

12x24 Flat Top Louvered Pergola

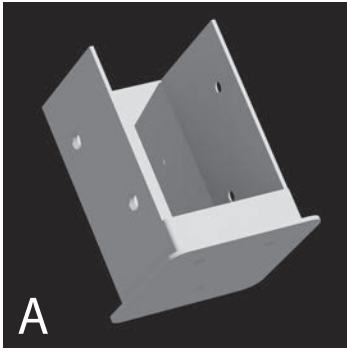


ASSEMBLY GUIDE

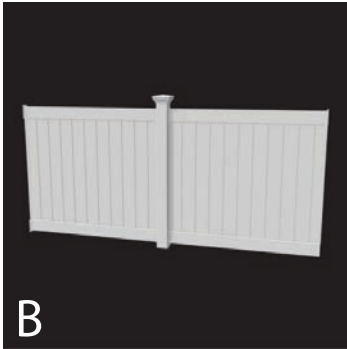
Model:
Bristol Grande

OPTIONAL ACCESSORIES

- A) Bolt Down Bracket Kit
- B) Pergola Wall
- C) Pergola Planter
- D) Tall Base Molding (2x 4pc Kit)
- E) Short Base Molding (2x 4pc Kit)
- F) Pergola Privacy Trellis



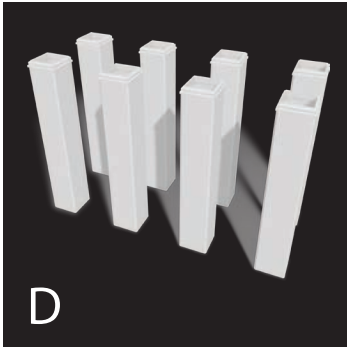
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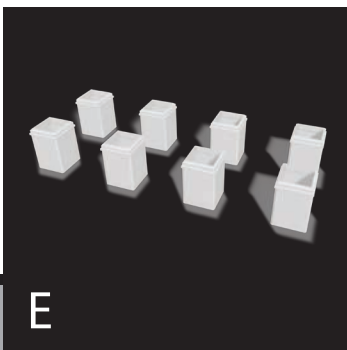
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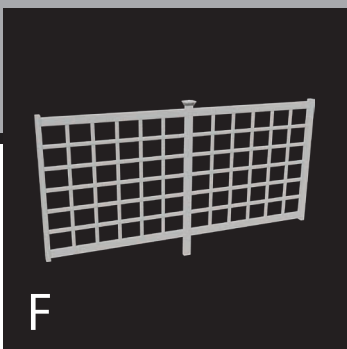
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D



E



F

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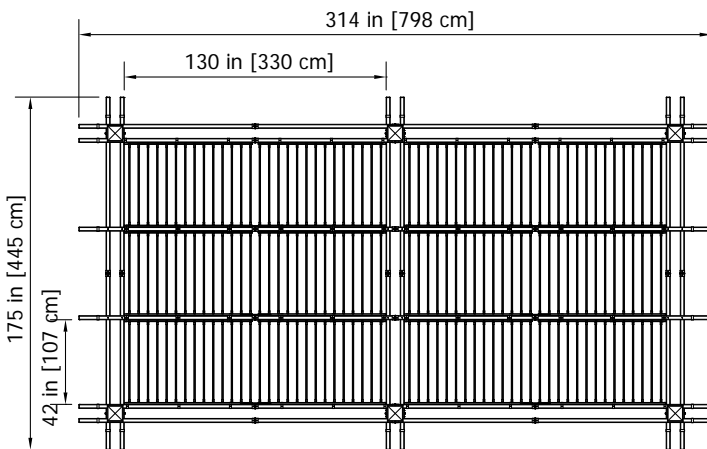
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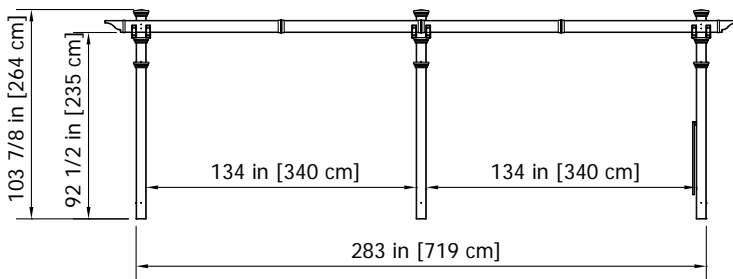
Table of Contents

12 x 24 Flat Top Louvered Pergola

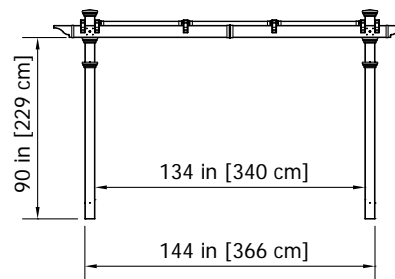
	PAGE
Introduction & Overview.....	3
Pergola Materials Overview.....	4
Pergola Materials Breakdown.....	5
Pergola Additional Materials List.....	6
Wood Post Layout & Installation for In-Ground Application.....	7
Vinyl Column Assembly and Installation Over Wood Posts.....	8
Main Support Beam Assembly.....	9
Rafter Assembly.....	10
Main Support Beams & Rafter Placement.....	12
Louver Assembly	17
Turn Bar Holder Installation	22
Operations	23
Modification	24



Top View



Front View

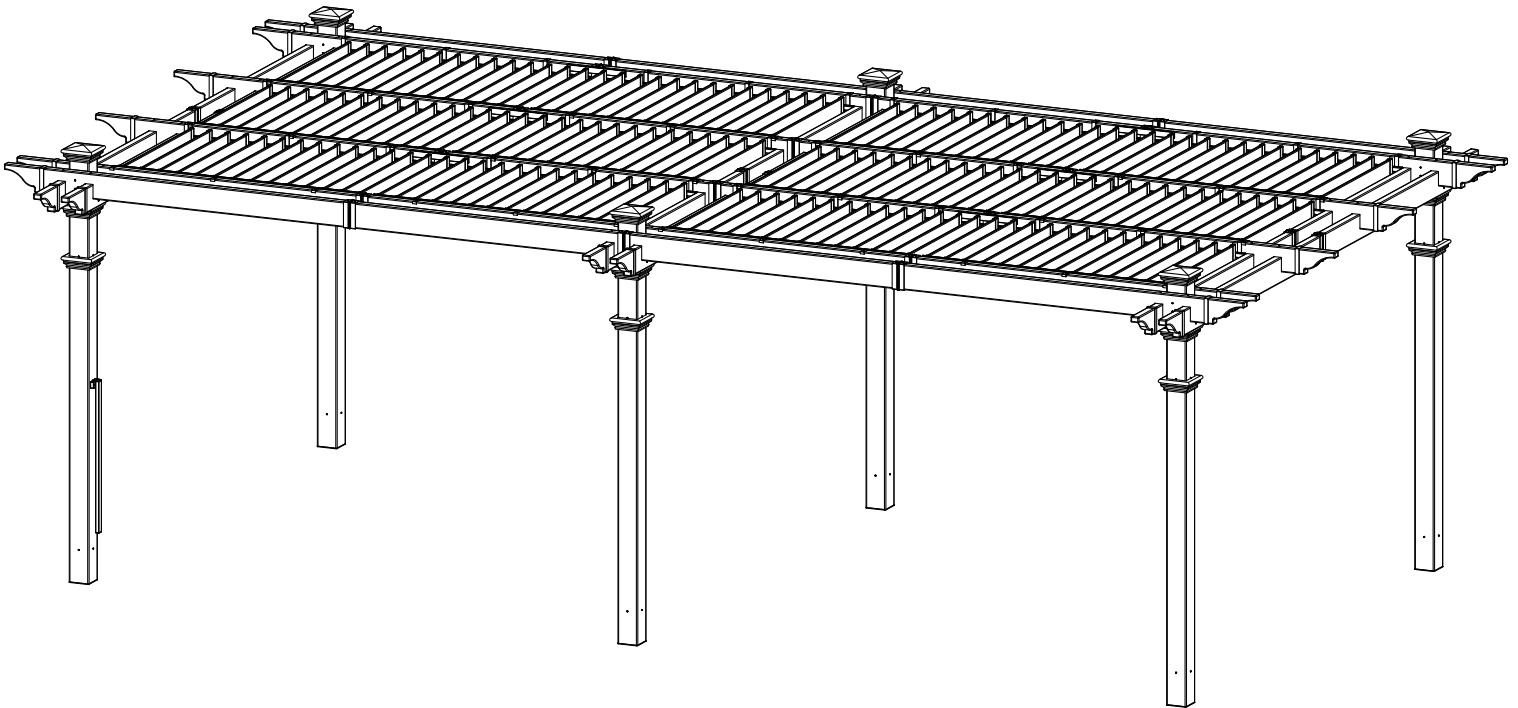


Side View

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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

The Bristol Grande 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. See pages 7 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.*

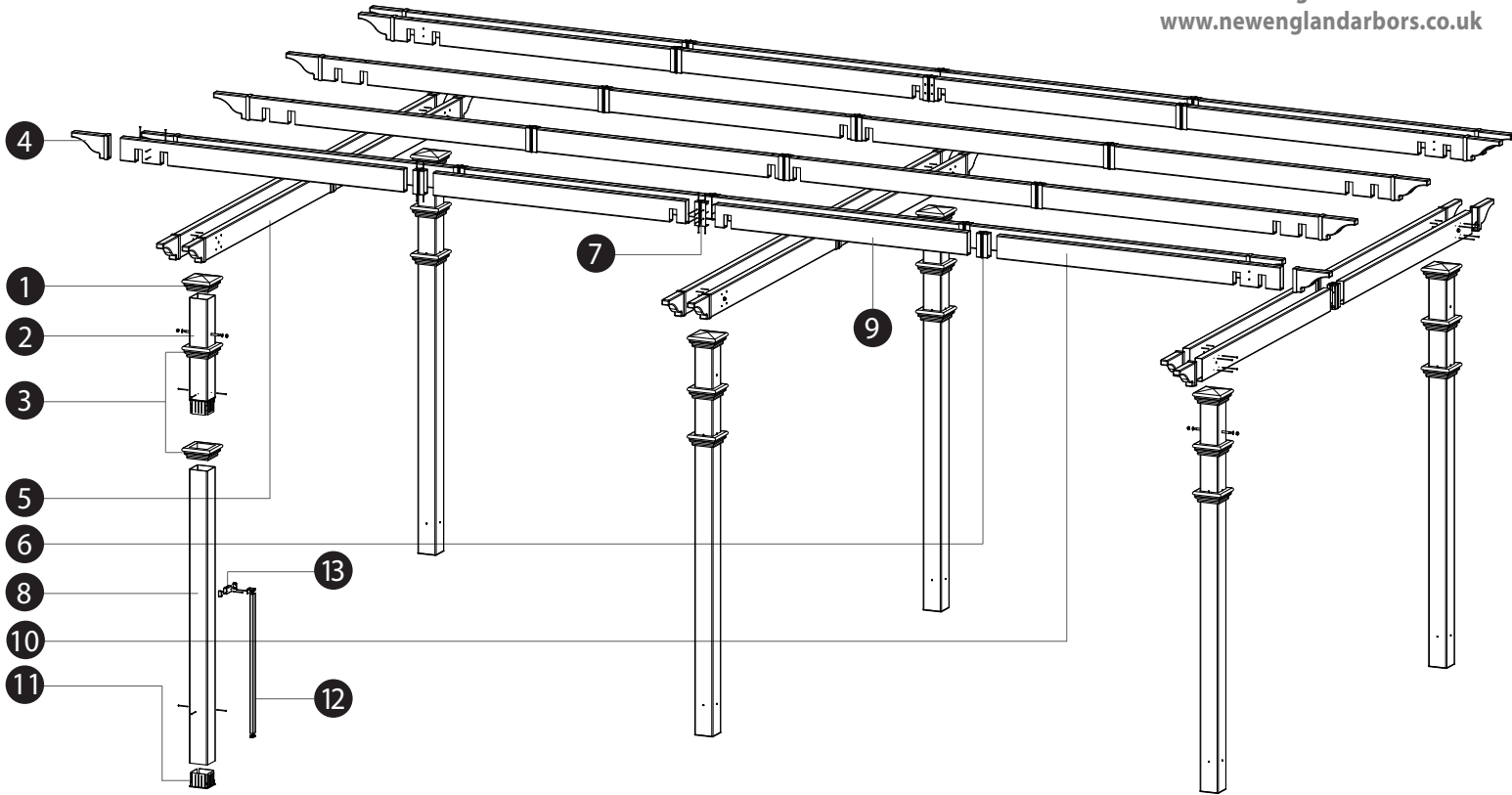
Please take the time to read this instruction guide thoroughly prior to the construction of your pergola. If you have any questions, feel free to contact our technical dept by calling 1 800 282 9346, (Mon to Fri 8:00 A.M to 4:00 P.M. EST).

(UK Tel: **(44) 2038 687160** - Mon to Fri. 1:00 PM to 10:00 PM GMT).

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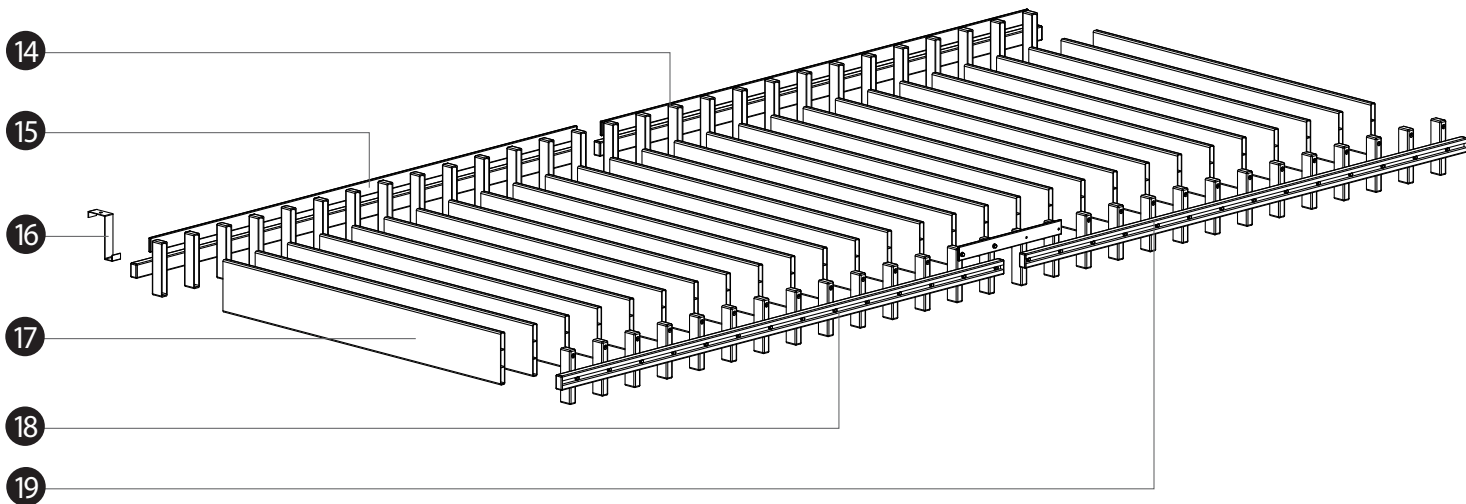
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Pergola Materials Overview



- 1. Post Caps (6) - 10699-1
- 2. Main Column Tops (6) - 10930
- 3. Post Trims (12) - 10698-1
- 4. Rafter & Beam Decorative End Caps (24) - 10829
- 5. Main Support Beams (12) - 10983
- 6. Beam & Rafter Joiners (20) - 10820
- 7. Rafter Face Joiners (4) - 11149
- 8. Main Column Bottoms (6) - 10933
- 9. Rafters - Middle (12) - 11150
- 10. Rafters - Ends (12) - 10984

- 11. One Way 4"x4" Internal Wood Post Guides (6) - 10696-1
- 12. Louver Turn Bar (1) - 10935
- 13. Turn Bar Holder (1) - 10957
- 14. Pre-assembled Louver Bars (Right) - With Long Louver Bar (6) - 10986
- 15. Pre-assembled Louver Bars (Left) - With Long Louver Bar (6) - 10985
- 16. Steel Holder Brackets (72) - 10937
- 17. Louver Boards (168) - 10987
- 18. Pre-assembled Louver Bars - With Short Louver Bar (6) - 10988
- 19. Pre-assembled Louver Bars - With No Louver Bar (6) - 10989



