simply be slipped over treated 4x4 wood posts that are either embedded in concrete or directly mounted to a concrete or wood surface using our bolt down brackets. See pages 7, 8 and 9 for more details.

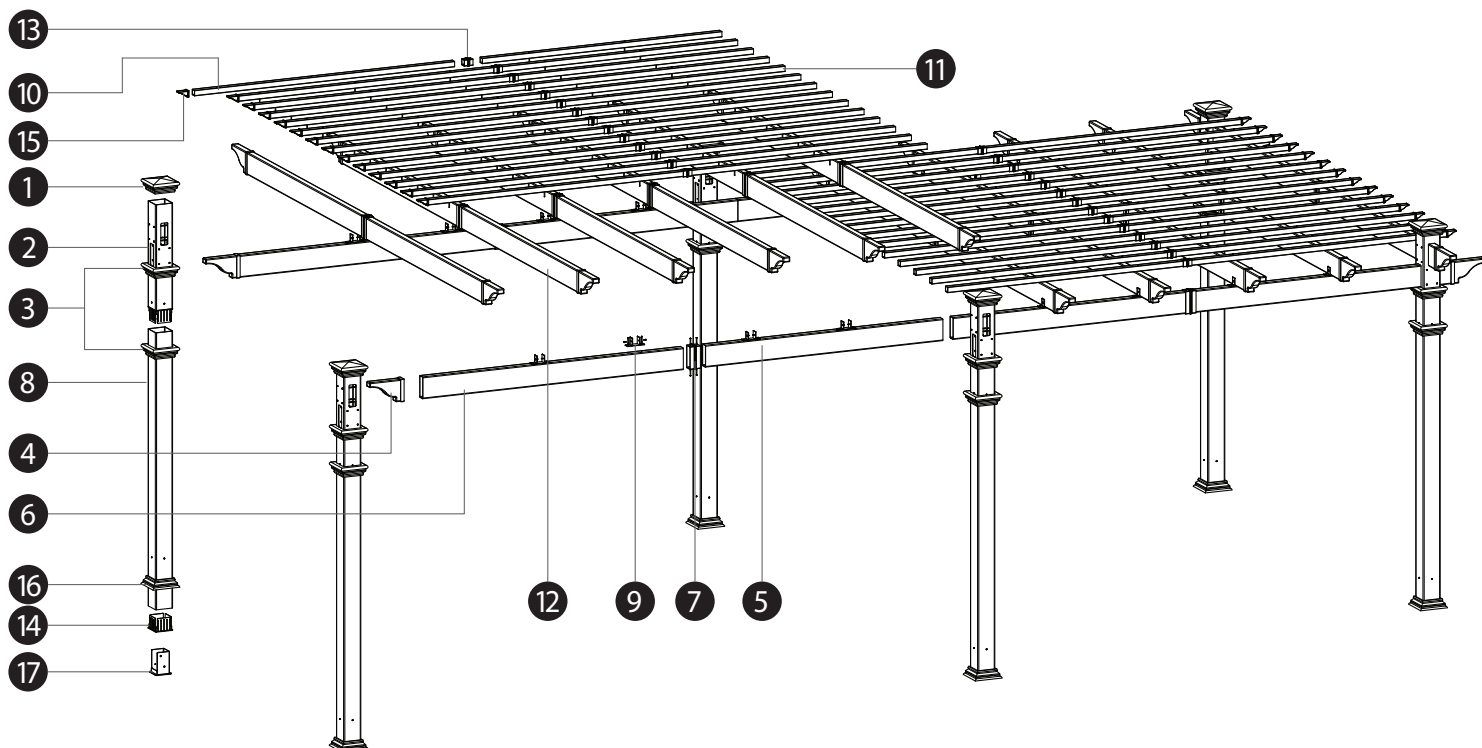
It is critical before you start that you consider the current slope of elevation where the pergola is planned - if there is any. Also utility or sprinkler line location is important to identify prior to excavating holes if necessary. You should also check to verify local building codes, ordinances, neighbourhood covenants, or height restrictions regarding this type of structure.

### Restriction of Use

*This product **is not** designed to carry additional weight loads such as swings, people or other objects.*

**Please take the time to read this instruction guide thoroughly prior to the construction of your pergola. If you have any questions, feel free to contact our technical dept by calling 1 800 282 9346 (Mon to Fri 8:00 A.M to 4:00 P.M. EST).**

## 12 x 24 Pergola Materials Overview



1. Post Caps (6) - 10699-1
2. Main Column Tops (6) - 10826
3. Post Trims (12) - 10698-1
4. Rafter & Main Support Beam Decorative End Caps (26) - 10829
5. Main Support Beams - Inner (4) - 10917
6. Main Support Beams - Outer (4) - 11127
7. Main Support Beam & Rafter Joiners (15) - 10820
8. Main Column Bottoms (6) - 10816
9. Rafter Brackets (16) - 10827
10. Shade Slats - Long Outer - 10819 (28)
11. Shade Slats - Short Inner - 10718-1 (28)
12. Rafters (22) - 10818
13. Shade Slat Joiners (28) - 10600-1
14. One Way 4"x4" Internal Wood Post Guide (6) 10696-1
15. Shade Slat Decorative End Caps (28) - 30030-1
16. Post Base Trims (6) - 10916
17. Bolt Down Brackets (6) - 80054

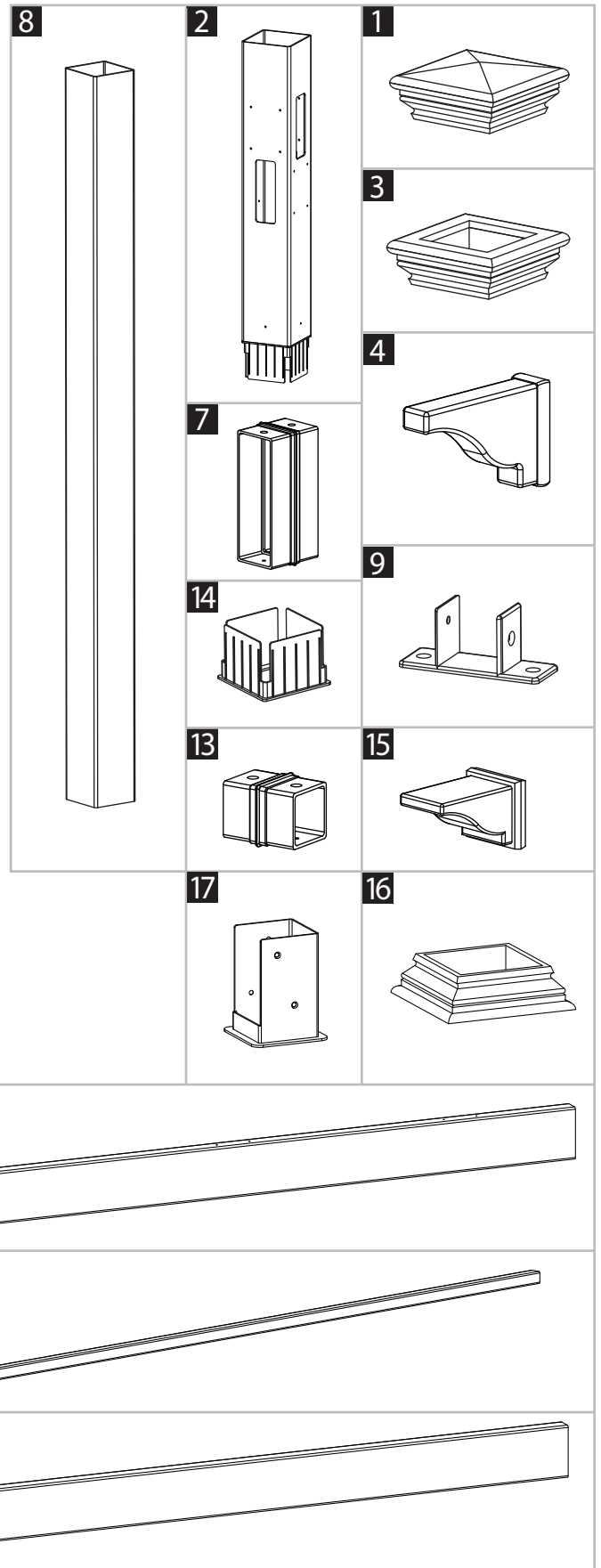
# 12 x 24 Pergola Materials Breakdown

## Check Boxes (Total of 9) for These Contents

In the event of missing or defective parts please call our customer service dept. at **1 800 282 9346** (Mon. to Fri. 8:00 AM to 4:00 PM EST).