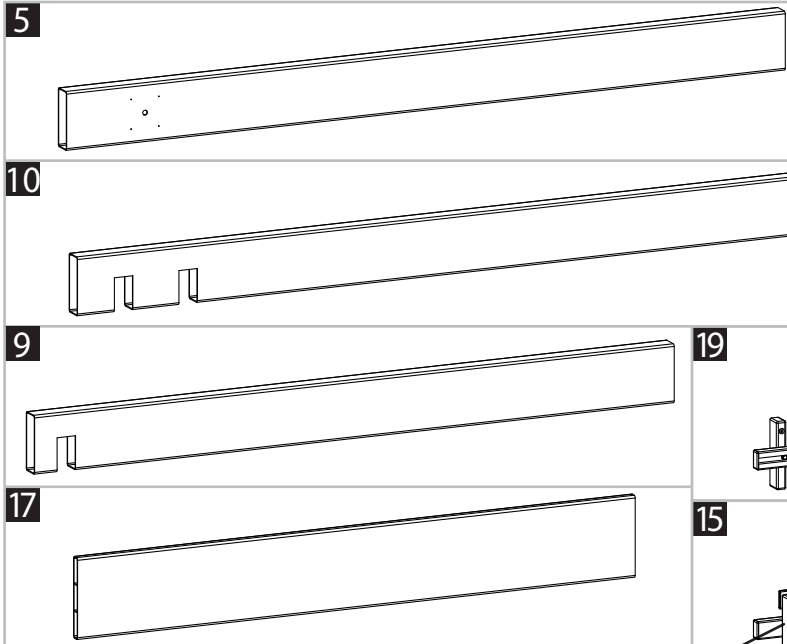
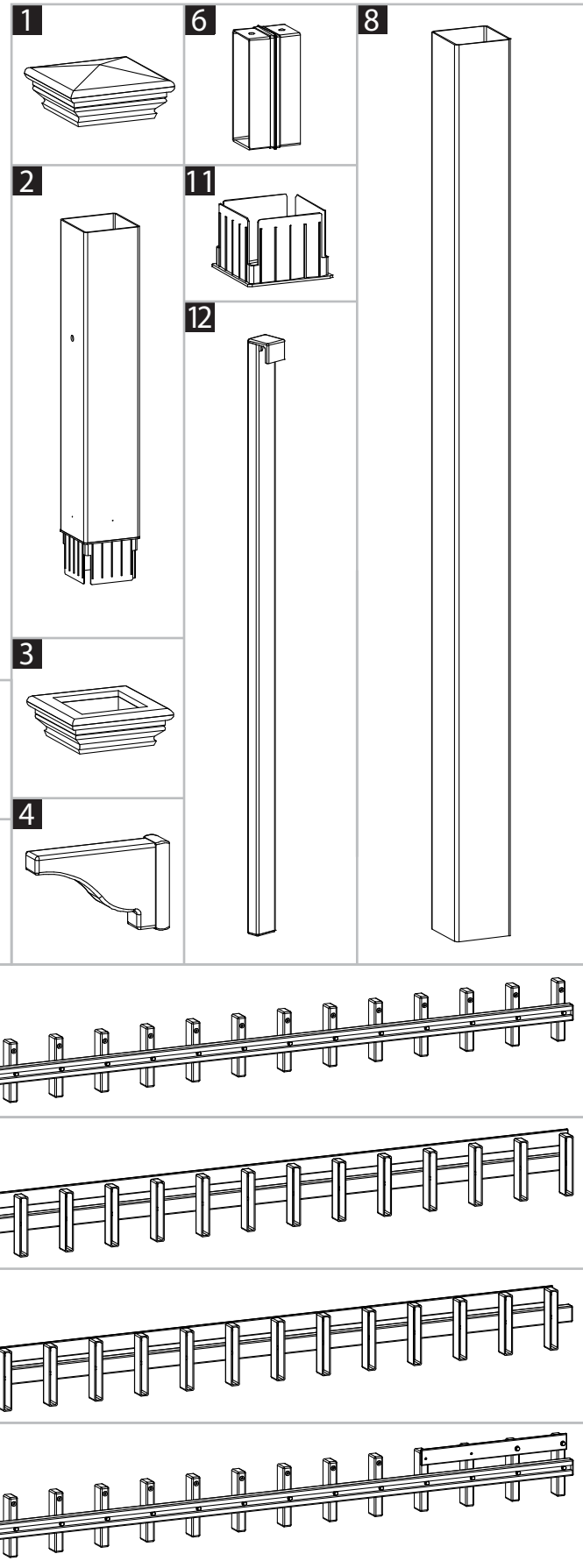
Pergola Materials Breakdown

Check Boxes (Total of 13) for These Contents

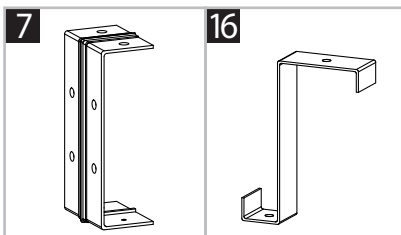
In the event of missing or defective parts please call our customer service dept. at **1 800 282 9346** (Mon. to Fri. 8:00 AM to 4:00 PM EST)

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Note the distance to the first louver bracket



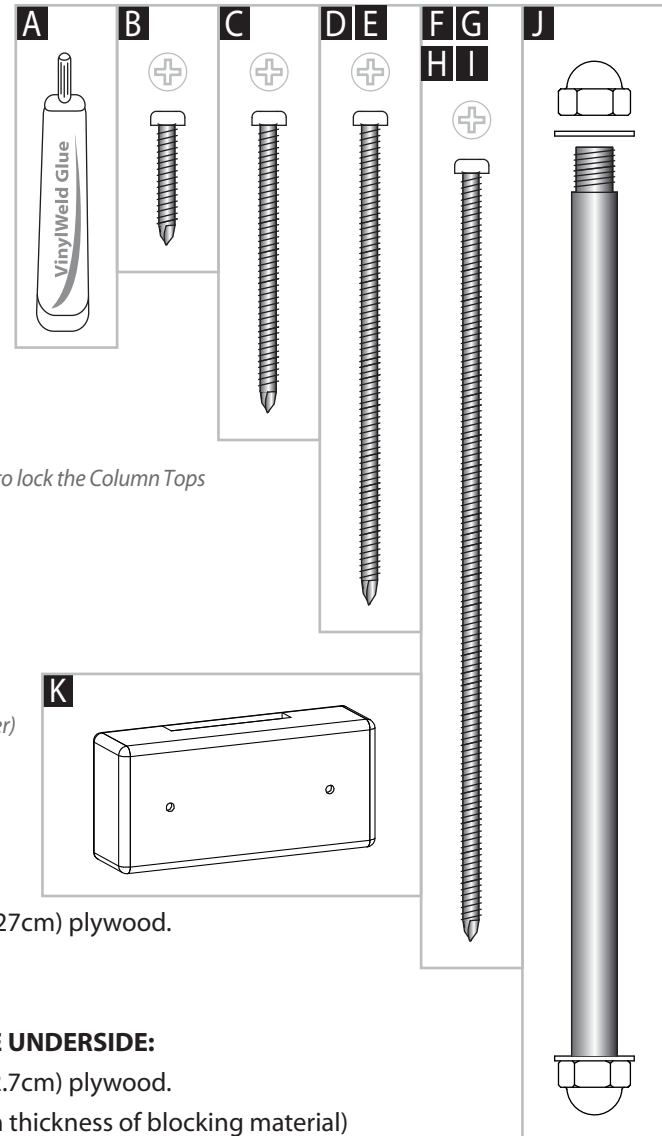
Not to Scale

Pergola Additional Materials List

Hardware *(in plastic bag)*

All Screws Included with this Kit are Self-Auguring.

- A. Tube of Vinyl Weld Glue (4) - 20000
- B. 5/8" (16mm) Stainless Steel Screws (144) - 20016 (to lock Louver Assembly to Steel Holder Brackets)
- C. 1 1/2" (38mm) Stainless Steel Screws (96) - 20005 - (for Beam and Rafter Joiners)
- D. 2 1/2" (64mm) Stainless Steel Screws (48) - 20009-1 - (to lock the Main Column Bottom and Tops to the Wood Posts)
- E. 2 1/2" (64mm) Stainless Steel Screws (2) - 20009-1 - (to fasten Turn Bar Holder to post)
- F. 4" (102mm) Stainless Steel Screws (48) - 20006 - (to lock Beams to the Posts)
- G. 4" (102mm) Stainless Steel Screws (36) - 20006 - (to lock Rafters to the Beams)
- H. 4" (102mm) Stainless Steel Screws (16) - 20006 - (to lock Face Joiners to Rafters)
- I. 4" (102mm) Stainless Steel Screws (16) - 20006 - (to lock Rafters to Main Column Tops)
- J. 9" (229mm) Stainless Steel Bolt Assembly with Nuts and Washers (6) - 20035 - (to lock the Column Tops and Beams together)
- K. Turn Bar Holder (1) - 10957



Extra Materials You will Need

(Purchase separately from www.newenglandarbors.com or retailer of our products)

If Mounting Pergola on Concrete or Wood Deck

- L. 4x4x8 (10x10x250cm) Pressure-Treated Wood Posts (6) *(purchase at local building center)*
- M. 4x4 Bolt Down Bracket Kit *(purchase from www.NewEnglandArbors.com)*

Refer to bolt down bracket instructions for hardware requirements, as they pertain to your application:

If mounting pergola onto an existing concrete surface:

- 1/2" x 3 1/2" x 12" (1.3x9.x30.5cm) Wood Shims (48) - Can be cut from 1/2" (1.27cm) plywood.
- 1/4" x 2 3/4" (6x70mm) Cement Screws - Countersunk Head (18)
- 3/16" (5mm) Concrete drill bit. Minimum 3" (76mm) long (1)

If mounting pergola onto a wooden/composite deck with AN ACCESSIBLE UNDERSIDE:

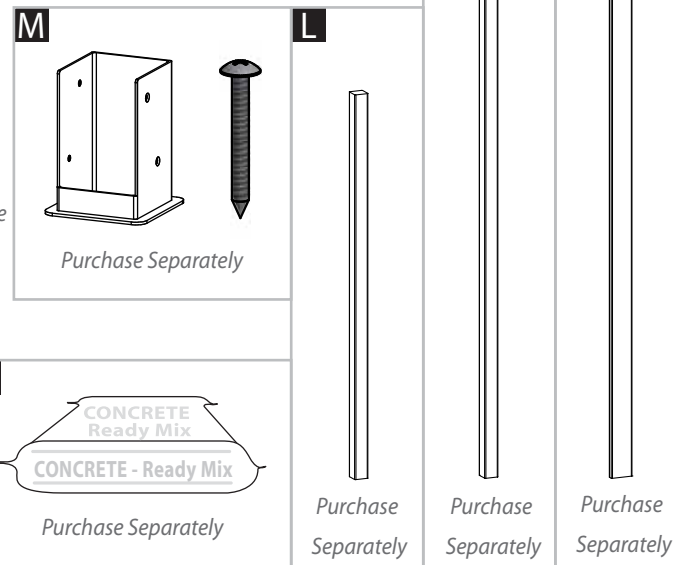
- 1/2" x 3 1/2" x 12" (1.3x9.x30.5cm) Wood Shims (48) - Can be cut from 1/2" (12.7cm) plywood.
- 1/4" x 7" (6x7mm) Bolts and Nuts - Countersunk Head (18) (Length depends on thickness of blocking material)
- 1/4" (6mm) Washers (18)
- 1/4" (6mm) Wood drill bit. Minimum 3" (76mm) long (1)

If Mounting Pergola in Ground

- N. 4x4x12 (10x10x365cm) Pressure-Treated Wood Posts (6) *(purchase at local building center)*
- O. Concrete Ready Mix (6) *(purchase at local building center)*

Rafter/ Beam Support (Required)

- P. 2x6x12 (4x15x365cm) Pressure-Treated Boards for Beams and Rafters (18) *(purchase at local building center)*



Tools You Will Need

- Cordless Drill
- Level
- Rubber Mallet / Hammer
- Tape Measure
- String Line
- Wood Stakes (4) *(temporary support for string line)*
- Step Ladders (2)
- 1/2" Wood Drill Bit
- Circular Saw with Fine Tooth Blade
- Framing Square
- Wrench / Socket Set

Not to Scale

Wood Post Layout & Installation for In-Ground Application

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

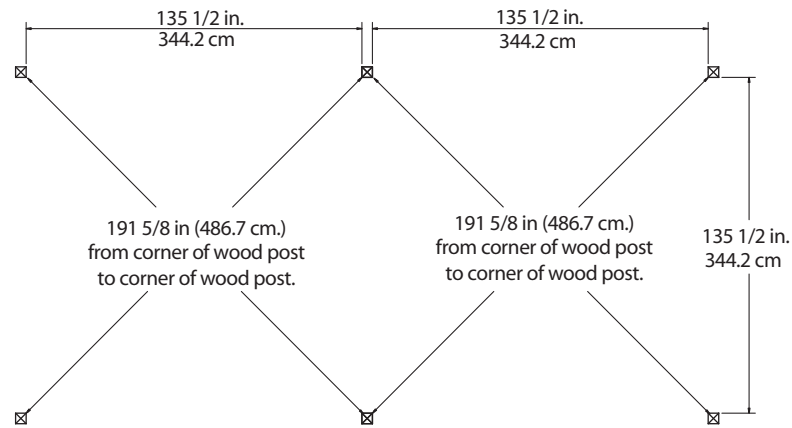
Measure and mark out the location of the pergola posts using string line and temporary wood stakes. Diagonal distances must be the same to ensure a square installation. Adjust string lines accordingly. The inside corner of the string lines will be the post location.

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" (25.4cm) diameter x 36" (91.4cm) deep post holes.

2

After holes are dug and cleaned, place the 4x4 (9x9cm) wood post into a hole ensuring it's level and square to string lines. The final post height should be 102" (259 cm) out of the ground.

3

Fill the vacant hole with pre-mixed concrete all the way to within 3" (7.6cm) of the top of the hole.

Once concrete has set, backfill 3" (7.6cm) space with soil.

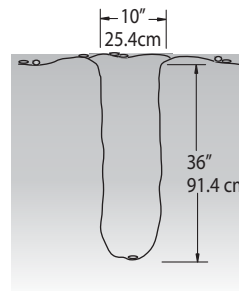
4

Repeat for all six posts.

Please Note:

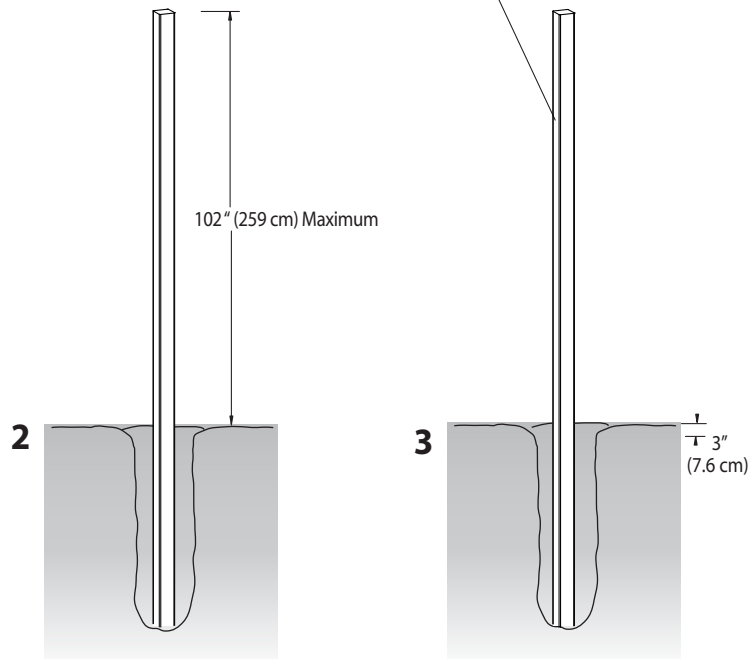
Some 4x4 pressure treated posts can be larger than 3 1/2 x 3 1/2 square due to twisting or cracking. We have allowed a tolerance for this in the internal one way and two way 4x4 wood post guides (see page 8). However in extreme cases you may need to shave down the top of the 4x4 wood post slightly to 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



Note:

Shown is a 11'-6" (350cm) length of wood, and since the 4x4 (9x9cm) Pressure Treated wood comes in 12' (365 cm) lengths, do one of the following:
a. Cut the wood down to 11'-6" (350 cm)
b. Dig 42" (107 cm) deep holes instead of 36" (91.4cm)



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 six pieces.

2

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

3

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

Please Note:

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

3a - If you also purchased base moldings (sold separately), they should be inserted at this stage.

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 top and bottom post trim into position. Use the bottom post trim to cover the joint on the column. Slide the top post trim into approximate position $\pm 3"$ (76 mm) below the hole in the top vinyl column assembly.

6

If required, 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 bottom of two or more of your vinyl columns as necessary.

7

Secure the vinyl columns to the wood posts using 4 - 2 1/2" (64 mm) self-auguring stainless steel screws at 8" (20.3 cm) up from the base of the posts, and 4 - 2 1/2" (64 mm) self-auguring stainless steel screws just above the trim cap as illustrated. This will prevent possible uplift during high winds, etc.

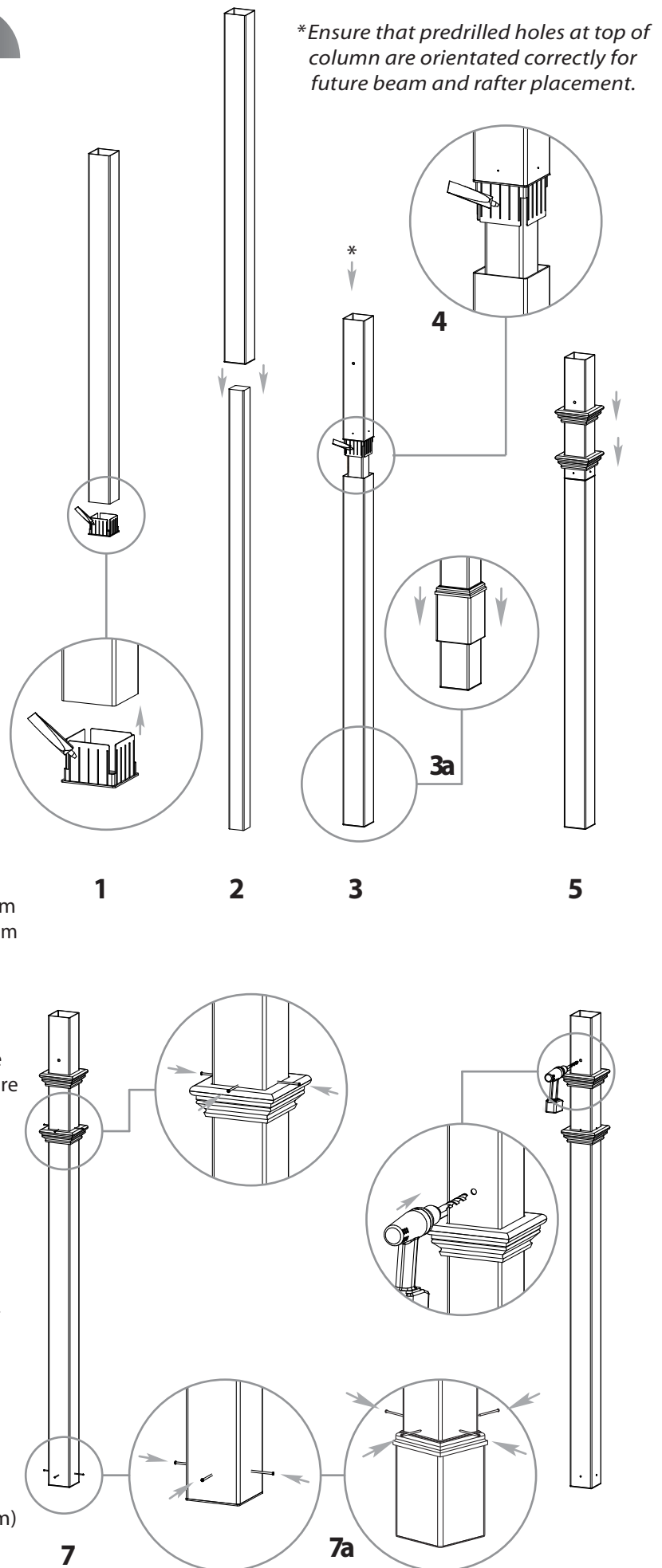
7a

If base moldings are installed, place screws above the base moldings.

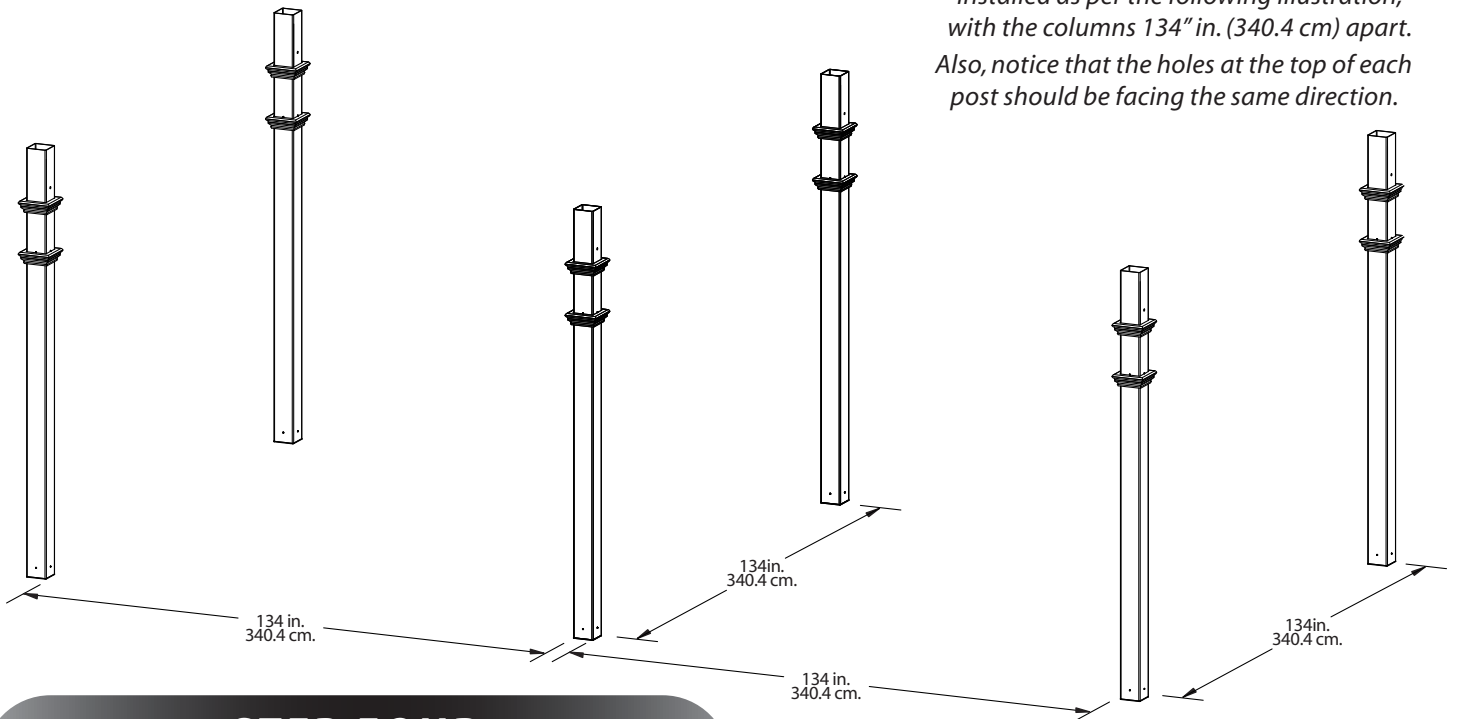
8

Using the predrilled hole as a template, drive a 1/2" (13mm) hole through the wood post. Make sure to drill straight through to the hole on the opposite side of the post.

*Ensure that predrilled 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

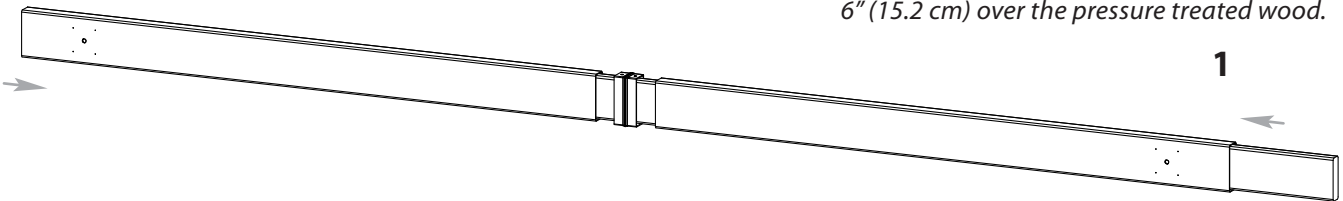
Main Support Beam Assembly

1

Insert one 2x6x12' (4x15x300cm) pressure treated wood into a main support beam section followed by the joiner and another main support beam section.

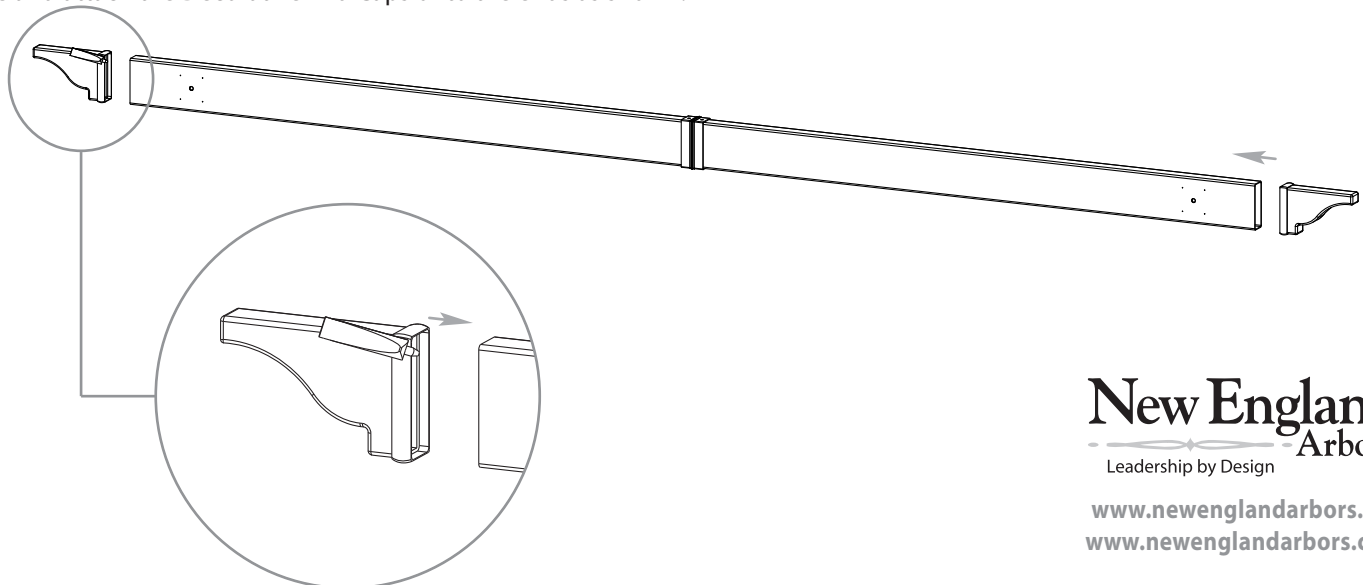
Critical Note:

Note the location of the pre-drilled hole on main support beams as pictured aside. These holes will align with the hole on the posts. Both ends of main support beam section should extend approximately 6" (15.2 cm) over the pressure treated wood.



2

Glue and attach the Decorative End Caps onto the ends as shown.



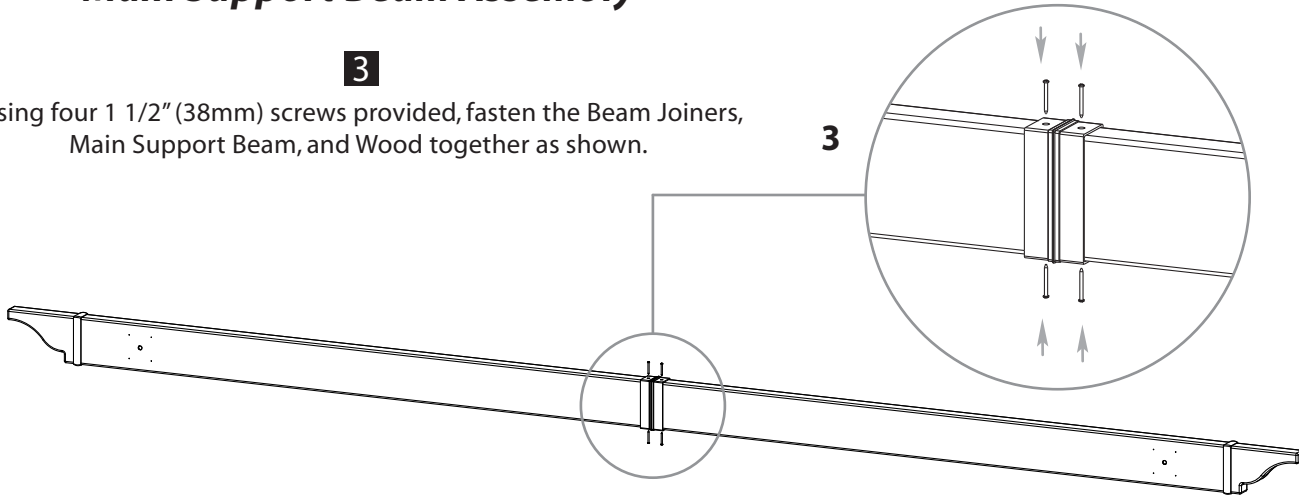
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Main Support Beam Assembly

3

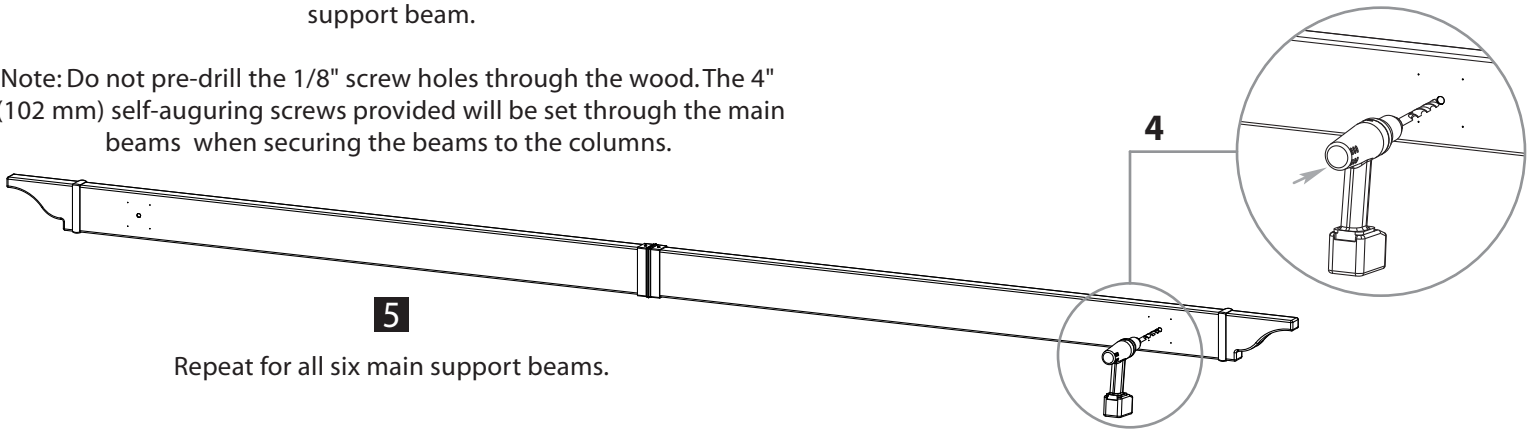
Using four 1 1/2" (38mm) screws provided, fasten the Beam Joiners, Main Support Beam, and Wood together as shown.



4

Now that the wood is secured in place, use the 1/2" (13mm) predrilled holes as templates and drill 1/2" (13 mm) holes through the wood as shown. Make sure to drill straight through to the other side of the main support beam.

Note: Do not pre-drill the 1/8" screw holes through the wood. The 4" (102 mm) self-auguring screws provided will be set through the main beams when securing the beams to the columns.



5

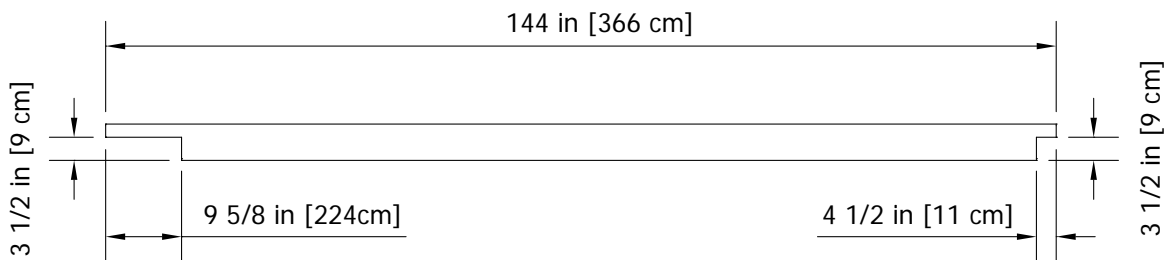
Repeat for all six main support beams.