1. Post Caps (6) - 10699-1
2. Main Column Tops (6) - 10826
3. Post Trims (12) - 10698-1
4. Rafter & Main Support Beam Decorative End Caps (26) - 10829
5. Main Support Beams w/ pre-drilled holes - Short - Inner (4) - 10917
6. Main Support Beams w/ pre-drilled holes - Long - Outer (4) - 11127
7. Main Support Beam & Rafter Joiners (15) - 10820
8. Main Column Bottoms (6) - 10816
9. Rafter Brackets (16) - 10827
10. Shade Slats - Long - Outer - 10819 (28)
11. Shade Slats - Short - Inner - 10718-1 (28)
12. Rafters (22) - 10818
13. Shade Slat Joiners (28) - 10600-1
14. One Way 4"x4" Internal Wood Post Guide (6) 10696-1
15. Shade Slat Decorative End Caps (28) - 30030-1
16. Post Base Trims (6) - 10916
17. \*Bolt Down Brackets (6) - 80054

\* Bolt Down Brackets are used only for installing the pergola on an existing surface such as concrete or wood deck. The pergola is not to be installed on concrete pavers, patio stones, or interlocking brick.



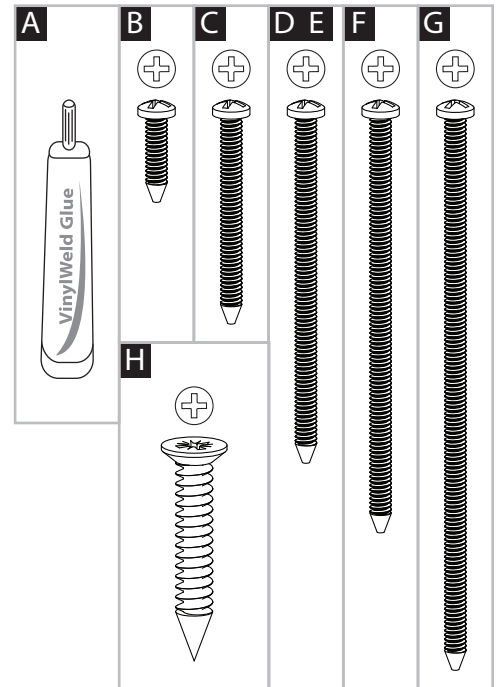
Not to Scale

# Pergola Additional Materials List

## Hardware *(in plastic bags)*

All Screws Included with this Kit are Self-Auguring.

- A. Vinyl Weld Glue (6) - 20000
- B. 5/8" Self-Auguring Stainless Steel Screws (32) - 20016 *(to secure rafters into rafter brackets)*
- C. 1 1/2" Self-Auguring Stainless Steel Screws (92) - 20005 *(joiner screws & rafter bracket screws)*
- D. 2 1/2" Self-Auguring Stainless Steel Screws (24) - 20009-1  
*(to lock vinyl column and wood post together at bottom of each post)*
- E. 2 1/2" Self-Auguring Stainless Steel Screws (24) - 20009-1 *(to lock vinyl column and wood post together at top of each post just above trim cap)*
- F. 3" Self-Auguring Stainless Steel Screws (140) - 20007 *(for shade slats)*
- G. 4" Self-Auguring Stainless Steel Screws (96) - 20006 *(to lock the intersection of beams and first rafters with vinyl columns)*
- H. 1 1/2" Self-Auguring Stainless Steel Wood Screws (24) - 20037 *(to lock the Wood Posts to the Bolt down brackets)*



## Extra Materials You will Need

*(Purchase separately from [www.newenglandarbors.com](http://www.newenglandarbors.com) or retailer of our products)*

**If Mounting Pergola on Concrete or Wood Deck (not intended to be installed on concrete pavers, patio stones, or interlocking bricks)**

- H. 4x4x7 Pressure-Treated Wood Posts (6) *(purchase at local building center)*

### If mounting pergola onto an existing concrete surface:

- 1/2" x 3 1/2" x 12" Wood Shims (48) - Can Be Cut From 1/2" Sheet of Plywood
- 1/4" x 2 3/4" Cement Screws - Countersunk Head (18)
- 3/16" Concrete drill bit. Minimum 3" long (1)

### If mounting pergola onto a wooden/composite deck with

#### AN ACCESSIBLE UNDERSIDE:

- 1/2" x 3 1/2" x 12" Wood Shims (48) - Can Be Cut From 1/2" Sheet of Plywood
- 1/4" x ?" Bolts and Nuts - Countersunk Head (18) (Length depends on blocking material)
- 1/4" Washers (18)
- 1/4" Wood drill bit. Minimum 3" long (1)

### If Mounting Pergola in Ground

- I. 4x4x10 Pressure-Treated Wood Posts (6) *(purchase at local building center)*
- J. Concrete Ready Mix (6) *(purchase at local building center)*

### Rafter/ Beam Support (Required)

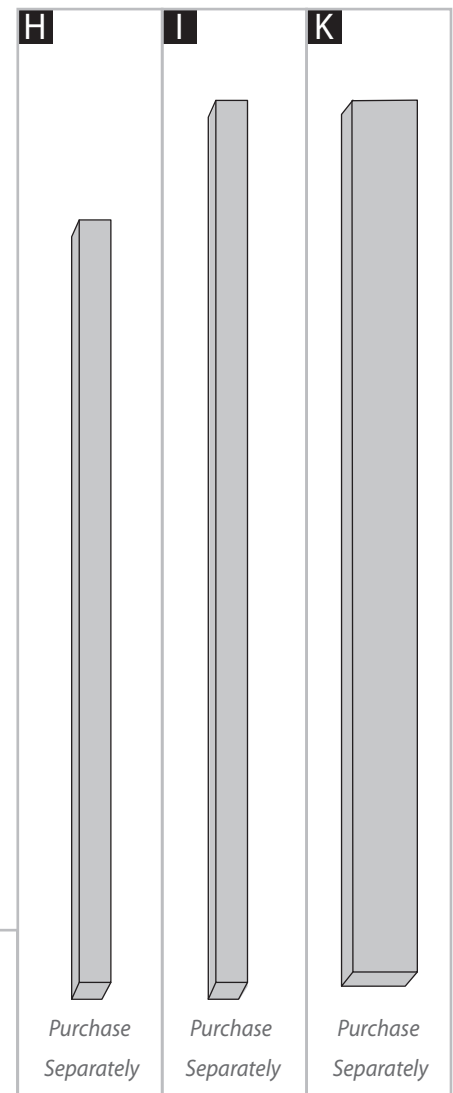
- K. 2x6x12 Pressure-Treated Boards (15) *(purchase at local building center)*

## Tools You Will Need

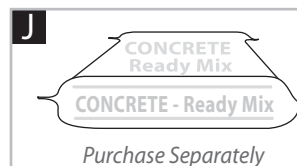
- Level
- Hammer
- Tape Measure
- String Line
- Wood Stakes (6) *(temporary support for string line)*
- Step Ladders (2)
- Cordless Drill

## Tools You May Need

- Circular Saw with Fine Tooth Blade
- Framing Level
- Framing Square



Not to Scale



Purchase Separately

Purchase Separately

Purchase Separately

# Wood Post Layout & Installation for In-Ground Application

This pergola can also be installed on a pre-existing wood or concrete surface using our bolt down bracket system with a 4x4 wood post (sold separate). See page eight for more details.

Post location and placement is the most critical step in the overall installation process. Please double check for the possibility of any underground utilities such as sprinkler, gas or telephone lines.