STEP FIVE

Rafter Assembly

1

To accommodate the notches on the rafters, first the wood inserts must be notched out as shown below:



Twelve will be needed.

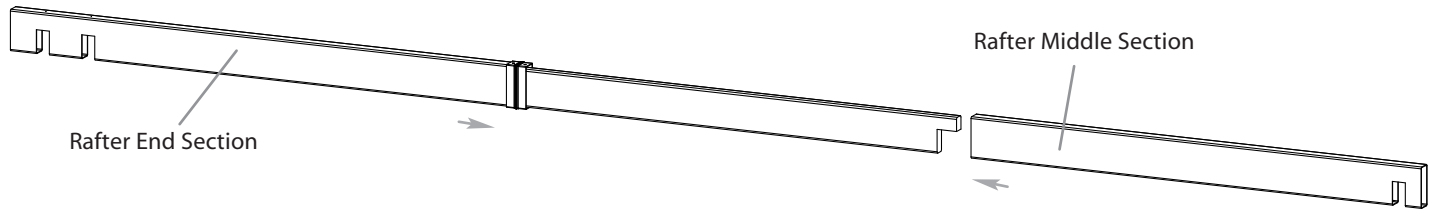
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Rafter Assembly

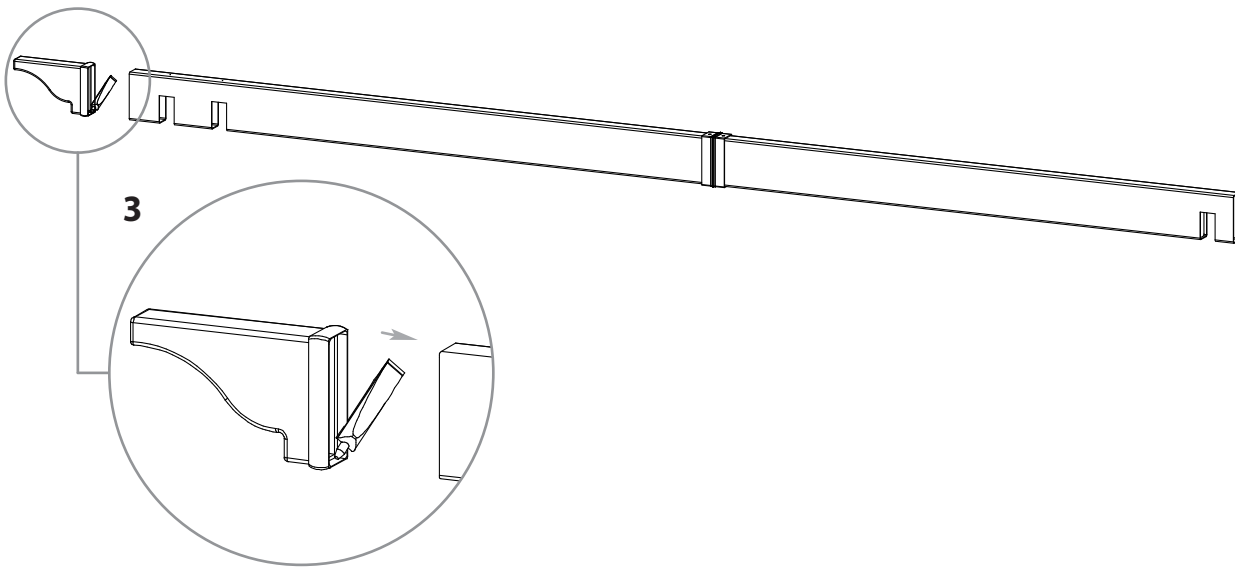
2

Insert one of the notched 2x6x12 (4x15x300cm) pressure treated wood into a rafter end section follow by the joiner and a rafter middle section. Make sure the notch is at the bottom as shown.



3

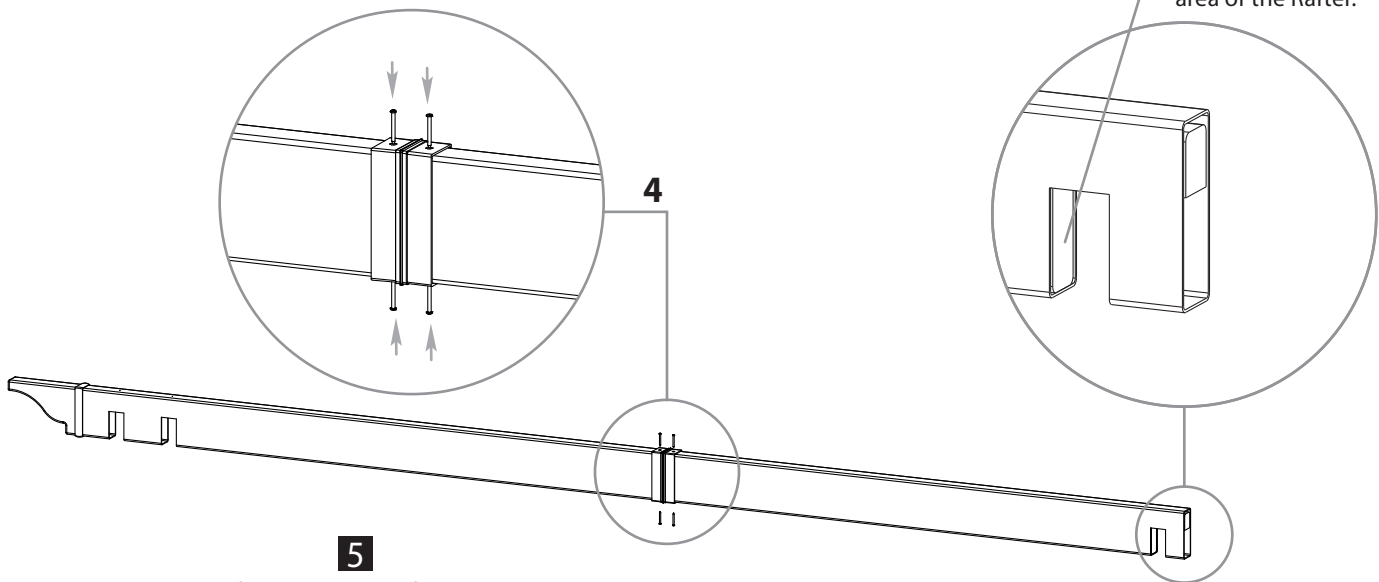
Glue and attach the Decorative End Cap onto the one end as shown.



4

Using four 1 1/2" (38 mm) screws provided, fasten the Rafter Joiners, Rafters, and Wood together as shown.

Note:
Ensure the wood insert is not protruding into the notched area of the Rafter.



5

Repeat for all twelve rafter sections.

STEP SIX

Main Support Beams & Rafter Placement 1

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

1

Raise one Main Support Beam Assembly at a time and insert the 9" Bolt Assembly into the holes to hold into place as shown.

Some force may be required to get the bolt through.

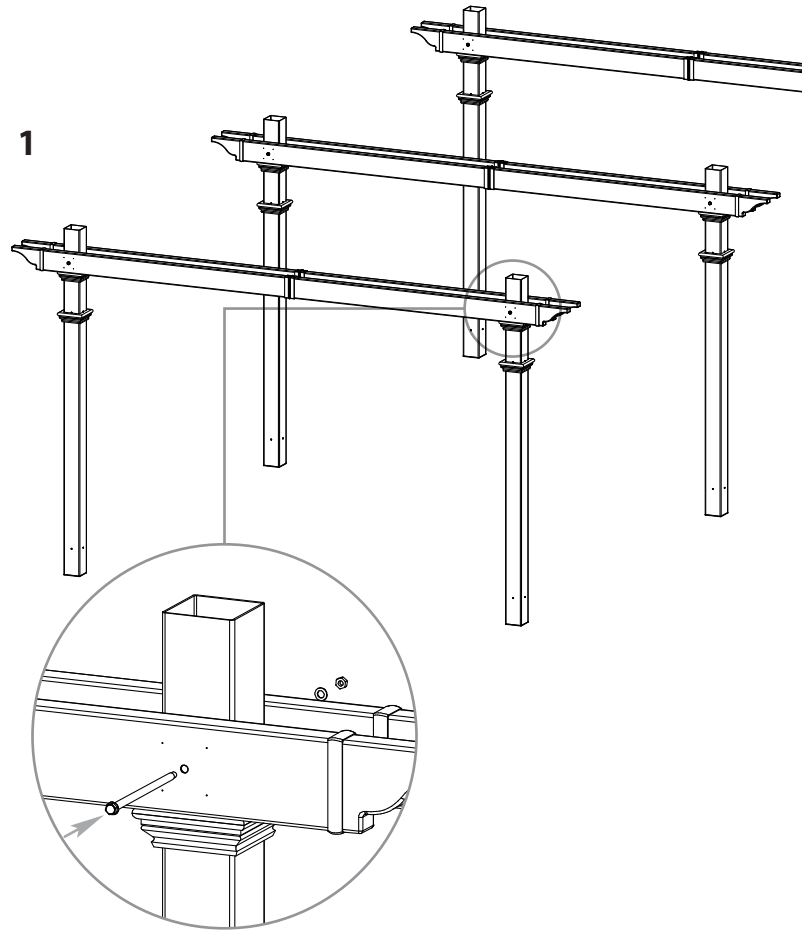
Do not tighten the nuts until all six beams are in place, instead, simply hand-tighten them.

Note: The 9" Bolt Assembly is used to properly position the main beams on the columns.

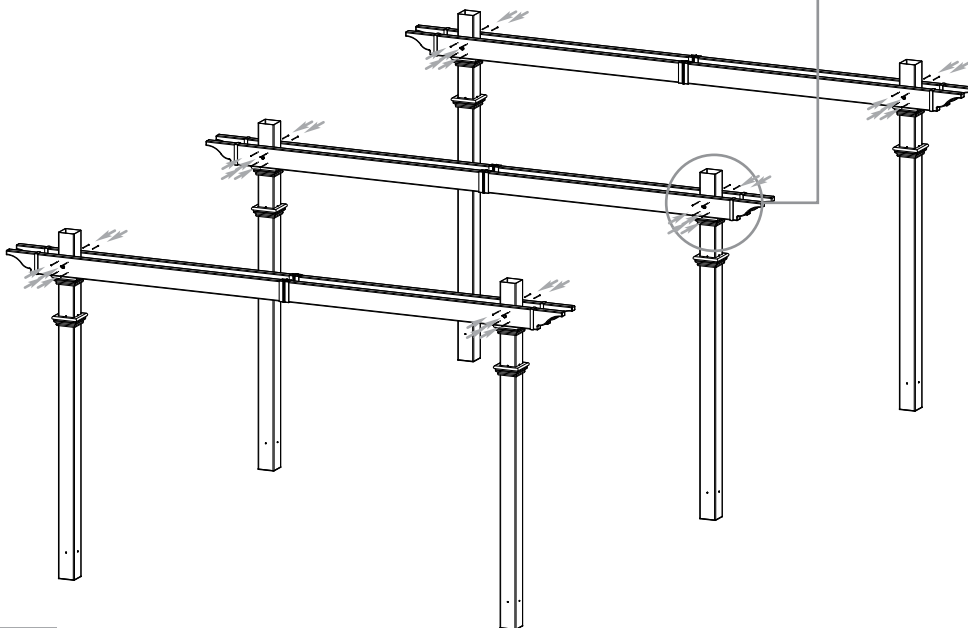
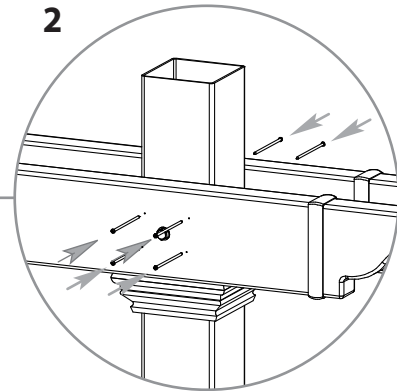
Once all six main support beams are in position, use two wrenches to tighten the nuts. Stop once the bolts bottom out inside the nuts. Over-tightening the nuts could cause damage to the bolts.

2

Fasten the main support beams onto the Posts using the 4" (102 mm) screws provided (8 screws per post) through the pre-drilled holes.