## STEP ONE

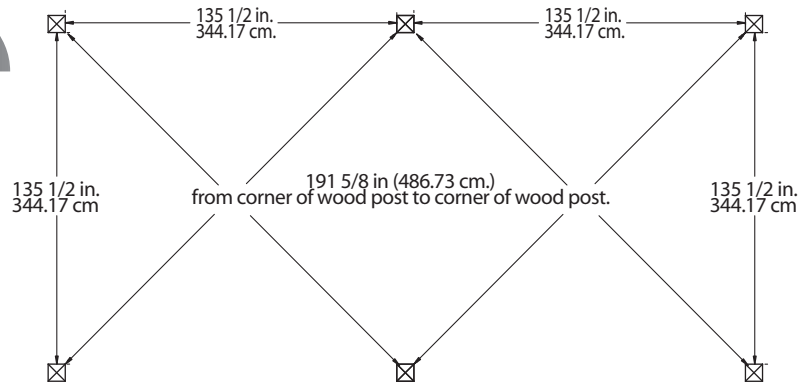
Measure and mark out the location of the pergola posts using string line and temporary wood stakes. Diagonal distances must be the same to ensure a square installation. Adjust string lines accordingly. The inside corner of the string lines will be the post location.

### Please Note:

Should you decide to moderately modify the dimensions of your pergola from the standard kit size, a circular saw with a sharp fine-tooth blade is all that you need to cut, shorten or modify the vinyl components.

1

Overhead View



## STEP TWO

### Install Wood Supporting Posts Directly into the Ground

1

After you have determined where the posts will be located, excavate 10" diameter x 36" deep post holes.

2

After holes are dug and cleaned, place the 4x4 wood post into a hole ensuring it's level and square to string lines. The final post height should be no more than 84" out of the ground. If a post is higher because of obstructed excavation of footings, please cut down in height accordingly.

3

Fill the vacant hole with pre-mixed concrete all the way to within 3" of the top of the hole.

After the concrete has set, backfill the 3" space with soil/sod.

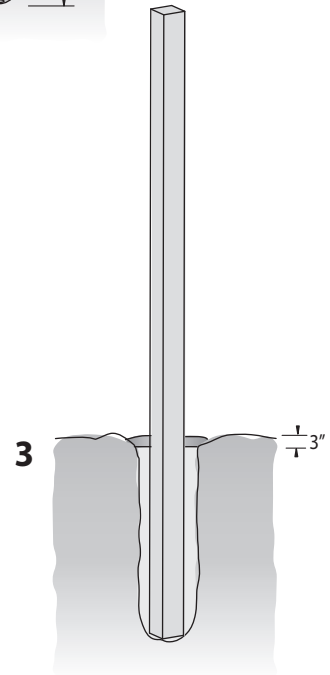
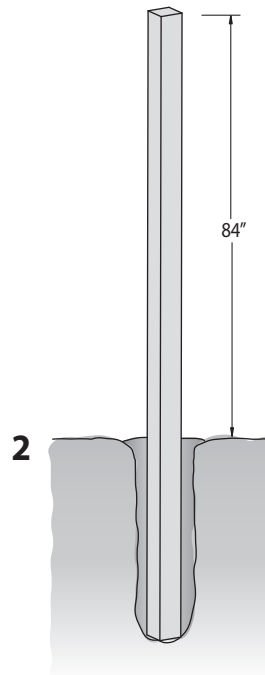
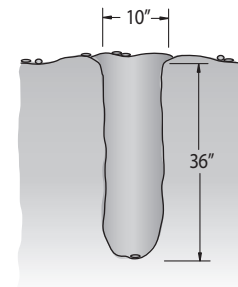
4

Repeat for all six posts.

### Please Note:

Some 4x4 pressure treated posts can be larger than 3 1/2 x 3 1/2 square due to twisting or cracking. We have allowed a tolerance for this in the internal one way and two way 4x4 wood post guides (see page 8). However in extreme cases you may need to shave down the top of the 4x4 wood post slightly to get the vinyl post started over the wood post. Before installing your wood posts in the ground, please check to confirm this and correct at this stage if necessary.

1



## OPTIONAL STEP

### Wood Post Layout & Installation Using Bolt Down Brackets for Concrete or Wood Surface

**Note:** for additional information on the bolt down bracket installation, refer to the bolt down bracket instructions.

**1**

Measure and mark out the location of the bolt down brackets using string or chalk line. Diagonal distances must be the same to ensure a square installation. Adjust string lines accordingly. The inside corner of the string lines will be the corner of the bottom flange.

**2**

Mark out the location of bolt down brackets accordingly using the base of the bracket accordingly.

**3**

Using a 3/16" masonry drill bit drill 3" deep holes to allow installation of 2 3/4" concrete screws (Not included).

**4**

Proceed to install three 2 3/4" concrete screws into the bottom base of the bolt down bracket.

**Please Note:**

Concrete patios generally have sloped surface for water run-off. If this is the case, when you secure the bolt down bracket to the concrete, the bracket may be at an angle. This can be corrected for level using galvanized steel washers (not provided), acting as shims underneath the base to level - **VERY IMPORTANT OR PERGOLA BEAMS AND RAFTERS WILL NOT BE LEVEL.**

**5**

With the six post brackets installed plumb, proceed to set the 4x4 x7' wood post in place. Repeat for all 6 posts.

**6**

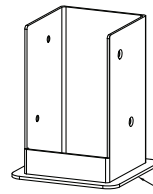
Posts should be 84" in height.

**Please Note:**

Some 4x4 pressure treated wood posts can be larger than 3 1/2 x 3 1/2 square due to twisting or cracking. We have allowed a tolerance for this in the post brackets and the internal one way and two way 4x4 wood post guides. However in extreme cases, you may need to shave down the end of your 4x4 wood post slightly to allow access.

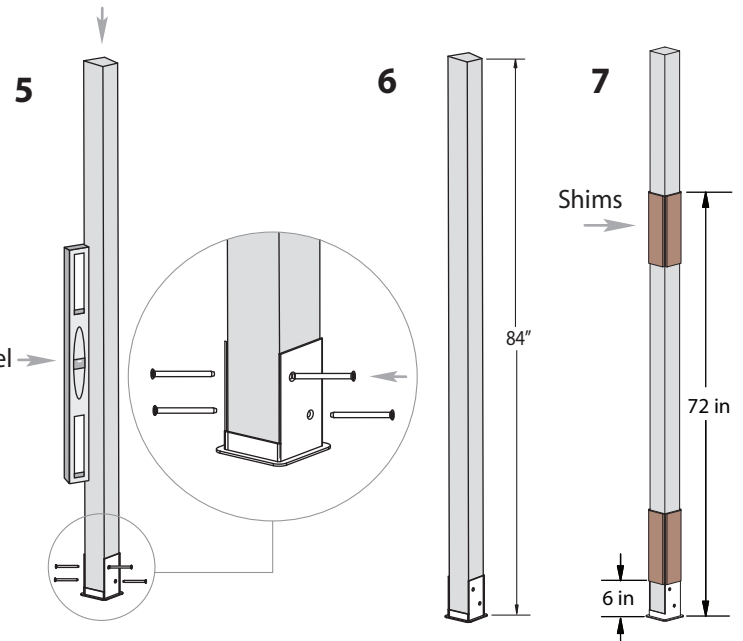
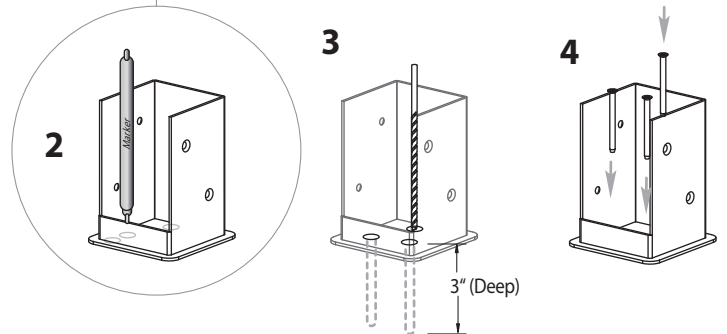
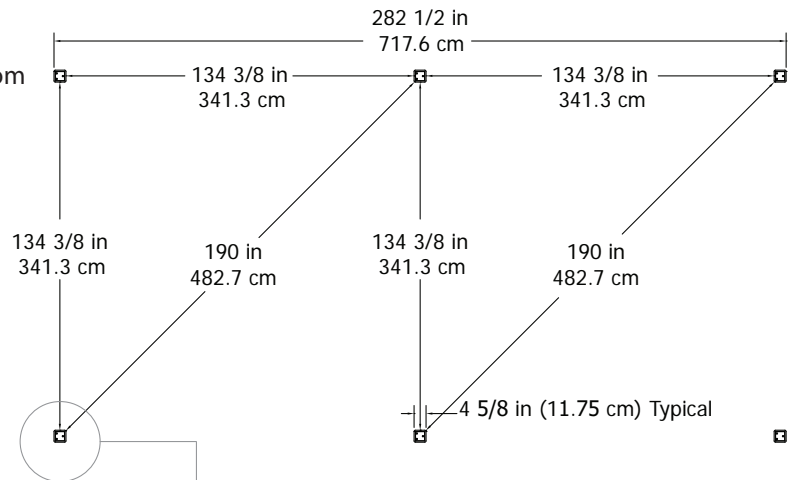
**7**

Attach 8 post shims to each post, placing 4 shims starting at 6" on all sides, and 4 shims ending at 72" on all 4 sides.



All Measurement are measured to this surface

**1**





## STEP THREE

### Vinyl Column Assembly & Installation Over Wood Posts

1

Using the vinyl weld glue, insert the One Way 4"x4" Internal Wood Post Guide in the one end of the main column posts. This step is only applicable if your wood 4x4 post are embedded into the ground. If your pergola is going to be installed on wood or concrete surface, please dispose of these 6 pieces.

2

Using a step ladder, guide the bottom vinyl columns over the wood 4x4 posts.

3

Slide the base post trim over the vinyl post followed by the top vinyl columns over the wood 4x4 posts. You will need to use a step ladder.

**Please Note:**

Ensure that holes at top of column are orientated correctly for future beam and rafter placement. See diagram at top of next page.

4

Connect the bottom and top vinyl column by using vinyl weld and sliding together. **Please Note:** Vinyl Weld Glue has about a sixty second cure time and about a 20 minute dry time.

5

Slide the bottom post trim into position to cover the joint on the column.

6

Slide the top post trim into approximate position just below the bottom routed hole on the bottom of the top vinyl column assembly.

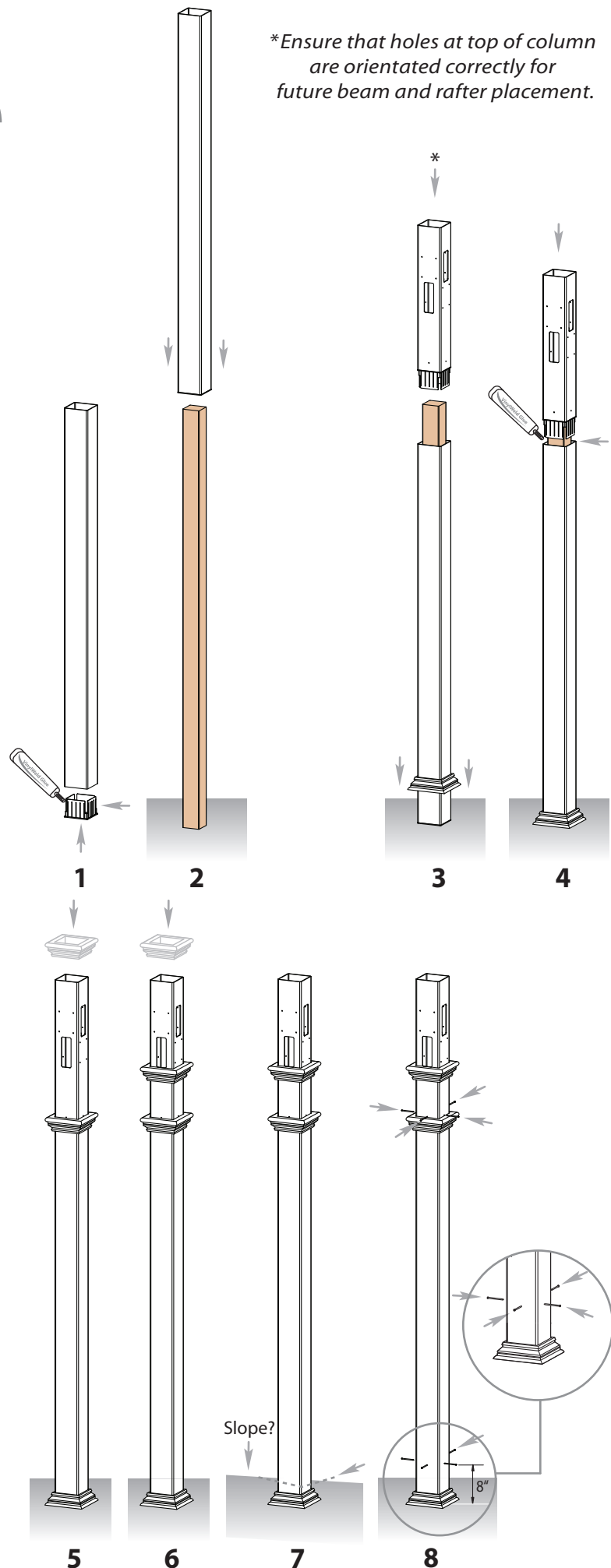
7

If necessary, adjust post heights accordingly to ensure future level installation of beams and rafters as necessary. If slope is severe causing a height difference between the posts, you may need to trim down the bottoms of your vinyl columns as necessary.

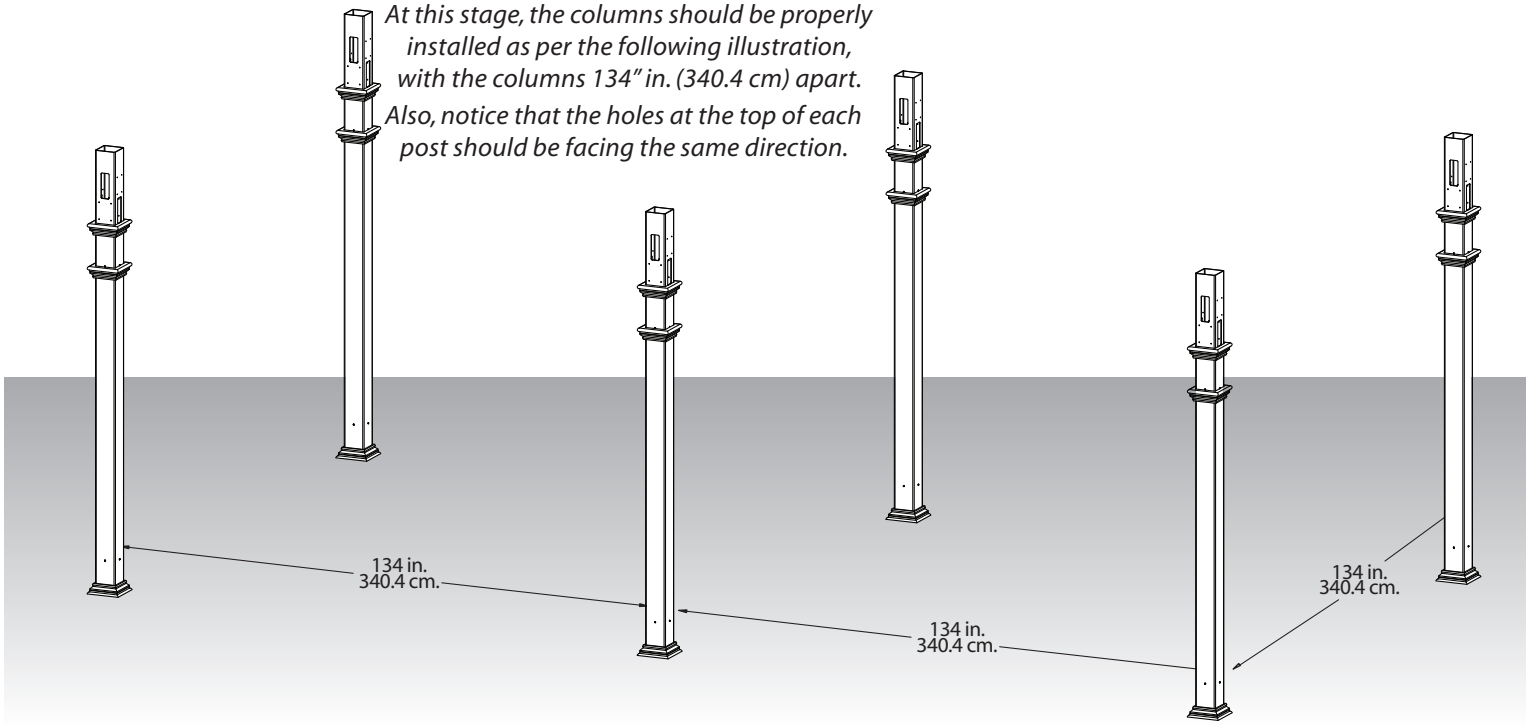
8

Secure the vinyl columns to the wood posts using 4 – 2 1/2" self-auguring stainless steel screws at 8" up from the base of the posts, and 4 – 2 1/2" self-auguring stainless steel screws just above the trim cap through the pre-drilled holes as illustrated. This will prevent possible uplift during high winds, etc.