2

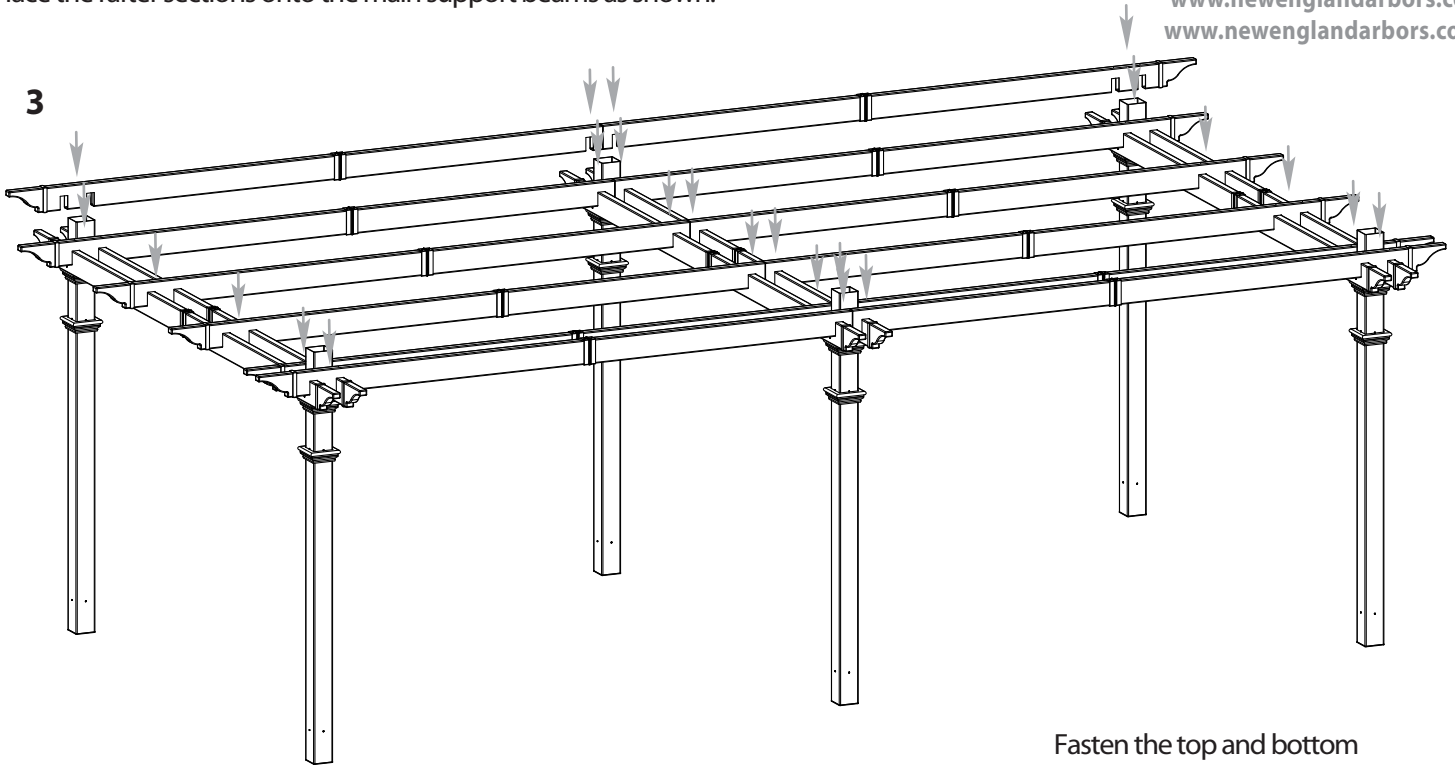


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3

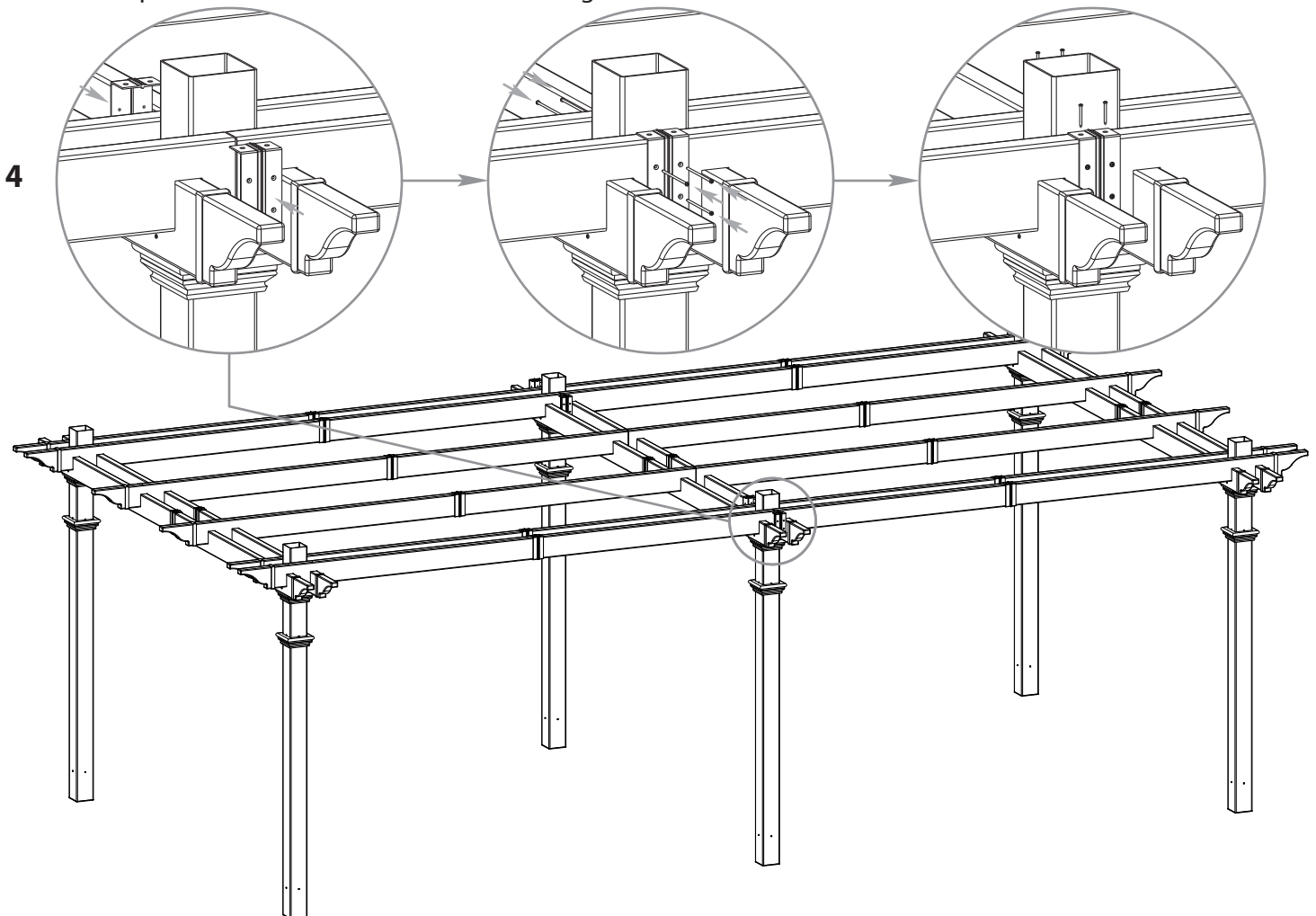
Place the rafter sections onto the main support beams as shown.



Fasten the top and bottom with 1 1/2" (38 mm) screws as shown.

Install the rafter face joiners against the post as shown below.

Fasten with 4" (102 mm) screws through the face as shown.



5

A

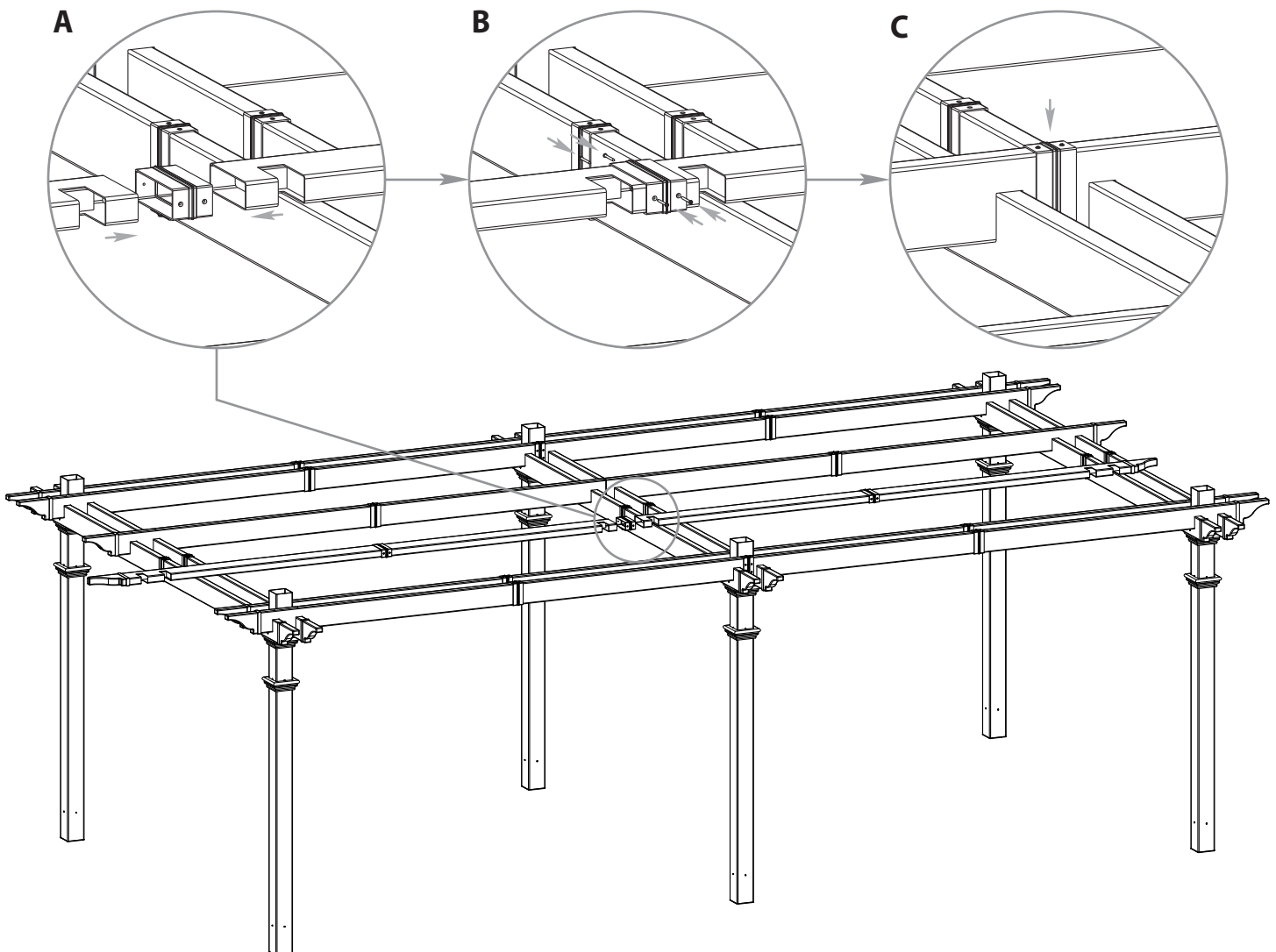
To install the rafter joiner, temporarily lift and place the inside rafters sections on its side as shown.

B

Join the two rafter sections with a rafter joiner as shown, and fasten with four 2 1/2" (64 mm) screws as shown.

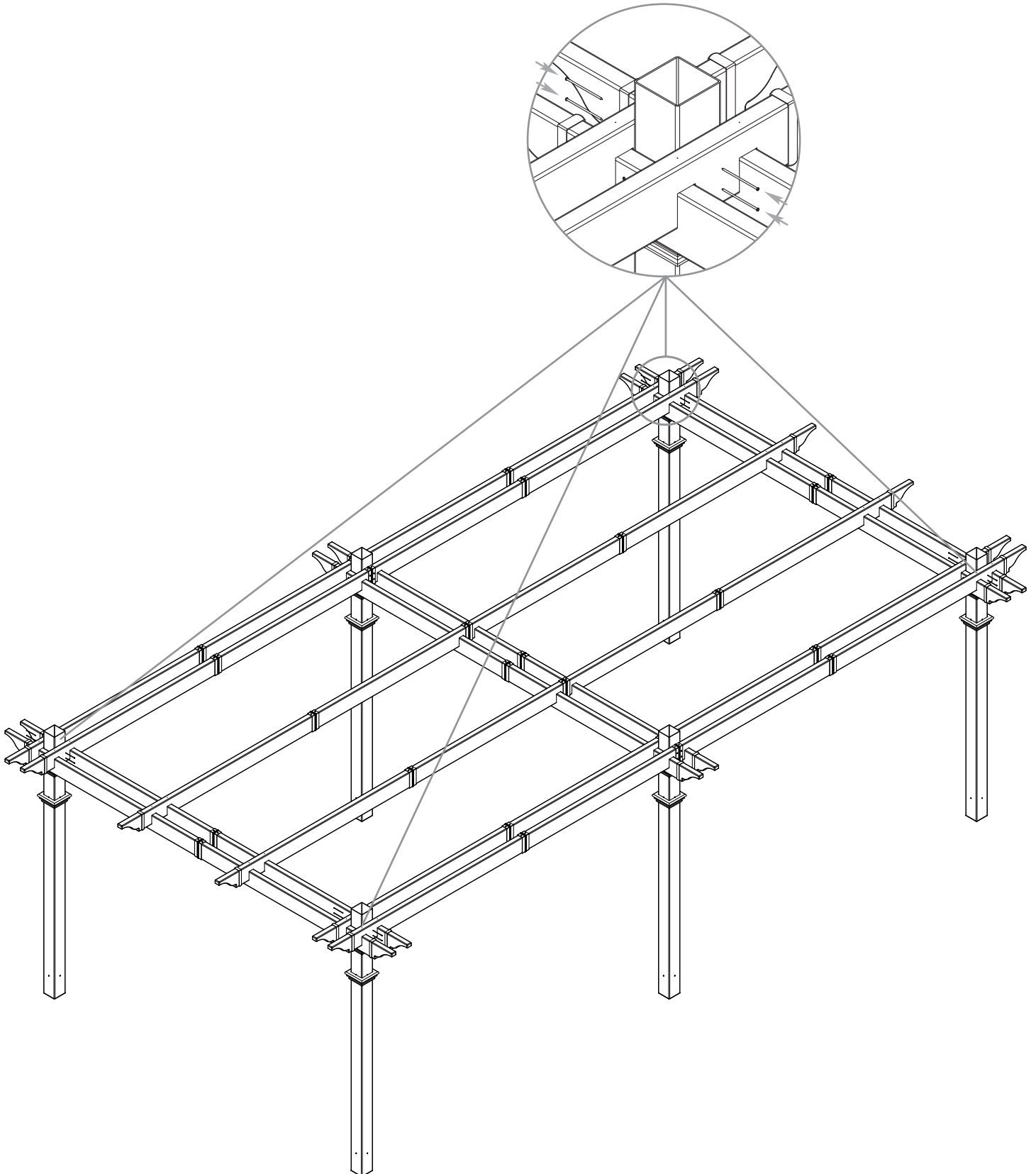
C

Replace the rafter assembly into place and repeat for second inside rafter.



6

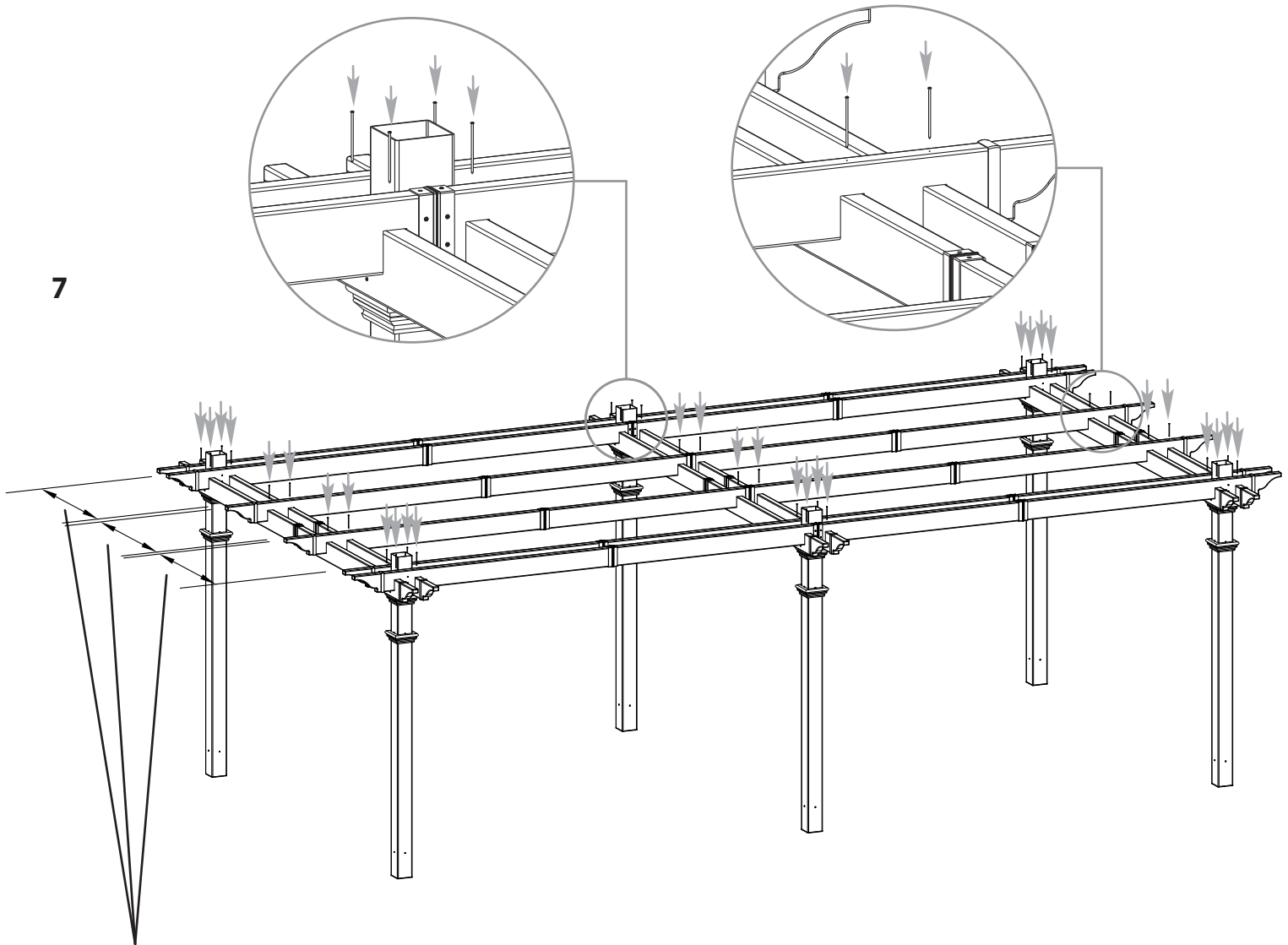
Fasten the Rafters to the four corner posts using 4" (102 mm) screws provided (4 per post).



7

Fasten a 4" (102 mm) screw at each intersection where the Beams and Rafters intersect as shown. 36 screws will be needed.

Note: The spacing between the rafters should be 42" (106.7 cm) as shown below.