\*Ensure that holes at top of column are orientated correctly for future beam and rafter placement.



At this stage, the columns should be properly installed as per the following illustration, with the columns 134" in. (340.4 cm) apart. Also, notice that the holes at the top of each post should be facing the same direction.



## STEP FOUR

### Rafter Assembly

**1**

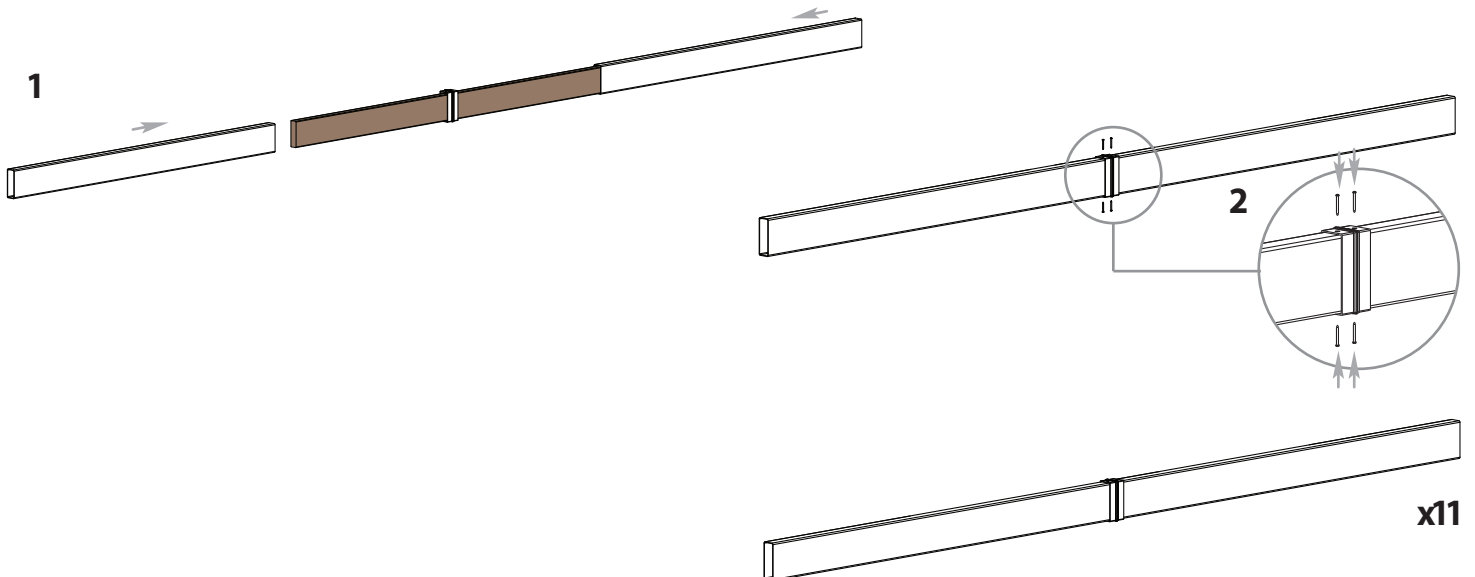
Insert one 2x6x12 pressure treated wood into a rafter section followed by the joiner and another rafter section. Center the 2x6x12 pressure treated wood within the assembled rafter.

**2**

Screw the joiner to rafters and wood insert using 1 1/2" screws.

**3**

Repeat steps 1 and 2 for the remainder of the rafters (total of 11 rafter assemblies)



## STEP FIVE

### Main Support Beam Assembly

**1**

Insert one 2x6x12 pressure treated wood into an outer beam section as illustrated.

**Critical Note:**

Note the location of the pre-drilled holes on the beam. As pictured aside; the further distanced holes need to be closest to the beam. This is critical to ensure equal spacing of your rafters.

**2**

Insert one inner beam section as shown. Position the 2x6x12 pressure treated wood so that it is flush with the open end of the inner beam.

**Critical Note:**

Note the location of the pre-drilled holes on the modified beam. As pictured aside, the further distanced holes need to be closest to the joiner.

This is critical to ensure equal spacing of your rafters.

**3**

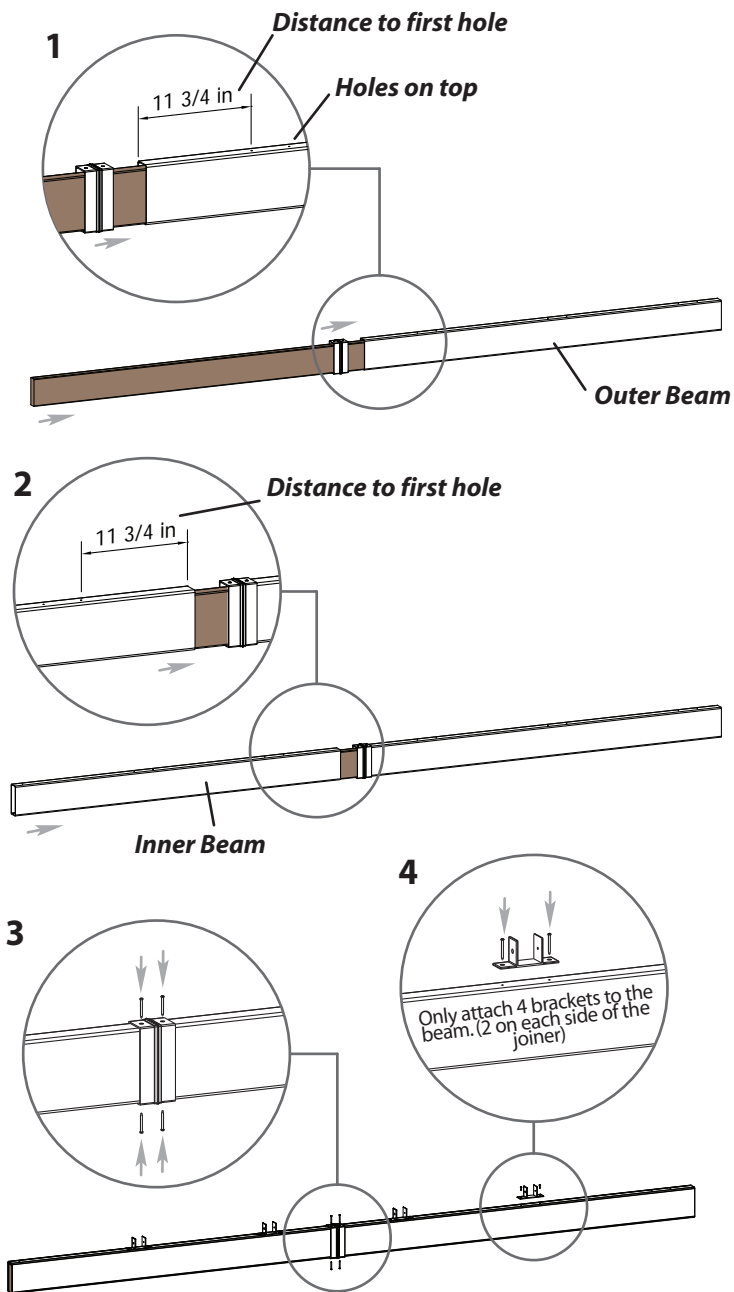
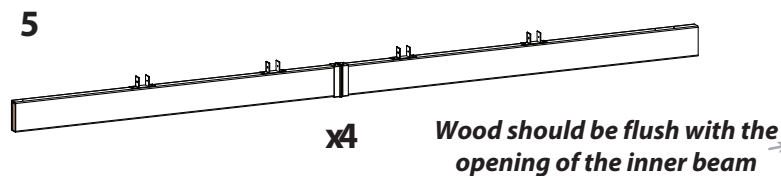
Screw the joiner to vinyl beams and wood insert using 1 1/2" screws. Note: Wood should not protrude out of the inner beam.

**4**

Install the rafter brackets to the main beams using 1 1/2" screws. Only attach four brackets to the beam as shown. Follow the pre-drilled holes to identify locations.

**5**

Repeat steps 1 to 4 for a total of 4 main support beam assemblies.



## STEP SIX

### Main Support Beams & Rafter Placement

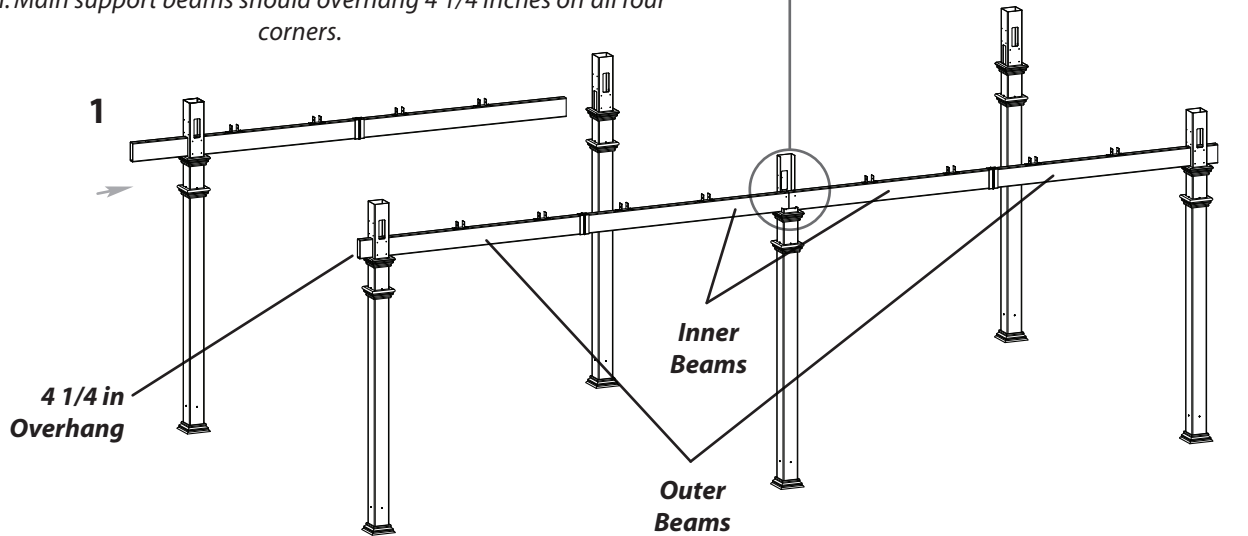
Using a helper and two ladders proceed to complete the following steps:

**1**

Slide the main support beam with rafter brackets pre-installed through both holes of the vinyl column (overshooting), and then back through both holes of the opposite column. Repeat for all beams.

**Please Note:**

The two **Inner** Beams should meet in the center of the middle posts as shown. Main support beams should overhang  $4\frac{1}{4}$  inches on all four corners.

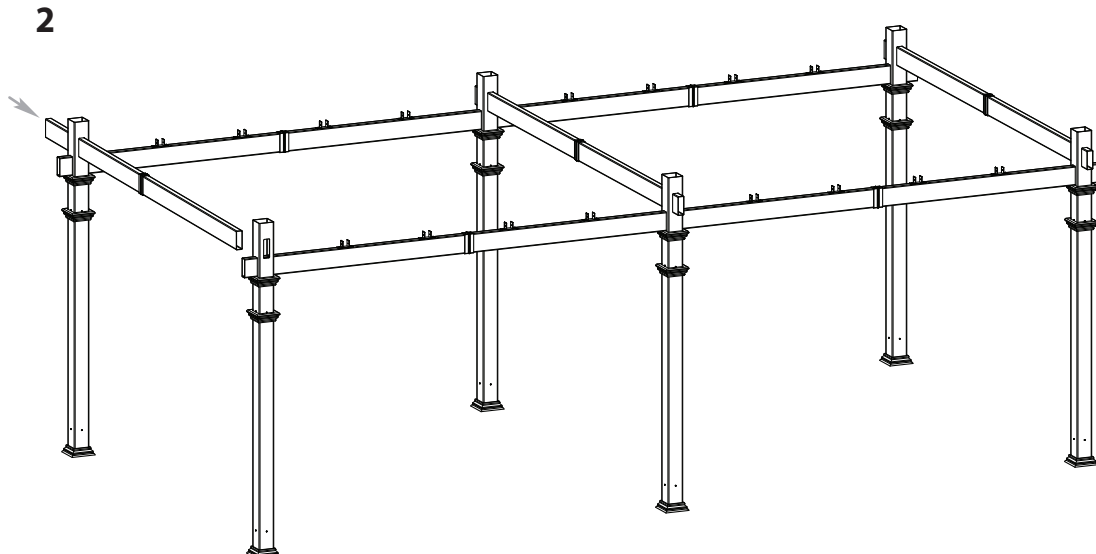


**2**

Slide the two outside and middle rafters through both holes of the vinyl column and through both holes of the opposite column.

**Please Note:**

The top of the vinyl columns may need to be tensioned in opposite directions to each other to allow the beams and rafters to be installed on a slight angle. The vinyl columns naturally allow some measure of flex.



## STEP SIX

### Main Support Beams & Rafter Placement (Continued)

**3**

Final adjust the main support beams and rafters ensuring the overhang past the columns is equal to the eye. Using 4" screws lock the main support beams and rafters into position inside the posts by driving in 8 screws from the outside and 8 screws from the inside of each column.

**4**

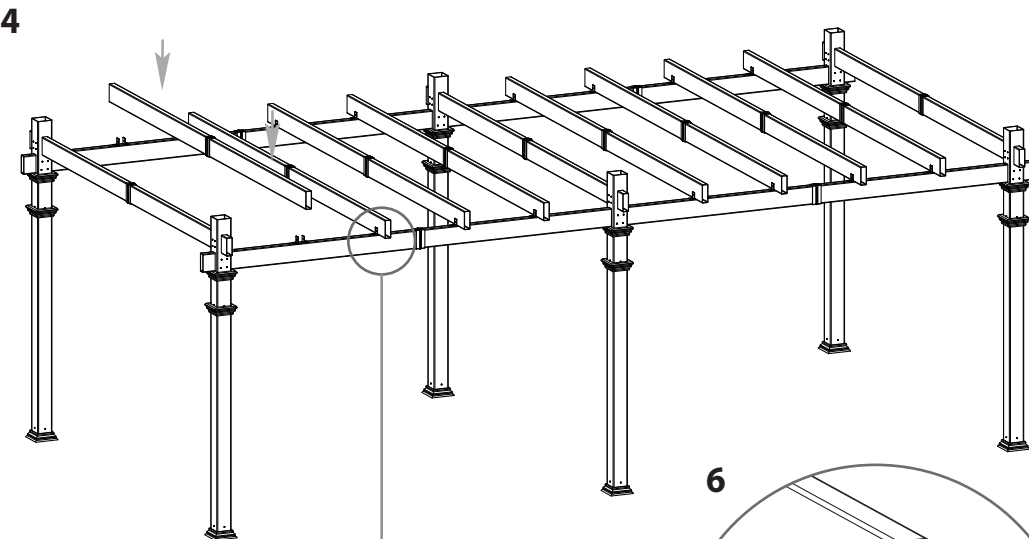
Place the rafters in the front and rear rafter brackets.

**5**

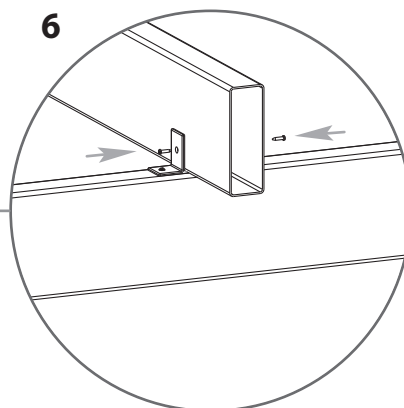
Complete a final adjustment of all beams and rafters. All spacing and overhangs past columns should be equal to the eye.