****Important: Make sure the distances between rafters are 42" (106.7 cm).***

STEP SEVEN

Louver Assembly

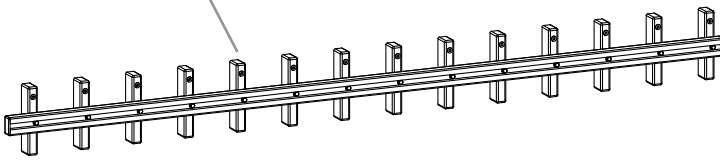
1

This kit contains four different pre-assembled Louver Bars as shown below and aside:

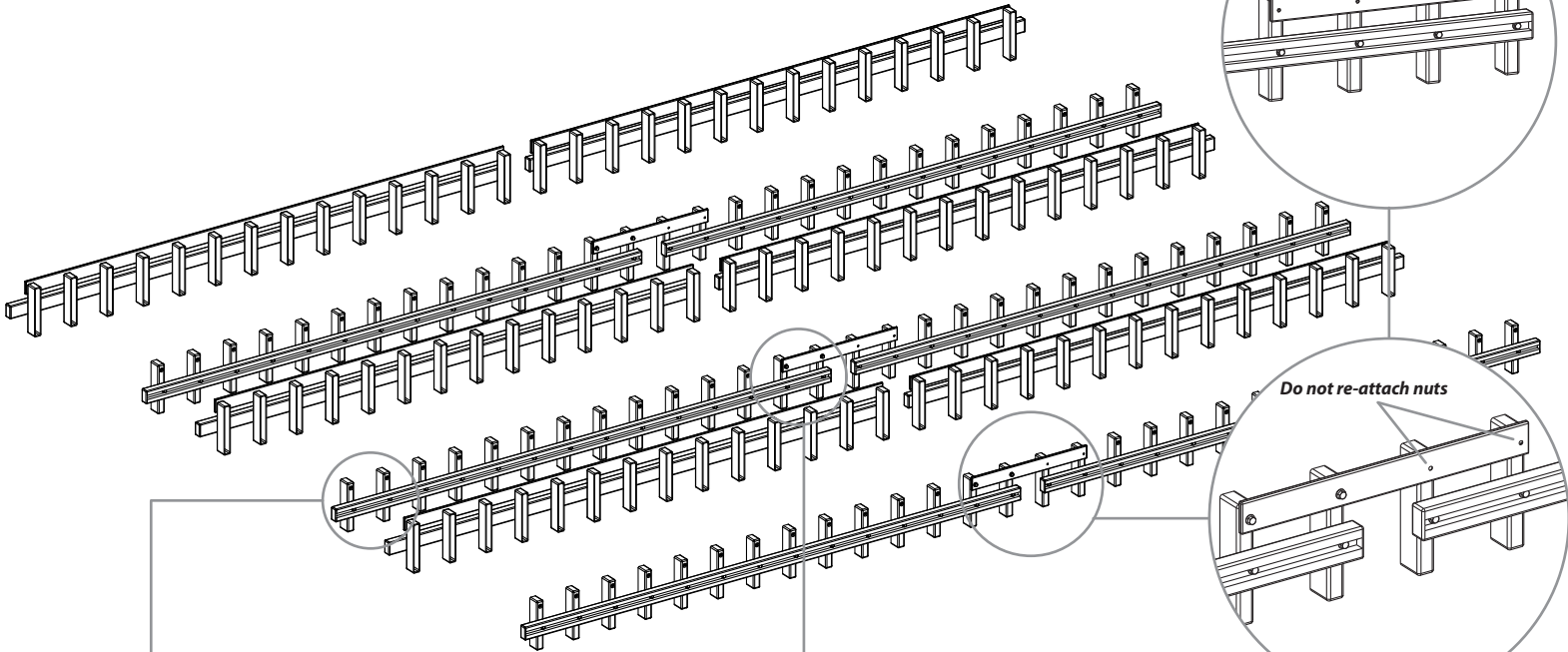
- 6 x Pre-Assembled Louver Bars (plain)
- 12 x Pre-Assembled Louver Bars with Long Louver Bar*
- 6 x Pre-Assembled Louver Bars with Short Louver Bar

**) There are two variations of Louver Bar Assemblies with Long Louver Bar.*

Pre-Assembled Louver Bars (plain)



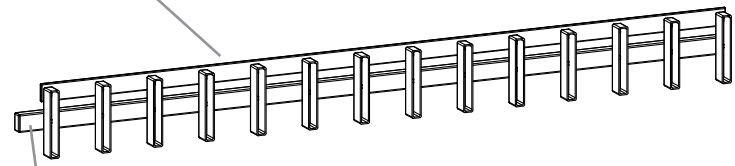
Identify and layout the twelve louver bars assembly as shown below:



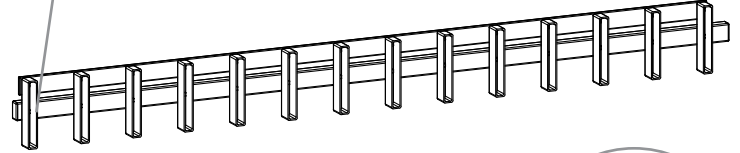
Ensure all brackets are facing the same direction.

Note the distance to the first bolt; the larger gap would go at the outside whereas the smaller gap would go towards the middle bar assembly.

Pre-Assembled Louver Bars with Long Louver Bar



Note the difference in distance to the first Louver Bracket



Pre-Assembled Louver Bars with Short Louver Bar

Note:

The short louver bar assembly will be packaged as such. You will need to remove these two nuts and re-position the short louver bar.

Do not re-attach nuts

Note:

Reposition the short louver bar as shown but do not bolt to the adjacent louver assembly at this point. Important ! : the holes on the louver bars are offset. ensure the holes are at the bottom as shown.

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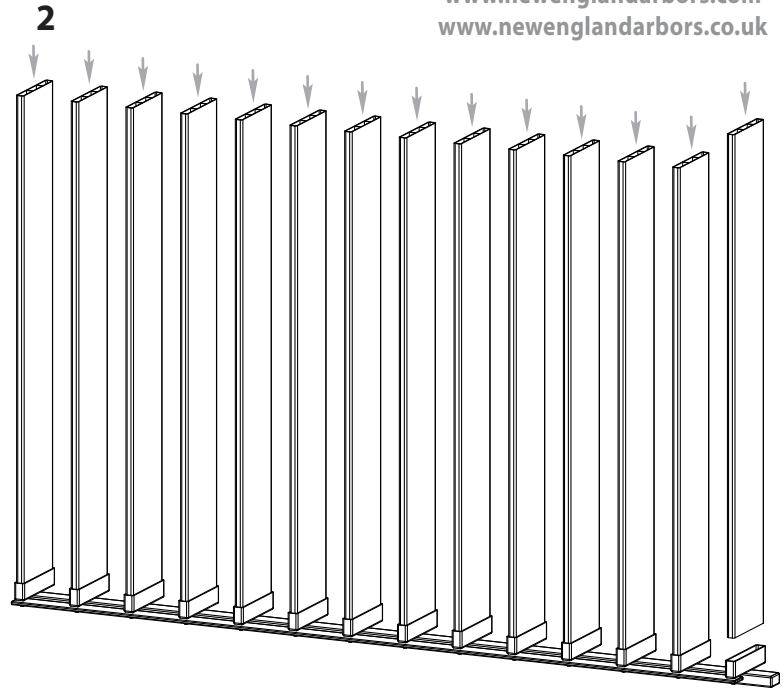
Louver Assembly

2

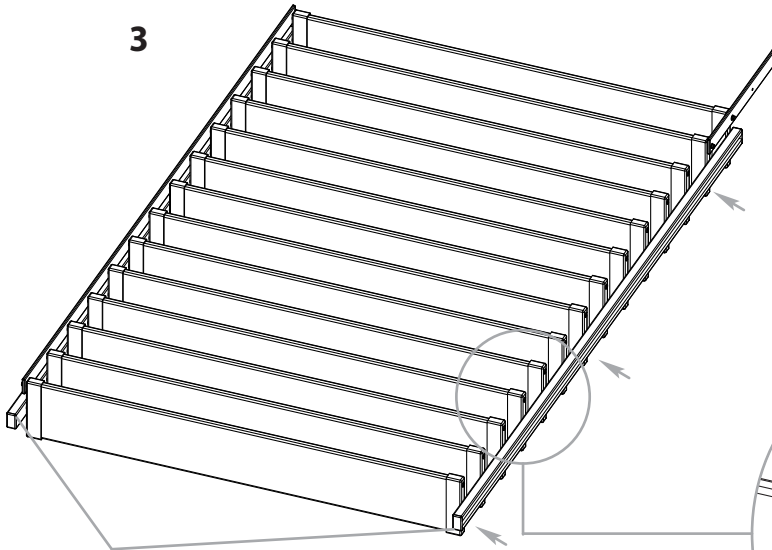
Insert the Louver Boards one by one. Make sure each board is inserted completely into the brackets.

3

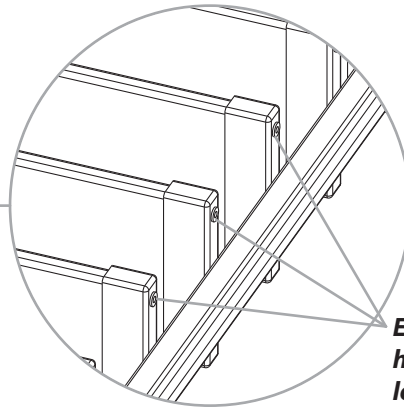
Attach the matching Pre-assembled Louver Bar. Pressure fit the boards one by one.



3



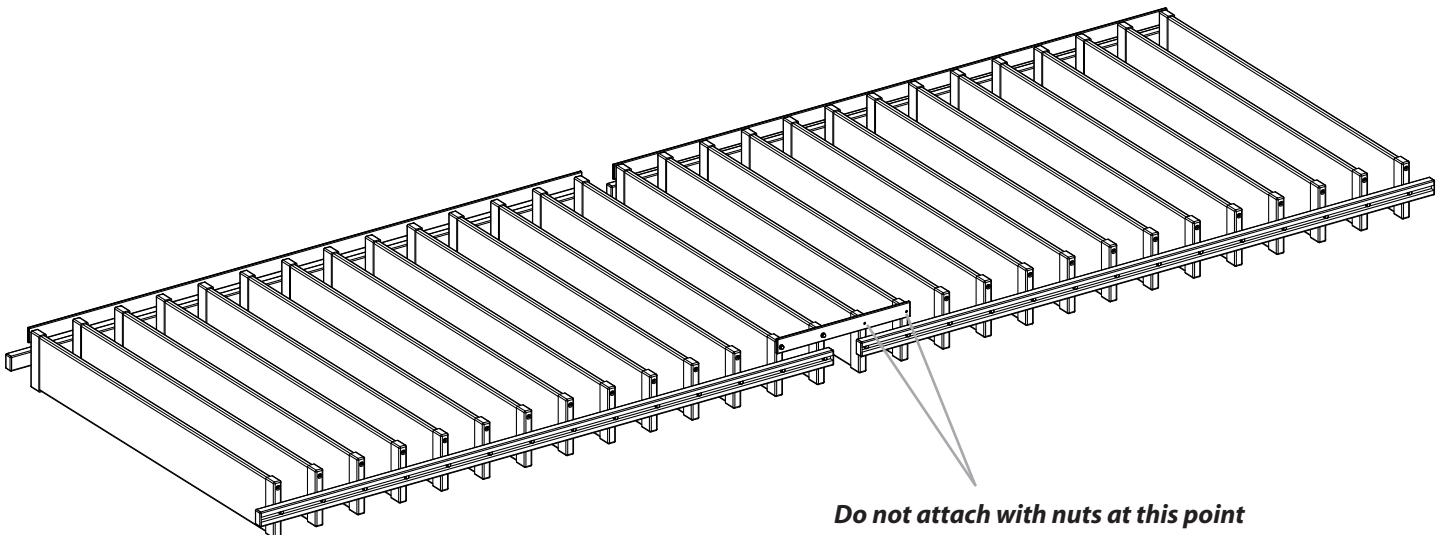
The ends of the louver bars with large space should be at the same end.



Ensure that the holes in the louver holder brackets are all on top of the louver bars assembly

4

Repeat for all twelve sub-sections. At this point, you should have six full sections of Louvers as shown below:

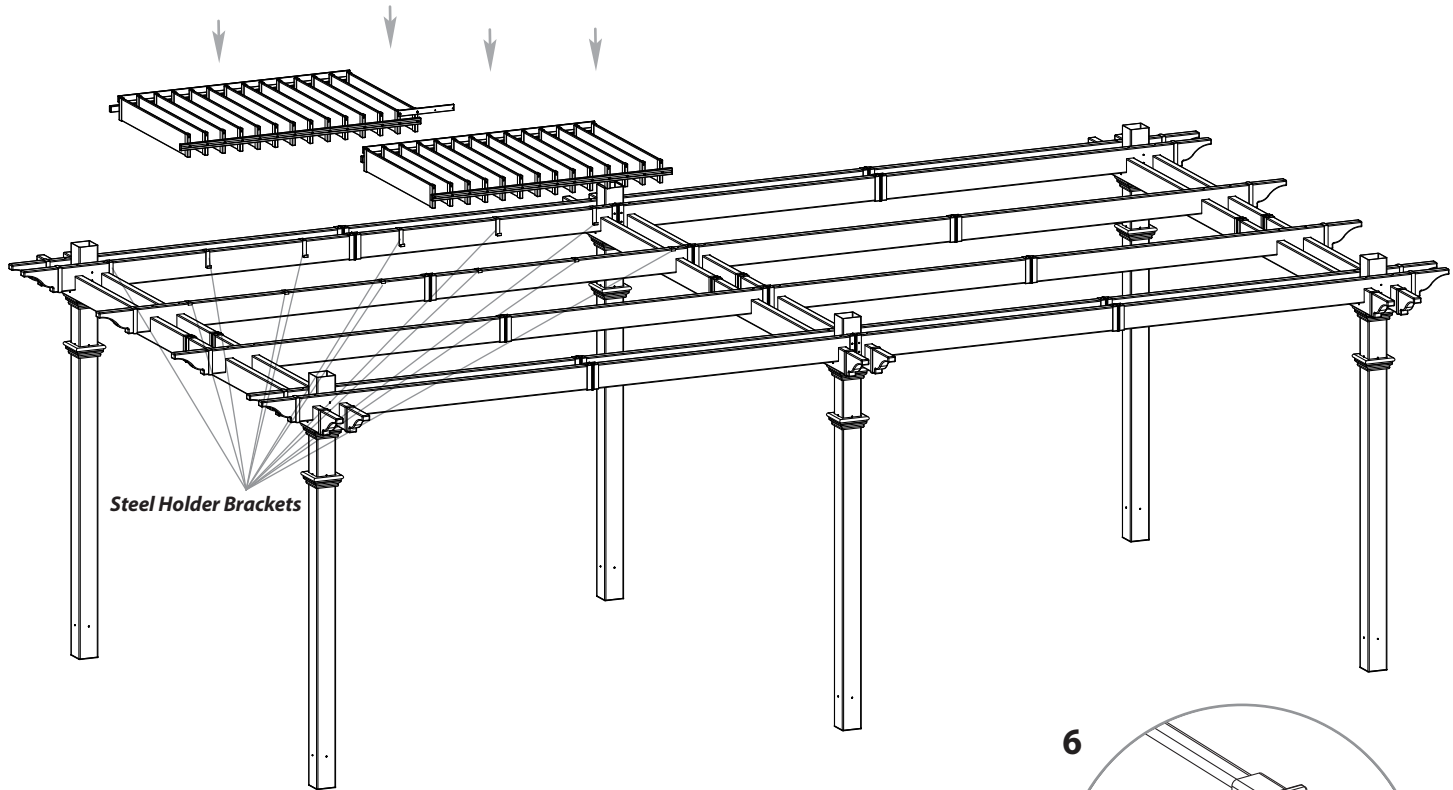


Do not attach with nuts at this point

Louver Assembly

5

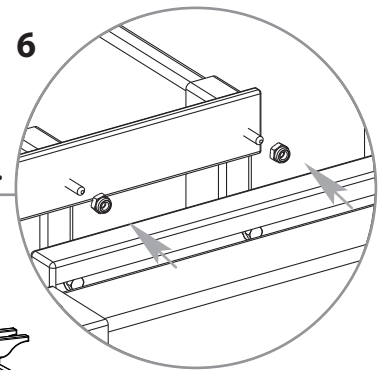
Place twelve Steel Holder Brackets as shown below and carefully lower the Louver assembly onto the steel brackets. Do not screw the Steel Holder Brackets in place at this point.