**6**

Using 5/8" self-auguring stainless steel screws attach the pergola rafters to the rafter brackets.

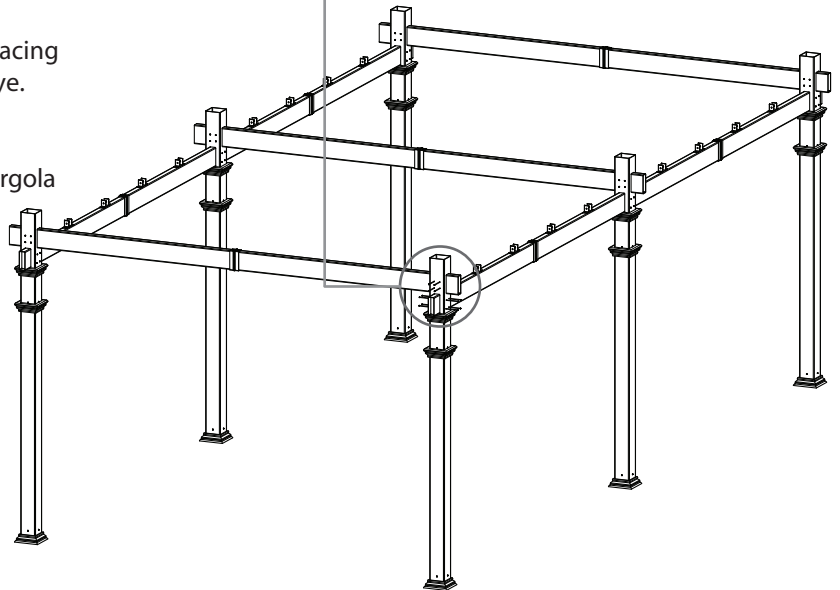
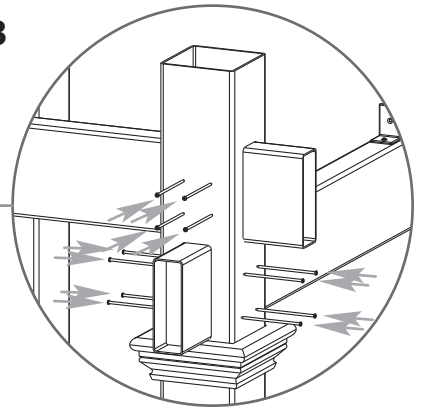


**4**



**6**

**3**



## STEP SEVEN

### Fastening End & Post Caps

**1**

Install decorative pergola end caps using vinyl weld.

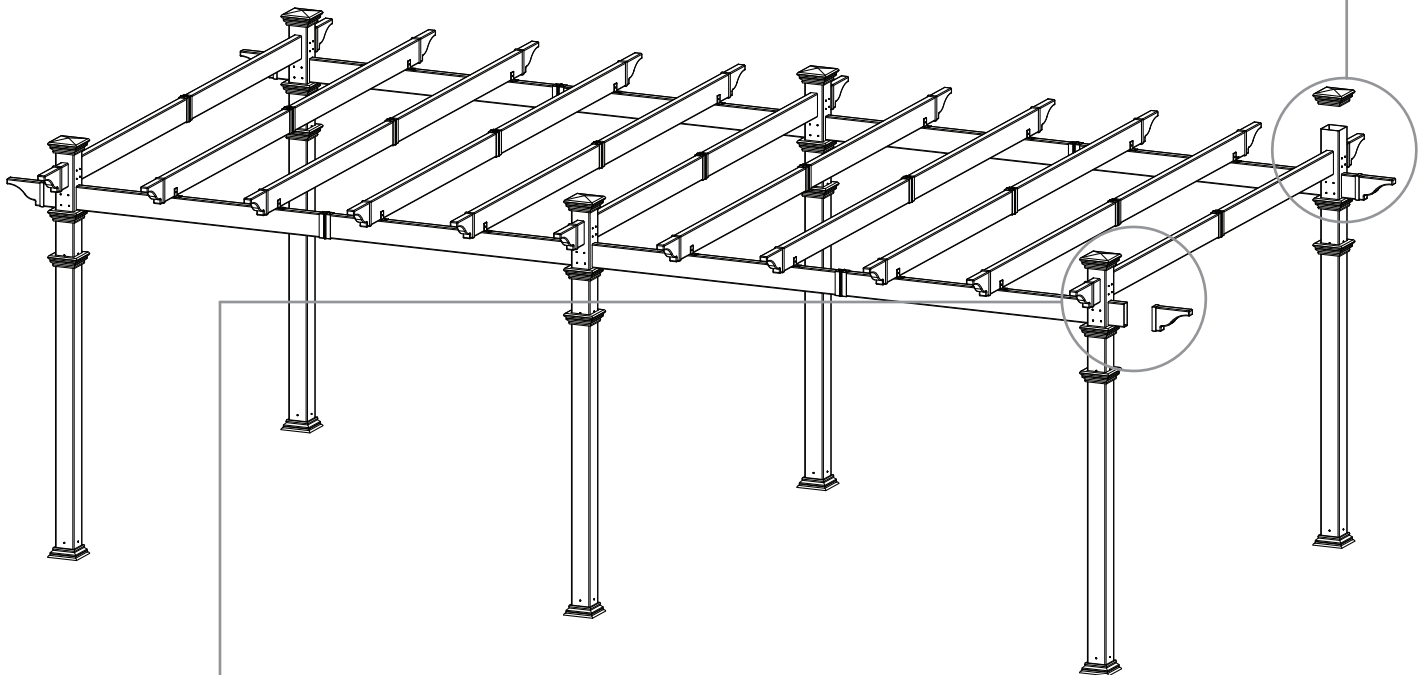
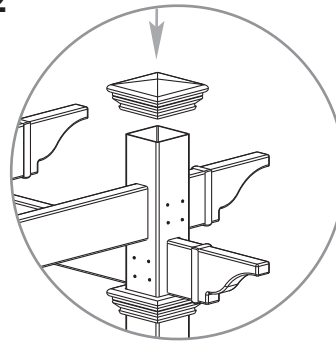
**2**

Install the post caps.

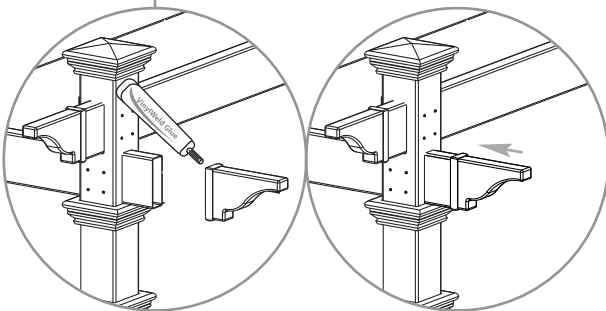
**3**

Final position your post trims.

**2**



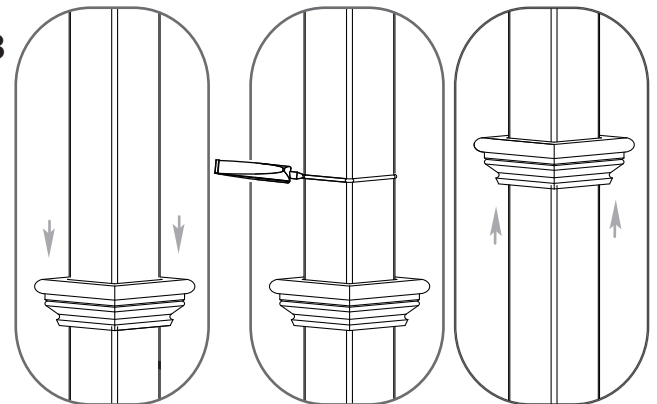
**1**



#### **To glue pergola end in place:**

1. Apply a generous amount of vinyl glue to the pergola end as shown.
2. Slide the pergola end into the beam/rafter and allow a few minutes for glue to cure.