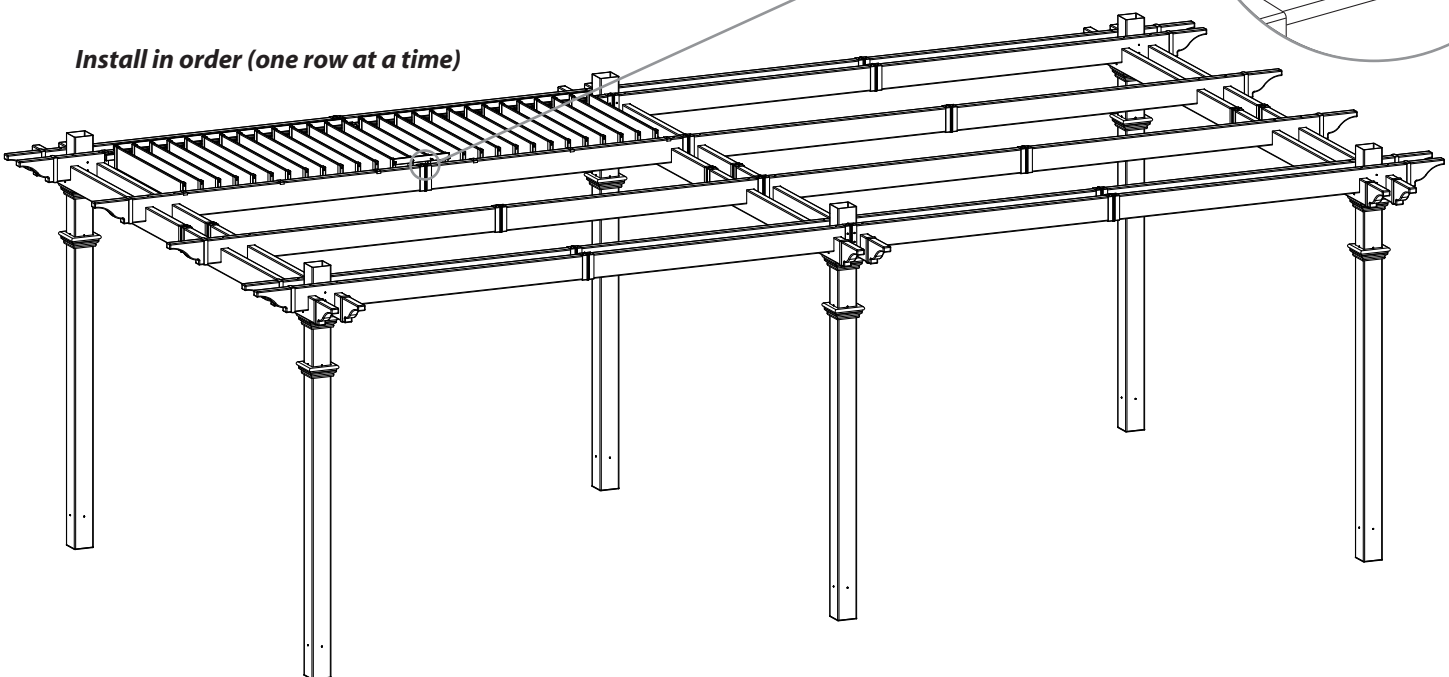
6

Fasten the Short Louver Bar using two nuts as shown. Do not over tighten. You will need to raise the middle section momentarily to do this step.

Note: check that the holes are closer to the bottom as shown.



Install in order (one row at a time)



Louver Assembly

7

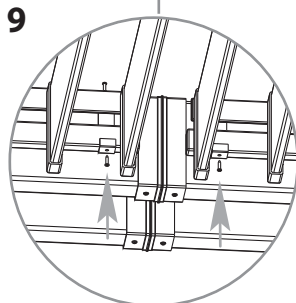
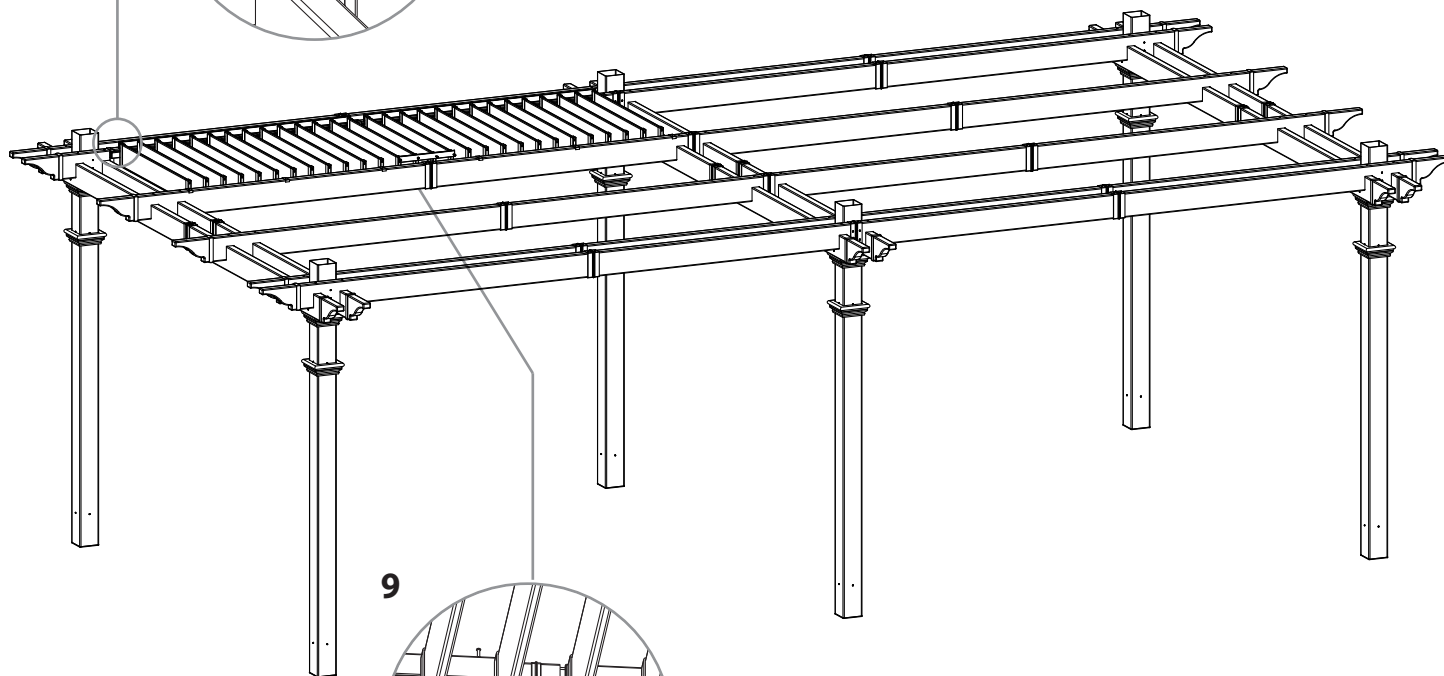
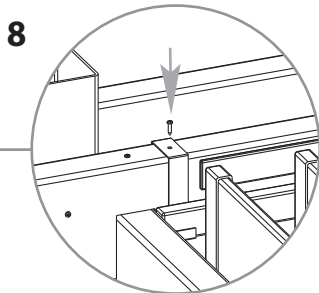
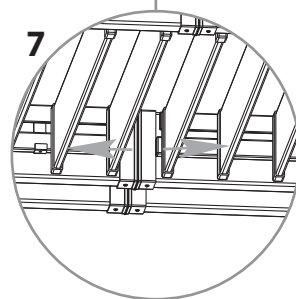
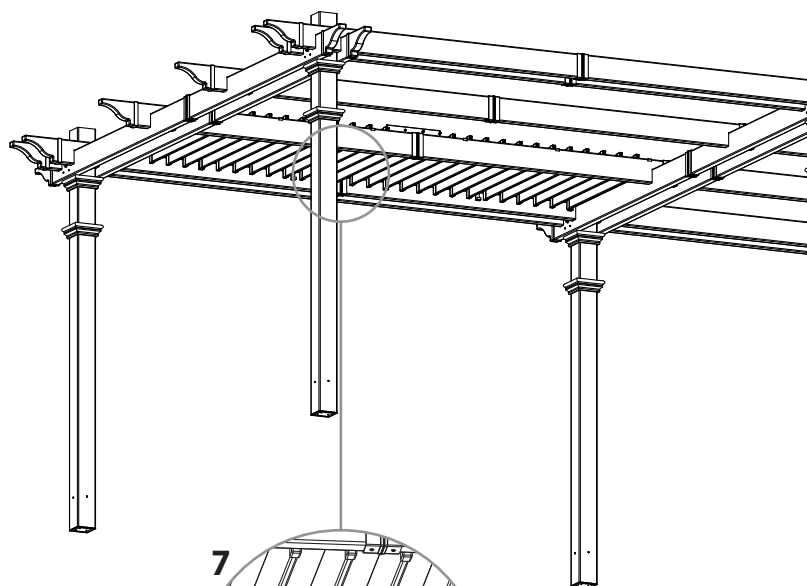
Slide the Steel Holder Brackets to a spot which will not interfere with the operations of the louvers. 'Open' and 'Close' the louvers to test and make sure the steel brackets are not constraining the operation.

8

From the top, fasten the steel brackets in place using 5/8" (16 mm) screws. A total of 12 screws will be needed.

9

Repeat for the underside of the steel brackets. Another 12, 5/8" (16 mm) screws will be needed.



Bottom View

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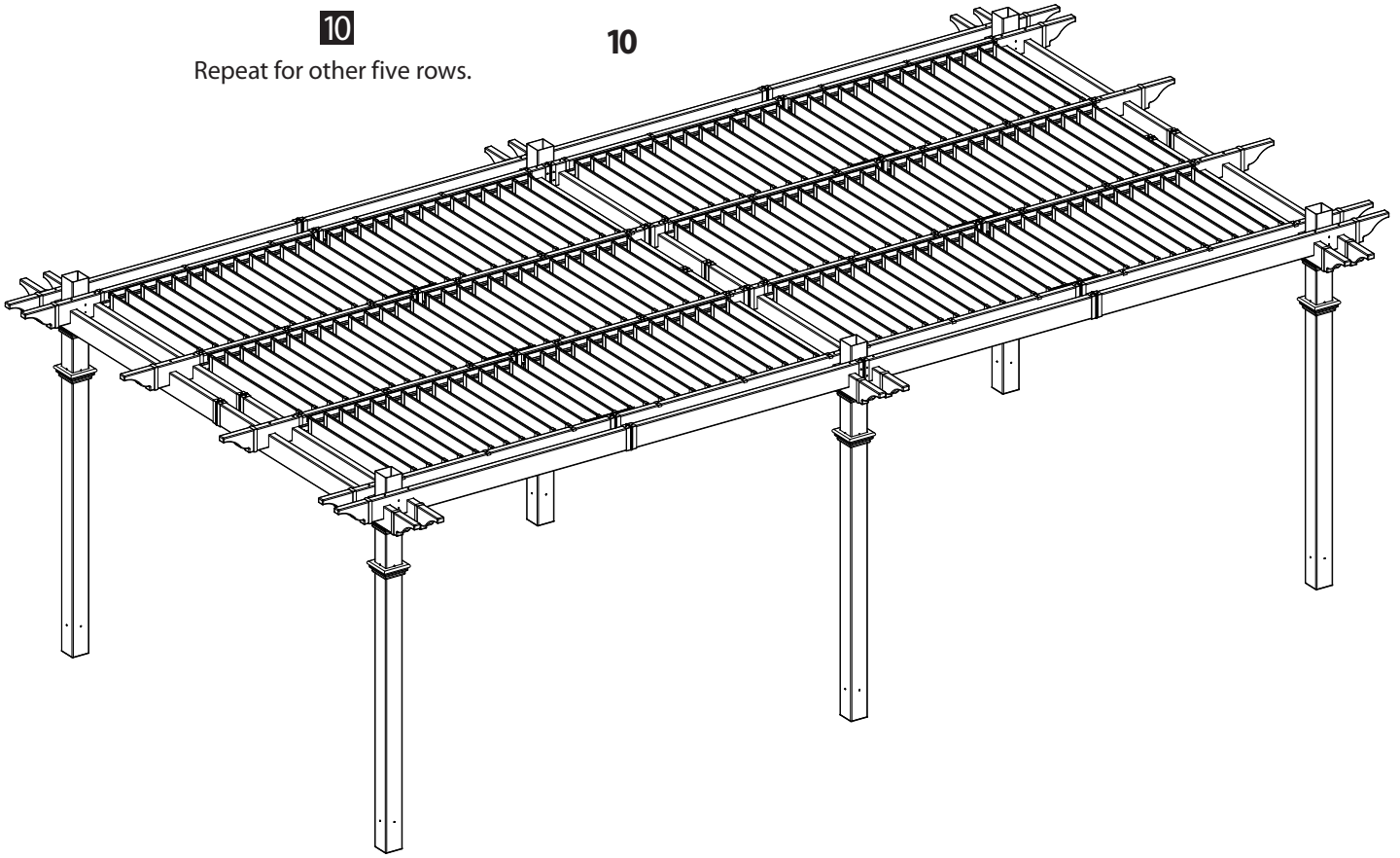
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Louver Assembly

10

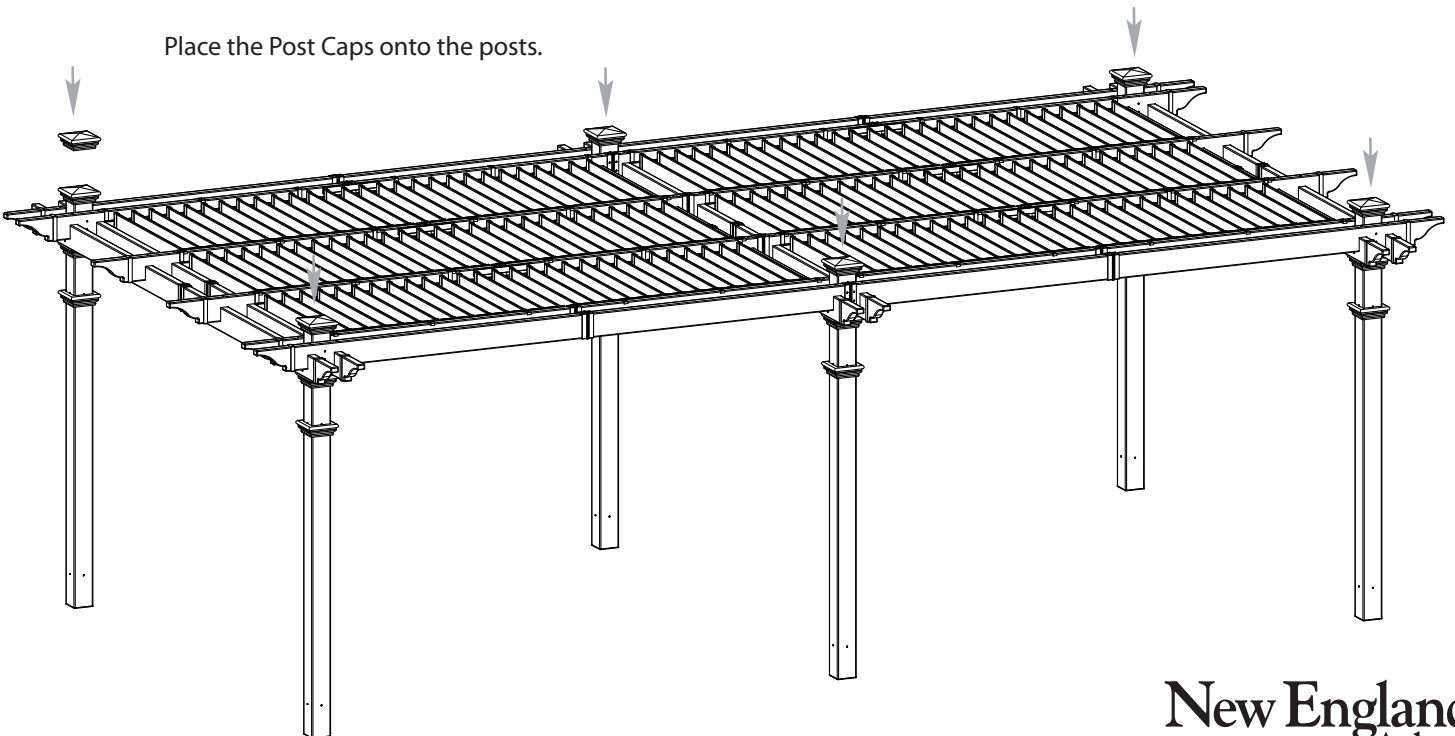
Repeat for other five rows.

10



11

Place the Post Caps onto the posts.



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STEP EIGHT

Turn Bar Holder Installation

The Turn Bar Holder is packaged in box 7 kit and is designed to provide a place to keep the Turn Bar when not in use.

1

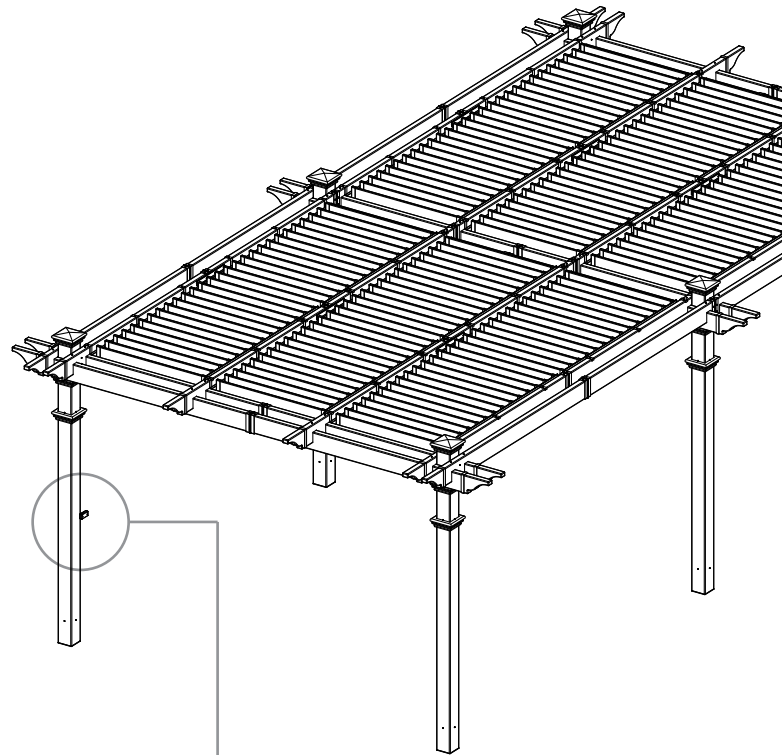
Pick a location that is easily accessible and out of the way of the louvers operation. The post is recommended as the 2 1/2" (64 mm) screws are used to protrude into the wooden post, providing a secure mounting support.

2

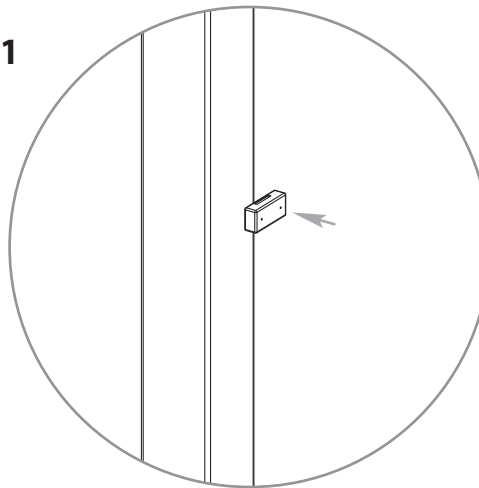
Mount with the slot on the top and closer to the post as shown. Fasten with two 2 1/2" (64 mm) screws provided.

3

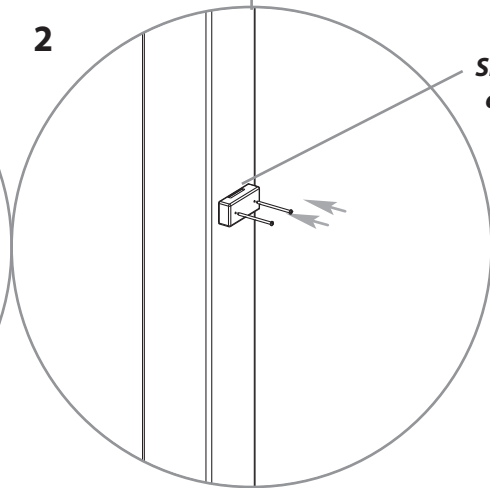
Hang the Turn Bar as shown.



1

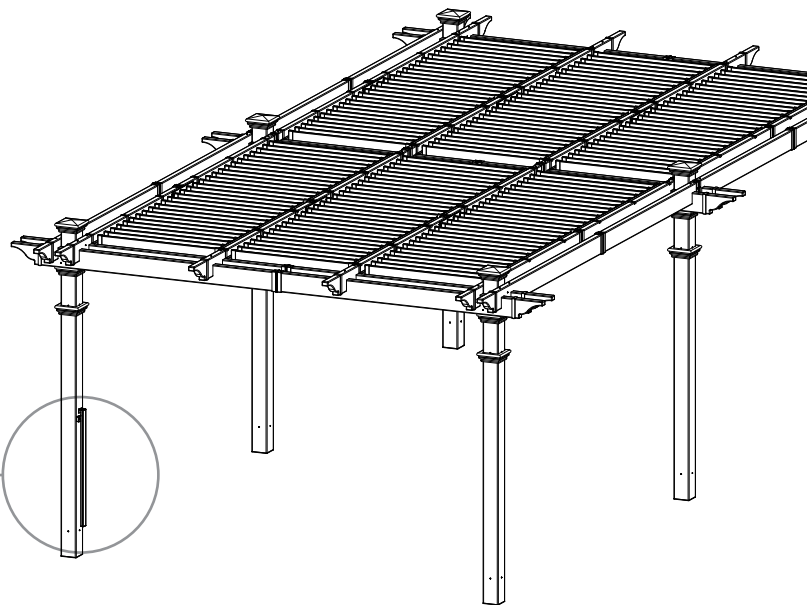
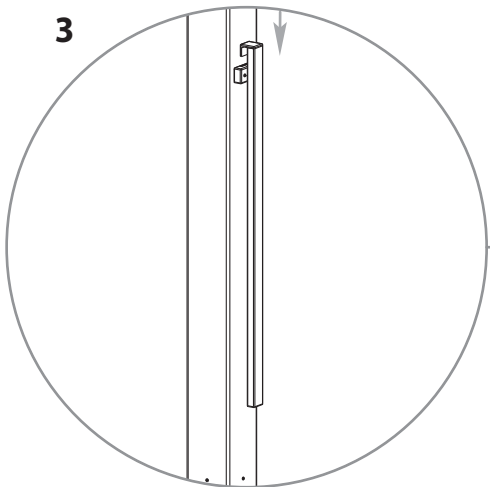


2



Slot on the top and closer to the post.

3



OPERATIONS

1

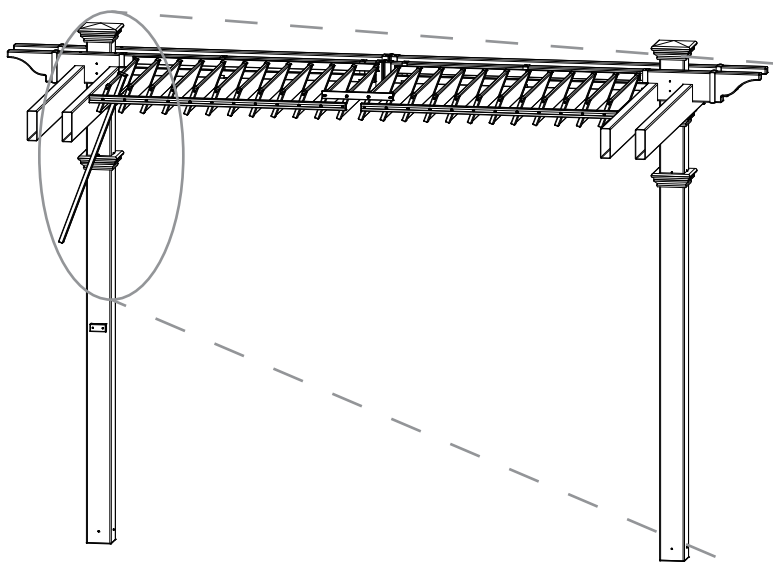
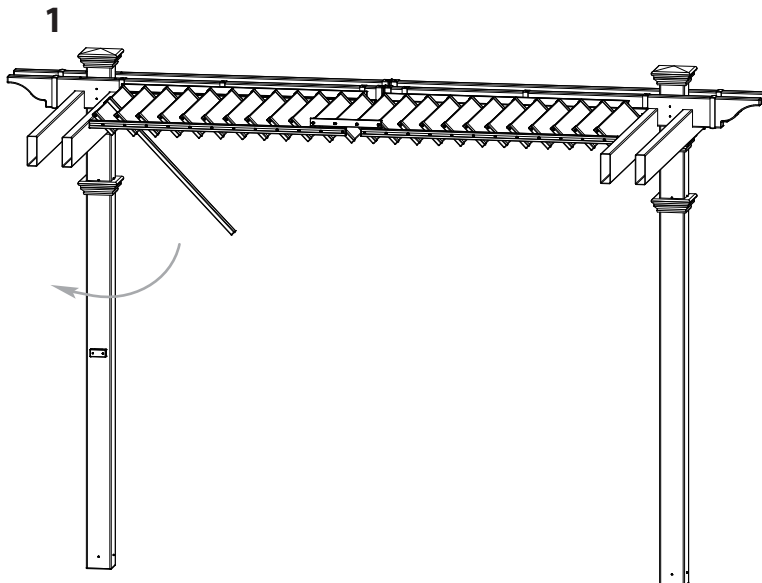
To adjust the positions of the louvers, slide the Turn Bar in between two louver boards and turn in a circular motion to the desired position. Excessive force should not be required.

2

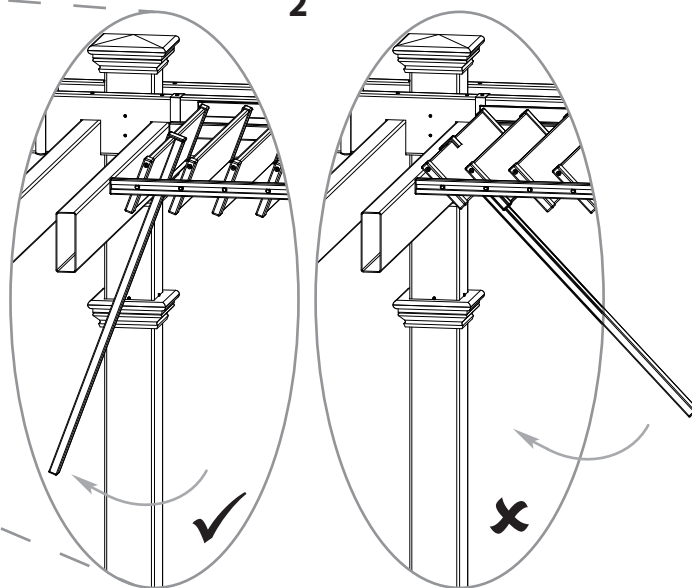
For best leverage, push with the arm of the Turn Bar as opposed to 'prying' with the Turn Bar Cap (see illustrations).

3

If operation proves to be difficult, this may be caused by nut(s) that are too tight. Troubleshoot which nut is too tight by turning them one by one, check for resistance, and loosen the nut slightly. Only loosen the nut a quarter of a turn at a time as it may come off.

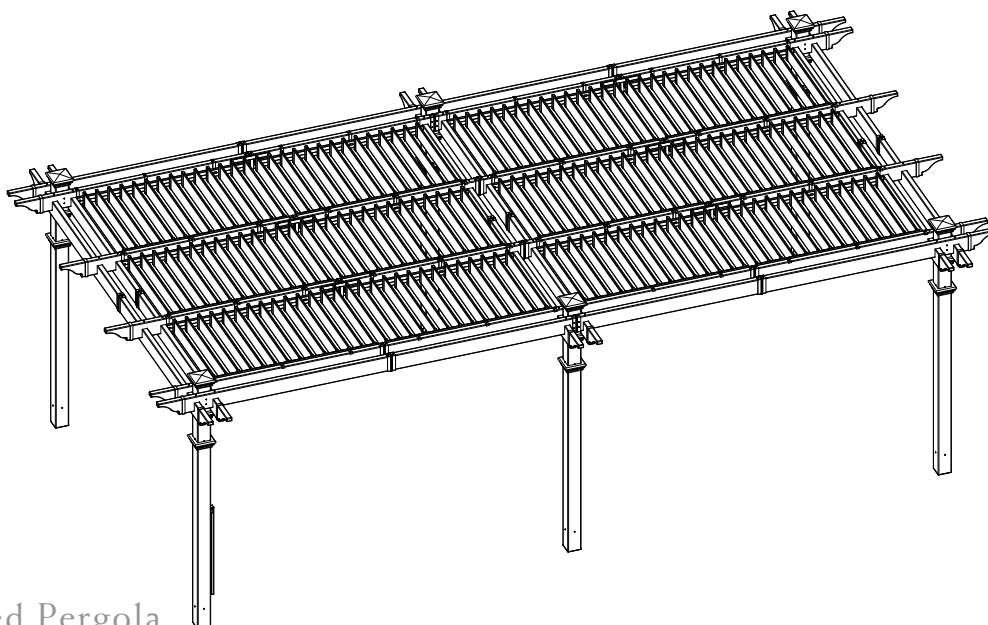


2



4

If your area experiences heavy snow, make sure to keep the louvers in the **OPEN** position. The accumulation of snow will cause the louvers to buckle and collapse.



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MODIFICATION

The foot print of the pergola is 12' x 24' measured to the outside of the posts. If a smaller dimension is required, a few guidelines should be considered:

1

It is easier to shorten the pergola by the way shown - by shortening the lengths of the louver boards and the beams versus shortening the lengths of the pre-assembled louver bars.

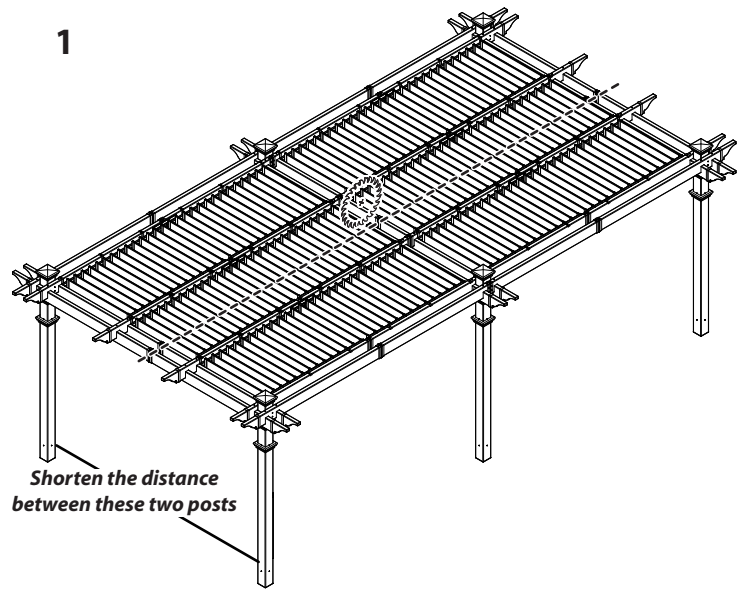
2

Asthetically, it is best to cut all 168 boards equally so that they are even across the three rows. However, cutting only one or two rows will involve less labor.

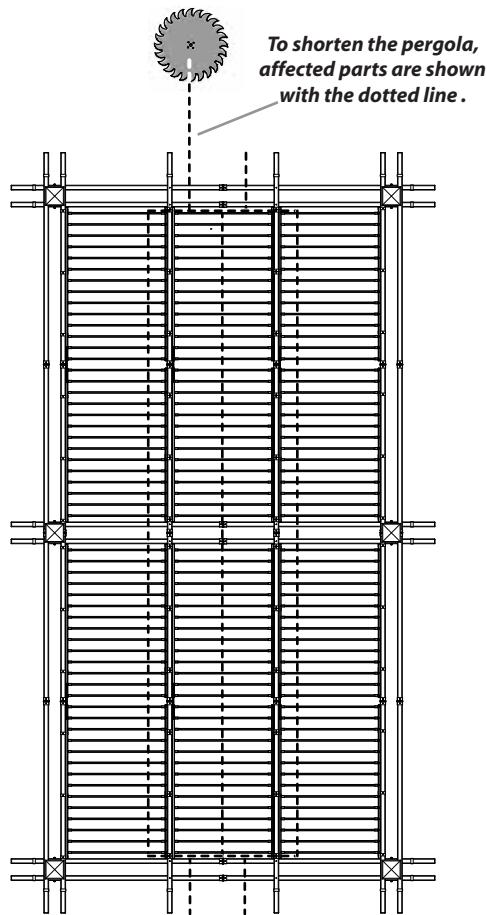
3

The beams shall be cut at the middle (away from the pre-drilled hole), and equally on both halves to ensure the symmetry of the pergola.

See example on next page.



2

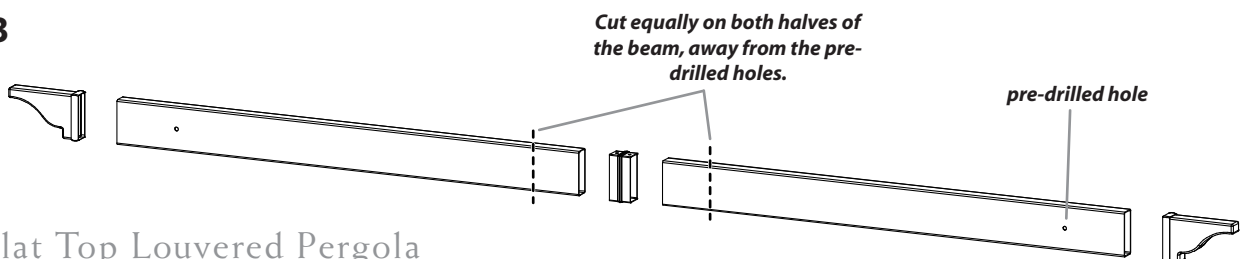


Note: These images are for informational purposes only and are not to scale

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3



MODIFICATIONS

Below is an example of resizing the pergola:
[In this example, the new dimensions are 126" x 283"]

All 168 louver boards are cut down by 6" (15.2 cm)
All 12 Beam Sections are cut down by 9" (22.9 cm)