**3**



#### **To position post trim in place:**

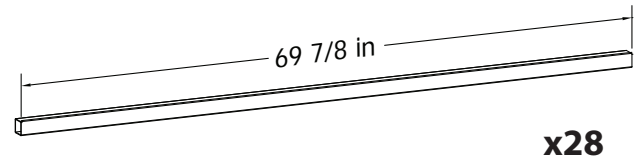
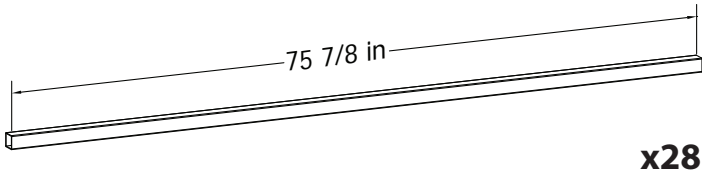
1. Slide the post trim down.
2. Apply a generous amount of vinyl glue around the post.
3. Slide the post trim back up to the desired location and allow a few minutes for glue to cure.

## STEP EIGHT

### Shade Slats Assembly

1

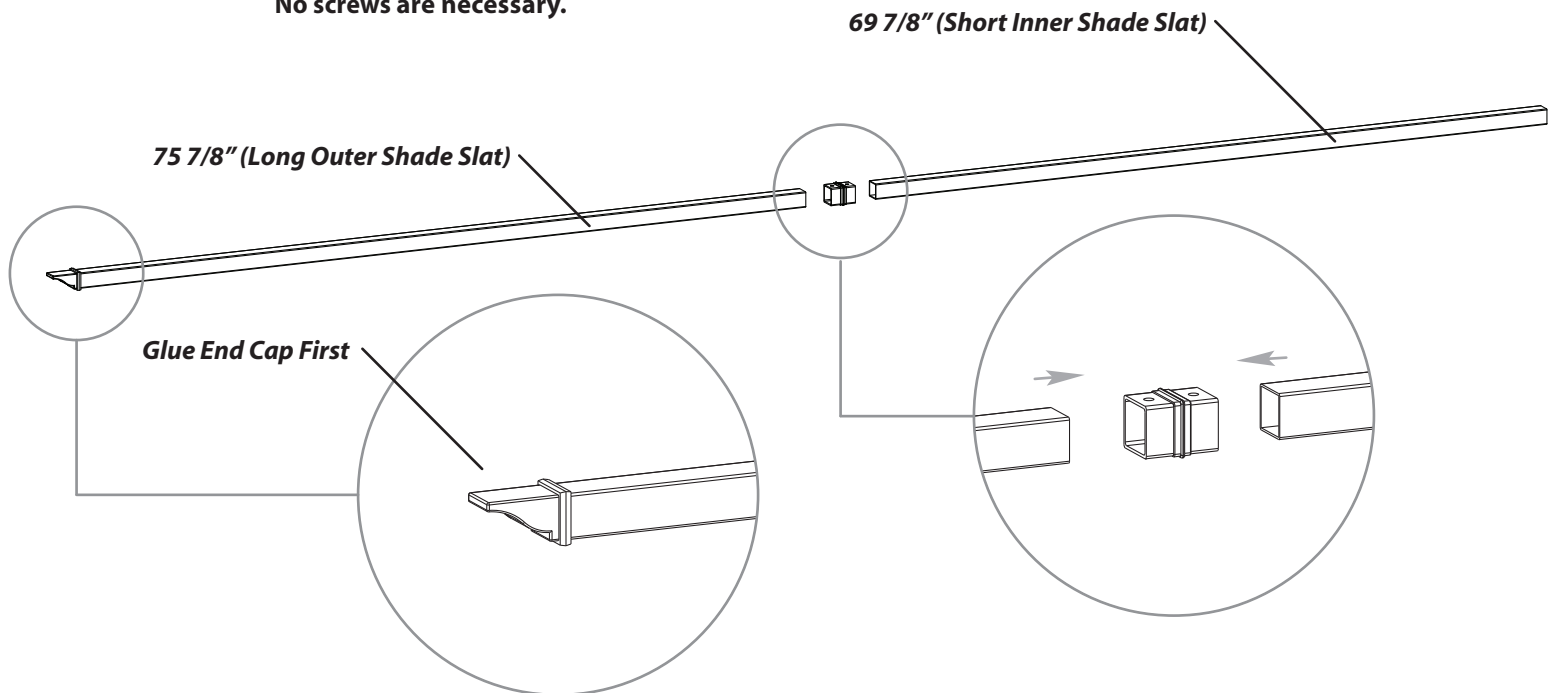
Please note the two different lengths of shade slats included in your kit - 75 7/8 in (Long Outer Shade Slat) and 69 7/8 in (Short Inner Shade Slat)



2

Assemble shade slats by first gluing the decorative end caps as shown, and then inserting the two slats (one long outer, one short inner) into one joiner. Push firmly until extrusion bottoms out inside joiner.

**No screws are necessary.**



# STEP NINE

## 14 Shade Slats Installation

The 14 shade slats are designed to be installed with 8 11/16" spacing between each slat.

Shade slats are designed to extend approximately 8 1/4" past the last rafter. Measurement includes the pre-installed pergola ends. Your goal is to ensure that all the shade slats overhang equally to the eye.

**1**

Install first shade slat adjacent to the top of the vinyl columns.

**2**

Install the rest of the shade slats at the 8 11/16" spacing.

**3**

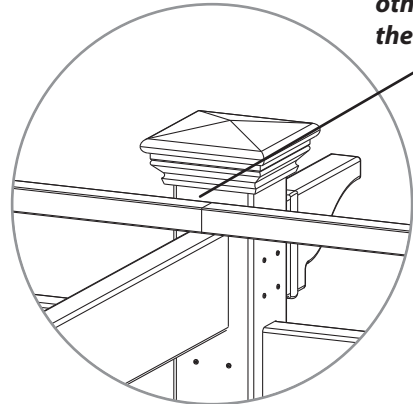
Install one 3" screw at each intersection of rafter and shade slat.

### Important!

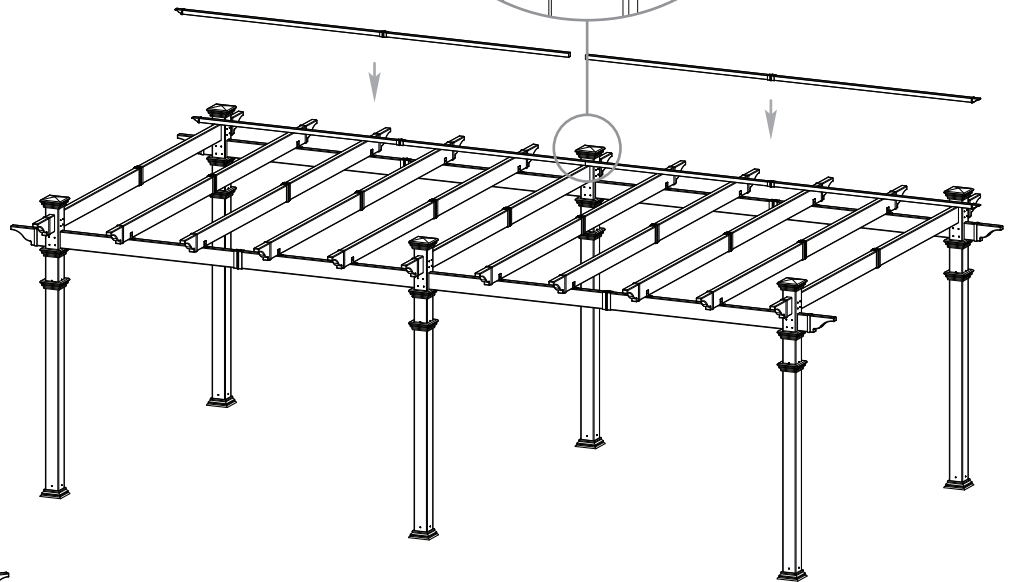
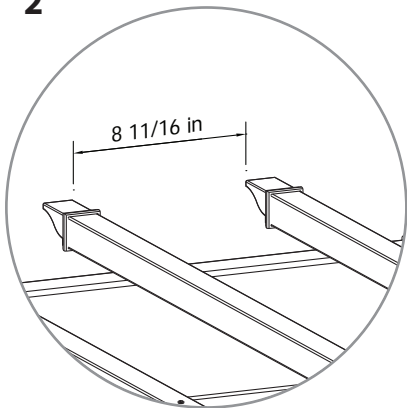
If installing an additional shade slat kit (purchase separately), please follow the instructions included with the 12x24 Additional Shade Slat Kit.

Short Inner Shade Slats will butt up to each other in the center of the middle rafter

**1**



**2**



**3**

